1998 INDIANA CRASH FACTS

Governor's Council on IMPAIRED & DANGEROUS DRIVING

traffic safety quick facts

IN INDIANA IN 1998...

- 982 people were killed in motor vehicle traffic crashes.
- 77,138 people were injured in crashes, and 51,865 of reported crashes involved personal injury and 884 involved fatalities.
- An average of 2.7 people were killed every 24 hours on Indiana highways.
- The fatality rate per 100 million miles of travel was 1.4, up 0.1 from 1997.
- 23.3 percent of the fatal crashes involved alcohol (206 crashes).
- 72 pedestrians were killed, down 3 from 1997.
- 13 bicyclists were killed, compared with 11 in 1997.
- 68 motorcyclists were killed, compared with 47 in 1997.
- 79.4 percent of all motorcyclists (48 drivers and six passengers) killed in crashes were not wearing helmets.
- 50.2 percent of all crashes occurred on city streets and 21.2 precent occurred on county roads.
- 74.7 percent of fatal crashes occurred in rural areas.
- The total number of registered vehicles was 5,454,680, compared to 5,343,638 in 1997 (2.1 percent increase).
- The total number of licensed drivers was 3,976,075 at the end of 1998.

The Governor's Council on Impaired & Dangerous Driving is the public opinion catalyst and the implementing body for statewide action to reduce fatalities and injuries on Indiana roadways. The Council administers state and federal funding through targeted traffic safety grants to state and local organizations which support Indiana traffic safety. These funds are used for grants, public education, crash facts/ publications, legislative advocacy, enforcement training, information resources.

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All data, unless otherwise noted, came from analysis of the Indiana State Police Crash Records database. This database contains the crash reports filed by Indiana state and local law enforcement agencies. The production of this publication was made possible through Project No. TR-00-05, Task 1, Project 1 of the Council. The publication was prepared by the Automotive Transportation Center, Institute for Interdisciplinary Engineering Studies, Purdue University, 1293 Potter Building, Room 322, West Lafayette, IN 47907-1293.

Director's Letter

June 2000

Dear Reader:

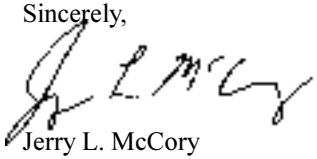
In an effort to reduce the number of deaths and injuries on our roadways, I am pleased to present a tool that will help us understand the relationship between human behavior and preventable death and injury—*1998 Indiana Crash Facts*. In researching and exploring the nature of motor vehicle crashes on Hoosier roads, we learn that they are preventable incidents which steal lives, livelihoods and happiness.

By understanding the nature and circumstances of these crashes, we can save lives and dollars in the future by reducing property damage, personal injury and death. In this book's numbers lies a very important message: traffic safety is up to the individual, but we can influence individual action and therefore save lives through public information, community-based responses and the creation and enforcement of traffic laws.

Crash Facts is compiled by researchers at Purdue University's Automotive Transportation Center, based primarily on data provided by the Indiana State Police and the Fatality Analysis Reporting System (FARS).

Together, we can build on the data compiled in this publication and make the roadways safer to travel in Indiana.

Sincerely,



Jerry L. McCory
Executive Director
Governor's Council on Impaired & Dangerous Driving
Governor's Commission for a Drug-Free Indiana

Foreword

This year's Indiana Crash Facts 1998 marks the sixth annual publication of Indiana's crash statistics. After the substantial changes made to the 1997 edition, we received several requests to re-introduce the "Deer Collisions by County" table, which has again been included as Table 96, on page 152. We continue to welcome additional suggestions and feedback from the users of *Crash Facts* for possible incorporation into future editions. Additionally, we received numerous user requests last year to obtain the *Crash Facts* on CD-ROM, rather than in hard copy format. If you were mailed a book this year, but would prefer to receive a CD-ROM version, please call or write the Automotive Transportation Center, 1293 Potter Engineering Center, Purdue University, West Lafayette, IN 47907-1293, (765) 494-7038, or visit our website at: http://airbag.ecn.purdue.edu/atcweb/ for an electronic version of the data presented here.

The Automotive Transportation Center (ATC) at Purdue university was established in 1978 with the goals of providing data and knowledge for a changing automotive transportation system, as well as fostering and coordinating transportation research in both technical and policy areas. In an evolutionary fashion, the activities and role of ATC have gradually changed from exploring alternatives for the internal combustion engine, addressing fuel shortages, and other technically related research to its current objectives. Efforts in recent years have shifted from a technical nature to a behavioral/technical composition. The Center's strength lies in its ability to identify and understand the root causes behind drivers' actions that have continued to lead to an ever-increasing number of highway crashes. As a result of this gradual transition in focus, the name "Automotive Transportation Center" no longer relates to neither the Center's activities nor its current and future mission. The Center is in the process of being re-named "The Center for the Advancement of Transportation Safety," a change that will more accurately depict the current and future mission, and will allow for much more expansive research efforts and initiatives.

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Crash Facts is designed as an overview of 1998 traffic safety performance in Indiana. It focuses upon the significant indicators of highway safety, their results, and their changes. In 1998, there were 982 fatalities—or a fatality every nine hours. The 216,510 highway-related crashes equated to a crash occurring every two minutes and twenty seconds with an injury-related crash every ten minutes. The challenge of the increasing level of traffic on the nation's and Indiana's highways requires a greater level of involvement on the part of everyone to reduce the number of crashes and the resultant injuries and fatalities.

It is important to maintain emphasis on the causes of the crashes—the actions of drivers, pedestrians, and other highway users, in so far as what they did or did not do. The degree of severity of injuries inflicted upon the occupants of those crashes is dependent upon several factors including the design of highways and motor vehicles, but most importantly, the actions of the involved people. We know all too well that the driver who drinks and then elects to drive has "impaired" his/her ability to drive safely. A driver who chooses to follow too closely is also impaired because reduced reaction time diminishes our ability to make a good decision. The driver who doesn't wear a safety belt increases the chance for more severe injuries and/or being killed in a crash. The cyclist who elects to not wear a helmet is more likely to incur serious injuries if involved in a crash. The use of cell phones while driving has significantly increased in the last decade and also diverts attention away from safe driving. As you review the data in this book, look at the events taking place in your own world and how it has affected your driving habits. Multiply this by the five million drivers who are facing similar challenges and the impact that these factors can have on the number of and severity of crashes in the State. The goal in preparing *Crash Facts 1998* is to objectively identify the underlying facts and circumstances contributing to crashes to allow for the development and implementation of effective countermeasures.

As a reader going through this book, it is easy to draw quick conclusions; however caution should be used before forming hasty conclusions. As data is presented, we strive to indicate when there are "real" changes and where changes occur that can be considered to be normal variation.

The *1997 Crash Facts* first introduced both the "Problem Identification" and "Benchmarking" as part of the crash book. The *1998 Crash Facts* continues to include this material. In doing so, it allows all stakeholders to see and understand the direction and focus areas for Indiana.

This first chapter reviews Indiana's performance against these objectives and also identifies current trends, issues, and potential emerging issues. Subsequent chapters provide greater concentration and data on specific safety areas.

Overview - Indiana Highway Safety Plan Benchmarks

As a preface, the goals, both for Indiana and the United States, are extremely aggressive, and in order to be achieved, will require significant involvement on the part of all stakeholders.

- To decrease the state fatality rate per 100 MVMT from a baseline of 1.5 in 1996, to 1.06 in the year 2002, and 0.92 in the year 2005 with progress demonstrated on an annual basis.

Analysis: The fatality rate in 1998 was 1.4 fatalities per 100 MVMT traveled. While a slight increase from 1997 (1.3 fatalities per 100 MVMT), the fatality rate has been relatively flat over the past seven years. There have been no major shifts from previous years' patterns. Indiana will have difficulty in meeting this aggressive goal unless significant inroads can be made with the safety belt usage rates, the younger driver, and the effects of alcohol involvement. The young and inexperienced drivers continue to be very vulnerable to both a higher frequency of crash involvement and also more serious injuries. In particular, the young male driver is especially over-represented. Males were the drivers in 73 percent of the fatal crashes. Seventy-four percent of all fatal crashes occur in rural areas. The 660 rural fatal crashes represent the highest number measured in the last ten years. The 224 urban fatal crashes are the fewest number since 1994. Alcohol continues to play a major role in fatalities with nearly one out of four fatalities caused by the influence of alcohol. Finally, the low safety belt usage rate on the part of Indiana drivers (57.3 percent), and in particular by the occupants of pickup trucks (33.5 percent), continues to add to the risk for greater injury and/or death. A common scene is the young male driver, unbuckled, driving a pickup truck on any local road in the State.

- To decrease the state personal injury rate per 100 MVMT from a baseline of 117 in 1996, to 103 in the

year 2002, and 95.7 in the year 2005 with progress demonstrated on an annual basis.

Analysis: The personal injury rate per 100 MVMT continues to improve and was 109.11 for 1998 versus 111.06 in 1997, representing a 1.8 percent improvement. Indiana will need to continue to reduce the rate of personal injury crashes by 1.9 percent annually to meet the 2005 goal. Whereas 25.4 percent of fatal crashes occurred in urban areas, 60.1 percent of all personal injury crashes occurred in urban areas. Total personal injury crashes were the lowest number since 1993. While male drivers were involved in nearly three out of four fatal crashes, the made driver was involved in only 55.6 percent of the personal injury crashes.

- To decrease alcohol-related fatal crashes from a baseline of 0.32 per 100 MVMT in 1996 to 0.20 per 100 MVMT in the year 2002, to 0.167 per 100 MVMT in 2005 with progress demonstrated on an annual basis.

Analysis: Alcohol-related fatal crashes remained flat versus 1997 (0.28) performance at 0.29 fatal crashes per 100 MVMT. While the rate has generally continued to decrease since 1992, the actual number of fatal alcohol crashes has not shown a significant decrease since 1991. Indiana's current approach to reducing drinking and then driving will not get the State to the 2005 objective. The problem continues to be the young male driver (ages 20-24) and includes the underage drinker who also drives. While the number of drivers who were tested and with a result greater than 0.05 BAC decreased from 1997, the percentage of tested drivers with a BAC greater than 0.10 BAC legal limit in Indiana) increased to 68.8 percent. The two issues are: 1) obtaining BAC tests on all fatal crashes to better identify the magnitude of the problem, and 2) increasing focus on the high BAC (0.10 or greater) driver.

- To increase the observational seat belt usage rate in passenger cars and minivans from 63 percent (based upon previous weighting process) in 1997 to 73 percent (revised weighting process) in 1998, 85 percent by the year 2000, and 90 percent by the year 2005. To increase the overall seat belt usage rate from 53.2 percent (including pickup trucks and sport-utility vehicles) in 1997, to 65 percent in 1998, 85 percent by the year 2000, and 90 percent by the year 2005.

Analysis: The overall seat belt usage rate for all passenger vehicles (passenger cars, minivans and pickup trucks) increased in 1998 to 61.8 percent (from 53.2 percent in 1997). Much of this increase can be attributed to the enactment of the primary seat belt law and the subsequent controversy. However, usage rates in 1999 decreased to 57.3 percent. Several factors may have influenced the decline including reduced enforcement activity and less publicity. The low usage rate is confirmed by the 1998 FARS data. Only 193 out of 678 killed occupants of vehicles (28.5 percent) were belted. The results from the FARS data also parallel the annual survey results in that the younger driver (<21 years old) has the lowest usage rates. Safety belt usage rates are also significantly negatively impacted since pickup trucks and sport utility vehicles (which can be registered as trucks) are the fastest growing segment of the automobile market.

- To reduce the involvement rate in fatal crashes of the younger driver (age 16-19) from 0.79 fatal crashes per 1,000 licensed drivers in 1996, to 0.644 in the year 2000, to 0.622 in the year 2002, and 0.592 in the year 2005 with progress demonstrated on an annual basis.

Analysis: The fatal crash rate for the younger driver (age 16-19) in 1997 was 0.72 per 1,000 licensed drivers. This decreased slightly in 1998 to 0.71. The young driver is easily distracted while driving, either by other occupants or with events occurring outside the vehicle. The higher fatality rate is compounded by the low safety belt usage rate of the young driver—particularly the young male driver. The enactment of the Graduated License law that took effect on January 1, 1999 is designed to address this issue. A significant reduction in this age category is optimistically expected as we look to the future. However, much of the success of this law is dependent upon the family of the young driver complying with the early driving restrictions. Also, the Indiana version of the law is one of the weakest in the nation in terms of restricted driving hours.

Table 1 provides an excellent perspective of the changes that have occurred over the last ten years. If pedestrian, pedalcyclist, and motorcycle fatalities are excluded from the total fatality data, the number of "pure" motor vehicle fatalities continues to show a low rate of increase. Serious injuries, on the other hand, continue to show a steady decline in frequency.

Table 1. Crash Statistics Changes: 1989-1998

Statistic	Average 1989-93	1994	1995	1996	1997	1998	Average 1994-98	% Change 1997-98	% Change 1989-98
All Crashes	205,181	213,223	221,027	221,465	220,009	216,510	218,447	-1.6%	-2.5%
Fatal Crashes	858	875	859	870	849	884	867	4.1%	0.1%
Personal Injury Crashes	49,903	52,476	53,831	52,058	52,413	51,865	52,529	-1.0%	-0.9%
Alcohol-Related Crashes	12,263	9,794	9,995	9,777	9,544	9,508	9,724	-0.4%	-36.0%
Fatalities	967	976	959	982	940	982	968	4.5%	0.9%
Alcohol-Related Fatalities	287	229	226	239	214	234	228	9.5%	-23.3%
Total Injuries	73,696	78,105	80,632	77,339	78,262	77,138	78,295	-1.4%	0.9%
Serious Injuries	6,961	6,638	6,889	6,558	6,488	6,361	6,587	-2.0%	-17.4%
Pedestrian Fatalities	80	83	76	76	75	72	76	-4.0%	-6.5%
Pedalcyclist Fatalities	16	12	14	6	11	12	11	9.1%	-33.3%
Motorcyclist Fatalities	70	65	65	63	47	68	62	44.7%	0.0%
Economic Loss (Billions)	2.409	2.503	2.549	2.520	2.500	2.540	2.523	1.6%	1.4%

Figure 1. Indiana Traffic Fatalities: 1970-1998

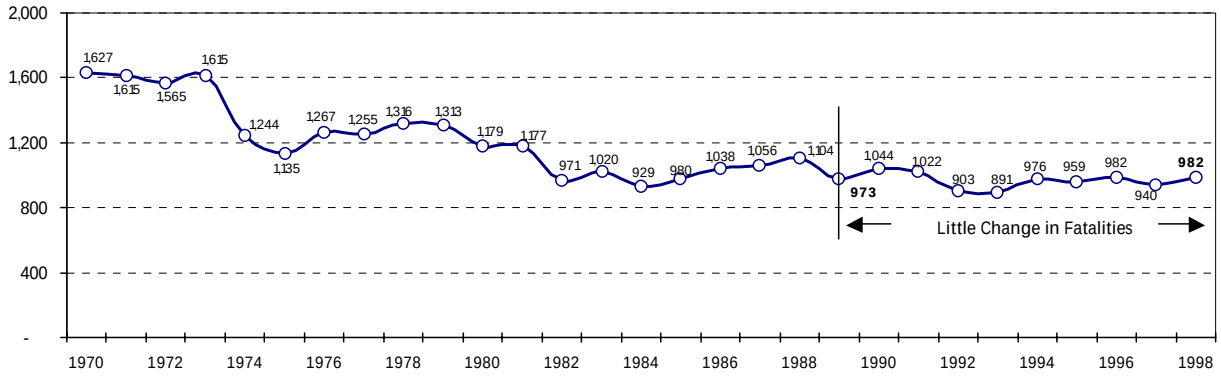


Figure 2. Indiana Traffic Crashes–Serious Injuries: 1989-1998

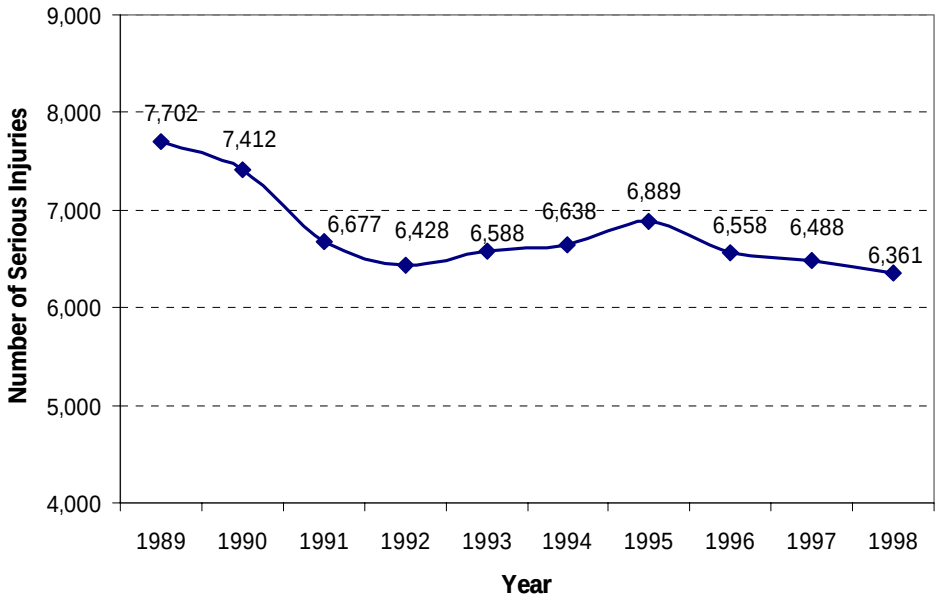


Figure 2

- *A steady decrease in the number of serious injuries.*

Figure 3. Fatality Rate and Alcohol Fatality Rate per 100 MVMT U.S. vs. Indiana: 1989-1998

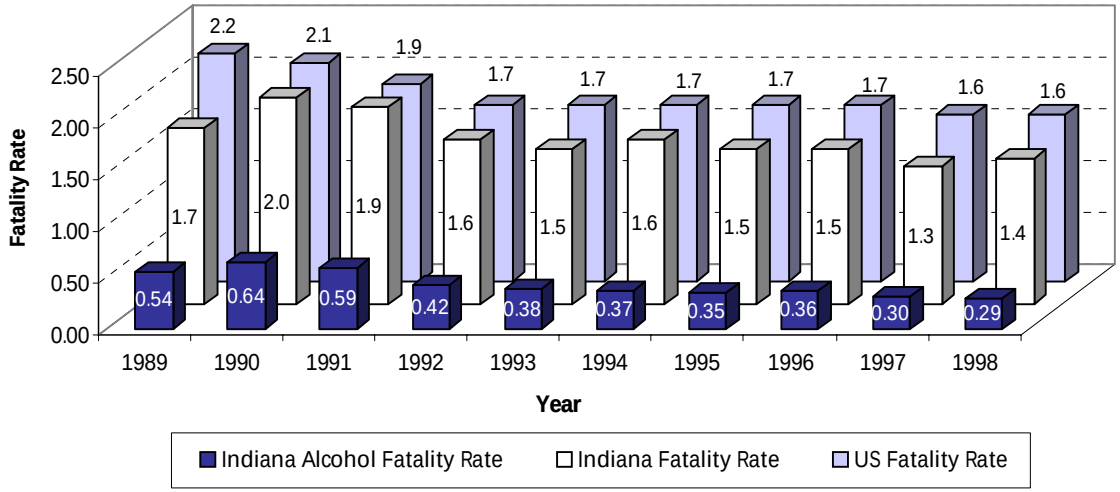


Figure 3

- *Indiana continues to out-perform the national average for fatal crash rates. The national average was 1.6 and Indiana completed 1998 with 1.4 fatalities per 100 MVMT.*
- *The alcohol-involved fatality rate of 0.29 per 100 MVMT continues to demonstrate the results of Indiana's successful approaches to reducing drinking and driving.*
- *Alcohol still accounts for one out of five deaths on Indiana highways.*

Figure 4

- *Younger drivers (age 16-19) are involved in three times as many fatal crashes per licensed driver (in their age category) than the 45 to 64-year-old driver.*
- *Higher levels of fatal crash involvement (1.8 times) are also seen with the 20 to 24-year-old driver, as compared to the 45 to 64-year-old driver.*

Figure 4. Drivers in Fatal Crashes by Age per 1,000 Licensed Drivers–1998

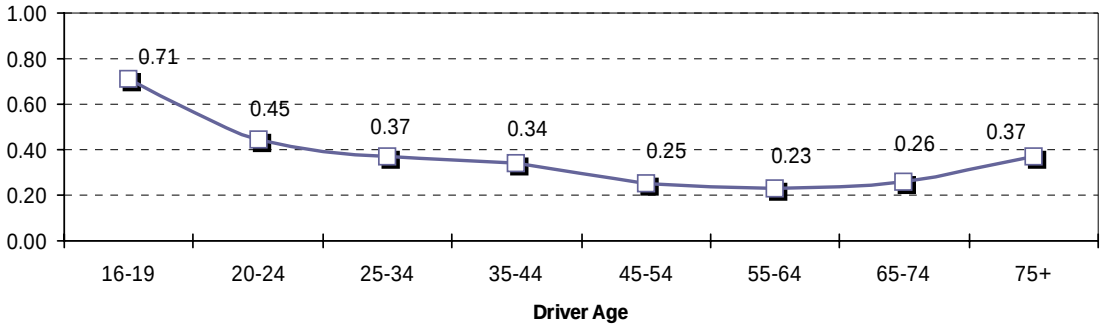
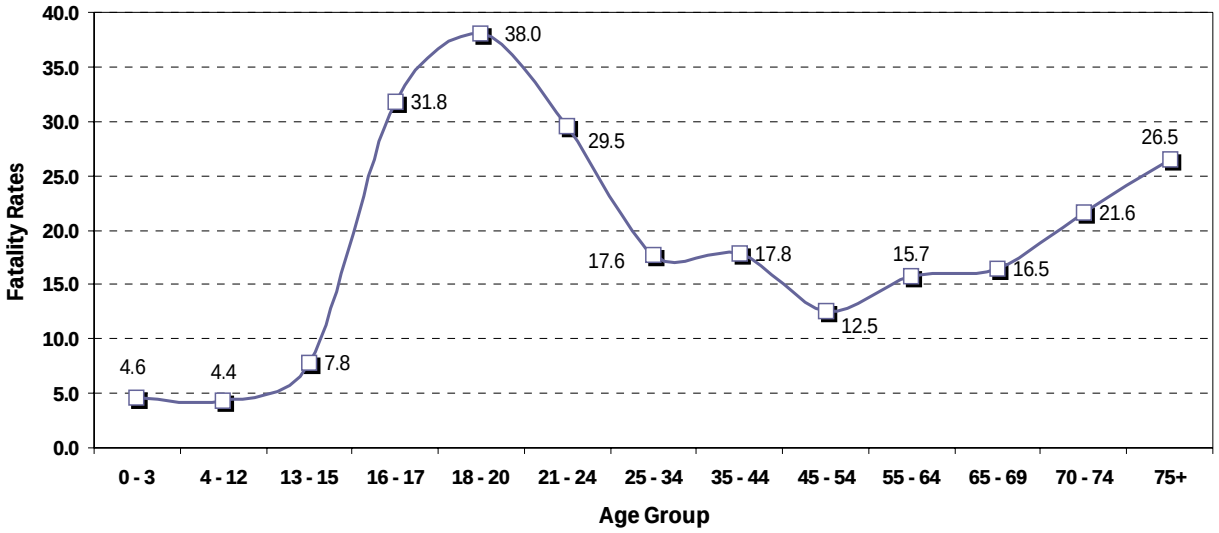


Figure 5

- *The young driver continues to have the highest rates of fatal crash involvement. The predominant circumstance for the 16 to 17-year-old driver is inexperience that results in poorer decision making capabilities—for example, speeding and inattention.*
- *The high rate for the 21 to 24-year-old driver is heavily influenced by the presence of alcohol involvement.*

Figure 5. Indiana Fatality Rates for Motor Vehicle Crashes per 100,000 Population–1998



Figures 6 and 7 show a distribution of the primary contributing circumstances (as identified by the investigating officer). Figure 6 focuses on single vehicle crashes while Figure 7 addresses multiple vehicle crashes. The dominant cause for all age groups is driver inattention. What we aren't able to determine is what caused this lapse in attention. Was it a distraction caused by the use of a cell phone? Or, was the driver distracted by an another occupant of the vehicle? Did something outside the vehicle cause the driver to alter their attention? These are several of the questions that need to be addressed and could be addressed through a revision of the current crash form.

Figure 6. Vehicular Contributing Circumstances Rate per Drivers in Crashes by Age Group–Single Vehicle Crashes–1998

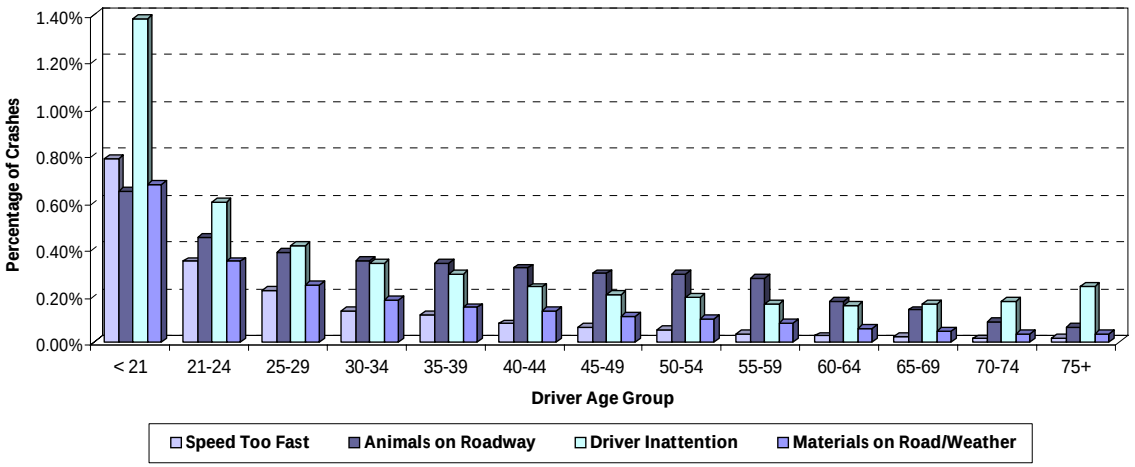


Figure 6

- ***Speed and materials on the road were the second and third most frequently appearing causes of highway crashes for the driver under 21 years old.***
- ***Alcohol becomes a more significant factor for drivers 21+ years old.***

Figure 7. Vehicular Contributing Circumstances Rate per Drivers in Crashes by Age Group–Multiple Vehicle Crashes–1998

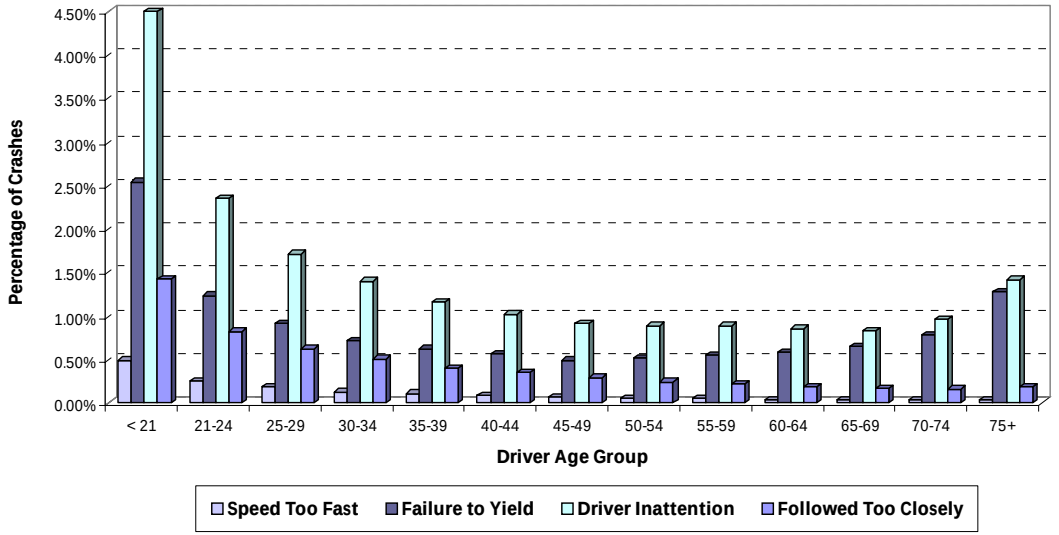
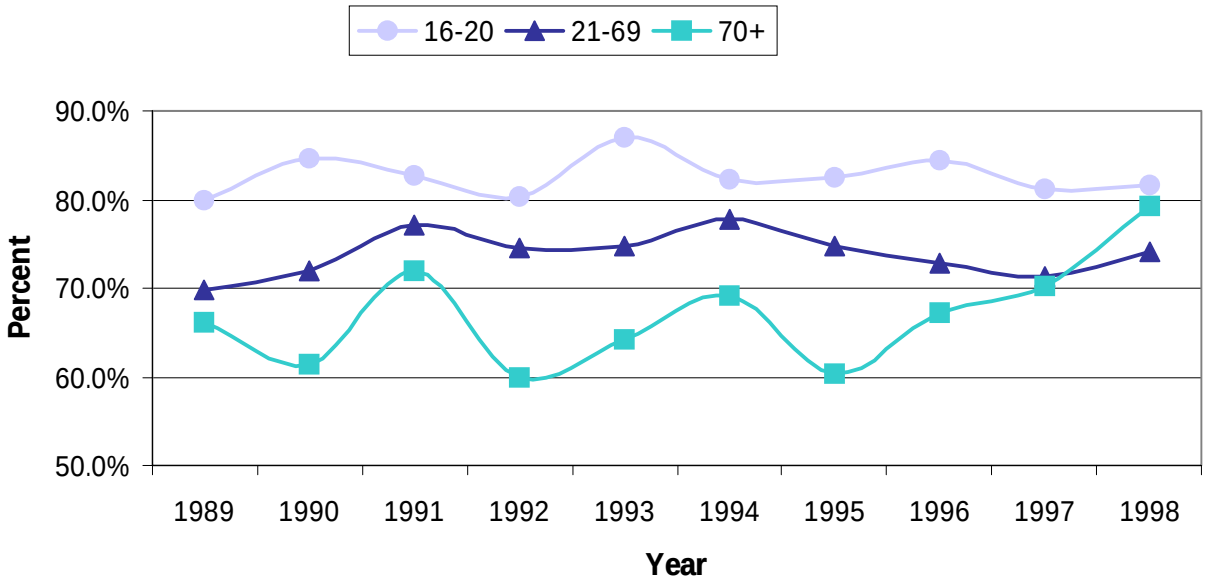


Figure 7

- ***Failure to yield was the second most frequently occurring cause after driver inattention.***

Figure 8. Percentage of Indiana Fatalities that are Rural by Age Group: 1989-1998



1989-1998 Average

Age 16-20	82.6%
Age 21-69	73.9%
Age 70+	67.0%

Figure 8

- ***82.6 percent of fatalities for drivers age 16-20 occurred on rural roads. This trend has not changed over the last ten years.***

Table 2

The results for Table 2 are derived from the crash report. The investigating officer makes a determination at the crash site as to whether the fatally injured (killed) driver was or was not wearing a safety belt at the time of the crash. In some cases, this determination cannot be made and these result in "unknown" usage values. Tragically, it is still one of the most accurate ways to determine safety belt usage. Safety belts have been demonstrated to reduce fatality rates by 50 percent. For example, if two people were killed and neither were wearing a safety belt, statistics have proven that if both occupants had been wearing safety belts, one life would have been saved and only one person would have been killed.

Only 34.7 percent of the fatally injured drivers were wearing seat belts. The lowest usage rate was seen by the 16 to 19-year-old male drivers with a usage rate of only 15.6 percent. Fatally injured female drivers in the same age category had a usage rate of 39.4 percent. The usage rate among all killed male drivers was only 30.1 percent compared with all fatally injured female drivers at 48.7 percent. Safety belt usage rates increased with the age of the fatally injured driver. Female killed drivers over 75 years old had a usage rate of nearly 88 percent.

Table 2. Restraint Usage by Age for Driver Fatalities–1998

	Number of Drivers			% Restrained			% Not Restrained			% Unknown		
Age	**Male**	**Fem**	**Tot**	**Male**	**Fem**	**Tot**	**Male**	**Fem**	**Tot**	**Male**	**Fem**	**Tot**
0 - 15	4	0	4	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%	0.0%	0.0%	0.0%
16 - 19	43	34	77	7.8%	16.9%	24.7%	41.6%	26.0%	67.5%	6.5%	1.3%	7.8%
20 - 24	68	15	83	21.7%	6.0%	27.7%	51.8%	9.6%	61.4%	8.4%	2.4%	10.8%
25 - 34	77	20	97	15.5%	9.3%	24.7%	57.7%	10.3%	68.0%	6.2%	1.0%	7.2%
35 - 44	75	37	112	17.0%	11.6%	28.6%	42.9%	19.6%	62.5%	7.1%	1.8%	8.9%
45 - 54	38	26	64	12.5%	15.6%	28.1%	40.6%	20.3%	60.9%	6.3%	4.7%	10.9%
55 - 64	38	13	51	17.6%	9.8%	27.5%	51.0%	9.8%	60.8%	5.9%	5.9%	11.8%
65 - 74	40	15	55	25.5%	18.2%	43.6%	32.7%	5.5%	38.2%	14.5%	3.6%	18.2%
75+	39	17	56	32.1%	25.0%	57.1%	32.1%	3.6%	35.7%	5.4%	1.8%	7.1%
TOTAL	**422**	**177**	**599**	**17.9%**	**13.2%**	**31.1%**	**45.2%**	**13.9%**	**59.1%**	**7.3%**	**2.5%**	**9.8%**

Legend: Fem=Female; Tot=Total
Source: Fatality Analysis Reporting System, NHTSA.
Note: Drivers coded as improperly restrained were classified as "not restrained."
Excluded are drivers of parked vehicles, motorcycles, and mopeds.

Table 3 and 4

These two tables address the involvement of alcohol in highway crashes. Table 3 presents the number of alcohol-related crashes and the resultant number of injuries and fatalities. Table 4 summarizes the alcohol content of all drivers fatally injured in 1998. The number of alcohol related crashes, while showing a significant decrease through 1992 (25 percent decrease from 1991), has been relatively flat since 1993. The ability to influence and change the behavior of the driver who elects to drink and then drive depends on several agencies taking an aggressive stance. It is dependent upon the members of the nearly 600 law enforcement agencies, the prosecutors who are handling the cases, the courts that are hearing the cases, and the Bureau of Motor Vehicles to accurately and in a timely fashion document the conviction on the driver's record. The strength of a strong alcohol countermeasures program will be only as strong as the weakest link in this chain of events.

A critical factor in determining that a crash actually involved alcohol is obtaining breath and/or blood samples to analytically determine the presence of alcohol or other drugs. The investigating officer has to make that request and/or administer the breath test. The results of the test also have to be linked and entered on the crash form. Without these steps being taken, in Indiana, that crash will not be classified as an alcohol crash. The results shown in these two tables are based upon the crash data.

On the surface, it may appear that there has been only limited progress to reduce the number of alcohol-related crashes and fatalities since 1993. What is not seen in these numbers is the trend in the percent of killed drivers tested. The percent tested (killed drivers) achieved a recent years' high of 70.4 percent in 1995, only to show a sharp decline since then. The 1996 "drivers tested" results were 65.3 percent, 59.2 percent in 1997, and 1998

Table 3. Alcohol Crash Statistics Changes: 1989-1998

Statistic	Average 1989-93	1994	1995	1996	1997	1998	Average 1994-98	% Change 1997-98	% Change 1989-98
Alcohol-Related (ALC) Crashes	12,263	9,794	9,995	9,777	9,544	9,508	9,724	-0.4%	-36.0%
% ALC Crashes	*6.0%*	*4.6%*	*4.5%*	*4.4%*	*4.3%*	*4.4%*	*4.5%*	*1.2%*	*-34.3%*
ALC Fatal Crashes	252	204	199	209	194	206	202	6.2%	-24.0%
% ALC Fatal Crashes	*29.2%*	*23.3%*	*23.2%*	*24.0%*	*22.9%*	*23.3%*	*23.3%*	*2.0%*	*-24.1%*
ALC Fatalities	287	229	226	239	214	234	228	9.3%	-23.3%
% ALC Fatalities	*29.6%*	*23.5%*	*23.6%*	*24.3%*	*22.8%*	*23.8%*	*23.6%*	*4.7%*	*-24.0%*
ALC Injuries	8,423	6,893	6,889	6,664	6,524	6,364	6,667	-2.5%	-37.1%
% ALC Injuries	*11.4%*	*8.8%*	*8.5%*	*8.6%*	*8.3%*	*8.3%*	*8.5%*	*-1.0%*	*-37.7%*

Note: All crashes and injury statistics for 1994 and 1995 were corrected for misclassified private property crashes.

Table 4. Alcohol Concentration of Killed Drivers–1998

	0.0 to 0.009			0.010 to 0.049			0.050 to 0.099			0.100 or Greater			Unknown or Blank			Total		
Age	**Male**	**Fem**	**Tot**	**Male**	**Fem**	**Tot**	**Male**	**Fem**	**Tot**	**Male**	**Fem**	**Tot**	**Male**	**Fem**	**Tot**	**Male**	**Fem**	**Tot**
10 - 15	1	0	1	0	0	0	0	0	0	0	0	0	3	0	3	4	0	**4**
16	2	2	4	0	0	0	0	0	0	0	0	0	0	6	6	2	8	**10**
17	1	4	5	0	0	0	1	0	1	2	0	2	8	7	15	12	11	**23**
18	5	4	9	0	0	0	0	0	0	0	0	0	9	6	15	14	10	**24**
19	4	0	4	0	0	0	1	0	1	1	1	2	9	4	13	15	5	**20**
20	4	0	4	0	0	0	0	0	0	4	1	5	11	4	15	19	5	**24**
21	1	0	1	1	1	2	0	0	0	0	0	0	13	2	15	15	3	**18**
22	0	0	0	0	0	0	0	0	0	0	0	0	5	1	6	5	1	**6**
23	1	0	1	0	0	0	1	0	1	5	0	5	11	1	12	18	1	**19**
24	0	0	0	1	0	1	0	0	0	4	0	4	6	5	11	11	5	**16**
25 - 34	7	5	12	2	0	2	2	0	2	25	2	27	41	13	54	77	20	**97**
35 - 44	11	14	25	1	2	3	1	0	1	12	3	15	50	18	68	75	37	**112**
45 - 54	9	12	21	1	0	1	1	0	1	7	4	11	20	10	30	38	26	**64**
55 - 64	9	1	10	1	0	1	0	0	0	7	2	9	21	10	31	38	13	**51**
65 - 74	7	4	11	0	0	0	0	0	0	0	0	0	33	11	44	40	15	**55**
75 - 84	4	4	8	0	0	0	1	0	1	1	0	1	23	11	34	29	15	**44**
85+	1	0	1	0	0	0	0	0	0	0	0	0	9	2	11	10	2	**12**
Total	**67**	**50**	**117**	**7**	**3**	**10**	**8**	**0**	**8**	**68**	**13**	**81**	**272**	**111**	**383**	**422**	**177**	**599**

Legend: Fem=Female; Tot=Total
Source: Fatality Analysis Reporting System, NHTSA.
Note: Drivers of motorcycles, mopeds, minibikes, motor scooters, and motorbikes are excluded.
Totals do not include drivers of unknown age and/or gender.

is a recent years' low of 36.1 percent. In order to gain an accurate assessment of progress against those drivers that choose to drink and then drive, greater focus has to be placed in this area.

Table 3

- ***Alcohol involvement is present in nearly one out of four traffic fatalities.***
- ***The severity of injuries as a result of alcohol involvement in a crash increases as compared to non-alcohol involved crashes.***

Table 4

- ***Only 36.1 percent of killed drivers had a BAC test result recorded.***
- ***Of those drivers who tested positively for alcohol (0.010+), 81.8 percent had BAC levels at or above the legal limit (0.100) in Indiana.***

Table 5

- *1998 showed a sharp increase in the number of motorcycle-involved crashes.*
- *The number of fatalities increased by 44.7 percent in 1998 from 47 (1997) to 68 (1998).*

Table 5. Motorcycle Crash Statistics: 1989-1998

Statistic	Average 1989-93	1994	1995	1996	1997	1998	Average 1994-98	% Change 1997-98	% Change 1989-98
Motorcycle (MC) Crashes	2,669	2,410	2,251	1,844	1,899	2,063	2,093	8.6%	-32.5%
MC Fatal Crashes	69	65	64	58	45	68	60	51.1%	3.0%
Motorcyclist Fatalities	70	65	65	63	47	68	62	44.7%	0.0%
MC Personal Injury Crashes	2,057	1,977	1,786	1,442	1,450	1,580	1,647	9.0%	-31.0%

Note: All 1994 and 1995 crashes and injury statistics were corrected for misclassified private property crashes.

Figure 9

- *Over the past 13 years, there has been an overall general decline in the number of fatalities involving motorcycles.*

Figure 9. Total Fatalities Related to Motorcycle Crashes: 1985-1998

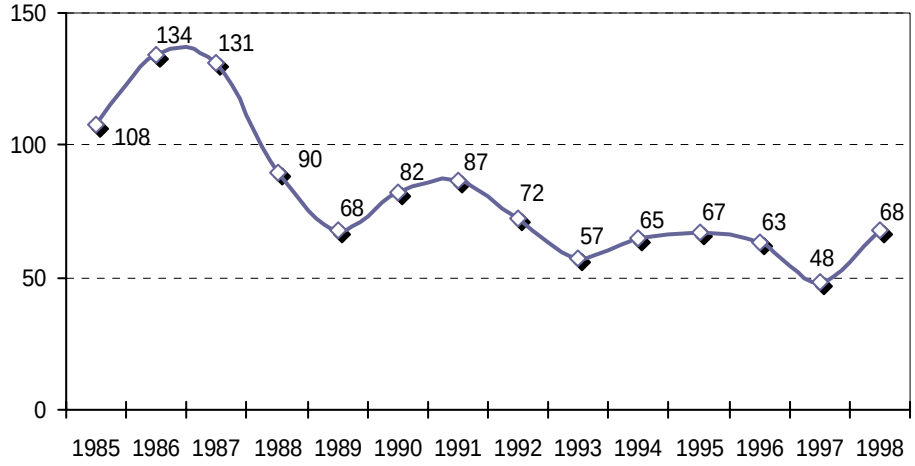


Figure 10. Pedestrian Fatalities: 1985-1998

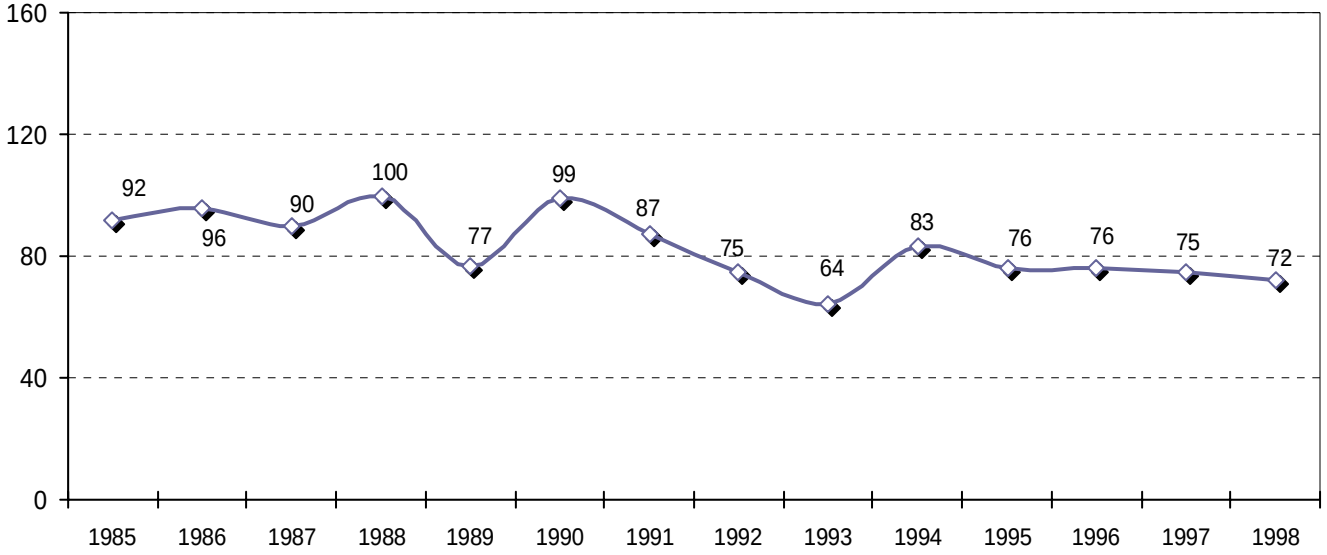


Figure 10

- ***Pedestrian fatalities continue to show a steady decrease.***

Figure 11. Bicyclist Fatalities: 1985-1998

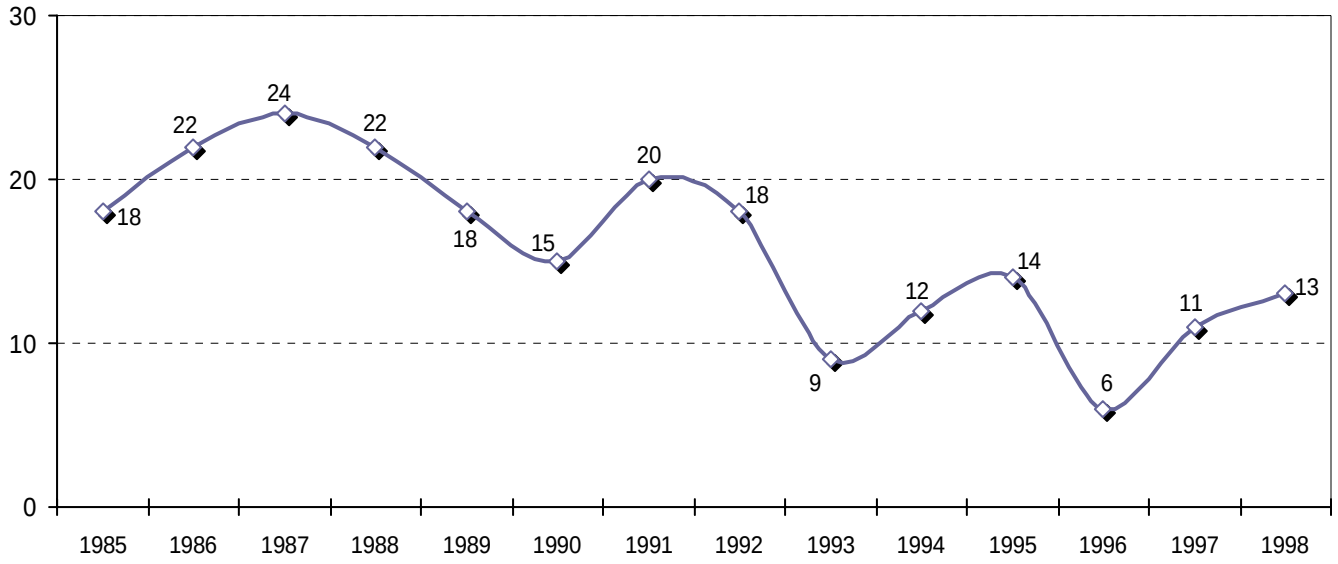


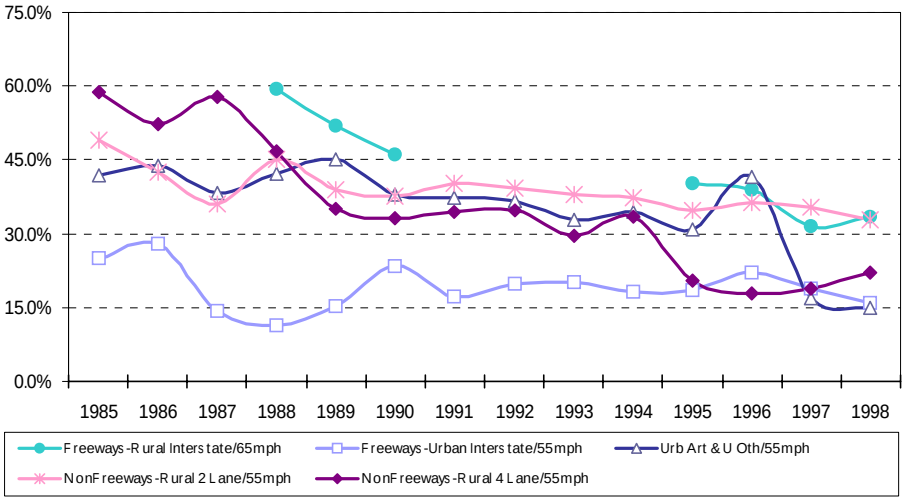
Figure 11

- ***While the last two years have shown an increase in the number of fatalities, the long-term trend is a reduction in the number of bicyclist fatalities.***

Figure 12

- ***The trend on speed limit compliance is downward—more people are exceeding the posted speed limit.***
- ***The pattern of driving faster is noted on all types of roads in Indiana.***

Figure 12. Motorist Compliance with Posted Speed Limits: 1985-1998



Source: Cochran, David L. *Speed Trends for Indiana Highways*, Purdue University Joint Highway Research Project, February 1999

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chapter summary

This chapter contains figures and tables that portray a comprehensive picture of the outcomes of motor vehicle crashes in Indiana. The common outcome indicators of Fatalities, Injuries and the Economic Cost of Crashes are the statistics emphasized. The ten-year trends for Serious Injuries, Licensed Drivers, and Motor Vehicle Registrations are also included to aid in the interpretation of crash severity, injury, and fatality trends.

Although the total number of fatal crashes and fatalities increased from 1997 to 1998 to 884 fatal crashes and 982 fatalities, the fatal crash rate (total number of fatal crashes/vehicle miles traveled) has actually been remarkably constant over the past five years (Figure 13). The total number of reported property damage crashes has increased by 2.4 percent over the past five years; however, the number of personal injury crashes decreased by 1.2 percent over the same period (Figure 14).

Table 6 summarizes the most common crash statistics for the past ten years along with the numbers of licensed drivers and registered vehicles. It is important to note that the crash reporting threshold was changed during 1990 from $200 to $750 for property damage crashes. This is the most likely reason for the large decline in property damage crashes in 1991. Over the past five years, the numbers of licensed drivers in Indiana has increased by 3.0 percent, and registered vehicles by 4.7 percent. Fatalities have increased by only 0.6 percent during this period, while serious injuries declined by 4.2 percent.

Since increases in population, licensed drivers, and the numbers of miles driven effect the opportunity for crashes to occur, crash rates and fatality rates based on miles driven are often better indices of whether motor vehicle travel is becoming safer. Figure 15 and Table 7 summarize fatal crash and fatality rate data for the 1980-1998 period. These rates are based on vehicle miles traveled (VMT) estimates from data collected by the Indiana Department of Transportation (INDOT) and the National Highway Traffic Safety Administration (NHTSA). While Indiana's fatality rate of 1.4 fatalities per 100 million VMT in 1998 was an increase of 4.2 percent over 1997, the national decrease of 8.5 percent in fatality rate per 100 MVMT over the most recent five-year period was less than the 11.6 percent decline for Indiana for the same period.

In comparing the numbers of passenger fatalities by motor vehicle type in Table 8 with the same information in the 1996 and 1997 *Crash Facts*, it is disturbing to find that the number of pickup truck occupants killed has increased from 106 in 1996 to 131 in 1997 and 144 in 1998. This increase accounts for a substantial proportion of the increase in motor vehicle fatalities in 1998.

Historical data on Indiana motor vehicle fatalities is found in Table 9 and Figures 16 and 17. Over the long term, substantial progress has been made in reducing the number of deaths on Indiana's highways. An area of concern is the steady increase since 1980 in the percentage of fatalities that occurred in a rural locale despite the decrease in the total number of fatalities over the past eighteen years. Although total fatalities have dropped 16.7 percent from 1980 to 1998, rural fatalities increased 16.9 percent over the 1980-1998 period.

When fatal crashes and fatalities occur is an important factor to consider when designing interventions aimed at improving traffic safety. Patterns in fatalities by time of day, day of week, and month are displayed in Table 10 and Figures 18 through 22. See the Crashes chapter for related information by crash severity categories. Saturday had the highest number of traffic fatalities in 1998 with 167, followed by Friday with 155, which were consistent with the averages over the previous five-year period. In spite of this continuing trend of higher numbers of fatalities on Saturdays than any other day, weekend fatalities have actually declined 22.0 percent from a ten-year high of 463 in 1990 to 361 in 1998 (Figure 20).

Over the five-year period of 1993-1997, the June-October period accounted for more fatalities than the rest of the year. Beginning with 1998, the high-fatality period has extended through December. Further, as illustrated in Figure 22, the number of fatalities for the months of October, November, and December 1998 have increased considerably as compared to the previous five-year average.

The total economic cost of traffic crashes in 1998 was estimated, using the NHTSA Crash Cost Model, to be 2.54 billion dollars in 1998 dollars. This was a 0.4 percent increase in economic loss from 1997. For 1998, the model yields an average cost of $799,138 for each fatality, $16,253 for each injured person, and $1,702 for each vehicle involved in a property damage only crash.

The Indiana Traffic Safety Time Clock data (inside of back cover) summarizes the frequencies of various fatality and injury statistics for all crashes and alcohol-related crashes.

Figure 13

- ***Fatal crashes have increased 4.1 percent from 849 in 1997 to 884 in 1998.***

Figure 13. Fatal Crashes in Indiana: 1989-1998

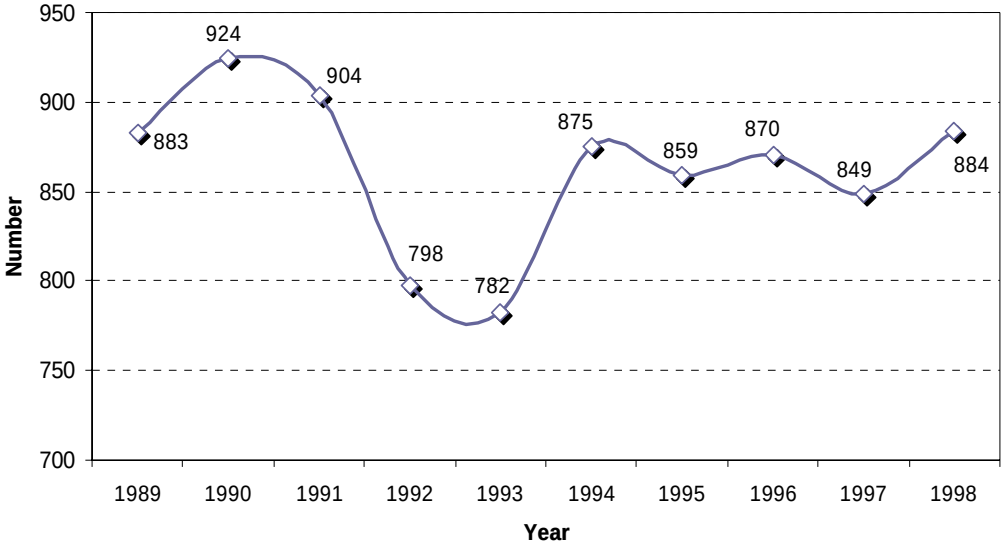
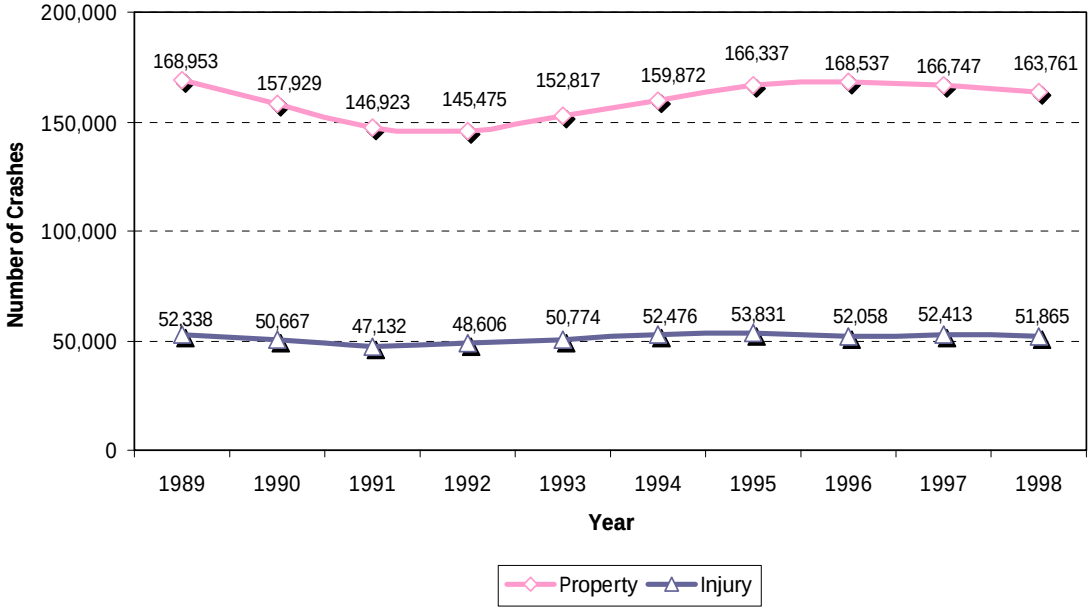


Figure 14

- ***Reported property damage crashes have increased 2.4 percent over the past five years.***
- ***Personal injury crashes decreased 1.2 percent over the past five years.***

Figure 14. Personal Injury and Property Damage Crashes: 1989-1998



1995 and 1996 corrected for misclassified private property crashes.

Table 6. Crash Severity with Licensed Drivers and Registered Vehicles: 1989-1998 Table 6

Year	Fatal Crashes	Personal Injury	Property Damage	Total Crashes	Fatalities	Total Injuries	Serious Injuries	Licensed* Drivers	Registered* Vehicles
1989	883	52,338	168,953	222,174	973	76,447	7,702	3,754,151	4,693,634
1990	924	50,667	157,929	209,520	1,044	74,916	7,412	3,601,167	4,624,591
1991	904	47,132	146,923	194,959	1,022	69,280	6,677	3,744,208	4,740,306
1992	798	48,606	145,475	194,879	903	72,223	6,428	3,800,437	4,839,889
1993	782	50,774	152,817	204,373	891	75,614	6,588	3,790,783	4,953,250
1994	875	52,476	159,872	213,223	976	78,105	6,638	3,860,329	5,131,673
1995	859	53,831	166,337	221,027	959	80,632	6,889	3,881,424	5,209,779
1996	870	52,058	168,537	221,465	982	77,339	6,558	3,902,519	5,347,748
1997	849	52,413	166,747	220,009	940	78,262	6,488	3,923,420	5,343,638
1998	884	51,865	163,761	216,510	982	77,138	6,361	3,976,075	5,454,680

**Source: Indiana Bureau of Motor Vehicles*

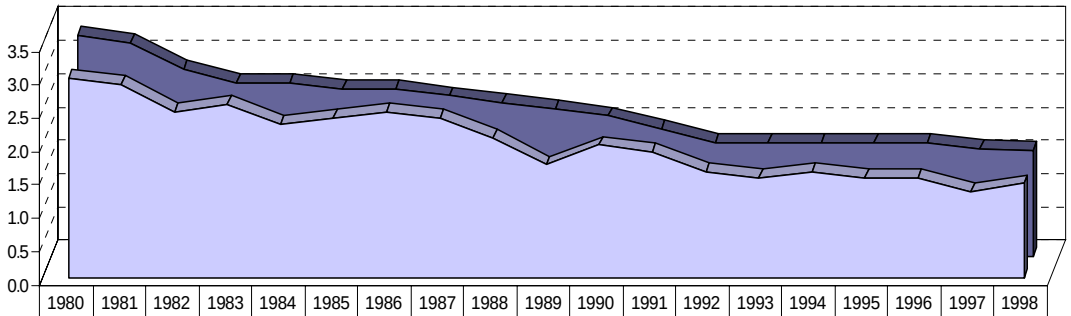
Note: 1995 and 1996 licensed driver numbers estimated from 1994 and 1997 counts.

1994 and 1995 corrected for misclassified private-property crashes.

Of the 216,510 Indiana traffic crashes reported to the Indiana State Police during 1998, 884 were fatal crashes in which 982 people died and 51,865 were personally injured. There were a total of 6,361 persons seriously injured, down from 6,488 in 1997.

- ***Compared to 1997, fatalities increased 4.5 percent from 940 to 982 while, for all states, fatalities decreased by 1.2 percent.***
- ***Compared with the most recent five years, the number of annual fatalities has remained flat.***

Figure 15. U.S. Fatality Rates and Indiana Fatality Rates: 1980-1998



	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
IN Fatality Rate	3.0	2.9	2.5	2.6	2.3	2.4	2.5	2.4	2.1	1.7	2.0	1.9	1.6	1.5	1.6	1.5	1.5	1.3	1.4
U.S. Fatality Rate	3.3	3.2	2.8	2.6	2.6	2.5	2.5	2.4	2.3	2.2	2.1	1.9	1.7	1.7	1.7	1.7	1.7	1.6	1.6

YEAR

While the number of licensed drivers has increased by 5.9 percent and the number of registered vehicles has increased by 14.4 percent over the past ten years, the number of fatalities has increased by only 0.9 percent. Moreover, serious injuries have declined by 17.4 percent, total crashes have declined by 2.5 percent, and property damage crashes have also decreased by 3.1 percent since 1989.

Figure 15

- ***Indiana's fatality rate of 1.4 fatalities per 100 MVMT remained below the national average of 1.6.***

Table 7

The fatality rate of 1.4 fatalities per 100 million VMT (100 MVMT) in 1998 was an increase of 4.2 percent over 1997 (Table 7). While over the past ten years Indiana's VMT has increased by 25.8 percent, the fatality rate per 100 MVMT has decreased by 19.8 percent and the corresponding fatal crash rate has decreased by 20.4 percent. National increases in VMT have been slightly less than for Indiana with a 25.2 percent ten-year increase. The national decrease in fatality rate per 100 MVMT was greater than for Indiana with a 27.4 percent decline over the ten-year period.

- ***The national decrease of 8.5 percent in fatality rate per 100 MVMT over the most recent five-year period was less than the 11.6 percent decline for Indiana.***

Table 7. Indiana and U.S. Fatality Rates per 100 Million Vehicle Miles Traveled: 1980-1998

	Indiana					U.S.		
Year	Billion VMT	Fatal Crashes	Fatalities	Fatality Rate	Fatal Crash Rate	Fatalities	Billion VMT	Fatality Rate
1980	38.7	1,040	1,179	3.0	2.7	51,091	1,527	3.3
1981	38.9	1,022	1,177	3.0	2.6	49,301	1,555	3.2
1982	39.2	849	971	2.5	2.2	43,945	1,595	2.8
1983	39.8	875	1,020	2.6	2.2	42,589	1,653	2.6
1984	41.1	839	929	2.3	2.0	44,257	1,720	2.6
1985	40.8	881	980	2.4	2.2	43,825	1,775	2.5
1986	40.8	993	1,038	2.5	2.4	46,087	1,835	2.5
1987	43.6	957	1,056	2.4	2.2	46,390	1,921	2.4
1988	51.1	962	1,104	2.2	1.9	47,087	2,026	2.3
1989	56.2	883	973	1.7	1.6	45,582	2,096	2.2
1990	53.7	924	1,044	1.9	1.7	44,599	2,144	2.1
1991	54.3	904	1,022	1.9	1.7	41,508	2,172	1.9
1992	57.1	798	903	1.6	1.4	39,250	2,247	1.7
1993	60.5	782	891	1.5	1.3	40,150	2,296	1.7
1994	62.1	875	976	1.6	1.4	40,716	2,358	1.7
1995	64.6	859	959	1.5	1.3	41,817	2,423	1.7
1996	66.0	870	982	1.5	1.3	42,065	2,486	1.7
1997	70.5	849	940	1.3	1.2	41,967	2,560	1.6
1998	70.7	884	982	1.4	1.3	41,471	2,625	1.6

Legend: VMT = Vehicle MilesTraveled

VMT Source: Indiana Department of Transportation, Federal Highway Administration.

Example: The Fatality Rate for 1998 was 1.4 traffic fatalities [982/(70.7 x 10)] per 100 million vehicle miles traveled.

Also, the Fatal Crash Rate in 1998 was 1.3 [884/(70.7 x 10)] per 100 million vehicle miles traveled.

Table 8. Driver and Passenger Fatalities by Motor Vehicle Type–1998

	Driver		Passenger		Total	
Vehicle Type	**Count**	**Percent**	**Count**	**Percent**	**Count**	**Percent**
Passenger Car, Station Wagon	413	62.67%	172	72.27%	**585**	**65.22%**
Pickup	116	17.60%	28	11.76%	**144**	**16.05%**
Van	39	5.92%	15	6.30%	**54**	**6.02%**
Truck	9	1.37%	0	0.00%	**9**	**1.00%**
Semi-Tractor (Only)	2	0.30%	0	0.00%	**2**	**0.22%**
Semi-Tractor, Trailer	11	1.67%	3	1.26%	**14**	**1.56%**
Semi-Tractor, Multiple Trailers	0	0.00%	0	0.00%	**0**	**0.00%**
Combination Vehicle	0	0.00%	0	0.00%	**0**	**0.00%**
Recreational Vehicle	1	0.15%	1	0.42%	**2**	**0.22%**
Bus	0	0.00%	0	0.00%	**0**	**0.00%**
School Bus	0	0.00%	0	0.00%	**0**	**0.00%**
Police Car	1	0.15%	0	0.00%	**1**	**0.11%**
Fire Truck	0	0.00%	0	0.00%	**0**	**0.00%**
Ambulance	0	0.00%	0	0.00%	**0**	**0.00%**
Motorcycle*	61	9.26%	7	2.94%	**68**	**7.58%**
Snowmobile	0	0.00%	0	0.00%	**0**	**0.00%**
Farm Equipment	1	0.15%	1	0.42%	**2**	**0.22%**
Special Vehicle	1	0.15%	1	0.42%	**2**	**0.22%**
Other	4	0.61%	0	0.00%	**4**	**0.45%**
Unknown	0	0.00%	10	4.20%	**10**	**1.11%**
Total	**659**		**238**		**897**	

**Motorcycle includes motorcycles, mopeds, motorbikes, motor scooters and minibikes.*

Note: Table does not include non-occupants (i.e. pedestrian, bicyclists).

Table 8

Table 8 summarizes 1998 fatalities of motor vehicle occupants by role (driver or passenger) and type of motor vehicle. The highest percentages of fatalities are for occupants of passenger cars with 65.22 percent, down from 67.33 percent in 1997.

A growing concern is the number of fatalities that were occupants of pickup trucks, which has steadily increased from 106 in 1996 to 144 in 1998. The number of fatalities that were occupants of semi-tractors also increased from 11 in 1996 to 16 in both 1997 and 1998. The number of motorcyclist fatalities, which had decreased from 63 in 1996 to an all-time low of 47 in 1997, increased to 68 in 1998.

The percentage of occupant fatalities accounted for by drivers increased from 71.8 percent in 1997 to 73.5 percent in 1998.

Unfortunately, Indiana does not have statistics on the numbers of registered vehicles or VMT that correspond to the vehicle-type categories on the crash report. Sport-Utility Vehicles (SUVs) are not identified in the crash database as a separate vehicle class and thus are included in the passenger car category.

- ***The number of fatalities that were occupants of pickup trucks has increased from 106 in 1996 to 131 in 1997, and to 144 in 1998.***

Table 9

Table 9 provides historical data on the total number of Indiana motor vehicle crash fatalities with a breakdown by rural/urban locale. Wars, gasoline shortages and/or price increases, airline shutdowns, and recessions can affect total miles traveled during periods of time and thus impact on the opportunity for crashes. Speed limit changes, improvements in roadway design, changes in average vehicle crashworthiness, traffic law enforcement practices, and restraint usage rates also may impact on the total number of fatalities.

- ***75.5 percent of fatalities in 1998 occurred in rural areas.***

Table 9. Indiana Traffic Fatalities by Locale: 1941-1998

Year	Rural	Urban	Statewide	Year	Rural	Urban	Statewide
1941	1,051	427	1,478	**1971**	1,205	410	1,615
1942	671	345	1,016	**1972**	1,157	408	1,565
1943	416	301	717	**1973**	1,225	390	1,615
1944	469	315	784	**1974**	868	376	1,244
1945	542	318	860	**1975**	822	313	1,135
1946	644	351	995	**1976**	895	372	1,267
1947	759	350	1,109	**1977**	860	395	1,255
1948	758	313	1,071	**1978**	893	423	1,316
1949	795	326	1,121	**1979**	895	418	1,313
1950	818	306	1,124	**1980**	761	418	1,179
1951	907	340	1,247	**1981**	787	390	1,177
1952	970	307	1,277	**1982**	671	300	971
1953	922	354	1,276	**1983**	714	306	1,020
1954	839	241	1,080	**1984**	673	256	929
1955	887	262	1,149	**1985**	679	301	980
1956	944	280	1,224	**1986**	760	278	1,038
1957	932	244	1,176	**1987**	729	327	1,056
1958	824	236	1,060	**1988**	811	293	1,104
1959	848	279	1,127	**1989**	695	278	973
1960	828	302	1,130	**1990**	754	290	1,044
1961	822	260	1,082	**1991**	784	238	1,022
1962	921	312	1,233	**1992**	662	241	903
1963	1,003	341	1,344	**1993**	671	220	891
1964	1,042	369	1,411	**1994**	748	228	976
1965	1,084	433	1,517	**1995**	710	249	959
1966	1,155	419	1,574	**1996**	729	253	982
1967	1,176	401	1,577	**1997**	690	250	940
1968	1,094	429	1,523	**1998**	741	241	982
1969	1,244	434	1,678				
1970	1,124	442	1,566				

Figure 16. Percent Rural Fatalities by Year: 1941-1998

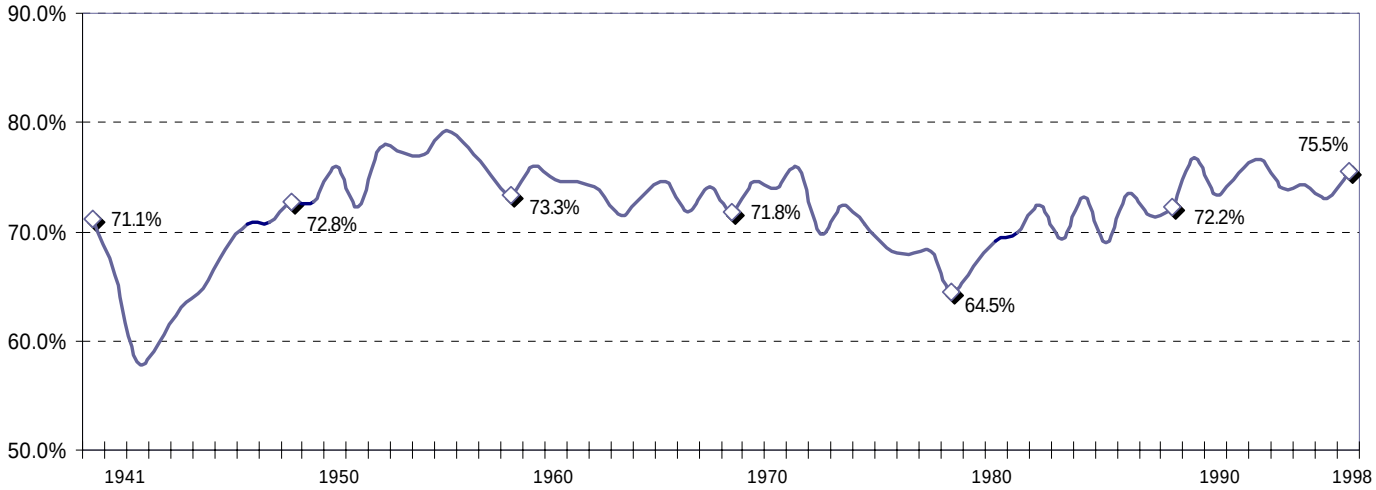


Figure 16

- ***After declining steadily from 1958 to 1980, the percentage of rural fatalities has trended upward from 64.5 percent in 1980 to 75.5 percent in 1998.***

Figure 17. Indiana Traffic Fatalities: 1941-1998

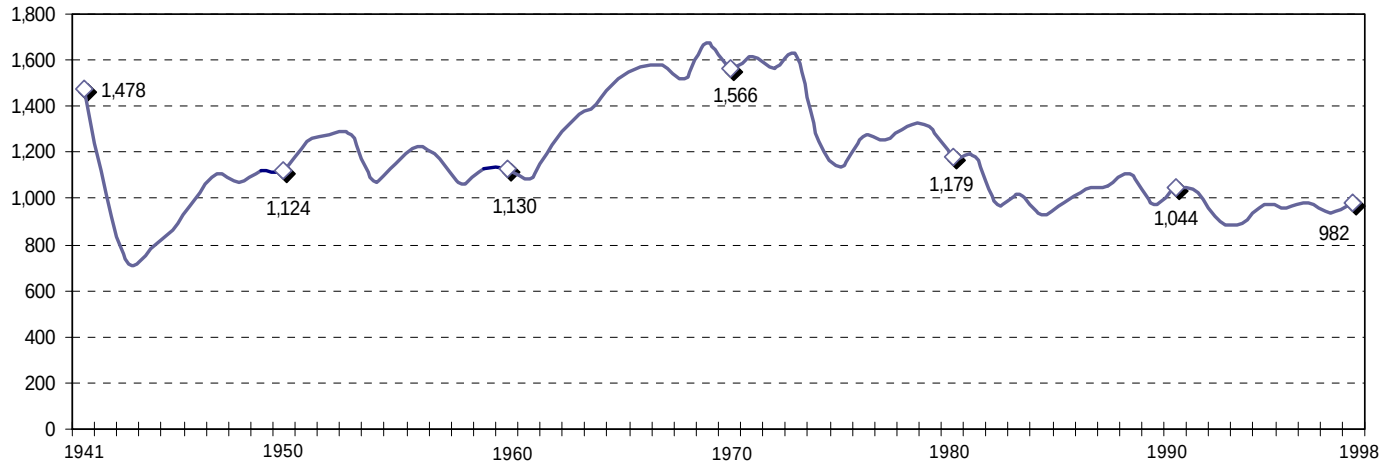


Figure 17

- ***Despite the slight increase in the number of fatalities from 1997 to 1998, the overall trend has been decreasing since 1970.***

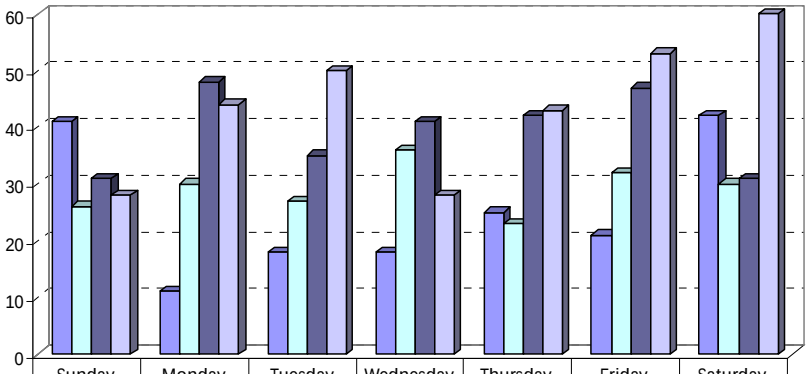
Table 10, Figures 18-20

Table 10 displays detailed data on 1998 fatalities by 1-hour time periods and by day of the week. Figure 18 utilizes the data in Table 10 by grouping the fatalities into 6-hour time periods by the day of the week. For weekdays (Monday-Friday) (see Glossary for explanation of weekday and weekend), the midnight-6 AM period had the fewest fatalities of the 6-hour periods. The weekend fatality pattern was distinctively different with the midnight-6 AM period having the highest frequencies of fatalities. An important factor that contributes to this pattern is the higher frequency of fatal alcohol-related crashes during late-night, weekend periods. A closer review of the data revealed that the largest number of fatalities for 1998 occurred during the 6 PM-midnight time period. This represents a change from 1994-1997 fatality data—historically, the noon-6 PM time period accounted for the greatest number of fatalities in a week's time. After having dropped 7.7% from 1996 to 1997, weekday traffic fatalities increased 9.9 percent from 1997 to 1998, which represents the highest number of weekday fatalities the past ten years (Figure 20).

Table 10. Fatalities by Time of Day and Day of Week–1998

Time	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Total
midnight - 1 am	3	1	3	4	3	4	2	**20**
1 - 2 am	9	5	3	4	4	3	6	**34**
2 - 3 am	8	4	3	5	2	3	9	**34**
3 - 4 am	11	0	4	2	9	5	14	**45**
4 - 5 am	6	0	3	3	6	4	3	**25**
5 - 6 am	4	1	2	0	1	2	8	**18**
6 - 7 am	6	3	7	6	2	2	3	**29**
7 - 8 am	4	7	5	10	7	7	5	**45**
8 - 9 am	1	3	1	3	2	3	3	**16**
9 - 10 am	2	10	3	7	5	8	9	**44**
10 - 11 am	1	4	5	4	2	7	5	**28**
11 - noon	12	3	6	6	5	5	5	**42**
noon - 1 pm	0	3	5	4	7	5	7	**31**
1 - 2 pm	4	3	6	10	5	5	5	**38**
2 - 3 pm	4	9	4	7	5	13	5	**47**
3 - 4 pm	9	12	5	3	7	13	1	**50**
4 - 5 pm	3	10	8	10	7	6	7	**51**
5 - 6 pm	11	11	7	7	11	5	6	**58**
6 - 7 pm	6	9	5	4	7	11	10	**52**
7 - 8 pm	5	8	12	5	16	9	9	**64**
8 - 9 pm	4	5	9	8	6	11	17	**60**
9 - 10 pm	8	7	6	3	6	9	10	**49**
10 - 11 pm	3	9	9	6	4	8	4	**43**
11 - midnight	2	6	9	2	4	5	10	**38**
Unknown	4	0	3	0	8	2	4	**21**
Total	130	133	133	123	141	155	167	**982**

Figure 18. Fatalities by Day of Week and Time–1998



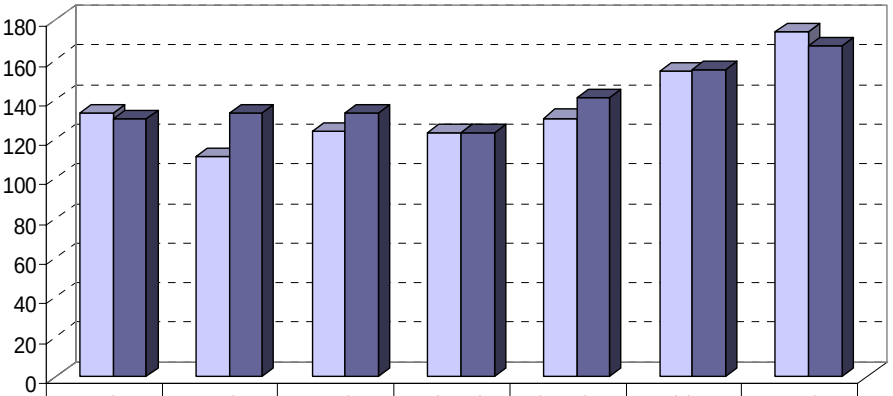
	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
12am-6am	41	11	18	18	25	21	42
6am-12pm	26	30	27	36	23	32	30
12pm-6pm	31	48	35	41	42	47	31
6pm-12am	28	44	50	28	43	53	60

Note: Unknown Time of Day not included.

Figure 18

- ***The highest frequency of fatalities (60), per 6-hour period, was between 6 PM-midnight on Saturday.***
- ***The second highest 6-hour period (53) occurred during the same time interval on Friday nights between 6 PM and midnight.***

Figure 19. Fatalities by Day of Week–1998



	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1993-1997 Average	133	111	124	123	131	154	174
1998	130	133	133	123	141	155	167

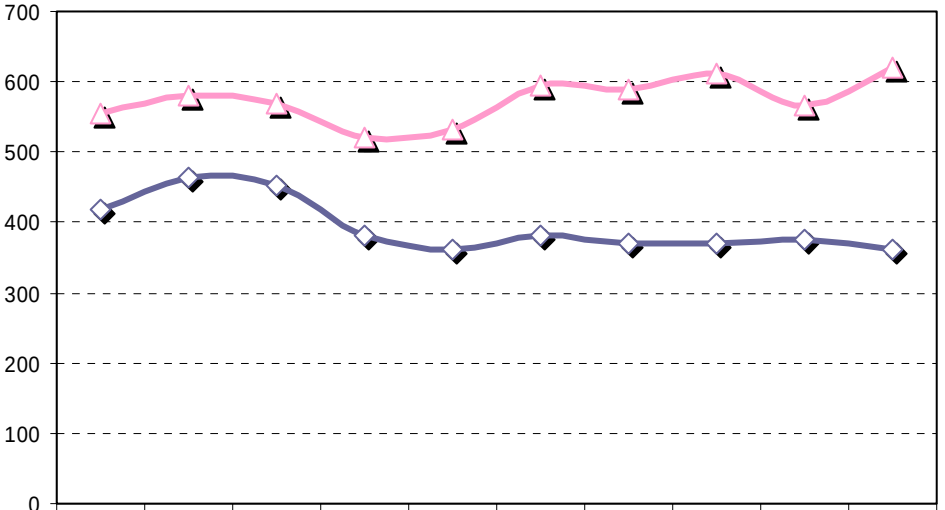
Figure 19

- ***In 1998, Saturday had the highest number of traffic fatalities with 167, followed by Friday with 155 fatalities.***
- ***Saturdays accounted for 17.6 percent of the 982 fatalities, but only 14.3 percent of a week's time.***

Figure 20

- ***Weekend fatalities, which are more likely to be alcohol-related, have declined 22.0 percent from 463 in 1990 to 361 in 1998.***
- ***Weekday fatalities have increased from 581 in 1990 to 621 in 1998. The 1998 total is the largest result over the past ten years.***

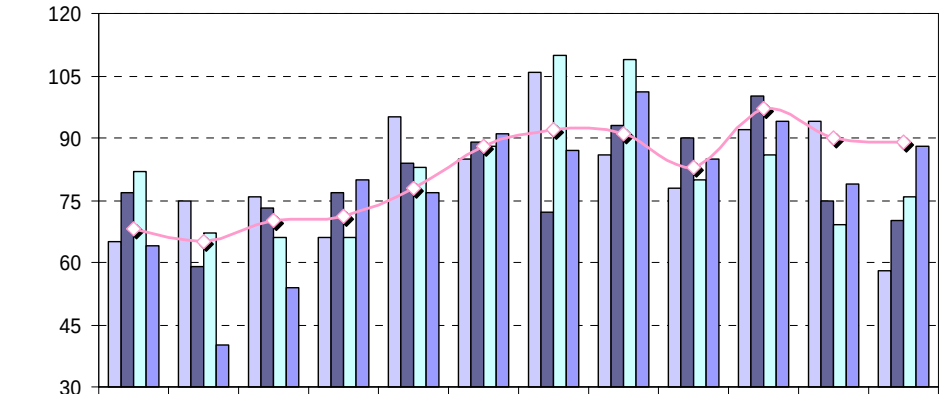
Figure 20. Fatalities by Weekday/Weekend by Year: 1989-1998



	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Weekend	419	463	452	381	360	382	371	370	375	361
Weekday	554	581	570	522	531	594	588	612	565	621

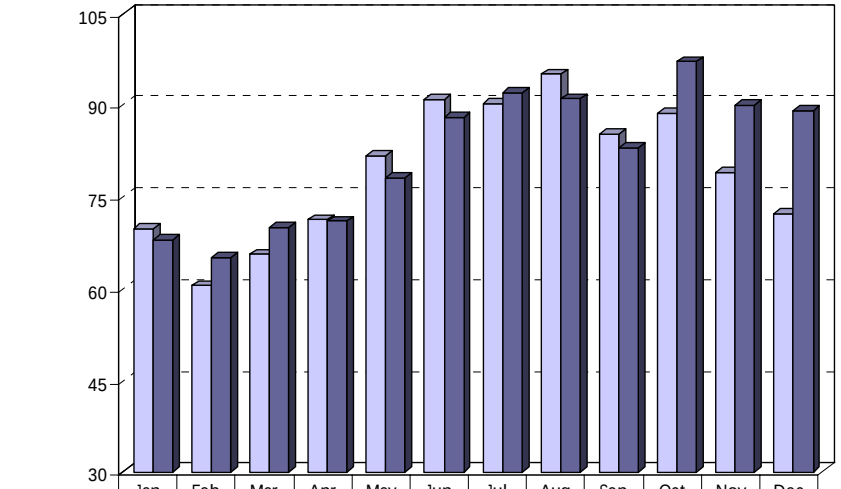
See Glossary for definitions of weekend and weekday.

Figure 21. Fatalities by Month and Year: 1994-1998



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1994	65	75	76	66	95	85	106	86	78	92	94	58
1995	77	59	73	77	84	89	72	93	90	100	75	70
1996	82	67	66	66	83	88	110	109	80	86	69	76
1997	64	40	54	80	77	91	87	101	85	94	79	88
1998	68	65	70	71	78	88	92	91	83	97	90	89

Figure 22. Fatalities by Month–1998



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1993-1997 Average	70	60	66	71	82	91	90	95	85	89	79	72
1998	68	65	70	71	78	88	92	91	83	97	90	89

Figures 21 and 22 display fatality by month information for 1998 and the previous four years. There were fewer fatalities during the first three months of 1997 than had been typical of recent years. The 1998 January-March fatalities were consistent with 1994–1996 trends. The numbers of fatalities during the last three months of the year have been higher overall than the 1994–1996 trends for both 1997 and 1998. Fatalities during December 1997 and December 1998 were notably higher than any year for the 1993-1997 period.

Figure 21

- ***Although February 1997 experienced a significant decrease in the number of fatalities (40) over the previous three years, 1998 saw that number escalate to 65 fatalities in February.***

Figure 22

- ***The highest number of monthly fatalities (97) for 1998 occurred during October.***
- ***Comparing 1998 to the 1993-1997 five-year averages, the fatality rates have remained relatively constant each month with the exception of October-December 1998. Fatalities increased 9 percent in October, 13.9 percent in November, and 23.6 percent in December over the previous five-year averages.***

state outcome data summary

The total economic cost of traffic crashes in 1998 was estimated, using the NHTSA Crash Cost Model, to be 2.54 billion dollars in 1998 dollars. This was a 0.4 percent increase in economic loss from 1997. The NHTSA Crash Cost Model includes a number of factors, including medical and funeral cost, lost wages, legal expenses, and damage to property. The largest single factor is loss in market productivity, which includes lost household productivity. For 1998, the model yields an average cost of $799,138 for each fatality, $16,253 for each injured person, and $1,702 for each vehicle involved in a property damage only crash. The model used does not include any cost estimation for crashes and injuries not reported. It does not include any psychological cost component for such factors as pain and suffering or quality of life.

Figure 23. Total Economic Loss by Year and Locale: 1989-1998 (Millions of 1998 Dollars)

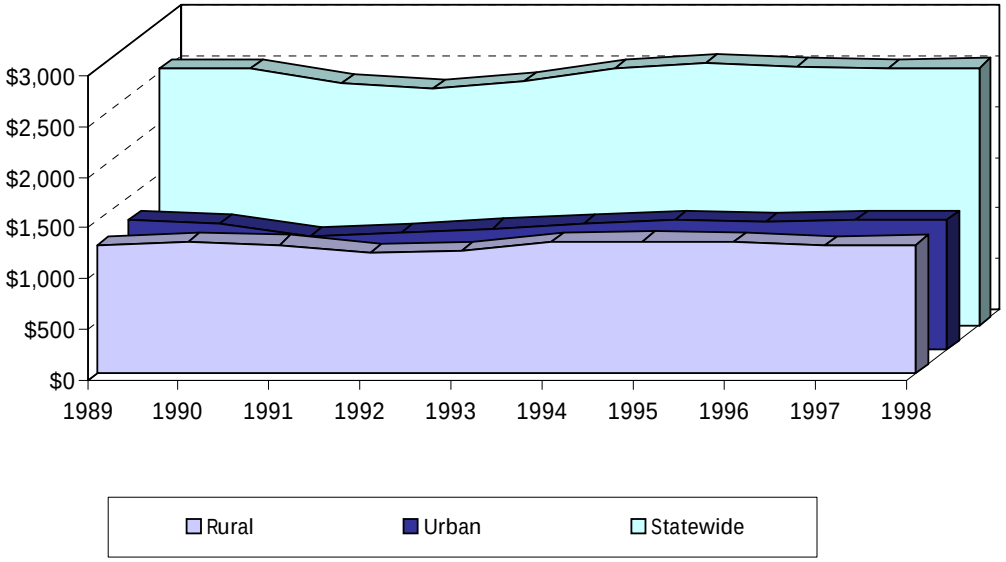


Table 11. Total Economic Loss by Year and Locale: 1989-1998 (In Millions of 1998 Dollars)

	Rural		Urban		
Year	Dollars	Percent	Dollars	Percent	Statewide
1989	$1,257	49.6%	$1,278	50.4%	$2,535
1990	$1,292	51.0%	$1,241	49.0%	$2,533
1991	$1,266	53.0%	$1,122	47.0%	$2,387
1992	$1,180	50.5%	$1,157	49.5%	$2,337
1993	$1,207	50.2%	$1,195	49.8%	$2,402
1994	$1,300	51.3%	$1,233	48.7%	$2,533
1995	$1,302	50.5%	$1,278	49.5%	$2,580
1996	$1,286	50.4%	$1,264	49.6%	$2,550
1997	$1,255	49.6%	$1,275	50.4%	$2,530
1998	$1,267	49.9%	$1,272	50.1%	$2,540

Note: Total Economic Loss is the total socioeconomic cost estimated using the NHTSA crash model.
1994 and 1995 numbers are corrected for misclassified private property crashes. For an explanation, see "Private Property Data" in the Glossary.
All economic loss is expressed in millions of 1998 dollars so no adjustment for inflation is needed.

All economic loss is expressed in 1998 dollars so no adjustment for inflation is needed in interpreting Table 11, Table 12, Figure 23, or Figure 24. The most striking feature of the Table 11 data is that, for each year during the ten-year period, the amount of economic loss due to crashes in rural areas was essentially the same as the loss due to crashes in urban areas.

Figure 23

- ***Annual Economic Loss has changed very little over the 1989–1998 period.***

Table 12. Total Economic Loss (in Million Dollars) by Crash Severity: 1989-1998

Year	Rural			Urban			Total		
	Fatalities	Injuries	Vehicles in PD Crashes	Fatalities	Injuries	Vehicles in PD Crashes	Fatalities	Injuries	Vehicles in PD Crashes
1989	$555.4	$539.4	$162.3	$222.2	$703.2	$352.5	$777.6	$1,242.5	$514.8
1990	602.5	537.3	151.9	231.7	680.3	329.1	834.3	1,217.6	481.0
1991	626.5	495.6	143.4	190.2	630.4	301.2	816.7	1,126.0	444.6
1992	529.0	508.2	142.5	192.6	665.7	298.7	721.6	1,173.9	441.3
1993	536.2	520.9	149.6	175.8	708.1	311.4	712.0	1,229.0	461.1
1994	597.8	542.7	159.6	182.2	726.8	324.0	780.0	1,269.5	483.7
1995	567.4	565.0	169.2	199.0	745.6	333.6	766.4	1,310.5	502.9
1996	582.6	534.3	169.0	202.2	722.7	339.4	784.8	1,257.0	508.4
1997	551.4	537.5	165.6	199.8	734.5	341.1	751.2	1,272.0	506.7
1998	592.2	514.5	160.7	192.6	739.2	340.6	784.8	1,253.8	501.3

Note: Total Economic Loss is the total socioeconomic cost estimated using the NHTSA crash cost model.

Legend: PD=Property Damage

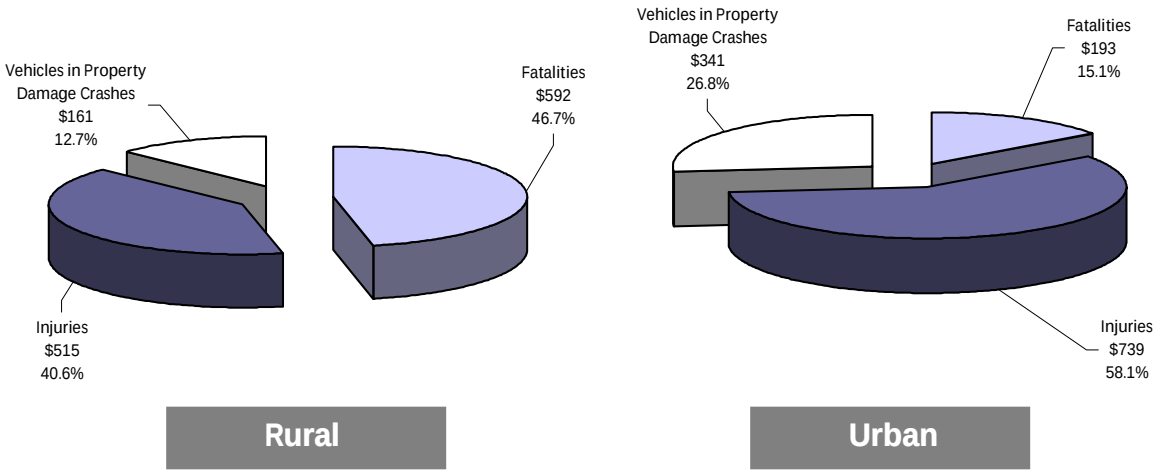
Table 12

- ***In 1998, as in each of the previous nine years, fatalities were the most significant component of loss in rural areas, accounting for 46.7 percent of the economic loss; this percentage increased from 44.0 percent of the loss in 1997.***

Figure 24

- ***For urban areas, injuries contributed the most toward economic loss with 58.1 percent.***

Figure 24. Total Economic Loss (in Million Dollars) in Crashes–1998



Index

Chapter 3

Crashes

TOPICS

Crashes by Contributing Circumstance
Crashes by Light, Road, or Weather Conditions
Crashes by Time or Day of Incident
Crashes by Location Type
Crashes by Locale (Rural/Urban)

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chapter summary

Traffic crashes result from the interaction of the driver, the vehicle and the highway environment. One way of organizing the analysis and description of crashes is by asking Who, Why, When and Where questions. The *People* chapter focuses on *Who* was involved in crashes and looks at aspects such as *role* (driver, passenger, bicyclist, pedestrian), age of person involved, degree of injury and use of safety restraints and helmets. This chapter provides a focus on the highway environment aspect of crashes.

Crash severity is a primary dimension of many of the tables in this chapter. Crash severity is determined by the most serious outcome of the crash. If at least one person dies as a result of the crash, regardless of the role of that person in the crash, the crash is categorized as *Fatal*. If no one is killed but at least one person was injured, the crash is classified as *Personal Injury* (PI). If no one was reported as either killed or injured in the crash, the crash is classified as *Property Damage* (PD). If the severity of injuries is considered, additional categories of Serious Injury, Moderate Injury and Possible Injury will subdivide the PI category. For example, if no one is killed but at least one person sustained a *serious* injury, the crash is classified as a *Serious Injury* crash. *Serious, Moderate* and *Possible* injury are defined in the Glossary. Data on serious injuries is found in the *People* chapter

The first section of this chapter examines *why* crashes occurred. The primary source of information on what caused a crash is the information provided by the investigating officer as the Primary Contributing Circumstance (PCC) and the Vehicular Contributing Circumstances (VCC) for each vehicle involved in the crash. The *crash type* is one crash characteristic (See Table 14) that is examined by looking at the PCC. *Driver inattention* continues to be the most frequently cited primary contributing circumstance for crashes. The percentage of crashes classified as *hit-and run* has continued to increase; 6.1 percent of all crashes were *hit-and run* in 1993 and has risen to 8.0 percent in 1998.

Tables 15 and 16 provide the information by which comparison of the VCC rates for drivers of different age groups can be made for single-vehicle and multiple-vehicle crashes. Single-vehicle crashes are often associated with a different pattern of circumstances or causes than multiple-vehicle crashes. Younger drivers were much more likely to have *speed too fast* as a contributing circumstance than older drivers in either single-vehicle or multiple-vehicle crashes. *Had been drinking* was most frequently cited for drivers age 21-39 in single-vehicle crashes. The number of single-vehicle crashes decreased 4.8 percent from 72,948 in 1997 to 69,477 in 1998.

Highway environment variables may also play a role in *why* a crash occurs. The second section of this chapter looks at the contribution that *light*, *road*, and *weather* conditions have on crashes and crash severity. For example, in 1998 31.3 percent of fatal crashes occurred in the dark at a location where there were no streetlights. Snow or icy road conditions were noted for only 3.6 percent of fatal crashes in 1998, which is down from 4.9 percent in 1997 and 7.5 percent in 1996.

The third section of this chapter is concerned with *when* crashes occurred by time of day, day of the week, and month of the year. The highest frequency for personal injury, property damage and total crashes was the 3 to 6 PM time period and the highest frequency for fatal crashes was the 6 to 9 PM time period. The 10-year history of holiday fatal crashes is also included as Table 23. Indiana has seen dramatic improvements in fatality rates during holiday periods over the past 10 years.

The last two sections examine several factors related to *where* crashes occur. Travel on limited-access roads such as Interstates and the Indiana Toll Road has continued to be much safer based on vehicle miles traveled rates, than travel on other roads. As in recent years, fatal crashes in 1998 occurred most frequently (74.7 percent) on rural county roads. Roadway factors, such as crashes at intersections (Table 24) and traffic controls present at the crash location (Table 26), provide detail on where serious crashes occur. *Stop Signs* were present at 14.3 percent of fatal crash locations while *Stoplights* were present at only 6.3 percent of fatal crash locations.

Crash characteristics and severity often have different patterns in rural and urban locales. Rural crashes tend to have higher severity. In 1998, 660 (0.8 percent) of rural crashes were fatal compared to 224 (0.2 percent) of urban crashes. The 10-year history of multiple-fatality crashes, which tend to occur in a rural locale, is found in Table 28. The percentage of Indiana fatal crashes that had more than one fatality has declined from 10.1 percent in 1990 to 8.9 percent in 1998.

The Primary and Vehicular Contributing Circumstances are fields on the crash report provided to describe the likely causes of a crash. The grouping of contributing circumstances codes used for the tables in this report are found in the Glossary on page 163. The Primary Contributing Circumstance (PCC) is the major cause of the crash. The investigating officer is instructed to select the one factor that was determined to be the single most contributing cause of the crash. The officer is then instructed to assign this contributing circumstance to at least one of the vehicles involved as a Vehicular Contributing Circumstance (VCC). There are instances where no such assignment to a vehicle is made. [If the crash is not investigated (as occurred for 16.5 percent of reported crashes in 1998)], the primary and vehicular contributing circumstances are entered into the database as "blank."

As seen in Table 13, the most common PCC in 1998 for all crashes, as in most previous years, was *Driver Inattention*. *Driver Inattention* was cited for 46,322 (21.4 percent) of all crashes, but far less frequently (10.2 percent) for fatal crashes. The most known frequent PCC for fatal crashes was *Failure to Yield* with 15.4 percent followed by *Speed Too Fast* with 13.3 percent. While the investigating officer may explain the meaning of *Other* on the Crash Report Form, this explanation is not entered into the crash database. Note that *Other* accounted for 16.9 percent of fatal crashes. *Had Been Drinking* was cited for only 8.0 percent of fatal crashes, but many instances of *Drove Left of Center* (12.8 percent) may be attributed to the effects of driving after drinking.

- **Driver Inattention,** ***which includes cellular phone use, has remained rather flat over the past five years at 20.8 percent of all crashes in 1994 versus 21.4 percent for 1998.***

Table 13. Crashes by Primary Contributing Circumstance–1998

Primary Contributing Circumstance	Fatal Crashes	% of Fatal	PI Crashes	% of PI	PD Crashes	% of PD	All Crashes	% of All
Speed Too Fast	118	13.3%	3,166	6.1%	5,801	3.5%	9,085	4.2%
Failure to Yield	136	15.4%	10,345	19.9%	20,547	12.5%	31,028	14.3%
Disregarded Signal/Sign	57	6.4%	3,630	7.0%	4,529	2.8%	8,216	3.8%
Drove Left of Center	113	12.8%	1,317	2.5%	2,256	1.4%	3,686	1.7%
Improper Overtaking	6	0.7%	410	0.8%	1,818	1.1%	2,234	1.0%
Followed Too Closely	8	0.9%	3,789	7.3%	11,660	7.1%	15,457	7.1%
Made Improper Turn	2	0.2%	742	1.4%	3,402	2.1%	4,146	1.9%
Had Been Drinking	71	8.0%	2,263	4.4%	2,681	1.6%	5,015	2.3%
Other Improper Driving	38	4.3%	1,604	3.1%	8,763	5.4%	10,405	4.8%
Mechanical Failure	8	0.9%	944	1.8%	3,122	1.9%	4,074	1.9%
Driver Inattention	90	10.2%	11,273	21.7%	34,959	21.3%	46,322	21.4%
Driver Asleep	32	3.6%	1,068	2.1%	1,428	0.9%	2,528	1.2%
Animals on Roadway	7	0.8%	1,081	2.1%	12,622	7.7%	13,710	6.3%
Roadway Factors	1	0.1%	219	0.4%	520	0.3%	740	0.3%
Material on Roadway/Weather	19	2.1%	1,945	3.8%	6,287	3.8%	8,251	3.8%
Other	149	16.9%	4,635	8.9%	11,164	6.8%	15,948	7.4%
Blank/Unknown	29	3.3%	3,434	6.6%	32,202	19.7%	35,665	16.5%
Total Crashes	**884**		**51,865**		**163,761**		**216,510**	

Legend: PI=Personal Injury; PD=Property Damage

Table 14. All Crashes by Crash Type & Primary Contributing Circumstance–1998

Primary Contributing Circumstance	Hit-and-Run		Collision		Overturned		Non-Collision		Unknown		Total Crashes	
	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent
Speed Too Fast	863	5.0%	7,228	4.5%	869	17.0%	80	6.4%	45	0.1%	9,085	4.2%
Failure to Yield	1,582	9.1%	29,159	18.1%	159	3.1%	25	2.0%	103	0.3%	31,028	14.3%
Disregarded Signal/Sign	751	4.3%	7,373	4.6%	72	1.4%	5	0.4%	15	0.0%	8,216	3.8%
Drove Left of Center	638	3.7%	2,906	1.8%	103	2.0%	14	1.1%	25	0.1%	3,686	1.7%
Improper Overtaking	344	2.0%	1,848	1.1%	32	0.6%	2	0.2%	8	0.0%	2,234	1.0%
Followed Too Closely	1,064	6.2%	14,310	8.9%	24	0.5%	12	1.0%	47	0.1%	15,457	7.1%
Made Improper Turn	526	3.0%	3,571	2.2%	21	0.4%	6	0.5%	22	0.1%	4,146	1.9%
Had Been Drinking	1,011	5.8%	3,505	2.2%	409	8.0%	46	3.7%	44	0.1%	5,015	2.3%
Other Improper Driving	1,915	11.1%	8,288	5.1%	138	2.7%	17	1.4%	47	0.1%	10,405	4.8%
Mechanical Failure	122	0.7%	3,385	2.1%	199	3.9%	289	23.3%	79	0.3%	4,074	1.9%
Driver Inattention	3,162	18.3%	41,680	25.8%	1,116	21.8%	135	10.9%	229	0.7%	46,322	21.4%
Driver Asleep	78	0.5%	2,087	1.3%	312	6.1%	18	1.5%	33	0.1%	2,528	1.2%
Animals on Roadway	75	0.4%	13,135	8.1%	319	6.2%	34	2.7%	147	0.5%	13,710	6.3%
Roadway Factors	10	0.1%	572	0.4%	100	2.0%	44	3.5%	14	0.0%	740	0.3%
Material on Roadway/Weather	144	0.8%	7,287	4.5%	608	11.9%	126	10.2%	86	0.3%	8,251	3.8%
Other	1,701	9.8%	13,142	8.1%	542	10.6%	373	30.1%	190	0.6%	15,948	7.4%
Blank/Unknown	3,309	19.1%	1,802	1.1%	94	1.8%	15	1.2%	30,445	96.4%	35,665	16.5%
Total Crashes	**17,295**	**8.0%**	**161,278**	**74.5%**	**5,117**	**2.4%**	**1,241**	**0.6%**	**31,579**	**14.6%**	**216,510**	**100.0%**

Note: Non-collision is a crash that does not involve a collision with another motor vehicle, other property, or a pedestrian.
Types of non-collision crashes include: explosion or fire in vehicle, rollover, immersion, vehicle struck by flying object, etc.

Table 14 displays the Primary Contributing Circumstance by the Crash Type. Each crash is assigned a single crash type by the investigating officer, even if more than one crash type was involved. If the crash is a *Hit-and-Run*, this category is chosen even if the driver who left the scene is later identified—most hit-and-run crashes would otherwise be classified as a collision. *Collision* is selected if the crash was not *Hit-and-Run* and the first harmful event was the result of a collision between a motor vehicle and another vehicle, pedestrian, or object. The choice of *Overturned* implies that the first harmful event was the result of a motor vehicle overturning. The vehicle could subsequently collide with another vehicle or object. *Non-Collision* includes such cases as a jackknifed semi-tractor/trailer that does not strike anything after jackknifing or a personal injury crash in which an occupant strikes a windshield following a sudden stop but no collision occurs.

- ***The percentage of crashes classified as* Hit-and-Run *has increased from 6.1 percent in 1993, to 7.7 percent in 1997, and 8.0 percent in 1998.***
- **Driver Inattention *was reported as the PCC for 21.4 percent of all crashes and was the largest single factor for each of the Collision-Type categories except for* Non-Collisions.**
- **Failure to Yield *was the PCC for 18.1 percent of* Collision *crashes.***
- **Materials on Roadway/Weather *was the PCC for 11.9 percent of* Overturned *crashes, down from 15.9 percent in 1997.***
- **Speed Too Fast *was the PCC for 17.0 percent of* Overturned *crashes.***

Table 15a. Vehicular Contributing Circumstance Rate per Drivers in Crashes by Age Group–Single Vehicle Crashes–1998

Vehicular Contributing Circumstance	Driver Age														All Drive
	<21	21-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75+	UNK	
Speed Too Fast	16.5%	13.0%	11.1%	8.3%	8.0%	6.1%	5.7%	5.1%	3.7%	3.6%	3.8%	2.5%	2.8%	5.4%	9.5%
Failure to Yield	0.6%	0.6%	0.6%	0.5%	0.6%	0.6%	0.5%	0.5%	0.7%	0.6%	0.8%	1.2%	0.8%	1.1%	0.7%
Disregarded Signal/Sign	0.5%	0.7%	0.7%	0.4%	0.7%	0.4%	0.4%	0.4%	0.5%	0.5%	0.2%	0.5%	1.0%	0.6%	0.6%
Left of Center	2.3%	2.3%	1.9%	1.5%	1.7%	1.4%	1.2%	1.3%	1.0%	1.0%	1.2%	1.4%	1.5%	2.8%	1.9%
Improper Overtaking	0.4%	0.4%	0.3%	0.3%	0.4%	0.2%	0.2%	0.3%	0.3%	0.4%	0.1%	0.3%	0.8%	0.5%	0.4%
Followed Too Closely	0.5%	0.6%	0.6%	0.6%	0.5%	0.6%	0.3%	0.5%	0.4%	0.3%	0.3%	0.0%	0.5%	0.2%	0.5%
Made Improper Turn	0.9%	1.0%	1.2%	1.1%	1.0%	1.3%	1.3%	1.0%	1.3%	0.9%	0.8%	1.1%	1.8%	2.3%	1.2%
Had Been Drinking	4.0%	11.1%	10.1%	11.0%	10.6%	9.0%	7.0%	5.8%	4.7%	3.5%	2.9%	2.0%	2.2%	1.7%	7.0%
Asleep	3.5%	5.1%	3.5%	3.2%	2.8%	2.7%	2.3%	2.3%	2.8%	2.6%	3.7%	4.0%	3.9%	0.3%	3.1%
Driver Inattention	29.2%	22.5%	21.0%	20.7%	19.8%	18.2%	18.2%	18.4%	17.1%	21.1%	24.0%	28.8%	35.6%	21.9%	22.6%
Other Improper Driving	4.7%	5.3%	5.8%	6.1%	5.2%	5.5%	5.6%	6.1%	5.6%	8.0%	8.8%	11.3%	12.6%	12.5%	6.4%
Mechanical Failure	3.6%	4.1%	3.5%	3.8%	3.0%	2.6%	2.9%	2.7%	2.6%	3.9%	3.2%	3.2%	2.6%	0.6%	3.1%
Animals on Roadway	13.6%	16.7%	19.4%	21.3%	22.8%	24.4%	26.3%	27.8%	28.3%	23.1%	20.2%	14.5%	9.9%	0.7%	18.0%
Roadway Factors	2.3%	1.3%	1.1%	1.1%	1.0%	1.2%	0.8%	0.8%	1.2%	0.7%	0.6%	0.7%	0.4%	0.2%	1.2%
Materials on Road/Weather	14.2%	13.0%	12.4%	11.0%	10.1%	10.2%	9.7%	9.4%	8.6%	7.7%	7.0%	5.7%	5.3%	1.5%	10.4%
Other	11.3%	10.0%	11.5%	11.3%	11.1%	10.9%	10.7%	9.9%	10.4%	12.5%	12.3%	12.8%	13.2%	10.3%	11.0%
Total Drivers in Crashes	14,912	7,280	7,189	6,343	6,419	5,583	4,312	3,347	2,441	1,547	1,272	1,011	1,328	6,493	69,47

Notes: Highlighting identifies areas where there is an over-representation.
Drivers of parked vehicles excluded.
Legend: UNK=Unknown
Note: Total column percentages may not equal 100%. More than one vehicular contributing circumstance can be cited per crash.

Tables 15 and 16 contain information on vehicular contributing circumstances for single-vehicle and multiple-vehicle crashes. There were 69,477 crashes involving a single moving vehicle and 147,033 multiple-vehicle crashes in 1998. Table 15 displays the vehicular contributing circumstances rate per drivers in crashes; the first part, Table 15a shows the data for single-vehicle crashes and Table 15b the data for multiple-vehicle crashes. For each of the age group categories, the rates provide a means for comparing driver behavior for drivers that were in reported crashes during 1998. Rates that were significantly higher for some age groups are highlighted in the table. For example, the reporting officer judged that 16.5 percent of these young drivers (age 20 and younger) were traveling too fast and concluded that this significantly contributed to causing the crash, as opposed to 2.8 percent of drivers age 75 and older.

Young drivers also had higher rates where *Materials on Road/Weather* was noted, which may mean that either young drivers will risk driving more frequently when there is snow, ice or water on the road or they do not adjust their driving patterns to the road conditions. *Driver Inattention* is cited more frequently for both young drivers and those age 70 and older. It is highly likely that the reasons for inattention differ greatly for young and older drivers. In fact, it is hypothesized that the older driver's failure to see other vehicles entering an intersection or overtaking to pass them on a multi-lane road is frequently miscoded as *Driver Inattention*. Vision factors or physical limitations that reduce ability to view rear or side mirrors may be the true cause of many of these crashes.

- **Had Been Drinking *was most frequently cited for drivers age 21-39 in single-vehicle crashes.***

Table 15b. Vehicular Contributing Circumstance Rate per Drivers in Crashes by Age Group–Multiple Vehicle Crashes–1998

Vehicular Contributing Circumstance	Driver Age														All
	<21	21-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75+	UNK	Drive
Speed Too Fast	2.9%	2.3%	2.1%	1.7%	1.6%	1.4%	1.2%	1.0%	0.9%	0.8%	0.8%	0.7%	0.7%	1.3%	1.7%
Failure to Yield	15.1%	11.7%	10.6%	9.6%	9.4%	9.1%	9.0%	9.8%	11.0%	12.6%	14.9%	18.1%	24.7%	5.2%	11.5%
Disregarded Signal/Sign	3.5%	3.6%	3.0%	2.6%	2.6%	2.3%	2.3%	2.4%	2.7%	2.6%	3.3%	4.1%	5.0%	2.8%	3.0%
Left of Center	1.7%	1.3%	1.2%	1.2%	1.1%	1.1%	1.0%	0.9%	1.0%	0.8%	0.8%	0.9%	1.1%	1.7%	1.3%
Improper Overtaking	1.1%	1.0%	1.0%	0.7%	0.9%	0.9%	0.7%	0.6%	0.6%	0.7%	0.6%	0.7%	0.5%	1.2%	0.9%
Followed Too Closely	8.4%	7.7%	7.2%	6.8%	6.1%	5.7%	5.4%	4.7%	4.4%	3.9%	4.0%	3.7%	3.5%	3.7%	6.2%
Made Improper Turn	1.8%	1.6%	1.5%	1.4%	1.3%	1.2%	1.5%	1.5%	1.6%	2.1%	2.3%	2.3%	2.7%	1.5%	1.6%
Had Been Drinking	0.5%	1.3%	1.5%	1.5%	1.7%	1.6%	1.2%	0.9%	1.0%	0.8%	0.7%	0.6%	0.4%	0.4%	1.1%
Asleep	0.3%	0.4%	0.3%	0.3%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.3%	0.1%	0.2%	0.0%	0.2%
Driver Inattention	27.2%	22.2%	19.9%	18.9%	17.5%	16.6%	16.7%	17.0%	17.8%	18.6%	19.3%	22.5%	27.5%	7.7%	19.8%
Other Improper Driving	2.6%	2.8%	3.0%	2.7%	2.9%	2.9%	3.1%	3.0%	3.0%	3.4%	3.1%	3.2%	3.1%	3.2%	2.9%
Mechanical Failure	1.5%	1.2%	1.0%	0.9%	0.9%	0.9%	0.7%	0.6%	0.7%	0.6%	0.5%	0.4%	0.4%	0.5%	0.9%
Animals on Roadway	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.1%
Roadway Factors	0.2%	0.2%	0.2%	0.2%	0.1%	0.2%	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%	0.2%	0.1%	0.2%
Materials on Road/Weather	3.9%	3.4%	2.8%	2.6%	2.5%	2.2%	2.0%	2.0%	2.0%	1.7%	1.3%	1.5%	1.2%	0.5%	2.5%
Other	5.4%	5.2%	5.4%	5.0%	4.9%	4.6%	4.7%	4.8%	4.9%	5.3%	5.2%	5.0%	5.4%	1.8%	4.9%
Total Drivers in Crashes	53,016	28,880	31,377	28,663	28,806	26,321	21,142	16,694	12,732	9,390	8,014	7,086	10,291	19,749	302,16

Notes: Highlighting identifies areas where there is an over-representation.
Drivers of parked vehicles excluded.
Legend: UNK=Unknown
Note: Total column percentages may not equal 100%. More than one vehicular contributing circumstance can be cited per crash.

- ***Younger drivers (below age 35) involved in crashes were much more likely to have* Speed Too Fast *as a contributing circumstance than older drivers (65+) in either single-vehicle or multiple-vehicle crashes.***

- **Failure to Yield *and* Made Improper Turn *were noted more often in multiple-vehicle crashes for drivers age 65 and older. Young drivers (<21) also had higher rates of* Failure to Yield *than drivers 21-64.***

Table 16a. Vehicular Contributing Circumstance Rate per Licensed Driver by Age Group–Single Vehicle Crashes–1998

Vehicular Contributing Circumstance	Driver Age													
	<21	21-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75+	D
Speed Too Fast	0.77%	0.34%	0.22%	0.14%	0.12%	0.08%	0.06%	0.05%	0.03%	0.03%	0.03%	0.02%	0.02%	
Failure to Yield	0.03%	0.02%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.00%	0.01%	0.01%	0.01%	
Disregarded Signal/Sign	0.03%	0.02%	0.01%	0.01%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.01%	
Left of Center	0.11%	0.06%	0.04%	0.03%	0.02%	0.02%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	
Improper Overtaking	0.02%	0.01%	0.01%	0.00%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.01%	
Followed Too Closely	0.02%	0.02%	0.01%	0.01%	0.01%	0.01%	0.00%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	
Made Improper Turn	0.04%	0.03%	0.02%	0.02%	0.01%	0.02%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	
Had Been Drinking	0.19%	0.29%	0.20%	0.18%	0.16%	0.11%	0.08%	0.06%	0.04%	0.03%	0.02%	0.01%	0.01%	
Asleep	0.17%	0.13%	0.07%	0.05%	0.04%	0.03%	0.03%	0.02%	0.03%	0.02%	0.03%	0.02%	0.03%	
Driver Inattention	1.37%	0.59%	0.41%	0.35%	0.29%	0.23%	0.20%	0.18%	0.16%	0.15%	0.17%	0.18%	0.23%	
Other Improper Driving	0.22%	0.14%	0.11%	0.10%	0.08%	0.07%	0.06%	0.06%	0.05%	0.06%	0.06%	0.07%	0.08%	
Mechanical Failure	0.17%	0.11%	0.07%	0.06%	0.04%	0.03%	0.03%	0.03%	0.02%	0.03%	0.02%	0.02%	0.02%	
Animals on Roadway	0.64%	0.44%	0.38%	0.36%	0.34%	0.31%	0.29%	0.28%	0.26%	0.17%	0.14%	0.09%	0.06%	
Roadway Factors	0.11%	0.03%	0.02%	0.02%	0.02%	0.02%	0.01%	0.01%	0.01%	0.01%	0.00%	0.00%	0.00%	
Materials on Road/Weather	0.66%	0.34%	0.25%	0.18%	0.15%	0.13%	0.11%	0.09%	0.08%	0.06%	0.05%	0.04%	0.03%	
Other	0.53%	0.26%	0.23%	0.19%	0.16%	0.14%	0.12%	0.10%	0.10%	0.09%	0.09%	0.08%	0.08%	
Total Licensed Drivers	318,628	278,277	364,781	378,246	434,652	437,436	395,895	335,303	265,873	212,325	183,383	165,387	205,889	3,9

Notes: Highlighting identifies areas where there is an over-representation.

Drivers of parked vehicles excluded.

Total column percentages may not equal 100%. More than one vehicular contributing circumstance can be cited per crash.

The second Vehicular Contributing Circumstances rate table (Table 16), uses the number of licensed drivers at the end of 1998 for each age group to compute the rates-per-licensed-driver.

Once again, rates significantly higher for some age groups than others are highlighted. This table graphically displays the fact that younger drivers have much higher crash rates per licensed drivers than drivers of all other age groups. The reporting officer is also more likely to note one or more contributing circumstances for young drivers than for older drivers. In general, the lower numbers of miles driven by the average older driver results in lower rates per licensed driver.

- ***The younger driver (<21 years old) is significantly over-represented for most contributing circumstances.***

Table 16b. Vehicular Contributing Circumstance Rate per Licensed Driver by Age Group–Multiple Vehicle Crashes–1998

Vehicular Contributing Circumstance	Driver Age													
	<21	21-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75+	D
Speed Too Fast	0.48%	0.24%	0.18%	0.13%	0.11%	0.08%	0.06%	0.05%	0.04%	0.04%	0.03%	0.03%	0.03%	
Failure to Yield	2.51%	1.21%	0.91%	0.73%	0.62%	0.55%	0.48%	0.49%	0.53%	0.56%	0.65%	0.77%	1.23%	
Disregarded Signal/Sign	0.58%	0.37%	0.26%	0.20%	0.17%	0.14%	0.12%	0.12%	0.13%	0.12%	0.14%	0.18%	0.25%	
Left of Center	0.29%	0.14%	0.11%	0.09%	0.08%	0.07%	0.05%	0.05%	0.05%	0.04%	0.03%	0.04%	0.06%	
Improper Overtaking	0.18%	0.10%	0.08%	0.06%	0.06%	0.05%	0.03%	0.03%	0.03%	0.03%	0.03%	0.03%	0.02%	
Followed Too Closely	1.41%	0.80%	0.62%	0.52%	0.40%	0.34%	0.29%	0.23%	0.21%	0.17%	0.17%	0.16%	0.18%	
Made Improper Turn	0.29%	0.17%	0.13%	0.10%	0.09%	0.08%	0.08%	0.07%	0.08%	0.09%	0.10%	0.10%	0.13%	
Had Been Drinking	0.08%	0.13%	0.13%	0.12%	0.11%	0.10%	0.07%	0.05%	0.05%	0.04%	0.03%	0.02%	0.02%	
Asleep	0.05%	0.04%	0.03%	0.02%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	
Driver Inattention	4.52%	2.30%	1.71%	1.43%	1.16%	1.00%	0.89%	0.85%	0.85%	0.82%	0.84%	0.96%	1.37%	
Other Improper Driving	0.44%	0.29%	0.26%	0.21%	0.19%	0.18%	0.16%	0.15%	0.14%	0.15%	0.14%	0.14%	0.16%	
Mechanical Failure	0.25%	0.13%	0.09%	0.07%	0.06%	0.05%	0.04%	0.03%	0.03%	0.03%	0.02%	0.02%	0.02%	
Animals on Roadway	0.02%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	
Roadway Factors	0.03%	0.02%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.00%	0.00%	0.00%	0.01%	
Materials on Road/Weather	0.64%	0.35%	0.24%	0.20%	0.16%	0.13%	0.11%	0.10%	0.09%	0.07%	0.06%	0.06%	0.06%	
Other	0.90%	0.54%	0.46%	0.38%	0.32%	0.28%	0.25%	0.24%	0.24%	0.23%	0.23%	0.21%	0.27%	
Total Licensed Drivers	318,628	278,277	364,781	378,246	434,652	437,436	395,895	335,303	265,873	212,325	183,383	165,387	205,889	3,9

Notes: Highlighting identifies areas where there is an over-representation.

Drivers of parked vehicles excluded.

Total column percentages may not equal 100%. More than one vehicular contributing circumstance can be cited per crash.

The effects of aging on driver performance are demonstrated by the higher rates for drivers over age 75 compared to drivers age 70-74 for *Failure to Yield, Disregarded Signal/Sign*, *Made Improper Turn,* and *Driver Inattention.*

- ***Drivers age 75+ exhibit higher rates for* Failure to Yield *in multiple-vehicle crashes than all groups except drivers under age 21.***
- ***The rate for* Had Been Drinking *in multiple-vehicle crashes for drivers age 21-24 increased from 0.11 percent in 1997 to 0.14 percent.***

Table 17. Crashes by Light Conditions and Severity with Fatalities and Injuries–1998

Light Condition	Fatal Crashes		Personal Injury		Property Damage		Total Crashes		Total Injuries		Total Fatalities	
	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Precent	Count	Percent
Daylight	432	48.9%	33,621	64.8%	89,367	54.6%	123,420	57.0%	50,371	65.3%	479	48.8%
Dawn/Dusk	50	5.7%	2,294	4.4%	7,073	4.3%	9,417	4.3%	3,408	4.4%	63	6.4%
Dark/Lights On	111	12.6%	7,098	13.7%	19,465	11.9%	26,674	12.3%	10,596	13.7%	119	12.1%
Dark/Lights Off	12	1.4%	367	0.7%	1,295	0.8%	1,674	0.8%	533	0.7%	12	1.2%
Dark/No Lights	277	31.3%	5,669	10.9%	18,052	11.0%	23,998	11.1%	8,325	10.8%	307	31.3%
Unknown	2	0.2%	2,816	5.4%	28,509	17.4%	31,327	14.5%	3,905	5.1%	2	0.2%
TOTAL	**884**		**51,865**		**163,761**		**216,510**		**77,138**		**982**	

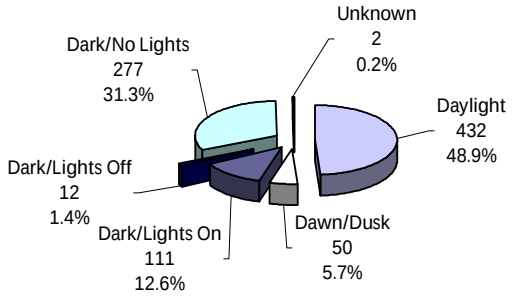
Note: Lights On, Lights Off, and Dark/No Lights refer to Street Lights.

- ***Crashes occurring in the Dark/No Lights condition tend to be more severe: 31.3 percent of fatal crashes versus 10.9 percent of personal injury and 11.0 percent of property damage crashes.***

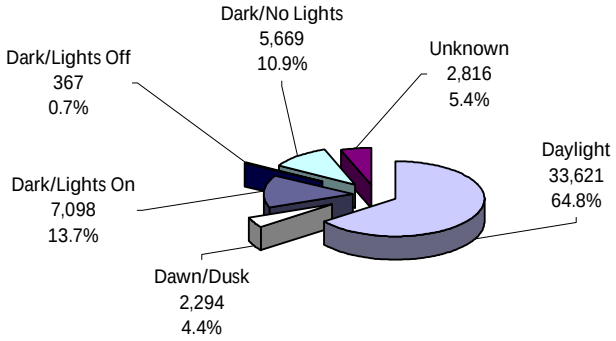
- ***Nearly 50 percent of fatal crashes occur during daylight hours.***

The percentage of fatal crashes that occurred during daylight hours decreased from 51.7 percent in 1997 to 48.9 percent in 1998 (Table 17). Those crashes that did occur during darkness or in bad weather could often be attributed to the driver's failure to use precautions, such as slowing down, appropriate for the driving conditions. The percentage coded as *Unknown* is much higher for Property Damage crashes because a much higher percentage of these crashes are reported only by the vehicle owners.

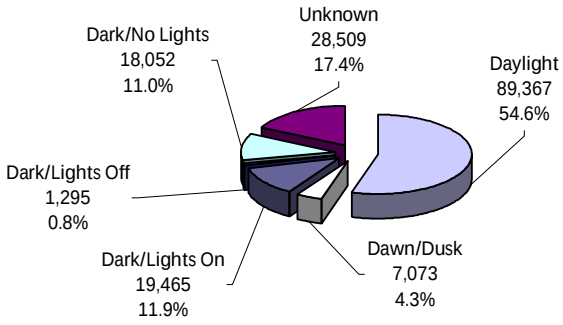
Figure 25. Crashes by Light Conditions by Severity–1998



Fatal—Light Conditions



Personal Injury—Light Conditions



Property Damage—Light Conditions

Table 18. Crashes by Road Conditions and Severity with Fatalities and Injuries–1998

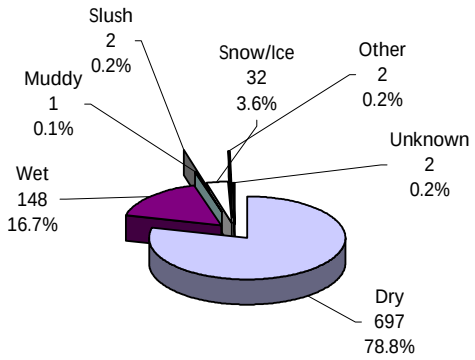
Road Condition	Fatal Crashes		Personal Injury		Property Damage		Total Crashes		Total Injuries		Total Fatalities	
	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent
Dry	697	78.8%	36,468	70.3%	98,981	60.4%	136,146	62.9%	54,617	70.8%	783	79.7%
Wet	148	16.7%	10,634	20.5%	29,337	17.9%	40,119	18.5%	15,827	20.5%	157	16.0%
Muddy	1	0.1%	36	0.1%	98	0.1%	135	0.1%	51	0.1%	1	0.1%
Slush	2	0.2%	134	0.3%	442	0.3%	578	0.3%	192	0.2%	2	0.2%
Snow/Ice	32	3.6%	1,700	3.3%	6,384	3.9%	8,116	3.7%	2,439	3.2%	35	3.6%
Other	2	0.2%	60	0.1%	147	0.1%	209	0.1%	83	0.1%	2	0.2%
Unknown	2	0.2%	2,833	5.5%	28,372	17.3%	31,207	14.4%	3,929	5.1%	2	0.2%
TOTAL	**884**		**51,865**		**163,761**		**216,510**		**77,138**		**982**	

Road and weather conditions, which can severely affect roadway conditions, played a smaller role in traffic crashes during 1998 than in 1997 (Table 18). For example, in 1998 78.8 percent of fatal crashes and 70.3 percent of personal injury crashes occurred on dry roadway surfaces compared to 74.2 percent of fatal crashes and 66.5 of personal injury crashes in 1997. It is likely that the amount of travel when road conditions are good is much higher than the combination of all of the less-desirable road conditions.

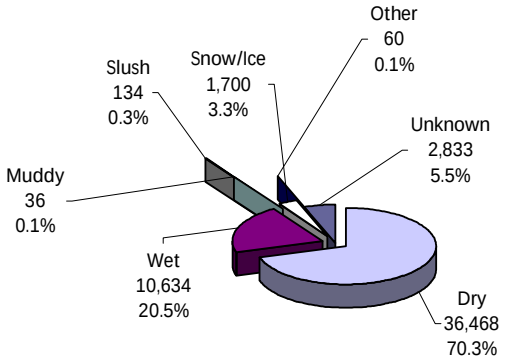
The total number of crashes that occurred with road conditions of *snow/ice* decreased from 20,678 in 1997 to 8,116 in 1998. More than likely, this was simply due to different weather patterns between 1997 and 1998.

- ***Snow or icy road conditions were noted for only 3.6 percent of fatal crashes, which is down from 4.9 percent in 1997 and 7.5 percent in 1996.***
- ***The percentage of fatal crashes that occurred on* wet *roads also decreased from 19.3 percent in 1997 to 16.7 percent in 1998.***

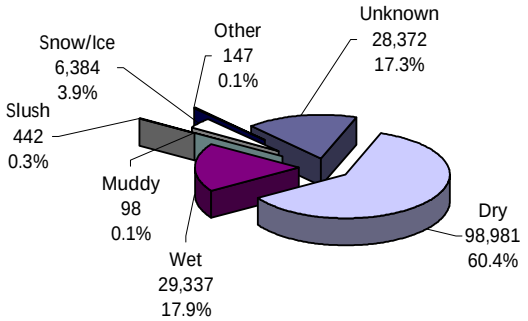
Figure 26. Crashes by Road Conditions by Severity–1998



Fatal Road—Conditions



Personal Injury—Road Conditions



Property Damage—Road Conditions

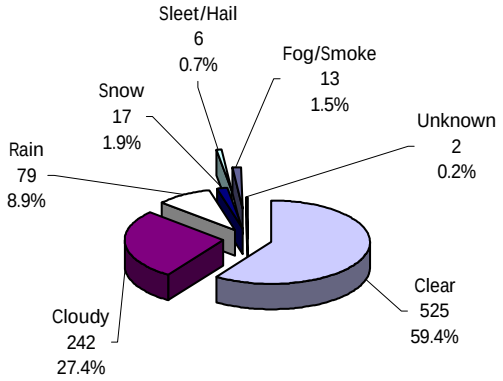
Table 19. Crashes by Weather Conditions and Severity with Fatalities and Injuries–1998

Weather Condition	Fatal Crashes		Personal Injury		Property Damage		Total Crashes		Total Injuries		Total Fatalities	
	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent
Clear	525	59.4%	26,952	52.0%	72,744	44.4%	100,221	46.3%	40,253	52.2%	592	60.3%
Cloudy	242	27.4%	13,326	25.7%	37,612	23.0%	51,180	23.6%	20,055	26.0%	265	27.0%
Rain	79	8.9%	6,888	13.3%	18,786	11.5%	25,753	11.9%	10,192	13.2%	85	8.7%
Snow	17	1.9%	1,072	2.1%	3,873	2.4%	4,962	2.3%	1,562	2.0%	18	1.8%
Sleet/Hail	6	0.7%	390	0.8%	1,264	0.8%	1,660	0.8%	565	0.7%	6	0.6%
Fog/Smoke	13	1.5%	447	0.9%	1,128	0.7%	1,588	0.7%	630	0.8%	14	1.4%
Unknown	2	0.2%	2,790	5.4%	28,354	17.3%	31,146	14.4%	3,881	5.0%	2	0.2%
TOTAL	**884**		**51,865**		**163,761**		**216,510**		**77,138**		**982**	

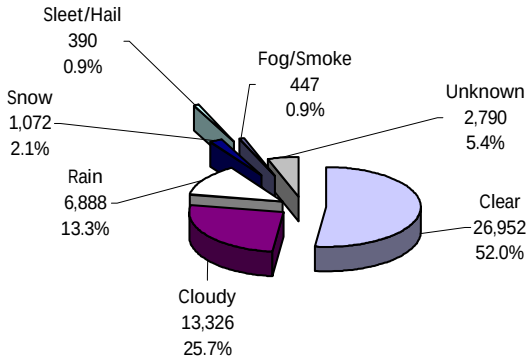
Weather conditions have some reporting categories, such as snow, that are very similar to the roadway conditions. However, the weather conditions may be *clear* or *cloudy* if it has ceased snowing while the roadway condition is *snow/ice*. So it is not inconsistent that 2.3 percent of all crashes occurred while snow was falling and 3.7 percent of all crashes are associated with snow or ice on the roadway.

- ***In 1998, only 2.3 percent of all crashes occurred while it was snowing versus 5.4 percent in 1997.***

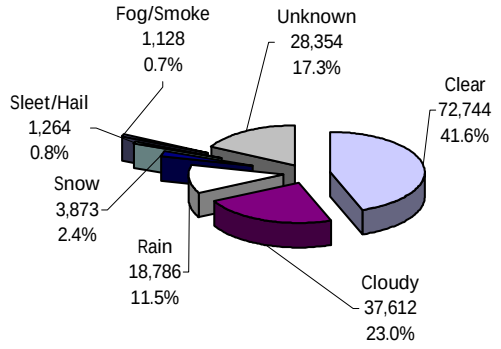
Figure 27. Crashes by Weather Conditions by Severity–1998



Fatal—Weather Conditions

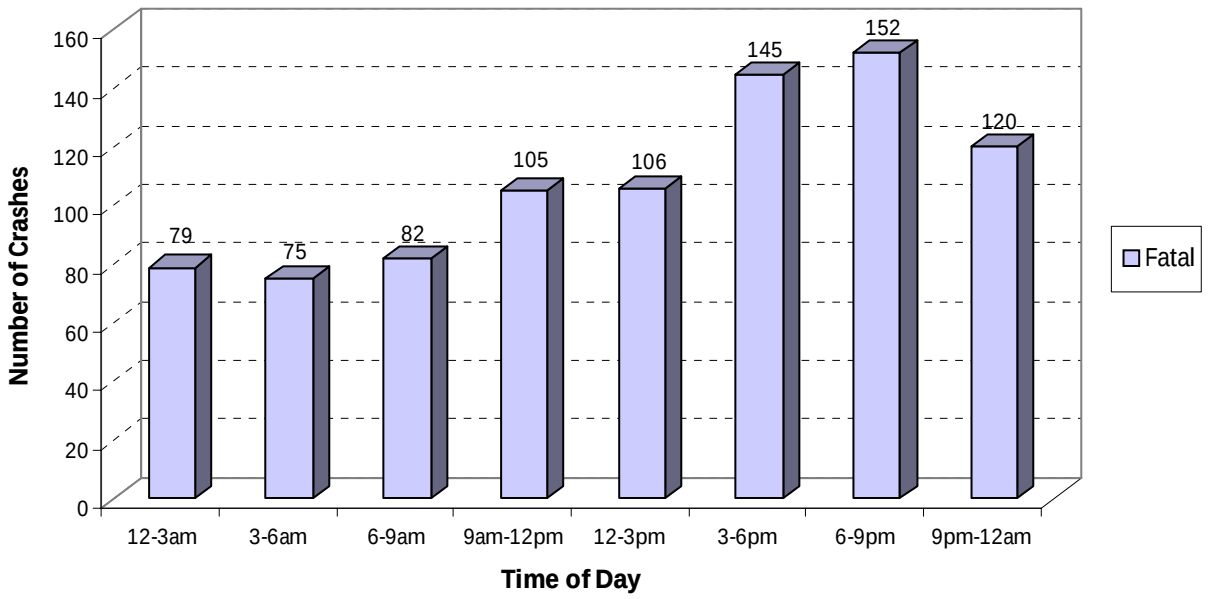


Personal Injury—Weather Conditions



Property Damage—Weather Conditions

Figure 28. Crashes by Time of Day and Severity–1998



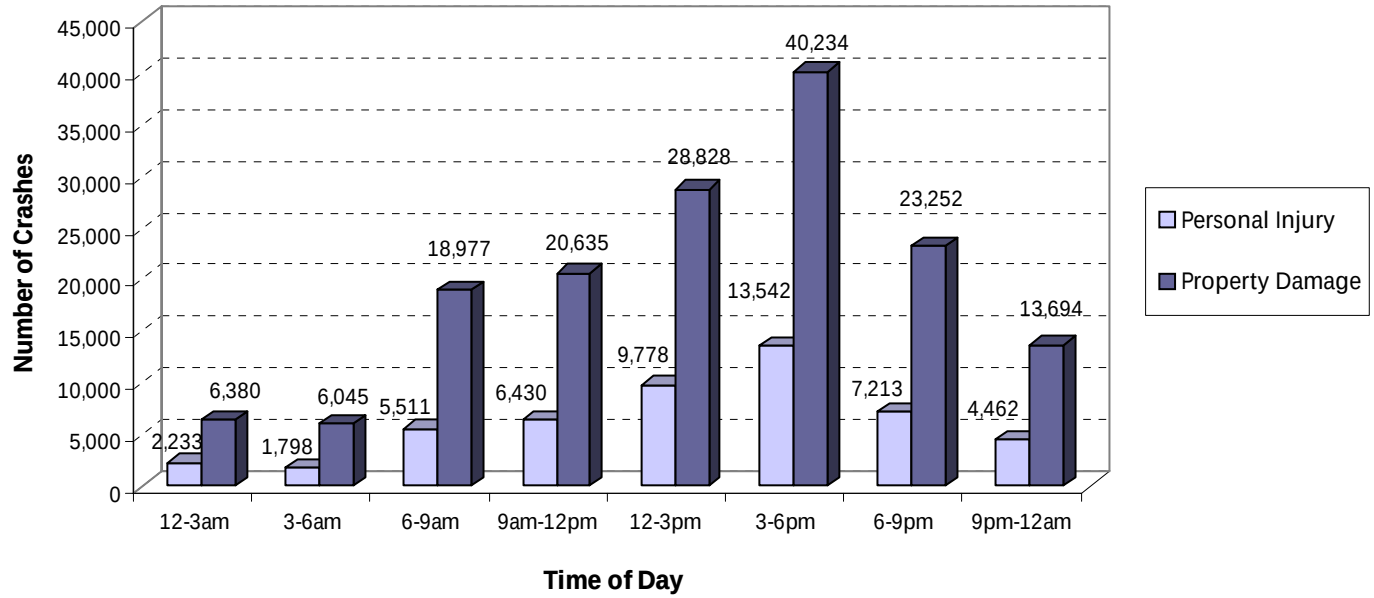


Figure 28

Figure 28 summarizes the data on when crashes occur by time period during the day using 3-hour time intervals.

- ***The highest frequency for personal injury, property damage and total crashes was the 3-6 PM time period.***
- ***The highest frequency for fatal crashes was the 6-9 PM time period.***

Table 20. Crashes by Time of Day and Day of Week by Severity–1998

	Sunday			Monday			Tuesday			Wednesday			Thursday			Friday			Saturday			Total		
Time	Ftl	PI	Tot	Ftl	PI	Tot	Ftl	PI	Tot	Ftl	PI	Tot	Ftl	PI	Tot	Ftl	PI	Tot	Ftl	PI	Tot	Ftl	PI	Tot
midnight - 1 AM	3	223	786	1	90	313	2	76	372	2	99	368	3	92	439	4	120	457	2	204	751	17	904	3,486
1 - 2 AM	8	198	693	4	68	256	3	71	317	4	60	266	4	70	322	3	97	354	6	173	691	32	737	2,899
2 - 3 AM	6	137	562	3	35	153	3	68	232	5	54	214	2	68	282	3	73	304	8	147	560	30	582	2,307
3 - 4 AM	11	186	683	0	37	146	3	43	214	2	58	229	7	92	337	3	86	353	11	167	609	37	669	2,571
4 - 5 AM	6	94	379	0	32	213	3	56	281	3	41	244	4	83	337	4	74	308	3	115	413	23	495	2,175
5 - 6 AM	4	81	350	1	96	464	1	92	513	0	85	481	1	100	506	2	93	459	6	87	399	15	634	3,172
6 - 7 AM	6	81	337	3	195	948	5	219	972	3	223	977	2	235	1,027	2	186	850	3	111	509	24	1,250	5,620
7 - 8 AM	4	87	373	6	387	1,832	5	480	2,087	10	431	2,030	5	474	1,992	7	394	1,761	5	169	663	42	2,422	10,738
8 - 9 AM	1	103	419	3	291	1,263	1	330	1,529	3	306	1,447	2	311	1,450	3	307	1,314	3	191	790	16	1,839	8,212
9 - 10 AM	2	150	642	8	232	1,014	3	265	1,196	5	253	1,061	5	258	1,201	6	271	1,122	8	238	1,065	37	1,667	7,301
10 - 11 AM	1	231	822	4	271	1,246	5	318	1,292	3	262	1,175	2	329	1,278	7	342	1,420	5	366	1,497	27	2,119	8,730
11 - noon	11	258	954	3	379	1,596	6	364	1,638	6	405	1,633	5	361	1,630	5	474	1,891	5	403	1,797	41	2,644	11,139
noon - 1 PM	0	333	1,250	3	476	1,928	5	405	1,805	4	463	1,877	5	431	1,865	5	542	2,250	5	504	1,958	27	3,154	12,933
1 - 2 PM	4	341	1,254	3	429	1,808	6	365	1,630	9	434	1,775	4	411	1,692	5	473	1,974	4	508	1,829	35	2,961	11,962
2 - 3 PM	4	371	1,273	8	577	2,226	4	527	2,018	7	513	2,135	4	507	2,028	12	623	2,343	5	545	1,794	44	3,663	13,817
3 - 4 PM	7	400	1,421	11	741	3,087	5	799	3,097	3	760	3,121	7	739	2,983	12	865	3,459	1	493	1,819	46	4,797	18,987
4 - 5 PM	3	349	1,364	10	683	2,870	8	675	2,751	10	717	2,938	7	684	2,780	5	792	3,244	7	435	1,622	50	4,335	17,569
5 - 6 PM	7	382	1,350	10	672	2,786	6	688	2,672	7	722	3,009	10	715	2,824	5	794	3,124	4	437	1,600	49	4,410	17,365
6 - 7 PM	6	333	1,395	7	493	2,038	5	419	1,805	4	425	2,028	7	429	1,881	10	540	2,336	9	389	1,597	48	3,028	13,080
7 - 8 PM	4	279	1,071	5	342	1,406	12	326	1,311	5	325	1,357	11	280	1,344	8	412	1,665	8	322	1,367	53	2,286	9,521
8 - 9 PM	4	242	963	5	268	1,147	9	250	1,060	8	301	1,250	6	258	1,106	8	302	1,334	11	278	1,156	51	1,899	8,016
9 - 10 PM	7	158	761	5	221	936	4	244	922	3	296	1,074	6	242	1,031	7	318	1,307	10	294	1,140	42	1,773	7,171
10 - 11 PM	3	128	628	9	174	728	8	160	737	6	172	795	4	218	829	8	288	1,187	4	271	1,077	42	1,411	5,981
11 - midnight	2	119	445	6	151	611	8	131	573	2	167	650	4	157	653	5	273	1,161	9	280	1,031	36	1,278	5,124
Unknown	4	95	770	0	136	1,015	3	126	952	0	130	934	7	130	911	2	176	1,128	4	115	924	20	908	6,634
TOTAL	**118**	**5,359**	**20,945**	**118**	**7,476**	**32,030**	**123**	**7,497**	**31,976**	**114**	**7,702**	**33,068**	**124**	**7,674**	**32,728**	**141**	**8,915**	**37,105**	**146**	**7,242**	**28,658**	**884**	**51,865**	**216,510**

Legend: Ftl=Fatal; PI=Personal Injury; Tot=Total

Table 20 presents the detailed "when" data for fatal, personal injury and all crashes by one-hour time intervals for each day of the week. Table 21 displays the percentages of crashes that are fatal or cause personal injury by three-hour time periods and day of week. This table provides a crash severity index to the time of day for each day of the week when crashes tend to be more severe. Higher severity tends to be related to when the higher proportions of alcohol-related crashes occur as well (see also Table 81 and Figure 57 on pages 124-125).

While the highest frequency for total crashes was the 3 to 6 PM time period, crashes during this time period tend to be property damage only. For the midnight to 3 AM time period, 0.9 percent of crashes were fatal and 25.6 percent were personal injury. In comparison, for the 3 to 6 PM time period, the percentage fatal was 0.3 with 25.1 percent being personal injury. The day and time period having the highest percentage of fatal crashes (1.5 percent) was Sunday between 3 and 6 AM followed closely by Saturday during the same time interval.

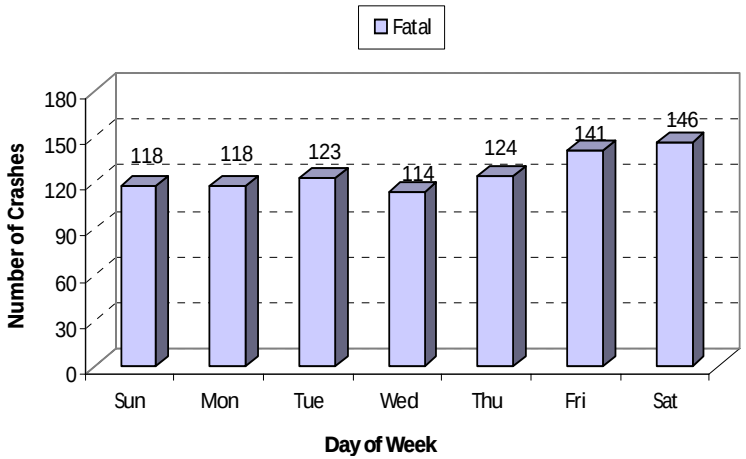
The day of the week, in 1998 as in 1997, with the highest frequency of fatal crashes was Saturday with 146 (Figure 29). Friday was the day, as also in 1996 and 1997, with the most personal injury (8,915), and total crashes (37,105).

Table 21. Percentage of Fatal or Personal Injury Crashes by Time Period and Day of Week–1998

	Sunday		Monday		Tuesday		Wednesday		Thursday		Friday		Saturday		Total	
Time Period	**% Ftl**	**% PI**	**% Ftl**	**% PI**	**% Ftl**	**% PI**	**% Ftl**	**% PI**	**% Ftl**	**% PI**	**% Ftl**	**% PI**	**% Ftl**	**% PI**	**% Ftl**	**% PI**
Midnight - 3 AM	0.8%	27.3%	1.1%	26.7%	0.9%	23.3%	1.3%	25.1%	0.9%	22.1%	0.9%	26.0%	0.8%	26.2%	0.9%	25.6%
3 - 6 AM	1.5%	25.6%	0.1%	20.0%	0.7%	18.9%	0.5%	19.3%	1.0%	23.3%	0.8%	22.6%	1.4%	26.0%	0.9%	22.7%
6 - 9 AM	1.0%	24.0%	0.3%	21.6%	0.2%	22.4%	0.4%	21.6%	0.2%	22.8%	0.3%	22.6%	0.6%	24.0%	0.3%	22.4%
9 AM- Noon	0.6%	26.4%	0.4%	22.9%	0.3%	23.0%	0.4%	23.8%	0.3%	23.1%	0.4%	24.5%	0.4%	23.1%	0.4%	23.7%
Noon - 3 PM	0.4%	29.4%	0.2%	24.9%	0.3%	23.8%	0.3%	24.4%	0.2%	24.2%	0.3%	24.9%	0.3%	27.9%	0.3%	25.3%
3 - 6 PM	0.4%	25.7%	0.4%	24.0%	0.2%	25.4%	0.2%	24.3%	0.3%	24.9%	0.2%	24.9%	0.2%	27.1%	0.3%	25.1%
6 - 9 PM	0.4%	19.8%	0.4%	24.0%	0.6%	23.8%	0.4%	22.7%	0.6%	22.3%	0.5%	23.5%	0.7%	24.0%	0.5%	23.6%
9 PM - Midnight	0.5%	18.6%	0.9%	24.0%	0.9%	24.0%	0.4%	25.2%	0.6%	24.6%	0.5%	24.0%	0.7%	26.0%	0.7%	24.4%
Unknown	0.5%	12.3%	0.0%	13.4%	0.3%	13.2%	0.0%	13.9%	0.8%	14.3%	0.2%	15.6%	0.4%	12.4%	0.3%	13.7%
Daily Totals	0.6%	24.4%	0.4%	23.3%	0.4%	23.4%	0.3%	23.3%	0.4%	23.4%	0.4%	24.0%	0.5%	25.3%	0.4%	24.0%

Note: Highlighting identifies areas where there is an over-representation.
Legend: Ftl=Fatal; PI =Personal Injury

Figure 29. Crashes by Day of Week and Severity–1998



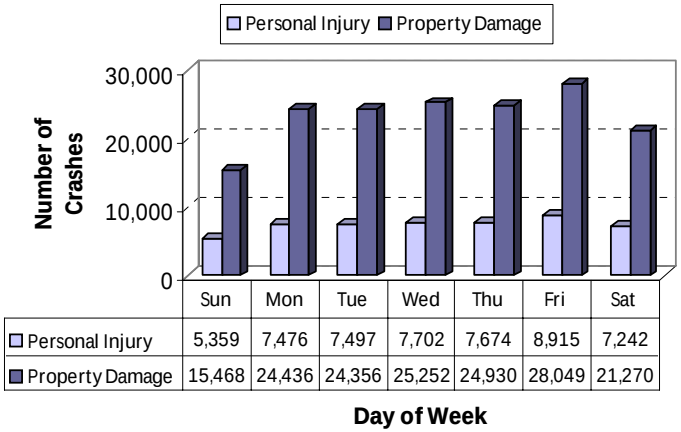


Figure 29

- ***Saturday had the highest frequency (146) of fatal crashes, followed by Friday (141).***
- ***Friday had the most personal injury (8,915) and property damage (28,049) crashes.***

Table 22. Crashes by Month and Severity by Rural/Urban Locale–1998

Month	Fatal Crashes			Personal Injury			Property Damage			Total Crashes		
	Rur	Urb	Tot	Rur	Urb	Tot	Rur	Urb	Tot	Rur	Urb	Tot
January	46	20	66	1,690	2,209	3,899	5,430	8,031	13,461	7,166	10,260	17,426
February	39	17	56	1,343	2,042	3,385	4,053	7,102	11,155	5,435	9,161	14,596
March	40	20	60	1,699	2,495	4,194	5,061	8,550	13,611	6,800	11,065	17,865
April	41	25	66	1,584	2,696	4,280	4,365	8,477	12,842	5,990	11,198	17,188
May	52	19	71	1,855	2,885	4,740	4,869	8,853	13,722	6,776	11,757	18,533
June	53	20	73	1,789	2,856	4,645	4,914	8,770	13,684	6,756	11,646	18,402
July	69	17	86	1,928	2,741	4,669	4,542	8,153	12,695	6,539	10,911	17,450
August	62	18	80	1,776	2,801	4,577	4,560	8,560	13,120	6,398	11,379	17,777
September	60	14	74	1,710	2,617	4,327	4,338	8,205	12,543	6,108	10,836	16,944
October	70	21	91	1,831	2,818	4,649	5,914	9,181	15,095	7,815	12,020	19,835
November	66	15	81	1,656	2,439	4,095	6,902	8,867	15,769	8,624	11,321	19,945
December	62	18	80	1,827	2,578	4,405	6,566	9,498	16,064	8,455	12,094	20,549
Total	**660**	**224**	**884**	**20,688**	**31,177**	**51,865**	**61,514**	**102,247**	**163,761**	**82,862**	**133,648**	**216,510**

Note: Highlighting identifies an area where there is an over-representation.

Legend: Rur=Rural; Urb=Urban; Tot=Total

In 1998, December had the greatest frequency of crashes, while the months of October with 91 and July with 86 had the highest number of fatal crashes. (Table 22). See the Crashes by Locale section for a discussion of the rural/urban dimensions of Table 22.

Table 23

When comparing the numbers of traffic deaths that occur during a particular holiday, it is important to also compare the number of hours that are designated for that holiday period. NHTSA uses the following model that is based upon the day of the week in which the holiday befalls.

If a holiday falls on *Monday*, the holiday period is from 6:00 p.m. Friday to 5:59 a.m. Tuesday.
If a holiday falls on *Tuesday*, the holiday period is from 6:00 p.m. Friday to 5:59 a.m. Wednesday.
If a holiday falls on *Wednesday*, the holiday period is from 6:00 p.m. Tuesday to 5:59 a.m. Thursday.
If a holiday falls on *Thursday*, the holiday period is from 6:00 p.m. Wednesday to 5:59 a.m. Monday.
If a holiday falls on *Friday*, the holiday period is from 6:00 p.m. Thursday to 5:59 a.m. Monday.

Table 23. Fatal Crashes and Fatalities on Legal Holidays: 1989-1998

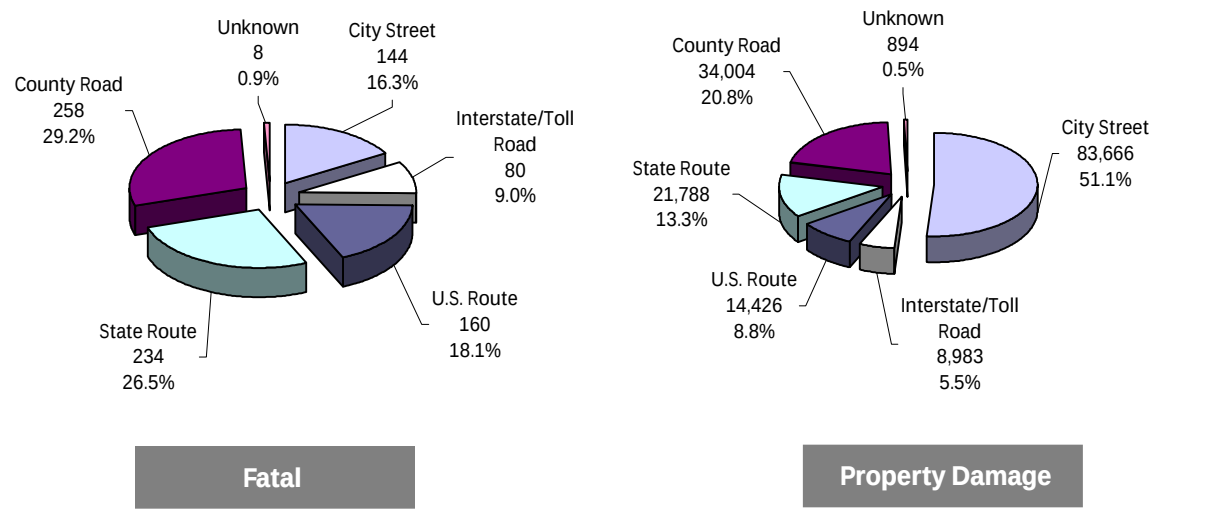
Year	Begin	End	Hours	Actual Holiday	All Crashes Fatalities	All Crashes Fatal Crashes	Alcohol Related Crashes Fatalities	Alcohol Related Crashes Fatal Crashes
New Year's Day								
1989	6:00pm 12/30	5:59am 1/02	84	Sun., 1/01	5	4	1	1
1990	6:00pm 12/29	5:59am 1/02	84	Mon., 1/01	3	3	2	2
1991	6:00pm 12/28	5:59am 1/02	108	Tues., 1/01	1	1	1	1
1992	6:00pm 12/31	5:59am 1/02	36	Wed., 1/01	4	4	3	3
1993	6:00pm 12/31	5:59am 1/04	84	Fri., 1/01	6	6	1	1
1994	6:00pm 12/30	5:59am 1/03	84	Sat., 1/01	10	9	1	1
1995	6:00pm 12/30	5:59am 1/03	84	Sun., 1/01	14	10	7	5
1996	6:00pm 12/29	5:59am 1/02	84	Mon., 1/01	2	2	2	2
1997	6:00pm 12/31	5:59am 1/02	36	Wed., 1/01	5	3	4	2
1998	6:00pm 12/31	5:59am 1/05	108	Thurs., 1/01	11	10	4	3
Ten Year Totals			**792**		**61**	**52**	**26**	**21**
Memorial Day								
1989	6:00pm 5/26	5:59am 5/30	84	Mon., 5/29	12	11	4	3
1990	6:00pm 5/25	5:59am 5/29	84	Mon., 5/28	15	14	8	7
1991	6:00pm 5/24	5:59am 5/28	84	Mon., 5/27	13	12	6	5
1992	6:00pm 5/22	5:59am 5/26	84	Mon., 5/25	10	9	3	2
1993	6:00pm 5/28	5:59am 6/01	84	Mon., 5/31	7	7	4	4
1994	6:00pm 5/27	5:59am 5/31	84	Mon., 5/30	15	13	3	3
1995	6:00pm 5/26	5:59am 5/30	84	Mon., 5/29	12	10	3	3
1996	6:00pm 5/24	5:59am 5/28	84	Mon., 5/27	15	15	6	6
1997	6:00pm 5/23	5:59am 5/27	84	Mon., 5/26	7	7	1	1
1998	6:00pm 5/22	5:59am 5/26	84	Mon., 5/25	9	8	5	4
Ten Year Totals			**840**		**115**	**106**	**43**	**38**
July 4th								
1989	6:00pm 6/30	5:59am 7/05	108	Tues., 7/04	15	14	5	4
1990	6:00pm 7/03	5:59am 7/05	36	Wed., 7/04	4	4	1	1
1991	6:00pm 7/03	5:59am 7/08	108	Thurs., 7/04	22	20	5	4
1992	6:00pm 7/02	5:59am 7/06	84	Sat., 7/04	8	6	2	2
1993	6:00pm 7/02	5:59am 7/06	84	Sun., 7/04	13	10	5	3
1994	6:00pm 7/01	5:59am 7/05	84	Mon., 7/04	12	10	3	3
1995	6:00pm 6/30	5:59am 7/05	108	Tues., 7/04	9	9	3	3
1996	6:00pm 7/03	5:59am 7/08	108	Thurs., 7/04	12	9	1	1
1997	6:00pm 7/03	5:59am 7/07	84	Fri., 7/04	11	10	1	1
1998	6:00pm 7/02	5:59am 7/06	84	Sat., 7/04	6	6	3	3
Ten Year Totals			**888**		**112**	**98**	**29**	**25**

Year	Begin	End	Hours	Actual Holiday	All Crashes Fatalities	All Crashes Fatal Crashes	Alcohol Related Crashes Fatalities	Alcohol Related Crashes Fatal Crashes
Labor Day								
1989	6:00pm 9/01	5:59am 9/05	84	Mon., 9/04	12	11	7	7
1990	6:00pm 8/31	5:59am 9/04	84	Mon., 9/03	19	18	6	6
1991	6:00pm 8/30	5:59am 9/03	84	Mon., 9/02	13	13	6	6
1992	6:00pm 9/04	5:59am 9/08	84	Mon., 9/07	15	10	5	5
1993	6:00pm 9/03	5:59am 9/07	84	Mon., 9/06	8	8	1	1
1994	6:00pm 9/02	5:59am 9/06	84	Mon., 9/05	8	8	4	4
1995	6:00pm 9/01	5:59am 9/05	84	Mon., 9/04	7	7	2	2
1996	6:00pm 8/30	5:59am 9/03	84	Mon., 9/02	11	10	7	6
1997	6:00pm 8/29	5:59am 9/02	84	Mon., 9/01	11	11	0	0
1998	6:00pm 9/04	5:59am 9/08	84	Mon., 9/07	10	9	3	3
Ten Year Totals			**840**		**114**	**105**	**41**	**40**
Thanksgiving								
1989	6:00pm 11/22	5:59am 11/27	108	Thurs., 11/23	13	12	5	5
1990	6:00pm 11/21	5:59am 11/26	108	Thurs., 11/22	13	12	4	4
1991	6:00pm 11/27	5:59am 12/02	108	Thurs., 11/28	9	8	0	0
1992	6:00pm 11/25	5:59am 11/30	108	Thurs., 11/26	6	6	3	3
1993	6:00pm 11/24	5:59am 11/29	108	Thurs., 11/25	6	5	1	1
1994	6:00pm 11/23	5:59am 11/28	108	Thurs., 11/24	12	12	4	4
1995	6:00pm 11/22	5:59am 11/27	108	Thurs., 11/23	4	4	1	1
1996	6:00pm 11/27	5:59am 12/02	108	Thurs., 11/28	7	5	3	1
1997	6:00pm 11/26	5:59am 12/01	108	Thurs., 11/27	5	5	1	1
1998	6:00pm 11/26	5:59am 11/30	108	Thurs., 11/27	11	10	7	6
Ten Year Totals			**1,080**		**86**	**79**	**29**	**26**
Christmas								
1989	6:00pm 12/22	5:59am 12/26	84	Mon., 12/25	10	10	4	4
1990	6:00pm 12/21	5:59am 12/26	108	Tues., 12/25	21	11	1	1
1991	6:00pm 12/24	5:59am 12/26	36	Wed., 12/25	2	2	1	1
1992	6:00pm 12/24	5:59am 12/28	84	Fri., 12/25	10	9	4	4
1993	6:00pm 12/23	5:59am 12/27	84	Sat., 12/25	5	4	0	0
1994	6:00pm 12/23	5:59am 12/27	84	Sun., 12/25	6	6	2	2
1995	6:00pm 12/22	5:59am 12/26	84	Mon., 12/25	11	10	4	4
1996	6:00pm 12/24	5:59am 12/26	36	Wed., 12/25	2	2	1	1
1997	6:00pm 12/24	5:59am 12/29	108	Thurs., 12/25	13	12	4	4
1998	6:00pm 12/24	5:59am 12/28	84	Fri., 12/25	11	11	3	3
Ten Year Totals			**792**		**91**	**77**	**24**	**24**

Thus, a difference of one day, from Wednesday—which accounts for a 36-hour holiday period—to Thursday—which accounts for a 108-hour holiday period—can have a significant impact on the number of crashes and fatalities that are considered to have occurred on a holiday.

Memorial Day, Labor Day, and July 4th have cumulatively accounted for the highest crash rates and fatality rates of all of the holidays at 115 and 106, and 114 and 105, and 112 and 98, respectively. Memorial Day and Labor Day are also ranked as highest for alcohol-related crashes, while Christmas and New Year's Day were lowest in alcohol-related crashes.

Figure 30. Crashes by Roadway Type and Severity–1998



This section and the following section, Crashes by Locale, contain crash information related to "where" crashes occur. Figure 30 displays 1998 frequencies and percentages of totals by crash severity for the roadway types included in the ISP database. Rural county roads (non-highway, outside urban areas) are least likely to have such safety features as paved shoulders, visible lane markers, lighting, and gradual, banked curves.

Only 5.2 percent of all crashes and 9.0 percent of fatal crashes occurred on Interstates or the Indiana Toll Road. Since the Indiana Department of Transportation estimated that 23.0 percent of all vehicle miles traveled in Indiana during 1998 were on Interstates or the Indiana Toll Road, roadway characteristics such as "limited access" relate strongly to traffic safety. The highest frequency of property damage (51.1 percent) and total crashes (50.2 percent) were on city streets where only 16.3 percent of fatal crashes occurred. In comparison, in 1997, only 20.0 percent of fatal crashes occurred on city streets.

Figure 30

- ***Fatal crashes occurred most frequently on rural county roads (29.2 percent).***
- ***The highest frequency of property damage (51.1 percent) and total crashes (50.2 percent) was on city streets.***

Table 24. Crashes by Location Type and Severity–1998

Location	Fatal Crashes		Personal Injury		Property Damage		Total Crashes	
	Count	Percent	Count	Percent	Count	Percent	Count	Percent
Intersection	190	21.5%	19,242	37.1%	40,155	24.5%	**59,587**	**27.5%**
Driveway Access	10	1.1%	1,102	2.1%	4,118	2.5%	**5,230**	**2.4%**
Interchange Area	4	0.5%	396	0.8%	1,394	0.9%	**1,794**	**0.8%**
Off Roadway	270	30.5%	8,737	16.8%	19,697	12.0%	**28,704**	**13.3%**
Shoulder	36	4.1%	1,160	2.2%	3,657	2.2%	**4,853**	**2.2%**
Median	12	1.4%	292	0.6%	732	0.4%	**1,036**	**0.5%**
Roadway	361	40.8%	18,088	34.9%	65,808	40.2%	**84,257**	**38.9%**
Unknown	1	0.1%	2,848	5.5%	28,200	17.2%	**31,049**	**14.3%**
Total	**884**		**51,865**		**163,761**		**216,510**	

Note: The percentage of fatal crashes occurring at an intersection was 190/884 or 21.5%.

Table 25. Hit-and-Run Crashes by Location Type and Severity–1998

Location	Fatal Crashes		Personal Injury		Property Damage		Total Crashes	
	Count	Percent	Count	Percent	Count	Percent	Count	Percent
Intersection	2	9.1%	1,029	41.7%	3,549	24.0%	**4,580**	**26.5%**
Driveway Access	0	0.0%	46	1.9%	422	2.9%	**468**	**2.7%**
Interchange Area	0	0.0%	22	0.9%	109	0.7%	**131**	**0.8%**
Off Roadway	3	13.6%	286	11.6%	2,779	18.8%	**3,068**	**17.7%**
Shoulder	0	0.0%	60	2.4%	796	5.4%	**856**	**4.9%**
Median	0	0.0%	6	0.2%	24	0.2%	**30**	**0.2%**
Roadway	17	77.3%	1,003	40.7%	7,051	47.6%	**8,071**	**46.7%**
Unknown	0	0.0%	15	0.6%	76	0.5%	**91**	**0.5%**
Total	**22**		**2,467**		**14,806**		**17,295**	

Note: The percentage of fatal hit and run crashes occurring at an intersection was 2/22, or 9.1%.

Table 24 provides information on crash location relative to roadway factors. For 38.9 percent of all crashes and 40.8 percent of fatal crashes, the crash was initiated on a roadway but not at an intersection, driveway-access or interchange area. *Off Roadway* crashes, frequently single-vehicle crashes involving collisions with fixed objects such as trees, accounted for 30.5 percent of fatal crashes but only 13.3 percent of all crashes.

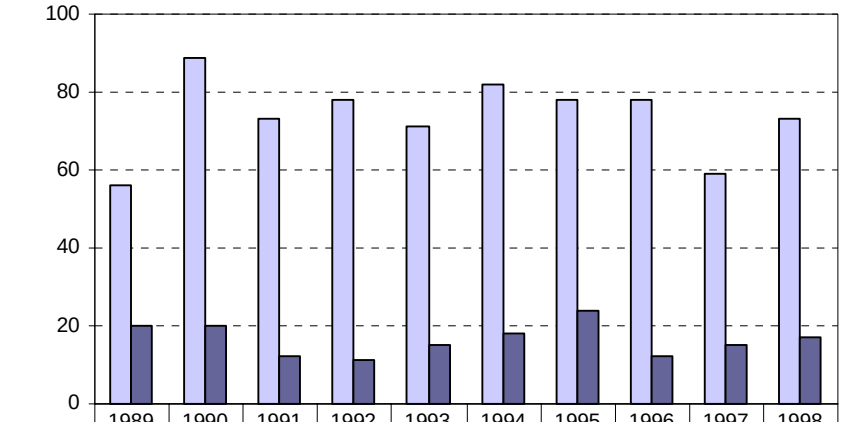
Hit-and-Run crashes (Table 25) tend to have lower severity than other types of crashes; 0.13 percent of Hit-and-Run crashes were fatal in 1998 versus 0.41 percent fatal for all crashes. Hit-and-Run crashes had higher percentages than other crashes that were initiated by a roadway collision (77.3 percent for fatal crashes and 46.7 percent for all crashes).

- ***The total number of Hit-and-Run crashes increased 2.3 percent from 16,900 in 1997 to 17,295 in 1998. This is consistent with the trend seen since 1993 (12,467).***

- ***There were 22 fatal hit-and-run crashes in 1998, compared to 18 in 1993.***

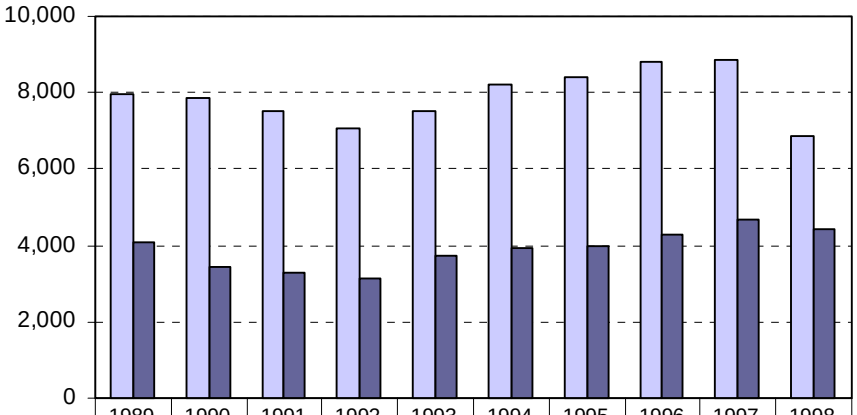
crashes

Figure 31. Annual Interstate/Toll Road Crashes: 1989-1998



	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Rural	56	89	73	78	71	82	78	78	59	73
Urban	20	20	12	11	15	18	24	12	15	17

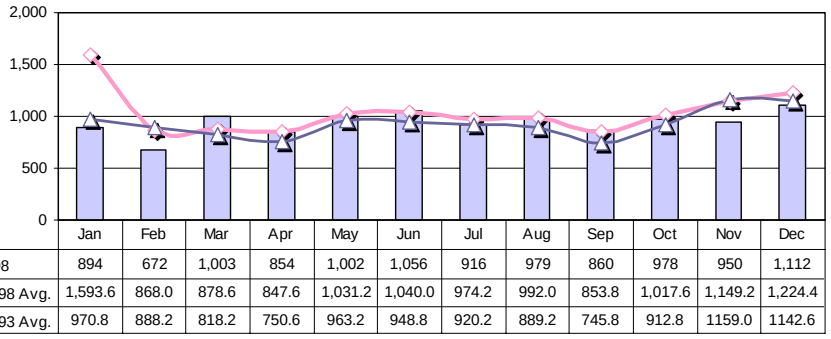
Rural/Urban Fatalities



	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Rural	7,965	7,853	7,532	7,057	7,492	8,198	8,386	8,787	8,838	6,856
Urban	4,096	3,425	3,295	3,112	3,723	3,923	3,973	4,299	4,671	4,420

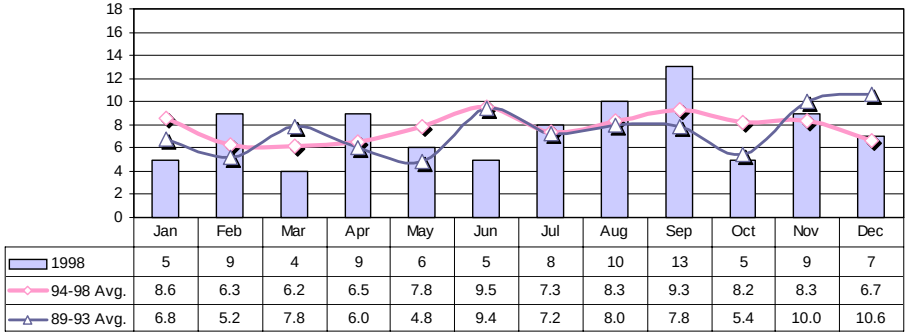
Rural/Urban Crashes

Figure 32. Interstate/Toll Road Crashes by Monthly Average: 1989-1998



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1998	894	672	1,003	854	1,002	1,056	916	979	860	978	950	1,112
94-98 Avg.	1,593.6	868.0	878.6	847.6	1,031.2	1,040.0	974.2	992.0	853.8	1,017.6	1,149.2	1,224.4
89-93 Avg.	970.8	888.2	818.2	750.6	963.2	948.8	920.2	889.2	745.8	912.8	1159.0	1142.6

Crashes



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1998	5	9	4	9	6	5	8	10	13	5	9	7
94-98 Avg.	8.6	6.3	6.2	6.5	7.8	9.5	7.3	8.3	9.3	8.2	8.3	6.7
89-93 Avg.	6.8	5.2	7.8	6.0	4.8	9.4	7.2	8.0	7.8	5.4	10.0	10.6

Fatalities

Figures 31 and 32

The number of both urban and rural interstate crashes increased each year from 1993 through 1997 (Figure 31). In 1998, the total rural interstate crashes reported decreased 22.4 percent from 8,838 to 6,856 and urban interstate crashes decreased 5.4 percent to 4,420. Rural interstate fatalities, on the other hand, increased from 59 in 1997 to 73 in 1998; urban interstate fatalities increased from 15 in 1997 to 17 in 1998. The reduction in numbers of crashes caused by ice and snow conditions may be the most significant factor in this decline in total crashes in 1998.

Over the five-year, 1994-1998 period, June was the month with the highest average number of interstate/toll road fatalities (9.5), while December had the highest average (10.6) for the 1989-93 period (Figure 32). Total interstate crashes in 1998 were less frequent during the January-February and November-December periods than both the 1994-98 and 1989-93 averages.

Figure 32

- ***The highest number of monthly fatalities (13) in 1998 occurred in September.***
- ***For 1998, the month of December had the greatest number of interstate crashes.***

Table 26. Traffic Controls for all Vehicles by Crash Severity–1998

	Fatal Crashes		Personal Injury		Property Damage		Total Crashes	
Traffic Control	**Count**	**Percent**	**Count**	**Percent**	**Count**	**Percent**	**Count**	**Percent**
Officer, Crossing Guard or Flagman	4	0.5%	246	0.5%	587	0.4%	**837**	**0.4%**
RR Crossing Gate/Flagman	7	0.8%	68	0.1%	227	0.1%	**302**	**0.1%**
RR Crossing Signal	6	0.7%	100	0.2%	216	0.1%	**322**	**0.1%**
RR Crossing Sign	13	1.5%	178	0.3%	402	0.2%	**593**	**0.3%**
Traffic Control Signal	56	6.3%	11,004	21.2%	24,424	14.9%	**35,484**	**16.4%**
Flashing Signal	13	1.5%	596	1.1%	1,120	0.7%	**1,729**	**0.8%**
Stop Sign	126	14.3%	7,876	15.2%	17,871	10.9%	**25,873**	**12.0%**
Yield Sign	11	1.2%	642	1.2%	1,457	0.9%	**2,110**	**1.0%**
Lane Control	468	52.9%	25,046	48.3%	64,366	39.3%	**89,880**	**41.5%**
No Passing Zone	152	17.2%	3,544	6.8%	7,357	4.5%	**11,053**	**5.1%**
Other Regulatory Signs	46	5.2%	1,558	3.0%	3,657	2.2%	**5,261**	**2.4%**
None	41	4.6%	3,044	5.9%	8,605	5.3%	**11,690**	**5.4%**
Unknown	21	2.4%	5,157	9.9%	36,483	22.3%	**41,661**	**19.2%**

Example: Of the fatal crashes in 1998, 14.3% (126/884) took place at a location that had one or more stop signs. Columns do not total the number of crashes in each category since there may have been more than one traffic control type at the crash location.

Table 26

The traffic controls operating at the crash location are the location-type variable in Table 26. The most frequently cited traffic control for fatal crashes (52.9 percent) and total crashes (41.5 percent) was lane controls. These include centerline and lane pavement markings, *Keep Right*, *Merge Right* and *Lane Ends* signs. Two traffic controls may be coded for each vehicle in a crash so the lower frequencies for other controls that are employed only at intersections or railroad crossings actually provide significant information. The data showing that Stop Signs were present at 14.3 percent of fatal crash locations and 12.0 percent of total crashes, while Traffic Control Signals (Stoplights) were present at only 6.3 percent of fatal crash locations and 16.4 percent of total crashes, indicates that Stop Signs are associated with more severe crashes than Stoplights.

- ***Stop Signs were present at 14.3 percent of fatal crash locations in 1998, up from 12.2 percent in 1997.***

Figure 33. Rural and Urban Crashes by Severity–1998

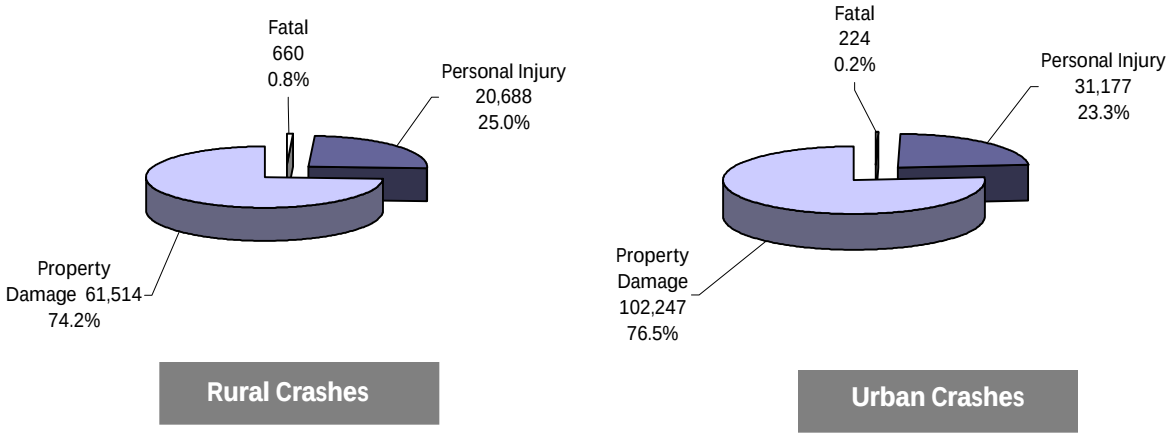


Figure 33 & Table 27

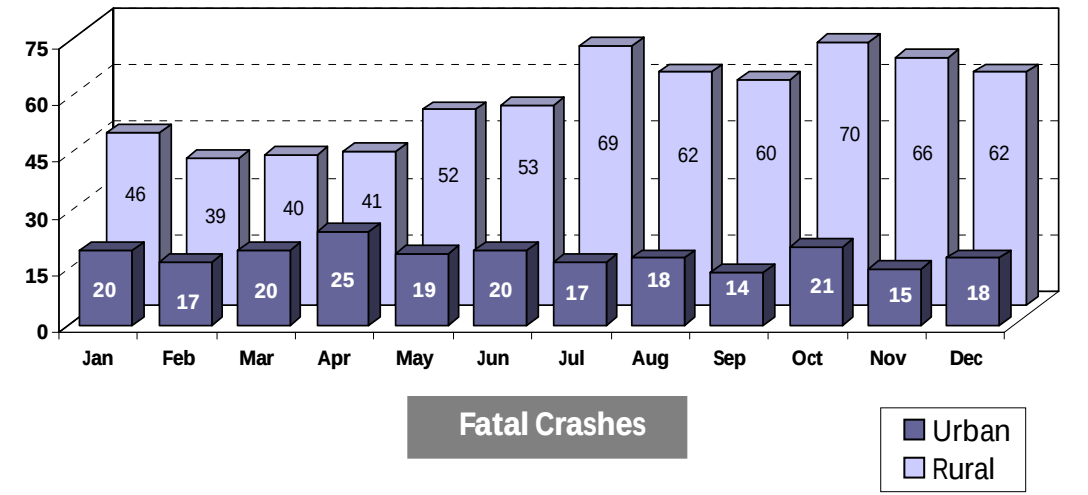
- ***In 1998, 660 (0.8 percent) of rural crashes were fatal.***
- ***Only 224 (0.2 percent) of urban crashes were fatal.***

Rural crashes tend to have higher severity. The difference in the severity of crashes between the state's urban and rural areas has been remarkably constant over the past 10 years (See Table 27). The 10-year average of total crashes that occurred in Indiana's urban areas is 60.8 percent, but 73.0 percent of fatal crashes occurred in the State's rural areas. In 1998, 61.7 percent of total crashes occurred in Indiana's urban areas, up from 60.9 percent in 1997. In 1998, 74.7 percent of fatal crashes occurred in the State's rural areas, up from 72.3 percent in 1997.

Table 27. Rural and Urban Crashes by Severity: 1989-1998

	Rural				Urban				Total Crashes			
Year	Fatal Crashes	Personal Injury	Property Damage	Total	Fatal Crashes	Personal Injury	Property Damage	Total	Fatal Crashes	Personal Injury	Property Damage	Total
1989	626	22,021	62,879	85,526	257	30,317	106,074	136,648	883	52,338	168,953	222,1
1990	650	21,341	59,090	81,081	274	29,326	98,839	128,439	924	50,667	157,929	209,5
1991	679	19,967	56,231	76,877	225	27,165	90,692	118,082	904	47,132	146,923	194,9
1992	575	20,236	55,770	76,581	223	28,370	89,705	118,298	798	48,606	145,475	194,8
1993	579	20,900	58,685	80,164	203	29,874	94,132	124,209	782	50,774	152,817	204,3
1994	655	21,899	62,259	84,813	220	30,577	97,612	128,409	875	52,476	159,871	213,2
1995	625	22,596	65,767	88,988	234	31,235	100,569	132,038	859	53,831	166,336	221,0
1996	635	21,605	66,011	88,251	235	30,453	102,526	133,214	870	52,058	168,537	221,4
1997	614	21,538	63,788	85,940	235	30,875	102,959	134,069	849	52,413	166,747	220,0
1998	660	20,688	61,514	82,862	224	31,177	102,247	133,648	884	51,865	163,761	216,5

Figure 34. Rural and Urban Crashes by Month–1998



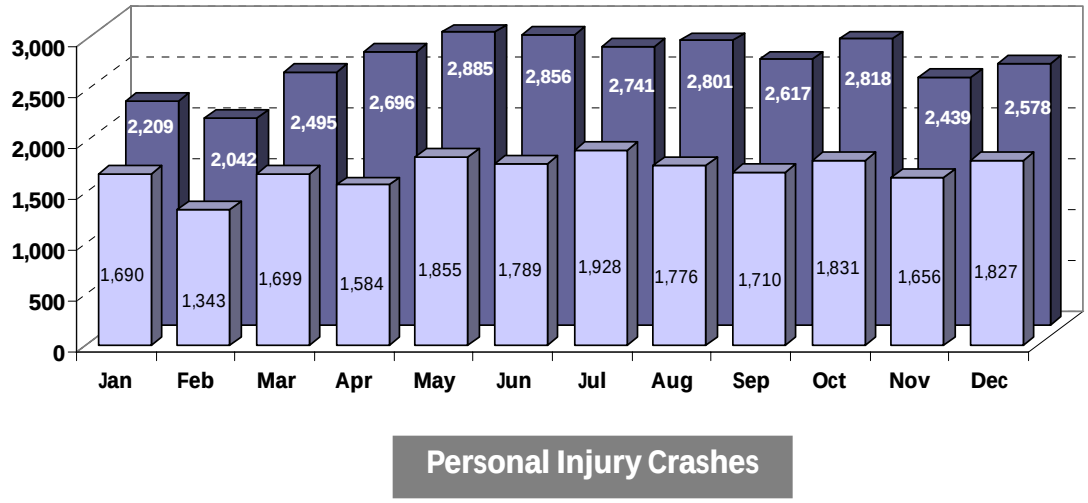


Figure 34

Figure 34 displays the urban/rural breakdown of fatal and personal injury crashes by month for 1998. Similar information for property damage and total crashes is found in Table 22 on page 50. Rural fatal and personal injury crashes were well below average during the January-April period. Both urban and rural personal injury crashes were highest during the May- October period.

- ***The number of rural fatal crashes in 1998 was highest during the July-December period.***

Table 28. Frequency of Fatal Crashes by Number of Fatalities and Rural/Urban Locale: 1989-1998

Year	Rur	Urb	Tot
One Person Fatality Crashes			
1989	568	240	808
1990	572	259	831
1991	598	213	811
1992	501	212	713
1993	502	187	689
1994	579	212	791
1995	556	223	779
1996	553	217	770
1997	551	220	771
1998	594	211	805
Two Person Fatality Crashes			
1989	50	14	64
1990	61	14	75
1991	63	11	74
1992	63	8	71
1993	66	15	81
1994	65	8	73
1995	57	8	65
1996	70	18	88
1997	53	15	68
1998	53	9	62
Three Person Fatality Crashes			
1989	7	2	9
1990	12	1	13
1991	15	1	16
1992	9	1	10
1993	8	1	9
1994	6	0	6
1995	9	2	11
1996	12	0	12
1997	8	0	8
1998	11	4	15
Four Person Fatality Crashes			
1989	0	1	1
1990	3	0	3
1991	2	0	2
1992	2	0	2
1993	2	0	2
1994	4	0	4
1995	2	1	3
1996	0	0	0
1997	1	0	1
1998	2	0	2
Five Person Fatality Crashes			
1989	0	0	0
1990	0	0	0
1991	0	0	0
1992	0	2	2
1993	1	0	1
1994	1	0	1
1995	1	0	1
1996	0	0	0
1997	1	0	1
1998	0	0	0
Six Person Fatality Crashes			
1989	1	0	1
1990	2	0	2
1991	0	0	0
1992	0	0	0
1993	0	0	0
1994	0	0	0
1995	0	0	0
1996	0	0	0
1997	0	0	0
1998	0	0	0
Seven Person Fatality Crashes			
1989	0	0	0
1990	0	0	0
1991	1	0	1
1992	0	0	0
1993	0	0	0
1994	0	0	0
1995	0	0	0
1996	0	0	0
1997	0	0	0
1998	0	0	0
Total Fatal Crashes			
1989	626	257	883
1990	650	274	924
1991	679	225	904
1992	575	223	798
1993	579	203	782
1994	655	220	875
1995	625	234	859
1996	635	235	870
1997	614	235	849
1998	660	224	884

Table 28

Table 28 displays the 10-year history of frequencies of fatal crashes organized by the numbers of fatalities in crashes. The urban/rural breakdown in this table reveals that most multi-fatality crashes occur in a rural locale.

- ***Of the 138 crashes with three or more fatalities per crash over the ten-year time period, 122 (88 percent) occurred in a rural locale.***
- ***The percentage of Indiana fatal crashes that had more than one fatality has declined from 10.1 percent in 1990 to 8.1 percent in 1998.***

Table 29. Crashes by Collision With—Detailed by Severity and Locale–1998

	Fatal Crashes			Personal Injury			Property Damage			Total Crashes		
COLLISION WITH . . .	Rur	Urb	Tot	Rur	Urb	Tot	Rur	Urb	Tot	Rur	Urb	Tot
Other Motor Vehicle	313	117	430	10,682	24,132	34,814	26,224	74,178	100,402	37,219	98,427	135,646
Pedestrian	36	37	73	241	1,275	1,516	28	87	115	305	1,399	1,704
Bicyclist	6	7	13	202	1,005	1,207	37	146	183	245	1,158	1,403
RR Train	13	7	20	43	59	102	75	129	204	131	195	326
Animal Drawn Vehicle	2	0	2	36	10	46	62	22	84	100	32	132
Deer	3	0	3	338	27	365	9,589	810	10,399	9,930	837	10,767
Other Animal	2	2	4	114	23	137	916	236	1,152	1,032	261	1,293
Fixed Object	523	138	661	12,375	6,673	19,048	19,767	11,455	31,222	32,665	18,266	50,931
Other	9	1	10	245	181	426	1,136	704	1,840	1,390	886	2,276
TOTAL	**907**	**309**	**1,216**	**24,276**	**33,385**	**57,661**	**57,834**	**87,767**	**145,601**	**83,017**	**121,461**	**204,478**

Note: This report counts collisions, not crashes. A vehicle may collide with an object from more than one category. Also, non-collision crashes are not counted.

Legend: Rur=Rural; Urb=Urban; Tot=Total

Table 29 provides information on the crash frequencies by the category of collision. Collisions occurred most frequently with other motor vehicles (135,646), followed by fixed objects (50,931), and deer (10,767). Collisions with deer increased by 5.0 percent from 1997 and collisions with other motor vehicles increased by 1.2 percent. Collisions with fixed objects decreased by 5.1 percent from 1997. For detailed information on crashes involving deer by county, see Table 96.

Table 30. Fixed Objects Struck–Detailed by Crash Severity and Locale–1998

Type of Fixed Object	Fatal Crashes			Personal Injury			Property Damage			Total Crashes		
	Rur	Urb	Tot	Rur	Urb	Tot	Rur	Urb	Tot	Rur	Urb	Tot
Light Support/Utility Pole	54	25	79	1,661	1,348	3,009	2,362	1,964	4,326	4,077	3,337	7,414
Guard Rail/Median	40	18	58	937	629	1,566	1,975	1,060	3,035	2,952	1,707	4,659
Impact Attenuator	0	1	1	32	17	49	59	52	111	91	70	161
Sign Post	31	9	40	664	548	1,212	1,494	1,138	2,632	2,189	1,695	3,884
Tree	115	25	140	2,205	744	2,949	2,693	1,052	3,745	5,013	1,821	6,834
Building/Wall	9	6	15	101	369	470	193	752	945	303	1,127	1,430
Curbing	4	26	30	167	1,333	1,500	302	1,969	2,271	473	3,328	3,801
Fence	40	7	47	914	309	1,223	2,113	837	2,950	3,067	1,153	4,220
Bridge Support	5	2	7	152	72	224	241	164	405	398	238	636
Culvert/Drainage Structure	34	4	38	650	128	778	816	176	992	1,500	308	1,808
Snow Embankment	0	2	2	33	7	40	57	28	85	90	37	127
Earth Embankment/Ditch	171	15	186	4,118	691	4,809	5,504	829	6,333	9,793	1,535	11,328
Fire Hydrant	0	1	1	10	108	118	57	276	333	67	385	452
Traffic Signal	0	2	2	11	91	102	23	121	144	34	214	248
Mailbox	18	1	19	427	123	550	1,090	359	1,449	1,535	483	2,018
Other Fixed Object	24	6	30	562	419	981	1,012	881	1,893	1,598	1,306	2,904
Total	**545**	**150**	**695**	**12,644**	**6,936**	**19,580**	**19,991**	**11,658**	**31,649**	**33,180**	**18,744**	**51,924**

Note: This report counts fixed objects struck, not crashes. There may have been more than one fixed object in some crashes.

Legend: Rur=Rural; Urb=Urban; Tot=Total

Table 30 provides detailed information on collisions with fixed objects. The numbers reported are slightly higher than the collision with fixed object category of Table 44 since a crash may involve a collision with more than one type of fixed object. The highest frequency category for each severity category is *Earth Embankment/Ditch*. Note that 86.4 percent of these collisions occurred in a rural locale. Also note that only one of the 161 collisions (0.6 percent) with an impact attenuator was a fatal crash, attesting to the life-saving value of these devices. In contrast, 140 of 6,834 (2.0 percent) of collisions with trees were fatal crashes.

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chapter summary

A person was fatally injured (killed) every nine hours as the result of a highway crash in Indiana in 1998. A person was injured at the rate of one injury every 6.8 minutes. As the severity of crashes increases from property damage, to injury, to serious injury, to a fatality, the occurrence shifts from an urban setting to a rural environment. Overall, fifty-nine percent of personal injury crashes occurred in urban areas. This decreases to 42.8 percent of serious injuries, and of the 982 fatalities, 75.5 percent occurred in rural areas and 24.5 percent in urban areas. This imbalance is particularly noticeable for vehicle and motorcycle crashes whereas bicycle and pedestrian crashes tended to be more balanced between urban and rural locales.

Statistically, while the number of fatalities increased from 1997 (940), fatalities have remained relatively flat over the past two years. However, versus 1997, the number of fatalities in rural areas increased by 51, while the number of fatalities in urban areas decreased by nine. In the six years that the *Crash Book* has been published, fatal rural crashes have increased at an average rate of 5.6 percent annually. Urban fatal crashes have increased at an average annual rate of 3.7 percent.

Males are fatally injured as a result of a crash at nearly twice the rate of females. Females are the drivers in 27 percent of the fatal crashes and in 39 percent of all crashes. Male drivers are clearly over-represented in fatal crashes. Young male drivers (under 21 years old) are over represented in fatal crashes involving male drivers. But the opposite is true for female drivers—the younger driver (under 21 years old) is under-represented in fatal crashes.

Nearly 50 percent of the crashes occur between noon and 6:00 PM. As you review Tables 38 and 39, note the shaded areas. These areas represent the highest frequencies of the respective crashes by time of day and age group.

While alcohol is involved in only 4 percent of all crashes, alcohol involvement in fatal crashes approaches 25 percent. Of the 8,994 drivers who admitted to having been drinking prior to the crash, 961 (or 10.7 percent) were under the age of 21. Not surprising was that the 25-34 and the 35-44 year old age groups represented 55.6 percent of the drivers acknowledging that they had been drinking prior to the crash. While people driving while under the influence of medication/drugs remains a very small percentage of the causes for crashes, the presence of medication or drugs has increased by 46.3 percent since 1993.

Three out of ten licensed 16-year-old drivers will be involved in a crash in their first year of driving. This percentage decreases to 25 percent for the 17-year-old driver and 20 percent for the 18-year-old driver. The odds are that 60 percent of young drivers will be involved in a crash by the time they turn 19 years old. The Graduated License Law, enacted in 1999, can be a tremendous tool towards reducing crashes for the younger and inexperienced driver. An analysis of the 1999 crash data, as it becomes available, should hopefully support this statement. A similar pattern is evident with fatal crashes: the 16-19 year old driver is over-represented by a two to one ratio (of licensed drivers in this age category) and the 20-24 year old drivers are over-represented by a 1.3 to 1.0 ratio.

Eighty-three percent of the drivers involved in crashes hold Indiana licenses/permits—lending creditability to targeting educational/informational and countermeasure programs to the residents of the State.

Pedestrian fatalities (72 in 1998) remained relatively flat for the fourth year. Not surprising, the majority of crashes involving pedestrians occurred between 3:00 PM and 9:00 PM while the majority of fatal pedestrian crashes occurred between 6:00 PM and midnight. Darkness increases the likelihood of a fatal crash. Fifty percent of the fatalities occurred in rural areas. However, 83 percent of the pedestrian injuries occurred in urban areas. Where pedestrian actions are identified at the time of the crash, in one out of three instances, pedestrians had taken the appropriate action (*i.e.*, not standing in the roadway and crossing at an intersection).

There were 14 bicyclist fatalities in 1998. Fatalities have ranged from nine to fourteen in each of the last six years. All but one of the fatalities in 1998 involved the bicyclist. Fatalities were fairly equally distributed between rural (43 percent) and urban (57 percent) areas, but 84 percent of the injuries occurred in urban areas. Six of the fatalities were children (14 and under), and three were older (75+).

An essential element in the path to reduce fatalities is the use of safety restraint systems. Of those fatal crashes where adult safety restraint systems could be accurately determined, only 30 percent of the fatal occupants were restrained with drivers being slightly higher (32 percent) versus passengers (27 percent). Using a simple statistical tool provided by NHTSA, approximately 240 lives could have been saved if all occupants were properly restrained in 1998. Details such as age and restraint usage as related to severity of injuries are included in this chapter. In conjunction with safety belt usage in crashes (which may be self-reported by the occupants), an annual safety belt survey is conducted by the Automotive Transportation Center at Purdue University. Data from recent surveys is included. Similarities can be seen between both sets of data. Females are more consistent users of safety restraints than males, older drivers are more compliant restraint users than younger drivers. Safety restraint usage rates have increased gradually each year. This last statement held true until the 1999 observational seat belt survey was conducted. Overall, safety belt usage for all passenger vehicles decreased in 1999 to 57.3 percent from an all time high usage rate of 61.8 percent in 1998. A point to note is that pickup truck usage rates are included in reporting the results even though pickup trucks are presently excluded from the Indiana law.

Table 31. Age, Role and Gender for Fatalities by Locale–1998

	Vehicle[1]						Motorcycle[2]						Bicyclist			Pedestrian			Total[3] Injuries			
	Driver			Passenger			Driver			Passenger												
Age	Male	Fem	Tot[3]	Male	Fem	Tot[3]	Male	Fem	Tot[3]	Male	Fem	Tot[3]	Male	Fem	Tot[3]	Male	Fem	Tot[3]	Male	Fem	Tot[3]	
0 - 3	0	0	0	3	6	9	0	0	0	0	0	0	0	0	0	1	1	2	4	7	11	RURAL
4 - 12	1	0	1	9	8	17	0	0	0	0	0	0	1	1	2	1	0	1	12	9	21	
13 - 15	1	0	1	8	4	12	2	0	2	1	0	1	0	0	0	0	1	1	12	5	17	
16 - 17	12	19	31	3	9	13	1	0	1	0	0	0	0	0	0	1	0	1	17	28	46	
18 - 20	41	15	56	15	6	21	3	0	3	0	0	0	0	0	0	2	0	2	61	21	82	
21 - 24	40	11	51	7	5	13	4	0	4	0	0	0	0	0	0	0	0	0	51	16	68	
25 - 34	65	17	83	8	7	16	10	1	11	0	0	0	0	0	0	2	4	6	85	29	116	
35 - 44	57	27	84	7	8	15	14	1	15	0	3	3	1	0	1	7	2	9	86	41	127	
45 - 54	29	23	52	7	3	11	6	0	6	0	0	0	1	0	1	4	0	4	47	26	74	
55 - 64	24	9	33	3	4	7	4	0	4	0	1	1	0	0	0	3	0	3	34	14	48	
65 - 69	12	5	17	2	4	6	0	0	0	0	0	0	0	0	0	1	1	2	15	10	25	
70 - 74	19	8	27	0	8	8	0	0	0	0	0	0	0	0	0	1	0	1	20	16	36	
75+	27	13	40	6	15	21	1	0	1	0	0	0	1	0	1	2	2	4	37	30	67	
TOTAL	**328**	**148**	**477**	**79**	**87**	**171**	**45**	**2**	**47**	**1**	**4**	**5**	**4**	**1**	**5**	**25**	**11**	**36**	**482**	**253**	**741**	
0 - 3	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	1	1	2	1	3	4	URBAN
4 - 12	0	0	0	2	4	6	0	0	0	0	0	0	2	0	2	2	2	4	6	6	12	
13 - 15	0	0	0	1	0	1	0	0	0	0	0	0	1	1	2	0	0	0	2	1	3	
16 - 17	2	1	3	1	4	5	0	0	0	0	0	0	0	0	0	2	1	3	5	6	11	
18 - 20	5	4	9	1	2	3	3	0	3	0	1	1	0	0	0	2	0	2	11	7	18	
21 - 24	11	2	13	5	4	9	1	0	1	0	0	0	0	0	0	0	0	0	17	6	23	
25 - 34	12	3	15	4	2	6	6	0	6	0	1	1	1	0	1	3	0	3	26	6	32	
35 - 44	16	11	27	2	4	7	1	0	1	0	0	0	1	0	1	7	1	8	27	16	44	
45 - 54	9	3	12	1	3	4	1	0	1	0	0	0	0	0	0	2	2	4	13	8	21	
55 - 64	12	6	18	4	4	8	2	0	2	0	0	0	0	0	0	3	1	4	21	11	32	
65 - 69	6	1	7	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	6	3	9	
70 - 74	2	1	3	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	2	3	5	
75+	9	5	14	0	5	5	0	0	0	0	0	0	2	0	2	2	1	3	13	11	24	
TOTAL	**84**	**37**	**121**	**21**	**37**	**60**	**14**	**0**	**14**	**0**	**2**	**2**	**7**	**1**	**8**	**25**	**11**	**36**	**151**	**88**	**241**	

[1] *Vehicle includes any motor vehicle except motorcycles, mopeds, motorized bicycles, motor scooters, and minibikes.*

[2] *Motorcycle includes motorcycles, mopeds, motorized bicycles, motor scooters and minibikes.*

[3] *Totals include persons of unknown age and/or gender.*

Note: Tables count fatalities, not crashes.

Legend: Fem=Female; Tot=Total.

- ***75 percent of the fatalities occur in rural areas.***
- ***48 children—age 12 and under— were fatally injured in crashes.***

Table 32. Age, Role and Gender for Total Injuries by Locale–1998

	Vehicle[1]						Motorcycle[2]						Bicyclist			Pedestrian			Total[3] Injuries			
	Driver			Passenger			Driver			Passenger												
Age	Male	Fem	Tot[3]	Male	Fem	Tot[3]	Male	Fem	Tot[3]	Male	Fem	Tot[3]	Male	Fem	Tot[3]	Male	Fem	Tot[3]	Male	Fem	Tot[3]	
0-3	1	0	1	204	224	432	0	0	0	0	0	0	1	0	2	4	1	5	210	225	440	RURAL
4-12	10	8	18	723	778	1,540	5	1	6	5	7	12	46	8	54	26	16	42	817	811	1,660	
13-15	52	27	79	433	670	1,113	26	5	31	3	2	5	35	6	41	23	14	37	571	722	1,301	
16-17	1,155	1,095	2,250	555	616	1,178	18	0	18	2	1	3	9	4	13	11	5	16	1,749	1,720	3,475	
18-20	1,480	1,030	2,512	508	511	1,032	42	0	42	3	8	11	4	2	6	12	6	18	2,054	1,549	3,610	
21-24	1,243	901	2,145	306	290	602	79	0	79	1	3	4	2	0	2	19	8	27	1,652	1,199	2,855	
25-34	2,226	1,817	4,047	404	529	955	120	14	134	1	17	19	12	1	13	33	5	38	2,812	2,367	5,187	
35-44	1,853	1,595	3,450	201	430	650	153	8	161	2	14	16	8	3	11	25	12	37	2,254	2,048	4,309	
45-54	1,265	1,047	2,313	122	337	470	98	5	103	0	7	7	7	1	8	11	3	14	1,510	1,393	2,908	
55-64	685	562	1,250	67	252	322	36	0	36	1	2	3	6	0	6	7	3	10	803	817	1,624	
65-69	249	175	424	28	126	155	9	1	10	0	1	1	0	1	1	3	1	4	290	304	594	
70-74	199	168	367	36	90	127	5	0	5	0	0	0	0	0	0	1	0	1	241	258	500	
75+	326	259	585	40	197	240	0	0	0	0	1	1	0	0	0	6	3	9	373	459	834	
TOTAL	**10,773**	**8,707**	**19,502**	**3,826**	**5,325**	**11,067**	**594**	**34**	**628**	**18**	**66**	**87**	**135**	**29**	**176**	**186**	**79**	**284**	**15,580**	**14,177**	**31,657**	*
0-3	1	1	2	315	289	609	1	0	1	1	0	1	1	0	1	30	23	53	349	313	667	URBAN
4-12	8	9	17	968	1,197	2,191	5	5	10	5	1	6	260	109	369	251	137	390	1,497	1,458	2,983	
13-15	26	27	53	386	715	1,112	46	10	56	11	2	13	146	28	176	57	50	108	672	832	1,518	
16-17	802	1,085	1,888	457	758	1,219	28	4	32	2	4	6	54	11	65	36	25	61	1,379	1,887	3,271	
18-20	1,367	1,717	3,089	504	764	1,274	72	3	75	4	6	10	50	14	64	45	34	81	2,042	2,538	4,593	
21-24	1,351	1,623	2,979	419	590	1,014	130	5	136	1	7	8	40	14	54	39	33	73	1,980	2,272	4,264	
25-34	2,618	3,053	5,679	561	868	1,437	219	8	227	0	16	16	49	9	58	86	68	155	3,533	4,022	7,572	
35-44	2,324	2,662	4,991	348	739	1,089	174	13	188	2	9	11	59	16	76	98	60	158	3,005	3,499	6,513	
45-54	1,604	1,871	3,476	218	579	803	112	3	115	1	6	7	32	8	40	61	38	100	2,028	2,505	4,541	
55-64	930	1,056	1,986	100	394	497	41	0	41	0	1	1	11	5	16	30	37	68	1,112	1,493	2,609	
65-69	335	345	681	32	170	206	8	0	8	0	0	0	2	0	2	9	15	24	386	530	921	
70-74	341	313	654	39	167	214	3	0	3	0	0	0	4	1	5	6	14	20	393	495	896	
75+	476	471	947	63	300	369	1	0	1	0	2	2	4	0	4	9	18	27	553	791	1,350	
TOTAL	**12,219**	**14,267**	**26,533**	**4,652**	**8,033**	**15,541**	**843**	**51**	**896**	**28**	**54**	**85**	**750**	**222**	**1,023**	**782**	**561**	**1,398**	**19,274**	**23,188**	**45,476**	*

[1] *Vehicle includes any motor vehicle except motorcycles, mopeds, motorized bicycles, motor scooters, and minibikes.*

[2] *Motorcycle includes motorcycles, mopeds, motorized bicycles, motor scooters and minibikes.*

[3] *Totals include persons of unknown age and/or gender.*

Note: Tables count injuries, not crashes.

Legend: Fem=Female; Tot=Total

Table 32

- ***59 percent of injuries occur in urban areas.***

*The ISP crash reporting process consists of several different records within the master crash file. In the preparation of the various tables and figures for the Crash Book, different record fields are used to create the various tables and figures. Table 1, where injuries are first reported, extracts its data from the environmental record file. Table 32 extracts its data from the driver record file, the pedestrian record file and the injured record file. In the completion of the crash form by the investigating officer (or it could be self-reported) and/or in the data entry process, differences in counts are the result of data entry and/or missing data. For example, the officer may have indicated that there were three people injured (in the environmental file) but details were only entered on two of the injured (injured file). In the case of 1998 data, there were five discrepancies.

Table 33. Age, Role and Gender for Serious Injuries by Locale–1998

		Vehicle[1]						Motorcycle[2]						Bicyclist			Pedestrian			Total[3] Serious Injuries			
		Driver			Passenger			Driver			Passenger												
	Age	Male	Fem	Tot[3]	Male	Fem	Tot[3]	Male	Fem	Tot[3]	Male	Fem	Tot[3]	Male	Fem	Tot[3]	Male	Fem	Tot[3]	Male	Fem	Tot[3]	
RURAL	0 - 3	0	0	0	14	11	25	0	0	0	0	0	0	0	0	0	0	0	0	14	11	25	
	4 - 12	2	1	3	55	45	101	1	0	1	2	0	2	11	2	13	11	3	14	82	51	134	
	13 - 15	12	3	15	55	61	117	9	1	10	2	1	3	11	1	12	7	4	11	96	71	168	
	16 - 17	115	87	202	73	66	139	7	0	7	0	0	0	0	1	1	4	1	5	199	155	354	
	18 - 20	187	86	274	83	56	139	12	0	12	0	3	3	0	0	0	3	1	4	285	146	432	
	21 - 24	176	76	252	52	36	88	17	0	17	1	1	2	0	0	0	6	4	10	252	117	369	
	25 - 34	308	185	493	58	68	126	42	4	46	0	5	5	4	0	4	15	1	16	427	263	690	
	35 - 44	275	141	417	23	40	63	70	5	75	0	5	5	1	1	2	10	3	13	379	195	575	
	45 - 54	163	94	257	23	38	61	34	2	36	0	2	2	1	1	2	1	1	2	222	138	360	
	55 - 64	100	44	144	5	24	29	8	0	8	0	1	1	1	0	1	2	1	3	116	70	186	
	65 - 69	35	25	60	6	16	22	5	0	5	0	0	0	0	1	1	1	1	2	47	43	90	
	70 - 74	28	24	52	5	13	18	3	0	3	0	0	0	0	0	0	1	0	1	37	37	74	
	75+	40	32	72	6	40	46	0	0	0	0	0	0	0	0	0	3	1	4	49	73	122	
	TOTAL	1,443	800	2,245	477	527	1,021	208	12	220	5	18	23	30	7	38	65	21	90	2,228	1,385	3,637	
URBAN	0 - 3	0	0	0	11	9	20	1	0	1	0	0	0	0	0	0	4	4	8	16	13	29	
	4 - 12	0	1	1	36	40	77	1	2	3	0	0	0	32	10	42	49	22	71	118	75	194	
	13 - 15	0	1	1	24	26	51	9	1	10	2	0	2	15	0	15	11	7	18	61	35	97	
	16 - 17	36	45	81	20	32	52	2	0	2	0	0	0	5	0	5	8	3	11	71	80	151	
	18 - 20	78	60	138	32	41	73	15	0	15	1	0	1	2	3	5	8	3	11	136	107	243	
	21 - 24	109	69	178	23	32	55	29	2	31	1	1	2	4	2	6	7	5	12	173	111	284	
	25 - 34	201	108	309	46	40	86	54	1	55	0	7	7	8	1	9	16	11	27	325	168	493	
	35 - 44	187	127	314	23	54	78	46	3	49	0	2	2	6	1	7	24	13	37	286	200	487	
	45 - 54	108	80	188	10	19	29	30	0	30	0	1	1	4	0	4	23	6	29	175	106	281	
	55 - 64	60	51	111	8	14	22	9	0	9	0	0	0	2	0	2	8	9	17	87	74	161	
	65 - 69	24	28	52	2	2	4	0	0	0	0	0	0	1	0	1	2	6	8	29	36	65	
	70 - 74	22	18	40	3	11	14	0	0	0	0	0	0	0	0	0	0	6	6	25	35	60	
	75+	41	29	70	4	25	29	1	0	1	0	0	0	0	0	0	1	6	7	47	60	107	
	TOTAL	868	621	1,491	252	364	631	197	9	206	4	11	15	84	17	106	168	103	275	1,573	1,125	2,724	

[1]Vehicle includes any motor vehicle except motorcycles, mopeds, motorized bicycles, motor scooters and minibikes.

[2]Motorcycle includes motorcycles, mopeds, motorized bicycles, motor scooters and minibikes.

[3]Totals include persons of unknown age and/or gender.

Note: Tables count serious injuries, not crashes.

Legend: Fem=Female; Tot=Total

Table 33

- ***57 percent of serious injuries occur in rural areas.***

Table 34. Percentage of Injuries that are Serious by Locale, Age, Role and Gender–1998

		Vehicle[1]						Motorcycle[2]						Bicyclist			Pedestrian			Total[3] Injuries			
		Driver			Passenger			Driver			Passenger												
	Age	Male	Fem	Tot[3]	Male	Fem	Tot[3]	Male	Fem	Tot[3]	Male	Fem	Tot[3]	Male	Fem	Tot[3]	Male	Fem	Tot[3]	Male	Fem	Tot[3]	
RURAL	0 - 3	0.0%	0.0%	0.0%	6.9%	4.9%	5.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.7%	4.9%	5.7%	
	4 - 12	20.0%	12.5%	16.7%	7.6%	5.8%	6.6%	20.0%	0.0%	16.7%	40.0%	0.0%	16.7%	23.9%	25.0%	24.1%	42.3%	18.8%	33.3%	10.0%	6.3%	8.1%	
	13 - 15	23.1%	11.1%	19.0%	12.7%	9.1%	10.5%	34.6%	20.0%	32.3%	66.7%	50.0%	60.0%	31.4%	16.7%	29.3%	30.4%	28.6%	29.7%	16.8%	9.8%	12.9%	
	16 - 17	10.0%	7.9%	9.0%	13.2%	10.7%	11.8%	38.9%	0.0%	38.9%	0.0%	0.0%	0.0%	0.0%	25.0%	7.7%	36.4%	20.0%	31.3%	11.4%	9.0%	10.2%	
	18 - 20	12.6%	8.3%	10.9%	16.3%	11.0%	13.5%	28.6%	0.0%	28.6%	0.0%	37.5%	27.3%	0.0%	0.0%	0.0%	25.0%	16.7%	22.2%	13.9%	9.4%	12.0%	
	21 - 24	14.2%	8.4%	11.7%	17.0%	12.4%	14.6%	21.5%	0.0%	21.5%	100.0%	33.3%	50.0%	0.0%	0.0%	0.0%	31.6%	50.0%	37.0%	15.3%	9.8%	12.9%	
	25 - 34	13.8%	10.2%	12.2%	14.4%	12.9%	13.2%	35.0%	28.6%	34.3%	0.0%	29.4%	26.3%	33.3%	0.0%	30.8%	45.5%	20.0%	42.1%	15.2%	11.1%	13.3%	
	35 - 44	14.8%	8.8%	12.1%	11.4%	9.3%	9.7%	45.8%	62.5%	46.6%	0.0%	35.7%	31.3%	12.5%	33.3%	18.2%	40.0%	25.0%	35.1%	16.8%	9.5%	13.3%	
	45 - 54	12.9%	9.0%	11.1%	18.9%	11.3%	13.0%	34.7%	40.0%	35.0%	0.0%	28.6%	28.6%	14.3%	100.0%	25.0%	9.1%	33.3%	14.3%	14.7%	9.9%	12.4%	
	55 - 64	14.6%	7.8%	11.5%	7.5%	9.5%	9.0%	22.2%	0.0%	22.2%	0.0%	50.0%	33.3%	16.7%	0.0%	16.7%	28.6%	33.3%	30.0%	14.4%	8.6%	11.5%	
	65 - 69	14.1%	14.3%	14.2%	21.4%	12.7%	14.2%	55.6%	0.0%	50.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%	33.3%	100.0%	50.0%	16.2%	14.1%	15.2%	
	70 - 74	14.1%	14.3%	14.2%	13.9%	14.4%	14.2%	60.0%	0.0%	60.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%	15.4%	14.3%	14.8%	
	75+	12.3%	12.4%	12.3%	15.0%	20.3%	19.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	50.0%	33.3%	44.4%	13.1%	15.9%	14.6%	
	TOTAL	**13.4%**	**9.2%**	**11.5%**	**12.5%**	**9.9%**	**9.2%**	**35.0%**	**35.3%**	**35.0%**	**27.8%**	**27.3%**	**26.4%**	**22.2%**	**24.1%**	**21.6%**	**34.9%**	**26.6%**	**31.7%**	**14.3%**	**9.8%**	**11.5%**	*
URBAN	0 - 3	0.0%	0.0%	0.0%	3.5%	3.1%	3.3%	100.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	13.3%	17.4%	15.1%	4.6%	4.2%	4.3%	
	4 - 12	0.0%	11.1%	5.9%	3.7%	3.3%	3.5%	20.0%	40.0%	30.0%	0.0%	0.0%	0.0%	12.3%	9.2%	11.4%	19.5%	16.1%	18.2%	7.9%	5.1%	6.5%	
	13 - 15	0.0%	3.7%	1.9%	6.2%	3.6%	4.6%	19.6%	10.0%	17.9%	18.2%	0.0%	15.4%	10.3%	0.0%	8.5%	19.3%	14.0%	16.7%	9.1%	4.2%	6.4%	
	16 - 17	4.5%	4.1%	4.3%	4.4%	4.2%	4.3%	7.1%	0.0%	6.3%	0.0%	0.0%	0.0%	9.3%	0.0%	7.7%	22.2%	12.0%	18.0%	5.1%	4.2%	4.6%	
	18 - 20	5.7%	3.5%	4.5%	6.3%	5.4%	5.7%	20.8%	0.0%	20.0%	25.0%	0.0%	10.0%	4.0%	21.4%	7.8%	17.8%	8.8%	13.6%	6.7%	4.2%	5.3%	
	21 - 24	8.1%	4.3%	6.0%	5.5%	5.4%	5.4%	22.3%	40.0%	22.8%	100.0%	14.3%	25.0%	10.0%	14.3%	11.1%	17.9%	15.2%	16.4%	8.7%	4.9%	6.7%	
	25 - 34	7.7%	3.5%	5.4%	8.2%	4.6%	6.0%	24.7%	12.5%	24.2%	0.0%	43.8%	43.8%	16.3%	11.1%	15.5%	18.6%	16.2%	17.4%	9.2%	4.2%	6.5%	
	35 - 44	8.0%	4.8%	6.3%	6.6%	7.3%	7.2%	26.4%	23.1%	26.1%	0.0%	22.2%	18.2%	10.2%	6.3%	9.2%	24.5%	21.7%	23.4%	9.5%	5.7%	7.5%	
	45 - 54	6.7%	4.3%	5.4%	4.6%	3.3%	3.6%	26.8%	0.0%	26.1%	0.0%	16.7%	14.3%	12.5%	0.0%	10.0%	37.7%	15.8%	29.0%	8.6%	4.2%	6.2%	
	55 - 64	6.5%	4.8%	5.6%	8.0%	3.6%	4.4%	22.0%	0.0%	22.0%	0.0%	0.0%	0.0%	18.2%	0.0%	12.5%	26.7%	24.3%	25.0%	7.8%	5.0%	6.2%	
	65 - 69	7.2%	8.1%	7.6%	6.3%	1.2%	1.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	50.0%	0.0%	50.0%	22.2%	40.0%	33.3%	7.5%	6.8%	7.1%	
	70 - 74	6.5%	5.8%	6.1%	7.7%	6.6%	6.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	42.9%	30.0%	6.4%	7.1%	6.7%	
	75+	8.6%	6.2%	7.4%	6.3%	8.3%	7.9%	100.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	11.1%	33.3%	25.9%	8.5%	7.6%	7.9%	
	TOTAL	**7.1%**	**4.4%**	**5.6%**	**5.4%**	**4.5%**	**4.1%**	**23.4%**	**17.6%**	**23.0%**	**14.3%**	**20.4%**	**17.6%**	**11.2%**	**7.7%**	**10.4%**	**21.5%**	**18.4%**	**19.7%**	**8.2%**	**4.9%**	**6.0%**	*

[1] *Vehicle includes any motor vehicle except motorcycles, mopeds, motorized bicycles, motor scooters and minibikes.*
[2] *Motorcycle includes motorcycles, mopeds, motorized bicycles, motor scooters and minibikes.*
[3] *Totals include persons of unknown age and/or gender.*
Note: Tables count injuries, not crashes.
Legend: Fem=Female; Tot=Total
Highlighting indicates over-represented results.

Table 34

In reviewing Table 34, because the table is presented as "percentages" and not as "actual numbers of serious injuries," caution has to be used when analyzing the data. For example, under "motorcycles" in urban areas, for male drivers between the ages of zero and three, 100 percent received serious injuries. This implies that for "all" male motorcycle drivers, age zero to three, involved in personal injury crashes in urban areas, all of the injuries were serious. In actuality, this statistic involves one driver who met all of the above criteria and he received serious injuries as the result of the crash.

Table 35. Crashes by Driver Age, Gender, and Crash Severity–1998

	Fatal Crashes			Personal Injury			Property Damage			Total Crashes*		
Age	**Male**	**Fem**	**Tot**	**Male**	**Fem**	**Tot**	**Male**	**Fem**	**Tot**	**Male**	**Fem**	**Tot**
<15	3	0	3	112	61	173	197	106	304	312	167	480
15	2	1	3	135	75	210	244	203	449	381	279	662
16	16	17	33	1,828	1,713	3,545	5,238	3,963	9,217	7,082	5,693	12,795
17	27	19	46	2,256	1,880	4,138	6,357	4,392	10,763	8,640	6,291	14,947
18	38	17	55	2,387	1,745	4,136	6,642	4,152	10,813	9,067	5,914	15,004
19	28	14	42	1,934	1,474	3,411	5,624	3,651	9,297	7,586	5,139	12,750
20	29	7	36	1,724	1,308	3,035	5,034	3,166	8,219	6,787	4,481	11,290
21	32	7	39	1,579	1,233	2,815	4,373	3,069	7,460	5,984	4,309	10,314
22	12	3	15	1,477	1,041	2,521	3,961	2,707	6,679	5,450	3,751	9,215
23	27	3	30	1,297	975	2,280	3,651	2,565	6,226	4,975	3,543	8,536
24	25	11	36	1,233	960	2,197	3,425	2,427	5,862	4,683	3,398	8,095
25-34	202	70	273	10,839	8,391	19,254	32,381	21,578	54,045	43,422	30,039	73,572
35-44	222	73	295	9,674	7,448	17,136	29,244	20,384	49,698	39,140	27,905	67,129
45-54	136	50	186	6,480	4,946	11,433	20,367	13,461	33,876	26,983	18,457	45,495
55-64	81	29	110	3,840	2,738	6,584	12,132	7,251	19,416	16,053	10,018	26,110
65-74	68	23	91	2,655	1,783	4,439	7,831	4,998	12,853	10,554	6,804	17,383
75-84	38	23	61	1,452	1,037	2,489	3,868	3,117	6,997	5,358	4,177	9,547
85+	14	2	16	321	244	565	848	637	1,491	1,183	883	2,072
Unknown	0	2	9	639	383	2,880	4,890	3,203	23,353	5,529	3,588	26,242
Total	**1,000**	**371**	**1,379**	**51,862**	**39,435**	**93,241**	**156,307**	**105,030**	**277,018**	**209,169**	**144,836**	**371,638**

**Total includes drivers whose gender is unknown.*

Note: Drivers of parked vehicles are excluded.

Legend: Fem=Female; Tot=Total

Table 35

- ***Males were the drivers in 73 percent of the fatal crashes. In the 20-23 age group, males were the drivers in 83 percent of the fatal crashes.***
- ***Males were the drivers in 56 percent of all crashes.***

Table 36. Crashes by Driver Age Group and Gender–1998

Age and Gender		All Crashes: Fatal Crashes	All Crashes: Personal Injury	All Crashes: Property Damage	All Crashes: Total Crashes	Alcohol-Related Crashes: Fatal Crashes	Alcohol-Related Crashes: Personal Injury	Alcohol-Related Crashes: Property Damage	Alcohol-Related Crashes: Total Crashes
		%	%	%	%	%	%	%	%
<21	Male	143	10,376	29,336	39,855	27	561	599	1,187
	% Total	*10.4%*	*11.1%*	*10.6%*	*10.7%*	*9.5%*	*9.0%*	*8.6%*	*8.8%*
	Female	75	8,256	19,633	27,964	7	227	211	445
	% Total	*5.4%*	*8.9%*	*7.1%*	*7.5%*	*2.5%*	*3.6%*	*3.0%*	*3.3%*
	Total	218	18,648	49,062	67,928	34	791	812	1,637
	% Total	*15.8%*	*20.0%*	*17.7%*	*18.3%*	*11.9%*	*12.7%*	*11.6%*	*12.1%*
21-34	Male	298	16,425	47,791	64,514	101	1,926	2,181	4,208
	% Total	*21.6%*	*17.6%*	*17.3%*	*17.4%*	*35.4%*	*30.9%*	*31.2%*	*31.1%*
	Female	94	12,600	32,346	45,040	19	671	630	1,320
	% Total	*6.8%*	*13.5%*	*11.7%*	*12.1%*	*6.7%*	*10.7%*	*9.0%*	*9.8%*
	Total	393	29,067	80,272	109,732	120	2,600	2,813	5,533
	% Total	*28.5%*	*31.2%*	*29.0%*	*29.5%*	*42.1%*	*41.7%*	*40.2%*	*40.9%*
35-54	Male	358	16,154	49,611	66,123	76	1,712	1,859	3,647
	% Total	*26.0%*	*17.3%*	*17.9%*	*17.8%*	*26.7%*	*27.4%*	*26.6%*	*27.0%*
	Female	123	12,394	33,845	46,362	25	565	649	1,239
	% Total	*8.9%*	*13.3%*	*12.2%*	*12.5%*	*8.8%*	*9.1%*	*9.3%*	*9.2%*
	Total	481	28,569	83,574	112,624	101	2,278	2,512	4,891
	% Total	*34.9%*	*30.6%*	*30.2%*	*30.3%*	*35.4%*	*36.5%*	*35.9%*	*36.2%*
55+	Male	201	8,907	29,569	38,677	26	398	536	960
	% Total	*14.6%*	*9.6%*	*10.7%*	*10.4%*	*9.1%*	*6.4%*	*7.7%*	*7.1%*
	Female	79	6,185	19,206	25,470	3	116	149	268
	% Total	*5.7%*	*6.6%*	*6.9%*	*6.9%*	*1.1%*	*1.9%*	*2.1%*	*2.0%*
	Total	287	16,957	64,110	81,354	30	573	852	1,455
	% Total	*20.8%*	*18.2%*	*23.1%*	*21.9%*	*10.5%*	*9.2%*	*12.2%*	*10.8%*
Total	Male	1,000	51,862	156,307	209,169	230	4,597	5,175	10,002
	% Total	*72.5%*	*55.6%*	*56.4%*	*56.3%*	*80.7%*	*73.6%*	*74.0%*	*74.0%*
	Female	371	39,435	105,030	144,836	54	1,579	1,639	3,272
	% Total	*26.9%*	*42.3%*	*37.9%*	*39.0%*	*18.9%*	*25.3%*	*23.5%*	*24.2%*
	Total	1,379	93,241	277,018	371,638	285	6,242	6,989	13,516
	% Total	*100.0%*	*100.0%*	*100.0%*	*100.0%*	*100.0%*	*100.0%*	*100.0%*	*100.0%*

Note: This report counts drivers, not crashes. Drivers of parked vehicles are excluded. Totals include drivers whose age or gender is unknown.
Example: Of all drivers involved in alcohol-related crashes in the State, 8.8% (1,187/13,516) were male drivers under the age of 21.
Also, of all drivers involved in fatal alcohol-related crashes, 9.5% (27/285) were male drivers under the age of 21.

Table 36

This table provides an analysis by gender, age groupings, and alcohol involvement. A bit of caution, however: for those drivers under the age of 21 involved in alcohol crashes, it is not known from this table if the young driver was under the influence of alcohol. A young driver could be involved in an alcohol-related crash where the other driver was the person actually under the influence of alcohol. But, the higher ratio of young male drivers involved in alcohol crashes as compared to the female drivers in the same age bracket could indicate that the young male driver is drinking and driving.

Young drivers, particularly male drivers, are over-represented in their frequency of crash involvement.

The involvement of male drivers (all ages) is higher in the most serious crashes (fatalities) than in less serious crashes (property damage).

- ***38.9 percent of male drivers (ages 21–34) involved in fatal crashes had alcohol involvement.***

Table 37. Crashes by Driver Age Group, Gender, and Time of Day–1998

		Time Period				
Age and Gender		**12-5:59 AM**	**6-11:59 AM**	**12-5:59 PM**	**6-11:59 PM**	**Total Crashes**
<21	Male	2,527	7,222	18,614	10,632	**39,855**
	% Total	*6.3%*	*18.1%*	*46.7%*	*26.7%*	
	Female	1,080	5,495	13,730	7,037	**27,964**
	%Total	*3.9%*	*19.7%*	*49.1%*	*25.2%*	
	Total	3,611	12,730	32,392	17,705	**67,928**
	% Total	*5.3%*	*18.7%*	*47.7%*	*26.1%*	
21-34	Male	5,760	15,037	28,135	14,260	**64,514**
	% Total	*8.9%*	*23.3%*	*43.6%*	*22.1%*	
	Female	2,079	11,577	21,701	8,704	**45,040**
	%Total	*4.6%*	*25.7%*	*48.2%*	*19.3%*	
	Total	7,848	26,667	49,908	23,001	**109,732**
	% Total	*7.2%*	*24.3%*	*45.5%*	*21.0%*	
35-54	Male	4,261	17,419	29,722	13,366	**66,123**
	% Total	*6.4%*	*26.3%*	*44.9%*	*20.2%*	
	Female	1,669	12,191	23,153	8,324	**46,362**
	%Total	*3.6%*	*26.3%*	*49.9%*	*18.0%*	
	Total	5,938	29,640	52,939	21,715	**112,624**
	% Total	*5.3%*	*26.3%*	*47.0%*	*19.3%*	
55+	Male	1,028	9,734	16,421	5,189	**33,148**
	% Total	*3.1%*	*29.4%*	*49.5%*	*15.7%*	
	Female	378	6,276	11,878	2,829	**21,882**
	%Total	*1.7%*	*28.7%*	*54.3%*	*12.9%*	
	Total	1,407	16,034	28,334	8,032	**55,112**
	% Total	*2.6%*	*29.1%*	*51.4%*	*14.6%*	
Total	Male	13,801	50,668	95,394	44,464	**209,169**
	% Total	*6.6%*	*24.2%*	*45.6%*	*21.3%*	
	Female	5,286	36,403	72,186	27,449	**144,836**
	%Total	*3.6%*	*25.1%*	*49.8%*	*19.0%*	
	Total	**21,025**	**90,507**	**173,690**	**76,289**	**371,638**
	% Total	*5.7%*	*24.4%*	*46.7%*	*20.5%*	

Note: This report counts drivers, not crashes. Drivers of parked vehicles are excluded. Totals include drivers whose age or gender is unknown.
Of all male drivers under age 21 involved in crashes in the state, 46.7% (18,614/39,855) were involved in crashes between 12 PM and 5:59 PM.

Table 37

- ***47 percent of crashes occur between noon and 6:00 PM.***
- ***Males are significantly over-represented in crashes occurring between midnight and 5:59 AM.***

Table 38. Percentage of Crashes by Driver Age and Time of Day–1998

Age	12:00 AM 2:59 AM	3:00 AM 5:59 AM	6:00 AM 8:59 AM	9:00 AM 11:59 AM	12:00 PM 2:59 PM	3:00 PM 5:59 PM	6:00 PM 8:59 PM	9:00 PM 11:59 PM	UNK
<16	3.9%	2.3%	6.4%	9.9%	18.1%	29.9%	17.8%	9.4%	2.3%
16-17	2.2%	0.7%	10.6%	8.0%	16.1%	33.0%	16.3%	10.8%	2.4%
18-20	4.4%	2.4%	8.7%	10.2%	18.4%	28.4%	15.3%	10.0%	2.3%
21-24	4.4%	3.9%	10.5%	11.3%	18.4%	26.7%	14.1%	8.5%	2.3%
25-29	3.5%	3.4%	12.8%	12.4%	18.7%	26.6%	13.3%	7.3%	2.1%
30-34	3.0%	3.1%	12.9%	13.0%	19.0%	27.2%	13.2%	6.4%	2.2%
35-54	2.4%	2.8%	12.9%	13.4%	19.5%	27.5%	13.3%	6.0%	2.2%
55-64	1.6%	2.1%	11.6%	16.8%	21.9%	27.3%	11.8%	4.8%	2.2%
65-69	1.0%	0.9%	8.7%	20.1%	25.2%	27.1%	10.6%	3.8%	2.6%
70-74	0.8%	0.8%	8.2%	22.0%	26.9%	25.5%	10.0%	3.3%	2.6%
75-79	0.6%	0.4%	6.9%	23.0%	27.3%	26.8%	9.5%	2.6%	2.9%
80+	0.6%	0.4%	6.2%	24.3%	29.3%	26.3%	7.5%	2.9%	2.6%
Unknown	4.9%	3.3%	9.6%	11.2%	15.8%	22.8%	13.1%	9.2%	10.3%
TOTAL	3.0%	2.6%	11.3%	13.1%	19.4%	27.4%	13.4%	7.1%	2.8%

Note: Highlighting indicates an area where there is over-representation.

Table 39. Percentage of Fatal Crashes by Driver Age and Time of Day–1998

Age	12:00 AM 2:59 AM	3:00 AM 5:59 AM	6:00 AM 8:59 AM	9:00 AM 11:59 AM	12:00 PM 2:59 PM	3:00 PM 5:59 PM	6:00 PM 8:59 PM	9:00 PM 11:59 PM	UNK
<16	0.0%	0.0%	16.7%	0.0%	33.3%	33.3%	0.0%	16.7%	0.0%
16-17	1.3%	5.1%	13.9%	7.6%	10.1%	22.8%	29.1%	10.1%	0.0%
18-20	10.5%	6.0%	9.8%	7.5%	12.0%	19.5%	16.5%	16.5%	1.5%
21-24	10.8%	19.2%	10.0%	6.7%	8.3%	12.5%	13.3%	16.7%	2.5%
25-29	9.4%	5.5%	13.4%	8.7%	4.7%	18.9%	17.3%	19.7%	2.4%
30-34	8.2%	8.2%	7.5%	9.6%	15.1%	19.9%	13.7%	16.4%	1.4%
35-54	7.5%	6.7%	10.2%	15.0%	15.4%	16.0%	16.4%	11.4%	1.5%
55-64	3.6%	2.7%	7.3%	19.1%	15.5%	22.7%	17.3%	10.0%	1.8%
65-69	0.0%	2.0%	13.7%	17.6%	19.6%	27.5%	15.7%	2.0%	2.0%
70-74	0.0%	5.0%	7.5%	15.0%	27.5%	17.5%	17.5%	7.5%	2.5%
75-79	6.3%	0.0%	9.4%	31.3%	18.8%	25.0%	9.4%	0.0%	0.0%
80+	0.0%	0.0%	8.9%	28.9%	24.4%	15.6%	20.0%	2.2%	0.0%
Unknown	11.1%	11.1%	0.0%	0.0%	0.0%	11.1%	33.3%	11.1%	22.2%
TOTAL	6.9%	6.7%	10.1%	13.1%	14.0%	18.3%	16.8%	12.5%	1.7%

Note: Highlighting indicates an area where there is over-representation.

Tables 38 and 39

Shaded areas are over-represented percentages for that age group. For example the 16-17 year driver has 33 percent of their crashes between 3:00 PM and 5:59 PM–not surprising because this is the time where these young drivers are leaving school.

The older drivers (65 and older) have their highest frequency of crashes between 9:00 AM and 2:59 PM, generally the high travel times for this age group.

Table 40. Driver Physical Status by Age–1998

Age	Normal	Had Been Drinking	Physical Handicaps	Illness	Fatigued	Asleep	Medication/ Drugs	Unknown	Total
<15	406	7	0	0	1	1	0	65	480
15	564	12	0	1	3	1	0	81	662
16	11,144	57	0	14	10	11	4	1,555	12,795
17	12,870	125	6	12	26	35	11	1,862	14,947
18	12,857	231	6	17	41	62	25	1,765	15,004
19	10,801	246	4	12	36	35	18	1,598	12,750
20	9,584	283	5	18	30	25	13	1,332	11,290
21	8,555	426	2	9	31	44	9	1,238	10,314
22	7,720	349	6	11	21	34	6	1,068	9,215
23	7,125	304	4	7	14	28	6	1,048	8,536
24	6,725	301	4	5	25	21	10	1,004	8,095
25-34	61,282	2,662	32	109	136	141	88	9,122	73,572
35-44	55,339	2,343	66	113	129	119	118	8,902	67,129
45-54	37,964	998	42	104	71	62	59	6,195	45,495
55-64	21,753	378	49	94	41	35	19	3,741	26,110
65-74	14,319	152	47	89	23	33	17	2,703	17,383
75-84	7,918	35	33	54	15	15	12	1,465	9,547
85+	1,711	17	17	11	3	3	3	307	2,072
Unknown	896	68	0	2	2	1	2	25,271	26,242
Total	**289,533**	**8,994**	**323**	**682**	**658**	**706**	**420**	**70,322**	**371,638**

Note: Drivers of parked vehicles are excluded.

Table 40

- ***Nearly 11 percent of the drivers involved in crashes that acknowledged they had been drinking were under 21 years old.***
- ***The 21–23 year old driver represents the largest groups of drinking prior to driving–nearly 5 percent.***

Table 41. Drivers in Crashes by Age Group and Severity–1998

Age	Number of Licensed Drivers	Percent of Total Drivers	Percent of Total Drivers in Crashes	Percent of Drivers in Age Group Involved in Crashes	Number of Drivers Involved in Crashes	Drivers in Fatal Crashes	Drivers in Injury Crashes	Drivers in Property Damage Crashes
<15	0	0.00%	0.110%	N/A	480	3	173	304
15	0	0.00%	0.178%	N/A	662	3	210	449
16	41,629	1.05%	3.44%	30.7%	12,795	33	3,545	9,217
17	62,098	1.56%	4.02%	24.1%	14,947	46	4,138	10,763
18	70,951	1.78%	4.04%	21.1%	15,004	55	4,136	10,813
19	72,734	1.83%	3.43%	17.5%	12,750	42	3,411	9,297
20	71,216	1.79%	3.04%	15.9%	11,290	36	3,035	8,219
21	68,252	1.72%	2.78%	15.1%	10,314	39	2,815	7,460
22	67,550	1.70%	2.48%	13.6%	9,215	15	2,521	6,679
23	69,929	1.76%	2.30%	12.2%	8,536	30	2,280	6,226
24	72,546	1.82%	2.18%	11.2%	8,095	36	2,197	5,862
25-34	743,027	18.69%	19.80%	9.9%	73,572	273	19,254	54,045
35-44	872,088	21.93%	18.06%	7.7%	67,129	295	17,136	49,698
45-54	731,198	18.39%	12.24%	6.2%	45,495	186	11,433	33,876
55-64	478,198	12.03%	7.03%	5.5%	26,110	110	6,584	19,416
65-74	348,770	8.77%	4.68%	5.0%	17,383	91	4,439	12,853
75+	205,889	5.18%	3.13%	5.6%	11,619	77	3,054	8,488
Unknown	0	0.00%	7.06%	N/A	26,242	9	2,880	23,353
Total	**3,976,075**				**371,638**	**1,379**	**93,241**	**277,018**

Legend: N/A=Not Applicable

Notes: Drivers of parked vehicles excluded.

Highlighting indicates an area where there is an over-representation.

Table 41

16–23 year old drivers are significantly over-represented in the number of crashes they are involved in when compared to the number of licensed drivers in each of these age categories.

- ***3 out of 10 16-year-old drivers will be involved in a crash during their first year of driving.***
- ***3 out of 4 drivers will be involved in a crash before they reach their 19th birthday.***

Table 42. Total Crashes and Fatal Crashes per Licensed Driver by Age–1998

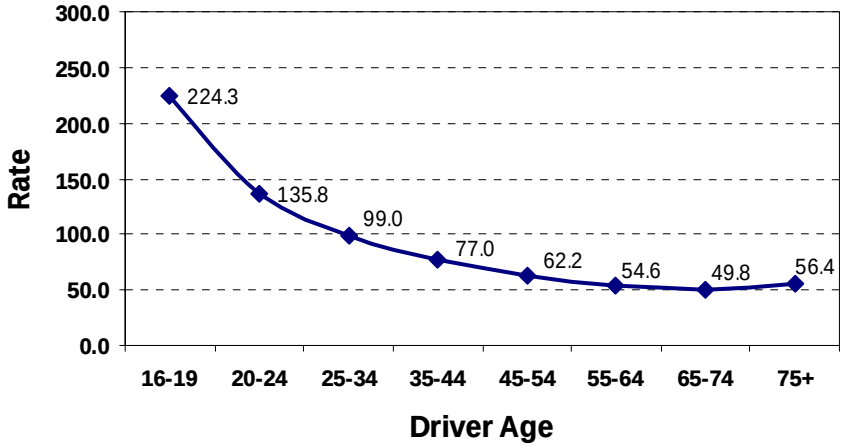
Age	Drivers in Fatal Crashes	% of Total Drivers in Fatal Crashes	Drivers in All Crashes	% of Total Drivers in All Crashes	Licensed Drivers	% of Licensed Drivers	Drivers in Fatal Crashes per 1,000 Licensed Drivers	Drivers in All Crashes per 1,000 Licensed Drivers
0-15	6	**0.4%**	1,142	**0.3%**	0	**0.0%**	N/A	**N/A**
16-19	176	**12.8%**	55,496	**14.9%**	247,412	**6.2%**	0.71	**224.3**
20-24	156	**11.3%**	47,450	**12.8%**	349,493	**8.8%**	0.45	**135.8**
25-34	273	**19.8%**	73,572	**19.8%**	743,027	**18.7%**	0.37	**99.0**
35-44	295	**21.4%**	67,129	**18.1%**	872,088	**21.9%**	0.34	**77.0**
45-54	186	**13.5%**	45,495	**12.2%**	731,198	**18.4%**	0.25	**62.2**
55-64	110	**8.0%**	26,110	**7.0%**	478,198	**12.0%**	0.23	**54.6**
65-74	91	**6.6%**	17,383	**4.7%**	348,770	**8.8%**	0.26	**49.8**
75+	77	**5.6%**	11,619	**3.1%**	205,889	**5.2%**	0.37	**56.4**
Unknown	9	**0.7%**	26,242	**7.1%**	0	**0.0%**	N/A	**N/A**
TOTAL	**1,379**	**100.0%**	**371,638**	**100.0%**	**3,976,075**	**100.0%**	**0.35**	**93.5**

Note: Drivers of parked vehicles are excluded.
Legend: N/A=Not Applicable

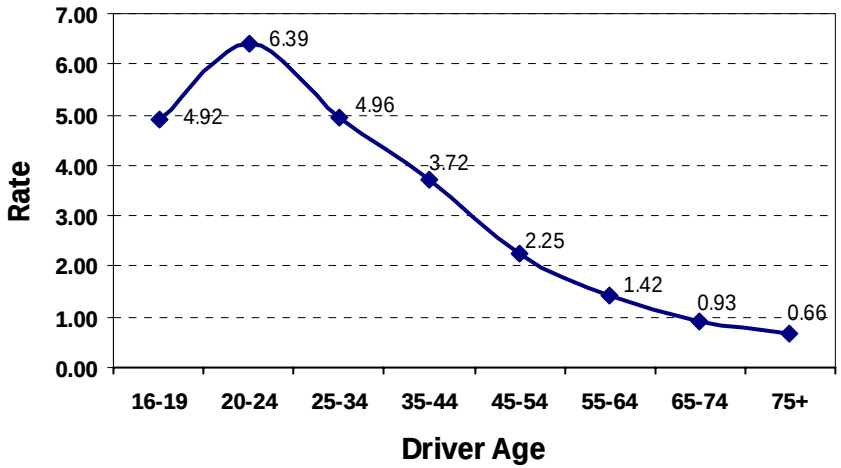
Table 42

- ***Drivers under 25 years old are significantly over-represented in fatal crashes.***
- ***With the exception of the 75+-year-old driver, involvement in crashes decreases with age.***

Figure 35. Crash Rates per 1,000 Licensed Drivers by Age Group–1998

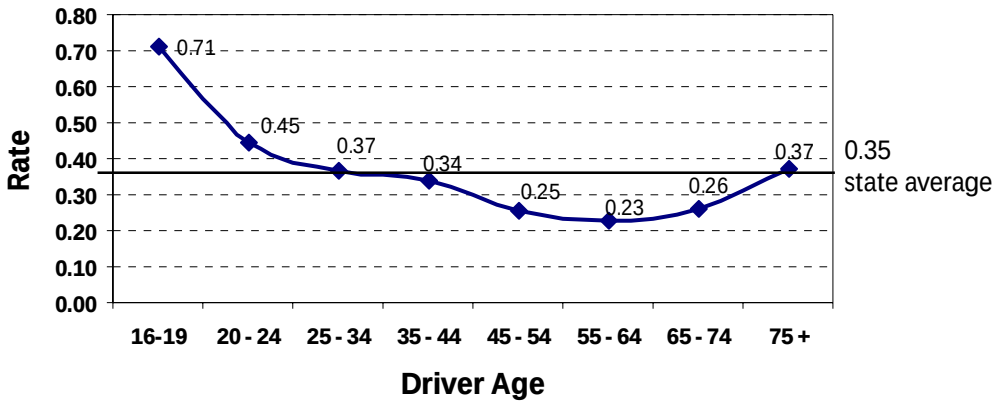


Total Crashes



Alcohol Crashes

Figure 36. Fatal Crashes per 1,000 Licensed Drivers by Age Group–1998



Fatal Crashes

Figures 35 and 36

For example, for every 1,000 licensed drivers between the ages of 16 and 19, there were approximately 224 crashes involving a driver between these ages. This does not imply, however, that the younger drivers were responsible for causing the crash. This compares to 49.8 drivers age 65-74 per 1,000 licensed drivers that were involved in a crash.

For fatal crashes, identifying the age groups above the State average indicates that age group is over-represented.

Table 43. In-State and Out-of-State Drivers in Indiana Crashes by Month–1998

	Indiana			Out-of-State			Unknown			Total		
Month	Ftly	Oth	Tot	Ftly	Oth	Tot	Ftly	Oth	Tot	Ftly	Oth	T
January	40	24,033	24,073	8	2,114	2,122	3	2,480	2,483	51	28,627	28
February	42	20,843	20,885	4	1,708	1,712	1	2,266	2,267	47	24,817	24
March	39	25,351	25,390	5	2,012	2,017	2	3,063	3,065	46	30,426	30
April	39	25,254	25,293	5	1,957	1,962	6	2,889	2,895	50	30,100	30
May	41	26,752	26,793	5	2,173	2,178	1	3,283	3,284	47	32,208	32
June	45	26,376	26,421	7	2,426	2,433	1	3,297	3,298	53	32,099	32
July	50	24,937	24,987	5	2,386	2,391	2	3,136	3,138	57	30,459	30
August	54	25,587	25,641	8	2,463	2,471	3	3,201	3,204	65	31,251	31
September	40	24,514	24,554	6	2,214	2,220	5	2,984	2,989	51	29,712	29
October	60	28,180	28,240	5	2,398	2,403	5	3,382	3,387	70	33,960	34
November	56	27,530	27,586	6	2,179	2,185	3	3,112	3,115	65	32,821	32
December	51	28,858	28,909	4	2,285	2,289	2	3,356	3,358	57	34,499	34
Total	557	308,215	308,772	68	26,315	26,383	34	36,449	36,483	659	370,979	371

Note: Drivers of parked vehicles are excluded.
Legend: Ftly=Fatalities; Oth=Other; Tot=Total

Table 43

- ***89 percent of the fatal crashes involved drivers holding an Indiana driver's license/permit.***

Figure 37. Pedestrian Fatalities by Year: 1982-1998

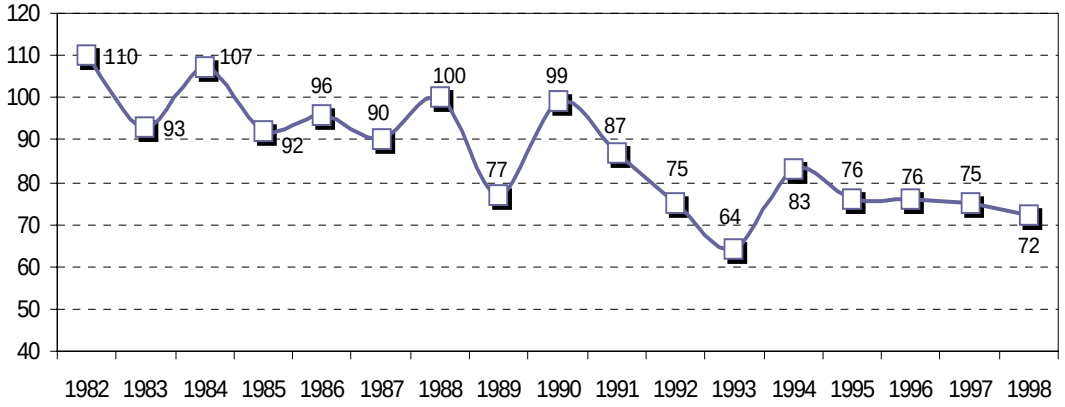


Figure 37

- *Pedestrian fatalities have remained flat since 1995.*

Table 44

- *The majority of crashes occurred during the late afternoon/early evening hours. The frequency was greater for weekdays rather than weekend days.*
- *The highest frequency of fatalities occurred during the early and late evening hours.*

Table 44. Crashes Involving Pedestrians by Time of Day and Day of Week–1998

	Sun		Mon		Tue		Wed		Thu		Fri		Sat		Total	
Time	**Ftl**	**Tot**	**Ftl**	**Tot**	**Ftl**	**Tot**	**Ftl**	**Tot**	**Ftl**	**Tot**	**Ftl**	**Tot**	**Ftl**	**Tot**	**Ftl**	**Tot**
midnight - 3am	1	21	0	2	3	13	2	13	0	6	1	10	0	25	7	90
3am - 6am	2	11	0	2	0	3	0	3	2	10	0	3	1	11	5	43
6am - 9am	1	6	0	27	1	36	0	34	1	44	0	44	0	10	3	201
9am - noon	0	20	0	24	1	30	0	28	1	38	1	41	1	37	4	218
noon - 3pm	0	36	1	52	0	44	1	45	0	51	1	60	1	64	4	352
3pm - 6pm	0	56	2	103	2	95	0	115	5	108	1	112	1	73	11	662
6pm - 9pm	3	57	2	88	4	72	6	91	4	66	1	84	3	52	23	510
9pm - midnight	1	20	3	28	3	23	1	25	1	28	3	36	5	50	17	210
Unknown	1	5	0	4	1	3	0	7	0	5	1	9	0	5	3	38
Total	**9**	**232**	**8**	**330**	**15**	**319**	**10**	**361**	**14**	**356**	**9**	**399**	**12**	**327**	**77**	**2,324**

See Glossary for definition of a pedestrian crash.
Table counts fatal crashes, not fatalities.
Legend: Ftl=Fatal; Tot=Total

Table 45. Crashes Involving Pedestrians by Month and Severity with Fatalities and Injuries by Rural/Urban Locale–1998

													Pedestrians						Non-Pedestrians					
	Fatal Crashes			Personal Injury			Property Damage			Total Crashes			Fatalities			Injuries			Fatalities			Injuries		
Month	Rur	Urb	Tot	Rur	Urb	Tot	Rur	Urb	Tot	Rur	Urb	Tot	Rur	Urb	Tot	Rur	Urb	Tot	Rur	Urb	Tot	Rur	Urb	Tot
January	3	5	8	23	100	123	1	16	17	27	121	148	3	5	8	24	99	123	0	0	0	4	10	14
February	1	4	5	21	87	108	3	14	17	25	105	130	0	2	2	17	89	106	0	1	1	3	1	4
March	4	3	7	22	119	141	6	20	26	32	142	174	4	3	7	16	105	121	0	0	0	2	6	8
April	2	4	6	31	151	182	10	20	30	43	175	218	2	4	6	31	120	151	0	0	0	2	1	3
May	1	4	5	31	173	204	4	21	25	36	198	234	1	4	5	25	142	167	0	0	0	0	6	6
June	3	3	6	28	149	177	5	18	23	36	170	206	2	3	5	24	114	138	1	0	1	0	8	8
July	7	2	9	36	151	187	9	14	23	52	167	219	7	2	9	27	128	155	0	0	0	1	7	8
August	3	2	5	29	159	188	2	18	20	34	179	213	3	2	5	22	126	148	0	0	0	1	8	9
September	3	5	8	33	159	192	3	25	28	39	189	228	3	4	7	30	120	150	0	0	0	6	6	12
October	5	1	6	18	145	163	7	17	24	30	163	193	5	1	6	16	130	146	0	0	0	1	6	7
November	3	1	4	33	128	161	7	14	21	43	143	186	3	1	4	30	111	141	0	0	0	7	3	10
December	3	5	8	21	115	136	10	21	31	34	141	175	3	5	8	22	114	136	0	0	0	3	9	12
Total	**38**	**39**	**77**	**326**	**1,636**	**1,962**	**67**	**218**	**285**	**431**	**1,893**	**2,324**	**36**	**36**	**72**	**284**	**1,398**	**1,682**	**1**	**1**	**2**	**30**	**71**	**101**

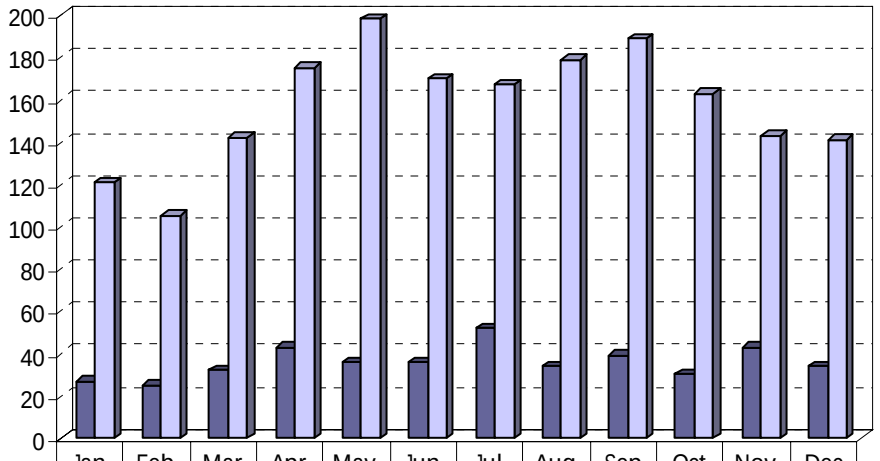
Note: Non-pedestrian includes all others involved in a pedestrian crash. See Glossary for definition of a pedestrian crash.

Legend: Rur=Rural; Urb=Urban; Tot=Total

Table 45

- ***While 83 percent of pedestrian injuries occurred in an urban environment, fatalities were equally divided between rural and urban areas in 1998. For the previous five years, 58 percent of the fatalities occurred in urban areas.***

Figure 38. Crashes Involving Pedestrians by Month–1998

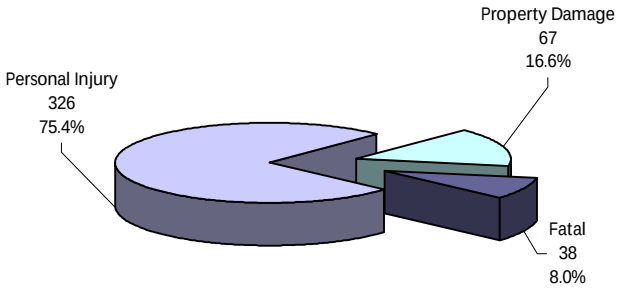


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Rural	27	25	32	43	36	36	52	34	39	30	43	34
Urban	121	105	142	175	198	170	167	179	189	163	143	141

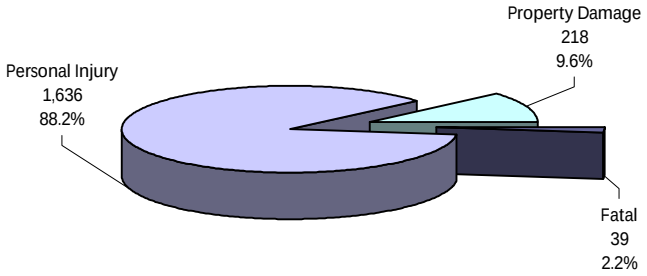
Figure 38

- *The warmer months of April-September saw the greatest number of crashes involving pedestrians.*

Figure 39. Crashes Involving Pedestrians by Severity–1998



Rural



Urban

Figure 39

- *Not surprising, the highest percentage of pedestrian involved crashes resulted in either an injury or a fatality.*

Table 46. Pedestrian Fatalities and Injuries by Age and Light Condition–1998

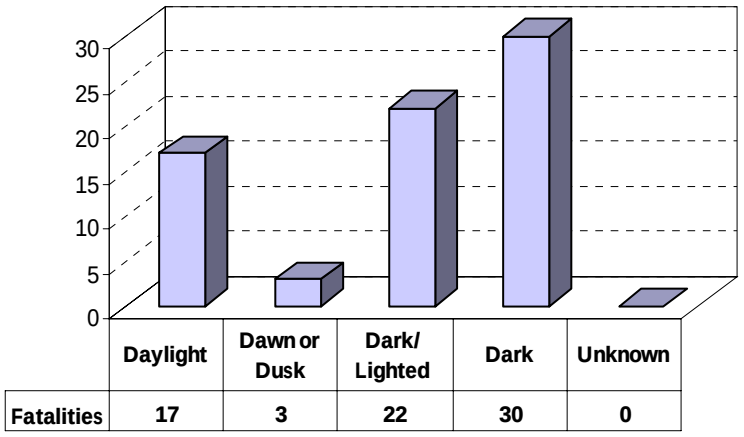
	Daylight		Dawn/ Dusk		Dark/ Lighted		Dark		Unknown		Totals		
Age	**Ftly**	**Inj**	**Ftly**	**Inj**	**Ftly**	**Inj**	**Ftly**	**Inj**	**Ftly**	**Inj**	**Ftly**	**Inj**	**Total**
0 - 4	2	67	0	8	1	13	2	1	0	0	5	89	**94**
5 - 9	2	226	0	24	0	18	0	5	0	4	2	277	**279**
10 - 14	2	168	0	6	0	43	1	7	0	1	3	225	**228**
15 - 19	1	99	1	12	3	52	2	25	0	0	7	188	**195**
20 - 24	0	53	0	4	0	44	1	28	0	3	1	132	**133**
25 - 34	1	95	0	12	4	67	4	17	0	2	9	193	**202**
35 - 44	2	95	2	8	7	67	6	25	0	0	17	195	**212**
45 - 54	1	69	0	4	4	31	3	10	0	0	8	114	**122**
55 - 64	1	52	0	3	1	17	5	6	0	0	7	78	**85**
65 - 74	1	39	0	1	0	6	4	3	0	0	5	49	**54**
75 - 84	0	24	0	1	1	4	2	1	0	1	3	31	**34**
85+	4	3	0	1	0	1	0	0	0	0	4	5	**9**
Unknown	0	63	0	10	1	17	0	14	0	2	1	106	**107**
Total	**17**	**1,053**	**3**	**94**	**22**	**380**	**30**	**142**	**0**	**13**	**72**	**1,682**	**1,754**

See Glossary for definition of a pedestrian crash.
Legend: Ftly=Fatalities; Inj=Injuries

Table 46

- ***Younger pedestrians (age 0 through 14) were fatally injured during daylight hours. Older pedestrians (age 20+) were fatally injured during non-daylight hours.***
- ***72.2 percent of fatalities occurred at night.***

Figure 40. Pedestrian Fatalities and Injuries by Light Conditions–1998



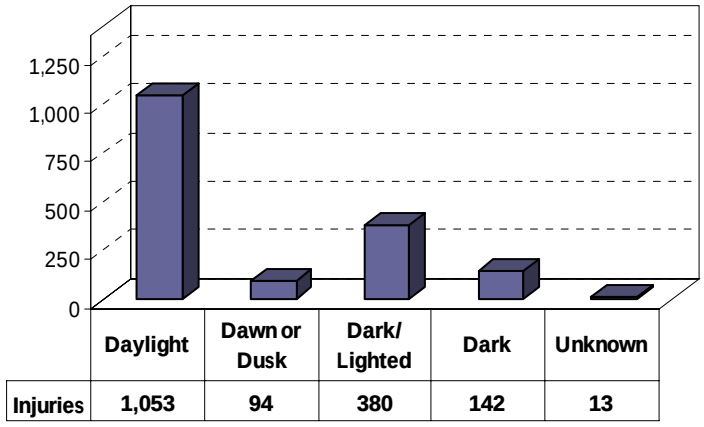


Figure 41. Crashes by Pedestrian Action–1998

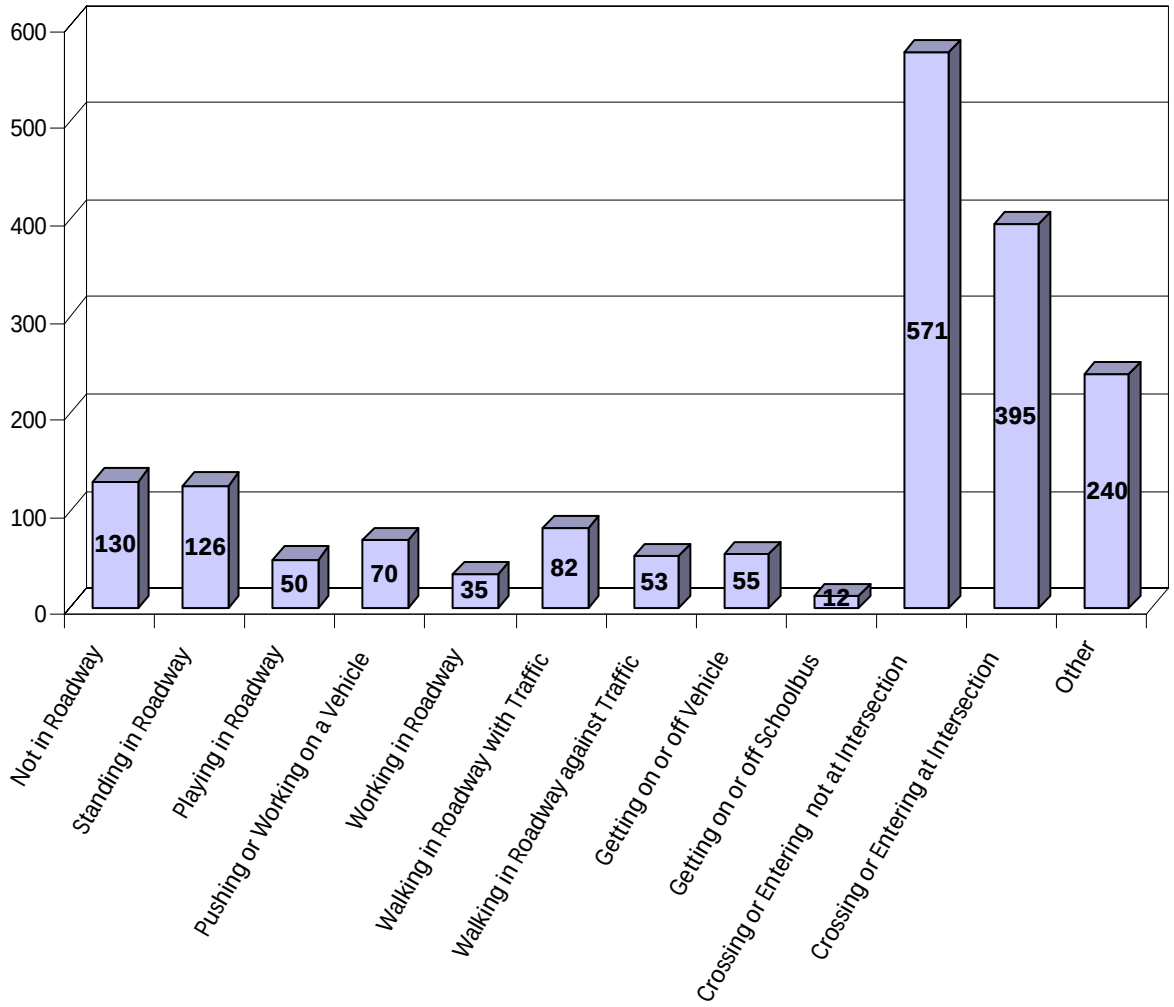


Figure 41

When investigating the actions surrounding a crash, the investigating officer looks for basic causes. Figure 41 displays the primary causes of pedestrian crashes. Of the known causes (excluding "other"), the number one cause was "jaywalking" – crossing a road where the driver of a vehicle does not expect to see a pedestrian. While the second largest occurrence of pedestrian injuries took place at an intersection, without further data, it is impossible to identify whether the driver or the pedestrian was at fault.

- ***The vast majority of injuries are the result of people crossing the street.***
- ***The largest cause of injuries are people attempting to cross the road, who were not at an intersection (571).***

- *Six of the fatalities were children, age 14 and under. In the previous five years, there were 4 children killed under the age of 15 during each year with the exception of 1993, which had 2 fatalities for the under 15 age group.*
- *The other 7 fatalities in 1998 compares age-wise (15+) to 7 (1993), 8 (1994), 10 (1995), 2 (1996), and 7 (1997).*

Figure 42. Bicyclist Fatalities by Year: 1982-1998

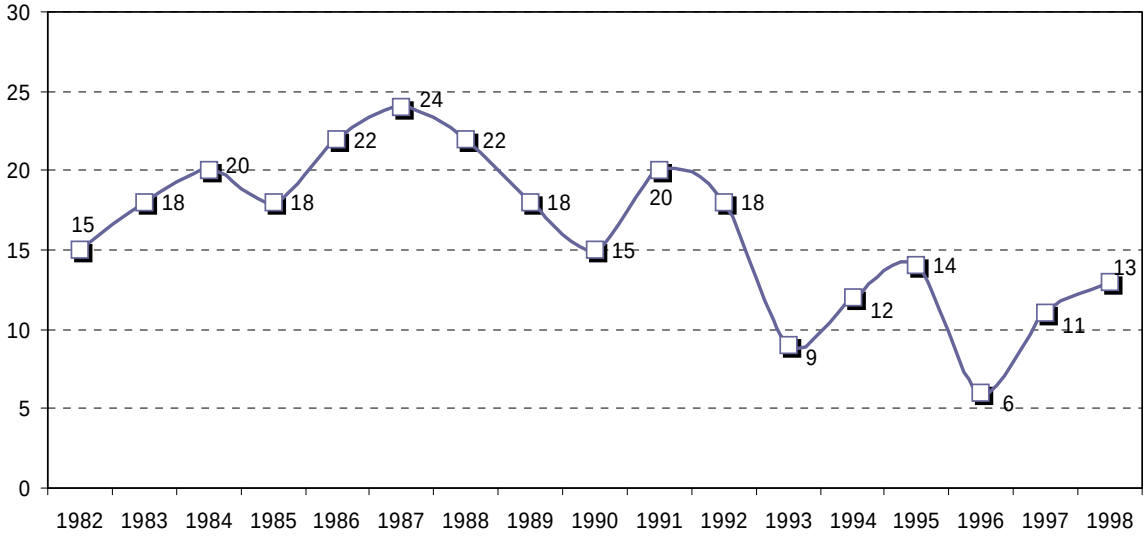


Table 47. Bicycle Crashes by Month and Severity by Rural/Urban Locale–1998

	Fatal Crashes			Personal Injury			Property Damage			Total Crashes			Bicyclists						Non-Bicyclists					
													Fatalities			Injuries			Fatalities			Injuries		
Month	Rur	Urb	Tot	Rur	Urb	Tot	Rur	Urb	Tot	Rur	Urb	Tot	Rur	Urb	Tot	Rur	Urb	Tot	Rur	Urb	Tot	Rur	Urb	Tot
January	1	0	**1**	4	24	**28**	1	6	**7**	6	30	**36**	0	0	**0**	1	20	**21**	1	0	1	3	4	7
February	0	0	**0**	8	26	**34**	0	8	**8**	8	34	**42**	0	0	**0**	6	21	**27**	0	0	0	2	5	7
March	0	0	**0**	11	45	**56**	3	3	**6**	14	48	**62**	0	0	**0**	9	39	**48**	0	0	0	2	7	9
April	1	1	**2**	15	89	**104**	4	7	**11**	20	97	**117**	1	1	**2**	10	79	**89**	0	0	0	6	13	19
May	1	0	**1**	24	119	**143**	6	12	**18**	31	131	**162**	1	0	**1**	18	109	**127**	0	0	0	7	15	22
June	0	1	**1**	20	162	**182**	5	13	**18**	25	176	**201**	0	1	**1**	19	154	**173**	0	0	0	2	14	16
July	2	1	**3**	50	162	**212**	2	27	**29**	54	190	**244**	2	1	**3**	45	152	**197**	0	0	0	10	16	26
August	0	2	**2**	27	164	**191**	0	15	**15**	27	181	**208**	0	2	**2**	26	155	**181**	0	0	0	4	15	19
September	0	1	**1**	27	148	**175**	6	17	**23**	33	166	**199**	0	1	**1**	23	140	**163**	0	0	0	5	13	18
October	0	2	**2**	13	83	**96**	5	17	**22**	18	102	**120**	0	2	**2**	11	74	**85**	0	0	0	2	13	15
November	1	0	**1**	6	58	**64**	3	17	**20**	10	75	**85**	1	0	**1**	4	54	**58**	0	0	0	2	5	7
December	0	0	**0**	5	28	**33**	2	4	**6**	7	32	**39**	0	0	**0**	4	26	**30**	0	0	0	1	4	5
Total	**6**	**8**	**14**	**210**	**1,108**	**1,318**	**37**	**146**	**183**	**253**	**1,262**	**1,515**	**5**	**8**	**13**	**176**	**1,023**	**1,199**	**1**	**0**	**1**	**46**	**124**	**170**

Legend: Rur=Rural; Urb=Urban; Tot=Total
See glossary for the definition of a bicycle crash.

Figure 43. Bicycle Crashes by Month by Rural/Urban Locale–1998

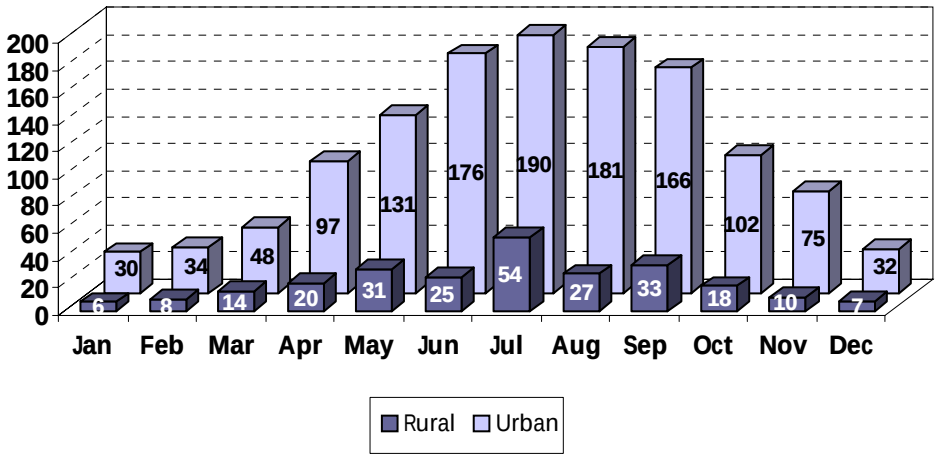


Table 47

- *57 percent of the bicyclist fatalities occurred in urban areas, as well as 84 percent of the injuries.*
- *Not surprising, 88 percent of all crashes involving a bicyclist resulted in either personal injury or a fatality.*
- *The last 4 years have seen a greater number of bicyclists' fatalities occurring in an urban environment.*

Table 48

- *47 percent of bicyclist crashes occurred between the hours of 3:00 PM and 7:00 PM.*
- *The 1,515 crashes represented an 8.0 percent increase over 1997, a 13.3 percent increase over 1996, and the highest number since 1993 (1,525).*

Table 48. Bicyclist Crashes by Time of Day and Day of Week–1998

Time	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Total
midnight - 1am	0	0	0	1	1	3	3	8
1 - 2 am	3	0	1	0	0	1	1	6
2 - 3 am	0	0	1	0	0	0	0	1
3 - 4 am	3	0	0	1	1	0	0	5
4 - 5 am	1	0	1	0	2	0	1	5
5 - 6 am	0	0	1	3	2	1	0	7
6 - 7 am	1	1	6	1	4	4	1	18
7 - 8 am	1	9	7	7	3	8	1	36
8 - 9 am	3	3	5	6	6	6	4	33
9 - 10 am	4	1	4	9	6	6	4	34
10 - 11 am	3	4	8	5	5	7	14	46
11 - noon	8	8	5	10	8	12	12	63
noon - 1 pm	2	14	6	13	6	15	11	67
1 - 2 pm	16	12	7	13	12	17	15	92
2 - 3 pm	8	21	13	9	16	28	19	114
3 - 4 pm	16	26	43	33	26	28	15	187
4 - 5 pm	17	24	31	28	21	26	14	161
5 - 6 pm	13	33	36	31	32	39	14	198
6 - 7 pm	17	27	34	28	23	22	20	171
7 - 8 pm	13	13	15	18	6	15	9	89
8 - 9 pm	9	11	13	11	11	14	4	73
9 - 10 pm	1	3	6	5	4	6	7	32
10 - 11 pm	1	4	8	1	3	8	4	29
11 - midnight	0	2	1	1	4	6	3	17
Unknown	1	2	4	4	2	8	2	23
Total	**141**	**218**	**256**	**238**	**204**	**280**	**178**	**1,515**

See Glossary for the definition of a bicycle crash.

Table 49. Bicyclist Fatalities or Injuries by Age, Gender and Injury Severity–1998

	Fatalities			Serious Injuries			Moderate Injuries			Other Injuries			Possible Injuries			Total		
Age	Male	Fem	Tot*	Male	Fem	Tot*	Male	Fem	Tot*	Male	Fem	Tot*	Male	Fem	Tot*	Male	Fem	T
0 - 4	0	0	0	2	1	3	5	2	7	3	0	3	0	0	1	10	3	
5 - 9	2	1	3	20	4	24	76	32	108	48	14	62	1	3	4	147	54	
10 - 14	2	1	3	43	8	51	133	42	176	114	36	151	4	2	6	296	89	
15 - 19	0	0	0	17	4	21	83	11	94	45	16	61	2	0	2	147	31	
20 - 24	0	0	0	5	3	8	25	7	32	22	10	32	0	1	1	52	21	
25 - 34	1	0	1	12	1	13	20	5	25	27	4	31	2	0	2	62	10	
35 - 44	2	0	2	7	2	9	31	5	36	27	11	39	2	1	3	69	19	
45 - 54	1	0	1	5	1	6	15	5	20	19	3	22	0	0	0	40	9	
55 - 64	0	0	0	3	0	3	9	3	12	5	2	7	0	0	0	17	5	
65 - 74	0	0	0	1	1	2	3	0	3	1	1	2	1	0	1	6	2	
75 - 84	3	0	3	0	0	0	4	0	4	0	0	0	0	0	0	7	0	
85+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Unknown	0	0	0	6	0	12	23	7	59	14	2	31	0	1	10	43	10	
Total*	**11**	**2**	**13**	**121**	**25**	**152**	**427**	**119**	**576**	**325**	**99**	**441**	**12**	**8**	**30**	**896**	**253**	**1**

**Totals includes persons whose age and./or gender is unknown.*

Legend: Fem=Female; Tot=Total.

See Glossary for the definition of a bicycle crash.

Table 49

- ***Children under the age of 15 were involved in 50 percent of the injury/ fatality bicycle crashes.***
- ***The injury ratio for males to females is 3.5 to 1.***
- ***Injuries increased by 11.5 percent over 1997, 7.6 percent versus 1996, but were lower than the 3 prior years.***

Table 50

Tables 50 through 53 and Figures 44 and 45 have been developed from data drawn from crashes. The investigating officer, either through an interview or observations, determines whether the vehicle occupants were wearing safety belts, and if so, were they being worn correctly. Tables 54 through 57 and figure 46 are based upon observational data gathered in September 1999 throughout Indiana.

- ***Only one out of four occupants fatally injured in a crash was wearing a lap and shoulder belt combination.***

Table 50. Fatalities by Restraint Usage–1998

Type of Restraint	Driver		Passenger		Unknown		Total	
	Count	Percent	Count	Percent	Count	Percent	Count	Percent
Child Safety Seat	N/A	N/A	5	2.3%	0	0.0%	**5**	**0.6%**
Child Safety Seat Improperly Used	N/A	N/A	0	0.0%	0	0.0%	**0**	**0.0%**
Shoulder Belt	1	0.2%	1	0.5%	0	0.0%	**2**	**0.2%**
Lap and Shoulder Belt	164	27.4%	49	22.6%	0	0.0%	**213**	**25.8%**
Lap Belt	15	2.5%	16	7.4%	0	0.0%	**31**	**3.7%**
Safety Belt Improperly Used	0	0.0%	0	0.0%	0	0.0%	**0**	**0.0%**
Restraint Used - Type Unknown	6	1.0%	0	0.0%	0	0.0%	**6**	**0.7%**
None Used or Not Applicable	354	59.1%	131	60.4%	9	81.8%	**494**	**59.7%**
Unknown	59	9.8%	15	6.9%	2	18.2%	**76**	**9.2%**
Subtotal	**599**		**217**		**11**		**827**	
Motorcyclist, mopeds, minibikes, buggies, motorscooters, and all terrain vehicles							**67**	
Pedestrians and Bicyclists							**85**	
Total							**979**	

Source: Fatality Analysis Reporting System, NHTSA

Example: During 1998, 164 of 599 or 27.4% of the driver fatalities were restrained by both lap and shoulder belts.

Figure 44. Fatalities by Restraint Usage–1998

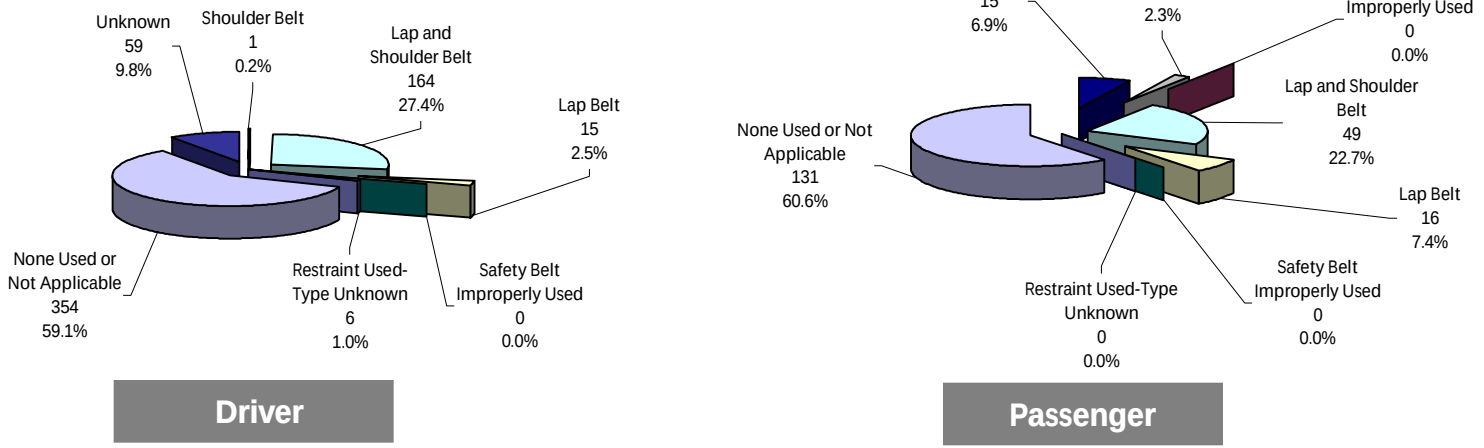


Table 51. Drivers by Age and Restraint Usage–1998

	Fatal Injuries							Serious Injuries						
	No Restraint Used		Unknown		Restraint Used			No Restraint Used		Unknown		Restraint Used		
Age	Count	Percent	Count	Percent	Count	Percent	Total	Count	Percent	Count	Percent	Count	Percent	Total
<21	121	65.4%	10	5.4%	54	29.2%	185	799	53.7%	62	4.2%	628	42.2%	1,489
21-34	138	67.0%	16	7.8%	52	25.2%	206	818	52.0%	91	5.8%	665	42.2%	1,574
35-54	131	62.7%	19	9.1%	59	28.2%	209	612	44.1%	74	5.3%	701	50.5%	1,387
55+	105	49.1%	16	7.5%	93	43.5%	214	258	33.1%	36	4.6%	485	62.3%	779
Unknown	3	60.0%	0	0.0%	2	40.0%	5	40	47.1%	4	4.7%	41	48.2%	85
Total	**498**	**60.8%**	**61**	**7.4%**	**260**	**31.7%**	**819**	**2,527**	**47.6%**	**267**	**5.0%**	**2,520**	**47.4%**	**5,314**

Source: Fatality Analysis Reporting System, NHTSA

Note: Motorcycles, mopeds, motorbikes, minibikes, and motor scooters are excluded. Drivers of parked vehicles excluded.

Example: For occupants under age 21 who were fatally injured, 54 of 185, or 29.2% were restrained.

A small number of injured people cannot be accounted for due to the fact that they cannot be linked to a vehicle type in the original dataset.

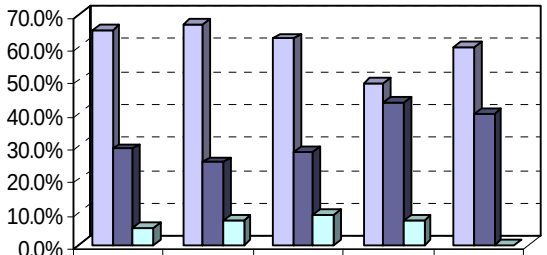
	Moderate Injuries						
	No Restraint Used		Unknown		Restraint Used		
Age	Count	Percent	Count	Percent	Count	Percent	Total
<21	2,632	39.7%	189	2.9%	3,804	57.4%	6,625
21-34	1,899	40.7%	202	4.3%	2,561	54.9%	4,662
35-54	1,247	34.1%	131	3.6%	2,284	62.4%	3,662
55+	530	24.7%	80	3.7%	1,534	71.5%	2,144
Unknown	158	42.0%	24	6.4%	194	51.6%	376
TOTAL	**6,466**	**37.0%**	**626**	**3.6%**	**10,377**	**59.4%**	**17,469**

Table 51

The convincing fact is that the usage of safety belts increased as the severity of injuries decreased for all age categories of drivers involved in crashes. Only 31.7 percent of fatally injured drivers were belted versus 47.4 percent that sustained serious injuries, and 59.4 percent who sustained only moderate injuries.

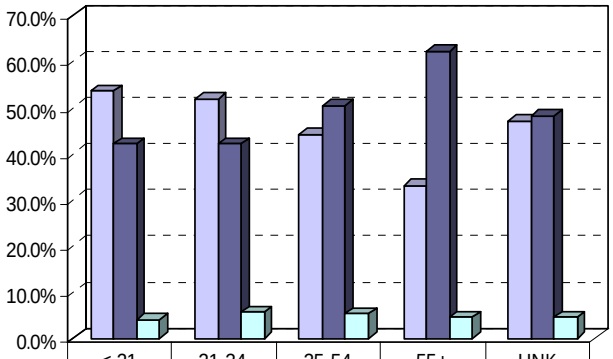
Figure 45. Drivers by Age and Restraint Usage–1998

Restraint Usage for Occupant Fatalities



	< 21	21-34	35-54	55+	UNK
None Used	65.4%	67.0%	62.7%	49.1%	60.0%
Restrained	29.2%	25.2%	28.2%	43.5%	40.0%
Unknown	5.4%	7.8%	9.1%	7.5%	0.0%

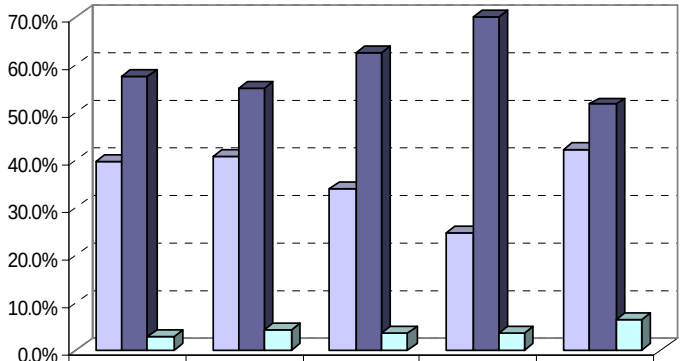
Restraint Usage for Occupants Sustaining Serious Injuries



	< 21	21-34	35-54	55+	UNK
None Used	53.7%	52.0%	44.1%	33.1%	47.1%
Restrained	42.2%	42.2%	50.5%	62.3%	48.2%
Unknown	4.2%	5.8%	5.3%	4.6%	4.7%

Legend: UNK=Unknown
A small number of injured people cannot be accounted for due to the fact that they cannot be linked to a vehicle type in the original dataset.

Restraint Usage for Occupants Sustaining Moderate Injuries



	< 21	21-34	35-54	55+	UNK
None Used	39.7%	40.7%	34.1%	24.7%	42.0%
Restrained	57.4%	54.9%	62.4%	71.5%	51.6%
Unknown	2.9%	4.3%	3.6%	3.7%	6.4%

Figure 45

Figure 45 shows the impact of safety belt usage by age categories. Notice that only 29.2 percent of the fatally injured drivers under the age of 21 were belted versus 42.2 percent of that same age group sustaining serious injuries, and 57.4 percent (under 21) sustaining moderate injuries.

Table 52. Driver Safety Restraint Usage for all Crashes by Age and Gender: 1994-1998

State Summary

Age and Gender	1994			1995			1996			1997			1998		
	Yes	No	Unk	Yes	No	Unk	Yes	No	Unk	Yes	No	Unk	Yes	No	Unk
<21 Male	19,201	5,647	12,663	22,260	6,117	13,947	21,514	5,168	11,541	22,068	5,083	11,021	24,100	4,344	11,073
%	*51.2%*	*15.1%*	*33.8%*	*52.6%*	*14.5%*	*33.0%*	*56.3%*	*13.5%*	*30.2%*	*57.8%*	*13.3%*	*28.9%*	*61.0%*	*11.0%*	*28.0%*
Female	14,491	2,796	8,462	17,159	2,730	9,332	16,675	2,269	7,864	17,612	2,575	7,808	18,443	2,063	7,420
%	*56.3%*	*10.9%*	*32.9%*	*58.7%*	*9.3%*	*31.9%*	*62.2%*	*8.5%*	*29.3%*	*62.9%*	*9.2%*	*27.9%*	*66.0%*	*7.4%*	*26.6%*
Sub-total*	33,709	8,449	21,168	39,439	8,851	23,343	38,211	7,446	19,465	39,712	7,668	18,871	42,577	6,413	18,562
%	*53.2%*	*13.3%*	*33.4%*	*55.1%*	*12.4%*	*32.6%*	*58.7%*	*11.4%*	*29.9%*	*59.9%*	*11.6%*	*28.5%*	*63.0%*	*9.5%*	*27.5%*
21-34 Male	38,395	9,387	23,475	42,296	9,083	23,556	40,443	8,041	19,920	39,941	7,403	18,352	40,483	6,531	16,762
%	*53.9%*	*13.2%*	*32.9%*	*56.4%*	*12.1%*	*31.4%*	*59.1%*	*11.8%*	*29.1%*	*60.8%*	*11.3%*	*27.9%*	*63.5%*	*10.2%*	*26.3%*
Female	28,717	3,926	16,181	31,834	3,852	16,683	30,434	3,121	13,809	31,006	3,361	12,928	30,686	2,655	11,662
%	*58.8%*	*8.0%*	*33.1%*	*60.8%*	*7.4%*	*31.9%*	*64.3%*	*6.6%*	*29.2%*	*65.6%*	*7.1%*	*27.3%*	*68.2%*	*5.9%*	*25.9%*
Sub-total*	67,151	13,321	39,744	74,187	12,949	40,334	70,924	11,170	33,838	71,010	10,778	31,384	71,244	9,203	28,509
%	*55.9%*	*11.1%*	*33.1%*	*58.2%*	*10.2%*	*31.6%*	*61.2%*	*9.6%*	*29.2%*	*62.7%*	*9.5%*	*27.7%*	*65.4%*	*8.4%*	*26.2%*
35-54 Male	35,000	6,458	21,497	39,620	6,492	22,393	39,444	5,620	19,500	40,619	5,708	18,627	42,387	5,252	17,767
%	*55.6%*	*10.3%*	*34.1%*	*57.8%*	*9.5%*	*32.7%*	*61.1%*	*8.7%*	*30.2%*	*62.5%*	*8.8%*	*28.7%*	*64.8%*	*8.0%*	*27.2%*
Female	25,697	2,505	15,031	30,017	2,631	15,913	29,768	2,242	13,682	31,129	2,540	13,636	31,430	2,189	12,706
%	*59.4%*	*5.8%*	*34.8%*	*61.8%*	*5.4%*	*32.8%*	*65.1%*	*4.9%*	*29.9%*	*65.8%*	*5.4%*	*28.8%*	*67.8%*	*4.7%*	*27.4%*
Sub-total*	60,742	8,969	36,618	69,686	9,127	38,396	69,257	7,870	33,274	71,810	8,250	32,363	73,860	7,448	30,561
%	*57.1%*	*8.4%*	*34.4%*	*59.5%*	*7.8%*	*32.8%*	*62.7%*	*7.1%*	*30.1%*	*63.9%*	*7.3%*	*28.8%*	*66.0%*	*6.7%*	*27.3%*
55+ Male	17,443	2,964	11,914	19,840	2,988	12,530	19,554	2,588	10,499	19,798	2,452	9,988	21,046	2,297	9,679
%	*54.0%*	*9.2%*	*36.9%*	*56.1%*	*8.5%*	*35.4%*	*59.9%*	*7.9%*	*32.2%*	*61.4%*	*7.6%*	*31.0%*	*63.7%*	*7.0%*	*29.3%*
Female	12,012	1,112	7,980	13,357	1,095	8,347	12,912	876	6,763	13,770	1,033	6,680	14,552	825	6,504
%	*56.9%*	*5.3%*	*37.8%*	*58.6%*	*4.8%*	*36.6%*	*62.8%*	*4.3%*	*32.9%*	*64.1%*	*4.8%*	*31.1%*	*66.5%*	*3.8%*	*29.7%*
Sub-total*	29,469	4,079	19,950	33,211	4,086	20,939	32,486	3,466	17,327	33,600	3,491	16,718	35,619	3,125	16,241
%	*55.1%*	*7.6%*	*37.3%*	*57.0%*	*7.0%*	*36.0%*	*61.0%*	*6.5%*	*32.5%*	*62.4%*	*6.5%*	*31.1%*	*64.8%*	*5.7%*	*29.5%*

**Sub-total includes persons whose gender is unknown.*
Legend: Unk=Unknown Restraint Use
Note: Drivers of parked vehicles are excluded. Motorcycles, mopeds, minibikes and motor scooters are excluded.
Source: ISP Crash Data

Table 52

Safety belt usage has gradually increased for all age groups (of drivers) and both genders that were involved in a crash. Usage rates have generally increased by 8-10 percent between 1994 and 1998.

Table 53. Occupant Safety Restraint Usage in Crashes by Injury Severity: 1994-1998

Severity of Injury	1994			1995			1996			1997			1998		
	Yes	No	Unk	Yes	No	Unk	Yes	No	Unk	Yes	No	Unk	Yes	No	Unk
Fatal	224	524	61	227	504	68	244	523	64	217	508	77	262	558	67
% of Fatalities	*27.7%*	*64.8%*	*7.5%*	*28.4%*	*63.1%*	*8.5%*	*29.4%*	*62.9%*	*7.7%*	*27.1%*	*63.3%*	*9.6%*	*29.5%*	*62.9%*	*7.6%*
Serious	2,257	2,963	373	2,474	3,018	361	2,463	2,806	296	2,434	2,803	317	2,525	2,912	356
% of Serious Injuries	*40.4%*	*53.0%*	*6.7%*	*42.3%*	*51.6%*	*6.2%*	*44.3%*	*50.4%*	*5.3%*	*43.8%*	*50.5%*	*5.7%*	*43.6%*	*50.3%*	*6.1%*
Moderate	9,260	8,391	921	9,843	8,599	844	9,557	7,682	728	9,911	7,376	705	10,384	7,139	783
% of Moderate Injuries	*49.9%*	*45.2%*	*5.0%*	*51.0%*	*44.6%*	*4.4%*	*53.2%*	*42.8%*	*4.1%*	*55.1%*	*41.0%*	*3.9%*	*56.7%*	*39.0%*	*4.3%*
Other Injuries	29,609	10,454	1,935	31,926	10,734	1,989	31,630	9,526	1,772	33,071	9,373	1,671	34,338	8,462	1,462
% of Other Injuries	*70.5%*	*24.9%*	*4.6%*	*71.5%*	*24.0%*	*4.5%*	*73.7%*	*22.2%*	*4.1%*	*75.0%*	*21.2%*	*3.8%*	*77.6%*	*19.1%*	*3.3%*
Total Restraint Use	41,350	22,332	3,290	44,470	22,855	3,262	43,894	20,537	2,860	45,633	20,060	2,770	48,596	19,374	2,988
% of Total Occupants	*61.7%*	*33.3%*	*4.9%*	*63.0%*	*32.4%*	*4.6%*	*65.2%*	*30.5%*	*4.3%*	*66.7%*	*29.3%*	*4.0%*	*68.5%*	*27.3%*	*4.2%*

Example: In 1998 in the State, 62.9% [558/(558+262+67)] of occupants in fatal crashes were not restrained.

Overall in 1998, 68.5% of occupants involved in crashes used restraints.

Note: Drivers of parked vehicles are excluded. Motorcyclists, mopeds, motor scooters, minibikes and motorbikes are excluded.

A small number of injured people cannot be accounted for due to the fact that they cannot be linked to a vehicle type in the original dataset.

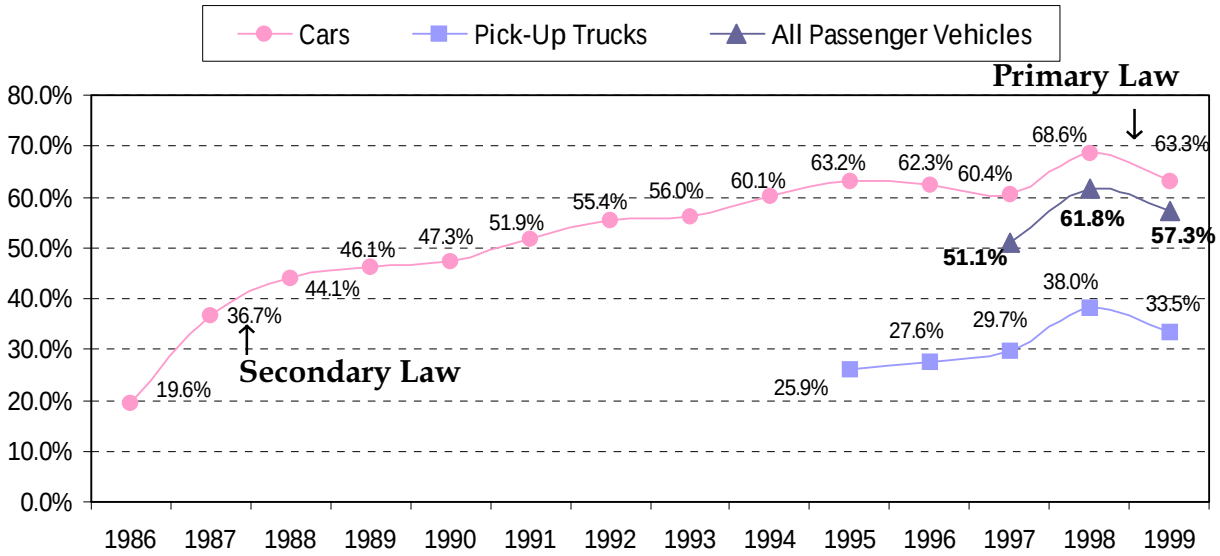
Legend: Unk-Unknown Restraint Use

Source: ISP Crash Data

Table 53

Table 53 allows for some comparison between all occupants involved in a crash and drivers who sustained some level of injury (including fatalities-Table 52). Whereas belt usage rates increased for all drivers involved in a crash by 8-10 percent, usage by fatally injured drivers increased by less than 2 percent between 1994 and 1998, by 3 percent for those seriously injured, and 7 percent for moderate and other injuries. For all occupants, belt usage increased by approximately 7 percent. This is fairly consistent with Table 52 results.

Figure 46. Safety Belt Usage: 1986-1999



Source: Roadside Observation Survey of Safety Belt and Motorcycle Helmet Use in Indiana, 1999

Table 54. Safety Belt Usage Summary: 1998-1999

Vehicle Type	1998 Percent Restrained Weighted	1998 Percent Restrained Unweighted	1999 Percent Restrained Weighted	1999 Percent Restrained Unweighted	Relative Precision	95 Percent Confidence Interval	98 - 99 Change in Weighted % Restrained
Cars	68.6%	67.7%	63.3%	62.7%	1.4%	61.5% - 65.0%	-5.3%
Pickups	38.0%	33.5%	33.5%	30.4%	3.1%	31.4% - 35.5%	-4.5%
Other Pass.	65.3%	64.9%	61.8%	61.4%	2.3%	59.0% - 64.6%	-3.5%
All Pass.	61.8%	60.3%	57.3%	55.9%	1.5%	55.6% - 59.0%	-4.5%

Legend: Other Pass. = Large Vans, Minivans and Sport-Utility Vehicles
All Pass. = All non-commercial Passenger vehicles
Source: Roadside Observation Survey of Safety Belt and Motorcycle Helmet Use in Indiana, 1999

Figure 46

Data presented for the balance of this chapter is based upon observational surveys conducted by Purdue University's Automotive Transportation Center on an annual basis. Each year nearly 30,000 observations are made throughout Indiana on all roadway types. The data is then compiled and shown here in summary form.

Indiana introduced their first safety belt law in mid-1987 with a secondary law (implying that an officer could not stop a motor vehicle simply because the occupants were not wearing safety belts). In mid-1998, the law was upgraded to a primary law, but subsequently challenged in the court system for the next nine months. The courts upheld the law early in 1999. With the challenge came significant publicity throughout the state. Since the law was upheld, media attention has waned. The current law continues to exempt pickups, which leads to the significantly different results as shown between passenger cars and pickups. The third line, titled "All Passenger Vehicles," includes both passenger cars and pickup trucks and is a much more accurate representation of belt usage in Indiana. NHTSA also uses this term in its nationwide measurement of safety belt usage.

Overall usage increased by 10.7 percent between 1997 and 1998 and then proceeded to drop by 4.5 percent in 1999.

Table 54

"Unweighted" percents are the actual usage rates as calculated from the observational surveys. The unweighted data is then "Weighted" to accurately reflect where Indiana drivers are actually driving by type of roadway.

- ***Pickup truck occupants are consistently low users of safety belts.***

This table shows restraint usage by role in vehicles (driver versus front-seat pasenger) and gender.

Table 55

- ***Belt usage rates by male occupants (drivers and passengers) are lower than female occupants.***
- ***Drivers tend to have higher usage rates than front seat passengers.***
- ***Low usage rates by pickup truck occupants.***

Table 55. Indiana Unweighted Restraint Usage by Vehicle Type, Gender and Role–1999

	All Drivers				Front-Seat Passengers				Eligible Occupants
Vehicle Type	NR	U	R	Percent Restrained	NR	U	R	Percent Restrained	Percent Restrained
Cars	6,129	171	10,656	63.5%	1,869	143	2,782	59.8%	62.7%
Pickups	4,241	144	1,894	30.9%	1,013	62	405	28.6%	30.4%
Minivans	948	66	1,842	66.0%	288	51	617	68.2%	66.5%
Large Vans	415	47	236	36.3%	112	19	87	43.7%	38.0%
SUV	1149	82	1,858	61.8%	319	49	510	61.5%	61.7%
All Pass.	**12,882**	**510**	**16,486**	**56.1%**	**3,601**	**324**	**4,401**	**55.0%**	**55.9%**
	Female Drivers				**Female Front-Seat Passengers**				**Both**
Cars	2,765	41	5,330	65.8%	1,119	50	2,069	64.9%	65.6%
Pickups	510	13	283	35.7%	493	15	274	35.7%	35.7%
Minivans	439	24	984	69.1%	195	25	464	70.4%	69.5%
Large Vans	123	13	85	40.9%	61	5	59	49.2%	43.9%
SUV	479	19	885	64.9%	195	22	371	65.5%	65.1%
All Pass.	**4,316**	**110**	**7,567**	**63.7%**	**2,063**	**117**	**3,237**	**61.1%**	**62.9%**
	Male Drivers				**Male Front-Seat Passengers**				**Both**
Cars	3,356	54	5,312	61.3%	743	35	700	48.5%	59.5%
Pickups	3,723	64	1,606	30.1%	508	9	129	20.3%	29.1%
Minivans	507	16	855	62.8%	90	6	145	61.7%	62.6%
Large Vans	291	19	151	34.2%	49	3	28	36.4%	34.5%
SUV	668	28	971	59.2%	121	5	135	52.7%	58.4%
All Pass.	**8,545**	**181**	**8,895**	**51.0%**	**1,511**	**58**	**1,137**	**42.9%**	**49.9%**

Note: Drivers and passengers with unknown gender included in totals.
Legend: R= Restrained; NR=Not Restrained; U=Unknown Restraint; All Pass.=All non-commercial Passenger vehicles; SUV=Sport-Utility Vehicles
Source: Roadside Observation Survey of Safety Belt and Motorcycle Helmet Use in Indiana, 1999.

Table 56. Indiana Unweighted Restraint Usage by Age and Role–1999

Drivers

Vehicle Type	Young (16-34) Count	Young (16-34) Percent Restrained	Mid-Adult (35-54) Count	Mid-Adult (35-54) Percent Restrained	Older Adult (55+) Count	Older Adult (55+) Percent Restrained
Cars	6,473	58.7%	7,468	65.7%	2,916	68.5%
Pickups	1,966	29.1%	3,306	30.6%	926	35.7%
Mini-vans	652	65.7%	1,854	65.4%	317	70.0%
Large Vans	109	31.8%	449	35.8%	122	43.1%
SUV	1,109	61.1%	1,747	61.9%	192	64.4%
All Pass.	10,309	**53.5%**	14,824	**56.5%**	4,473	**61.0%**

Passengers

Vehicle Type	Child (6-15) Count	Child (6-15) Percent Restrained	Young (16-34) Count	Young (16-34) Percent Restrained	Mid-Adult (35-54) Count	Mid-Adult (35-54) Percent Restrained	Older Adult (55+) Count	Older Adult (55+) Percent Restrained
Cars	368	53.9%	1,563	48.4%	1,625	63.4%	1,125	73.2%
Pickups	139	31.6%	409	21.8%	644	28.9%	226	40.3%
Mini-vans	128	62.8%	206	61.1%	443	69.4%	144	77.9%
Large Vans	25	37.5%	36	28.6%	101	41.8%	43	67.5%
SUV	86	62.7%	270	55.5%	400	63.9%	85	73.5%
All Pass.	746	**51.6%**	2,484	**45.6%**	3,213	**56.7%**	1,623	**68.9%**

Note: Restraint Usage unknown not included.
Legend: All Pass. = All non-commercial Passenger vehicles; SUV = Sport-Utility Vehicles
Source: Roadside Observation Survey of Safety Belt and Motorcycle Helmet Use in Indiana, 1999.

Table 56

- ***Young occupants (age 16–34) have lower safety belt usage rates than older occupants.***
- ***Overall, only 50 percent of children are wearing safety belts.***

Table 57

- ***The lowest usage rates can be found in local roads in the smaller counties where only one (1) out of six (6) occupants in pickup trucks are belted.***
- ***The highest usage rates can be found on freeways (interstates) in the largest four counties where four (4) out of five (5) occupants in passenger cars are belted.***

Table 57. Indiana Weighted Restraint Usage by Roadway Class, Strata, and Vehicle Type–1999

Vehicle Type	Rural Roads: County VMT Strata High	Rural Roads: County VMT Strata Medium	Rural Roads: County VMT Strata Low	Rural Roads: Entire State	Urban Roads: County VMT Strata High	Urban Roads: County VMT Strata Medium	Urban Roads: County VMT Strata Low	Urban Roads: Entire State
		Rural Freeways				**Urban Freeways**		
Cars	80.5%	77.5%	70.1%	74.8%	75.6%	71.7%	83.6%	75.2%
Pickups	58.0%	46.4%	41.0%	46.2%	43.9%	48.8%	56.3%	45.2%
Other Pass.	81.1%	80.7%	66.8%	74.7%	75.5%	63.9%	55.6%	72.8%
All Pass.	**78.1%**	**73.4%**	**63.8%**	**70.1%**	**71.8%**	**65.3%**	**72.1%**	**70.7%**
		Rural Arterials				**Urban Arterials**		
Cars	68.5%	64.1%	61.5%	63.2%	64.8%	64.1%	55.2%	63.4%
Pickups	48.5%	34.2%	26.4%	31.8%	39.8%	32.8%	20.8%	35.2%
Other Pass.	79.2%	69.0%	54.5%	62.0%	67.6%	67.2%	55.2%	65.9%
All Pass.	**67.5%**	**58.7%**	**52.7%**	**56.5%**	**62.9%**	**59.9%**	**45.9%**	**59.9%**
		Rural Collectors				**Urban Collectors**		
Cars	59.2%	62.8%	52.9%	57.2%	69.8%	49.2%	52.2%	61.2%
Pickups	27.6%	25.8%	23.8%	25.0%	33.9%	20.0%	9.6%	26.3%
Other Pass.	47.2%	58.5%	50.0%	52.4%	63.6%	45.8%	34.4%	54.2%
All Pass.	**47.5%**	**52.1%**	**44.1%**	**47.3%**	**64.8%**	**42.7%**	**35.4%**	**54.1%**
		Rural Local Roads				**Urban Local Streets**		
Cars	52.2%	57.6%	42.6%	46.7%	63.5%	57.5%	49.4%	59.8%
Pickups	45.2%	20.4%	16.9%	20.1%	42.0%	25.3%	16.6%	33.7%
Other Pass.	70.6%	57.5%	41.5%	47.5%	53.3%	53.6%	54.7%	53.6%
All Pass.	**54.2%**	**49.9%**	**35.7%**	**40.4%**	**59.3%**	**52.6%**	**40.9%**	**54.8%**

Other Pass. = Large Vans, Minivans and Sport-Utility Vehicles
All Pass. = All non-commercial Passenger vehicles
Source: Roadside Observation Survey of Safety Belt and Motorcycle Helmet Use in Indiana, 1999
See Glossary for definitions of Rural/Urban Roads, Roadway Class (freeways, arterials, collectors, etc…), and County VMT Strata.

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chapter summary

This chapter evaluates the vehicles that are involved in crashes. By comparing the types and frequency of vehicles involved in the different types of crashes (property, personal injury, and fatal) and crash patterns, improved countermeasure programs can be identified and developed. A key element in an analysis of vehicles is to look at trends and over-represented vehicle types.

While passenger cars (which also includes sport utility vehicles [SUVs]) are involved in the largest number of crashes, these vehicles also make up the largest group of vehicles (65 percent - based upon 1997 BMV registrations). They are involved in 56.39 percent of all crashes but only involved in 52.99 percent of fatal crashes. While the number of passenger cars registered in Indiana has increased by 11.25 percent between 1990 and 1997, the number of trucks registered in Indiana has grown by nearly 25 percent in that same time period. Pickup trucks, semi-tractor trailers, and motorcycles are all over-represented in the percentage of fatal crashes (as compared to the total number [as a percent] of crashes). Pickup trucks, which continue to grow in popularity, were involved in 17.28 percent of fatal crashes in 1998. This trend continues to increase: 16.14 percent (1995), 15.15 percent (1996), and 16.91 percent (1997). While this table does not identify the killed occupant(s), pickup trucks, because of their exclusion from the Indiana Safety Belt law, have a higher rate of killed occupants.

Similar comments can be made about both tractor-trailer and motorcycle crashes. Both are over-represented in the percentage of fatal crashes. However, the resultant fatality is quite different. In the case of tractor-trailer fatal crashes, it was typically an occupant of the vehicle that was hit (or that hit the tractor-trailer) was typically an occupant of the "other vehicle." In the case of fatal motorcycle crashes, the most likely victim was the driver/rider of the motorcycle. The percentages of fatal tractor-trailer crashes has increased from 7.33 percent (1995), to 7.6 percent (1996), to 8.35 percent (1997), and most recently to 9.36 percent in 1998.

For motorcycles, their over-representation in fatal crashes is overwhelming—they are involved in approximately one half of one percent of all crashes and yet are involved in a nearly tenfold increase in fatal crashes—5.04 percent. Until receipt and analysis of the 1998 data, motorcycle crash data was moving in the right direction—down. This included the number of crashes, the rate of crashes (per licensed motorcycle driver), severity of crashes, and the involvement of alcohol. In 1998 (in all of these critical areas), significant increases occurred. Fatal motorcycle crashes increased by 51.1 percent to 68, the highest number since 1992. Only 14 of the 68 cyclist victims were wearing a helmet. Fatal motorcycle crashes increased by 104 percent in rural areas (from 25 to 51) and decreased by 17.6 percent (from 20 to 17) in urban areas from 1997. Alcohol involvement in crashes increased by 5.8 percent. Between 1996 and 1998, there has been a 6.6 percent increase in the number of registered motorcycles. Whether it is this combination of newer and less experienced riders or other causes, 1999 data will be analyzed to establish whether there has been a change in the recent downward pattern or if 1998 was a statistical anomaly.

School bus crashes represent a very small percentage of all crashes (0.23 percent) but when there is a school bus crash, it is a highly visible crash and has the potential of affecting a large number of young lives. There were four fatal crashes in 1998. None of the four resulting fatalities were occupants of a school bus. This compares to two fatal crashes in 1995, zero in 1996, and four in 1997. The total number of crashes involving school buses continues to trend down over the most recent four years: 1,031 crashes (1995), 931 (1996), and 832 (1997).

Railroad crashes (with highway vehicles) are principally caused by either a conscious decision on the part of the occupants of the vehicle to disregard the impending presence of a train or occur as the result of inattention. Three out of four fatal railroad crashes occur due to inattention. Alcohol involvement is seen in nearly 10 percent of the fatal railroad crashes.

As noted above, the growth of truck traffic (straight and tractor-trailer combinations) continues to increase in Indiana. Non-passenger car registrations have grown by nearly 25 percent in seven years. Trucks (both categories) are over-represented in fatal crashes.

Table 58. Vehicles Involved in Crashes by Vehicle Type and Severity–1998

Vehicle Type	Fatal Crashes		Personal Injury		Property Damage		Total Crashes	
	Count	Percent	Count	Percent	Count	Percent	Count	Percent
Passenger Car, Station Wagon, SUV	736	52.99%	60,976	65.12%	150,220	53.49%	**211,932**	**56.39%**
Pickup	240	17.28%	12,241	13.07%	34,619	12.33%	**47,100**	**12.53%**
Van	115	8.28%	6,683	7.14%	18,028	6.42%	**24,826**	**6.61%**
Truck	61	4.39%	2,565	2.74%	7,909	2.82%	**10,535**	**2.80%**
Semi-Tractor (Only)	4	0.29%	126	0.13%	430	0.15%	**560**	**0.15%**
Semi-Tractor, Trailer	130	9.36%	1,629	1.74%	6,221	2.22%	**7,980**	**2.12%**
Combination Vehicle	3	0.22%	50	0.05%	165	0.06%	**218**	**0.06%**
Recreational Vehicle	1	0.07%	98	0.10%	334	0.12%	**433**	**0.12%**
Bus	0	0.00%	133	0.14%	488	0.17%	**621**	**0.17%**
School Bus	4	0.29%	178	0.19%	664	0.24%	**846**	**0.23%**
Police Car	4	0.29%	401	0.43%	1,109	0.39%	**1,514**	**0.40%**
Fire Truck	0	0.00%	27	0.03%	136	0.05%	**163**	**0.04%**
Ambulance	2	0.14%	57	0.06%	118	0.04%	**177**	**0.05%**
Motorcycle*	70	5.04%	1,608	1.72%	396	0.14%	**2,074**	**0.55%**
Snowmobile	0	0.00%	2	0.00%	8	0.00%	**10**	**0.00%**
Farm Equipment	4	0.29%	58	0.06%	156	0.06%	**218**	**0.06%**
Special Vehicle	4	0.29%	115	0.12%	400	0.14%	**519**	**0.14%**
Other	5	0.36%	151	0.16%	344	0.12%	**500**	**0.13%**
Unknown	6	0.43%	6,543	6.99%	59,075	21.04%	**65,624**	**17.46%**
Total	**1,389**	**100.00%**	**93,641**	**100.00%**	**280,820**	**100.00%**	**375,850**	**100.00%**

**Motorcycle includes motorcycles, mopeds, motorbikes, motor scooters and minibikes.*
Note: Totals are not the number of crashes, but the number of vehicles in crashes.
Parked vehicles excluded. Driverless moving vehicles included.
Table does not include non-occupants (i.e. pedestrians, bicyclists).

Table 58

- ***Pickup trucks, semi-tractor with trailers, and motorcycles continue to be over-represented in severe and fatal injury crashes. This group of vehicles also represents one of the fastest growing segments of registered vehicles in Indiana (26.3 percent increase between 1990 and 1998 versus a 12.5 percent growth rate for passenger cars).***
- ***The 736 fatal passenger car crashes is the fewest number since the initiation of* Crash Facts *(1993).***
- ***On the other hand, the number of fatal tractor-trailer (130) and pickup (240) crashes is the highest number for the same time period.***

Table 59. Motorcycle Crash Data: 1994-1998

All Crashes

Severity	1994	Rate	1995	Rate	1996	Rate	1997	Rate	1998	Rate
Fatal	65	0.29	64	0.28	58	0.26	45	0.21	68	0.31
Personal Injury	1,937	8.67	1,786	7.83	1,443	6.51	1,450	6.74	1,580	7.16
Property Damage	408	1.83	401	1.76	343	1.55	404	1.88	415	1.88
Total Crashes	**2,410**	**10.79**	**2,251**	**9.86**	**1,844**	**8.32**	**1,899**	**8.82**	**2,063**	**9.35**
% Fatal	2.7%		2.8%		3.1%		2.4%		3.3%	
% Personal Injury	80.4%		79.3%		78.3%		76.4%		76.6%	
% Property Damage	16.9%		17.8%		18.6%		21.3%		20.1%	

Alcohol-Related Crashes

Severity	1994	Rate	1995	Rate	1996	Rate	1997	Rate	1998	Rate
Fatal	17	0.08	20	0.09	17	0.08	15	0.07	18	0.08
Personal Injury	205	0.92	187	0.82	178	0.80	173	0.79	178	0.81
Property Damage	22	0.10	18	0.08	23	0.10	19	0.09	23	0.10
Total Alcohol-Related	**244**	**1.09**	**225**	**0.99**	**218**	**0.98**	**207**	**0.96**	**219**	**0.99**
% of All Fatal	26.2%		31.3%		29.3%		33.3%		26.5%	
% of All Personal Injury	10.6%		10.5%		12.3%		11.9%		11.3%	
% of All Property Damage	5.4%		4.5%		6.7%		4.7%		5.5%	
% of Total Crashes	**10.1%**		**10.0%**		**11.8%**		**10.9%**		**10.6%**	

Note: Rates are expressed per 1000 licensed motorcycle drivers.
Table includes motorcycles, mopeds, motorbikes, motor scooters and minibikes.
Licensed Driver Source: Indiana Bureau of Motor Vehicles, 1998.
1995 and 1996 corrected for misclassified private property crashes. See Personal Property in Glossary for explanation.

Table 59

- ***After a trend of reducing crashes per 1,000 licensed motorcycle drivers through 1996, the crash incidence rate has increased over the past two years.***
- ***Alcohol involvement in fatal crashes has remained relatively flat over the past five years but continues to be responsible for one out of four fatal crashes.***

Table 60. Motorcycle Crashes by Severity: 1989-1998

Year	Registered Cycles	Licensed Cyclists	Fatal Crashes Count	Fatal Crashes Percent	Personal Injury Count	Personal Injury Percent	Property Damage Count	Property Damage Percent	Total Crashes
1989	96,729	224,110	66	2.2%	2,289	74.9%	701	22.9%	**3,056**
1990	93,982	221,491	80	2.7%	2,261	76.7%	608	20.6%	**2,949**
1991	96,390	228,570	78	2.8%	2,157	76.8%	575	20.5%	**2,810**
1992	94,765	212,310	69	3.0%	1,784	78.3%	426	18.7%	**2,279**
1993	95,267	218,462	53	2.4%	1,796	79.8%	402	17.9%	**2,251**
1994	97,017	223,306	65	2.7%	1,937	80.4%	408	16.9%	**2,410**
1995	96,394	228,236	64	2.8%	1,786	79.3%	401	17.8%	**2,251**
1996	96,518	221,758	58	3.1%	1,443	78.3%	343	18.6%	**1,844**
1997	98,476	215,279	45	2.4%	1,450	76.4%	404	21.3%	**1,899**
1998	100,027	220,746	68	3.3%	1,580	76.6%	415	20.1%	**2,063**

Note: Table includes motorcycles, mopeds, motorbikes, motor scooters and minibikes.
Example: In 1998, 68 of 2,063, or 3.3% of motorcycle crashes were fatal crashes.
1994 and 1995 were corrected for misclassified private property crashes. See Private Property in Glossary for explanation .

Table 60

- ***After a seven-year trend of reduced crashes, total crashes have increased by 11.8 percent over the last two years.***

Table 61

- ***Motorcycles are a weekend vehicle of choice as indicated by 14 and 17 fatalities on Saturday and Sunday, respectively. Nearly one-half of motorcycle fatalities occur on these two days.***

Table 61. Motorcycle Crashes by Time of Day and Day of Week–1998

Time	Sun Ftl	Sun Tot	Mon Ftl	Mon Tot	Tue Ftl	Tue Tot	Wed Ftl	Wed Tot	Thu Ftl	Thu Tot	Fri Ftl	Fri Tot	Sat Ftl	Sat Tot	Ftl
midnight - 3am	0	20	1	7	1	5	0	10	1	8	0	13	2	26	**5**
3am - 6am	1	16	0	6	0	4	0	3	0	2	1	4	0	8	**2**
6am - 9am	0	10	0	15	0	10	1	17	0	17	1	20	1	16	**3**
9am - noon	2	27	0	23	0	10	0	23	1	22	1	35	1	35	**5**
noon - 3pm	4	81	0	46	0	39	1	33	1	39	0	54	1	91	**7**
3pm - 6pm	5	99	0	63	2	59	4	72	1	78	4	94	3	107	**19**
6pm - 9pm	3	78	2	56	2	51	3	45	1	43	2	61	3	82	**16**
9pm - midnight	2	35	1	19	1	24	0	30	1	31	1	40	2	62	**8**
Unknown	0	9	0	3	0	3	0	5	2	8	0	8	1	3	**3**
Total	**17**	**375**	**4**	**238**	**6**	**205**	**9**	**238**	**8**	**248**	**10**	**329**	**14**	**430**	**68**

Example: Of the 375 motorcycle crashes that occurred on a Sunday in 1998, 4.5 percent (17/375) were fatal.
Legend: Ftl=Fatal; Tot=Total

Table 62. Motorcycle Crashes by Light Condition and Severity–1998

Light Condition	Fatal Crashes		Personal Injury		Property Damage		Total Crashes	
	Count	Percent	Count	Percent	Count	Percent	Count	Percent
Daylight	40	58.8%	1,108	70.1%	285	68.7%	**1,433**	69.5%
Dawn or Dusk	6	8.8%	68	4.3%	19	4.6%	**93**	4.5%
Darkness	22	32.4%	397	25.1%	109	26.3%	**528**	25.6%
Not stated	0	0.0%	7	0.4%	2	0.5%	**9**	0.4%
Total	**68**	**100.0%**	**1,580**	**100.0%**	**415**	**100.0%**	**2,063**	**100.0%**

Table 62

- *The severity of motorcycle crashes increases with reduced daylight and darkness.*

Table 63. Motorcycle Crashes by Vehicular Contributing Circumstance–1998

Vehicular Contributing Circumstance	Fatal Crashes		Personal Injury		Property Damage		Total Crashes	
	Count	Percent	Count	Percent	Count	Percent	Count	Percent
Speed Too Fast	22	15.7%	207	6.7%	38	4.4%	**267**	**6.5%**
Failed to Yield	16	11.4%	349	11.3%	86	10.0%	**451**	**11.1%**
Disregarded Signal/Sign	8	5.7%	71	2.3%	12	1.4%	**91**	**2.2%**
Drove Left of Center	5	3.6%	58	1.9%	11	1.3%	**74**	**1.8%**
Improper Passing	3	2.1%	56	1.8%	5	0.6%	**64**	**1.6%**
Followed Too Closely	1	0.7%	94	3.0%	40	4.7%	**135**	**3.3%**
Made Improper Turn	0	0.0%	69	2.2%	12	1.4%	**81**	**2.0%**
Had Been Drinking	13	9.3%	158	5.1%	22	2.6%	**193**	**4.7%**
Driver Asleep	0	0.0%	7	0.2%	0	0.0%	**7**	**0.2%**
Driver Inattention	18	12.9%	562	18.2%	169	19.7%	**749**	**18.4%**
Other Improper Driving	4	2.9%	82	2.7%	38	4.4%	**124**	**3.0%**
Mechanical Failure	0	0.0%	64	2.1%	16	1.9%	**80**	**2.0%**
Animals on Roadway	3	2.1%	85	2.8%	14	1.6%	**102**	**2.5%**
Roadway Factors	1	0.7%	65	2.1%	10	1.2%	**76**	**1.9%**
Materials on Roadway/Weather	0	0.0%	63	2.0%	25	2.9%	**88**	**2.2%**
Other	13	9.3%	246	8.0%	67	7.8%	**326**	**8.0%**
Blank/Unknown	33	23.6%	848	27.5%	291	34.0%	**1,172**	**28.7%**
Total	**140**	100.0%	**3,084**	100.0%	**856**	100.0%	**4,080**	

Note: See Glossary for an explanation of groupings of Contributing Circumstance.
Example: Speed Too Fast was a Contributing Circumstance for 267 of 2,908 or 9.2% of the contributing circumstances cited in motorcycle crashes for 1998.
Crashes whose contributing circumstance was blank or unknown are not included in total counts/percentages.

Table 63

- *Increased speed results in a higher percentage of fatal crashes (versus personal injury and property damage).*
- *The impact of driver inattention and inappropriate behaviors (speeding, failure to yield, and disregarding signal/stop) constituted the vast majority of the contributing circumstances for fatal crashes.*

Table 64. Motorcycle Crashes by Helmet Use: 1989-1998

	Cyclist Fatalities Without Helmet						Cyclist Fatalities Wearing Helmet						C
	Driver		Passenger		Total		Driver		Passenger		Total		
Year	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Driv
1989	57	93.4%	5	71.4%	62	**91.2%**	4	6.6%	2	28.6%	6	**8.8%**	6
1990	63	90.0%	10	100.0%	73	**91.3%**	7	10.0%	0	0.0%	7	**8.8%**	7
1991	58	81.7%	10	100.0%	68	**84.0%**	13	18.3%	0	0.0%	13	**16.0%**	7
1992	54	85.7%	7	100.0%	61	**87.1%**	9	14.3%	0	0.0%	9	**12.9%**	6
1993	38	82.6%	7	100.0%	45	**84.9%**	8	17.4%	0	0.0%	8	**15.1%**	4
1994	50	83.3%	5	100.0%	55	**84.6%**	10	16.7%	0	0.0%	10	**15.4%**	6
1995	49	83.1%	6	100.0%	55	**84.6%**	10	16.9%	0	0.0%	10	**15.4%**	5
1996	46	85.2%	8	88.9%	54	**85.7%**	8	14.8%	1	11.1%	9	**14.3%**	5
1997	33	84.6%	6	75.0%	39	**83.0%**	6	15.4%	2	25.0%	8	**17.0%**	3
1998	48	78.7%	6	85.7%	54	**79.4%**	13	21.3%	1	14.3%	14	**20.6%**	6

Note: Cycles includes motorcycles, motorbikes, minibikes, motor scooters and mopeds.

Legend: Pass.=Passenger

Example: In 1998, 48 of 61 or 78.7% of fatally injured motorcycle drivers were not wearing a helmet.

Table 64

- ***A slow process of convincing motorcyclists to wear helmets….***

Table 65/Figure 47

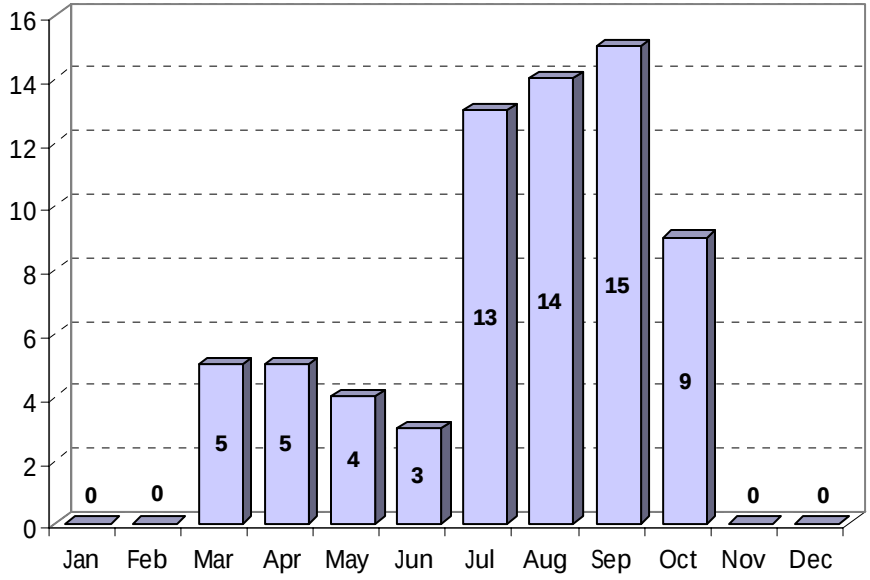
- ***The increase in fatal crashes was totally found in rural areas and more than doubled from 1997. The number of fatal motorcycle crashes (51) was the highest since inception of the* Crash Facts Book *(1993).***
- ***Urban fatal crashes (17) were the lowest recorded for the same time frame.***

Table 65. Motorcycle Crashes by Month and Severity with Fatalities and Injuries by Rural/Urban Locale–1998

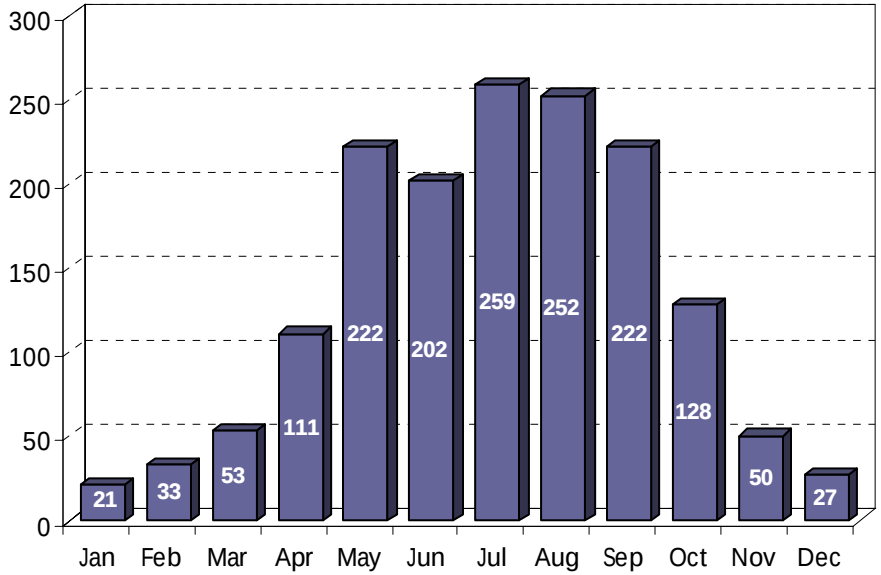
	Fatal Crashes			Personal Injury			Property Damage			Total Crashes			Motorcyclists Only						Non-Motorcyclists					
													Fatalities			Injuries			Fatalities			Injuries		
Month	Rur	Urb	Tot	Rur	Urb	Tot	Rur	Urb	Tot	Rur	Urb	Tot	Rur	Urb	Tot	Rur	Urb	Tot	Rur	Urb	Tot	Rur	Urb	Tot
January	0	0	0	7	14	21	1	1	2	8	15	23	0	0	0	8	14	22	0	0	0	0	1	1
February	0	0	0	14	19	33	5	12	17	19	31	50	0	0	0	13	18	31	0	0	0	1	1	2
March	4	1	5	17	36	53	3	11	14	24	48	72	4	1	5	18	42	60	0	0	0	1	8	9
April	3	2	5	44	67	111	9	24	33	56	93	149	4	2	6	51	70	121	0	0	0	3	8	11
May	1	3	4	89	133	222	25	32	57	115	168	283	1	3	4	92	145	237	0	0	0	12	11	23
June	0	3	3	83	119	202	23	33	56	106	155	261	0	3	3	97	130	227	0	0	0	7	19	26
July	9	4	13	106	153	259	18	42	60	133	199	332	10	4	14	121	167	288	0	0	0	8	22	30
August	13	1	14	108	144	252	15	35	50	136	180	316	13	0	13	126	156	282	0	0	0	6	16	22
September	15	0	15	94	128	222	16	36	52	125	164	289	14	0	14	106	145	251	0	0	0	11	8	19
October	6	3	9	58	70	128	18	27	45	82	100	182	6	3	9	64	76	140	0	0	0	3	7	10
November	0	0	0	18	32	50	5	16	21	23	48	71	0	0	0	18	34	52	0	0	0	2	1	3
December	0	0	0	6	21	27	4	4	8	10	25	35	0	0	0	6	23	29	0	0	0	0	4	4
Total	51	17	68	644	936	1,580	142	273	415	837	1,226	2,063	52	16	68	720	1,020	1,740	0	0	0	54	106	160

Note: Crashes include motorcycles, motorbikes, minibikes, motor scooters and mopeds.
Ledgend: Rur=Rural; Urb=Urban; Tot=Total

Figure 47. Motorcycle Crashes by Month–1998



Fatal Crashes



Personal Injury

Table 66. Pickup Truck Crashes by Vehicular Contributing Circumstance and Severity–1998

Vehicular Contributing Circumstance	Pickup Trucks								Other Vehicles Involved in Crashes with					
	Fatal Crashes		Personal Injury		Property Damage		Total Crashes		Fatal Crashes		Personal Injury		Property Damage	
	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Perc
Speed Too Fast	31	7.8%	937	4.7%	1,634	2.9%	**2,602**	3.4%	16	6.3%	543	3.4%	926	2
Failed to Yield	44	11.1%	2,537	12.8%	5,469	9.7%	**8,050**	10.5%	43	16.8%	2,365	14.6%	5,011	11
Disregarded Signal/Sign	19	4.8%	934	4.7%	1,275	2.3%	**2,228**	2.9%	16	6.3%	910	5.6%	1,160	2
Drove Left of Center	39	9.9%	508	2.6%	844	1.5%	**1,391**	1.8%	30	11.7%	397	2.5%	640	1
Improper Passing	4	1.0%	126	0.6%	570	1.0%	**700**	0.9%	2	0.8%	109	0.7%	492	1
Followed Too Closely	4	1.0%	1,141	5.7%	3,701	6.6%	**4,846**	6.3%	5	2.0%	1,145	7.1%	3,554	8
Made Improper Turn	2	0.5%	210	1.1%	909	1.6%	**1,121**	1.5%	2	0.8%	189	1.2%	816	1
Had Been Drinking	46	11.6%	973	4.9%	1,218	2.2%	**2,237**	2.9%	9	3.5%	396	2.5%	584	1
Driver Asleep	12	3.0%	278	1.4%	394	0.7%	**684**	0.9%	1	0.4%	90	0.6%	135	0
Driver Inattention	43	10.9%	4,018	20.2%	12,476	22.2%	**16,537**	21.6%	30	11.7%	3,350	20.7%	10,590	24
Other Improper Driving	15	3.8%	442	2.2%	2,492	4.4%	**2,949**	3.9%	11	4.3%	308	1.9%	2,121	4
Mechanical Failure	3	0.8%	316	1.6%	975	1.7%	**1,294**	1.7%	3	1.2%	234	1.4%	656	1
Animals on Roadway	2	0.5%	198	1.0%	2,631	4.7%	**2,831**	3.7%	0	0.0%	17	0.1%	62	0
Roadway Factors	2	0.5%	68	0.3%	186	0.3%	**256**	0.3%	1	0.4%	19	0.1%	83	0
Materials on Roadway/Weather	15	3.8%	839	4.2%	2,481	4.4%	**3,335**	4.4%	7	2.7%	405	2.5%	1,204	2
Other	30	7.6%	1,210	6.1%	3,282	5.8%	**4,522**	5.9%	8	3.1%	718	4.4%	2,400	5
Blank/Unknown	84	21.3%	5,162	25.9%	15,653	27.9%	**20,899**	27.3%	72	28.1%	4,959	30.7%	12,524	29
Total	**395**	**100.0%**	**19,897**	**100.0%**	**56,190**	**100.0%**	**76,482**	**100.0%**	**256**	**100.0%**	**16,154**	**100.0%**	**42,958**	**100.**

Note: See Glossary for an explanation of groupings of Contributing Circumstance.
Example: Of the total number of fatal crashes involving pickup trucks, 31 or 7.8% were attributed to the circumstance of Speed Too Fast.

Table 66

- ***While driver inattention is cited as the predominate cause of pickup crashes, alcohol (had been drinking) and speed are significantly over-represented in fatal crashes when compared with total crashes.***
- ***Driver inattention, while the leading factor in property damage and personal injury crashes, is under-represented in fatal crashes. The ability of the driver to make a last second correction may contribute to the lower level of involvement in fatal crashes.***

Table 67

- ***72.3 percent of fatal crashes occur in rural areas while the majority of personal injury and property damage crashes occur in urban areas.***
- ***Only 16 percent of the persons killed were occupants of the pickup truck while 84 percent were occupants of the other vehicle(s) involved in the crash.***

Table 68

- ***Most crashes occur as a result of actions or in-actions on the part of the drivers (versus road or weather conditions).***

Table 67. Crashes Involving Single-Unit Trucks by Month and Severity with Fatalities and Injuries by Rural/Urban Locale–1998

													In Single-Unit Truck						Not in Single-Unit Truck					
	Fatal Crashes			Personal Injury			Property Damage			Total Crashes			Fatalities			Injuries			Fatalities			Injuries		
Month	Rur	Urb	Tot	Rur	Urb	Tot	Rur	Urb	Tot	Rur	Urb	Tot	Rur	Urb	Tot	Rur	Urb	Tot	Rur	Urb	Tot	Rur	Urb	Tot
January	2	3	5	73	98	171	229	379	608	304	480	784	1	0	1	45	45	90	1	3	4	65	97	162
February	5	0	5	64	83	147	185	347	532	254	430	684	1	0	1	38	38	76	4	0	4	75	75	150
March	3	1	4	81	121	202	263	464	727	347	586	933	0	0	0	44	59	103	3	1	4	66	128	194
April	4	5	9	69	128	197	208	473	681	281	606	887	2	1	3	40	59	99	2	4	6	49	119	168
May	3	0	3	98	135	233	223	461	684	324	596	920	1	0	1	51	55	106	3	0	3	86	148	234
June	3	1	4	92	140	232	267	511	778	362	652	1,014	0	0	0	45	54	99	3	1	4	99	138	237
July	5	1	6	103	139	242	265	463	728	373	603	976	0	0	0	54	51	105	5	1	6	103	147	250
August	5	3	8	91	169	260	265	451	716	361	623	984	0	0	0	61	65	126	6	3	9	80	187	267
September	6	0	6	84	123	207	223	468	691	313	591	904	0	0	0	48	55	103	8	0	8	74	124	198
October	5	1	6	96	160	256	270	469	739	371	630	1,001	4	0	4	56	57	113	1	1	2	91	167	258
November	1	3	4	87	122	209	239	446	685	327	571	898	0	1	1	42	62	104	1	2	3	93	136	229
December	5	0	5	86	148	234	280	481	761	371	629	1,000	0	0	0	56	64	120	6	0	6	72	141	213
Total	**47**	**18**	**65**	**1,024**	**1,566**	**2,590**	**2,917**	**5,413**	**8,330**	**3,988**	**6,997**	**10,985**	**9**	**2**	**11**	**580**	**664**	**1,244**	**43**	**16**	**59**	**953**	**1,607**	**2,560**

Legend: Rur=Rural; Urb=Urban; Tot=Total

Table 68. Large Single-Unit Truck Crashes by Vehicular Contributing Circumstance and Severity–1998

	Large, Single-Unit Trucks								Other Vehicles Involved in Crashes with Large, Single-Unit Trucks							
Vehicular	Fatal Crashes		Personal Injury		Property Damage		Total Crashes		Fatal Crashes		Personal Injury		Property Damage		Total Crashes	
Contributing Circumstance	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent
Speed Too Fast	4	3.2%	182	4.1%	292	2.2%	**478**	2.6%	1	1.0%	162	3.9%	220	1.8%	**383**	2.4%
Failed to Yield	16	12.9%	574	12.9%	1,072	8.0%	**1,662**	9.2%	17	16.2%	555	13.5%	1,011	8.5%	**1,583**	9.8%
Disregarded Signal/Sign	7	5.6%	223	5.0%	276	2.0%	**506**	2.8%	9	8.6%	213	5.2%	257	2.2%	**479**	3.0%
Drove Left of Center	15	12.1%	94	2.1%	183	1.4%	**292**	1.6%	16	15.2%	72	1.8%	155	1.3%	**243**	1.5%
Improper Passing	0	0.0%	32	0.7%	164	1.2%	**196**	1.1%	0	0.0%	33	0.8%	173	1.5%	**206**	1.3%
Followed Too Closely	2	1.6%	282	6.4%	872	6.5%	**1,156**	6.4%	4	3.8%	303	7.4%	868	7.3%	**1,175**	7.3%
Made Improper Turn	0	0.0%	67	1.5%	289	2.1%	**356**	2.0%	0	0.0%	70	1.7%	256	2.1%	**326**	2.0%
Had Been Drinking	4	3.2%	139	3.1%	193	1.4%	**336**	1.9%	3	2.9%	94	2.3%	141	1.2%	**238**	1.5%
Driver Asleep	1	0.8%	59	1.3%	76	0.6%	**136**	0.8%	3	2.9%	38	0.9%	46	0.4%	**87**	0.5%
Driver Inattention	15	12.1%	887	20.0%	3,326	24.7%	**4,228**	23.4%	13	12.4%	823	20.0%	2,748	23.0%	**3,584**	22.2%
Other Improper Driving	3	2.4%	121	2.7%	896	6.6%	**1,020**	5.7%	5	4.8%	98	2.4%	774	6.5%	**877**	5.4%
Mechanical Failure	2	1.6%	98	2.2%	425	3.2%	**525**	2.9%	3	2.9%	73	1.8%	302	2.5%	**378**	2.3%
Animals on Roadway	0	0.0%	28	0.6%	322	2.4%	**350**	1.9%	0	0.0%	3	0.1%	13	0.1%	**16**	0.1%
Roadway Factors	1	0.8%	18	0.4%	58	0.4%	**77**	0.4%	2	1.9%	5	0.1%	25	0.2%	**32**	0.2%
Materials on Roadway/Weather	1	0.8%	159	3.6%	511	3.8%	**671**	3.7%	2	1.9%	89	2.2%	348	2.9%	**439**	2.7%
Other	9	7.3%	301	6.8%	1,053	7.8%	**1,363**	7.6%	7	6.7%	204	5.0%	746	6.3%	**957**	5.9%
Blank/Unknown	44	35.5%	1,169	26.4%	3,473	25.8%	**4,686**	26.0%	20	19.0%	1,273	31.0%	3,844	32.2%	**5,137**	31.8%
Total	**124**	**100.0%**	**4,433**	**100.0%**	**13,481**	**100.0%**	**18,038**	**100.0%**	**105**	**100.0%**	**4,108**	**100.0%**	**11,927**	**100.0%**	**16,140**	**100.0%**

Note: See Glossary for an explanation of groupings of Contributing Circumstance.

Table 69. Crashes Involving Large Trucks with Trailers by Month and Severity with Fatalities and Injuries by Rural/Urban Locale–1998

	Fatal Crashes			Personal Injury			Property Damage			Total Crashes			In Truck with Trailer: Fatalities			In Truck with Trailer: Injuries			Not in Truck with Trailer: Fatalities			Not in Truck with Trailer: Injuries		
Month	**Rur**	**Urb**	**Tot**	**Rur**	**Urb**	**Tot**	**Rur**	**Urb**	**Tot**	**Rur**	**Urb**	**Tot**	**Rur**	**Urb**	**Tot**	**Rur**	**Urb**	**Tot**	**Rur**	**Urb**	**Tot**	**Rur**	**Urb**	**Tot**
January	2	0	2	70	76	146	234	266	500	306	342	648	0	0	0	23	13	36	2	0	2	72	89	161
February	2	2	4	67	49	116	206	218	424	275	269	544	0	0	0	27	13	40	2	2	4	62	56	118
March	4	2	6	79	54	133	303	270	573	386	326	712	2	0	2	28	14	42	2	2	4	75	64	139
April	8	3	11	72	58	130	210	263	473	290	324	614	2	0	2	31	14	45	9	3	12	68	67	135
May	9	2	11	71	62	133	231	320	551	311	384	695	0	0	0	35	10	45	11	2	13	76	77	153
June	10	1	11	81	85	166	255	302	557	346	388	734	0	0	0	34	15	49	15	1	16	96	95	191
July	7	3	10	64	51	115	226	248	474	297	302	599	1	0	1	32	11	43	8	3	11	61	68	129
August	6	4	10	72	53	125	227	257	484	305	314	619	2	0	2	24	10	34	5	6	11	101	75	176
September	9	1	10	73	75	148	234	288	522	316	364	680	3	0	3	26	12	38	7	1	8	80	92	172
October	11	3	14	86	66	152	253	252	505	350	321	671	0	2	2	30	11	41	11	1	12	79	78	157
November	11	2	13	58	46	104	262	215	477	331	263	594	0	0	0	31	17	48	14	2	16	49	47	96
December	9	2	11	75	47	122	255	237	492	339	286	625	1	0	1	33	8	41	10	2	12	80	53	133
Total	**88**	**25**	**113**	**868**	**722**	**1,590**	**2,896**	**3,136**	**6,032**	**3,852**	**3,883**	**7,735**	**11**	**2**	**13**	**354**	**148**	**502**	**96**	**25**	**121**	**899**	**861**	**1,760**

Legend: Rur=Rural; Urb=Urban; Tot=Total

Table 70. Large Trucks with Trailer Crashes by Vehicular Contributing Circumstance and Severity–1998

	Large Trucks with Trailers								Other Vehicles Involved in Crashes with Large Trucks with Trailers							
Vehicular	**Fatal Crashes**		**Personal Injury**		**Property Damage**		**Total Crashes**		**Fatal Crashes**		**Personal Injury**		**Property Damage**		**Total Crashes**	
Contributing Circumstance	**Count**	**Percent**	**Count**	**Percent**	**Count**	**Percent**	**Count**	**Percent**	**Count**	**Percent**	**Count**	**Percent**	**Count**	**Percent**	**Count**	**Percent**
Speed Too Fast	14	6.3%	199	7.2%	358	3.7%	**571**	4.5%	17	9.0%	161	6.3%	216	2.8%	**394**	3.8%
Failed to Yield	25	11.3%	203	7.4%	493	5.0%	**721**	5.7%	27	14.3%	216	8.5%	505	6.6%	**748**	7.2%
Disregarded Signal/Sign	12	5.4%	110	4.0%	104	1.1%	**226**	1.8%	11	5.8%	116	4.5%	82	1.1%	**209**	2.0%
Drove Left of Center	21	9.5%	62	2.3%	114	1.2%	**197**	1.5%	22	11.6%	62	2.4%	107	1.4%	**191**	1.8%
Improper Passing	0	0.0%	35	1.3%	153	1.6%	**188**	1.5%	4	2.1%	38	1.5%	177	2.3%	**219**	2.1%
Followed Too Closely	6	2.7%	153	5.6%	553	5.7%	**712**	5.6%	6	3.2%	150	5.9%	406	5.3%	**562**	5.4%
Made Improper Turn	1	0.5%	42	1.5%	394	4.0%	**437**	3.4%	0	0.0%	40	1.6%	230	3.0%	**270**	2.6%
Had Been Drinking	5	2.3%	41	1.5%	44	0.5%	**90**	0.7%	10	5.3%	74	2.9%	74	1.0%	**158**	1.5%
Driver Asleep	3	1.4%	66	2.4%	108	1.1%	**177**	1.4%	3	1.6%	36	1.4%	68	0.9%	**107**	1.0%
Driver Inattention	19	8.6%	527	19.2%	2,122	21.7%	**2,668**	21.0%	24	12.7%	477	18.7%	1,520	19.9%	**2,021**	19.5%
Other Improper Driving	7	3.2%	179	6.5%	1,037	10.6%	**1,223**	9.6%	12	6.3%	178	7.0%	932	12.2%	**1,122**	10.8%
Mechanical Failure	3	1.4%	80	2.9%	415	4.2%	**498**	3.9%	3	1.6%	50	2.0%	218	2.9%	**271**	2.6%
Animals on Roadway	0	0.0%	9	0.3%	251	2.6%	**260**	2.0%	0	0.0%	4	0.2%	7	0.1%	**11**	0.1%
Roadway Factors	2	0.9%	7	0.3%	48	0.5%	**57**	0.4%	1	0.5%	4	0.2%	26	0.3%	**31**	0.3%
Materials on Roadway/Weather	3	1.4%	99	3.6%	323	3.3%	**425**	3.3%	4	2.1%	101	4.0%	203	2.7%	**308**	3.0%
Other	20	9.0%	201	7.3%	1,036	10.6%	**1,257**	9.9%	13	6.9%	147	5.8%	539	7.1%	**699**	6.7%
Blank/Unknown	81	36.5%	733	26.7%	2,212	22.7%	**3,026**	23.8%	32	16.9%	698	27.4%	2,320	30.4%	**3,050**	29.4%
Total	**222**	**100.0%**	**2,746**	**100.0%**	**9,765**	**100.0%**	12,733	**100.0%**	**189**	**100.0%**	**2,552**	**100.0%**	**7,630**	**100.0%**	10,371	**100.0%**

Note: See Glossary for an explanation of groupings of Contributing Circumstance.

Table 71. School Bus Crashes by Month and Severity with Fatalities and Injuries–1998

	Fatal Crashes			Personal Injury			Property Damage			Total Crashes			Out of Bus						In Bus					
													Fatalities			Injuries			Fatalities			Injuries		
Month	Rur	Urb	Tot	Rur	Urb	Tot	Rur	Urb	Tot	Rur	Urb	Tot	Rur	Urb	Tot	Rur	Urb	Tot	Rur	Urb	Tot	Rur	Urb	Tot
January	1	0	1	7	14	21	27	38	65	35	52	87	1	0	1	8	42	50	0	0	0	2	10	12
February	0	0	0	6	7	13	18	42	60	24	49	73	0	0	0	12	7	19	0	0	0	10	4	14
March	0	2	2	4	12	16	23	45	68	27	59	86	0	2	2	9	57	66	0	0	0	1	17	18
April	0	0	0	7	9	16	19	37	56	26	46	72	0	0	0	20	11	31	0	0	0	7	10	17
May	0	0	0	7	6	13	27	51	78	34	57	91	0	0	0	5	6	11	0	0	0	5	2	7
June	0	0	0	0	7	7	8	14	22	8	21	29	0	0	0	0	7	7	0	0	0	0	2	2
July	0	0	0	2	4	6	4	5	9	6	9	15	0	0	0	2	3	5	0	0	0	1	1	2
August	0	0	0	5	6	11	13	18	31	18	24	42	0	0	0	8	6	14	0	0	0	8	8	16
September	0	0	0	10	10	20	27	37	64	37	47	84	0	0	0	11	11	22	0	0	0	14	0	14
October	0	0	0	8	12	20	42	52	94	50	64	114	0	0	0	18	16	34	0	0	0	7	10	17
November	0	0	0	3	12	15	38	46	84	41	58	99	0	0	0	19	10	29	0	0	0	1	6	7
December	1	0	1	12	7	19	21	25	46	34	32	66	1	0	1	23	7	30	0	0	0	10	3	13
Total	**2**	**2**	**4**	**71**	**106**	**177**	**267**	**410**	**677**	**340**	**518**	**858**	**2**	**2**	**4**	**135**	**183**	**318**	**0**	**0**	**0**	**66**	**73**	**139**

Legend: Rur=Rural; Urb=Urban; Tot=Total

Table 69

- ***48 percent of property damage crashes occur on rural roads, 55 percent of personal injury crashes occur on rural roads, and yet, 78 percent of fatal tractor-trailer crashes occur on rural roads.***
- ***90 percent of the victims killed are <u>NOT</u> occupants of the tractor-trailer.***

Table 70

- ***Failure to Yield was a significant vehicular contributing circumstance for fatal crashes for both truck drivers and other drivers involved in crashes with large trucks with trailers.***

Table 71

- ***After achieving 0 fatal crashes in 1996, there were 4 fatal crashes in each of the last two years.***
- ***The total number of crashes remained close to the record low year (1997–832 crashes).***

Table 72

- ***Driver Inattention is the predominant vehicular contributing circumstance for school bus drivers and other drivers.***

Figure 48. School Bus Crashes by Month–1998

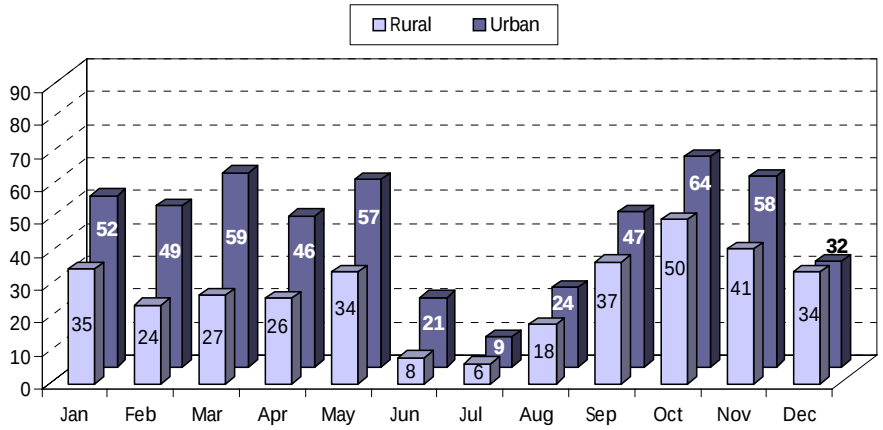


Table 72. School Bus Crashes by Vehicular Contributing Circumstance and Severity–1998

Vehicular Contributing Circumstance	School Bus								Other Vehicles Involved in Crashes with School Buses							
	Fatal Crashes		Personal Injury		Property Damage		Total Crashes		Fatal Crashes		Personal Injury		Property Damage		Total Crashes	
	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent
Speed Too Fast	1	14.3%	15	4.8%	15	1.4%	31	2.2%	1	33.3%	19	6.4%	21	2.0%	41	3.0%
Failure to Yield	3	42.9%	38	12.1%	68	6.3%	109	7.7%	1	33.3%	43	14.6%	68	6.4%	112	8.2%
Disregarded Signal/Sign	0	0.0%	12	3.8%	14	1.3%	26	1.8%	0	0.0%	17	5.8%	17	1.6%	34	2.5%
Drove Left of Center	0	0.0%	8	2.5%	22	2.0%	30	2.1%	0	0.0%	11	3.7%	27	2.5%	38	2.8%
Improper Overtaking	0	0.0%	2	0.6%	17	1.6%	19	1.4%	0	0.0%	3	1.0%	18	1.7%	21	1.5%
Followed to Closely	0	0.0%	15	4.8%	50	4.6%	65	4.6%	0	0.0%	19	6.4%	60	5.6%	79	5.8%
Made Improper Turn	0	0.0%	4	1.3%	47	4.3%	51	3.6%	0	0.0%	3	1.0%	39	3.7%	42	3.1%
Had Been Drinking	0	0.0%	2	0.6%	2	0.2%	4	0.3%	0	0.0%	3	1.0%	6	0.6%	9	0.7%
Driver Asleep	0	0.0%	1	0.3%	3	0.3%	4	0.3%	0	0.0%	2	0.7%	2	0.2%	4	0.3%
Driver Inattention	1	14.3%	54	17.2%	288	26.5%	343	24.4%	0	0.0%	55	18.6%	290	27.2%	345	25.3%
Other Improper Driving	0	0.0%	13	4.1%	62	5.7%	75	5.3%	0	0.0%	13	4.4%	62	5.8%	75	5.5%
Mechanical Failure	0	0.0%	2	0.6%	23	2.1%	25	1.8%	0	0.0%	1	0.3%	25	2.3%	26	1.9%
Animals on Roadway	0	0.0%	0	0.0%	6	0.6%	6	0.4%	0	0.0%	0	0.0%	1	0.1%	1	0.1%
Roadway Factors	0	0.0%	2	0.6%	7	0.6%	9	0.6%	0	0.0%	0	0.0%	5	0.5%	5	0.4%
Material on Roadway/Weather	0	0.0%	13	4.1%	27	2.5%	40	2.8%	1	33.3%	13	4.4%	33	3.1%	47	3.4%
Other	0	0.0%	26	8.3%	100	9.2%	126	9.0%	0	0.0%	27	9.2%	105	9.9%	132	9.7%
Blank/Unknown	2	28.6%	107	34.1%	335	30.8%	444	31.6%	0	0.0%	66	22.4%	286	26.9%	352	25.8%
Total	**7**	**100.0%**	**314**	**100.0%**	**1,086**	**100.0%**	**1,407**	**100.0%**	**3**	**100.0%**	**295**	**100.0%**	**1,065**	**100.0%**	**1,363**	**100.0%**

Note: See Glossary for an explanation of groupings of Contributing Circumstance.

Table 73. Railroad/Motor Vehicle Crashes by Vehicular Contributing Circumstance and Severity–1998

Vehicular Contributing Circumstance	Fatal Crashes		Personal Injury		Property Damage		Total Crashes	
	Count	Percent	Count	Percent	Count	Percent	Count	Percent
Speed Too Fast	0	0.0%	10	5.0%	12	3.4%	**22**	**3.7%**
Failed to Yield	6	19.4%	34	17.1%	46	12.8%	**86**	**14.6%**
Disregarded Signal/Sign	7	22.6%	29	14.6%	35	9.8%	**71**	**12.1%**
Drove Left of Center	0	0.0%	3	1.5%	1	0.3%	**4**	**0.7%**
Improper Passing	0	0.0%	1	0.5%	4	1.1%	**5**	**0.9%**
Followed Too Closely	0	0.0%	2	1.0%	8	2.2%	**10**	**1.7%**
Made Improper Turn	0	0.0%	0	0.0%	5	1.4%	**5**	**0.9%**
Had Been Drinking	3	9.7%	12	6.0%	17	4.7%	**32**	**5.4%**
Driver Asleep	1	3.2%	2	1.0%	4	1.1%	**7**	**1.2%**
Driver Inattention	11	35.5%	52	26.1%	95	26.5%	**158**	**26.9%**
Other Improper Driving	1	3.2%	3	1.5%	5	1.4%	**9**	**1.5%**
Mechanical Failure	0	0.0%	2	1.0%	10	2.8%	**12**	**2.0%**
Animals on Roadway	0	0.0%	0	0.0%	2	0.6%	**2**	**0.3%**
Roadway Factors	0	0.0%	2	1.0%	2	0.6%	**4**	**0.7%**
Materials on Roadway/Weather	0	0.0%	4	2.0%	9	2.5%	**13**	**2.2%**
Other	2	6.5%	13	6.5%	35	9.8%	**50**	**8.5%**
Total	33		195		347		**575**	

Note: See Glossary for an explanation of groupings of Contributing Circumstance.
Example: Speed Too Fast was a Contributing Circumstance for 15 of the 299 or 5.0% of train crashes in 1997.
Note: Total column percentages may not equal 100%. More than one contributing circumstance can be cited per crash.

Figure 49. Railroad/Motor Vehicle Crashes by Severity–1998

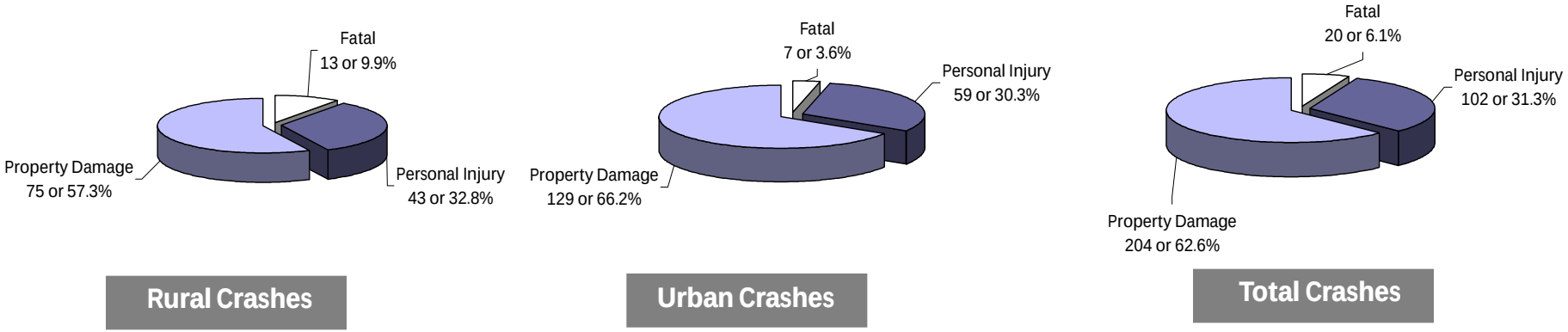


Table 74. Railroad/Motor Vehicle Crashes by Light Conditions and Severity–1998

Light Condition	Fatal Crashes		Personal Injury		Property Damage		Total Crashes	
	Count	Percent	Count	Percent	Count	Percent	Count	Percent
Daylight	11	55.0%	58	56.9%	104	51.0%	**173**	**53.1%**
Dawn or Dusk	2	10.0%	10	9.8%	5	2.5%	**17**	**5.2%**
Dark, Street Lights On	2	10.0%	23	22.5%	55	27.0%	**80**	**24.5%**
Dark, Street Lights Off	1	5.0%	0	0.0%	4	2.0%	**5**	**1.5%**
Dark, No Street Lights	4	20.0%	11	10.8%	36	17.6%	**51**	**15.6%**
Total	**20**		**102**		**204**		**326**	**100.0%**

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Chapter 6

Alcohol

TOPICS

Alcohol-Related Crashes

Alcohol-Related BAC Test Results

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BAC measures grams of ethanol per 100 ml. of blood, or 210 l. of breath. It is reported as a percentage. For example, 0.10, Indiana's current legal level for *per se* intoxication, would denote 0.10 percent alcohol within a person's blood.

While alcohol-related crashes declined by 36.0 percent during the ten-year, 1989-1998 period versus only a 2.5 percent decline in all reported crashes, most of this decline occurred between 1990 and 1991 (Figure 52). The change in the crash-reporting threshold for property damage crashes in 1990 is partially responsible for the large decline in 1991. When changes in the numbers of licensed drivers during the ten-year period are considered, the ten-year decline in alcohol-related crashes was 39.6 percent (Figure 50). When increases in the number of miles driven are considered, the alcohol-related crash rate per 100 MVMT has declined by 48.9 percent over the ten-year period (Figure 51).

While the pace of improvement has declined from the 1991 era, the 1998 alcohol-related crash rate per 1,000 licensed drivers of 2.39 was 5.9 percent lower than the average for the previous five years. The 1998 alcohol-related crash rate per 100 MVMT of 13.5 was 11.6 percent lower than the average for the previous five years.

In 1998, although only 4.4 percent of all crashes were alcohol-related, 23.3 percent of the fatal crashes were alcohol-related (Table 75). This percentage is the same as in 1994. As seen in Table 77, 8.3 percent of all 1998 injuries and 23.8 percent of all fatalities were from alcohol-related crashes. The number of alcohol-related fatalities increased to 234 from 214 in 1997.

Improvement can be seen in alcohol-related injury reduction. The percentage of all injuries that were alcohol-related has decreased from over 13 percent in 1989 and 1990 to 8.3 percent in both 1997 and 1998.

Alcohol-related crash involvement rates are greatly different for drivers of different age groups (Figure 55). The alcohol-related crash-involvement rate per 1,000 licensed drivers for drivers ages 20-24 decreased from 6.55 in 1997 to 6.39 in 1998, but this group continues to have the highest alcohol-involvement rate. The percentage of all drivers involved in alcohol-related crashes who were under age 21 has increased slightly from 11.65 percent in 1996 to 12.08 percent in 1998 (Table 78).

As expected, *alcoholic beverages* was the most frequently chosen primary contributing circumstance for alcohol-related crashes in 1998 (52.75 percent), *driver inattention* with 9.84 percent, *unsafe speed* with 7.10 percent, *failure to yield right of way* with 5.05, and *left of center* with 4.31 percent were implicated in a significant frequency of crashes resulting in 103 of the 234 alcohol-related fatalities (Table 79).

An Alcohol-Related Crash is a crash in which the investigating officer reported one or more of the following:

- primary contributing circumstance for the crash as Alcoholic Beverages; or
- vehicular contributing circumstance for one or more of the involved vehicles as Alcoholic Beverages; or
- a blood alcohol concentration (BAC) of greater than 0.05 percent for one or more of the drivers involved in the crash.

Of the 9,508 alcohol-related crashes in 1998, 41.5 percent occurred between 3 PM Friday evening and 4 AM Sunday morning. However, this period accounts for only 22 percent of the hours in a week.

The roadway type also affects the frequency and severity of alcohol-related crashes (Figure 58). The highest percentage of fatal alcohol-related crashes (33.7 percent) occurred on non-highway, county roads in 1998, as has been the case in previous years. Consistent with historical trends, city streets accounted for the highest frequency of personal injury alcohol-related crashes (41.2 percent) and property damage crashes (51.0 Percent).

The Fatality Analysis Reporting System (FARS) has been used in Indiana Crash Facts since 1993 for data on the BAC levels of killed drivers (Table 82), since this database normally has more complete information than the ISP database for fatal crashes. In previous years, the FARS database has had more complete BAC information for killed drivers than for the surviving drivers of fatal crashes. This was not the case for 1998, as the database has known values for only 36 percent of killed drivers versus 49 percent for surviving drivers. Caution must be exercised in comparing the results for killed drivers in 1998 with previous years since these results may be based on a biased sample of killed drivers.

When the reported BAC levels for all drivers in crashes is examined, it is observed that after increasing in 1997 for the first time since 1994, the number of drivers with a BAC greater than 0.05 declined again to an all time low of 4,868 (Table 83). This encouraging trend is apparent for drivers of all ages. For 1998, the number of drivers in crashes having a BAC greater than 0.05 was less than in 1997 for each driver age category.

Progress is also evident in reducing the impaired driving of motorcyclists. The number of motorcycle driver fatalities for whom the reported BAC exceeded 0.10 has declined from 28 in 1990 to 11 in 1998 (Figure 62), while the percentage of unknown or blank test results increased from 15 in 1997 to 38 in 1998.

No such progress can be seen in the ten-year data on BACs of killed pedestrians (Figure 63). While this data must be interpreted with the caution that the unknown percentage increased to 69.0 percent in 1998, it seems likely that the percentage with BACs above 0.10 has been increasing in recent years.

A key to further reduce the impact of alcohol in highway crashes is obtaining BAC results on all drivers involved in fatal crashes. Significant opportunities for improvement exists in this area.

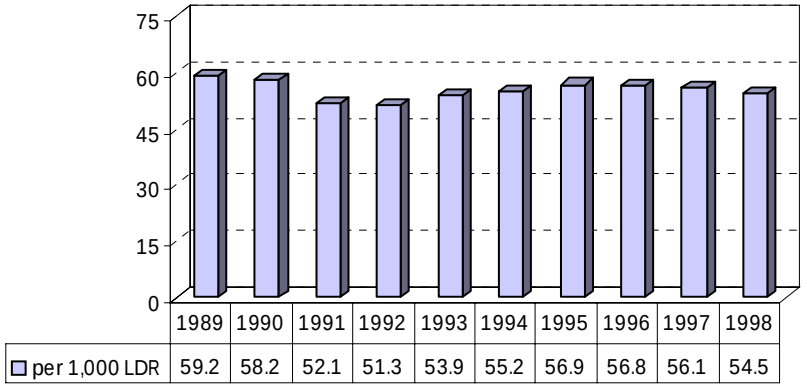
Figure 50

Figure 50 may be used to compare the historical, ten-year trends for the rate of alcohol-related crashes per 1,000 licensed drivers with the same rate for all reported crashes. The change in the crash-reporting threshold for property-damage crashes in 1990 is partially responsible for the large decline in 1991.

- ***While the alcohol-related crash rate per 1,000 licensed drivers has declined by 39.6 percent over the 1989-98 period, most of this decline occurred between 1990 and 1991.***
- ***The 1998 alcohol-related crash rate per 1,000 licensed drivers of 2.39 was 6.0 percent lower than the average for the previous five years.***

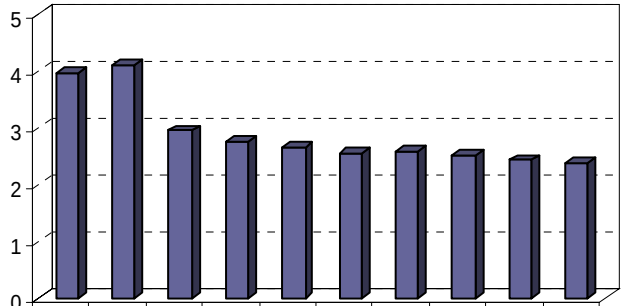
Figure 50. Indiana Crash Rates per 1,000 Licensed Drivers: 1989-1998

Total Crashes



	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
per 1,000 LDR	59.2	58.2	52.1	51.3	53.9	55.2	56.9	56.8	56.1	54.5

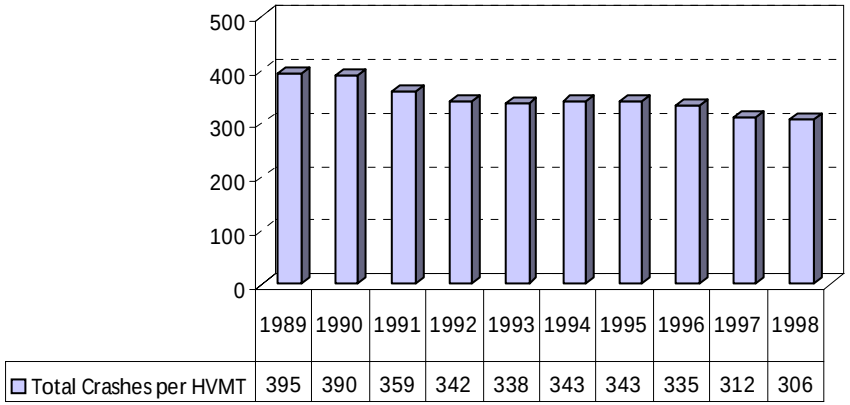
Alcohol-Related Crashes



	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Alcohol per 1,000 LDR	3.96	4.10	2.95	2.77	2.67	2.54	2.58	2.51	2.43	2.39

Figure 51. Indiana Crash Rates per 100 MVMT: 1989-1998

Total Crashes



Alcohol-Related Crashes

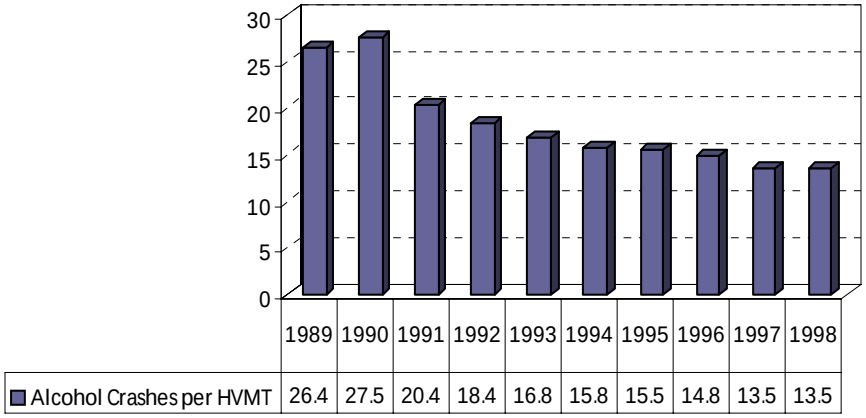


Figure 51

When the number of vehicle miles traveled is considered, the decline in total alcohol-related crashes is considerable (48.9 percent). Figure 51 is useful in examining the historical, ten-year trends for the rate of alcohol-related crashes per 100 MVMT, as well as making comparisons with the equivalent rate for all reported crashes.

- ***While the alcohol-related crash rate per 100 MVMT has declined by 48.9 percent over the 1989-98 period, much of this decline occurred between 1990 and 1991.***
- ***The 1998 alcohol-related crash rate per 100 MVMT of 13.5 was 11.6 percent lower than the average for the previous five years.***

Table 75. Total Crash and Alcohol-Related Crash Data: 1994-1998

CRASH TYPE	1994			1995			1996			1997			1998		
All Crashes	Number	LDVR Rate	VMT Rate	Number	LDVR Rate	VMT Rate	Number	LDVR Rate	VMT Rate	Number	LDVR Rate	VMT Rate	Number	LDVR Rate	VMT Rate
TOTAL	213,223	55.234	343.31	221,027	56.945	342.46	221,465	56.749	335.40	220,009	56.076	312.21	216,510	54.453	306.26
Fatal	875	0.227	1.41	859	0.221	1.33	870	0.223	1.32	849	0.216	1.20	884	0.222	1.25
Personal Injury	52,476	13.594	84.49	53,831	13.869	83.41	52,058	13.340	78.84	52,413	13.359	74.38	51,865	13.044	73.36
Property Damage	159,872	41.414	257.41	166,337	42.855	257.72	168,537	43.187	255.24	166,747	42.500	236.62	163,761	41.187	231.64
Fatalities	976	0.253	1.57	959	0.247	1.49	982	0.252	1.49	940	0.240	1.33	982	0.247	1.39
Injuries	78,105	20.233	125.76	80,632	20.774	124.93	77,339	19.818	117.13	78,262	19.947	111.06	77,138	19.401	109.11
% Fatal	0.41			0.39			0.39			0.39			0.41		
% Personal Injury	24.61			24.35			23.51			23.82			23.96		
% Property Damage	74.98			75.26			76.10			75.79			75.64		
Alcohol-Related Crashes															
TOTAL	9,794	2.537	15.77	9,995	2.575	15.49	9,777	2.505	14.81	9,544	2.433	13.54	9,508	2.391	13.45
Fatal	204	0.053	0.33	199	0.051	0.31	209	0.054	0.32	194	0.049	0.28	206	0.052	0.29
Personal Injury	4,680	1.212	7.54	4,637	1.195	7.18	4,526	1.160	6.85	4,408	1.124	6.26	4,293	1.080	6.07
Property Damage	4,910	1.272	7.91	5,159	1.329	7.99	5,042	1.292	7.64	4,942	1.260	7.01	5,009	1.260	7.09
Fatalities	229	0.059	0.37	226	0.058	0.35	239	0.061	0.36	214	0.055	0.30	234	0.059	0.33
Injuries	6,893	1.786	11.10	6,889	1.775	10.67	6,664	1.708	10.09	6,524	1.663	9.26	6,364	1.601	9.00
% Fatal	2.08			1.99			2.14			2.03			2.17		
% Personal Injury	47.78			46.39			46.29			46.19			45.15		
% Property Damage	50.13			51.62			51.57			51.78			52.68		
% of all Crashes	4.6			4.5			4.4			4.3			4.4		
% of all Fatal	23.3			23.2			24.0			22.8			23.3		
% of all Personal Injury	8.9			8.6			8.7			8.4			8.3		
% of all Property Damage	3.1			3.1			3.0			3.0			3.1		
VEHICLE MILES TRAVELED (in hundred millions)	621.08			645.41			660.30			704.69			706.95		
LICENSED DRIVERS (LDVR) (in thousands)	3,860.33			3,881.42			3,902.52			3,923.42			3,976.08		

LDVR Rates are expressed per 1000 licensed drivers. VMT Rates are expressed per 100 million vehicle miles traveled.
Licensed Driver Source: Bureau of Motor Vehicles.
Vehicle Miles Traveled Source: Indiana Department of Transportation.
1994 and 1995 corrected for misclassified private property crashes.
1995 and 1996 licensed driver numbers estimated from 1994 and 1997 counts.
Actual 1995 and 1996 licensed driver numbers unavailable.

Table 75

Table 75 details changes in all-crash and alcohol-related crash statistics by crash severity for the most recent five-year period. While the percentage of all crashes that were alcohol-related declined from 4.6 percent 1994 to 4.4 percent in 1998, the percent of fatal crashes that were alcohol-related was the same (23.3 percent) in 1994 and 1998. It remains true that you are much more likely to be killed if you are involved in an alcohol-related crash.

- ***The percentage of alcohol-related crashes in 1998 that were fatal (2.17 percent) was 5.3 times the percentage of all crashes that were fatal.***
- ***The percentage of alcohol-related crashes in 1998 that were personal injury crashes (45.15 percent) was 1.9 times the percentage of all crashes that were personal injury.***

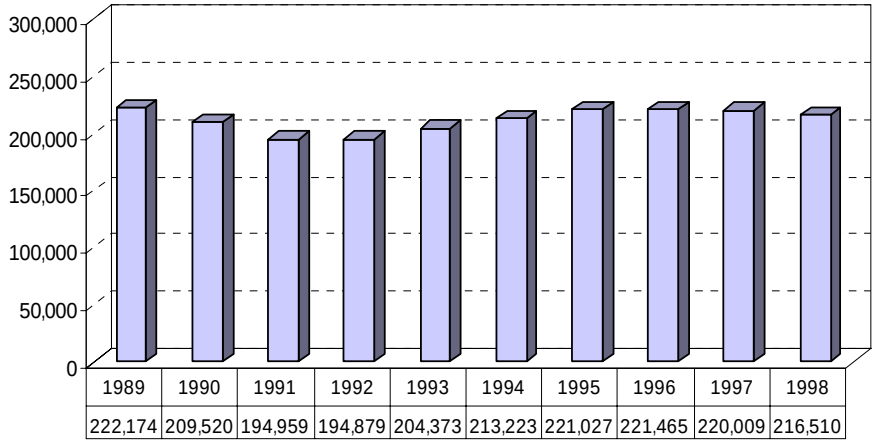
Table 76

Table 76 shows the ten-year history of Indiana alcohol-related crashes broken down by crash severity. It is notable that the percentage of fatal crashes that were alcohol-related was dramatically higher during the 1989-1991 period than the most recent five-year period. To a lesser degree, the percentages of total crashes and personal injury crashes identified as alcohol-related have also fallen from the 1989-1990 time period.

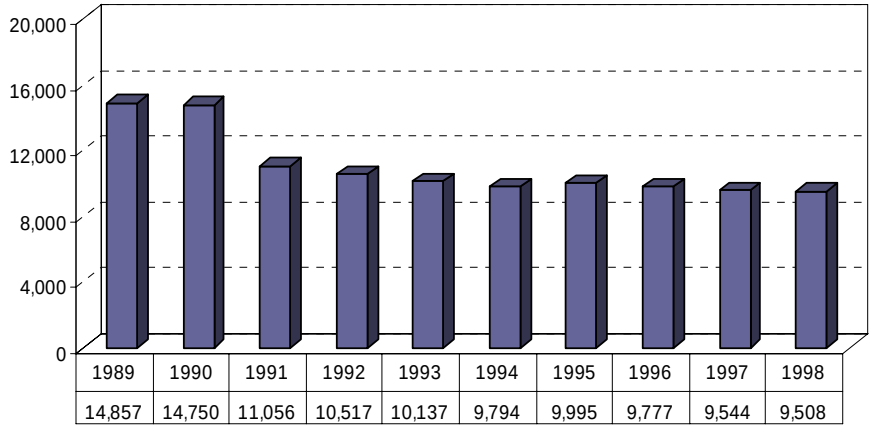
Table 76. Alcohol-Related Crashes by Severity: 1989-1998

Year	Alcohol Crashes	% of All Crashes	Alcohol Fatal Crashes	% of Fatal Crashes	# of Fatal Crashes	Alcohol Personal Injury Crashes	% of Personal Injury Crashes
1989	14,857	**6.7%**	271	**30.7%**	883	6,750	**12.9%**
1990	14,750	**7.0%**	297	**32.1%**	924	6,610	**13.0%**
1991	11,056	**5.7%**	283	**31.3%**	904	5,018	**10.6%**
1992	10,517	**5.4%**	211	**26.4%**	798	4,881	**10.0%**
1993	10,137	**5.0%**	199	**25.4%**	782	4,807	**9.5%**
1994	9,794	**4.6%**	204	**23.3%**	875	4,680	**8.9%**
1995	9,995	**4.5%**	199	**23.2%**	859	4,637	**8.6%**
1996	9,777	**4.4%**	209	**24.0%**	870	4,526	**8.7%**
1997	9,544	**4.3%**	194	**22.9%**	849	4,408	**8.4%**
1998	9,508	**4.4%**	206	**23.3%**	884	4293	**8.3%**

Figure 52. Total Crashes and Alcohol-Related Crashes: 1989-1998



Total Crashes



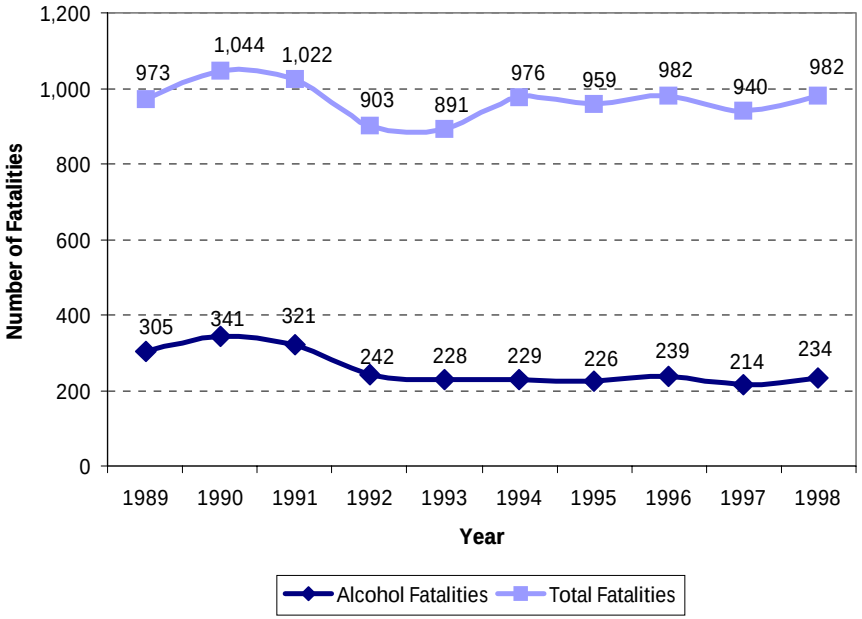
Alcohol-Related Crashes

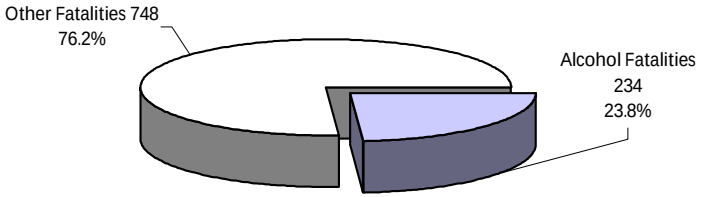
Table 77 also shows the reduction in serious alcohol-related crashes, detailing the fatalities and total injuries in alcohol-related crashes over the past 10 years. Note that while a decline in alcohol-related injuries was evident in 1991, the numbers of alcohol-related fatalities did not decrease significantly until 1992.

Table 77. Alcohol-Related Fatalities and Injuries: 1989-1998

Year	Alcohol Fatalities	Total Fatalities	% Alcohol Fatalities	Alcohol Injuries	Total Injuries	% Alcohol Injuries
1989	305	973	31.3%	10,124	76,447	13.2%
1990	341	1,044	32.7%	9,980	74,916	13.3%
1991	321	1,022	31.4%	7,540	69,280	10.9%
1992	242	903	26.8%	7,327	72,223	10.1%
1993	228	891	25.6%	7,144	75,614	9.4%
1994	229	976	23.5%	6,893	78,105	8.8%
1995	226	959	23.6%	6,889	80,632	8.5%
1996	239	982	24.3%	6,664	77,339	8.6%
1997	214	940	22.8%	6,524	78,262	8.3%
1998	234	982	23.8%	6,364	77,138	8.3%

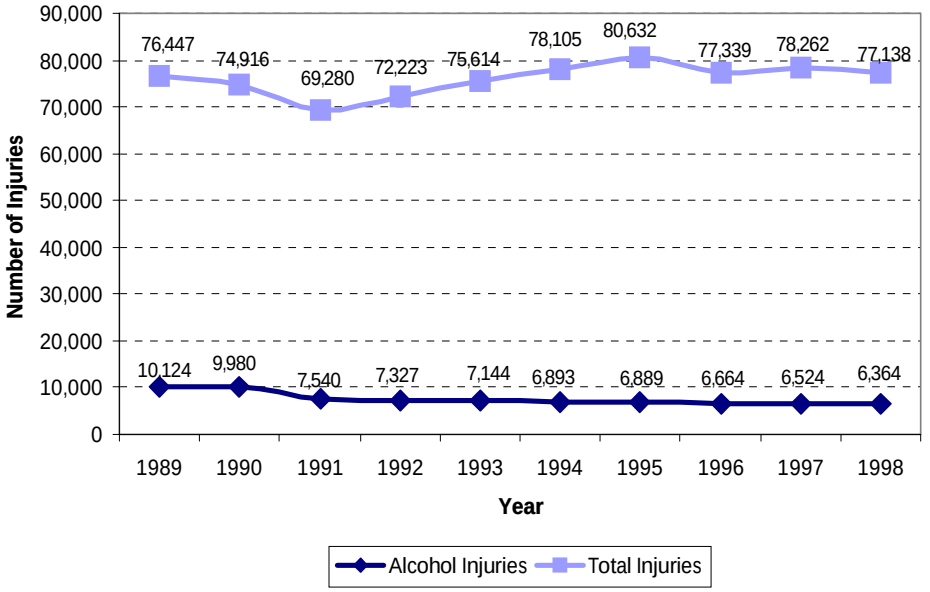
Figure 53. Total Fatalities and Alcohol-Related Fatalities: 1989-1998

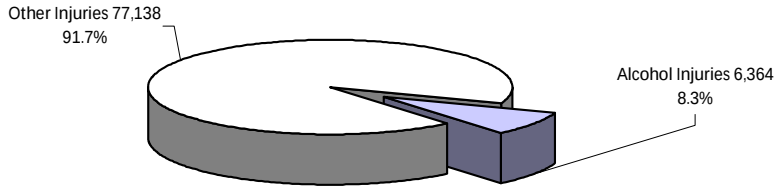




1998 Fatalities

Figure 54. Total Injuries and Alcohol-Related Injuries: 1989-1998





1998 Injuries

Figure 53

- ***In 1998 the number of alcohol-related fatalities increased to 234 from 214 in 1997.***

While alcohol-related fatalities have declined by 23.3 percent since 1989, the total number of fatalities decreased by only 0.9 percent, with most of this decline occurring between 1990 and 1992.

Figure 54

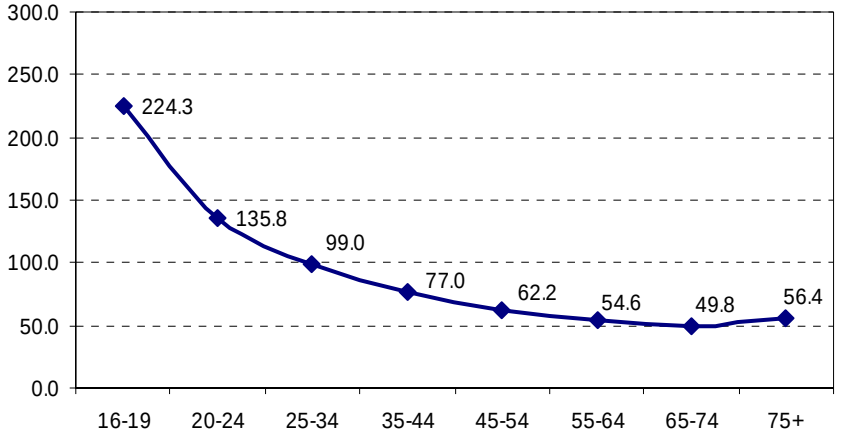
- ***The percentage of all injuries that were alcohol-related has decreased from over 13 percent in 1989 and 1990 to 8.3 percent in both 1997 and 1998.***

Figure 55

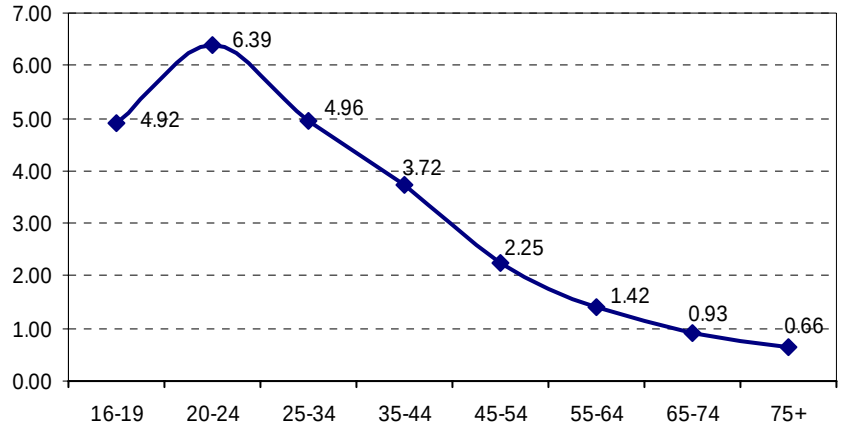
Teenage drivers continue to have much higher crash-involvement rates than older drivers. For alcohol-related crashes, the involvement rate for this group is far too high, at 4.92 crashes per 1,000 licensed drivers, in spite of the fact that all of these drivers are below the legal drinking age. A caution in interpreting Figure 55 is that an involved driver is counted as being in an alcohol-related crash even if he/she was not the drinking driver. It is also almost certainly the case that teenage drivers are behind the wheel for a higher percentage of their total miles traveled on weekend evenings than the typical driver age 35 and older. Since the frequency of alcohol-related crashes is highest during weekend evening and nighttime hours, young adults and teens tend to incur a greater risk of involvement in alcohol-related crashes than older drivers.

- ***The alcohol-related-crash involvement rate per 1,000 licensed drivers for drivers ages 20-24 decreased from 6.55 in 1997 to 6.39 in 1998, but this group continues to have the highest alcohol-involvement rate.***

Figure 55. Crash Rate per 1,000 Licensed Drivers by Age–1998



Total Crashes



Alcohol Crashes

Table 78. Distribution of Driver Ages in Alcohol-Related Crashes: 1994-1998

	1994		1995		1996		1997		1998	
Driver Age	**Drivers**	**LDVR**	**Drivers**	**LDVR**	**Drivers**	**LDVR**	**Drivers**	**LDVR**	**Drivers**	**LDVR**
<21	1,575	299,069	1,623	304,304	1,616	309,538	1,679	314,765	1,642	318,628
% Alcohol	*10.93%*		*10.85%*		*11.65%*		*12.22%*		*12.08%*	
% of LDVR		*0.53%*		*0.53%*		*0.52%*		*0.53%*		*0.52%*
21-34	6,751	1,092,589	6,571	1,070,287	5,971	1,047,984	5,578	1,025,567	5,570	1,021,304
% Alcohol	*46.84%*		*43.94%*		*43.04%*		*40.60%*		*40.97%*	
% of LDVR		*0.62%*		*0.61%*		*0.57%*		*0.54%*		*0.55%*
35-54	4,577	1,494,939	5,146	1,520,611	4,817	1,546,283	5,015	1,571,893	4,913	1,603,286
% Alcohol	*31.76%*		*34.41%*		*34.72%*		*36.50%*		*36.14%*	
% of LDVR		*0.31%*		*0.34%*		*0.31%*		*0.32%*		*0.31%*
55+	1,154	973,732	1,205	986,222	1,470	998,713	1,151	1,011,195	1,149	1,032,857
% Alcohol	*8.01%*		*8.06%*		*10.60%*		*8.38%*		*8.45%*	
% of LDVR		*0.12%*		*0.12%*		*0.15%*		*0.11%*		*0.11%*
Total Drivers	**14,412**	**3,860,329**	**14,955**	**3,881,424**	**13,874**	**3,902,519**	**13,739**	**3,923,420**	**13,595**	**3,976,075**

Note: Drivers of parked vehicles excluded.
1995 and 1996 licensed driver numbers estimated from 1994 and 1997 counts. Actual 1995 and 1996 licensed driver numbers unavailable.
Example: Of the drivers in alcohol-related crashes for 1998, 12.08% (1,642 divided by 13,595) were drivers under age 21.
The percentage of all drivers under age 21 that were involved in alcohol-related crashes was 0.52% (1,642 divided by 318,628) of licensed drivers.
**Totals include unknowns. Legend: LDVR=Licensed Drivers*

Table 78

The number of drivers below the legal drinking age involved in alcohol-related crashes has remained fairly constant over the past three years. Note that in Table 78, the driver involvement numbers include private-property crashes (such as crashes in parking lots) in 1994 and 1995 that are excluded in other years. (See Glossary for further details.) The percentage of under-age-21 drivers that were involved in an alcohol-related crash has been essentially constant at the 1998 level of 0.52 percent.

- ***The percentage of all drivers involved in alcohol-related crashes who were under age-21 continues to be greater than 12 percent for the last two years (1997 and 1998).***

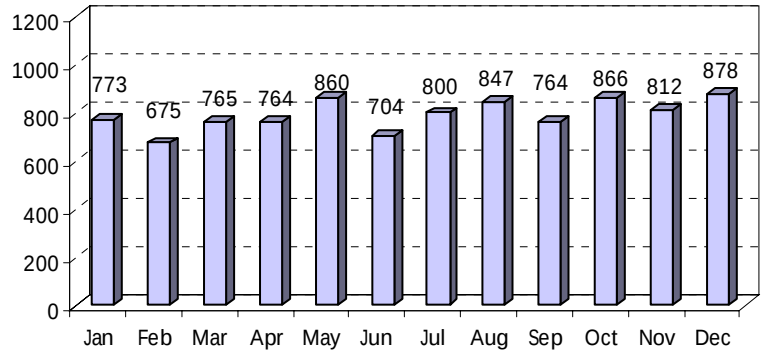
Table 79

Table 79 displays the Primary Contributing Circumstance (PCC) frequencies for alcohol-related crashes. The investigating officer can (and frequently does) judge that some other factor—such as unsafe speed—was the most important factor causing a crash. In most, but not all, instances for which the officer chooses a different PCC, *alcoholic beverages* is coded as a Vehicular Contributing Circumstance (VCC) for at least one of the vehicles in the crash. For some crashes, a BAC level for a driver that exceeds 0.05 is the only factor that results in the crash being classified as alcohol-related.

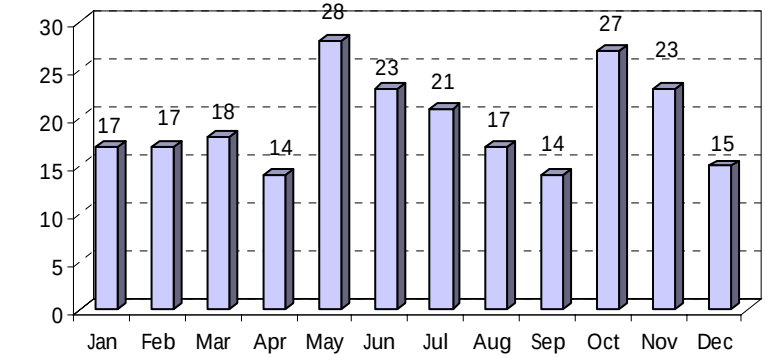
Table 79. Alcohol-Related Crashes by Primary Contributing Circumstance–1998

Primary Contributing Circumstance	Total	Percent	Fatalities	Injuries
Alcoholic Beverages	5,015	52.75%	76	3,180
Illegal Drugs	14	0.15%	1	17
Prescription Drugs	8	0.08%	0	6
Driver Apparently Asleep	198	2.08%	3	101
Driver Inattention	936	9.84%	15	565
Driver Illness	14	0.15%	0	10
Unsafe Speed	675	7.10%	44	559
Failure to Yield Right-of-Way	480	5.05%	13	459
Disregarded Signal/Sign	233	2.45%	12	273
Left of Center	410	4.31%	31	386
Improper Passing	54	0.57%	1	39
Improper Turning	116	1.22%	0	55
Improper Lane Usage	289	3.04%	4	141
Following Too Closely	220	2.31%	1	148
Unsafe Backing	93	0.98%	1	16
Wrong Way on One Way	23	0.24%	3	29
Pedestrian Actions	11	0.12%	1	12
Passenger Distractions	15	0.16%	2	11
Violation of License Restrictions	3	0.03%	0	0
Engine Failure or Defective	5	0.05%	0	1
Accelerator Failure or Defective	5	0.05%	0	1
Brake Failure or Defective	16	0.17%	0	3
Tire Failure or Defective	16	0.17%	1	10
Headlight Defective or Not On	9	0.09%	0	9
Other Lights Defective	1	0.01%	0	2
Steering Failure	8	0.08%	0	4
Tow Hitch Failure	2	0.02%	0	0
Animal(s) Present on Roadway	160	1.68%	0	74
Glare	3	0.03%	0	1
Loose Surface Material	5	0.05%	0	3
Material on Surface (Weather)	84	0.88%	3	49
Holes/Ruts in Surface	3	0.03%	0	2
Shoulder Defective	1	0.01%	0	0
Road Under Construction	1	0.01%	0	0
Obstruction Not Marked	1	0.01%	0	0
View Obstructed By a Vehicle	7	0.07%	0	5
View Obstructed By Other	8	0.08%	1	7
Other	274	2.88%	19	149
Unknown	92	0.97%	2	37
TOTAL	9,508	100.00%	234	6,364

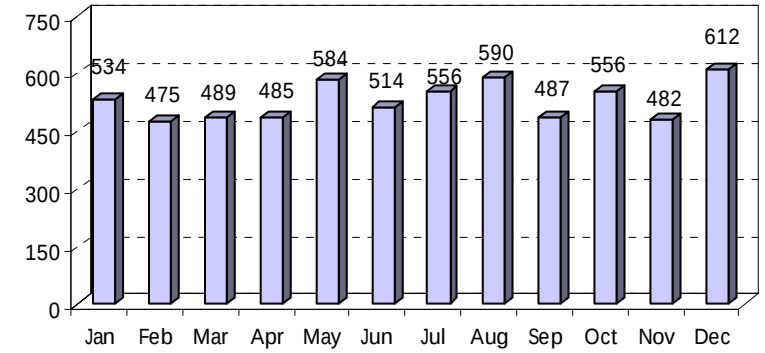
Figure 56. Alcohol-Related Crashes, Fatalities, and Injuries by Month–1998



Total Crashes



Fatalities



Persons Injured

Table 80. Alcohol-Related Crashes, Fatalities, and Injuries by Month–1998

Month	Total Crashes	Fatalities	Persons Injured
January	773	17	534
February	675	17	475
March	765	18	489
April	764	14	485
May	860	28	584
June	704	23	514
July	800	21	556
August	847	17	590
September	764	14	487
October	866	27	556
November	812	23	482
December	878	15	612
Total	**9,508**	**234**	**6,364**

Table 80, Figure 56

Alcohol-related crashes occur throughout the year with February being the only month in 1998 having less than 700.

- ***The months of May (860 crashes, 28 fatalities and 584 injuries) and October (866 crashes, 27 fatalities, and 556 injuries) were the highest months during 1998 for alcohol-related crashes, fatalities, and injuries.***

Table 81, Figure 57

Relatively few of these crashes occur during the busy morning rush-hour period between 6 and 9 AM. Only 190 of the 9,508 (2.0 percent) alcohol-related crashes occurred during morning rush hours in 1998, even though that period accounts for 8.9 percent of total hours and a much higher percentage of total travel. The weekday evening rush-hour period between 4 and 6 PM accounted for 5.7 percent of the total crashes during 5.9 percent of total hours. A higher frequency of alcohol-related crashes occurred during the weekday evening hours. A total of 1,182 alcohol-related crashes occurred between the hours of 6 and 10 PM, Monday through Thursday (12.4 percent of crashes and 9.5 percent of total hours). This indicates that alcohol-related crashes clearly are not isolated to weekend events, but rather, a daily problem.

- ***Of the 9,508 alcohol-related crashes in 1998, 41.0 percent occurred between 3 PM Friday evening and 4 AM Sunday morning. This period accounts for only 22 percent of the hours in a week.***
- ***The 4 AM to 5 PM time interval (54.2 percent of total hours) accounted for only 52, or 22.2 percent, of alcohol-related fatalities in 1998.***

Table 81. Alcohol-Related Crashes by Time of Day and Day of Week with Fatalities and Injuries–1998

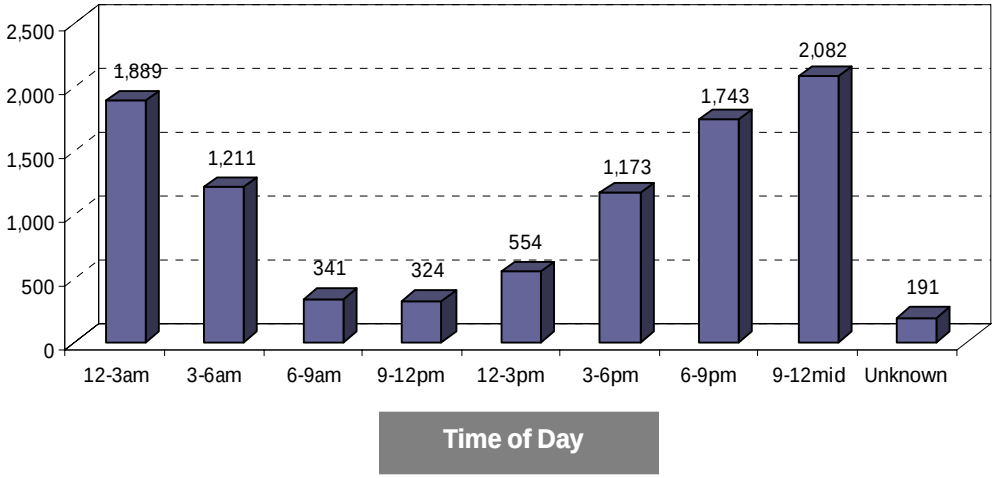
Time	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Total	Injuries	Fatalities
midnight - 1 am	186	62	55	67	67	91	158	**686**	442	8
1 - 2 am	181	34	51	43	65	84	180	**638**	414	19
2 - 3 am	161	16	48	42	60	72	166	**565**	354	21
3 - 4 am	203	6	51	44	92	87	211	**694**	418	17
4 - 5 am	82	9	22	16	45	40	105	**319**	206	11
5 - 6 am	65	8	13	9	13	21	69	**198**	130	8
6 - 7 am	39	7	12	8	22	12	29	**129**	70	2
7 - 8 am	20	7	9	14	18	22	24	**114**	71	1
8 - 9 am	14	9	12	9	14	15	25	**98**	57	2
9 - 10 am	15	6	9	5	16	16	15	**82**	41	3
10 - 11 am	16	12	8	13	11	18	22	**100**	55	2
11 - noon	20	15	14	18	17	25	33	**142**	91	0
noon - 1 pm	18	18	16	21	18	31	31	**153**	97	2
1 - 2 pm	23	16	22	19	26	27	38	**171**	132	4
2 - 3 pm	38	33	24	22	19	37	57	**230**	151	4
3 - 4 pm	56	40	36	45	39	63	72	**351**	221	8
4 - 5 pm	39	43	44	41	49	71	77	**364**	227	5
5 - 6 pm	67	61	52	54	52	77	95	**458**	377	13
6 - 7 pm	80	75	51	74	82	89	108	**559**	430	22
7 - 8 pm	66	78	47	63	84	110	126	**574**	411	12
8 - 9 pm	82	66	67	83	84	111	117	**610**	446	19
9 - 10 pm	78	88	66	93	81	144	139	**689**	444	15
10 - 11 pm	63	72	57	96	101	141	151	**681**	445	19
11 - midnight	46	84	70	100	97	152	163	**712**	532	14
Unknown	40	14	14	20	26	35	42	**191**	102	3
Total	**1,698**	**879**	**870**	**1,019**	**1,198**	**1,591**	**2,253**	**9,508**	**6,364**	**234**

Figure 58

The percentage of fatal alcohol-related crashes occurring on freeways increased from 7.2 in 1997 to 10.2 percent in 1998. The fatality rate per-miles-driven continues to be lower on freeways than on other roadways. According to the Indiana Department of Transportation, 23.0 percent of all VMT in 1998 was travel on Indiana's freeways.

Consistent with historical trends, city streets accounted for the highest frequency of personal injury alcohol-related crashes (41.2 percent) and property damage crashes (51.0 percent).

Figure 57. Alcohol-Related Crashes by Time of Day and Day of Week–1998



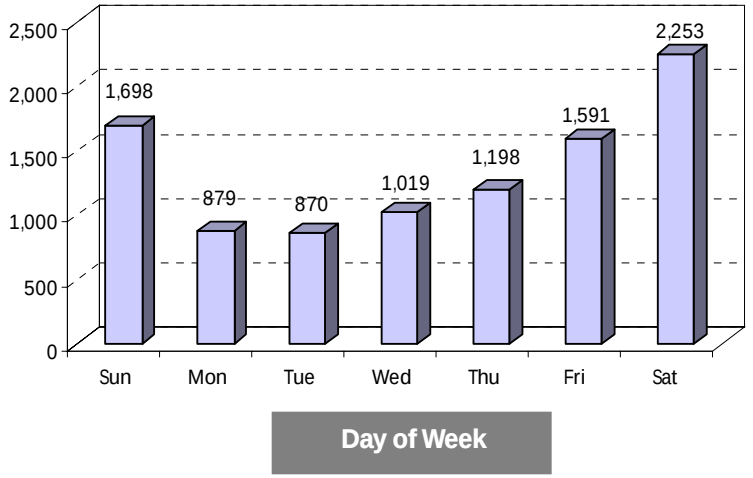
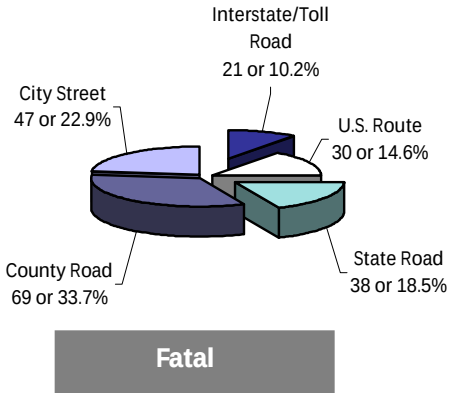
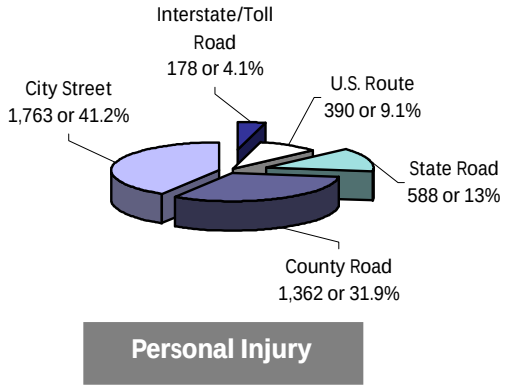
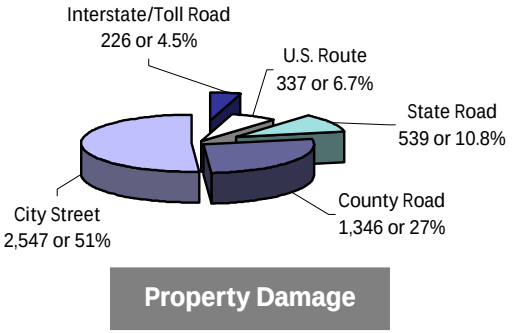


Figure 58. Alcohol-Related Crashes by Severity and Roadway Type–1998







Note: Crashes occurring on unknown roadway types are excluded.

Table 82

The Fatality Analysis Reporting System has been used for data on the BAC levels of killed drivers as presented in Table 82 since this database normally has more complete information than the ISP database for fatal crashes. The Indiana FARS analyst searches databases maintained by the Indiana Department of Toxocology and requests BAC information on killed drivers from coroners and hospital emergency rooms that have not been considered or were unavailable at the time the investigating officer submitted the crash reporting form for a fatal crash. In previous years, BAC information for killed drivers in fatal crashes has been more complete than for surviving drivers in fatal crashes. For example, in 1997, the FARS analyst found and submitted BAC data for 59.2 percent of killed drivers and 45.3 percent of surviving drivers. In 1998, the percentage reported as known for killed drivers fell to 36 percent while the known BAC for surviving drivers increased to 44.6 percent. Caution must be exercised in comparing the results for killed drivers in 1998 with previous years since these results may be based on a biased sample of killed drivers.

In the FARS database, BAC levels below 0.009 are coded as zero. Of killed drivers tested and whose tests results are known, 45.8 percent (99/216) had BAC levels greater than zero and 41.2 percent (89/216) had BAC levels greater than 0.05.

Drivers below the legal drinking age of 21 continue to be the drinking driver in fatal alcohol-related crashes at an unacceptable rate. Of drivers, excluding motorcyclists, under the age of 21 who were killed in a traffic crash and whose BAC test results are known, 28.9 percent (11/38) had BAC levels above zero. Of these, 18.2 percent (2/11) were female, an indication that underage drinking and driving is still primarily a male problem. Overall, 39 (37.1 percent) of the under-age-21 driver fatalities were female.

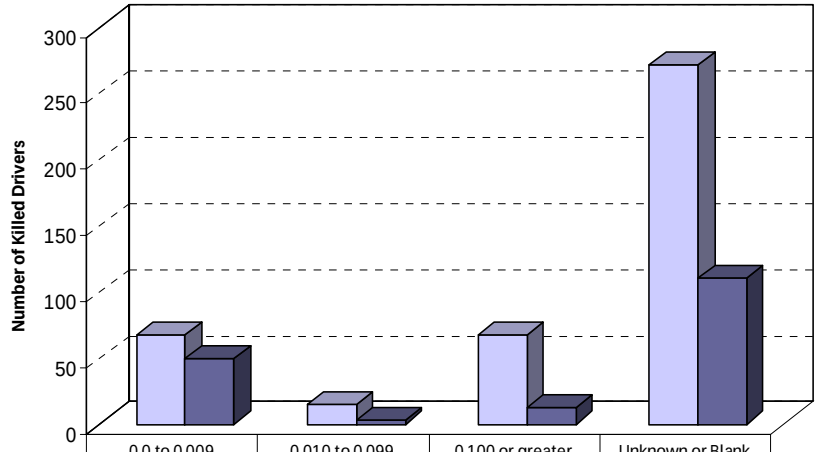
Table 82. Alcohol-Related BAC Test Results for Killed Drivers by Age and Gender–1998

	0.0 to 0.009			0.010 to 0.049			0.050 to 0.099			0.100 or Greater			Unknown or Blank			Total		
Age	**Male**	**Fem**	**Tot**	**Male**	**Fem**	**Tot**	**Male**	**Fem**	**Tot**	**Male**	**Fem**	**Tot**	**Male**	**Fem**	**Tot**	**Male**	**Fem**	**Tot**
10 - 15	1	0	1	0	0	0	0	0	0	0	0	0	3	0	3	4	0	**4**
16	2	2	4	0	0	0	0	0	0	0	0	0	0	6	6	2	8	**10**
17	1	4	5	0	0	0	1	0	1	2	0	2	8	7	15	12	11	**23**
18	5	4	9	0	0	0	0	0	0	0	0	0	9	6	15	14	10	**24**
19	4	0	4	0	0	0	1	0	1	1	1	2	9	4	13	15	5	**20**
20	4	0	4	0	0	0	0	0	0	4	1	5	11	4	15	19	5	**24**
21	1	0	1	1	1	2	0	0	0	0	0	0	13	2	15	15	3	**18**
22	0	0	0	0	0	0	0	0	0	0	0	0	5	1	6	5	1	**6**
23	1	0	1	0	0	0	1	0	1	5	0	5	11	1	12	18	1	**19**
24	0	0	0	1	0	1	0	0	0	4	0	4	6	5	11	11	5	**16**
25 - 34	7	5	12	2	0	2	2	0	2	25	2	27	41	13	54	77	20	**97**
35 - 44	11	14	25	1	2	3	1	0	1	12	3	15	50	18	68	75	37	**112**
45 - 54	9	12	21	1	0	1	1	0	1	7	4	11	20	10	30	38	26	**64**
55 - 64	9	1	10	1	0	1	0	0	0	7	2	9	21	10	31	38	13	**51**
65 - 74	7	4	11	0	0	0	0	0	0	0	0	0	33	11	44	40	15	**55**
75 - 84	4	4	8	0	0	0	1	0	1	1	0	1	23	11	34	29	15	**44**
85+	1	0	1	0	0	0	0	0	0	0	0	0	9	2	11	10	2	**12**
Total	**67**	**50**	**117**	**7**	**3**	**10**	**8**	**0**	**8**	**68**	**13**	**81**	**272**	**111**	**383**	**422**	**177**	**599**

Legend: Fem=Female; Tot=Total
Source: Fatality Analysis Reporting System, NHTSA.
Note: Drivers of motorcycles, mopeds, minibikes, motor scooters, and motorbikes are excluded.
Totals do not include drivers of unknown age and/or gender.

- ***For 1998 the percentage of killed drivers with a known BAC level above Indiana's legal limit (0.10) increased to 37.5 percent from 34.6 percent in 1997.***
- ***Of the 81 killed drivers with BACs at or above the* per se *0.10 level, 9 or 11.1 percent were younger than the legal drinking age of 21, and 36 (44.4 percent) were ages 21-34.***

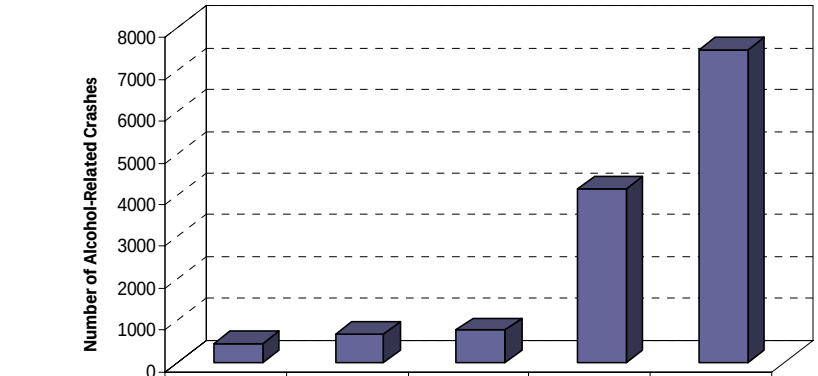
Figure 59. BAC Test Results for Killed Drivers–1998



	0.0 to 0.009	0.010 to 0.099	0.100 or greater	Unknown or Blank
Male	67	15	68	272
Female	50	3	13	111

Source: Fatality Analysis Reporting System, NHTSA.

Figure 60. Driver BAC in Alcohol-Related Crashes–1998



	0.0 to 0.009	0.010 to 0.049	0.050 to 0.099	0.100 or greater	Unknown/ Blank
Number of Drivers	447	675	761	4,150	7,483

Figure 59

- *Of the killed drivers with BAC levels above zero, only 16.2 percent (16/99) were female.*

Figure 60

- *Investigating officers reported a BAC for 6,033, or 44.6 percent, of drivers involved in alcohol-related crashes.*
- *Of the drivers tested with known BACs, 68.8 percent had a BAC at or above Indiana's legal limit of 0.10.*

Table 83. Drivers with BAC Greater Than 0.05 by Age Group: 1989-1998

Age	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
10 - 17	188	186	136	103	104	108	101	109	118	111
18 - 20	687	739	641	544	479	445	441	399	462	413
21 - 24	1,274	1,306	1,171	1,144	1,098	1,119	998	800	821	770
25 - 34	2,374	2,683	2,419	2,337	2,139	2,153	2,006	1,677	1,691	1,441
35 - 44	1,090	1,227	1,265	1,352	1,379	1,398	1,400	1,309	1,418	1,248
45 - 54	467	458	442	538	526	576	614	531	640	571
55 - 64	263	249	209	237	235	242	236	208	210	198
65 - 74	103	93	110	112	105	123	119	92	103	76
75 - 84	17	20	16	11	26	31	20	24	18	11
85+	21	18	29	16	3	6	12	14	20	11
Unknown	18	83	42	17	40	31	22	15	20	18
Total	**6,502**	**7,062**	**6,480**	**6,411**	**6,134**	**6,232**	**5,969**	**5,178**	**5,521**	**4,868**

Note: Drivers of parked vehicles excluded.

Table 83

Table 83 displays the ten-year history of the numbers of drivers in reported crashes with a BAC level exceeding 0.05, the criterion level for an alcohol-related crash. This table shows general declines in this important statistic by year for each driver age category.

- ***In 1998, there were 524 drivers under age 21 with a reported BAC greater than 0.05 in crashes. Thus, less than 0.16 percent (524/318,628) of drivers under the legal drinking age had an investigated crash in which their reported BAC exceeded the 0.05 benchmark.***
- ***In 1998, the number of drivers in crashes with a BAC greater than 0.05 was less than in 1997 for each driver age category.***

Figure 61. Drivers with BAC Greater than 0.05: 1989-1998

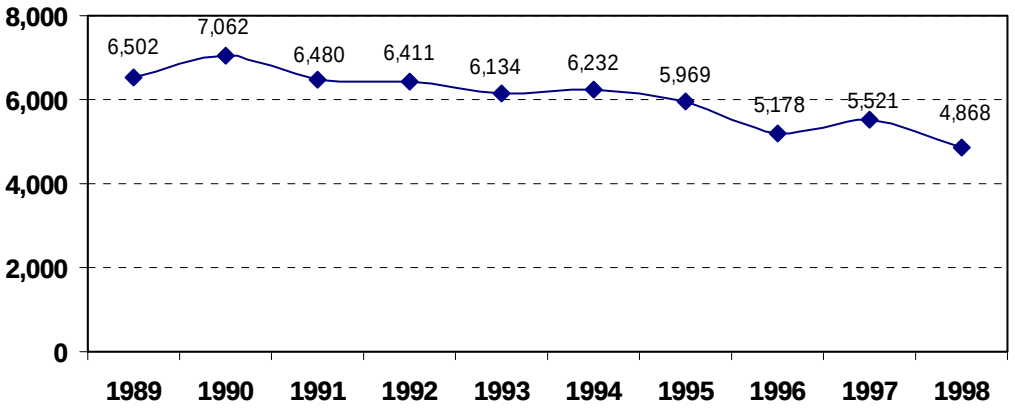


Figure 61

- ***After increasing in 1997 for the first year since 1990, the number of drivers in crashes tested with a BAC greater than 0.05 declined again to an all time low of 4,868. However, a cautious approach should be taken to this decline. If fewer drivers were tested, then the number of positive BAC results would naturally decrease as well.***

Table 84. Motorcycle Driver Fatalities by BAC Test Results: 1989-1998

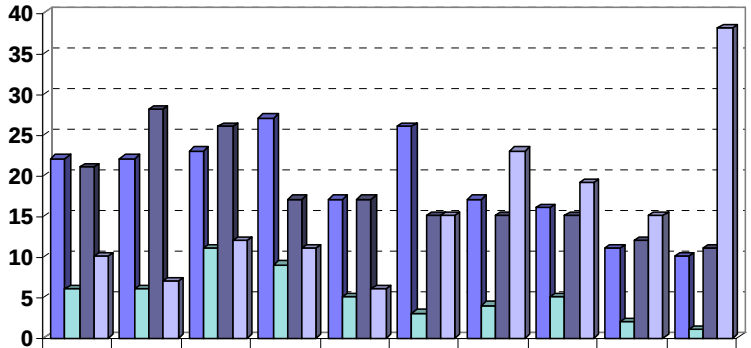
Year	0.0 to 0.009	0.01 to 0.049	0.05 to 0.099	0.100 or Greater	Unknown or Blank	Total
1989	22	1	5	21	10	**59**
1990	22	3	3	28	7	**63**
1991	23	4	7	26	12	**72**
1992	27	4	5	17	11	**64**
1993	17	4	1	17	6	**45**
1994	26	1	2	15	15	**59**
1995	17	3	1	15	23	**59**
1996	16	2	3	15	19	**55**
1997	11	1	1	12	15	**40**
1998	10	0	1	11	38	**60**

Note: Drivers of mopeds, motorized bicycles, motor scooters and minibikes are excluded.
Source: Fatality Analysis Reporting System, NHTSA.

Table 84

Although the number of motorcycle driver fatalities increased to 60 from an all-time low of 40 in 1997, the numbers of killed drivers with reported BACs (FARS) above zero declined to 12, or 20 percent.

Figure 62. Motorcycle Driver Fatalities by BAC Test Results: 1989-1998



	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
0.0 to 0.009	22	22	23	27	17	26	17	16	11	10
0.01 to 0.099	6	6	11	9	5	3	4	5	2	1
0.100 or Greater	21	28	26	17	17	15	15	15	12	11
Unknown or Blank	10	7	12	11	6	15	23	19	15	38

Figure 62

- ***The number of motorcycle driver fatalities for whom the reported BAC exceeded 0.10 declined from 28 in 1990 to 11 in 1998.***
- ***In 1998, 11 of the 60 (18.3 percent) killed motorcycle drivers had a reported BAC at or above the legal limit of 0.10. This compares with 12 of 40, or 30 percent, in 1997. This encouraging news must be qualified with the caution that the percentage of fatalities for which the driver's BAC was unknown increased from 37.5 percent in 1997 to 63.3 percent in 1998.***

Table 85. Pedestrian Fatalities by BAC Test Results: 1989-1998

Year	0.0 to 0.009	0.01 to 0.099	0.1 and Greater	Unknown or Blank	Total
1989	20	3	14	40	**77**
1990	37	4	27	34	**102**
1991	26	2	23	37	**88**
1992	24	4	17	32	**77**
1993	16	5	20	26	**67**
1994	27	2	13	40	**82**
1995	24	3	12	39	**78**
1996	18	4	13	41	**76**
1997	16	1	13	42	**72**
1998	5	1	16	49	**71**

Source: Fatality Analysis Reporting System, NHTSA.

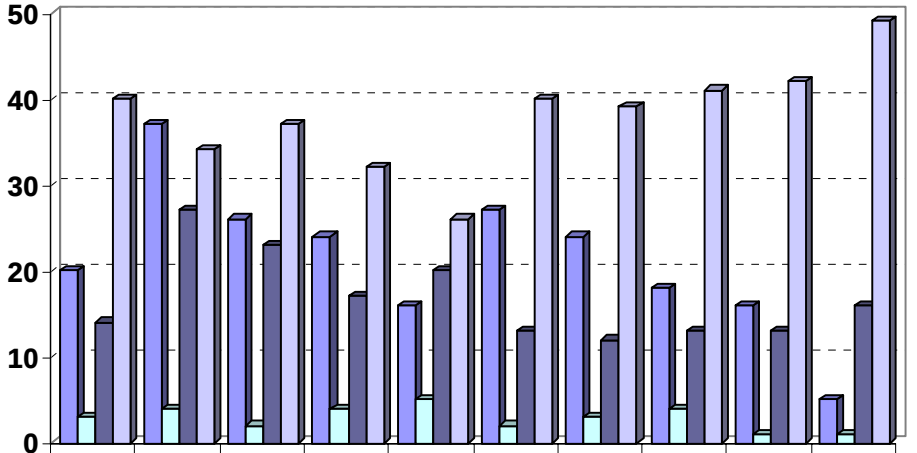
Table 85

For pedestrian fatalities, the percentage tested with known results has been decreasing since 1990, which makes interpretation of Table 85 difficult. In 1998, this unknown percentage increased to 49 of 71 or 69.0 percent. Even if most of the untested pedestrian fatalities had zero or low BACs, it seems likely that the percentage with BACs above 0.10 has been increasing in recent years. It may be necessary to add to the caution "*If you drink, don't drive*" the warning, "*If you drink enough that you shouldn't drive, don't walk where you might be exposed to moving motor vehicles.*"

Figure 63

- ***The percentage of killed pedestrians with a known BAC that exceeded 0.10 increased to 22.5 percent in 1998.***
- ***While the numbers of pedestrians killed has declined over the past 10 years, the percentage of killed pedestrians with high BACs has increased since 1995.***

Figure 63. Pedestrian Fatalities by BAC Test Results: 1989-1998



	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
0.0 to 0.009	20	37	26	24	16	27	24	18	16	5
0.01 to 0.099	3	4	2	4	5	2	3	4	1	1
0.1 and Greater	14	27	23	17	20	13	12	13	13	16
Unknown or Blank	40	34	37	32	26	40	39	41	42	49

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chapter summary

As you first look through this chapter, the amount of data presented can be overwhelming. The fact that there are 92 counties in the State, coupled with the data available from crash reports, BMV records, InDOT mileage data, and court data leads to a "sea" of data. The goal in writing the chapter is to highlight key elements and trends within counties, recognize counties that have made significant and sustained improvements, identify problem areas (with emerging trends), and, most importantly, guide users of the county data in the analysis of their data.

With the feedback received from publishing *1997 Indiana Crash Facts*, there were several comments requesting information on the involvement of deer in highway crashes. That information has been included as part of this chapter and can be found in Table 96.

The data and results in this chapter included both "actual" data and "weighted average" data. In the larger counties such as Marion, St. Joseph, Allen, and Lake, the actual data is a good indicator of county performance. These counties are each experiencing 15,000 to 35,000 crashes annually. On the other hand, many of the smaller counties will have less than 500 crashes annually. For these counties, in order to gain a good understanding of performance, additional data is needed. By looking at recent years and weighting the data, trends can also be established for these counties. That same weighted data is also valuable to establish trends in the large counties. A word of caution—as you review the data, recognize that the data is just that—data. County officials, enforcement officers, volunteers, and all interested parties need to look beyond the data and identify and understand what is truly happening within their communities. The data and subsequent analysis are starting points. Look for other counties that have similar characteristics (e.g., size, geography, industry base, presence of universities, etc.) and compare their performance to your county. Engage in dialogue with them. Learn what they have tried, what has been successful, and what hasn't worked. Steal ideas from each other "shamelessly."

Table 86 presents an overview of crashes by county. Details include a breakdown by property, personal injury, and fatal crashes. Over the five-year period (1994-1998) total crashes for the State have decreased by 3.8% and alcohol-related crashes have decreased by 6.1%. How does your county compare to the statewide results? In terms of total crashes, for every county that showed an increase in the number of crashes, there were approximately three counties that had decreases. There were several counties that showed double digit decreases—(in alphabetical order) Adams, Blackford, Brown, Clinton, Crawford, Delaware, Fayette, Grant, Green, Howard, Huntington, Jay, Lawrence, Newton, Posey, Randolph, Scott, Stark, Switzerland, Tipton, Union, Vermillion, Wabash, and Wells. Of these counties, Greene, Lawrence, and Vermillion had decreases greater than 20%. Marion County showed nearly a four percent decrease in the number of crashes. This equates to five fewer crashes each week and has been decreasing by that rate over the most recent five-year period.

On the other hand, (in alphabetical order) Franklin, Ohio, Pike, Pulaski, and Washington have been experiencing double digit percentage increases in crashes. The impact on each of these counties is that crashes are increasing at the rate of two crashes per week and have been increasing at this rate over the past five years. For larger counties, while the percentage increases are smaller, Hamilton, Hendricks, and Lake counties have seen their rate of crashes increasing by nearly four per week, each year, over the past five years.

A subset of alcohol-related crashes are also shown. Historically, about four percent (4%) of all crashes involve alcohol, but the percent of fatal crashes that involve alcohol is closer to twenty-five percent (25%) of all fatal crashes. The presence of alcohol results in more severe injuries and a significantly higher percentage of deaths. For this reason, considerable attention is given to the subject of alcohol and its involvement in highway crashes. The data presented on alcohol-related crashes, for the above reason, has to be cautiously reviewed. An increase in the number of crashes could be the result of the investigating officer increasing their focus in this area by looking for known circumstances that increase the likelihood of alcohol involvement and ensuring that alcohol tests are performed on the involved drivers. Through a more thorough investigative process, the officers may now be identifying alcohol-related crashes that previously occurred, but were not classified as involving alcohol. On the other hand, an increase in the number of reported alcohol crashes could represent an actual increase. The opposite argument can also be made that officers have reduced their efforts in this area and that a decrease may not truly indicate an improvement. County efforts must first be directed towards thorough investigation of all crashes including obtaining BAC results on all drivers involved in fatal crashes.

Table 87 helps counties identify when crashes are occurring by month of the year. This is another data set where an understanding beyond the numbers themselves is important. While winter months can present unique weather conditions (snow and ice), there are drivers who because of these conditions either don't drive during those times or drive far more cautiously – which should reduce the exposure to crashes and could also reduce severity. The vacation season during the traditional warmer months also increases the amount of travel, and therefore increases our exposure to a potential crash. Certain counties are attractive for viewing fall foliage and traffic increases are experienced during this time of year. Special events such as football games, festivals, etc. can significantly increase the traffic that a county is exposed to. Thus, it is important to review the data with these perspectives in mind.

The first two tables in this chapter have focused on total numbers. Table 89 allows counties to "normalize" their data on the basis of population (per capita), licensed drivers (per 1,000 LDVR), and miles driven within a county (per hundred MVMT [million vehicle miles traveled]). State averages are provided for each crash category (fatal, personal injury, and property) for each of

the three normalization criteria (population, licensed drivers, and miles driven). As you examine the data, a good starting point is to compare your county with the state average. Compare both the current year and the weighted average results. Are the values above or below the state average? What is the trend for the county (Yearly % change column)? Use this data to compare your county with other counties that have similar characteristics.

Another tool to assist in understanding individual county data and aid in the development of countermeasures is to evaluate crashes by the age of drivers involved in the crashes. Table 90 is a distribution of crashes by age categories. Additional trend data is also included for the younger driver (ages 16-20). This group of drivers has twice as many crashes, given the size of the age pool, as compared to older and more experienced drivers. The graduated license legislation, passed in Indiana in 1998, and effective January 1, 1999, significantly limits the driving privileges both in terms of time of day and also by the number and ages of passengers. As the young driver gains practical experience (without committing driving infractions), the driver "earns" the right to greater driving privileges.

While there may be other attributes influencing the results, Crawford and Posey Counties both had results significantly better than the State average.

Counties that are significantly over-represented in the number of drivers under the age of 21 include (in alphabetical order): Allen, Clay, Harrison, Steuben, Tippecanoe, Vanderburgh, Vigo, and White counties. A major impact can be the presence of a university in a county. While a university environment presents some unique challenges, it does also provide a concentrated audience for the development of countermeasure programs. Because of its size, Allen County presents an opportunity that a focused program can have a significant impact both on county and state performance.

Tables 91 through 94 address the impact of alcohol on highway crashes. As a preface to Table 91, the composition and flow of data is important to understand. APC or Affidavit of Probable Cause occurs when an officer has sufficient information and in his/her judgement sees the involvement of alcohol contributing to the crash. The column labeled (APC) is the number of APC's written in that county in 1998. Of those written in 1998, the percentage shown (second column) indicates the rate of repeat offenders (as defined by having a previous APC on the driver's record). The third column (DWI Convictions) is the number of convictions recorded in that county. In comparing convictions to APC's (column 4), there may be a time lapse (in some cases up to two years) between the date of arrest and the date of conviction.

Other definitions include:

T1 – the average number of days from arrest to officer APC receipt at the Indiana Bureau of Motor Vehicles (BMV),

T2 – the average number of days from arrest to court APC disposition,

T3 – the average number of days from APC disposition to DWI disposition,

T4 – the average number of days from court APC disposition to BMV receipt,

T5 – the average number of days from arrest to DWI disposition,

T6 – the average number of days from DWI disposition to BMV receipt.

For comparison purposes, five-year performance data and state averages are shown for T2 and T5. As results are reviewed, caution must be exercised in making comparisons. Because time is involved and arithmetic averages are calculated, one case that has excessive delays can significantly skew the results. As the sample size is increased, the impact of "one large number" is diminished. For example, if there are 50 cases and 49 of those cases are processed within five days each, the average for those 49 cases is five days. If the 50th case takes 210 days to process, the average for the 50 cases is increased to 9.1 days.

Further, a high number or a low number cannot be automatically classified as "good" or "bad." It is extremely important to understand what is "behind" the numbers before any conclusions are made.

Table 92 provides further details for the above table with annual data for 1994 through 1998. In addition to a presentation of the data, comparisons are made based upon the number of licensed drivers in the county. Again, caution has to be used in evaluating the data. An increase in the number of APC's could indicate an increase in the problem or it could also indicate a more aggressive stance taken by the law enforcement community or a combination of the two. Likewise a significant decrease needs to be looked at equally objectively.

Further data is provided in Table 93 where the annual number of total crashes and alcohol-related crashes are shown by year for 1994-1998. A strong case can be made that a county that has fewer than 3.0% of their crashes listed as alcohol-related, is probably under-reporting the level of alcohol involvement in crashes. Counties that are reporting alcohol-related crashes above 6%, in all likelihood have a real problem with alcohol.

The data provided in Table 94 compares alcohol-related crashes to the number of licensed drivers in the county. While comparing your county with the state averages, a general measure to keep in mind is that, if a county's rates are greater than ten percent above the state average, it is a good indicator that there are issues regarding the use of alcohol and driving within the county.

A summary of registered vehicles, licensed drivers, population and miles traveled data is shown in Table 95.

The survey forms that were returned from last year's *Crash Facts* provided us with useful information: our readers wanted the previously discontinued table that displayed deer crashes by county returned to the book. Thus, table 96 was re-introduced this year and depicts deer

crashes by county. The county data is further broken down by rural/urban locale, crash type (fatal, personal injury, or property damage), and injury severity (fatality or injury).

In 1998, there were a total of 395 injuries that occurred due to a crash involving a deer in a rural setting, which represents a 20.8 percent increase over 1994 (327). During this same time period, urban crashes with deer that resulted in personal injuries decreased 14.6 percent (35 in 1998 versus 41 in 1994). Rural fatal crashes with deer continue to be low in number at 3 for 1998, an increase of 1 from 1994. Although the total number of crashes involving deer in rural locales has decreased overall from 1994 by 1.3 percent, the urban total number of deer-involved crashes has actually increased by 12.8 percent over 1994, resulting in a 15.1 percent increase in property damage crashes for urban locales as well.

county data

Table 86. Crash Severity by County–1998

	Total Crashes						Alcohol-Related Crashes					
County	Total Crashes	1994-1998 Weighted Average	1994-1998 Percent Change	Fatal Crashes	Personal Injury	Property Damage	Total Crashes	1994-1998 Weighted Average	1994-1998 Percent Change	Fatal Crashes	Personal Injury	Property Damage
ADAMS	890	911	-10.2%	7	200	683	28	28	40.0%	2	13	13
ALLEN	13,114	13,349	-3.7%	32	2,982	10,100	589	585	5.9%	12	253	324
BARTHOLOMEW	2,383	2,379	-6.1%	12	694	1,677	87	98	-13.0%	1	40	46
BENTON	212	199	4.4%	3	50	159	12	8	100.0%	0	5	7
BLACKFORD	402	418	-11.6%	3	84	315	21	16	10.5%	2	12	7
BOONE	1,452	1,397	8.7%	4	278	1,170	49	50	-3.9%	3	20	26
BROWN	487	511	-13.7%	1	132	354	32	30	77.8%	0	18	14
CARROLL	636	623	2.9%	6	134	496	40	36	25.0%	1	20	19
CASS	1,773	1,780	-1.2%	11	393	1,369	80	74	-13.0%	2	33	45
CLARK	3,434	3,498	-4.2%	9	909	2,516	128	153	-32.3%	1	64	63
CLAY	981	960	-8.5%	4	211	766	37	35	-26.0%	0	20	17
CLINTON	1,028	1,086	-12.1%	3	230	795	46	54	-25.8%	0	19	27
CRAWFORD	230	266	-20.4%	2	63	165	6	7	-33.3%	0	2	4
DAVIESS	844	855	-5.6%	3	218	623	54	50	14.9%	1	30	23
DEARBORN	1,721	1,665	4.4%	7	430	1,284	110	106	19.6%	1	56	53
DECATUR	795	809	-5.9%	6	187	602	53	45	8.2%	3	25	25
DEKALB	1,392	1,417	-5.8%	11	270	1,111	44	50	-27.9%	2	24	18
DELAWARE	4,215	4,410	-10.3%	15	1,076	3,124	181	188	-3.7%	2	79	100
DUBOIS	1,384	1,415	-9.8%	6	306	1,072	71	76	-7.8%	0	31	40
ELKHART	7,243	7,385	0.5%	29	1,757	5,457	278	303	-16.3%	4	147	127
FAYETTE	912	972	-14.3%	1	184	727	35	49	-48.5%	0	10	25
FLOYD	2,466	2,483	1.8%	7	661	1,798	127	131	-9.3%	2	55	70
FOUNTAIN	605	600	-4.9%	2	114	489	43	37	59.3%	0	18	25
FRANKLIN	702	666	10.6%	6	163	533	54	45	42.1%	1	26	27
FULTON	646	638	-1.7%	5	139	502	38	38	-15.6%	1	21	16
GIBSON	1,051	1,052	0.7%	5	235	811	63	53	6.8%	2	37	24
GRANT	2,516	2,654	-10.7%	10	572	1,934	97	106	-14.2%	2	40	55
GREENE	887	944	-21.2%	4	219	664	34	41	-26.1%	1	17	16
HAMILTON	4,638	4,525	4.7%	14	1,086	3,538	110	117	-15.4%	4	52	54
HANCOCK	1,393	1,495	-6.5%	8	380	1,005	61	57	10.9%	3	30	28
HARRISON	1,247	1,236	-1.2%	11	295	941	61	54	17.3%	1	32	28
HENDRICKS	2,698	2,613	8.8%	12	604	2,082	100	96	8.7%	4	45	51
HENRY	1,466	1,479	-9.4%	2	359	1,105	80	68	27.0%	0	26	54
HOWARD	2,548	2,712	-13.5%	11	771	1,766	113	122	-15.0%	3	66	44
HUNTINGTON	1,161	1,272	-11.2%	7	279	875	30	41	-31.8%	2	20	8
JACKSON	1,679	1,687	-7.6%	8	359	1,312	75	74	-7.4%	1	29	45
JASPER	1,054	1,060	-5.9%	10	250	794	55	47	22.2%	3	21	31
JAY	690	737	-17.2%	4	145	541	34	30	-5.6%	1	14	19
JEFFERSON	1,073	1,076	-8.0%	2	303	768	68	61	25.9%	0	32	36
JENNINGS	808	845	-13.1%	4	182	622	16	34	-72.9%	1	8	7
JOHNSON	2,979	2,949	2.4%	15	736	2,228	116	122	-2.5%	2	51	63
KNOX	1,356	1,423	-9.9%	8	373	975	80	74	-16.7%	0	36	44
KOSCIUSKO	2,519	2,583	-6.4%	21	558	1,940	142	139	0.7%	6	72	64
LAGRANGE	1,022	1,054	-0.2%	11	183	828	41	45	-18.0%	1	19	21
LAKE	19,772	19,837	1.4%	67	4,841	14,864	909	934	-1.4%	18	422	469
LAPORTE	4,234	4,262	1.0%	24	1,081	3,129	239	256	-4.0%	10	103	126
LAWRENCE	1,271	1,444	-23.2%	8	331	932	77	80	0.0%	1	37	39
MADISON	4,683	4,791	-4.0%	20	1,150	3,513	231	213	57.1%	4	92	135
MARION	34,556	34,418	-3.8%	85	8,739	25,732	1,238	1292	-14.9%	21	538	679
MARSHALL	1,655	1,676	-4.6%	6	366	1,283	57	73	-39.4%	2	29	26

Table 86. Crash Severity by County–1998 (cont.)

	Total Crashes						Alcohol-Related Crashes					
County	Total Crashes	1994-1998 Weighted Average	1994-1998 Percent Change	Fatal Crashes	Personal Injury	Property Damage	Total Crashes	1994-1998 Weighted Average	1994-1998 Percent Change	Fatal Crashes	Personal Injury	Property Damage
MARTIN	352	340	5.1%	8	75	269	22	21	10.0%	2	11	9
MIAMI	1,106	1,127	-8.2%	7	207	892	41	50	-35.9%	0	14	27
MONROE	4,322	4,399	-1.9%	11	1,014	3,297	155	143	5.4%	4	76	75
MONTGOMERY	1,214	1,264	-4.9%	6	273	935	58	55	1.8%	1	26	31
MORGAN	1,756	1,695	3.6%	14	460	1,282	73	76	5.8%	3	33	37
NEWTON	376	399	-17.2%	6	95	275	19	24	-34.5%	0	10	9
NOBLE	1,642	1,694	-3.9%	10	303	1,329	77	77	5.5%	0	30	47
OHIO	235	219	33.5%	0	46	189	18	17	28.6%	0	7	11
ORANGE	622	619	-2.8%	7	93	522	16	16	45.5%	2	5	9
OWEN	648	649	-5.5%	5	157	486	25	27	8.7%	1	12	12
PARKE	566	537	2.5%	7	110	449	35	31	40.0%	4	17	14
PERRY	695	654	8.8%	2	141	552	33	28	83.3%	0	10	23
PIKE	396	388	10.6%	5	89	302	20	20	11.1%	1	10	9
PORTER	4,690	4,685	0.4%	24	1,311	3,355	202	209	-14.0%	7	97	98
POSEY	499	542	-16.7%	5	119	375	40	34	25.0%	2	19	19
PULASKI	611	573	16.6%	6	102	503	21	23	-34.4%	0	9	12
PUTNAM	1,133	1,182	-5.9%	9	245	879	39	47	-39.1%	1	17	21
RANDOLPH	659	692	-16.8%	3	145	511	36	34	9.1%	2	18	16
RIPLEY	843	860	-7.9%	5	183	655	29	39	-25.6%	0	16	13
RUSH	574	561	-3.9%	2	126	446	24	26	-33.3%	0	12	12
SAINT JOSEPH	9,801	10,013	-4.7%	21	2,388	7,392	507	541	-10.6%	9	212	286
SCOTT	680	745	-12.4%	2	184	494	25	33	-26.5%	0	13	12
SHELBY	1,424	1,409	-3.8%	4	336	1,084	53	74	-45.9%	0	16	37
SPENCER	640	656	-5.6%	7	145	488	48	45	33.3%	2	21	25
STARKE	692	744	-12.0%	13	171	508	53	49	1.9%	5	29	19
STEUBEN	1,576	1,643	-7.8%	6	264	1,306	67	63	-10.7%	2	31	34
SULLIVAN	478	495	-3.8%	4	97	377	2	5	-50.0%	1	0	1
SWITZERLAND	314	338	-15.4%	2	46	266	9	15	-47.1%	0	4	5
TIPPECANOE	6,759	6,576	-4.5%	19	1,291	5,449	297	274	9.2%	3	112	182
TIPTON	386	403	-15.5%	3	111	272	16	13	6.7%	0	4	12
UNION	229	238	-11.9%	1	43	185	13	11	18.2%	0	6	7
VANDERBURGH	7,015	6,960	-4.5%	17	1,788	5,210	336	337	-2.9%	5	163	168
VERMILLION	438	521	-25.8%	2	103	333	33	35	-31.3%	0	19	14
VIGO	4,876	4,979	-6.9%	15	1,226	3,635	232	230	-8.3%	2	99	131
WABASH	1,151	1,197	-13.8%	6	266	879	52	54	-8.8%	1	30	21
WARREN	290	269	3.2%	2	53	235	14	12	55.6%	1	8	5
WARRICK	1,453	1,429	5.4%	9	279	1,165	75	72	-16.7%	3	31	41
WASHINGTON	902	871	16.7%	8	228	666	54	52	17.4%	1	21	32
WAYNE	2,683	2,754	-5.6%	18	720	1,945	130	130	7.4%	2	57	71
WELLS	747	788	-10.6%	3	148	596	21	25	-38.2%	0	10	11
WHITE	1,113	1,094	-8.0%	5	214	894	60	50	3.4%	3	21	36
WHITLEY	1,021	1,041	-4.8%	3	208	810	58	54	-12.1%	2	28	28
INDIANA	**216,510**	**2,378**	**-3.8%**	**884**	**51,865**	**163,761**	**9,508**	**105**	**-6.1%**	**206**	**4,293**	**5,009**

Table 87. Fatal Crashes and Fatalities by County and Month–1998

	January		February		March		April		May		June		July		August		September		October		November		December		Total		1994-1998	
County	Crashes	Fatalities	Crashes	Fatalities	Crashes	Fatalities	Crashes	Fatalities	Crashes	Fatalities	Crashes	Fatalities	Crashes	Fatalities	Crashes	Fatalities	Crashes	Fatalities	Crashes	Fatalities	Crashes	Fatalities	Crashes	Fatalities	Crashes	Fatalities	Fatalities Wtd. Avg.	Rate of Change
ADAMS	0	0	1	1	0	0	0	0	1	1	0	0	1	1	2	2	1	1	1	1	0	0	0	0	7	7	6.20	0.38
ALLEN	6	6	2	2	2	2	5	5	1	2	2	2	1	1	1	2	3	3	5	5	2	2	2	2	32	34	35.80	-1.61
BARTHOLOMEW	2	2	1	1	0	0	0	0	0	0	1	1	1	1	0	0	4	6	1	1	1	1	1	1	12	14	16.67	1.52
BENTON	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	3	3	2.40	-0.01
BLACKFORD	0	0	0	0	1	1	0	0	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	3	3	2.80	0.44
BOONE	0	0	1	3	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1	1	1	0	0	4	6	8.80	0.27
BROWN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	1	2	3.53	-0.53
CARROLL	0	0	0	0	1	1	0	0	1	1	1	1	0	0	1	1	0	0	1	1	1	1	0	0	6	6	5.13	-0.64
CASS	1	2	0	0	1	1	1	1	1	1	3	3	1	1	1	1	0	0	0	0	2	2	0	0	11	12	9.80	0.19
CLARK	0	0	0	0	1	1	1	1	0	0	3	6	2	2	0	0	1	1	0	0	1	1	0	0	9	12	10.07	-0.73
CLAY	0	0	1	1	0	0	1	3	1	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	4	6	6.33	2.09
CLINTON	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1	0	0	0	0	0	0	1	1	3	3	5.87	-0.98
CRAWFORD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	1	1	2	3	2.20	-0.07
DAVIESS	0	0	0	0	0	0	0	0	1	1	1	3	0	0	0	0	1	2	0	0	0	0	0	0	3	6	7.20	0.51
DEARBORN	0	0	1	1	0	0	2	2	0	0	0	0	1	1	1	1	0	0	1	2	1	1	0	0	7	8	7.73	0.98
DECATUR	1	1	0	0	0	0	0	0	2	2	0	0	0	0	1	1	0	0	2	3	0	0	0	0	6	7	7.60	0.37
DEKALB	0	0	2	2	1	1	0	0	0	0	1	1	1	1	3	4	1	1	2	2	0	0	0	0	11	12	9.00	-0.89
DELAWARE	1	1	0	0	0	0	0	0	0	0	1	1	2	2	2	3	1	1	2	2	4	5	2	2	15	17	18.33	-0.61
DUBOIS	0	0	0	0	0	0	0	0	1	1	2	2	0	0	1	1	2	2	0	0	0	0	0	0	6	6	4.20	0.09
ELKHART	0	0	2	2	1	2	2	2	3	3	5	5	3	3	3	3	2	2	3	3	2	2	3	4	29	31	34.13	-0.09
FAYETTE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1	2.67	0.63
FLOYD	0	0	0	0	1	1	1	1	0	0	0	0	2	2	0	0	0	0	1	1	2	2	0	0	7	7	6.87	-0.92
FOUNTAIN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2	2	4.07	0.05
FRANKLIN	0	0	0	0	0	0	1	1	0	0	2	2	0	0	1	4	0	0	0	0	1	1	1	1	6	9	7.20	0.55
FULTON	0	0	0	0	0	0	1	1	0	0	0	0	1	1	0	0	2	3	0	0	1	1	0	0	5	6	7.40	0.28
GIBSON	0	0	0	0	1	2	0	0	1	1	0	0	0	0	0	0	1	1	1	1	0	0	1	1	5	6	4.93	-0.32
GRANT	1	1	1	2	1	1	1	2	2	2	2	2	0	0	1	1	0	0	1	1	0	0	0	0	10	12	10.27	-0.24
GREENE	0	0	0	0	0	0	0	0	1	1	0	0	1	1	0	0	0	0	2	2	0	0	0	0	4	4	4.00	-1.05
HAMILTON	0	0	0	0	0	0	2	3	1	1	1	1	3	3	0	0	3	4	1	1	2	2	1	1	14	16	12.73	0.70
HANCOCK	0	0	0	0	2	2	1	1	0	0	0	0	0	0	1	1	1	2	3	3	0	0	0	0	8	9	8.80	-0.11
HARRISON	1	1	0	0	1	2	0	0	0	0	2	2	1	1	0	0	1	1	4	4	0	0	1	1	11	12	8.80	0.58
HENDRICKS	1	1	1	1	2	2	1	1	0	0	1	1	1	1	2	2	1	1	0	0	1	1	1	1	12	12	13.00	1.42
HENRY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	2	2	5.20	-2.22
HOWARD	1	1	2	2	1	1	0	0	1	1	1	1	2	2	1	1	0	0	0	0	2	2	0	0	11	11	10.33	0.73
HUNTINGTON	1	1	0	0	0	0	0	0	0	0	2	2	0	0	1	1	3	3	0	0	0	0	0	0	7	7	10.33	-1.05
JACKSON	0	0	2	2	0	0	1	1	3	4	0	0	0	0	1	1	0	0	1	1	0	0	0	0	8	9	8.67	0.07
JASPER	1	1	0	0	1	1	1	1	0	0	2	2	2	2	1	1	0	0	1	1	1	1	0	0	10	10	7.67	0.46
JAY	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1	1	1	0	0	1	1	4	4	4.13	-0.01
JEFFERSON	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	2	2	5.13	-0.61
JENNINGS	1	1	0	0	0	0	0	0	0	0	1	1	0	0	1	1	1	1	0	0	0	0	0	0	4	4	4.93	-0.52
JOHNSON	2	2	2	2	1	2	1	1	2	2	0	0	2	2	0	0	2	2	1	1	1	1	1	1	15	16	10.07	0.70
KNOX	1	1	2	2	0	0	0	0	0	0	0	0	1	1	1	2	0	0	0	0	2	3	1	2	8	11	7.53	-0.12
KOSCIUSKO	3	3	1	1	1	1	0	0	3	3	3	5	2	2	2	2	2	2	1	1	1	3	2	2	21	25	21.27	0.09
LAGRANGE	0	0	1	1	1	1	0	0	2	2	0	0	2	2	2	2	0	0	1	1	0	0	2	3	11	12	11.00	0.48
LAKE	4	4	6	7	5	5	6	6	5	5	6	8	3	3	4	4	7	7	7	8	9	10	5	5	67	72	64.47	-0.09

Table 87. Fatal Crashes and Fatalities by County and Month–1998 (cont.)

	January		February		March		April		May		June		July		August		September		October		November		December		Total		1994-1998	
County	Crashes	Fatalities	Crashes	Fatalities	Crashes	Fatalities	Crashes	Fatalities	Crashes	Fatalities	Crashes	Fatalities	Crashes	Fatalities	Crashes	Fatalities	Crashes	Fatalities	Crashes	Fatalities	Crashes	Fatalities	Crashes	Fatalities	Crashes	Fatalities	Fatalities Wtd. Avg.	Rate of Change
LAPORTE	3	3	2	2	2	2	1	1	1	2	1	1	6	7	3	3	0	0	1	1	2	2	2	2	24	26	26.07	-1.01
LAWRENCE	0	0	0	0	1	1	3	3	1	1	0	0	0	0	1	1	0	0	1	1	1	1	0	0	8	8	9.67	-0.34
MADISON	2	2	0	0	2	3	0	0	3	3	1	1	0	0	4	4	2	2	3	3	2	2	1	1	20	21	19.67	0.64
MARION	5	5	6	8	6	7	14	14	7	8	3	4	9	10	4	4	6	7	6	7	6	6	13	13	85	93	86.27	1.54
MARSHALL	2	2	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	0	6	6	9.20	-0.34
MARTIN	0	0	0	0	2	2	0	0	0	0	0	0	1	1	2	2	0	0	1	1	2	2	0	0	8	8	4.60	0.61
MIAMI	0	0	0	0	0	0	1	1	0	0	0	0	1	1	2	3	0	0	2	2	0	0	1	1	7	8	8.67	0.15
MONROE	0	0	2	2	0	0	2	2	1	1	2	2	0	0	0	0	0	0	2	2	1	1	1	2	11	12	12.07	-0.44
MONTGOMERY	1	1	1	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	6	6	8.20	0.07
MORGAN	1	1	0	0	3	5	0	0	1	1	0	0	2	2	3	5	0	0	1	1	2	2	1	1	14	18	12.07	0.98
NEWTON	0	0	0	0	2	3	0	0	0	0	0	0	0	0	1	1	1	1	0	0	1	2	1	1	6	8	5.40	-0.46
NOBLE	3	3	1	2	0	0	0	0	1	1	0	0	1	1	0	0	0	0	1	1	3	3	0	0	10	11	11.93	0.58
OHIO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.33	-0.02
ORANGE	1	1	1	2	0	0	1	1	0	0	1	1	2	3	1	1	0	0	0	0	0	0	0	0	7	9	6.47	1.14
OWEN	1	1	0	0	0	0	1	1	0	0	0	0	1	3	0	0	0	0	1	1	0	0	1	1	5	7	6.47	0.77
PARKE	0	0	2	2	0	0	0	0	1	1	1	1	0	0	0	0	0	0	1	1	1	1	1	1	7	7	4.07	0.25
PERRY	0	0	0	0	1	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2.40	-0.75
PIKE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	2	2	1	1	5	5	3.73	0.52
PORTER	0	0	1	1	3	3	3	3	2	2	2	4	4	4	3	3	1	1	1	1	4	4	0	0	24	26	24.27	-0.20
POSEY	1	1	0	0	0	0	1	1	1	1	0	0	1	2	0	0	1	1	0	0	0	0	0	0	5	6	4.47	-0.33
PULASKI	1	1	0	0	0	0	0	0	2	2	0	0	1	1	1	1	0	0	1	1	0	0	0	0	6	6	3.87	1.17
PUTNAM	1	1	1	2	0	0	0	0	1	1	1	1	0	0	2	2	0	0	1	1	2	2	0	0	9	10	7.13	0.22
RANDOLPH	0	0	1	1	1	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	3	3	6.40	-1.74
RIPLEY	0	0	0	0	1	1	0	0	1	2	0	0	2	2	0	0	0	0	1	1	0	0	0	0	5	6	6.20	0.94
RUSH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	2	2	3.47	0.08
SAINT JOSEPH	4	4	1	1	2	2	2	2	2	2	0	0	2	2	2	2	0	0	2	2	2	2	2	3	21	22	24.87	-0.65
SCOTT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	1	2	2	3.13	-1.24
SHELBY	1	1	1	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	4	5	6.53	-0.68
SPENCER	1	1	0	0	1	2	1	1	0	0	0	0	1	1	0	0	2	2	0	0	1	1	0	0	7	8	5.40	0.25
STARKE	0	0	3	3	0	0	0	0	1	3	1	1	1	1	2	2	0	0	0	0	1	1	4	4	13	15	10.73	0.94
STEUBEN	0	0	0	0	0	0	0	0	0	0	2	4	0	0	0	0	2	2	0	0	1	2	1	1	6	9	7.00	-0.19
SULLIVAN	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1	2	2	0	0	0	0	0	0	4	4	3.60	-0.05
SWITZERLAND	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3	2	3	3.67	0.71
TIPPECANOE	0	0	1	1	2	2	0	0	0	0	2	2	3	3	0	0	4	4	4	4	1	1	2	2	19	19	17.80	-0.24
TIPTON	0	0	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	1	1	0	0	0	0	3	3	3.73	0.32
UNION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	1	1.27	0.34
VANDERBURGH	2	2	3	3	0	0	1	1	3	3	0	0	1	1	1	1	3	3	2	2	0	0	1	1	17	17	14.53	0.46
VERMILLION	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	3	2	4	5.27	-0.05
VIGO	2	2	0	0	0	0	1	2	3	3	3	4	1	1	2	2	0	0	2	2	0	0	1	1	15	17	17.07	0.16
WABASH	0	0	0	0	0	0	0	0	0	0	2	2	0	0	2	2	1	2	0	0	0	0	1	1	6	7	9.93	-0.29
WARREN	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	2	1.60	-0.55
WARRICK	2	3	0	0	0	0	0	0	2	2	0	0	0	0	0	0	1	2	1	1	1	1	2	2	9	11	8.93	0.26
WASHINGTON	1	1	0	0	0	0	0	0	1	1	2	2	0	0	0	0	1	1	0	0	1	1	2	2	8	8	7.07	0.64
WAYNE	1	1	0	0	2	2	2	2	1	1	1	1	4	4	3	4	0	0	1	1	2	2	1	1	18	19	13.47	1.49
WELLS	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	3	3	4.93	-0.99
WHITE	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1	1	2	1	2	5	7	5.00	-0.16
WHITLEY	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1	0	0	0	0	0	0	1	1	3	3	5.00	-0.73
INDIANA	66	68	56	65	60	70	66	71	71	78	73	88	86	92	80	91	74	83	91	97	81	90	0	80	89	884	982		

Legend: Wtd. Avg. = Weighted Average

Table 88. Total Economic Loss for all Reportable Crashes by County–1998

County	1998 Total Economic Loss (Millions of Dollars)	1994-1998 Wtd. Avg. Total Economic Loss	1994-1998 Wtd. Avg. Total Economic Loss Rate of Change	1998 Economic Loss per Capita (Dollars)	1994-1998 Wtd. Avg. Economic Loss per Capita (Dollars)	1994-1998 Wtd. Avg. Economic Loss per Capita $ Change	1994-1998 Wtd. Avg. Economic Loss per Capita % of State Avg.	1998 Economic Loss per Million VMT (Dollars)	1994-1998 Wtd. Avg. Economic Loss per Million VMT (Dollars)	1994-1998 Wtd. Avg. Economic Loss per Million VMT $ Change	1994-1998 Wtd. Avg. Economic Loss per Million VMT % of State Avg.
ADAMS	$12.4	$11.8	$0.81	$374	$353	$10.37	83%	$39,775	$38,488	$807	111.7%
ALLEN	$131.2	$131.1	-$2.17	$417	$421	-$2.59	99%	$40,212	$40,917	-$1,530	118.8%
BARTHOLOMEW	$33.3	$35.4	$1.72	$479	$506	$19.90	119%	$37,943	$42,824	$623	124.3%
BENTON	$4.2	$3.5	$0.21	$434	$358	$4.22	84%	$22,663	$19,273	-$60	56.0%
BLACKFORD	$5.0	$4.9	$0.62	$363	$356	-$4.58	84%	$31,818	$32,720	-$1,102	95.0%
BOONE	$14.7	$16.7	-$1.11	$335	$391	-$1.73	92%	$16,352	$19,163	-$169	55.6%
BROWN	$5.6	$6.4	-$0.41	$349	$423	-$22.76	100%	$34,331	$43,378	-$3,066	125.9%
CARROLL	$9.3	$8.2	-$0.59	$463	$418	-$17.62	98%	$35,047	$32,374	-$1,831	94.0%
CASS	$22.6	$21.3	$1.46	$584	$543	$15.98	128%	$52,275	$50,770	$108	147.4%
CLARK	$39.6	$38.4	$0.07	$422	$417	-$8.51	98%	$29,756	$30,980	-$1,662	89.9%
CLAY	$12.1	$12.2	-$0.37	$455	$448	$37.47	106%	$29,100	$29,561	$1,985	85.8%
CLINTON	$10.3	$12.7	-$2.06	$309	$398	-$25.31	94%	$20,002	$26,736	-$1,929	77.6%
CRAWFORD	$4.4	$3.7	-$0.03	$418	$350	$0.30	82%	$20,331	$17,748	-$553	51.5%
DAVIESS	$11.8	$13.0	$0.37	$406	$447	$13.21	105%	$36,245	$45,498	-$813	132.1%
DEARBORN	$20.8	$20.4	$0.63	$441	$435	$12.34	103%	$36,108	$36,853	$161	107.0%
DECATUR	$11.8	$12.7	-$0.53	$461	$497	$8.55	117%	$25,522	$28,343	-$42	82.3%
DEKALB	$18.7	$16.2	-$0.40	$475	$423	-$13.64	100%	$34,869	$31,706	-$1,640	92.1%
DELAWARE	$48.9	$49.1	$0.98	$418	$416	$4.18	98%	$30,999	$32,581	-$1,681	94.6%
DUBOIS	$15.2	$13.9	$0.20	$382	$352	$4.09	83%	$32,181	$30,447	-$833	88.4%
ELKHART	$84.6	$88.4	$0.63	$491	$518	$2.98	122%	$44,475	$49,222	-$1,184	142.9%
FAYETTE	$7.1	$9.3	-$0.84	$274	$356	$1.94	84%	$29,962	$41,519	-$1,314	120.5%
FLOYD	$26.3	$25.6	-$0.57	$365	$362	-$7.14	85%	$32,877	$34,428	-$2,272	100.0%
FOUNTAIN	$5.7	$7.2	$0.06	$309	$391	$16.65	92%	$22,094	$28,470	$1,190	82.7%
FRANKLIN	$12.4	$11.0	$1.38	$570	$500	$20.00	118%	$44,185	$40,349	$955	117.1%
FULTON	$9.6	$10.3	$0.07	$464	$511	-$4.56	121%	$34,555	$39,660	-$1,277	115.1%
GIBSON	$13.1	$11.8	$0.27	$407	$366	$1.01	86%	$24,888	$23,754	-$786	69.0%
GRANT	$28.9	$27.5	-$0.45	$398	$378	-$3.19	89%	$32,637	$32,917	-$1,670	95.6%
GREENE	$10.4	$10.2	-$0.82	$310	$322	-$27.58	76%	$25,258	$27,491	-$3,149	79.8%
HAMILTON	$50.8	$47.3	$1.81	$312	$307	-$0.47	72%	$28,060	$27,686	-$408	80.4%
HANCOCK	$19.4	$20.2	$0.54	$355	$381	-$2.81	90%	$19,999	$21,818	-$909	63.3%
HARRISON	$19.4	$16.8	-$0.05	$558	$488	$10.73	115%	$40,754	$36,208	$158	105.1%
HENDRICKS	$30.8	$31.0	$0.91	$323	$332	$14.66	78%	$29,310	$30,391	$839	88.2%
HENRY	$12.7	$14.6	-$1.72	$261	$314	-$29.71	74%	$17,236	$21,697	-$2,497	63.0%
HOWARD	$33.0	$32.7	-$0.17	$395	$387	$10.11	91%	$37,502	$38,970	-$350	113.1%
HUNTINGTON	$15.3	$18.0	-$1.18	$411	$495	-$19.03	117%	$26,005	$31,981	-$1,723	92.9%
JACKSON	$19.7	$19.6	-$0.28	$481	$483	-$2.57	114%	$31,901	$32,858	-$991	95.4%
JASPER	$16.6	$14.8	-$0.08	$568	$509	$12.42	120%	$26,490	$23,777	$526	69.0%
JAY	$8.2	$8.4	$0.03	$376	$387	$0.41	91%	$28,906	$31,077	-$492	90.2%
JEFFERSON	$11.3	$12.8	-$0.87	$358	$411	-$2.05	97%	$38,178	$44,168	-$962	128.2%
JENNINGS	$9.4	$10.7	-$1.09	$339	$407	-$22.64	96%	$31,475	$40,832	-$2,920	118.5%
JOHNSON	$37.6	$33.7	$0.92	$344	$312	$7.32	74%	$40,317	$37,461	$1,194	108.8%
KNOX	$20.7	$17.7	-$0.53	$525	$445	-$1.45	105%	$42,382	$36,252	-$587	105.3%
KOSCIUSKO	$38.9	$36.1	-$0.34	$546	$514	-$2.73	121%	$49,488	$49,225	-$2,604	142.9%
LAGRANGE	$16.2	$16.1	$0.60	$485	$485	$17.22	114%	$28,049	$28,675	$76	83.3%
LAKE	$225.5	$222.2	$0.64	$471	$459	$8.89	108%	$47,549	$49,090	-$735	142.5%
LAPORTE	$56.1	$57.3	$0.19	$512	$523	$2.39	123%	$37,870	$41,005	-$1,127	119.1%
LAWRENCE	$17.3	$20.2	-$0.57	$380	$450	-$11.72	106%	$35,246	$45,231	-$2,905	131.3%
MADISON	$57.2	$56.0	-$0.57	$435	$422	$3.60	100%	$39,541	$39,698	-$712	115.3%
MARION	$370.9	$362.7	$3.61	$456	$442	$6.21	104%	$40,121	$39,032	-$461	113.3%
MARSHALL	$17.1	$19.8	-$0.13	$377	$442	-$7.66	104%	$23,228	$28,891	-$1,340	83.9%

Table 88. Total Economic Loss for all Reportable Crashes by County–1998 (cont.)

County	1998 Total Economic Loss (Millions of Dollars)	1994-1998 Wtd. Avg. Total Economic Loss (Millions of Dollars)	1994-1998 Wtd. Avg. Total Economic Loss % Change	1998 Economic Loss per Capita (Dollars)	1994-1998 Wtd. Avg. Economic Loss per Capita (Dollars)	1994-1998 Wtd. Avg. Economic Loss per Capita $ Change	1994-1998 Wtd. Avg. Economic Loss per Capita % of State Avg.	1998 Economic Loss per Million VMT (Dollars)	1994-1998 Wtd. Avg. Economic Loss per Million VMT (Dollars)	1994-1998 Wtd. Avg. Economic Loss per Million VMT $ Change	1994-1998 Wtd. Avg. Economic Loss per Million VMT % of State Avg.
MARTIN	$8.9	$6.5	$0.66	$846	$589	$57.95	139%	$68,564	$48,934	$4,871	142.1%
MIAMI	$13.8	$14.8	$0.50	$410	$442	$8.91	104%	$35,485	$39,375	$125	114.3%
MONROE	$43.9	$43.1	$0.67	$381	$371	$2.57	87%	$44,014	$45,999	-$1,708	133.5%
MONTGOMERY	$13.8	$16.0	-$0.44	$381	$441	$0.16	104%	$23,921	$28,653	-$368	83.2%
MORGAN	$29.1	$23.7	$2.81	$444	$363	$8.96	86%	$36,556	$30,986	$443	90.0%
NEWTON	$9.6	$7.2	$0.22	$649	$507	-$27.89	120%	$39,234	$31,550	-$1,674	91.6%
NOBLE	$19.6	$20.7	$0.10	$460	$491	$5.66	116%	$36,971	$40,417	-$580	117.3%
OHIO	$1.5	$2.0	$0.24	$277	$348	$24.69	82%	$25,409	$34,004	$2,623	98.7%
ORANGE	$11.2	$9.3	$0.98	$573	$457	$53.95	108%	$54,503	$44,967	$4,371	130.6%
OWEN	$10.8	$10.4	$0.74	$528	$497	$38.34	117%	$54,758	$51,182	$3,505	148.6%
PARKE	$9.2	$7.0	$0.06	$553	$415	$9.61	98%	$36,248	$27,862	$623	80.9%
PERRY	$6.3	$6.1	-$0.10	$326	$329	-$24.78	78%	$24,739	$26,576	-$2,283	77.2%
PIKE	$6.8	$5.9	$0.67	$526	$438	$60.75	103%	$27,942	$26,938	$2,621	78.2%
PORTER	$62.1	$60.1	$2.16	$426	$417	$2.73	98%	$37,044	$37,497	-$358	108.9%
POSEY	$8.5	$7.5	$0.19	$321	$288	-$13.08	68%	$20,822	$19,564	-$1,497	56.8%
PULASKI	$8.3	$6.6	$0.18	$624	$477	$54.74	113%	$40,407	$31,966	$3,558	92.8%
PUTNAM	$16.7	$14.1	-$0.24	$484	$414	$0.90	98%	$28,731	$25,008	-$314	72.6%
RANDOLPH	$7.3	$9.4	-$1.75	$266	$364	-$44.54	86%	$20,877	$29,938	-$4,052	86.9%
RIPLEY	$10.8	$11.2	$0.39	$398	$402	$23.91	95%	$28,774	$31,727	$1,014	92.1%
RUSH	$5.9	$7.1	-$0.38	$324	$385	$1.21	91%	$23,900	$29,290	-$249	85.0%
SAINT JOSEPH	$98.3	$103.2	-$1.36	$381	$400	$0.91	94%	$40,962	$46,117	-$1,385	133.9%
SCOTT	$7.7	$8.8	-$0.81	$334	$413	-$48.28	97%	$25,686	$32,991	-$4,825	95.8%
SHELBY	$14.7	$15.5	$0.12	$338	$368	-$14.38	87%	$23,497	$26,115	-$1,254	75.8%
SPENCER	$11.2	$8.9	$0.39	$534	$421	$13.76	99%	$31,397	$25,910	$432	75.2%
STARKE	$18.1	$15.2	$1.04	$754	$624	$34.49	147%	$73,183	$61,620	$2,636	178.9%
STEUBEN	$17.6	$16.0	-$0.20	$559	$514	$2.21	121%	$26,394	$24,772	-$357	71.9%
SULLIVAN	$6.8	$6.1	-$0.27	$354	$309	$2.99	73%	$21,930	$20,611	-$43	59.8%
SWITZERLAND	$4.2	$5.3	$0.77	$472	$585	$71.10	138%	$48,797	$60,645	$6,450	176.1%
TIPPECANOE	$62.2	$58.9	$1.92	$448	$424	$4.03	100%	$43,193	$42,870	-$409	124.5%
TIPTON	$6.2	$6.6	$0.45	$368	$392	$17.79	92%	$20,446	$22,156	$376	64.3%
UNION	$2.3	$2.7	$0.25	$315	$356	$39.47	84%	$26,799	$30,539	$3,409	88.7%
VANDERBURGH	$72.9	$68.3	$0.94	$434	$403	$8.06	95%	$46,403	$46,334	-$1,237	134.5%
VERMILLION	$6.6	$8.0	-$1.01	$391	$484	-$11.21	114%	$22,262	$28,075	-$643	81.5%
VIGO	$54.8	$54.6	-$0.93	$522	$515	$5.70	121%	$44,800	$47,677	-$870	138.4%
WABASH	$14.7	$16.7	-$0.53	$426	$486	-$4.03	115%	$34,422	$41,472	-$1,976	120.4%
WARREN	$3.4	$3.0	-$0.09	$413	$384	-$29.61	91%	$18,896	$17,931	-$1,388	52.1%
WARRICK	$18.5	$17.2	$0.79	$359	$336	$4.34	79%	$30,496	$30,156	-$325	87.6%
WASHINGTON	$13.4	$12.7	$1.06	$479	$456	$18.73	107%	$42,919	$42,077	$1,771	122.2%
WAYNE	$37.9	$34.4	$2.65	$532	$465	$32.25	110%	$32,677	$30,503	$124	88.6%
WELLS	$7.6	$9.3	-$0.80	$284	$360	-$23.52	85%	$24,736	$33,164	-$3,030	96.3%
WHITE	$13.2	$11.1	$0.03	$520	$445	-$9.22	105%	$26,752	$22,947	-$774	66.6%
WHITLEY	$9.6	$11.8	-$0.43	$316	$399	-$14.83	94%	$20,925	$27,496	-$1,760	79.8%
INDIANA	**$2,539.8**			**$431**	**$424**				**$34,444**		

Note: Total Economic Loss is the total socioeconomic cost estimated using the NHTSA crash model. 1998 population estimates obtained from the U.S. Census Bureau.
Legend: Wtd. Avg. = Weighted Average

Table 89. Crashes by County with Rates per 1,000 Licensed Drivers–1998

	Total Crashes												Fatal Crashes				Injury Crashes			
County	1998 Total	1994-1998 Wtd. Avg.	Yearly Rate of Change	1998 Capita	1998 per 1000 Capita	1994-1998 Wtd. Avg. per 1000 Capita	1998 LDVR	1998 per 1000 LDVR	1994-1998 Wtd. Avg. per 1000 LDVR	1998 MVMT	1998 per MVMT	1994-1998 Wtd. Avg. per MVMT	Fatal	per 1000 LDVR	per Capita	per Hundred MVMT	Personal Injury	per 1000 LDVR	per Capita	per Hundred MVMT
ADAMS	890	911	-10.55	33,083	26.9	27.5	20,769	42.9	43.9	311,143,885	2.86	2.93	7	0.34	0.21	2.25	200	9.63	6.05	64.28
ALLEN	13,114	13,349	9.65	314,218	41.7	42.5	214,474	61.1	62.2	3,262,157,570	4.02	4.09	32	0.15	0.10	0.98	2,982	13.90	9.49	91.41
BARTHOLOMEW	2,383	2,379	-6.93	69,579	34.2	34.2	49,849	47.8	47.7	878,781,300	2.71	2.71	12	0.24	0.17	1.37	694	13.92	9.97	78.97
BENTON	212	199	2.02	9,725	21.8	20.5	7,001	30.3	28.4	186,404,405	1.14	1.07	3	0.43	0.31	1.61	50	7.14	5.14	26.82
BLACKFORD	402	418	-15.02	13,910	28.9	30.0	10,043	40.0	41.6	158,617,320	2.53	2.63	3	0.30	0.22	1.89	84	8.36	6.04	52.96
BOONE	1,452	1,397	37.57	43,843	33.1	31.9	31,581	46.0	44.2	899,443,220	1.61	1.55	4	0.13	0.09	0.44	278	8.80	6.34	30.91
BROWN	487	511	-2.06	15,982	30.5	32.0	11,484	42.4	44.5	162,319,880	3.00	3.15	1	0.09	0.06	0.62	132	11.49	8.26	81.32
CARROLL	636	623	0.65	20,010	31.8	31.1	14,582	43.6	42.7	264,108,890	2.41	2.36	6	0.41	0.30	2.27	134	9.19	6.70	50.74
CASS	1,773	1,780	21.97	38,685	45.8	46.0	26,991	65.7	65.9	432,379,365	4.10	4.12	11	0.41	0.28	2.54	393	14.56	10.16	90.89
CLARK	3,434	3,498	15.98	93,805	36.6	37.3	67,015	51.2	52.2	1,329,461,400	2.58	2.63	9	0.13	0.10	0.68	909	13.56	9.69	68.37
CLAY	981	960	-6.44	26,637	36.8	36.1	18,824	52.1	51.0	416,785,835	2.35	2.30	4	0.21	0.15	0.96	211	11.21	7.92	50.63
CLINTON	1,028	1,086	-15.00	33,215	30.9	32.7	22,441	45.8	48.4	513,378,340	2.00	2.11	3	0.13	0.09	0.58	230	10.25	6.92	44.80
CRAWFORD	230	266	-4.72	10,582	21.7	25.1	7,607	30.2	35.0	217,714,835	1.06	1.22	2	0.26	0.19	0.92	63	8.28	5.95	28.94
DAVIESS	844	855	11.55	28,987	29.1	29.5	18,143	46.5	47.1	324,652,535	2.60	2.63	3	0.17	0.10	0.92	218	12.02	7.52	67.15
DEARBORN	1,721	1,665	42.57	47,206	36.5	35.3	32,731	52.6	50.9	576,338,650	2.99	2.89	7	0.21	0.15	1.21	430	13.14	9.11	74.61
DECATUR	795	809	1.13	25,562	31.1	31.7	17,664	45.0	45.8	461,641,780	1.72	1.75	6	0.34	0.23	1.30	187	10.59	7.32	40.51
DEKALB	1,392	1,417	4.36	39,330	35.4	36.0	27,581	50.5	51.4	536,013,815	2.60	2.64	11	0.40	0.28	2.05	270	9.79	6.86	50.37
DELAWARE	4,215	4,410	-65.47	116,828	36.1	37.7	75,101	56.1	58.7	1,576,631,735	2.67	2.80	15	0.20	0.13	0.95	1,076	14.33	9.21	68.25
DUBOIS	1,384	1,415	6.92	39,682	34.9	35.7	28,179	49.1	50.2	471,091,995	2.94	3.00	6	0.21	0.15	1.27	306	10.86	7.71	64.96
ELKHART	7,243	7,385	199.30	172,310	42.0	42.9	111,695	64.8	66.1	1,902,893,920	3.81	3.88	29	0.26	0.17	1.52	1,757	15.73	10.20	92.33
FAYETTE	912	972	-12.04	25,969	35.1	37.4	17,821	51.2	54.5	237,714,280	3.84	4.09	1	0.06	0.04	0.42	184	10.32	7.09	77.40
FLOYD	2,466	2,483	31.52	71,990	34.3	34.5	49,026	50.3	50.6	799,983,640	3.08	3.10	7	0.14	0.10	0.88	661	13.48	9.18	82.63
FOUNTAIN	605	600	10.23	18,348	33.0	32.7	13,306	45.5	45.1	256,637,705	2.36	2.34	2	0.15	0.11	0.78	114	8.57	6.21	44.42
FRANKLIN	702	666	21.21	21,808	32.2	30.5	14,756	47.6	45.1	281,310,975	2.50	2.37	6	0.41	0.28	2.13	163	11.05	7.47	57.94
FULTON	646	638	-2.52	20,620	31.3	30.9	14,522	44.5	43.9	276,841,550	2.33	2.30	5	0.34	0.24	1.81	139	9.57	6.74	50.21
GIBSON	1,051	1,052	18.05	32,149	32.7	32.7	23,101	45.5	45.5	525,801,480	2.00	2.00	5	0.22	0.16	0.95	235	10.17	7.31	44.69
GRANT	2,516	2,654	-11.60	72,570	34.7	36.6	49,116	51.2	54.0	885,518,835	2.84	3.00	10	0.20	0.14	1.13	572	11.65	7.88	64.59
GREENE	887	944	-31.11	33,467	26.5	28.2	22,920	38.7	41.2	410,719,535	2.16	2.30	4	0.17	0.12	0.97	219	9.55	6.54	53.32
HAMILTON	4,638	4,525	158.59	162,597	28.5	27.8	119,034	39.0	38.0	1,810,302,545	2.56	2.50	14	0.12	0.09	0.77	1,086	9.12	6.68	59.99
HANCOCK	1,393	1,495	23.47	54,524	25.5	27.4	40,226	34.6	37.2	968,683,720	1.44	1.54	8	0.20	0.15	0.83	380	9.45	6.97	39.23
HARRISON	1,247	1,236	18.29	34,730	35.9	35.6	25,514	48.9	48.4	475,815,460	2.62	2.60	11	0.43	0.32	2.31	295	11.56	8.49	62.00
HENDRICKS	2,698	2,613	106.53	95,146	28.4	27.5	68,599	39.3	38.1	1,049,537,790	2.57	2.49	12	0.17	0.13	1.14	604	8.80	6.35	57.55
HENRY	1,466	1,479	-0.47	48,785	30.1	30.3	35,591	41.2	41.5	737,460,235	1.99	2.01	2	0.06	0.04	0.27	359	10.09	7.36	48.68
HOWARD	2,548	2,712	-25.10	83,452	30.5	32.5	59,340	42.9	45.7	878,932,410	2.90	3.09	11	0.19	0.13	1.25	771	12.99	9.24	87.72
HUNTINGTON	1,161	1,272	4.15	37,259	31.2	34.1	26,051	44.6	48.8	588,986,265	1.97	2.16	7	0.27	0.19	1.19	279	10.71	7.49	47.37
JACKSON	1,679	1,687	1.78	40,992	41.0	41.1	29,293	57.3	57.6	617,770,530	2.72	2.73	8	0.27	0.20	1.29	359	12.26	8.76	58.11
JASPER	1,054	1,060	-2.33	29,260	36.0	36.2	21,371	49.3	49.6	627,633,560	1.68	1.69	10	0.47	0.34	1.59	250	11.70	8.54	39.83
JAY	690	737	-5.57	21,729	31.8	33.9	15,488	44.6	47.6	283,006,765	2.44	2.61	4	0.26	0.18	1.41	145	9.36	6.67	51.24
JEFFERSON	1,073	1,076	5.36	31,466	34.1	34.2	21,123	50.8	50.9	294,888,975	3.64	3.65	2	0.09	0.06	0.68	303	14.34	9.63	102.75
JENNINGS	808	845	7.78	27,789	29.1	30.4	18,226	44.3	46.4	299,460,600	2.70	2.82	4	0.22	0.14	1.34	182	9.99	6.55	60.78
JOHNSON	2,979	2,949	63.92	109,368	27.2	27.0	78,121	38.1	37.7	932,499,080	3.19	3.16	15	0.19	0.14	1.61	736	9.42	6.73	78.93
KNOX	1,356	1,423	-31.86	39,388	34.4	36.1	26,535	51.1	53.6	487,886,375	2.78	2.92	8	0.30	0.20	1.64	373	14.06	9.47	76.45
KOSCIUSKO	2,519	2,583	-3.45	71,207	35.4	36.3	49,805	50.6	51.9	785,325,240	3.21	3.29	21	0.42	0.29	2.67	558	11.20	7.84	71.05
LAGRANGE	1,022	1,054	20.16	33,484	30.5	31.5	16,944	60.3	62.2	579,333,475	1.76	1.82	11	0.65	0.33	1.90	183	10.80	5.47	31.59
LAKE	19,772	19,837	367.24	478,323	41.3	41.5	293,999	67.3	67.5	4,741,472,640	4.17	4.18	67	0.23	0.14	1.41	4,841	16.47	10.12	102.10
LAPORTE	4,234	4,262	77.19	109,461	38.7	38.9	72,375	58.5	58.9	1,481,297,750	2.86	2.88	24	0.33	0.22	1.62	1,081	14.94	9.88	72.98
LAWRENCE	1,271	1,444	-45.84	45,615	27.9	31.7	32,304	39.3	44.7	491,141,445	2.59	2.94	8	0.25	0.18	1.63	331	10.25	7.26	67.39
MADISON	4,683	4,791	-34.37	131,360	35.7	36.5	89,939	52.1	53.3	1,445,922,680	3.24	3.31	20	0.22	0.15	1.38	1,150	12.79	8.75	79.53
MARION	34,556	34,418	137.53	813,405	42.5	42.3	523,261	66.0	65.8	9,244,123,955	3.74	3.72	85	0.16	0.10	0.92	8,739	16.70	10.74	94.54
MARSHALL	1,655	1,676	-3.94	45,444	36.4	36.9	30,125	54.9	55.6	737,265,325	2.24	2.27	6	0.20	0.13	0.81	366	12.15	8.05	49.64

Table 89. Crashes by County with Rates per 1,000 Licensed Drivers–1998 (cont.)

	Total Crashes												Fatal Crashes				Injury Crashes			
County	1998 Total	1994-1998 Wtd. Avg.	Yearly Rate of Change	1998 Capita	1998 per 1000 Capita	1994-1998 Wtd. Avg. per 1000 Capita	1998 LDVR	1998 per 1000 LDVR	1994-1998 Wtd. Avg. per 1000 LDVR	1998 MVMT	1998 per MVMT	1994-1998 Wtd. Avg. per MVMT	Fatal	per 1000 LDVR	per Capita	per Hundred MVMT	Personal Injury	per 1000 LDVR	per Capita	per Hundred MVMT
MARTIN	352	340	4.15	10,531	33.4	32.3	7,587	46.4	44.9	129,935,255	2.71	2.62	8	1.05	0.76	6.16	75	9.89	7.12	57.72
MIAMI	1,106	1,127	-8.56	33,543	33.0	33.6	24,459	45.2	46.1	387,659,930	2.85	2.91	7	0.29	0.21	1.81	207	8.46	6.17	53.40
MONROE	4,322	4,399	65.83	115,130	37.5	38.2	69,822	61.9	63.0	996,892,380	4.34	4.41	11	0.16	0.10	1.10	1,014	14.52	8.81	101.72
MONTGOMERY	1,214	1,264	-14.05	36,337	33.4	34.8	25,902	46.9	48.8	578,467,695	2.10	2.19	6	0.23	0.17	1.04	273	10.54	7.51	47.19
MORGAN	1,756	1,695	22.39	65,500	26.8	25.9	45,562	38.5	37.2	795,068,185	2.21	2.13	14	0.31	0.21	1.76	460	10.10	7.02	57.86
NEWTON	376	399	-9.03	14,734	25.5	27.1	10,383	36.2	38.5	243,739,335	1.54	1.64	6	0.58	0.41	2.46	95	9.15	6.45	38.98
NOBLE	1,642	1,694	24.54	42,626	38.5	39.7	29,703	55.3	57.0	530,705,255	3.09	3.19	10	0.34	0.23	1.88	303	10.20	7.11	57.09
OHIO	235	219	9.74	5,423	43.3	40.4	4,145	56.7	52.9	59,203,365	3.97	3.70	0	0.00	0.00	0.00	46	11.10	8.48	77.70
ORANGE	622	619	9.35	19,606	31.7	31.6	13,398	46.4	46.2	206,173,170	3.02	3.00	7	0.52	0.36	3.40	93	6.94	4.74	45.11
OWEN	648	649	-1.04	20,419	31.7	31.8	14,346	45.2	45.2	196,812,380	3.29	3.30	5	0.35	0.24	2.54	157	10.94	7.69	79.77
PARKE	566	537	0.01	16,720	33.9	32.1	11,148	50.8	48.2	255,073,315	2.22	2.11	7	0.63	0.42	2.74	110	9.87	6.58	43.12
PERRY	695	654	11.55	19,350	35.9	33.8	13,473	51.6	48.6	254,791,535	2.73	2.57	2	0.15	0.10	0.78	141	10.47	7.29	55.34
PIKE	396	388	16.56	12,882	30.7	30.1	9,272	42.7	41.8	242,487,750	1.63	1.60	5	0.54	0.39	2.06	89	9.60	6.91	36.70
PORTER	4,690	4,685	81.40	145,726	32.2	32.1	101,627	46.1	46.1	1,675,123,335	2.80	2.80	24	0.24	0.16	1.43	1,311	12.90	9.00	78.26
POSEY	499	542	-21.05	26,512	18.8	20.4	19,011	26.2	28.5	409,293,480	1.22	1.32	5	0.26	0.19	1.22	119	6.26	4.49	29.07
PULASKI	611	573	12.34	13,257	46.1	43.2	9,651	63.3	59.4	204,606,955	2.99	2.80	6	0.62	0.45	2.93	102	10.57	7.69	49.85
PUTNAM	1,133	1,182	-5.83	34,468	32.9	34.3	22,801	49.7	51.8	580,525,565	1.95	2.04	9	0.39	0.26	1.55	245	10.75	7.11	42.20
RANDOLPH	659	692	-15.99	27,628	23.9	25.1	19,910	33.1	34.8	351,585,520	1.87	1.97	3	0.15	0.11	0.85	145	7.28	5.25	41.24
RIPLEY	843	860	14.00	27,205	31.0	31.6	19,808	42.6	43.4	376,133,230	2.24	2.29	5	0.25	0.18	1.33	183	9.24	6.73	48.65
RUSH	574	561	-0.02	18,307	31.4	30.6	12,845	44.7	43.6	248,305,850	2.31	2.26	2	0.16	0.11	0.81	126	9.81	6.88	50.74
SAINT JOSEPH	9,801	10,013	57.46	258,088	38.0	38.8	165,952	59.1	60.3	2,398,836,210	4.09	4.17	21	0.13	0.08	0.88	2,388	14.39	9.25	99.55
SCOTT	680	745	-13.12	22,939	29.6	32.5	15,935	42.7	46.7	298,682,785	2.28	2.49	2	0.13	0.09	0.67	184	11.55	8.02	61.60
SHELBY	1,424	1,409	13.90	43,451	32.8	32.4	29,793	47.8	47.3	625,766,585	2.28	2.25	4	0.13	0.09	0.64	336	11.28	7.73	53.69
SPENCER	640	656	-0.68	20,937	30.6	31.3	14,608	43.8	44.9	356,071,370	1.80	1.84	7	0.48	0.33	1.97	145	9.93	6.93	40.72
STARKE	692	744	2.37	23,968	28.9	31.1	16,088	43.0	46.3	247,101,715	2.80	3.01	13	0.81	0.54	5.26	171	10.63	7.13	69.20
STEUBEN	1,576	1,643	26.58	31,450	50.1	52.2	22,945	68.7	71.6	666,376,850	2.37	2.47	6	0.26	0.19	0.90	264	11.51	8.39	39.62
SULLIVAN	478	495	1.12	19,270	24.8	25.7	14,397	33.2	34.4	311,202,650	1.54	1.59	4	0.28	0.21	1.29	97	6.74	5.03	31.17
SWITZERLAND	314	338	-0.55	8,893	35.3	38.0	5,872	53.5	57.5	85,956,040	3.65	3.93	2	0.34	0.22	2.33	46	7.83	5.17	53.52
TIPPECANOE	6,759	6,576	52.99	139,005	48.6	47.3	87,292	77.4	75.3	1,441,078,400	4.69	4.56	19	0.22	0.14	1.32	1,291	14.79	9.29	89.59
TIPTON	386	403	-2.39	16,724	23.1	24.1	12,252	31.5	32.9	301,163,690	1.28	1.34	3	0.24	0.18	1.00	111	9.06	6.64	36.86
UNION	229	238	2.01	7,263	31.5	32.8	5,401	42.4	44.1	85,441,755	2.68	2.79	1	0.19	0.14	1.17	43	7.96	5.92	50.33
VANDERBURGH	7,015	6,960	-30.96	168,179	41.7	41.4	113,843	61.6	61.1	1,571,753,145	4.46	4.43	17	0.15	0.10	1.08	1,788	15.71	10.63	113.76
VERMILLION	438	521	-13.22	16,908	25.9	30.8	12,324	35.5	42.3	296,842,090	1.48	1.76	2	0.16	0.12	0.67	103	8.36	6.09	34.70
VIGO	4,876	4,979	-40.05	105,083	46.4	47.4	66,888	72.9	74.4	1,224,274,970	3.98	4.07	15	0.22	0.14	1.23	1,226	18.33	11.67	100.14
WABASH	1,151	1,197	-5.90	34,537	33.3	34.7	24,769	46.5	48.3	427,415,000	2.69	2.80	6	0.24	0.17	1.40	266	10.74	7.70	62.23
WARREN	290	269	1.45	8,251	35.1	32.5	5,976	48.5	44.9	180,291,750	1.61	1.49	2	0.33	0.24	1.11	53	8.87	6.42	29.40
WARRICK	1,453	1,429	19.80	51,609	28.2	27.7	38,006	38.2	37.6	606,846,810	2.39	2.35	9	0.24	0.17	1.48	279	7.34	5.41	45.98
WASHINGTON	902	871	32.80	27,900	32.3	31.2	18,145	49.7	48.0	311,373,470	2.90	2.80	8	0.44	0.29	2.57	228	12.57	8.17	73.22
WAYNE	2,683	2,754	25.53	71,313	37.6	38.6	48,684	55.1	56.6	1,160,275,870	2.31	2.37	18	0.37	0.25	1.55	720	14.79	10.10	62.05
WELLS	747	788	-1.51	26,842	27.8	29.4	19,652	38.0	40.1	308,212,935	2.42	2.56	3	0.15	0.11	0.97	148	7.53	5.51	48.02
WHITE	1,113	1,094	-9.05	25,338	43.9	43.2	18,572	59.9	58.9	492,572,245	2.26	2.22	5	0.27	0.20	1.02	214	11.52	8.45	43.45
WHITLEY	1,021	1,041	0.33	30,459	33.5	34.2	22,241	45.9	46.8	460,046,730	2.22	2.26	3	0.13	0.10	0.65	208	9.35	6.83	45.21
INDIANA	**216,510**	**2,378**		**5,899,195**			**3,976,075**			**70,695,402,045**	**3.06**	**0.03**	**884**	**0.22**	**0.15**	**1.25**	**51,865**	**13.04**	**8.79**	**73.36**

Source: Indiana Bureau of Motor Vehicles, Indiana Department of Transportation, US Census Bureau
Legend: Wtd. Avg. = Weighted Average

county data

Table 90. Drivers in Crashes by Age Group by County–1998

County	1994-1998 Wtd. Avg. % Drivers Age 16-20 in Crashes per Capita	1994-1998 Wtd. Avg. Yearly % Change	1998 Drivers Age 16-20 in Crashes per Capita	Driver Age <21	21-24	25-34	35-44	45-54	55-64	65-74	75+	Unknown	Total
ADAMS	13.71	-10%	10.37	343	120	246	217	145	118	86	81	80	1,436
ALLEN	18.96	30%	13.48	4,235	2,265	4,632	4,290	2,971	1,552	1,038	609	1,986	23,578
BARTHOLOMEW	16.95	-42%	11.67	812	403	876	746	512	335	211	132	130	4,157
BENTON	10.76	16%	6.89	67	26	40	56	40	23	12	16	11	291
BLACKFORD	14.34	-75%	9.35	130	51	102	117	75	51	35	23	20	604
BOONE	16.20	46%	10.47	459	201	440	433	305	169	114	81	160	2,362
BROWN	16.19	-7%	9.95	159	66	133	125	90	57	33	15	33	711
CARROLL	13.87	8%	9.25	185	88	173	148	106	66	44	31	42	883
CASS	20.79	7%	13.00	503	277	502	462	355	196	181	110	139	2,725
CLARK	16.20	-11%	10.97	1,029	611	1,302	1,167	825	432	270	143	329	6,108
CLAY	19.35	5%	13.36	356	139	271	252	154	101	74	47	63	1,457
CLINTON	17.00	-38%	10.66	354	175	298	250	176	95	65	47	104	1,564
CRAWFORD	9.93	-5%	6.24	66	32	57	63	48	17	18	13	21	335
DAVIESS	15.98	25%	10.66	309	121	232	233	167	106	55	66	35	1,324
DEARBORN	17.40	34%	12.27	579	239	483	498	333	198	130	86	123	2,669
DECATUR	16.94	-44%	12.01	307	120	213	220	129	85	62	45	58	1,239
DEKALB	15.29	-27%	10.09	397	196	421	368	255	156	81	71	192	2,137
DELAWARE	9.99	-7%	12.03	1,406	854	1,340	1,138	852	521	408	290	452	7,261
DUBOIS	20.92	15%	12.70	504	210	439	453	236	157	108	89	51	2,247
ELKHART	18.10	25%	12.07	2,080	1,226	2,693	2,313	1,600	934	536	336	790	12,508
FAYETTE	19.50	-24%	12.78	332	137	254	228	176	108	88	69	60	1,452
FLOYD	17.89	34%	12.93	931	398	801	754	498	302	178	133	216	4,211
FOUNTAIN	14.16	-15%	9.48	174	78	150	155	91	69	47	33	24	821
FRANKLIN	14.82	12%	12.20	266	99	184	161	111	63	35	25	42	986
FULTON	16.42	55%	10.91	225	95	180	159	101	72	47	33	35	947
GIBSON	18.52	25%	12.16	391	139	261	300	198	146	101	83	50	1,669
GRANT	12.37	-12%	10.98	797	347	728	680	506	367	236	178	313	4,152
GREENE	14.93	-70%	8.52	285	116	257	245	168	80	71	53	74	1,349
HAMILTON	15.60	21%	9.39	1,527	727	1,950	1,740	1,042	573	301	178	567	8,605
HANCOCK	14.72	29%	10.34	564	176	406	441	299	160	120	80	146	2,392
HARRISON	18.99	-2%	13.19	458	169	376	354	222	126	79	60	44	1,888
HENDRICKS	14.32	48%	10.30	980	351	864	890	604	335	205	123	278	4,630
HENRY	14.42	20%	9.80	478	206	393	396	264	196	127	100	143	2,303
HOWARD	16.26	-27%	10.60	885	447	876	836	594	374	258	173	187	4,630
HUNTINGTON	16.35	64%	11.68	435	157	327	291	212	103	96	68	101	1,790
JACKSON	20.04	-39%	12.98	532	278	563	430	345	217	144	101	98	2,708
JASPER	14.46	-34%	10.90	319	159	292	301	190	117	72	44	56	1,550
JAY	14.93	-31%	9.76	212	80	199	174	115	76	53	47	41	997
JEFFERSON	15.13	41%	13.28	418	161	336	273	209	129	104	54	64	1,748
JENNINGS	14.97	-44%	10.54	293	115	267	207	174	128	74	40	60	1,358
JOHNSON	13.55	8%	9.88	1,081	443	945	986	628	326	227	140	423	5,199
KNOX	12.89	-15%	15.03	592	211	355	342	230	156	132	118	79	2,215
KOSCIUSKO	18.26	12%	11.73	835	380	722	738	495	275	192	126	115	3,878
LAGRANGE	10.10	-8%	8.15	273	113	289	304	169	107	80	40	60	1,435
LAKE	14.87	51%	10.99	5,259	3,354	7,014	6,967	4,839	2,847	1,806	1,071	2,781	35,938
LAPORTE	16.69	36%	11.48	1,257	612	1,286	1,221	883	548	335	230	570	6,942
LAWRENCE	16.70	-59%	10.33	471	155	377	330	250	162	138	71	85	2,039
MADISON	15.46	-9%	11.56	1,519	792	1,459	1,303	953	643	499	398	496	8,062
MARION	15.33	38%	10.70	8,701	6,260	14,693	12,196	7,714	4,089	2,534	1,476	7,736	65,399
MARSHALL	17.11	14%	11.09	504	218	518	459	305	179	122	71	88	2,464

Table 90. Drivers in Crashes by Age Group by County–1998 (cont.)

County	1994-1998 Wtd. Avg. Drivers Age 16-20 in Crashes per Capita	1994-1998 Wtd. Avg. Yearly % Change	1998 Drivers Age 16-20 in Crashes per Capita	Driver Age <21	21-24	25-34	35-44	45-54	55-64	65-74	75+	Unknown	Total
MARTIN	15.10	-41%	10.92	115	36	104	87	70	50	27	13	20	522
MIAMI	17.04	25%	10.97	368	143	325	294	223	126	86	58	83	1,706
MONROE	9.09	28%	15.48	1,782	1,225	1,497	1,277	896	451	305	187	342	7,962
MONTGOMERY	15.09	-33%	11.06	402	191	351	333	221	141	101	60	82	1,882
MORGAN	13.11	38%	10.14	664	270	531	530	330	206	109	84	129	2,853
NEWTON	12.00	21%	8.01	118	42	102	111	51	43	21	15	31	534
NOBLE	17.51	4%	12.15	518	233	522	416	305	172	101	83	113	2,463
OHIO	16.98	166%	13.09	71	32	55	61	39	24	12	10	11	315
ORANGE	13.65	3%	9.89	194	69	157	183	121	74	41	40	49	928
OWEN	15.37	51%	10.87	222	88	193	171	103	61	46	25	42	951
PARKE	12.32	-3%	9.15	153	69	140	143	107	46	43	22	45	768
PERRY	17.75	7%	12.09	234	89	205	183	111	87	64	49	68	1,090
PIKE	14.59	74%	9.94	128	56	94	121	88	44	23	21	13	588
PORTER	14.32	22%	10.80	1,574	749	1,425	1,421	1,130	578	295	226	414	7,812
POSEY	10.45	-19%	6.56	174	50	132	126	96	48	41	29	55	751
PULASKI	19.58	62%	13.50	179	84	146	134	88	46	40	27	49	793
PUTNAM	11.22	-23%	10.36	357	134	317	318	226	139	81	41	76	1,689
RANDOLPH	11.50	-6%	8.07	223	78	143	154	101	82	61	33	41	916
RIPLEY	14.97	7%	10.62	289	94	213	210	144	99	62	38	60	1,209
RUSH	13.57	10%	9.94	182	80	165	131	86	51	43	41	74	853
SAINT JOSEPH	13.28	22%	11.00	2,838	1,751	3,442	3,203	2,168	1,107	854	607	1,410	17,380
SCOTT	16.00	-60%	10.07	231	105	241	189	126	75	63	40	51	1,121
SHELBY	17.15	5%	11.97	520	196	428	390	223	159	110	85	127	2,238
SPENCER	14.98	-27%	9.31	195	72	200	179	115	75	31	31	28	926
STARKE	12.64	-37%	8.47	203	98	187	189	97	76	49	38	48	985
STEUBEN	20.50	56%	16.47	518	207	475	450	291	180	108	58	77	2,364
SULLIVAN	10.31	14%	7.32	141	57	107	120	99	56	48	30	102	760
SWITZERLAND	15.79	-80%	8.21	73	41	63	83	45	42	22	10	27	406
TIPPECANOE	11.59	28%	17.89	2,487	1,730	2,391	1,956	1,290	649	432	308	524	11,767
TIPTON	12.85	18%	8.37	140	49	115	95	63	38	39	23	54	616
UNION	13.98	-9%	9.78	71	34	50	52	33	23	21	7	13	304
VANDERBURGH	19.57	19%	14.48	2,435	1,205	2,432	2,343	1,622	968	730	532	895	13,162
VERMILLION	12.42	-78%	6.15	104	62	108	91	90	64	32	33	30	614
VIGO	15.98	6%	15.56	1,635	973	1,534	1,332	1,008	531	429	377	623	8,442
WABASH	14.03	-20%	10.71	370	182	330	324	221	115	92	81	81	1,796
WARREN	13.38	5%	8.85	73	38	75	72	50	27	10	12	18	375
WARRICK	15.54	4%	10.50	542	190	433	448	310	170	106	72	59	2,330
WASHINGTON	15.07	-30%	10.00	279	130	274	244	138	96	61	51	26	1,299
WAYNE	15.65	13%	11.84	844	404	860	745	515	341	278	204	236	4,427
WELLS	19.57	49%	11.59	311	112	171	210	145	72	49	51	45	1,166
WHITE	19.78	-40%	13.34	338	173	345	301	176	133	84	55	63	1,668
WHITLEY	17.61	7%	11.79	359	146	279	299	175	103	71	65	57	1,554
INDIANA				**67,928**	**36,160**	**73,572**	**67,129**	**45,495**	**26,110**	**17,383**	**11,619**	**26,242**	**371,638**

Note: Drivers of parked vehicles are excluded.
Legend: Wtd. Avg. = Weighted Average

Table 91. Probable Cause Affidavits and DWI Convictions by County–1998

County	APC	% APC with Prior Officer	DWI Conv.	% Conv. with Prior Court	T1	T2	1994-1998 Days Arrest to Disp.	% of State Avg.	T3	T4	T5	1994-1998 State Average	% of State Avg.	T6
ADAMS	117	17.1%	125	84.8%	60	15	13.8	73.2%	93	17	113	108.5	59.0%	89
ALLEN	1,570	0.1%	1,408	92.1%	234	10	11.3	59.9%	105	33	127	151.8	82.5%	27
BARTHOLOMEW	393	51.9%	378	94.7%	36	43	45.5	242.4%	139	19	360	382.0	207.6%	19
BENTON	35	17.1%	28	89.3%	37	11	18.3	97.2%	91	12	121	100.8	54.8%	74
BLACKFORD	140	26.4%	115	82.6%	47	26	34.8	185.1%	123	11	161	184.0	100.0%	21
BOONE	282	23.0%	262	93.1%	34	3	13.0	69.3%	117	14	208	210.0	114.1%	17
BROWN	99	7.1%	75	85.3%	29	24	30.3	161.1%	152	12	289	278.0	151.1%	20
CARROLL	103	35.0%	109	89.0%	33	11	9.8	51.9%	87	19	95	97.0	52.7%	26
CASS	271	23.2%	198	87.9%	30	5	7.0	37.3%	123	17	114	119.5	65.0%	33
CLARK	633	26.2%	642	80.7%	48	55	38.3	203.8%	139	16	251	225.3	122.4%	19
CLAY	199	12.1%	189	71.4%	40	12	13.8	73.2%	90	10	120	168.5	91.6%	11
CLINTON	241	0.4%	221	86.9%	50	7	7.3	38.6%	101	10	150	152.8	83.0%	26
CRAWFORD	38	0.0%	29	79.3%	95	6	19.3	102.5%	128	17	144	117.0	63.6%	24
DAVIESS	138	39.1%	105	80.0%	53	48	32.3	171.8%	150	28	223	333.3	181.1%	13
DEARBORN	385	5.5%	392	73.0%	40	10	6.8	36.0%	115	14	140	159.8	86.8%	17
DECATUR	170	48.2%	147	74.8%	38	37	42.8	227.7%	126	24	227	197.8	107.5%	21
DEKALB	267	28.1%	303	70.6%	33	36	25.5	135.8%	140	11	198	222.3	120.8%	23
DELAWARE	599	46.4%	519	88.4%	48	58	67.0	356.9%	142	13	424	412.8	224.3%	46
DUBOIS	228	17.1%	221	92.8%	53	7	7.3	38.6%	79	15	118	136.0	73.9%	19
ELKHART	1,080	14.9%	1,070	84.7%	39	9	9.3	49.3%	114	17	153	168.5	91.6%	27
FAYETTE	176	38.6%	191	77.5%	31	17	19.5	103.9%	156	18	208	261.0	141.9%	21
FLOYD	216	1.9%	143	69.9%	77	24	31.5	167.8%	138	13	259	206.5	112.2%	17
FOUNTAIN	152	18.4%	131	90.1%	47	30	14.0	74.6%	104	17	151	106.5	57.9%	24
FRANKLIN	168	14.9%	164	93.9%	58	17	20.5	109.2%	92	15	189	162.3	88.2%	31
FULTON	150	41.3%	144	94.4%	39	34	32.3	171.8%	142	11	278	212.5	115.5%	50
GIBSON	273	17.2%	246	76.0%	39	8	8.5	45.3%	78	21	74	71.5	38.9%	23
GRANT	541	8.9%	547	93.6%	40	4	3.8	20.0%	117	15	195	167.5	91.0%	21
GREENE	124	6.5%	111	82.9%	39	24	19.0	101.2%	105	22	173	191.0	103.8%	24
HAMILTON	692	33.8%	717	92.6%	38	30	22.3	118.5%	122	17	229	242.5	131.8%	22
HANCOCK	424	3.8%	370	87.0%	44	4	5.5	29.3%	122	12	172	186.0	101.1%	16
HARRISON	155	23.9%	142	85.9%	36	33	31.0	165.1%	156	16	207	194.8	105.9%	41
HENDRICKS	510	7.6%	606	93.6%	36	6	5.8	30.6%	103	15	148	219.5	119.3%	26
HENRY	410	6.1%	356	88.5%	34	5	7.3	38.6%	112	12	136	158.3	86.0%	15
HOWARD	633	6.8%	540	88.7%	33	12	9.5	50.6%	116	18	116	116.5	63.3%	20
HUNTINGTON	163	22.1%	176	75.6%	31	11	14.8	78.6%	57	20	61	70.0	38.0%	21
JACKSON	238	1.7%	256	60.2%	102	7	8.5	45.3%	108	15	108	110.5	60.1%	18
JASPER	199	12.1%	205	87.3%	40	4	4.5	24.0%	94	11	167	162.3	88.2%	27
JAY	123	20.3%	108	82.4%	42	22	22.3	118.5%	111	11	138	150.8	81.9%	17
JEFFERSON	173	13.9%	165	87.9%	35	8	6.0	32.0%	122	11	157	147.8	80.3%	22
JENNINGS	216	32.4%	179	98.3%	53	34	28.3	150.5%	107	12	140	185.8	101.0%	23
JOHNSON	429	20.0%	456	68.4%	65	34	22.0	117.2%	117	18	230	352.8	191.7%	50
KNOX	222	32.4%	96	94.8%	34	27	27.3	145.2%	151	13	220	201.8	109.7%	173
KOSCIUSKO	416	20.0%	423	84.6%	44	12	7.5	40.0%	129	25	175	178.0	96.8%	27
LAGRANGE	139	16.5%	137	92.0%	38	8	7.5	40.0%	124	12	246	270.8	147.2%	26
LAKE	2,646	3.4%	2,956	83.0%	37	19	27.8	147.8%	145	25	343	336.3	182.8%	32
LAPORTE	606	11.6%	563	86.9%	60	20	9.5	50.6%	110	16	180	188.8	102.6%	19
LAWRENCE	294	32.3%	277	70.4%	33	12	19.8	105.2%	107	19	157	155.0	84.2%	22
MADISON	1,298	13.1%	1,043	87.8%	47	10	10.0	53.3%	146	17	244	241.8	131.4%	63
MARION	3,672	9.7%	3,361	78.8%	61	15	16.0	85.2%	122	19	143	140.5	76.4%	26
MARSHALL	333	22.2%	330	87.3%	51	17	13.3	70.6%	121	11	213	229.5	124.7%	17

Table 91. Probable Cause Affidavits and DWI Convictions by County–1998 (cont.)

County	APC	% APC with Prior Officer APC	DWI Conv.	% Conv. with Prior Court APC	T1	T2	1994-1998 Days Arrest to Disp.	% of State Avg.	T3	T4	T5	1994-1998 State Average	% of State Avg.	T6
MARTIN	98	3.1%	111	73.9%	82	9	10.8	57.3%	110	15	133	151.0	82.1%	17
MIAMI	250	44.0%	286	81.5%	53	32	24.0	127.9%	95	15	119	170.5	92.7%	36
MONROE	444	18.5%	507	69.8%	40	23	13.5	71.9%	117	25	155	164.3	89.3%	44
MONTGOMERY	191	25.7%	210	85.2%	32	43	38.3	203.8%	100	14	185	167.3	90.9%	46
MORGAN	284	19.4%	286	80.8%	36	8	8.8	46.6%	139	19	206	188.3	102.3%	20
NEWTON	120	9.2%	124	85.5%	42	4	6.0	32.0%	107	15	186	127.3	69.2%	15
NOBLE	391	11.3%	322	91.0%	37	5	4.0	21.3%	120	13	140	136.3	74.1%	18
OHIO	134	14.9%	114	79.8%	42	3	6.0	32.0%	87	19	114	152.8	83.0%	21
ORANGE	155	9.0%	169	89.3%	34	3	10.0	53.3%	78	9	111	100.3	54.5%	13
OWEN	98	11.2%	87	82.8%	29	20	11.5	61.3%	93	19	127	161.0	87.5%	21
PARKE	52	15.4%	45	77.8%	44	19	20.5	109.2%	146	16	185	167.8	91.2%	204
PERRY	29	37.9%	53	20.8%	137	193	155.3	827.0%	57	20	192	195.8	106.4%	57
PIKE	111	21.6%	109	84.4%	37	6	7.3	38.6%	79	14	82	89.5	48.6%	17
PORTER	746	45.4%	682	87.4%	42	37	32.8	174.5%	124	19	207	202.3	109.9%	21
POSEY	110	34.5%	130	70.0%	37	21	23.3	123.9%	54	31	110	98.0	53.3%	28
PULASKI	69	13.0%	59	88.1%	54	33	23.3	123.9%	149	20	197	203.0	110.3%	21
PUTNAM	219	5.0%	212	81.1%	45	8	9.0	47.9%	111	15	95	88.5	48.1%	47
RANDOLPH	220	21.8%	201	90.0%	48	25	27.0	143.8%	134	14	480	369.3	200.7%	12
RIPLEY	212	17.0%	155	80.6%	34	19	12.3	65.3%	158	25	149	142.5	77.5%	16
RUSH	87	21.8%	99	77.8%	35	10	11.3	59.9%	130	14	304	412.5	224.2%	23
ST. JOSEPH	784	33.4%	1,082	61.1%	53	33	23.3	123.9%	82	25	143	134.8	73.2%	31
SCOTT	210	9.0%	205	88.3%	39	9	7.0	37.3%	115	13	188	163.8	89.0%	6
SHELBY	263	0.0%	263	93.9%	20	5	9.8	51.9%	127	15	200	203.3	110.5%	16
SPENCER	143	23.1%	117	94.0%	55	11	7.8	41.3%	86	15	96	110.5	60.1%	32
STARKE	146	28.1%	135	79.3%	50	24	15.3	81.2%	125	26	170	140.5	76.4%	29
STEUBEN	229	43.2%	217	80.2%	41	46	33.5	178.5%	103	23	306	340.8	185.2%	27
SULLIVAN	167	22.8%	158	82.3%	34	7	6.5	34.6%	97	15	108	109.0	59.2%	18
SWITZERLAND	64	34.4%	76	60.5%	31	5	6.8	36.0%	107	19	143	156.8	85.2%	22
TIPPECANOE	794	39.5%	795	91.3%	42	35	39.0	207.8%	112	19	183	346.5	188.3%	32
TIPTON	60	41.7%	55	81.8%	24	30	24.8	131.8%	161	13	149	184.0	100.0%	44
UNION	73	24.7%	53	94.3%	44	14	18.8	99.9%	126	14	200	295.8	160.8%	17
VANDERBURGH	718	24.5%	703	65.3%	49	5	6.8	36.0%	111	33	103	100.0	54.4%	39
VERMILLION	85	4.7%	58	89.7%	55	9	14.0	74.6%	114	20	153	132.0	71.7%	42
VIGO	580	9.8%	564	88.8%	35	8	6.0	32.0%	121	11	184	144.5	78.5%	18
WABASH	166	15.7%	173	84.4%	32	11	10.3	54.6%	125	16	201	208.3	113.2%	23
WARREN	55	1.8%	48	85.4%	47	10	6.3	33.3%	119	13	150	106.5	57.9%	74
WARRICK	219	35.6%	226	87.6%	42	28	39.8	211.8%	114	23	298	240.0	130.5%	42
WASHINGTON	210	11.9%	184	95.1%	33	8	8.8	46.6%	111	10	171	238.3	129.5%	18
WAYNE	461	29.7%	421	77.7%	36	12	13.8	73.2%	110	22	122	147.8	80.3%	26
WELLS	96	13.5%	95	76.8%	34	11	18.5	98.6%	99	13	150	153.5	83.4%	19
WHITE	188	3.7%	176	77.8%	42	13	11.8	62.6%	77	15	94	80.3	43.6%	29
WHITLEY	234	11.5%	235	89.8%	34	6	6.3	33.3%	72	9	85	77.5	42.1%	15
INDIANA	32,746	17.4%	32,606	80.6%	45	18	18.8		119	19	188	184.0		30
OTHER[1]	2	N/A	930	N/A	N/A	N/A			N/A	N/A	N/A			N/A

[1] Other are those drivers, with an Indiana license, for which a DWI Conviction was reported to BMV by another state or Indiana U.S. Federal Court.

T1=Average days from arrest to officer APC receipt at the Bureau of Motor Vehicles
T2=Average days from arrest to court APC disposition
T3=Average days from court APC disposition to DWI disposition
T4=Average days from court APC disposition to Bureau receipt
T5=Average days from arrest to DWI disposition
T6=Average days from DWI disposition to Bureau receipt

Table 92. Affidavit of Probable Cause (APC) and DWI Convictions by County with Licensed Drivers by County: 1994-1998

	1994					1995					1996			
County	LDVR	APC	DWI Conv	APC per 1,000 LDVR	DWI Conv per 1,000 LDVR	LDVR	APC	DWI Conv	APC per 1,000 LDVR	DWI Conv per 1,000 LDVR	LDVR	APC	DWI Conv	APC per 1,000 LDVR
ADAMS	20,211	120	109	5.94	5.39	20,327	100	116	4.92	5.71	20,444	94	94	4.60
ALLEN	207,898	1,520	1,384	7.31	6.66	209,016	1,418	1,518	6.78	7.26	210,134	1,453	1,547	6.91
BARTHOLOMEW	48,660	317	349	6.51	7.17	48,876	315	296	6.44	6.06	49,092	346	327	7.05
BENTON	7,273	35	27	4.81	3.71	7,180	45	27	6.27	3.76	7,086	29	43	4.09
BLACKFORD	10,153	81	59	7.98	5.81	10,139	122	169	12.03	16.67	10,124	145	147	14.32
BOONE	30,275	211	218	6.97	7.20	30,536	222	199	7.27	6.52	30,797	266	239	8.64
BROWN	10,422	37	70	3.55	6.72	10,667	35	38	3.28	3.56	10,912	61	40	5.59
CARROLL	14,207	106	99	7.46	6.97	14,310	94	104	6.57	7.27	14,413	102	90	7.08
CASS	27,108	275	251	10.14	9.26	26,998	192	212	7.11	7.85	26,888	211	188	7.85
CLARK	62,544	675	636	10.79	10.17	63,481	675	676	10.63	10.65	64,417	606	598	9.41
CLAY	18,579	146	148	7.86	7.97	18,636	198	170	10.62	9.12	18,694	201	180	10.75
CLINTON	22,146	203	201	9.17	9.08	22,163	235	232	10.60	10.47	22,181	216	206	9.74
CRAWFORD	7,594	59	46	7.77	6.06	7,570	46	32	6.08	4.23	7,546	46	28	6.10
DAVIESS	17,516	76	85	4.34	4.85	17,639	91	88	5.16	4.99	17,761	127	144	7.15
DEARBORN	29,774	250	268	8.40	9.00	30,459	278	313	9.13	10.28	31,145	289	507	9.28
DECATUR	17,319	165	174	9.53	10.05	17,353	168	158	9.68	9.11	17,386	170	174	9.78
DEKALB	26,528	198	289	7.46	10.89	26,754	246	438	9.19	16.37	26,980	313	516	11.60
DELAWARE	75,773	828	1,213	10.93	16.01	75,414	637	860	8.45	11.40	75,054	605	663	8.06
DUBOIS	26,768	233	226	8.70	8.44	27,076	200	209	7.39	7.72	27,385	211	212	7.71
ELKHART	108,145	899	865	8.31	8.00	108,915	823	877	7.56	8.05	109,684	879	806	8.01
FAYETTE	18,207	161	151	8.84	8.29	18,118	127	217	7.01	11.98	18,030	175	167	9.71
FLOYD	48,506	329	288	6.78	5.94	48,430	299	251	6.17	5.18	48,353	355	231	7.34
FOUNTAIN	13,771	116	99	8.42	7.19	13,596	116	92	8.53	6.77	13,421	118	128	8.79
FRANKLIN	12,889	163	142	12.65	11.02	13,272	165	151	12.43	11.38	13,655	152	152	11.13
FULTON	13,829	152	108	10.99	7.81	13,975	147	153	10.52	10.95	14,122	156	119	11.05
GIBSON	22,920	213	235	9.29	10.25	22,892	179	180	7.82	7.86	22,865	209	198	9.14
GRANT	50,298	594	593	11.81	11.79	49,860	639	614	12.82	12.31	49,423	534	602	10.80
GREENE	22,336	131	144	5.86	6.45	22,465	160	148	7.12	6.59	22,594	132	151	5.84
HAMILTON	95,664	554	653	5.79	6.83	101,039	697	556	6.90	5.50	106,413	669	689	6.29
HANCOCK	36,505	448	450	12.27	12.33	37,348	403	368	10.79	9.85	38,190	384	374	10.05
HARRISON	23,290	218	171	9.36	7.34	23,793	186	155	7.82	6.51	24,297	175	131	7.20
HENDRICKS	58,390	550	561	9.42	9.61	60,824	519	602	8.53	9.90	63,258	488	443	7.71
HENRY	36,029	349	342	9.69	9.49	35,888	347	317	9.67	8.83	35,746	328	344	9.18
HOWARD	59,629	498	504	8.35	8.45	59,546	402	416	6.75	6.99	59,462	436	395	7.33
HUNTINGTON	26,033	167	202	6.41	7.76	26,073	208	191	7.98	7.33	26,112	192	196	7.35
JACKSON	28,370	302	395	10.65	13.92	28,547	235	300	8.23	10.51	28,724	312	289	10.86
JASPER	19,932	214	217	10.74	10.89	20,245	231	375	11.41	18.52	20,559	199	261	9.68
JAY	15,992	148	175	9.25	10.94	15,845	137	128	8.65	8.08	15,699	124	155	7.90
JEFFERSON	20,532	278	236	13.54	11.49	20,667	241	225	11.66	10.89	20,801	221	235	10.62
JENNINGS	16,551	146	105	8.82	6.34	16,943	206	169	12.16	9.97	17,336	205	169	11.83
JOHNSON	69,917	540	489	7.72	6.99	71,715	444	578	6.19	8.06	73,514	477	497	6.49
KNOX	26,931	232	142	8.61	5.27	26,827	295	157	11.00	5.85	26,722	220	140	8.23
KOSCIUSKO	47,177	444	406	9.41	8.61	47,788	532	461	11.13	9.65	48,398	455	448	9.40
LAGRANGE	15,796	265	239	16.78	15.13	16,044	226	234	14.09	14.59	16,291	217	220	13.32
LAKE	299,700	2,539	2,277	8.47	7.60	297,534	3,342	2,687	11.23	9.03	295,368	3,205	3,352	10.85

Table 92. Affidavit of Probable Cause (APC) and DWI Convictions by County with Licensed Drivers by County: 1994-1998 (cont.)

	1997					1998				
County	LDVR	APC	DWI Conv	APC per 1,000 LDVR	DWI Conv per 1,000 LDVR	LDVR	APC	DWI Conv	APC per 1,000 LDVR	DWI Conv per 1,000 LDVR
ADAMS	20,560	108	104	5.25	5.06	20,769	**117**	**125**	5.63	6.02
ALLEN	211,252	1,274	1,398	6.03	6.62	214,474	**1,570**	**1,408**	7.32	6.56
BARTHOLOMEW	49,308	406	299	8.23	6.06	49,849	**393**	**378**	7.88	7.58
BENTON	6,993	33	28	4.72	4.00	7,001	**35**	**28**	5.00	4.00
BLACKFORD	10,110	103	136	10.19	13.45	10,043	**140**	**115**	13.94	11.45
BOONE	31,058	240	218	7.73	7.02	31,581	**282**	**262**	8.93	8.30
BROWN	11,157	86	61	7.71	5.47	11,484	**99**	**75**	8.62	6.53
CARROLL	14,516	98	109	6.75	7.51	14,582	**103**	**109**	7.06	7.47
CASS	26,778	256	226	9.56	8.44	26,991	**271**	**198**	10.04	7.34
CLARK	65,354	761	660	11.64	10.10	67,015	**633**	**642**	9.45	9.58
CLAY	18,751	169	196	9.01	10.45	18,824	**199**	**189**	10.57	10.04
CLINTON	22,198	233	224	10.50	10.09	22,441	**241**	**221**	10.74	9.85
CRAWFORD	7,522	48	42	6.38	5.58	7,607	**38**	**29**	5.00	3.81
DAVIESS	17,884	100	111	5.59	6.21	18,143	**138**	**105**	7.61	5.79
DEARBORN	31,830	378	470	11.88	14.77	32,731	**385**	**392**	11.76	11.98
DECATUR	17,420	160	155	9.18	8.90	17,664	**170**	**147**	9.62	8.32
DEKALB	27,206	315	596	11.58	21.91	27,581	**267**	**303**	9.68	10.99
DELAWARE	74,695	521	739	6.98	9.89	75,101	**599**	**519**	7.98	6.91
DUBOIS	27,693	214	201	7.73	7.26	28,179	**228**	**221**	8.09	7.84
ELKHART	110,454	1,087	968	9.84	8.76	111,695	**1,080**	**1,070**	9.67	9.58
FAYETTE	17,941	213	184	11.87	10.26	17,821	**176**	**191**	9.88	10.72
FLOYD	48,277	234	203	4.85	4.20	49,026	**216**	**143**	4.41	2.92
FOUNTAIN	13,246	137	129	10.34	9.74	13,306	**152**	**131**	11.42	9.85
FRANKLIN	14,038	131	108	9.33	7.69	14,756	**168**	**164**	11.39	11.11
FULTON	14,268	135	107	9.46	7.50	14,522	**150**	**144**	10.33	9.92
GIBSON	22,837	203	206	8.89	9.02	23,101	**273**	**246**	11.82	10.65
GRANT	48,985	535	432	10.92	8.82	49,116	**541**	**547**	11.01	11.14
GREENE	22,723	92	133	4.05	5.85	22,920	**124**	**111**	5.41	4.84
HAMILTON	111,788	719	772	6.43	6.91	119,034	**692**	**717**	5.81	6.02
HANCOCK	39,033	349	384	8.94	9.84	40,226	**424**	**370**	10.54	9.20
HARRISON	24,800	248	143	10.00	5.77	25,514	**155**	**142**	6.08	5.57
HENDRICKS	65,692	583	537	8.87	8.17	68,599	**510**	**606**	7.43	8.83
HENRY	35,605	343	332	9.63	9.32	35,591	**410**	**356**	11.52	10.00
HOWARD	59,379	507	482	8.54	8.12	59,340	**633**	**540**	10.67	9.10
HUNTINGTON	26,152	202	199	7.72	7.61	26,051	**163**	**176**	6.26	6.76
JACKSON	28,901	214	252	7.40	8.72	29,293	**238**	**256**	8.12	8.74
JASPER	20,872	160	229	7.67	10.97	21,371	**199**	**205**	9.31	9.59
JAY	15,552	93	78	5.98	5.02	15,488	**123**	**108**	7.94	6.97
JEFFERSON	20,936	239	231	11.42	11.03	21,123	**173**	**165**	8.19	7.81
JENNINGS	17,728	165	210	9.31	11.85	18,226	**216**	**179**	11.85	9.82
JOHNSON	75,312	409	546	5.43	7.25	78,121	**429**	**456**	5.49	5.84
KNOX	26,618	218	93	8.19	3.49	26,535	**222**	**96**	8.37	3.62
KOSCIUSKO	49,009	371	450	7.57	9.18	49,805	**416**	**423**	8.35	8.49
LAGRANGE	16,539	152	195	9.19	11.79	16,944	**139**	**137**	8.20	8.09
LAKE	293,202	3,108	3,752	10.60	12.80	293,999	**2,646**	**2,956**	9.00	10.05

Note: The totals for APCs and DWIs include Indiana licensed drivers who were charged and/or convicted in a state other than Indiana. For 1998, there were 2 out-of-state APCs and 930 out-of-state DWI charges against Indiana licensed drivers.

Table 92. Affidavit of Probable Cause (APC) and DWI Convictions by County with Licensed Drivers by County: 1994-1998 (cont.)

	1994					1995					1996				
County	LDVR	APC	DWI Conv	APC per 1,000 LDVR	DWI Conv per 1,000 LDVR	LDVR	APC	DWI Conv	APC per 1,000 LDVR	DWI Conv per 1,000 LDVR	LDVR	APC	DWI Conv	APC per 1,000 LDVR	DWI Con per 1,00 LDVR
LAPORTE	72,075	785	804	10.89	11.16	71,980	768	687	10.67	9.54	71,884	713	688	9.92	9.57
LAWRENCE	31,569	273	255	8.65	8.08	31,737	271	254	8.54	8.00	31,905	255	255	7.99	7.99
MADISON	91,324	951	1,023	10.41	11.20	90,789	1,030	727	11.35	8.01	90,253	1,016	958	11.26	10.61
MARION	521,914	5,357	5,544	10.26	10.62	521,006	4,217	4,729	8.09	9.08	520,097	4,270	4,538	8.21	8.73
MARSHALL	29,104	325	299	11.17	10.27	29,356	276	285	9.40	9.71	29,607	331	414	11.18	13.98
MARTIN	7,819	89	136	11.38	17.39	7,756	66	123	8.51	15.86	7,692	64	107	8.32	13.91
MIAMI	25,207	265	262	10.51	10.39	24,933	251	254	10.07	10.19	24,659	203	227	8.23	9.21
MONROE	66,665	574	1,002	8.61	15.03	67,302	535	1,097	7.95	16.30	67,940	584	965	8.60	14.20
MONTGOMERY	25,576	204	242	7.98	9.46	25,618	162	257	6.32	10.03	25,661	230	324	8.96	12.63
MORGAN	41,798	322	668	7.70	15.98	42,636	411	697	9.64	16.35	43,475	359	674	8.26	15.50
NEWTON	9,512	71	65	7.46	6.83	9,725	133	125	13.68	12.85	9,938	169	142	17.01	14.29
NOBLE	28,102	364	381	12.95	13.56	28,474	315	346	11.06	12.15	28,847	331	300	11.47	10.40
OHIO	3,902	48	38	12.30	9.74	3,957	37	48	9.35	12.13	4,011	42	29	10.47	7.23
ORANGE	12,966	100	90	7.71	6.94	13,064	104	83	7.96	6.35	13,163	125	99	9.50	7.52
OWEN	13,058	68	102	5.21	7.81	13,388	95	84	7.10	6.27	13,718	109	95	7.95	6.93
PARKE	10,895	43	28	3.95	2.57	10,922	85	54	7.78	4.94	10,950	61	60	5.57	5.48
PERRY	12,879	64	86	4.97	6.68	13,034	48	68	3.68	5.22	13,188	18	55	1.36	4.17
PIKE	8,924	100	103	11.21	11.54	8,973	126	153	14.04	17.05	9,023	104	132	11.53	14.63
PORTER	95,274	858	797	9.01	8.37	96,762	819	801	8.46	8.28	98,249	963	933	9.80	9.50
POSEY	18,469	166	182	8.99	9.85	18,588	139	158	7.48	8.50	18,707	175	181	9.35	9.68
PULASKI	9,445	92	98	9.74	10.38	9,502	64	58	6.74	6.10	9,559	92	75	9.62	7.85
PUTNAM	21,214	135	112	6.36	5.28	21,617	220	160	10.18	7.40	22,021	287	256	13.03	11.63
RANDOLPH	20,185	254	270	12.58	13.38	20,086	225	225	11.20	11.20	19,987	200	204	10.01	10.21
RIPLEY	19,994	157	149	7.85	7.45	19,978	194	150	9.71	7.51	19,962	189	156	9.47	7.81
RUSH	12,678	115	181	9.07	14.28	12,702	98	270	7.72	21.26	12,727	113	189	8.88	14.85
ST. JOSEPH	163,107	1,214	1,260	7.44	7.72	163,655	1,373	1,494	8.39	9.13	164,202	1,339	1,467	8.15	8.93
SCOTT	15,457	215	213	13.91	13.78	15,513	133	167	8.57	10.76	15,570	158	152	10.15	9.76
SHELBY	28,756	294	360	10.22	12.52	28,963	286	304	9.87	10.50	29,171	331	243	11.35	8.33
SPENCER	14,464	133	124	9.20	8.57	14,437	96	99	6.65	6.86	14,410	125	119	8.67	8.26
STARKE	15,231	179	224	11.75	14.71	15,401	188	154	12.21	10.00	15,570	227	181	14.58	11.62
STEUBEN	21,757	227	264	10.43	12.13	22,068	266	308	12.05	13.96	22,378	183	285	8.18	12.74
SULLIVAN	14,319	109	137	7.61	9.57	14,308	118	85	8.25	5.94	14,296	140	148	9.79	10.35
SWITZERLAND	5,222	35	59	6.70	11.30	5,369	54	64	10.06	11.92	5,515	38	57	6.89	10.33
TIPPECANOE	82,770	707	811	8.54	9.80	83,714	564	537	6.74	6.41	84,658	739	639	8.73	7.55
TIPTON	11,706	69	34	5.89	2.90	11,847	52	40	4.39	3.38	11,989	61	28	5.09	2.34
UNION	5,347	58	47	10.85	8.79	5,354	55	74	10.27	13.82	5,360	69	66	12.87	12.31
VANDERBURGH	113,608	967	864	8.51	7.61	113,230	1,381	1,185	12.20	10.47	112,851	1,187	1,144	10.52	10.14
VERMILLION	12,263	100	82	8.15	6.69	12,277	73	61	5.95	4.97	12,292	83	78	6.75	6.35
VIGO	68,600	695	689	10.13	10.04	68,048	654	623	9.61	9.16	67,497	704	591	10.43	8.76
WABASH	24,886	147	127	5.91	5.10	24,792	196	149	7.91	6.01	24,697	238	212	9.64	8.58
WARREN	5,126	64	56	12.49	10.92	5,336	55	54	10.31	10.12	5,545	75	58	13.52	10.46
WARRICK	35,455	194	154	5.47	4.34	36,040	319	237	8.85	6.58	36,625	299	289	8.16	7.89
WASHINGTON	16,415	115	142	7.01	8.65	16,833	163	163	9.68	9.68	17,250	172	203	9.97	11.77
WAYNE	49,204	556	579	11.30	11.77	48,996	382	381	7.80	7.78	48,788	423	430	8.67	8.81
WELLS	18,641	109	129	5.85	6.92	18,862	103	108	5.46	5.73	19,083	110	113	5.76	5.92
WHITE	17,994	196	183	10.89	10.17	18,138	275	260	15.16	14.33	18,282	182	198	9.96	10.83
WHITLEY	21,367	214	195	10.02	9.13	21,513	184	202	8.55	9.39	21,660	219	196	10.11	9.05
INDIANA	3,860,329	34,562	35,691	8.95	9.25	3,881,424	34,282	35,099	8.83	9.04	3,902,519	34,613	35,788	8.87	9.17

Legend: APC=Affidavit of Probable Cause; LDVR=Number of Licensed Drivers; DWI Conv=Number of Driving While Intoxicated Convictions Reported to BMV
Source: Bureau of Motor Vehicles
1995 and 1996 licensed driver numbers estimated from 1994 and 1997 counts. Actual 1995 and 1996 licensed driver numbers unavailable.

Table 92. Affidavit of Probable Cause (APC) and DWI Convictions by County with Licensed Drivers by County: 1994-1998 (cont.)

	1997					1998				
County	LDVR	APC	DWI Conv	APC per 1,000 LDVR	DWI Conv per 1,000 LDVR	LDVR	APC	DWI Conv	APC per 1,000 LDVR	DWI Conv per 1,000 LDVR
LAPORTE	71,789	633	590	8.82	8.22	72,375	606	563	8.37	7.78
LAWRENCE	32,073	217	199	6.77	6.20	32,304	294	277	9.10	8.57
MADISON	89,718	1,120	1,061	12.48	11.83	89,939	1,298	1,043	14.43	11.60
MARION	519,189	3,871	3,888	7.46	7.49	523,261	3,672	3,361	7.02	6.42
MARSHALL	29,859	357	554	11.96	18.55	30,125	333	330	11.05	10.95
MARTIN	7,629	61	101	8.00	13.24	7,587	98	111	12.92	14.63
MIAMI	24,385	201	232	8.24	9.51	24,459	250	286	10.22	11.69
MONROE	68,577	443	847	6.46	12.35	69,822	444	507	6.36	7.26
MONTGOMERY	25,703	193	354	7.51	13.77	25,902	191	210	7.37	8.11
MORGAN	44,313	326	739	7.36	16.68	45,562	284	286	6.23	6.28
NEWTON	10,151	151	174	14.88	17.14	10,383	120	124	11.56	11.94
NOBLE	29,219	360	300	12.32	10.27	29,703	391	322	13.16	10.84
OHIO	4,066	95	68	23.36	16.72	4,145	134	114	32.33	27.50
ORANGE	13,261	137	117	10.33	8.82	13,398	155	169	11.57	12.61
OWEN	14,048	77	91	5.48	6.48	14,346	98	87	6.83	6.06
PARKE	10,977	59	44	5.37	4.01	11,148	52	45	4.66	4.04
PERRY	13,343	17	56	1.27	4.20	13,473	29	53	2.15	3.93
PIKE	9,072	93	140	10.25	15.43	9,272	111	109	11.97	11.76
PORTER	99,737	666	665	6.68	6.67	101,627	746	682	7.34	6.71
POSEY	18,826	170	182	9.03	9.67	19,011	110	130	5.79	6.84
PULASKI	9,616	67	66	6.97	6.86	9,651	69	59	7.15	6.11
PUTNAM	22,424	273	249	12.17	11.10	22,801	219	212	9.60	9.30
RANDOLPH	19,888	202	214	10.16	10.76	19,910	220	201	11.05	10.10
RIPLEY	19,946	175	148	8.77	7.42	19,808	212	155	10.70	7.83
RUSH	12,751	93	234	7.29	18.35	12,845	87	99	6.77	7.71
SAINT JOSEPH	164,750	859	1,178	5.21	7.15	165,952	784	1,082	4.72	6.52
SCOTT	15,626	173	148	11.07	9.47	15,935	210	205	13.18	12.86
SHELBY	29,378	343	333	11.68	11.34	29,793	263	263	8.83	8.83
SPENCER	14,383	110	89	7.65	6.19	14,608	143	117	9.79	8.01
STARKE	15,740	211	194	13.41	12.33	16,088	146	135	9.08	8.39
STEUBEN	22,689	184	313	8.11	13.80	22,945	229	217	9.98	9.46
SULLIVAN	14,285	129	128	9.03	8.96	14,397	167	158	11.60	10.97
SWITZERLAND	5,662	55	91	9.71	16.07	5,872	64	76	10.90	12.94
TIPPECANOE	85,602	787	1,030	9.19	12.03	87,292	794	795	9.10	9.11
TIPTON	12,130	64	20	5.28	1.65	12,252	60	55	4.90	4.49
UNION	5,367	53	64	9.88	11.92	5,401	73	53	13.52	9.81
VANDERBURGH	112,473	830	725	7.38	6.45	113,843	718	703	6.31	6.18
VERMILLION	12,306	75	81	6.09	6.58	12,324	85	58	6.90	4.71
VIGO	66,945	672	731	10.04	10.92	66,888	580	564	8.67	8.43
WABASH	24,603	219	192	8.90	7.80	24,769	166	173	6.70	6.98
WARREN	5,755	61	68	10.60	11.82	5,976	55	48	9.20	8.03
WARRICK	37,210	233	228	6.26	6.13	38,006	219	226	5.76	5.95
WASHINGTON	17,668	189	169	10.70	9.57	18,145	210	184	11.57	10.14
WAYNE	48,580	382	406	7.86	8.36	48,684	461	421	9.47	8.65
WELLS	19,304	70	87	3.63	4.51	19,652	96	95	4.88	4.83
WHITE	18,426	229	241	12.43	13.08	18,572	188	176	10.12	9.48
WHITLEY	21,806	210	215	9.63	9.86	22,241	234	235	10.52	10.57
INDIANA	**3,923,420**	**32,546**	**36,890**	**8.30**	**9.40**	**3,976,075**	**32,746**	**32,606**	**8.24**	**8.20**

Note: The totals for APCs and DWIs include Indiana licensed drivers who were charged and/or convicted in a state other than Indiana. For 1998, there were 2 out-of-state APCs and 930 out-of-state DWI charges against Indiana licensed drivers.

Table 93. Total Alcohol-Related Crashes by County: 1994-1998

	1994			1995			1996			1997			1998		
County	Alcohol Crashes	Total Crashes	% of Crashes	Alcohol Crashes	Total Crashes	% of Crashes	Alcohol Crashes	Total Crashes	% of Crashes	Alcohol Crashes	Total Crashes	% of Crashes	Alcohol Crashes	Total Crashes	% of Crashes
ADAMS	20	991	2.0%	22	1,187	1.9%	30	928	3.2%	29	886	3.3%	28	890	3.1%
ALLEN	556	13,611	4.1%	673	14,566	4.6%	562	13,339	4.2%	606	13,598	4.5%	589	13,114	4.5%
BARTHOLOMEW	100	2,537	3.9%	129	2,829	4.6%	99	2,461	4.0%	107	2,258	4.7%	87	2,383	3.7%
BENTON	6	203	3.0%	17	227	7.5%	3	189	1.6%	8	191	4.2%	12	212	5.7%
BLACKFORD	19	455	4.2%	28	553	5.1%	14	450	3.1%	8	382	2.1%	21	402	5.2%
BOONE	51	1,336	3.8%	55	1,502	3.7%	57	1,419	4.0%	49	1,385	3.5%	49	1,452	3.4%
BROWN	18	564	3.2%	18	593	3.0%	28	481	5.8%	37	544	6.8%	32	487	6.6%
CARROLL	32	618	5.2%	30	638	4.7%	24	649	3.7%	42	590	7.1%	40	636	6.3%
CASS	92	1,795	5.1%	67	2,212	3.0%	60	1,807	3.3%	66	1,798	3.7%	80	1,773	4.5%
CLARK	189	3,586	5.3%	185	3,921	4.7%	191	3,616	5.3%	138	3,498	3.9%	128	3,434	3.7%
CLAY	50	1,072	4.7%	46	1,103	4.2%	36	979	3.7%	26	876	3.0%	37	981	3.8%
CLINTON	62	1,170	5.3%	52	1,184	4.4%	52	1,061	4.9%	59	1,129	5.2%	46	1,028	4.5%
CRAWFORD	9	289	3.1%	7	302	2.3%	8	270	3.0%	5	297	1.7%	6	230	2.6%
DAVIESS	47	894	5.3%	52	881	5.9%	64	858	7.5%	39	872	4.5%	54	844	6.4%
DEARBORN	92	1,648	5.6%	87	1,800	4.8%	91	1,590	5.7%	124	1,715	7.2%	110	1,721	6.4%
DECATUR	49	845	5.8%	46	1,003	4.6%	35	820	4.3%	38	811	4.7%	53	795	6.7%
DEKALB	61	1,478	4.1%	51	1,608	3.2%	56	1,480	3.8%	43	1,394	3.1%	44	1,392	3.2%
DELAWARE	188	4,700	4.0%	259	5,439	4.8%	189	4,661	4.1%	193	4,301	4.5%	181	4,215	4.3%
DUBOIS	77	1,534	5.0%	74	1,574	4.7%	75	1,382	5.4%	79	1,452	5.4%	71	1,384	5.1%
ELKHART	332	7,209	4.6%	353	8,510	4.1%	321	7,521	4.3%	310	7,832	4.0%	278	7,243	3.8%
FAYETTE	68	1,064	6.4%	61	1,253	4.9%	60	998	6.0%	46	985	4.7%	35	912	3.8%
FLOYD	140	2,423	5.8%	143	2,744	5.2%	145	2,572	5.6%	117	2,510	4.7%	127	2,466	5.2%
FOUNTAIN	27	636	4.2%	41	663	6.2%	29	648	4.5%	43	563	7.6%	43	605	7.1%
FRANKLIN	38	635	6.0%	43	756	5.7%	41	646	6.3%	41	676	6.1%	54	702	7.7%
FULTON	45	657	6.8%	37	694	5.3%	38	681	5.6%	33	588	5.6%	38	646	5.9%
GIBSON	59	1,044	5.7%	51	1,104	4.6%	48	1,072	4.5%	41	1,068	3.8%	63	1,051	6.0%
GRANT	113	2,819	4.0%	114	3,169	3.6%	113	2,864	3.9%	107	2,621	4.1%	97	2,516	3.9%
GREENE	46	1,126	4.1%	52	1,162	4.5%	44	965	4.6%	37	898	4.1%	34	887	3.8%
HAMILTON	130	4,428	2.9%	130	4,796	2.7%	119	4,700	2.5%	110	4,523	2.4%	110	4,638	2.4%
HANCOCK	55	1,490	3.7%	67	1,655	4.0%	60	1,536	3.9%	48	1,639	2.9%	61	1,393	4.4%
HARRISON	52	1,262	4.1%	58	1,283	4.5%	47	1,217	3.9%	48	1,255	3.8%	61	1,247	4.9%
HENDRICKS	92	2,479	3.7%	75	2,645	2.8%	92	2,695	3.4%	91	2,647	3.4%	100	2,698	3.7%
HENRY	63	1,618	3.9%	105	1,893	5.5%	68	1,554	4.4%	54	1,398	3.9%	80	1,466	5.5%
HOWARD	133	2,947	4.5%	149	3,135	4.8%	126	2,824	4.5%	129	2,737	4.7%	113	2,548	4.4%
HUNTINGTON	44	1,308	3.4%	54	1,433	3.8%	45	1,323	3.4%	47	1,377	3.4%	30	1,161	2.6%
JACKSON	81	1,818	4.5%	89	2,057	4.3%	62	1,755	3.5%	75	1,610	4.7%	75	1,679	4.5%
JASPER	45	1,120	4.0%	47	1,232	3.8%	45	1,020	4.4%	44	1,073	4.1%	55	1,054	5.2%
JAY	36	833	4.3%	31	878	3.5%	19	753	2.5%	30	750	4.0%	34	690	4.9%
JEFFERSON	54	1,166	4.6%	64	1,119	5.7%	61	1,024	6.0%	53	1,096	4.8%	68	1,073	6.3%
JENNINGS	59	930	6.3%	44	1,012	4.3%	48	886	5.4%	31	850	3.6%	16	808	2.0%
JOHNSON	119	2,910	4.1%	134	3,362	4.0%	139	3,186	4.4%	123	2,853	4.3%	116	2,979	3.9%
KNOX	96	1,505	6.4%	95	1,658	5.7%	72	1,423	5.1%	55	1,437	3.8%	80	1,356	5.9%
KOSCIUSKO	141	2,690	5.2%	127	3,121	4.1%	153	2,757	5.5%	124	2,507	4.9%	142	2,519	5.6%
LAGRANGE	50	1,024	4.9%	47	1,117	4.2%	45	1,086	4.1%	44	1,115	3.9%	41	1,022	4.0%
LAKE	922	19,496	4.7%	922	21,501	4.3%	935	19,612	4.8%	982	20,748	4.7%	909	19,772	4.6%
LAPORTE	249	4,191	5.9%	271	4,635	5.8%	253	4,106	6.2%	281	4,549	6.2%	239	4,234	5.6%
LAWRENCE	77	1,656	4.6%	71	1,724	4.1%	79	1,499	5.3%	88	1,497	5.9%	77	1,271	6.1%
MADISON	147	4,880	3.0%	297	5,963	5.0%	239	5,096	4.7%	192	4,641	4.1%	231	4,683	4.9%
MARION	1,455	35,903	4.1%	1,409	38,535	3.7%	1,279	33,523	3.8%	1,262	34,609	3.6%	1,238	34,556	3.6%
MARSHALL	94	1,735	5.4%	83	1,860	4.5%	75	1,745	4.3%	79	1,631	4.8%	57	1,655	3.4%

Table 93. Total Alcohol-Related Crashes by County: 1994-1998 (cont.)

	1994			1995			1996			1997			1998		
County	Alcohol Crashes	Total Crashes	% of Crashes	Alcohol Crashes	Total Crashes	% of Crashes	Alcohol Crashes	Total Crashes	% of Crashes	Alcohol Crashes	Total Crashes	% of Crashes	Alcohol Crashes	Total Crashes	% of Crashes
MARTIN	20	335	6.0%	18	367	4.9%	25	337	7.4%	14	336	4.2%	22	352	6.3%
MIAMI	64	1,205	5.3%	63	1,239	5.1%	51	1,128	4.5%	52	1,117	4.7%	41	1,106	3.7%
MONROE	147	4,405	3.3%	145	4,739	3.1%	125	4,566	2.7%	140	4,481	3.1%	155	4,322	3.6%
MONTGOMERY	57	1,276	4.5%	52	1,525	3.4%	48	1,321	3.6%	58	1,265	4.6%	58	1,214	4.8%
MORGAN	69	1,695	4.1%	99	1,909	5.2%	82	1,675	4.9%	81	1,665	4.9%	73	1,756	4.2%
NEWTON	29	454	6.4%	22	435	5.1%	30	376	8.0%	23	415	5.5%	19	376	5.1%
NOBLE	73	1,709	4.3%	92	2,074	4.4%	90	1,713	5.3%	68	1,780	3.8%	77	1,642	4.7%
OHIO	14	176	8.0%	7	214	3.3%	15	217	6.9%	19	229	8.3%	18	235	7.7%
ORANGE	11	640	1.7%	19	692	2.7%	18	622	2.9%	17	622	2.7%	16	622	2.6%
OWEN	23	686	3.4%	32	724	4.4%	31	640	4.8%	27	643	4.2%	25	648	3.9%
PARKE	25	552	4.5%	34	613	5.5%	32	573	5.6%	28	470	6.0%	35	566	6.2%
PERRY	18	639	2.8%	30	744	4.0%	35	684	5.1%	20	603	3.3%	33	695	4.7%
PIKE	18	358	5.0%	27	413	6.5%	24	408	5.9%	19	397	4.8%	20	396	5.1%
PORTER	235	4,673	5.0%	234	5,306	4.4%	221	4,624	4.8%	192	4,848	4.0%	202	4,690	4.3%
POSEY	32	599	5.3%	36	660	5.5%	26	578	4.5%	32	523	6.1%	40	499	8.0%
PULASKI	32	524	6.1%	20	605	3.3%	22	603	3.6%	22	538	4.1%	21	611	3.4%
PUTNAM	64	1,204	5.3%	56	1,347	4.2%	41	1,183	3.5%	47	1,230	3.8%	39	1,133	3.4%
RANDOLPH	33	792	4.2%	45	880	5.1%	32	740	4.3%	30	647	4.6%	36	659	5.5%
RIPLEY	39	915	4.3%	49	931	5.3%	44	872	5.0%	44	878	5.0%	29	843	3.4%
RUSH	36	597	6.0%	28	652	4.3%	19	529	3.6%	28	554	5.1%	24	574	4.2%
SAINT JOSEPH	567	10,279	5.5%	587	11,174	5.3%	593	10,330	5.7%	538	10,075	5.3%	507	9,801	5.2%
SCOTT	34	776	4.4%	44	854	5.2%	43	829	5.2%	34	741	4.6%	25	680	3.7%
SHELBY	98	1,480	6.6%	65	1,612	4.0%	79	1,381	5.7%	81	1,409	5.7%	53	1,424	3.7%
SPENCER	36	678	5.3%	33	741	4.5%	52	641	8.1%	41	678	6.0%	48	640	7.5%
STARKE	52	786	6.6%	53	794	6.7%	55	824	6.7%	41	748	5.5%	53	692	7.7%
STEUBEN	75	1,710	4.4%	89	2,072	4.3%	54	1,761	3.1%	61	1,665	3.7%	67	1,576	4.3%
SULLIVAN	4	497	0.8%	8	571	1.4%	10	527	1.9%	5	495	1.0%	2	478	0.4%
SWITZERLAND	17	371	4.6%	11	336	3.3%	14	367	3.8%	24	337	7.1%	9	314	2.9%
TIPPECANOE	272	7,074	3.8%	276	7,770	3.6%	279	6,492	4.3%	255	6,319	4.0%	297	6,759	4.4%
TIPTON	15	457	3.3%	15	462	3.2%	12	423	2.8%	8	392	2.0%	16	386	4.1%
UNION	11	260	4.2%	13	269	4.8%	4	248	1.6%	13	240	5.4%	13	229	5.7%
VANDERBURGH	346	7,344	4.7%	341	7,840	4.3%	305	6,832	4.5%	347	6,812	5.1%	336	7,015	4.8%
VERMILLION	48	590	8.1%	39	637	6.1%	32	601	5.3%	35	535	6.5%	33	438	7.5%
VIGO	253	5,238	4.8%	257	5,639	4.6%	232	5,260	4.4%	206	4,777	4.3%	232	4,876	4.8%
WABASH	57	1,335	4.3%	58	1,480	3.9%	52	1,287	4.0%	56	1,142	4.9%	52	1,151	4.5%
WARREN	9	281	3.2%	8	287	2.8%	10	282	3.5%	11	230	4.8%	14	290	4.8%
WARRICK	90	1,379	6.5%	53	1,491	3.6%	65	1,481	4.4%	67	1,406	4.8%	75	1,453	5.2%
WASHINGTON	46	773	6.0%	60	903	6.6%	55	878	6.3%	53	905	5.9%	54	902	6.0%
WAYNE	121	2,842	4.3%	128	3,111	4.1%	130	2,932	4.4%	134	2,735	4.9%	130	2,683	4.8%
WELLS	34	836	4.1%	37	977	3.8%	32	826	3.9%	23	799	2.9%	21	747	2.8%
WHITE	58	1,210	4.8%	47	1,199	3.9%	38	1,078	3.5%	39	1,029	3.8%	60	1,113	5.4%
WHITLEY	66	1,072	6.2%	53	1,226	4.3%	46	1,069	4.3%	50	1,039	4.8%	58	1,021	5.7%
INDIANA	10,128	225,030	4.5%	10,545	247,305	4.3%	9,777	221,465	4.4%	9,544	220,009	4.3%	9,508	216,510	4.4%
	(9,794)	(213,027)	(4.6%)	(9,995)	(221,027)	(4.5%)									

1994 and 1995 values (in parentheses) corrected for misclassified private property crashes. See Glossary for explanation.

Table 94. Alcohol-Related Crashes by County with Rates per 1,000 Licensed Drivers–1998

County	Fatal Crashes	Fatal Crash Rate per 1000 LDVR	Personal Injury Crashes	Injury Crash Rate per 1000 LDVR	Property Damage Crashes	Property Damage Crash Rate per 1000 LDVR	Total Crashes	Total Crash Rate per 1000 LDVR
ADAMS	2	0.096	13	0.63	13	0.63	28	1.35
ALLEN	12	0.056	253	1.18	324	1.51	589	2.75
BARTHOLOMEW	1	0.020	40	0.80	46	0.92	87	1.75
BENTON	0	0.000	5	0.71	7	1.00	12	1.71
BLACKFORD	2	0.199	12	1.19	7	0.70	21	2.09
BOONE	3	0.095	20	0.63	26	0.82	49	1.55
BROWN	0	0.000	18	1.57	14	1.22	32	2.79
CARROLL	1	0.069	20	1.37	19	1.30	40	2.74
CASS	2	0.074	33	1.22	45	1.67	80	2.96
CLARK	1	0.015	64	0.96	63	0.94	128	1.91
CLAY	0	0.000	20	1.06	17	0.90	37	1.97
CLINTON	0	0.000	19	0.85	27	1.20	46	2.05
CRAWFORD	0	0.000	2	0.26	4	0.53	6	0.79
DAVIESS	1	0.055	30	1.65	23	1.27	54	2.98
DEARBORN	1	0.031	56	1.71	53	1.62	110	3.36
DECATUR	3	0.170	25	1.42	25	1.42	53	3.00
DEKALB	2	0.073	24	0.87	18	0.65	44	1.60
DELAWARE	2	0.027	79	1.05	100	1.33	181	2.41
DUBOIS	0	0.000	31	1.10	40	1.42	71	2.52
ELKHART	4	0.036	147	1.32	127	1.14	278	2.49
FAYETTE	0	0.000	10	0.56	25	1.40	35	1.96
FLOYD	2	0.041	55	1.12	70	1.43	127	2.59
FOUNTAIN	0	0.000	18	1.35	25	1.88	43	3.23
FRANKLIN	1	0.068	26	1.76	27	1.83	54	3.66
FULTON	1	0.069	21	1.45	16	1.10	38	2.62
GIBSON	2	0.087	37	1.60	24	1.04	63	2.73
GRANT	2	0.041	40	0.81	55	1.12	97	1.97
GREENE	1	0.044	17	0.74	16	0.70	34	1.48
HAMILTON	4	0.034	52	0.44	54	0.45	110	0.92
HANCOCK	3	0.075	30	0.75	28	0.70	61	1.52
HARRISON	1	0.039	32	1.25	28	1.10	61	2.39
HENDRICKS	4	0.058	45	0.66	51	0.74	100	1.46
HENRY	0	0.000	26	0.73	54	1.52	80	2.25
HOWARD	3	0.051	66	1.11	44	0.74	113	1.90
HUNTINGTON	2	0.077	20	0.77	8	0.31	30	1.15
JACKSON	1	0.034	29	0.99	45	1.54	75	2.56
JASPER	3	0.140	21	0.98	31	1.45	55	2.57
JAY	1	0.065	14	0.90	19	1.23	34	2.20
JEFFERSON	0	0.000	32	1.51	36	1.70	68	3.22
JENNINGS	1	0.055	8	0.44	7	0.38	16	0.88
JOHNSON	2	0.026	51	0.65	63	0.81	116	1.48
KNOX	0	0.000	36	1.36	44	1.66	80	3.01
KOSCIUSKO	6	0.120	72	1.45	64	1.29	142	2.85
LAGRANGE	1	0.059	19	1.12	21	1.24	41	2.42
LAKE	18	0.061	422	1.44	469	1.60	909	3.09
LAPORTE	10	0.138	103	1.42	126	1.74	239	3.30
LAWRENCE	1	0.031	37	1.15	39	1.21	77	2.38
MADISON	4	0.044	92	1.02	135	1.50	231	2.57
MARION	21	0.040	538	1.03	679	1.30	1,238	2.37
MARSHALL	2	0.066	29	0.96	26	0.86	57	1.89
MARTIN	2	0.264	11	1.45	9	1.19	22	2.90
MIAMI	0	0.000	14	0.57	27	1.10	41	1.68
MONROE	4	0.057	76	1.09	75	1.07	155	2.22
MONTGOMERY	1	0.039	26	1.00	31	1.20	58	2.24
MORGAN	3	0.066	33	0.72	37	0.81	73	1.60
NEWTON	0	0.000	10	0.96	9	0.87	19	1.83
NOBLE	0	0.000	30	1.01	47	1.58	77	2.59
OHIO	0	0.000	7	1.69	11	2.65	18	4.34
ORANGE	2	0.149	5	0.37	9	0.67	16	1.19
OWEN	1	0.070	12	0.84	12	0.84	25	1.74
PARKE	4	0.359	17	1.52	14	1.26	35	3.14
PERRY	0	0.000	10	0.74	23	1.71	33	2.45
PIKE	1	0.108	10	1.08	9	0.97	20	2.16
PORTER	7	0.069	97	0.95	98	0.96	202	1.99
POSEY	2	0.105	19	1.00	19	1.00	40	2.10
PULASKI	0	0.000	9	0.93	12	1.24	21	2.18
PUTNAM	1	0.044	17	0.75	21	0.92	39	1.71
RANDOLPH	2	0.100	18	0.90	16	0.80	36	1.81
RIPLEY	0	0.000	16	0.81	13	0.66	29	1.46
RUSH	0	0.000	12	0.93	12	0.93	24	1.87
SAINT JOSEPH	9	0.054	212	1.28	286	1.72	507	3.06
SCOTT	0	0.000	13	0.82	12	0.75	25	1.57
SHELBY	0	0.000	16	0.54	37	1.24	53	1.78
SPENCER	2	0.137	21	1.44	25	1.71	48	3.29
STARKE	5	0.311	29	1.80	19	1.18	53	3.29
STEUBEN	2	0.087	31	1.35	34	1.48	67	2.92
SULLIVAN	1	0.069	0	0.00	1	0.07	2	0.14
SWITZERLAND	0	0.000	4	0.68	5	0.85	9	1.53
TIPPECANOE	3	0.034	112	1.28	182	2.08	297	3.40
TIPTON	0	0.000	4	0.33	12	0.98	16	1.31
UNION	0	0.000	6	1.11	7	1.30	13	2.41
VANDERBURGH	5	0.044	163	1.43	168	1.48	336	2.95
VERMILLION	0	0.000	19	1.54	14	1.14	33	2.68
VIGO	2	0.030	99	1.48	131	1.96	232	3.47
WABASH	1	0.040	30	1.21	21	0.85	52	2.10
WARREN	1	0.167	8	1.34	5	0.84	14	2.34
WARRICK	3	0.079	31	0.82	41	1.08	75	1.97
WASHINGTON	1	0.055	21	1.16	32	1.76	54	2.98
WAYNE	2	0.041	57	1.17	71	1.46	130	2.67
WELLS	0	0.000	10	0.51	11	0.56	21	1.07
WHITE	3	0.162	21	1.13	36	1.94	60	3.23
WHITLEY	2	0.090	28	1.26	28	1.26	58	2.61
INDIANA	206	0.052	4,293	1.08	5,009	1.26	9,508	2.39

Legend: LDVR=Licensed Drivers
Source: Indiana Bureau of Motor Vehicles.

Table 95. County Data–Registered Vehicles, Licensed Drivers, Population, and Vehicle Miles Traveled–1998

County	Registered Vehicles	Licensed Drivers	1998 Population Estimates	1998 VMT
ADAMS	29,569	20,769	33,083	311,143,885
ALLEN	287,093	214,474	314,218	3,262,157,570
BARTHOLOMEW	69,907	49,849	69,579	878,781,300
BENTON	10,504	7,001	9,725	186,404,405
BLACKFORD	14,346	10,043	13,910	158,617,320
BOONE	45,176	31,581	43,843	899,443,220
BROWN	17,272	11,484	15,982	162,319,880
CARROLL	23,011	14,582	20,010	264,108,890
CASS	38,879	26,991	38,685	432,379,365
CLARK	87,756	67,015	93,805	1,329,461,400
CLAY	26,961	18,824	26,637	416,785,835
CLINTON	32,586	22,441	33,215	513,378,340
CRAWFORD	11,916	7,607	10,582	217,714,835
DAVIESS	27,509	18,143	28,987	324,652,535
DEARBORN	45,926	32,731	47,206	576,338,650
DECATUR	25,767	17,664	25,562	461,641,780
DEKALB	41,900	27,581	39,330	536,013,815
DELAWARE	101,788	75,101	116,828	1,576,631,735
DUBOIS	42,034	28,179	39,682	471,091,995
ELKHART	162,297	111,695	172,310	1,902,893,920
FAYETTE	24,692	17,821	25,969	237,714,280
FLOYD	61,371	49,026	71,990	799,983,640
FOUNTAIN	18,004	13,306	18,348	256,637,705
FRANKLIN	22,557	14,756	21,808	281,310,975
FULTON	21,624	14,522	20,620	276,841,550
GIBSON	33,208	23,101	32,149	525,801,480
GRANT	68,374	49,116	72,570	885,518,835
GREENE	33,654	22,920	33,467	410,719,535
HAMILTON	147,139	119,034	162,597	1,810,302,545
HANCOCK	57,870	40,226	54,524	968,683,720
HARRISON	39,154	25,514	34,730	475,815,460
HENDRICKS	96,526	68,599	95,146	1,049,537,790
HENRY	51,669	35,591	48,785	737,460,235
HOWARD	78,808	59,340	83,452	878,932,410
HUNTINGTON	36,500	26,051	37,259	588,986,265
JACKSON	42,249	29,293	40,992	617,770,530
JASPER	32,199	21,371	29,260	627,633,560
JAY	21,565	15,488	21,729	283,006,765
JEFFERSON	28,795	21,123	31,466	294,888,975
JENNINGS	27,561	18,226	27,789	299,460,600
JOHNSON	100,936	78,121	109,368	932,499,080
KNOX	36,941	26,535	39,388	487,886,375
KOSCIUSKO	73,847	49,805	71,207	785,325,240
LAGRANGE	27,348	16,944	33,484	579,333,475
LAKE	359,381	293,999	478,323	4,741,472,640
LAPORTE	104,047	72,375	109,461	1,481,297,750
LAWRENCE	45,651	32,304	45,615	491,141,445
MADISON	124,567	89,939	131,360	1,445,922,680
MARION	695,952	523,261	813,405	9,244,123,955
MARSHALL	45,498	30,125	45,444	737,265,325
MARTIN	11,038	7,587	10,531	129,935,255
MIAMI	35,938	24,459	33,543	387,659,930
MONROE	89,584	69,822	115,130	996,892,380
MONTGOMERY	35,829	25,902	36,337	578,467,695
MORGAN	67,456	45,562	65,500	795,068,185
NEWTON	16,055	10,383	14,734	243,739,335
NOBLE	43,112	29,703	42,626	530,705,255
OHIO	6,038	4,145	5,423	59,203,365
ORANGE	19,850	13,398	19,606	206,173,170
OWEN	21,225	14,346	20,419	196,812,380
PARKE	16,436	11,148	16,720	255,073,315
PERRY	19,677	13,473	19,350	254,791,535
PIKE	14,202	9,272	12,882	242,487,750
PORTER	129,460	101,627	145,726	1,675,123,335
POSEY	28,664	19,011	26,512	409,293,480
PULASKI	15,091	9,651	13,257	204,606,955
PUTNAM	33,077	22,801	34,468	580,525,565
RANDOLPH	28,272	19,910	27,628	351,585,520
RIPLEY	29,040	19,808	27,205	376,133,230
RUSH	19,065	12,845	18,307	248,305,850
ST. JOSEPH	223,427	165,952	258,088	2,398,836,210
SCOTT	23,006	15,935	22,939	298,682,785
SHELBY	44,146	29,793	43,451	625,766,585
SPENCER	22,133	14,608	20,937	356,071,370
STARKE	23,846	16,088	23,968	247,101,715
STEUBEN	34,437	22,945	31,450	666,376,850
SULLIVAN	20,766	14,397	19,270	311,202,650
SWITZERLAND	8,592	5,872	8,893	85,956,040
TIPPECANOE	108,007	87,292	139,005	1,441,078,400
TIPTON	18,714	12,252	16,724	301,163,690
UNION	8,005	5,401	7,263	85,441,755
VANDERBURGH	152,059	113,843	168,179	1,571,753,145
VERMILLION	17,709	12,324	16,908	296,842,090
VIGO	90,133	66,888	105,083	1,224,274,970
WABASH	36,733	24,769	34,537	427,415,000
WARREN	9,925	5,976	8,251	180,291,750
WARRICK	51,293	38,006	51,609	606,846,810
WASHINGTON	27,883	18,145	27,900	311,373,470
WAYNE	65,240	48,684	71,313	1,160,275,870
WELLS	28,861	19,652	26,842	308,212,935
WHITE	28,224	18,572	25,338	492,572,245
WHITLEY	32,548	22,241	30,459	460,046,730
INDIANA	**5,454,680**	**3,976,075**	**5,899,195**	**70,695,402,045**

Table 96. Crashes Involving Deer by County with Fatalities, Injuries by Locale–1998

	Rural Crashes						Urban Crashes						All Crashes					
County	Fatal Crashes	Personal Injury	Property Damage	Total Crashes	Total Fatalities	Total Injuries	Fatal Crashes	Personal Injury	Property Damage	Total Crashes	Total Fatalities	Total Injuries	Fatal Crashes	Personal Injury	Property Damage	Total Crashes	Total Fatalities	Total Injuries
ADAMS	0	1	75	76	0	1	0	0	1	1	0	0	0	1	76	77	0	1
ALLEN	0	11	267	278	0	16	0	4	33	37	0	5	0	15	300	315	0	21
BARTHOLOMEW	0	2	84	86	0	2	0	0	14	14	0	0	0	2	98	100	0	2
BENTON	0	1	10	11	0	7	0	0	0	0	0	0	0	1	10	11	0	7
BLACKFORD	0	1	60	61	0	1	0	0	1	1	0	0	0	1	61	62	0	1
BOONE	0	5	61	66	0	5	0	1	4	5	0	1	0	6	65	71	0	6
BROWN	0	2	10	12	0	2	0	0	0	0	0	0	0	2	10	12	0	2
CARROLL	0	2	90	92	0	3	0	0	2	2	0	0	0	2	92	94	0	3
CASS	0	6	214	220	0	7	0	0	3	3	0	0	0	6	217	223	0	7
CLARK	0	8	151	159	0	8	0	0	14	14	0	0	0	8	165	173	0	8
CLAY	0	4	111	115	0	4	0	1	4	5	0	3	0	5	115	120	0	7
CLINTON	0	1	42	43	0	1	0	0	0	0	0	0	0	1	42	43	0	1
CRAWFORD	0	1	10	11	0	1	0	0	0	0	0	0	0	1	10	11	0	1
DAVIESS	0	3	88	91	0	3	0	0	1	1	0	0	0	3	89	92	0	3
DEARBORN	0	4	153	157	0	4	0	0	24	24	0	0	0	4	177	181	0	4
DECATUR	0	1	27	28	0	1	0	0	0	0	0	0	0	1	27	28	0	1
DEKALB	1	5	145	151	1	5	0	0	3	3	0	0	1	5	148	154	1	5
DELAWARE	0	5	160	165	0	6	0	0	13	13	0	0	0	5	173	178	0	6
DUBOIS	0	6	129	135	0	6	0	0	12	12	0	0	0	6	141	147	0	6
ELKHART	0	6	351	357	0	10	0	0	25	25	0	0	0	6	376	382	0	10
FAYETTE	0	6	52	58	0	6	0	0	5	5	0	0	0	6	57	63	0	6
FLOYD	0	2	84	86	0	2	0	0	26	26	0	0	0	2	110	112	0	2
FOUNTAIN	0	2	43	45	0	2	0	0	2	2	0	0	0	2	45	47	0	2
FRANKLIN	0	3	43	46	0	3	0	0	0	0	0	0	0	3	43	46	0	3
FULTON	0	5	88	93	0	5	0	0	3	3	0	0	0	5	91	96	0	5
GIBSON	0	2	99	101	0	2	0	0	3	3	0	0	0	2	102	104	0	2
GRANT	0	6	138	144	0	6	0	1	10	11	0	1	0	7	148	155	0	7
GREENE	0	2	66	68	0	2	0	0	0	0	0	0	0	2	66	68	0	2
HAMILTON	0	4	74	78	0	5	0	0	52	52	0	0	0	4	126	130	0	5
HANCOCK	0	5	62	67	0	6	0	0	15	15	0	0	0	5	77	82	0	6
HARRISON	1	4	183	188	1	4	0	0	3	3	0	0	1	4	186	191	1	4
HENDRICKS	0	2	135	137	0	2	0	1	15	16	0	1	0	3	150	153	0	3
HENRY	0	8	89	97	0	8	0	1	5	6	0	1	0	9	94	103	0	9
HOWARD	0	1	59	60	0	1	0	1	5	6	0	1	0	2	64	66	0	2
HUNTINGTON	0	7	114	121	0	8	0	0	8	8	0	0	0	7	122	129	0	8
JACKSON	0	3	103	106	0	3	0	0	3	3	0	0	0	3	106	109	0	3
JASPER	0	5	184	189	0	5	0	0	3	3	0	0	0	5	187	192	0	5
JAY	0	1	125	126	0	1	0	0	0	0	0	0	0	1	125	126	0	1
JEFFERSON	0	4	65	69	0	4	0	0	30	30	0	0	0	4	95	99	0	4
JENNINGS	0	1	22	23	0	1	0	0	3	3	0	0	0	1	25	26	0	1
JOHNSON	0	4	64	68	0	6	0	0	2	2	0	0	0	4	66	70	0	6
KNOX	0	3	40	43	0	3	0	0	1	1	0	0	0	3	41	44	0	3
KOSCIUSKO	0	15	175	190	0	20	0	0	18	18	0	0	0	15	193	208	0	20
LAGRANGE	0	5	136	141	0	6	0	0	1	1	0	0	0	5	137	142	0	6
LAKE	0	2	88	90	0	2	0	6	117	123	0	9	0	8	205	213	0	11

Table 96. Crashes Involving Deer by County with Fatalities, Injuries by Locale–1998 (cont.)

	Rural Crashes						Urban Crashes						All Crashes					
County	Fatal Crashes	Personal Injury	Property Damage	Total Crashes	Total Fatalities	Total Injuries	Fatal Crashes	Personal Injury	Property Damage	Total Crashes	Total Fatalities	Total Injuries	Fatal Crashes	Personal Injury	Property Damage	Total Crashes	Total Fatalities	Total Injuries
LAWRENCE	0	1	46	47	0	4	0	0	7	7	0	0	0	1	53	54	0	4
MADISON	0	4	107	111	0	4	0	0	24	24	0	0	0	4	131	135	0	4
MARION	0	3	68	71	0	3	0	0	18	18	0	0	0	3	86	89	0	3
MARSHALL	0	3	315	318	0	3	0	1	9	10	0	2	0	4	324	328	0	5
MARTIN	0	0	31	31	0	0	0	1	0	1	0	1	0	1	31	32	0	1
MIAMI	0	4	128	132	0	7	0	0	1	1	0	0	0	4	129	133	0	7
MONROE	0	2	29	31	0	3	0	0	7	7	0	0	0	2	36	38	0	3
MONTGOMERY	0	7	135	142	0	8	0	0	4	4	0	0	0	7	139	146	0	8
MORGAN	0	7	83	90	0	9	0	0	4	4	0	0	0	7	87	94	0	9
NEWTON	0	1	71	72	0	2	0	0	0	0	0	0	0	1	71	72	0	2
NOBLE	0	5	280	285	0	5	0	0	11	11	0	0	0	5	291	296	0	5
OHIO	0	1	40	41	0	2	0	0	0	0	0	0	0	1	40	41	0	2
ORANGE	0	0	9	9	0	0	0	0	1	1	0	0	0	0	10	10	0	0
OWEN	0	3	31	34	0	3	0	0	0	0	0	0	0	3	31	34	0	3
PARKE	0	3	67	70	0	3	0	0	0	0	0	0	0	3	67	70	0	3
PERRY	0	0	29	29	0	0	0	0	3	3	0	0	0	0	32	32	0	0
PIKE	0	2	28	30	0	2	0	0	0	0	0	0	0	2	28	30	0	2
PORTER	0	12	232	244	0	14	0	3	61	64	0	4	0	15	293	308	0	18
POSEY	0	3	36	39	0	3	0	0	0	0	0	0	0	3	36	39	0	3
PULASKI	0	4	189	193	0	5	0	0	0	0	0	0	0	4	189	193	0	5
PUTNAM	0	3	106	109	0	3	0	0	10	10	0	0	0	3	116	119	0	3
RANDOLPH	0	2	95	97	0	2	0	0	1	1	0	0	0	2	96	98	0	2
RIPLEY	0	3	81	84	0	3	0	1	2	3	0	1	0	4	83	87	0	4
RUSH	0	2	58	60	0	2	0	0	1	1	0	0	0	2	59	61	0	2
ST. JOSEPH	0	10	230	240	0	11	0	0	21	21	0	0	0	10	251	261	0	11
SCOTT	0	0	36	36	0	0	0	0	0	0	0	0	0	0	36	36	0	0
SHELBY	0	3	41	44	0	3	0	0	4	4	0	0	0	3	45	48	0	3
SPENCER	1	1	61	63	1	1	0	0	2	2	0	0	1	1	63	65	1	1
STARKE	0	5	111	116	0	5	0	0	6	6	0	0	0	5	117	122	0	5
STEUBEN	0	2	316	318	0	2	0	0	13	13	0	0	0	2	329	331	0	2
SULLIVAN	0	0	16	16	0	0	0	0	0	0	0	0	0	0	16	16	0	0
SWITZERLAND	0	0	14	14	0	0	0	0	0	0	0	0	0	0	14	14	0	0
TIPPECANOE	0	5	311	316	0	6	0	1	18	19	0	1	0	6	329	335	0	7
TIPTON	0	1	6	7	0	1	0	0	0	0	0	0	0	1	6	7	0	1
UNION	0	3	48	51	0	3	0	0	0	0	0	0	0	3	48	51	0	3
VANDERBURGH	0	2	56	58	0	2	0	0	6	6	0	0	0	2	62	64	0	2
VERMILLION	0	1	36	37	0	1	0	0	1	1	0	0	0	1	37	38	0	1
VIGO	0	5	237	242	0	7	0	2	18	20	0	2	0	7	255	262	0	9
WABASH	0	4	129	133	0	6	0	1	3	4	0	1	0	5	132	137	0	7
WARREN	0	3	51	54	0	3	0	0	0	0	0	0	0	3	51	54	0	3
WARRICK	0	2	154	156	0	2	0	0	4	4	0	0	0	2	158	160	0	2
WASHINGTON	0	4	131	135	0	4	0	0	7	7	0	0	0	4	138	142	0	4
WAYNE	0	11	178	189	0	12	0	0	5	5	0	0	0	11	183	194	0	12
WELLS	0	2	100	102	0	3	0	0	4	4	0	0	0	2	104	106	0	3
WHITE	0	2	193	195	0	4	0	0	5	5	0	0	0	2	198	200	0	4
WHITLEY	0	6	106	112	0	6	0	0	5	5	0	0	0	6	111	117	0	6
INDIANA	3	338	9,588	9,929	3	395	0	27	810	837	0	35	3	365	10,398	10,766	3	430

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Appendix

TOPICS

Indiana Officer's Standard Crash Report
Indiana Officer's Vehicle Crash Report
Safety Equipment

INDIANA OFFICER'S STANDARD CRASH REPORT

State Form: 23558(R3/7-91) Stock 302

Mail to: Indiana State Police, Crash Records Section
100 North Senate Avenue, Indianapolis, IN 46204

OFFICE USE ONLY
Crash I.D. No.

1. Prim. / V1 / V1 / V2 / V2

LOCATION

Date of Crash (Month / Day / Year)	Day of Week	Actual Local Time ☐ AM ☐ PM	No. Motor Vehicles	No. Injured	No. Dead	No. Trailers

County		Township		City/Town or Nearest City/Town	

Inside Corporate Limits? ☐ Yes ☐ No Property? ☐ Private ☐ DNR ☐ Other Distance and Direction From Corporate Limits: _____ Miles North _____ Miles South _____ Miles East _____ Miles West

2. V1 / V2

Road Crash Occurred On		Intersecting Road/Mile Marker/Interchange	

If not at Intersection, number of feet from	Direction	Nearest Intersecting Road/Mile Marker/Interchange	

3. V1 / V1 / V1 / V2 / V2 / V2

DRIVER 1

Driver's Name (Last, First, MI)					
Address (Street, City, State, Zip)					
Apparent Phys. Stat (enter no.)	Sex	Date of Birth (Month / Day / Year)	Arrested? ☐ Yes ☐ No		
Driver's License No.		Lic. Type	Lic. St.	Restr.	

DRIVER 2

Driver's Name (Last, First, MI)					
Address (Street, City, State, Zip)					
Apparent Phys. Stat (enter no.)	Sex	Date of Birth (Month / Day / Year)	Arrested? ☐ Yes ☐ No		
Driver's License No.		Lic. Type	Lic. St.	Restr.	

4. V1 / V1 / V2 / V2

VEHICLE 1

Color	Veh. Yr.	Make	Model Name	
Veh. Type (enter no.)	Lic. Yr.	License No.	Lic. State	
Veh. Use (enter no.)	Speed Limit	Fuel Tax No.		
Direction of Travel	No. Occupants	Fire? ☐ Yes ☐ No	No. Axles	Transporting Hazardous Mat. ☐ Yes ☐ No
Towed To	Towed By			
Registered Owner's Name (Last, First, MI)				
Address (Street, City, State, Zip)				

VEHICLE 2

Color	Veh. Yr.	Make	Model Name	
Veh. Type (enter no.)	Lic. Yr.	License No.	Lic. State	
Veh. Use (enter no.)	Speed Limit	Fuel Tax No.		
Direction of Travel	No. Occupants	Fire? ☐ Yes ☐ No	No. Axles	Transporting Hazardous Mat. ☐ Yes ☐ No
Towed To	Towed By			
Registered Owner's Name (Last, First, MI)				
Address (Street, City, State, Zip)				

5. V1 / V2

6.

TRAILER 1

Registered Owner's Name (Last, First, MI)				
Address (Street, City, State, Zip)				
License No.	Make	Year	Lic. St.	Lic. Yr.

TRAILER 2

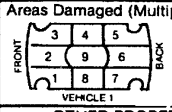
Registered Owner's Name (Last, First, MI)				
Address (Street, City, State, Zip)				
License No.	Make	Year	Lic. St.	Lic. Yr.

7. 8. 9. 10. 11. 12. 13. 14. 15. 15A.

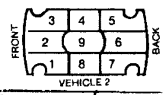
DAMAGE

INITIAL IMPACT V1	INITIAL IMPACT V2
DAMAGE EST V1	DAMAGE EST V2

Areas Damaged (Multiples)



10 - Undercarriage
11 - Trailer
12 - None



OTHER PROPERTY (INCLUDE CARGO)		
Name of Object	OWNER'S NAME AND ADDRESS	Damage Est (use chart)

PEDESTRIAN

Direction	Street/Highway	Arrested? ☐ Yes ☐ No	Apparent Phys. Stat. (enter no.)

What was pedestrian doing before crash? Enter No.

1 Not in roadway
2 Standing in roadway
3 Playing in roadway
4 Pushing or working on vehicle
5 Other working in roadway
6 Walking in roadway with traffic
7 Walking in roadway against traffic
8 Getting on or off vehicle
9 Getting on or off school bus
10 Crossing or entering not at intersection
11 Crossing or entering at intersection
12 Other

Pedestrian Traffic Control?* ☐ Yes ☐ No

16	17	18	18A	19	20	21	22	23	24	25	26	27	28	29
					DRIVER OF VEHICLE 1 (as listed above)									
					DRIVER OF VEHICLE 2 (as listed above)									

A-2. Indiana Officer's Standard Crash Report (Page 2)

Diagram

Indicate NORTH by an arrow

NARRATIVE (Refer to Vehicle by Number)

D1 Insured By		D2 Insured By	
Other Participant(s) Name, Address (etc.)			
Name of Witness No. 1	Address		Location at Time of Crash
Name of Witness No. 2	Address		Location at Time of Crash
Name of Person Arrested	I.C. Code(s)	Name of Person Arrested	I.C. Code(s)

INVESTIGATION

Time Notified ☐ AM ☐ PM / Time Arrived ☐ AM ☐ PM / Other Location of Investigation		Investigation Complete ☐ Yes ☐ No	Photos Taken ☐ Yes ☐ No
Assisting Officer	I.D. No.	Agency	Date of Report
Assisting Officer	I.D. No.	Agency	Driver Report Form Furnished ☐ D1 ☐ D2
Investigating Officer's Signature	I.D. No.	Agency	

INDIANA OFFICER'S VEHICLE CRASH REPORT

CODING INSTRUCTION SHEET

THE FOLLOWING ARE THE CODES USED THROUGHOUT THE REPORT

S# 302-A

1. Prim. / V1 / V1 / V2 / V2

2. V1 / V2

3. V1 / V1 / V1 / V2 / V2 / V2

4. V1 / V1 / V2 / V2

5. V1 / V2

6.

1. CONTRIBUTING CIRCUMSTANCES

1 Alcoholic Beverages
2 Illegal Drugs
3 Prescription Drugs
4 Driver Apparently Asleep
5 Driver Inattention
6 Driver Illness
7 Unsafe Speed*
8 Failure to Yield Right of Way
9 Disregarded Signal/Regulatory Sign
10 Left of Center
11 Improper Passing
12 Improper Turning
13 Improper Lane Usage
14 Following Too Closely
15 Unsafe Backing
16 Wrong Way on One Way
17 Pedestrian(s) Actions*
18 Passenger Distraction
19 Violation Driver License Restrictions
20 Engine Failure or Defective
21 Accelerator Failure or Defective
22 Brake Failure or Defective
23 Tire Failure or Defective
24 Headlight Defective or Not On
25 Other Lights Defective*
26 Steering Failure
27 Window/Windshield Defective
28 Oversize/Overweight Load
29 Insecure/Leaky Load
30 Tow Hitch Failure
31 Animal(s) Present on Roadway
32 Glare
33 Surface Material Loose
34 Material on Surface (Include Weather)
35 Holes/Ruts in Surface
36 Shoulder Defective
37 Road Under Construction*
38 Obstruction Not Marked
39 Lane Marking Obscured
40 View Obstructed by A Veh.
41 View Obstructed By*
42 Other*
43 Jack Knifing

2. PRE-CRASH VEHICLE ACTION

1 Going Straight Ahead
2 Turning on Red
3 Making Right Turn
4 Making Left Turn
5 Making U Turn
6 Exiting to Ramp
7 Merging
8 Changing Lanes
9 Driving Left of Center
10 Crossed Median
11 Overtaking
12 Passing
13 Backing
14 Starting in Traffic
15 Slowing or Stopping
16 Stopped in Traffic
17 Start From Parked Pos.
18 Entering Parked Pos.
19 Parked
20 Avoiding Obj. in Road
21 Driverless Moving
22 Other*
23 Driving Off Road on the Right

3. COLLISION INVOLVED

1 Other Motor Veh.
2 Pedestrian(s)
3 Bicyclist
4 RR/Train
5 Animal Drawn Veh.
6 Animal
7 ___Deer-List Number Also
8 Light Support/Utility Pole
9 Guide Rail/Median Barrier
10 Impact Attenuator
11 Sign Post
12 Tree
13 Building Wall
14 Curbing
15 Fence
16 Bridge Support
17 Culvert Head Wall/ Drainage Structure
18 Snow Embankment
19 Earth Embankment/ Rock Cut/Ditch
20 Fire Hydrant
21 Traffic Signal
22 Mail Box
23 Other Non-Fixed Obj.*
24 Other Fixed Obj.*

4. TRAFFIC CONTROLS

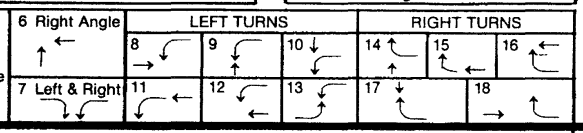
1 Officer/Crossing Guard/Flagman
2 RR Crossing Gate/Flagman
3 RR Crossing Flashing Signal
4 RR Crossing Sign/Pavement Markings
5 Traffic Control Signal
6 Flashing Signal
7 Stop Sign
8 Yield Sign
9 Lane Control
10 No Passing Zone
11 Other Regulatory Sign Markings*
12 None

5. WERE AUTOMATED CONTROLS OPERATING PROPERLY?

1 Yes 2 No*

6. COLLISION DIAGRAM

1 Rear End
2 Head On
3 Same Direction Sideswipe
4 Opp. Direction Sideswipe
5 Off Road Collision



7. CRASH TYPE

1 Hit and Run
2 Collision
3 Overturned
4 Non-Collision

8. LOCATION OF FIRST DAMAGE OR INJURY

1 Intersection
2 Driveway Access
3 Interchange Area
4 Off Roadway
5 Shoulder
6 Median
7 Roadway

9. KIND OF LOCALITY

1 School/ Playground
2 Residential
3 Commercial/ Industrial
4 Rural
5 Public Park
6 Urban Interstate

10. ROAD CONSTRUCTION/MAINTENANCE/UTILITY WORK PRESENT?

1 Yes 2 No

11. LIGHT CONDITION

1 Daylight
2 Dawn/Dusk
3 Dark (Street Lights On)
4 Dark (Street Lights Off)
5 Dark (No Street Lights)

12. WEATHER

1 Clear
2 Cloudy
3 Rain
4 Snow
5 Sleet/Hail/ Freezing Rain
6 Fog/Smoke/ Smog

13. ROAD SURFACE

1 Concrete
2 Blacktop
3 Brick
4 Dirt/Gravel
5 Other*

14. ROAD CHARACTER

1 Straight/Level
2 Straight/Grade
3 Straight/Hillcrest
4 Curve/Level
5 Curve/Grade
6 Curve/Hillcrest

15 SURFACE CONDITION

Must use 1-6

1 Dry
2 Wet
3 Muddy
4 Slush
5 Snow/Ice
6 Other*

15A WERE HAZARDOUS MATERIALS INVOLVED?

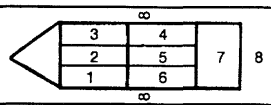
1 Yes 2 No

16. INJURED

1 Vehicle 1
2 Vehicle 2
P - Pedestrian
B - Bicyclist
O - Other*

17. POSITION IN OR ON VEHICLE

2-7 Passengers
6 Include Passengers on Motorcycle
7 Include Person in Truck Bed
8 Riding/Hanging on Outside



18. SAFETY EQUIPMENT USED (Drivers and Injured)

1 No Restraint
2 Lap Belt
3 Harness
4 Child Restraint
5 Helmet
6 Airbag
7 Other*

18A WAS SAFETY EQUIPMENT EFFECTIVE?

1 Yes 2 No

19. EJECTION/TRAPPED (Drivers and Injured)

1 Not Ejected
2 Partially Ejected
3 Ejected
4 Trapped In
5 Pinned Under

20. LIST NAMES AND ADDRESSES OF INJURED

21. NATURE OF MOST SEVERE INJURY

1 Severed
2 Internal
3 Minor Burn
4 Severe Burn
5 Abrasion
6 Minor Bleeding
7 Severe Bleeding (Arterial)
8 Fracture/Dislocation
9 Contusion/Bruise
10 Complaint of Pain
11 None Visible

22. LOCATION OF MOST SEVERE INJURY

1 Chest
2 Neck
3 Eye
4 Face
5 Head
6 Back
7 Shoulder/ Upper Arm
8 Elbow/Lower Arm/Hand
9 Abdomen/Pelvis
10 Hip/Upper Leg
11 Knee/Lower Leg/Foot
12 Entire Body

23. VICTIMS INJURY STATUS

1 Conscious
2 Semi-conscious
3 Incoherent
4 Unconscious
5 Shock
6 Dead
7 Refused Med.

24. EMS No.

25. AGE

26. SEX

27. TEST GIVEN

1 None
2 Alcohol
3 Drug
4 Refused

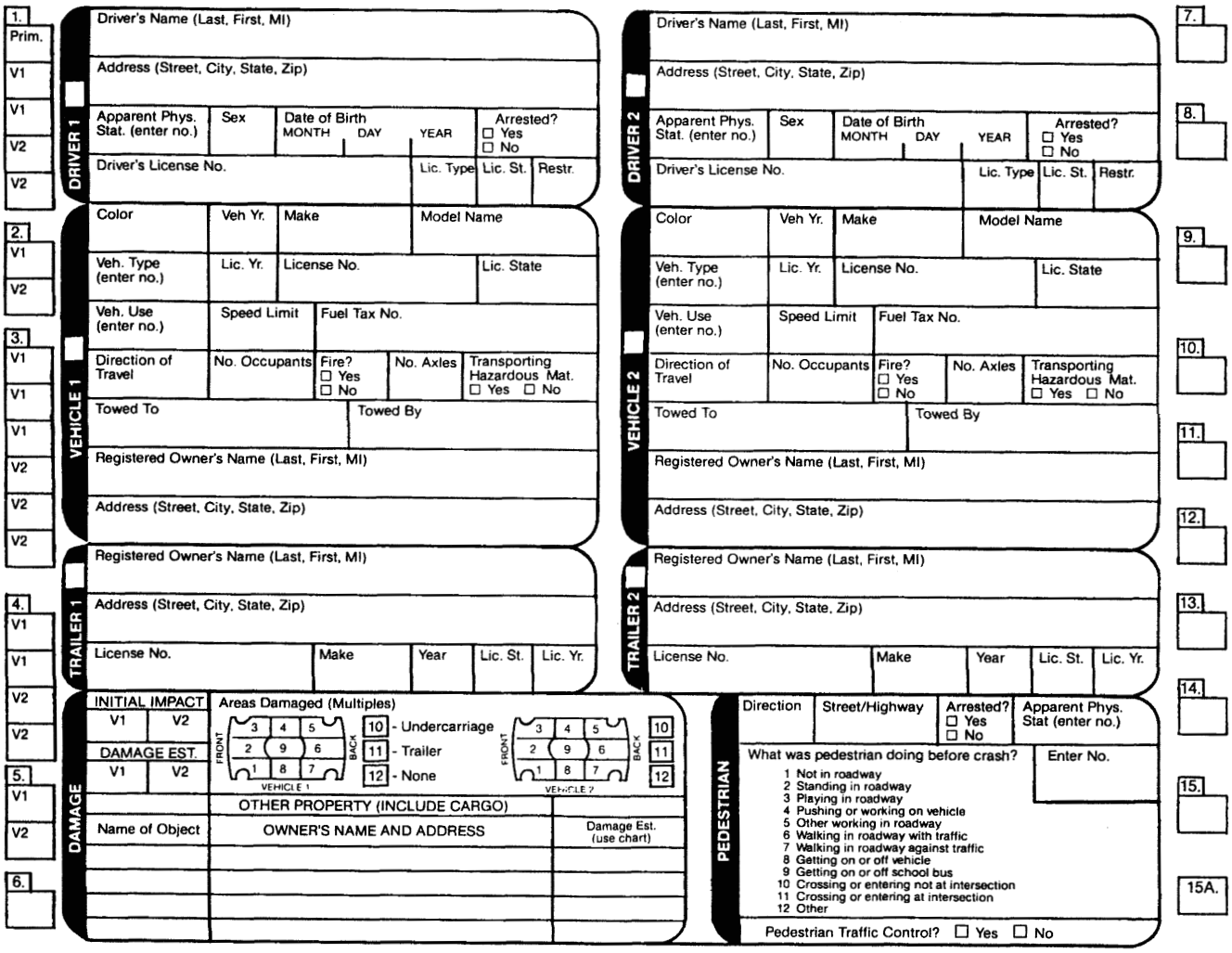
28. TYPE GIVEN

1 Blood
2 Urine
3 Breath
4 Other*

29. RESULTS

16	17	18	18A	19	20	21	22	23	24	25	26	27	28	29
					DRIVER OF VEHICLE 1 (as listed above)									
					DRIVER OF VEHICLE 2 (as listed above)									

BELOW LISTED CODES APPLY TO OUTLINED AREAS



MOTOR VEHICLE TYPE

1. Passenger car/station wagon
2. Pick up
3. Van
4. Truck
5. Semi Tractor (Only)
6. Semi Tractor/Trailer
6A. Semi Tractor/2 Trailers
7. Combination Vehicle
8. Recreational Vehicle
9. Bus
10. School Bus
11. Police Car
12. Fire Truck
13. Ambulance
14. Motorcycle
15. Moped
16. Snowmobile
17. Motorized Bicycle, Motor Scooter, Minibike
18. Farm Equipment
19. Special Vehicle
20. Other*

ESTIMATE OF DAMAGE

1. Under $750
2. $750 - $1,000
3. $1,001 - $2,500
4. $2,501 - $5,000
5. $5,001 - $10,000
6. $10,001 - $25,000
7. $25,001 - $50,000
8. $50,001 - $100,000
9. Over $100,000

DRIVER LICENSE RESTRICTIONS

A Glasses or Contact Lenses
B Outside Rearview Mirror
C Daylight Driving Only
D Automatic Transmission
G Special Controls
I Employment Only
K Motorcycle Only
M To and From Employment Only
N Employer's Vehicle Only
U Power Steering
V P P Chauffeurs Rest. to Taxi Only
X Authorized State Owned Vehicles Only
Y Special Restrictions
1 Probation DWI
2 Probation HTO
3 Photo Exempt

VEHICLE USE

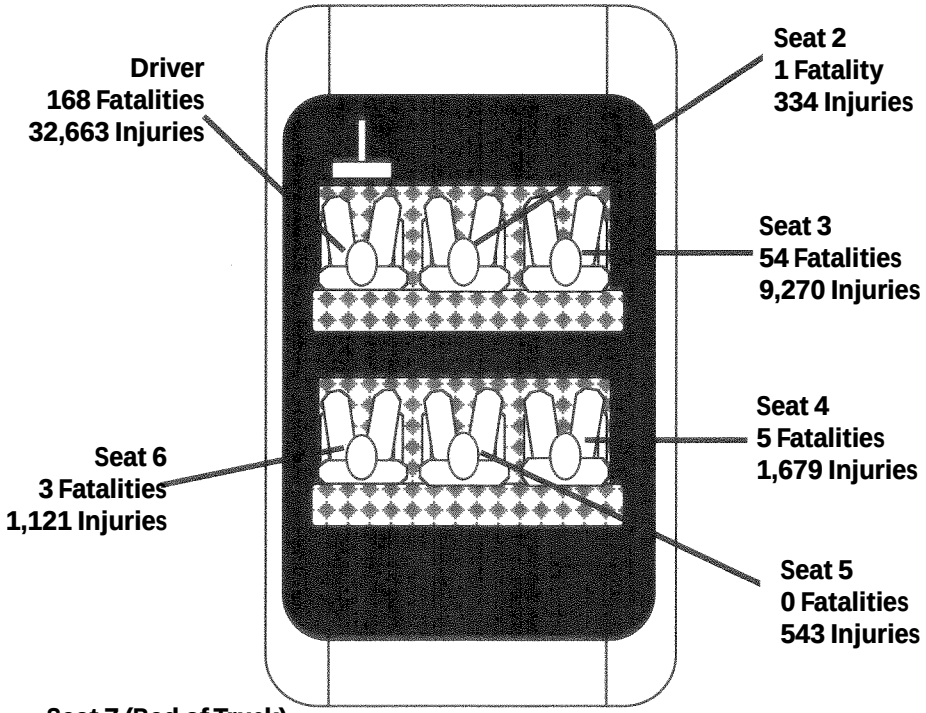
1. Personal (Farm Company)
2. Commercial (Buses, Taxis, Common and Contract Carriers)
3. Rental, not leased
4. School
5. Police, Fire, Ambulance
6. On emergency run
7. Military
8. Highway Department
9. Other Government (Postal, Welfare, etc.)
10. Public Utilities (Gas, Electric, etc.)
11. Other*

APPARENT PHYSICAL STATUS

1. Normal
2. Had Been Drinking
3. Physical Handicaps
4. Ill
5. Fatigued
6. Asleep
7. Drugs, Medication

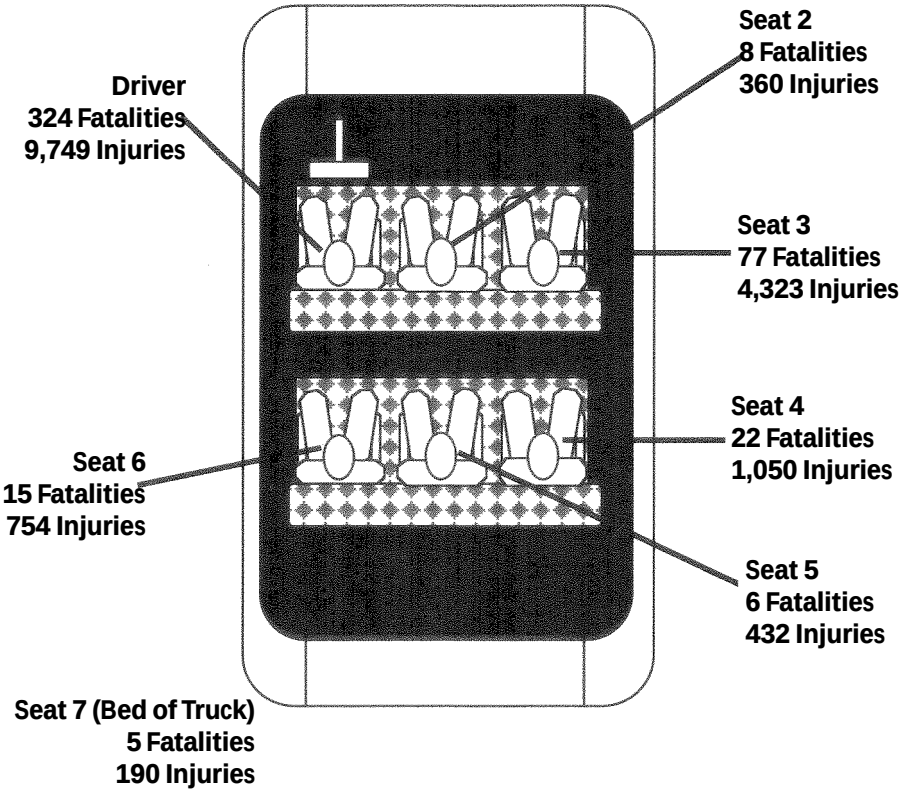
A-5. Safety Equipment: Automobiles and Light Trucks

With Safety Equipment



Seating Position Unknown: 0 Fatalities
149 Injuries

Without Safety Equipment

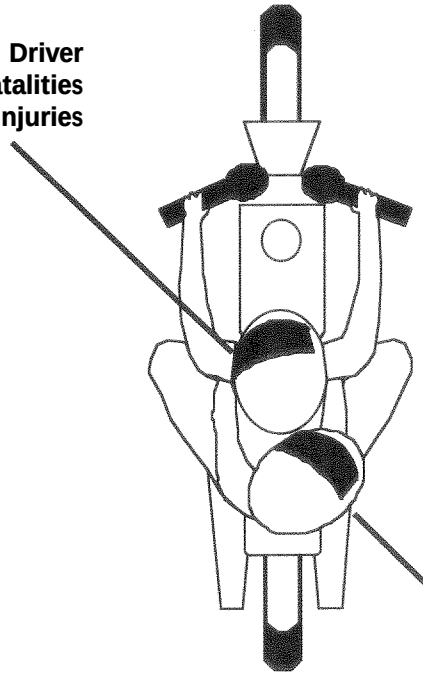


Seating Position Unknown: 5 Fatalities
82 Injuries

Safety Equipment Unknown: 62 Fatalities
2,351 Injuries

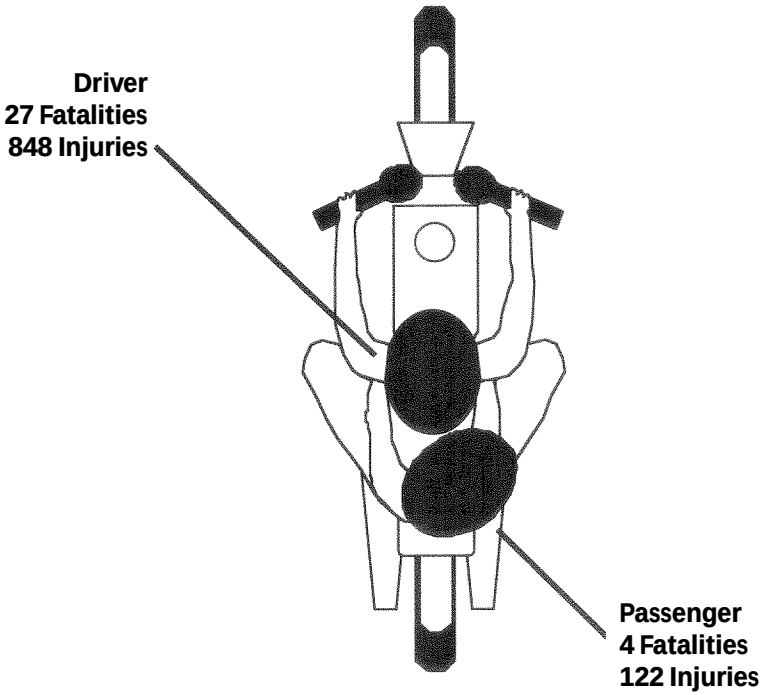
Safety Equipment and Seating Position Unknown: 4 Fatalities
164 Injuries

With Helmet



Driver Usage Unknown: 6 Fatalities
244 Injuries

Without Helmet



Passenger Usage Unknown: 1 Fatality
20 Injuries

Glossary

Alcohol-Related Crash: A crash in which the investigating officer reported one or more of the following: Primary Contributing Circumstance for the crash as Alcoholic Beverages; Vehicle Contributing Circumstance for one or more of the involved vehicles as Alcoholic Beverages, or; a Blood Alcohol Concentration of greater than 0.05 percent for one or more of the drivers involved in the crash.

BAC (Blood Alcohol Concentration): Grams of ethanol per 100 ml of blood, or 210 liters of breath. It is reported as a percentage. For example, 0.10, Indiana's current legal level for *per se* intoxication, would denote 0.1% alcohol within a person's blood.

Bicycle Crash: A crash involving one or more bicycles and a motor vehicle. In *Crash Facts* for 1993-94, only crashes in which a bicyclist was reported injured or killed were included.

Collision Crash: A motor vehicle crash other than an overturning incident in which the first harmful event is a collision of a motor vehicle in transport with another motor vehicle, other property or pedestrians.

Construction Zone: An area around a construction zone as identified by highway safety signs.

Contributing Circumstance: A single Primary Contributing Circumstance may be indicated on the crash report for a crash. For each vehicle involved up to two Vehicular Contributing Circumstances can be cited. For the data presented here, the following groupings of contributing circumstance were used as follows:

- Unsafe Speed (Speed Too Fast)
- Failure to Yield Right-of-Way
- Disregard Signal/Sign
- Left of Center
- Improper Passing
- Following Too Closely
- Improper Turning (Made Improper Turn)
- Alcoholic Beverages (Had Been Drinking)
- Other Improper Driving
  - Illegal Drugs
  - Prescription Drugs
  - Driver Illness
  - Improper Lane Usage
  - Unsafe Backing
  - Wrong Way on One Way
  - Violation of License Restrictions
- Mechanical Failure
  - Engine Failure or Defective
  - Accelerator Failure or Defective
  - Brake Failure or Defective
  - Tire Failure or Defective
  - Headlight Defective or Not On
  - Other Lights Defective
  - Steering Failure
  - Window/Windshield Defective
  - Insecure/Leaky Load
  - Tow Hitch Failure
- Driver Asleep
- Driver Inattention
- Animal(s) Present on Roadway
- Roadway Factors
  - Loose Surface Material
  - Holes/Ruts in Surface
  - Shoulder Defective
  - Road Under Construction
  - Obstruction Not Marked
  - Lane Marking Obscured
- Materials on Surface (Weather)
- Other
  - Pedestrian Actions
  - Passenger Distractions
  - Glare
  - Oversize/Overweight
  - View Obstructed By a Vehicle
  - View Obstructed By Other
  - Jackknifing
- Unknown

County VMT Strata: Indiana's 92 counties are divided into 3 strata based upon a rank-ordering of annual VMT data. The high VMT strata represents the top 7 counties with the highest VMT, the medium VMT strata represents the next 24 counties, and the low strata group represents the bottom 61 counties in annual vehicle miles traveled.

Crash Severity: The type of Crash: **Fatal**–a crash in which a person or persons died; **Personal Injury**–a crash in which a person or persons were injured, not including any crash in which a person or persons died; **Property Damage**–a crash in which property sustained damage of $750 or more ($200 prior to 1990), but there were no fatalities or reported injuries.

Driver/Operator: The person who is in actual physical control of a vehicle in transit.

Economic Loss: An approximation of the costs associated with crashes, based upon current National Highway Traffic Safety Administration (NHTSA) estimates of the loss to society for each fatality, injury and property damage crash.

FARS: Fatality Analysis Reporting System (previously Fatal Accident Reporting System).

Fatal Crash: A fatality is counted when a person dies due to the injuries from a traffic crash, within 30 days after the crash. Prior to 1983 fatalities were counted if they occurred up to 90 days after the crash.

Fatal Crash LD Rate: The number of fatal crashes per 1,000 licensed drivers ([Fatal Crashes/Licensed Drivers] x 1,000).

Fatal Crash VMT Rate: The number of fatal crashes per 100 million vehicle miles traveled ([Fatal Crashes/Vehicle Miles Traveled] x 100,000,000).

Fatality LD Rate: The numbers of fatalities (persons killed) per 1,000 licensed drivers for a county/state ([Fatalities/Licensed Drivers] x 1000).

Fatality VMT Rate: The numbers of fatalities (persons killed) per 100 million vehicle miles traveled for a county/state ([Fatalities/Vehicle Miles Traveled] x 100,000,000).

FHWA: Federal Highway Administration, a division of the United States Department of Transportation.

Highway Class (Road Type): Indiana roads are classified as: (1) Interstate or Toll Road; (2) United States Route; (3) State Road; (4) County Road–a locally maintained road outside the limits of incorporated cities or towns; and (5) City Street–a locally maintained road within the limits of an incorporated city or town.

Injury Severity: The type of injury: **Severe Injury**–An injury (other than fatal) that prevents the injured person from walking, driving or normally continuing the activities he or she was capable of performing before the injury occurred. Includes severe lacerations, broken or distorted limbs, skull fracture, crushed chest, internal injuries, severe burns, unconsciousness, shock, etc. Hospitalization is usually required. **Moderate Injury**–An injury (other than fatal or severe) that is evident to the officer at the scene of the crash. Includes abrasions, minor lacerations, bleeding, etc. May require medical treatment, but hospitalization is usually not required. **Possible Injury**–An injury (other than fatal, severe or moderate) that is reported by a person involved in the crash. Includes complaint of physical pain when no cause is evident, momentary unconsciousness, limping, nausea, hysteria, etc.

In-Transport: Denotes a motor vehicle in motion or on a roadway.

Licensed Driver (LDVR): Person listed by the Indiana Bureau of Motor Vehicles as holding a valid driver's license.

Manner of Collision: Indicates what the driver/vehicle was doing (turning left, right, going straight, etc.) at the time of the crash, as referred to in the Officer's Standard Crash Report Code Sheet (see Appendix).

Motor Vehicle Crash: A crash that involves a motor vehicle in transport on a public trafficway (in Indiana) and results in injury, death or at least $750 property damage.

Motorcycle Crash: A crash involving one or more motorcycles, mopeds, motor scooters or minibikes.

Non-Collision Crash: A crash that does not involve a collision with another motor vehicle, bicycle, pedestrian or other property. Types of non-collision crashes include explosion or fire in vehicle, rollover, immersion, vehicle struck by flying object, etc.

Occupant: Any person who is in or upon a vehicle, including the driver, passenger and persons riding on the outside of the vehicle.

Passenger: Any occupant of a vehicle who is not the driver.

Pedestrian Crash: A crash involving a collision of a motor vehicle with a pedestrian or a crash in which a contributing circumstance was "pedestrian distraction." In *Crash Facts* 1993-94, only crashes in which a pedestrian was reported as killed or injured were included.

Personal Injury Crash: A crash in which a person or persons were injured, not including any crash in which a person or persons died.

Private Property Crash: A crash which occurs on private property, driveways, parking lots or garages. A crash in which a motor vehicle leaves a public roadway and strikes a person, vehicle, tree or mailbox on private property is not classified as *Private Property* since the crash started on the roadway.

Private Property Data: The Indiana State Police (ISP) have discovered that most private property crashes, in previous years excluded from crash statistics, were included in the 1995 and approximately half of the 1994 data. This problem does not affect the 1996 crash data. When the 1996 ISP crash data became available, ATC used statistical curve-fitting procedures to estimate the most likely private property crash statistics for 1994 and 1995. The estimated numbers of total crashes, personal injury crashes and injuries were then computed by subtracting the appropriate statistical estimates for private property crashes. The annual number of private property fatalities have varied between zero and four for the 1988-1996 time period. Estimates of the total numbers of crashes, personal injury crashes and injuries for 1994 and 1995 are provided and footnoted in the appropriate tables. The misclassification of private property crashes affected such counts as the number of hit-and-run crashes, school zone crashes, motorcycle, bicycle and pedestrian crashes.

Property Damage Crash: Any crash in which only property damage (damage to the vehicle or other property) occurred. As of 1990, a crash is only required to be reported if the amount of the damage was $750 or more. Prior to 1990, the amount was $200 or more.

Registered Vehicle: Vehicle of any type in a county or state registered with the Indiana Bureau of Motor Vehicles.

Reportable Crash: Any crash in which a person dies, one or more persons were injured, or property damage of $750 or more occurred ($200 prior to 1990).

Roadway Class: A roadway classification system that is based upon the type of service the street or highway is intended to provide. The roadway classes and their derivative FHWA functional class codes are:

Freeways: Interstates: Limited access, divided facilities of at least four lanes and designated by the Federal Highway Administration as part of the Interstate System. Rural: FC=1; Urban: FC=11

Other Freeways and Expressways: All urban principal arterial with limited control of access not on the Interstate system. FC=12

Arterials: Other Principal Arterials: Major streets or highways, many with multilane or freeway design, serving high-volume traffic corridor movements that connect major generators of travel. Rural: FC=2; Urban: FC=14

Minor Arterials: Streets and highways linking cities and larger towns in rural areas. Rural: FC=6; Distributing trips to small geographic areas in urban areas (not penetrating identifiable neighborhoods.) Urban: FC=16

Collectors: In rural areas, routes serving intra-county, rather than state wide travel. Major Rural: FC=7, Minor Rural: FC=8. In urban areas, streets providing direct access to neighborhoods as well as direct access to arterials. Urban: FC=17

Local: Local Streets and Roads. Streets whose primary purpose is feeding higher order systems, providing direct access with little or no through traffic. Rural: FC=9; Urban: FC=19

Roadway Type: Indiana roads are classified as: (1) Interstate or Toll Road; (2) United States Route; (3) State Road; (4) County Road–a locally maintained non-highway road outside the limits of incorporated cities or towns; and (5) City Street–a locally maintained road within the limits of an incorporated city or town.

Role: The function of the person at the time of the crash, such as driver, passenger, motorcyclist, bicyclist or pedestrian.

Rural Area: An area outside the limits of an incorporated city or town.

Safety Restraint: A safety device classified as a lap belt, shoulder belt, harness, child restraint, airbag or other similar equipment.

School Bus Crash: A crash involving one or more school buses.

School Zone: An area around a school as identified by designated highway signs.

Truck Crash: A motor vehicle crash involving one or more vehicles of the following types: (1) 2-axle, 6-tire single-unit truck or stepvan; (2) 3-or-more-axle single-unit truck; (3) single-unit truck with trailer; (4) truck tractor with trailer; (5) truck tractor with no trailer; (6) truck tractor with double trailers; (7) heavy truck of other or unknown type. Pickup trucks and vans are not counted as trucks.

glossary

Urban Area: An area inside the limits of an incorporated city or town.

Vehicle Type: The type of vehicle according to the vehicle codes section of the Officer's Standard Crash Report Code Sheet (see Appendix).

VMT: Vehicle Miles Traveled. The estimated total number of miles traveled annually by motor vehicles on Indiana trafficways.

Weekday: From 6 AM Monday to 5:59 PM Friday.

Weekend: From 6 PM Friday to 5:59 AM Monday.

Indiana Safety Time Clock–1998

Crime Clock

1 Murder	Every 19.3 hours
	Every 8.9 hours
	Every 55.3 minutes
1 Violent Crime	Every 20.7 minutes
1 Burglary	Every 11.3 minutes
	Every 6.8 minutes
	Every 3.2 minutes
1 Property Crime	Every 2.3 minutes
	Every 2.4 minutes

Traffic Safety Clock

1 Fatality
1 Alcohol-Related Crash
1 Person Injured
1 Property Damage Crash
1 Crash