

# 2004 Southeast Michigan Traffic Crash Facts

September 2006

## ***SEMCOG . . . Local Governments Advancing Southeast Michigan***

### Mission

SEMCOG's mission is solving regional planning problems — improving the efficiency and effectiveness of the region's local governments as well as the quality of life in Southeast Michigan. Essential functions are:

- providing a forum for addressing issues which extend beyond individual governmental boundaries by fostering collaborative regional planning, and
- facilitating intergovernmental relations among local governments and state and federal agencies.

As a regional planning partnership in Southeast Michigan, SEMCOG is accountable to local governments who join as members. Membership is open to all counties, cities, villages, townships, intermediate school districts, community colleges and public universities in Livingston, Macomb, Monroe, Oakland, St. Clair, Washtenaw, and Wayne Counties.

### Responsibilities

SEMCOG's primary activities support local planning through use of SEMCOG's technical, data, and intergovernmental resources. In collaboration with local governments, SEMCOG has responsibility for adopting regionwide plans and policies for community and economic development, water and air quality, land use, and transportation, including approval of state and federal transportation projects. Funding for SEMCOG is provided by federal and state grants, contracts, and membership fees.

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All SEMCOG policy decisions are made by local elected officials, ensuring that regional policies reflect the interests of member communities. Participants serve on one or both of the policymaking bodies — the General Assembly and the Executive Committee.

Prior to policy adoption, technical advisory councils provide the structure for gaining input on transportation, environment, community and economic development, data analysis, and education. This deliberative process includes broad-based representation from local governments, the business community, environmental organizations, and other special interest and citizen groups.

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## Abstract

This report contains important statistical information about all traffic crashes reported in Southeast Michigan in 2004. It focuses on 10 categories of traffic crashes: all traffic crashes, injury traffic crashes, fatal traffic crashes, alcohol-involved traffic crashes, vehicle-deer crashes, young-driver traffic crashes, elderly driver traffic crashes, pedestrian crashes, bicycle crashes, and truck/bus crashes. Sections at the end of the report contain details about safety-belt use and holiday traffic crashes. The main objective of this report is to provide useful data to aid local communities in their efforts to improve traffic safety.

Preparation of this document may be financed in part through grants from and in cooperation with the Michigan Department of Transportation with the assistance of the U.S. Department of Transportation's Federal Highway Administration and Federal Transit Administration; the Michigan Department of Natural Resources with the assistance of the U.S. Environmental Protection Agency; the Michigan State Police Office of Highway Safety Planning; and local membership contributions.

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## 2004 Quick Crash Facts

- Vehicle miles traveled (VMT) in Southeast Michigan increased from 47,085 million miles in 2003 to 47,681 million in 2004. During 2004, 164,900 traffic crashes were reported in Southeast Michigan. These crashes resulted in 48,920 injuries and 422 fatalities. Compared with 2003, traffic crashes decreased 3.6 percent, injuries decreased 4.6 percent, and fatalities decreased 11.3 percent.
- There were 0.88 fatal traffic crashes for every 100 million miles traveled on Southeast Michigan roads in 2004. This is a decrease from the 2003 rate of 1.01 fatal crashes for every 100 million miles of travel.
- Of drivers involved in fatal crashes, 21.1 percent were between the ages of 16 and 24.
- Drivers in the 55-64 age group had the lowest rate of fatal traffic crashes among all drivers at 0.7 drivers in fatal crashes per 100 million miles traveled. The 85-94 age group had the highest rate of all licensed drivers (15.6).
- Crashes involving alcohol increased, from 6,073 in 2003 to 6,207 in 2004. In Southeast Michigan, 3.8 percent of all traffic crashes involved alcohol, but over 34 percent of fatal traffic crashes involved alcohol consumption.
- There were 6,196 vehicle-deer crashes in Southeast Michigan in 2004, down from 6,641 in 2003. Just over 97 percent of collisions with deer resulted in property damage only. Although vehicle-deer crashes occurred in every month in 2004, 39 percent of these crashes took place in October and November. Deer crashes were most common in the early morning hours and in the evening.
- Young drivers (ages 16-24) were involved in over 35 percent of all traffic crashes in 2004. Crashes among young drivers peaked at age 18 for all young drivers.
- Elderly drivers (ages 65 and older) were involved in 11.1 percent of all traffic crashes in 2004. Elderly drivers were more likely to be involved in angle, head-on, and sideswipe crashes, but less likely to have single-vehicle, rear-end crashes than all other drivers.
- Traffic crashes involving pedestrians or bicycles decreased in 2004 compared to 2003 numbers. 89.1 percent of crashes involving pedestrians resulted in injuries or fatalities. 80.2 percent of bicycle crashes involved injuries or fatalities.
- Crashes involving commercial trucks or buses in Southeast Michigan increased 0.4 percent in 2004.
- Safety-belt use among drivers in traffic crashes increased in Southeast Michigan in 2004, when 83.6 percent of drivers in crashes reported wearing their safety belts at the time of the crash. Over 86 percent of belted drivers escaped injury during their crash, compared to only 59 percent of unbelted drivers.

# 2004 Crash Clock

# Introduction

This report contains statistical information about all traffic crashes in Southeast Michigan reported in 2004. This information is divided into several categories:

- all traffic crashes,
- injury traffic crashes,
- fatal traffic crashes,
- alcohol-involved traffic crashes,
- vehicle-deer traffic crashes,
- young-driver traffic crashes,
- elderly driver traffic crashes,
- pedestrian traffic crashes,
- bicycle traffic crashes,
- truck/bus traffic crashes,
- safety-belt use, and
- holiday traffic crashes

This report is part of SEMCOG's Safety Management System and is designed to assist communities in understanding traffic safety issues.

Traffic crash data used in this report were received from the Michigan Department of State Police, Criminal Justice Information Center (CJIC).

Due to issues regarding the accuracy of some data fields, sections about pedestrian and bicycle crashes were excluded from the 2000 and 2001 *Southeast Michigan Traffic Crash Facts*. Some information on pedestrian and bicycle crashes is included in this year's report. However, specific data about the age, sex, and injury severity of pedestrians and bicyclists is not available in about 25 percent of pedestrian or bicycle crashes. This information is not included in this report.



# Glossary

Crash rate – The number of crashes per 100 million vehicle miles traveled.

Crash type – A crash is typed by the first injury-producing or damage-producing event, which may or may not be the most serious or significant event.

Fatal traffic crash – A fatality is counted when a person dies due to injuries from a traffic crash. Prior to 1979, deaths were counted if they occurred up to one year after the crash; in 1979, this time period was reduced to 90 days. In 1988, it was further reduced to 30 days.

Had-been-drinking (HBD) driver – Driver who had been drinking prior to the crash, as reported by the police, the coroner, or other accepted authorities.

Injury crash – A crash is counted as an injury crash when it results in at least one injury but no deaths. Injury crashes are further typed by the most severe injury caused by the crash. See “Injury severity.”

## Injury severity

K (Fatal) – Any injury that results in death.

A (Incapacitating injury) – Any injury, other than a fatal injury, that prevents the injured person from walking, driving, or normally continuing the activities the person was capable of performing before the injury occurred.

B (Nonincapacitating injury) – Any injury not incapacitating but evident to observers at the scene of the crash in which the injury occurred.

C (Possible injury) – Any injury reported or claimed that is not a fatal injury, incapacitating injury, or nonincapacitating injury.

Property damage only (PDO) crash – A crash that results in no fatalities or injuries, with a property damage value of \$1,000.00 as a minimum reporting threshold.

Traffic crash – A crash that involves a motor vehicle in transport on a public trafficway (in Michigan) and results in injury, death, or at least \$1,000.00 in property damage.

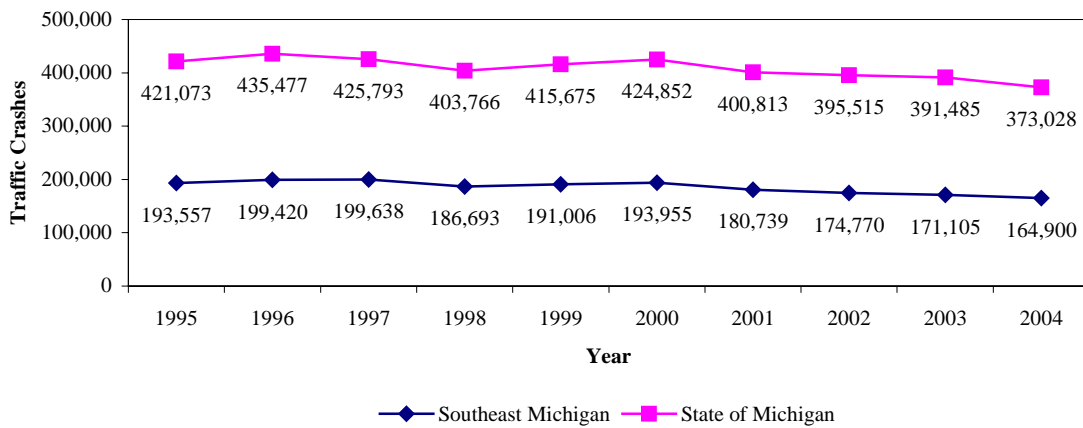
VMT – Vehicle miles traveled. In traffic crash analysis, VMT is typically measured in hundreds of millions of miles. For example, 44,000,000,000 vehicle miles traveled may be represented as 440 hundred million VMT or as 44,000 million VMT.

# All Traffic Crashes

In 2004, 164,900 traffic crashes were reported in Southeast Michigan. This is a decrease of 3.6 percent from 2003. The State of Michigan saw a 4.7 percent decrease between 2003 and 2004 (Figure 1).

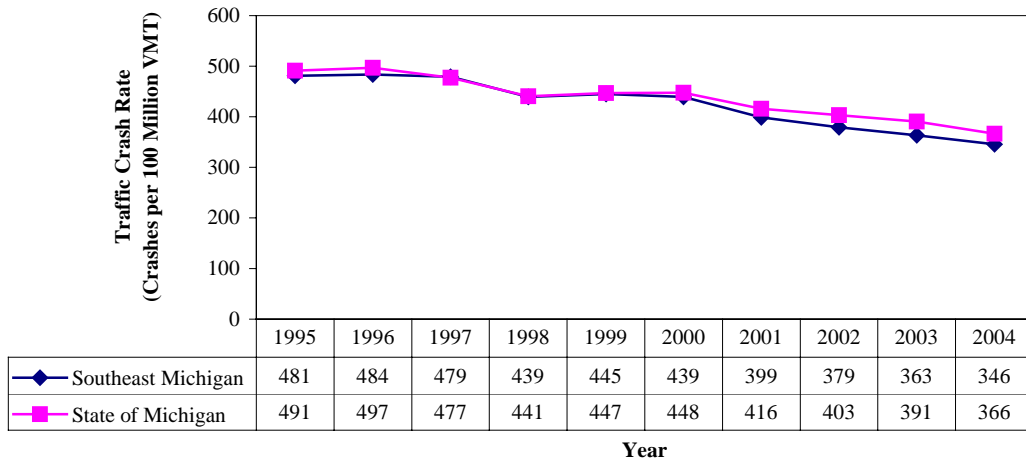
The traffic crash rate, defined as the number of traffic crashes per 100 million vehicle miles traveled (VMT), provides an alternative method of examining traffic crash trends. Figure 2 shows traffic crash rates in Southeast Michigan and the State of Michigan for 1995-2004.

Figure 1  
Traffic Crashes, 1995-2004



Source: Michigan State Police Traffic Crash Database (MSPTCD) and SEMCOG, 2004.

Figure 2  
Traffic Crash Rate, 1995-2004



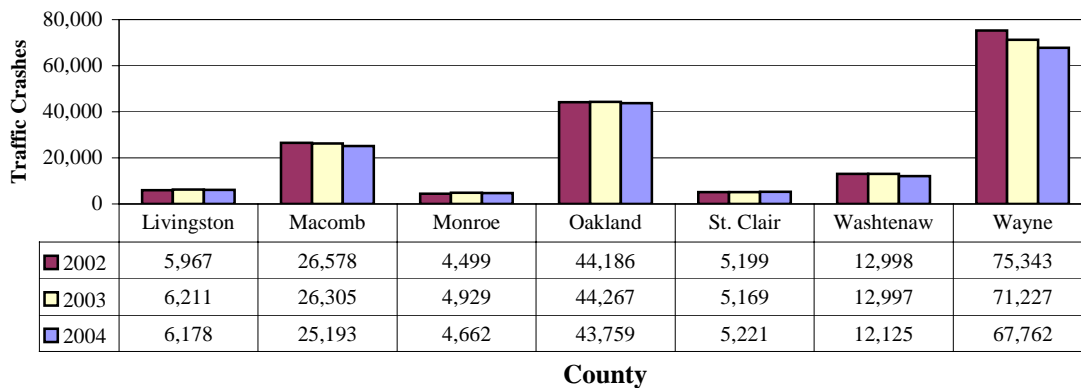
Source: MSPTCD and SEMCOG, 2004.

## Traffic Crashes by County

Figure 3 shows the number of traffic crashes in each Southeast Michigan county for 2002, 2003, and 2004. Washtenaw experienced the largest decrease (6.7 percent) traffic crashes. All counties saw a decrease in crashes, except for St. Clair County increased slightly.

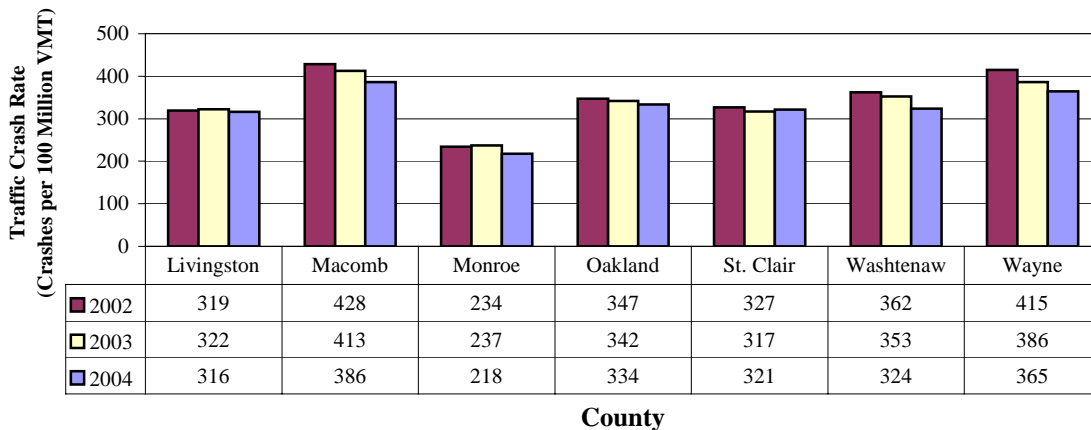
As shown in Figure 4, the traffic crash rate decreased in 2004 in all counties except St. Clair although, the crash rate remained lower than in 2002. Monroe County continued to enjoy the lowest traffic crash rate in the region, while Macomb County's crash rate was the highest in the region in 2004.

Figure 3  
Traffic Crashes by County, 2002-2004



Source: MSPTCD and SEMCOG, 2004.

Figure 4  
Traffic Crash Rate by County, 2002-2004

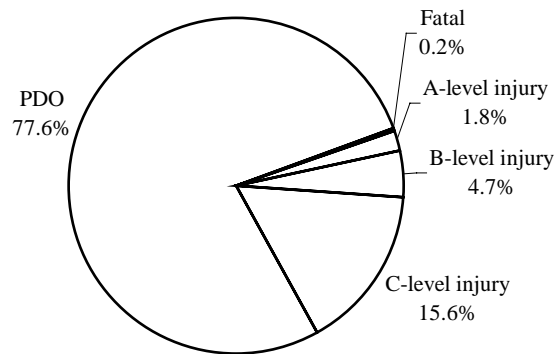


Source: MSPTCD and SEMCOG, 2004.

## Traffic Crashes by Severity

Of the 164,900 traffic crashes in Southeast Michigan in 2004, nearly 23 percent resulted in some degree of injury. A total of 396 fatal crashes resulted in the deaths of 422 people, a decrease from the 476 deaths in 2003. Figure 5 shows how traffic crashes in 2004 were distributed by severity. Table 1 shows the number of crashes of each severity as well as the number of fatalities and injuries caused by the crashes.

Figure 5  
Traffic Crash Severity, 2004



Source: MSPTCD and SEMCOG, 2004.

Table 1  
Traffic Crash Severity, 2004

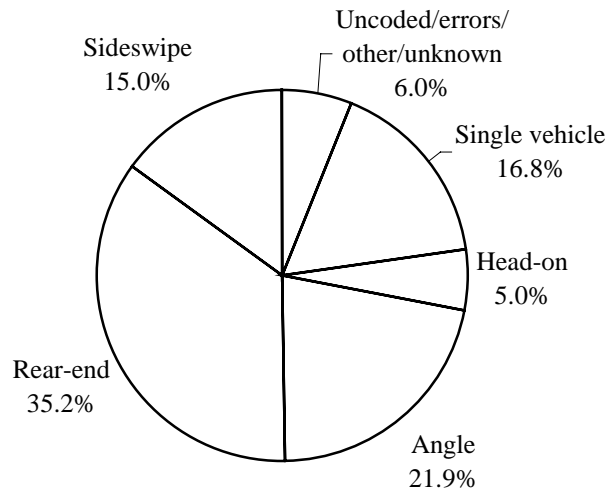
Crash Severity	Number of Traffic Crashes	Number of Injuries
Fatal	396	422
A-level Injury	3,047	3,674
B-level Injury	7,692	9,515
C-level Injury	25,744	35,731
Injury & Fatal Subtotal	36,879	49,342
PDO	128,021	
<b>Total</b>	<b>164,900</b>	

Source: MSPTCD and SEMCOG, 2004.

## Traffic Crashes by Crash Type

Figure 6 shows how traffic crashes were distributed among the various crash types in 2004. As in 2003, the most common type of crash was rear-end (35.2 percent). The least common type of crash was head-on (5.0 percent).

Figure 6  
Traffic Crashes by Crash Type, 2004

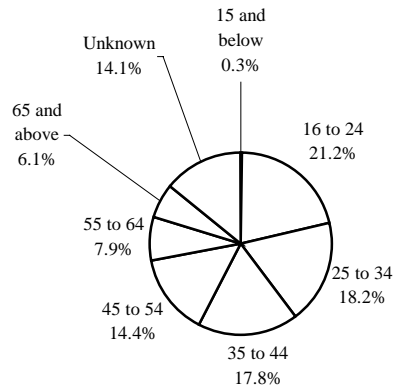


Source: MSPTCD and SEMCOG, 2004.

## Age and Gender of Drivers in Traffic Crashes

Figure 7 shows how the 314,108 drivers involved in traffic crashes in 2004 were distributed among the age groups. Table 2 breaks down age groups by gender. The age group with the greatest involvement in traffic crashes was the 16-24 age group (21.2 percent of drivers in traffic crashes), followed by the 25-34 age group (18.2 percent). Just over six percent of all drivers in crashes were age 65 or older.

Figure 7  
Drivers in Traffic Crashes by Age Group, 2004



Source: MSPTCD and SEMCOG, 2004.

Table 2  
Drivers in Traffic Crashes by Age Group and Gender, 2004

Age of Driver	Number of Drivers by Gender			Total
	Female	Male	Unknown	
15 and below	356	449	9	814
16 to 24	30,017	36,491	198	66,706
25 to 34	25,099	31,959	203	57,261
35 to 44	24,141	31,503	185	55,829
45 to 54	19,132	25,832	141	45,105
55 to 64	10,362	14,346	73	24,781
65 to 74	4,501	6,388	33	10,922
75 to 84	3,052	3,868	17	6,937
85 to 94	625	736	2	1,363
95 and Above	25	44	1	70
Unknown	4,040	7,814	32,466	44,320
<b>Total</b>	<b>121,350</b>	<b>159,430</b>	<b>33,328</b>	<b>314,108</b>

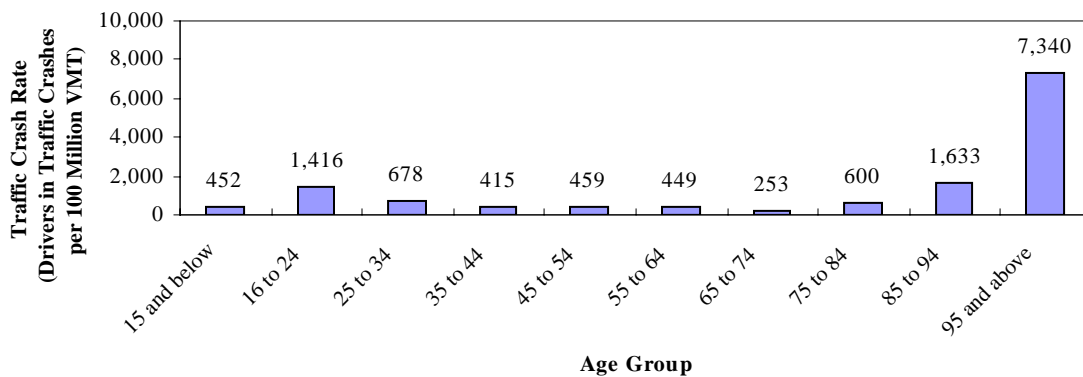
Source: MSPTCD and SEMCOG, 2004.

## Rate of Traffic Crash Involvement by Age Group

Figure 8 shows the traffic-crash rate for each age group in 2004. According to 2004 VMT estimates, drivers age 65-74 had the lowest crash rate of any age group, at 253 crashes per 100 million VMT. Drivers age 95 or older had the highest rate followed by the 85-94 and 16-24 age groups (7,340, 1,633, and 1,416 crashes per 100 million VMT, respectively).

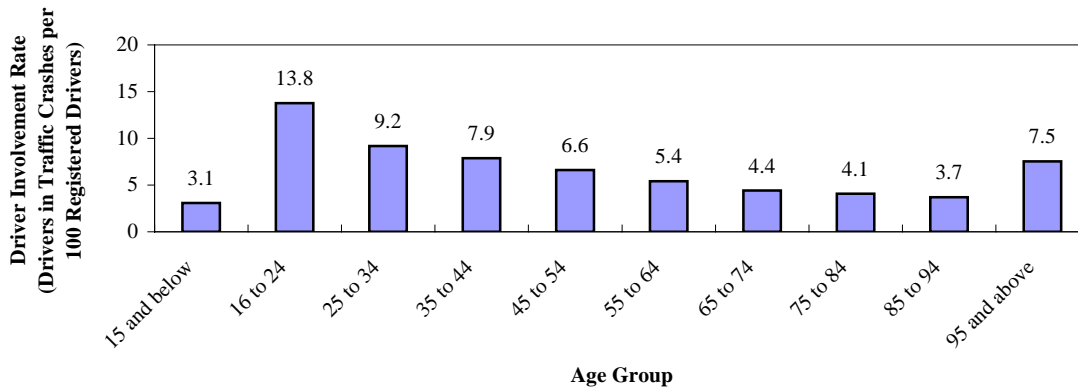
Figure 9 shows how many drivers were in traffic crashes out of every hundred drivers in each age group. There were just fewer than 14 drivers age 16-24 involved in crashes for every hundred registered drivers in that age group, which was the highest rate of any group.

Figure 8  
Traffic Crash Rate by Age Group, 2004



Source: MSPTCD and SEMCOG, 2004.

Figure 9  
Traffic Crash Driver Involvement Rate by Age Group, 2004



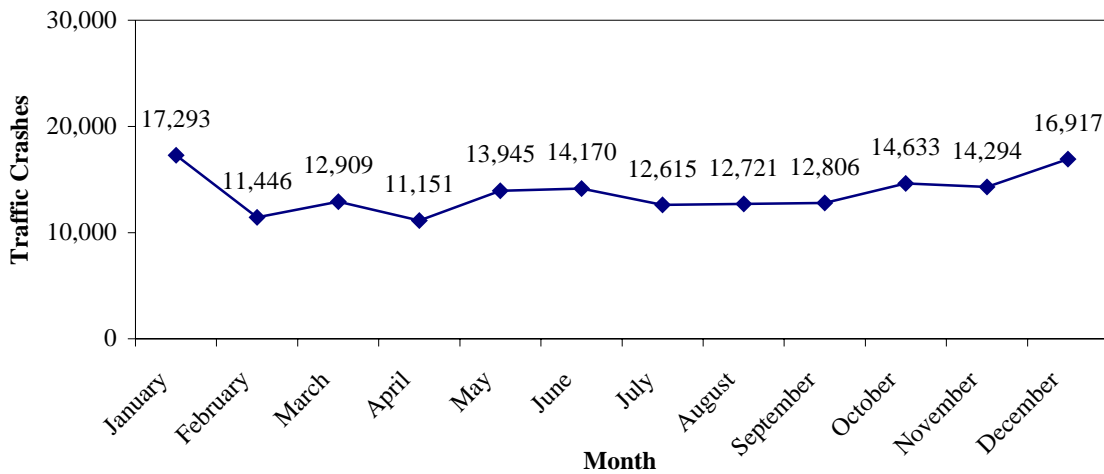
Source: MSPTCD, Michigan Department of State (MDOS), and SEMCOG, 2004.

## Traffic Crashes by Month, Day, and Hour

As seen in Figure 10, more traffic crashes (17,293) occurred during January than any other month in 2004. April had the fewest crashes (11,151) in 2004.

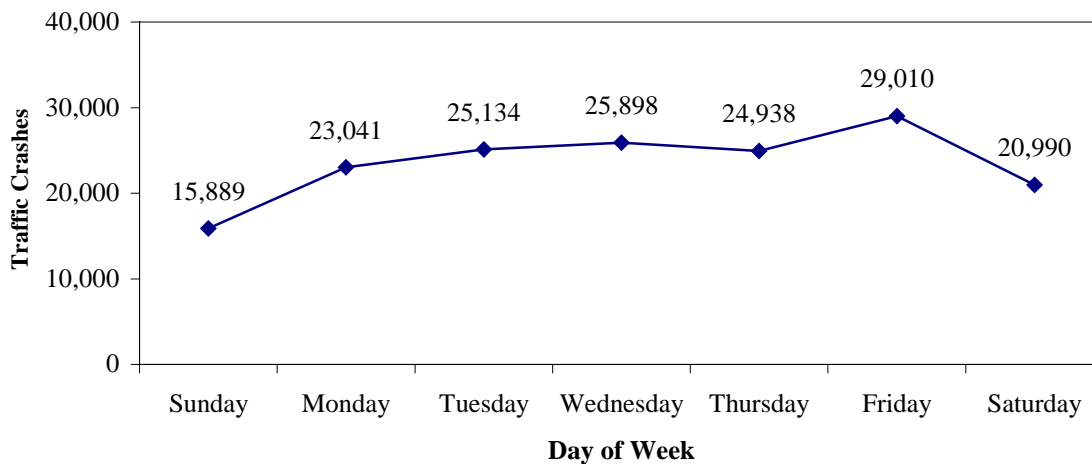
Figure 11 shows that more traffic crashes took place on Fridays than any other day of the week (29,010), and that Sundays had the fewest crashes (15,889).

Figure 10  
Traffic Crashes by Month, 2004



Source: MSPTCD and SEMCOG, 2004.

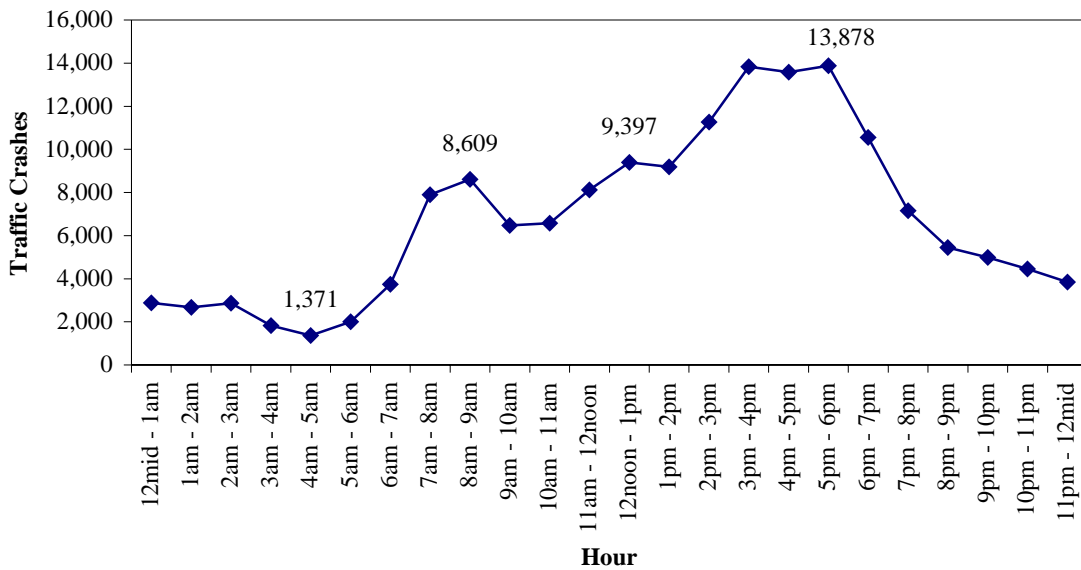
Figure 11  
Traffic Crashes by Day of Week, 2004



Source: MSPTCD and SEMCOG, 2004.

Figure 12 shows the total number of traffic crashes that took place during each hour interval in 2004. The fewest crashes — 1,371 — took place between 4 a.m. and 5 a.m. The time of day with the greatest number of crashes was the period from 3 p.m. to 6 p.m., with nearly one out of every four traffic crashes taking place during these hours.

Figure 12  
Traffic Crashes by Hour of Day, 2004



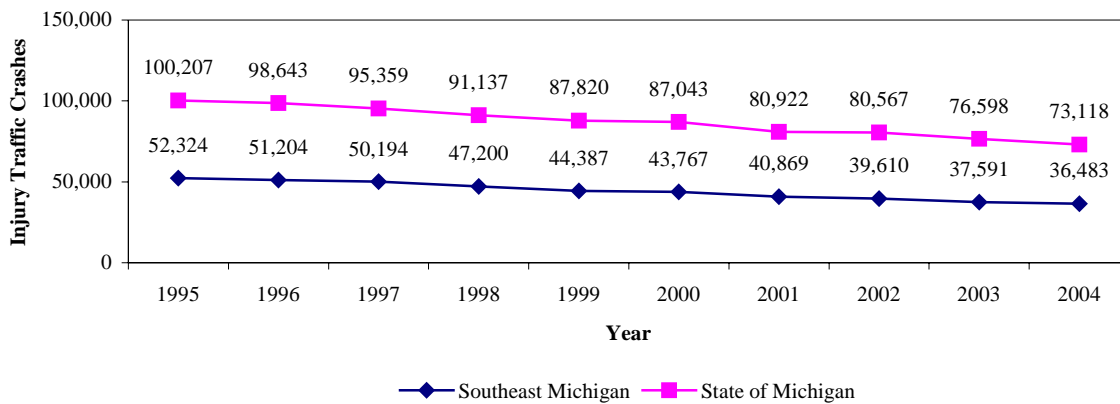
Source: MSPTCD and SEMCOG, 2004.

# Injury Traffic Crashes

An injury traffic crash is any crash that results in an injury, but not a fatality. Crashes that result in fatalities are discussed in the section on fatal crashes.

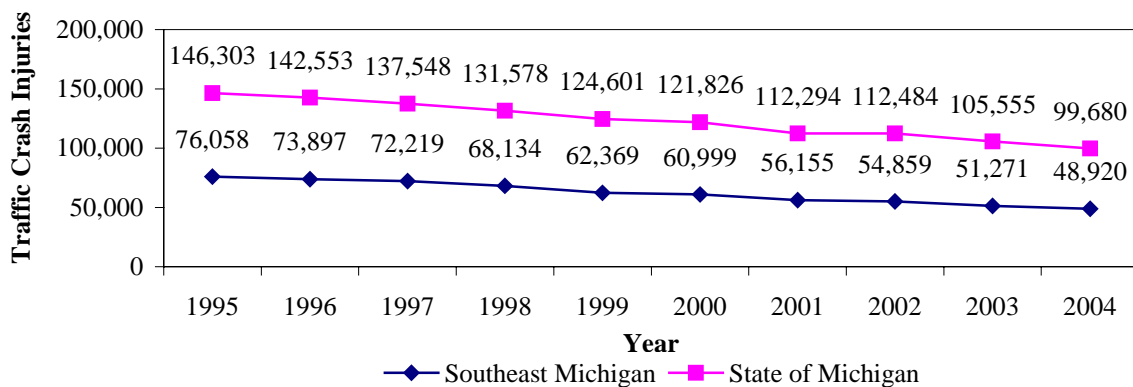
As shown in Figure 13, injury traffic crashes in Southeast Michigan decreased in 2004 — the ninth consecutive year that they have decreased. Injury crashes were down 2.9 percent in Southeast Michigan and 4.5 percent in Michigan compared to 2003. Figure 14 shows the number of injuries caused by traffic crashes for the years 1995-2004. Injuries decreased 4.6 percent in Southeast Michigan and 5.6 percent in Michigan from 2003 to 2004.

Figure 13  
Injury Traffic Crashes, 1995-2004



Source: MSPTCD and SEMCOG, 2004.

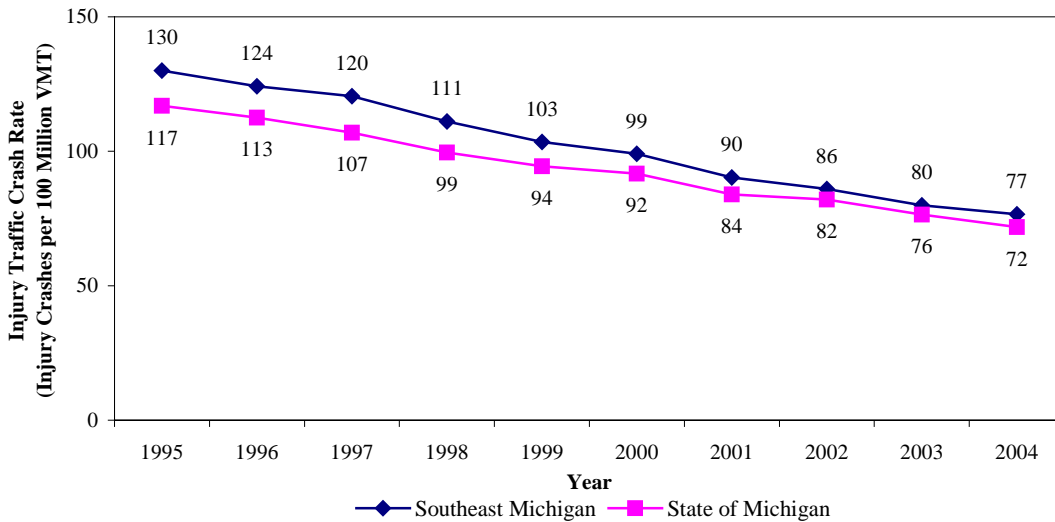
Figure 14  
Traffic Crash Injuries, 1995-2004



Source: MSPTCD and SEMCOG, 2004.

A decrease in injury crashes at the same time that VMT increased means that the rate of injury traffic crashes per 100 million VMT continued to decrease in Southeast Michigan as well as in Michigan. Figure 15 shows this decrease in greater detail. Table 3 shows how the number of injury traffic crashes compared to VMT for 1995-2004.

Figure 15  
Injury Traffic Crash Rate, 1995-2004



Source: MSPTCD and SEMCOG, 2004.

Table 3  
Injury Traffic Crash Rate, 1995-2004

	Injury Traffic Crashes		VMT (in millions)		Injury Traffic Crash Rate (Crashes per 100 Million VMT)	
	Southeast Michigan	Michigan	Southeast Michigan	Michigan	Southeast Michigan	Michigan
1995	52,324	100,207	40,255	85,693	130	117
1996	51,204	98,643	41,239	87,664	124	113
1997	50,194	95,359	41,678	89,232	120	107
1998	47,200	91,137	42,513	91,616	111	99
1999	44,387	87,820	42,924	93,060	103	94
2000	43,767	87,043	44,167	94,915	99	92
2001	40,869	80,922	45,304	96,427	90	84
2002	39,610	80,567	46,067	98,173	86	82
2003	37,591	76,598	47,085	100,192	80	76
2004	36,483	73,118	47,681	101,820	77	72

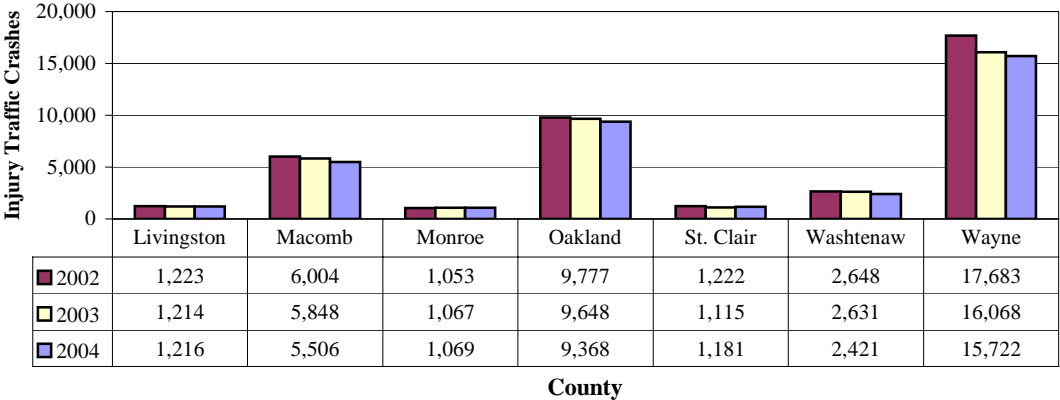
Source: MSPTCD and SEMCOG, 2004.

# Injury Traffic Crashes by County

Injury crashes in Livingston, Monroe, and St. Clair Counties increased in 2004 (Figure 16). The other four counties experienced decreases in injury crashes. The largest decrease took place in Washtenaw County (8.0 percent).

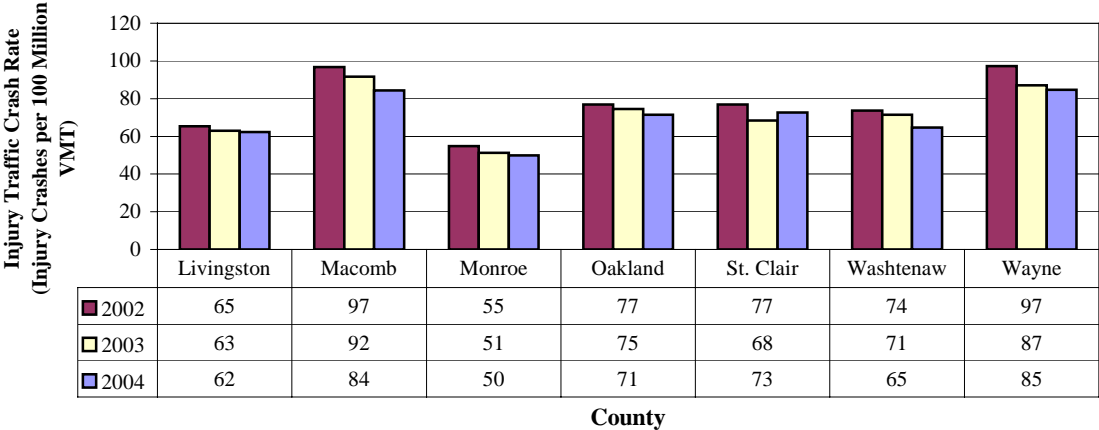
As Figure 17 shows, all counties had injury crash rates lower than those seen in 2003 except for St. Clair County, which had a slight increase. Still, Macomb County's and Wayne County's injury crash rates were slightly higher than the regional rate of 77 injury crashes per 100 million VMT. The crash rate in Wayne for 2004 was 85 injury crashes per 100 million VMT — the highest in the region.

Figure 16  
Injury Traffic Crashes by County, 2002-2004



Source: MSPTCD and SEMCOG, 2004.

Figure 17  
Injury Traffic Crash Rate by County, 2002-2004



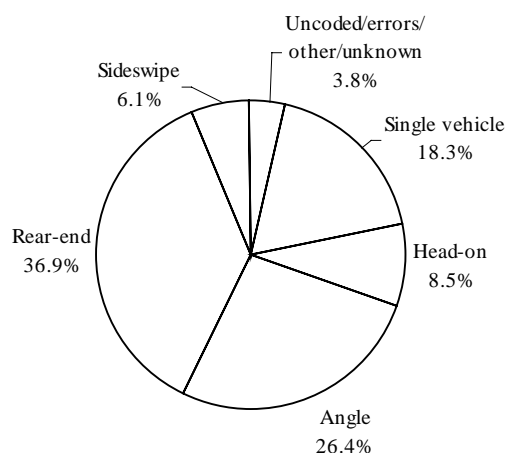
Source: MSPTCD and SEMCOG, 2004.

## Injury Traffic Crashes by Crash Type

Rear-end crashes accounted for more injury crashes (36.9 percent) than any other crash type in 2004, and sideswipe crashes made up the smallest portion (6.1 percent). Figure 18 shows the percentages of all crash types.

Table 4 shows a comparison of injury crashes to all crashes by crash type. This type of comparison shows that head-on crashes were the most likely to result in injury, with nearly 38 percent of all head-on crashes causing injury. Only 9.0 percent of crashes caused injury in 2004.

Figure 18  
Injury Traffic Crashes by Crash Type, 2004



Source: MSPTCD and SEMCOG, 2004.

Table 4  
Traffic Crash Type by Percent Resulting in Injury, 2004

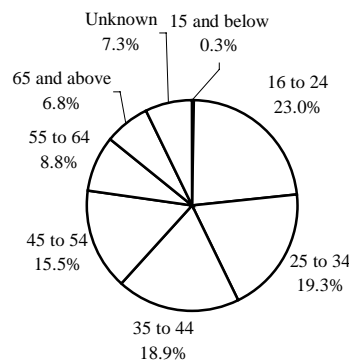
Crash Type	Injury Crashes	All Crashes	Percent resulting in injury
Uncoded/errors/other/unknown	1,383	9,970	13.9%
Single vehicle	6,667	27,785	24.0%
Head-on	3,107	8,294	37.5%
Angle	9,642	36,097	26.7%
Rear-end	13,447	58,029	23.2%
Sideswipe	2,237	24,725	9.0%
<b>Total</b>	<b>36,483</b>	<b>164,900</b>	<b>22.1%</b>

Source: MSPTCD and SEMCOG, 2004.

## Age and Gender of Drivers in Injury Traffic Crashes

Figure 19 and Table 5 show that drivers in the 16-24 age group were involved in injury traffic crashes more than any other age group. The number of drivers in injury crashes in each age group decreases as age increases. For example, drivers age 65 or older were involved in 4,832 injury crashes in 2004, or 6.8 percent of all injury crashes, lower than any of the younger age groups except drivers age 15 or younger. Male drivers made up a majority of drivers in injury crashes.

Figure 19  
Drivers in Injury Traffic Crashes by Age Group, 2004



Source: MSPTCD and SEMCOG, 2004.

Table 5  
Drivers in Injury Traffic Crashes by Age Group and Gender, 2004

Age of Driver	Number of Drivers by Gender			Total
	Female	Male	Unknown	
15 and Below	100	129	5	234
16 to 24	7,706	8,657	42	16,405
25 to 34	6,357	7,383	47	13,787
35 to 44	6,155	7,304	49	13,508
45 to 54	5,053	5,987	26	11,066
55 to 64	2,730	3,533	19	6,282
65 to 74	1,191	1,491	6	2,688
75 to 84	752	1,001	3	1,756
85 to 94	170	202	0	372
95 and above	7	9	0	16
Unknown	599	1,362	3,218	5,179
<b>Total</b>	<b>30,820</b>	<b>37,058</b>	<b>3,415</b>	<b>71,293</b>

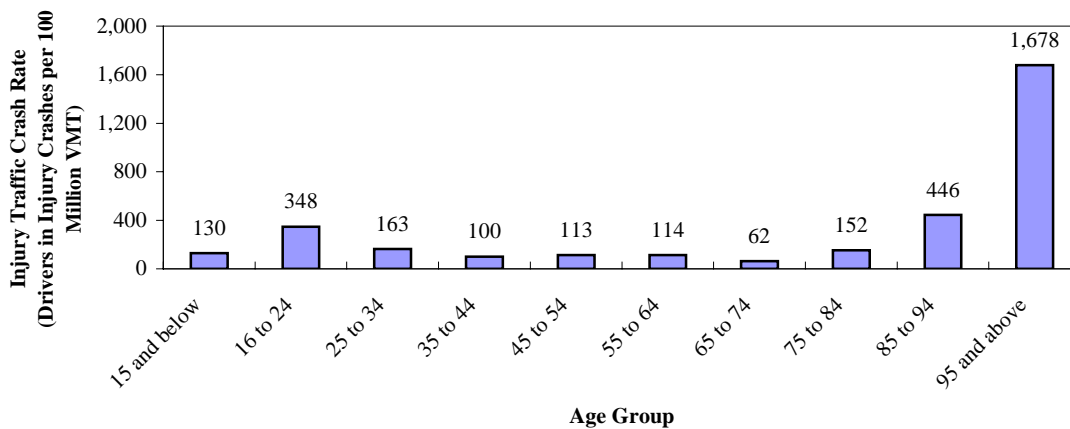
Source: MSPTCD and SEMCOG, 2004.

## Rate of Injury Traffic Crash Involvement by Age Group

As shown in Figure 20, the 65-74 age group had the lowest rate of injury crashes per 100 million VMT in 2004 (62 crashes). The 95-and-above age group had the highest rate (1,678), followed by the 85-94 age group (446) and the 16-24 age group (348).

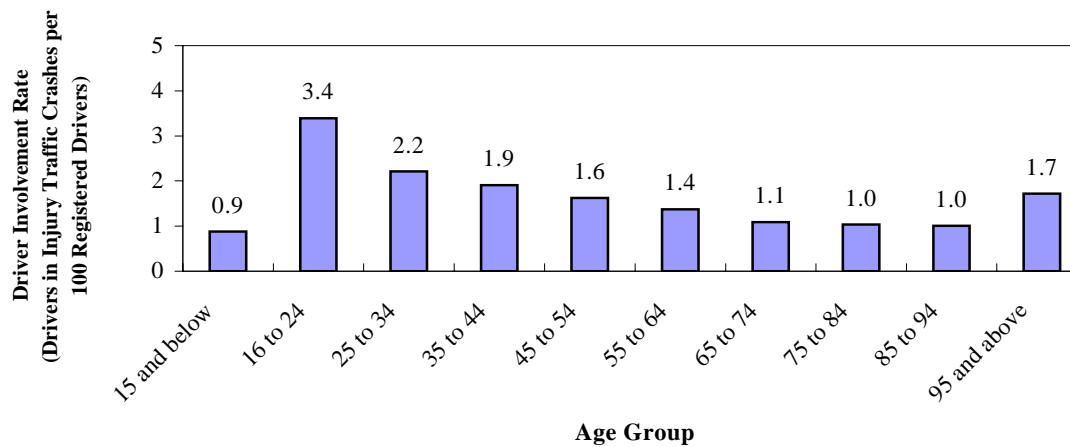
Figure 21 shows the rate of driver involvement in injury crashes for every hundred registered drivers. In 2004, 3.4 drivers age 16-24 were involved in traffic crashes for every hundred registered drivers in that age group. This was the highest rate of involvement of any age group. Drivers age 15 and below had the lowest rate of involvement, at 0.9 drivers for every hundred drivers registered.

Figure 20  
Injury Traffic Crash Rate by Age Group, 2004



Source: MSPTCD and SEMCOG, 2004.

Figure 21  
Injury Traffic Crash Driver Involvement Rate by Age Group, 2004

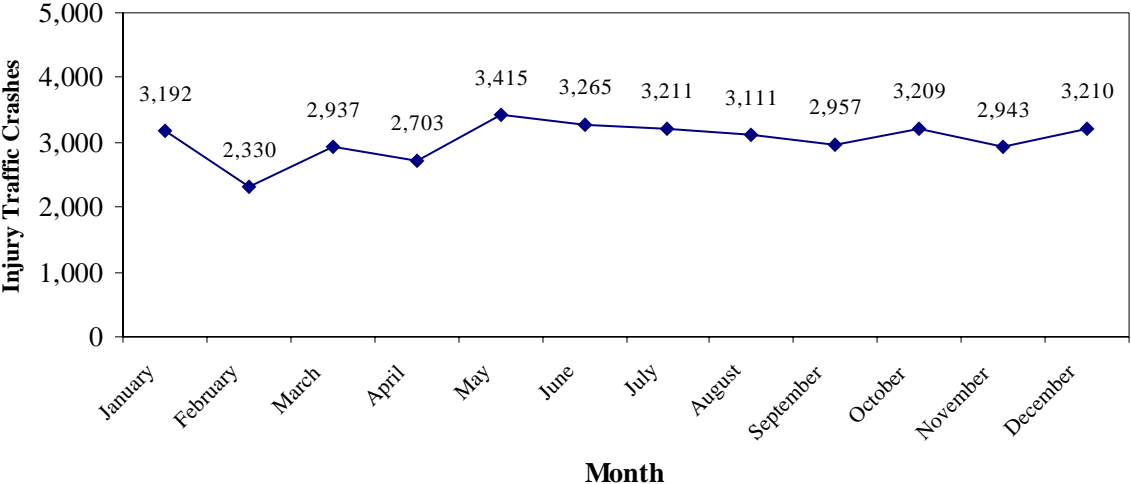


Source: MSPTCD, MDOS, and SEMCOG, 2004.

# Injury Traffic Crashes by Month, Day, and Hour

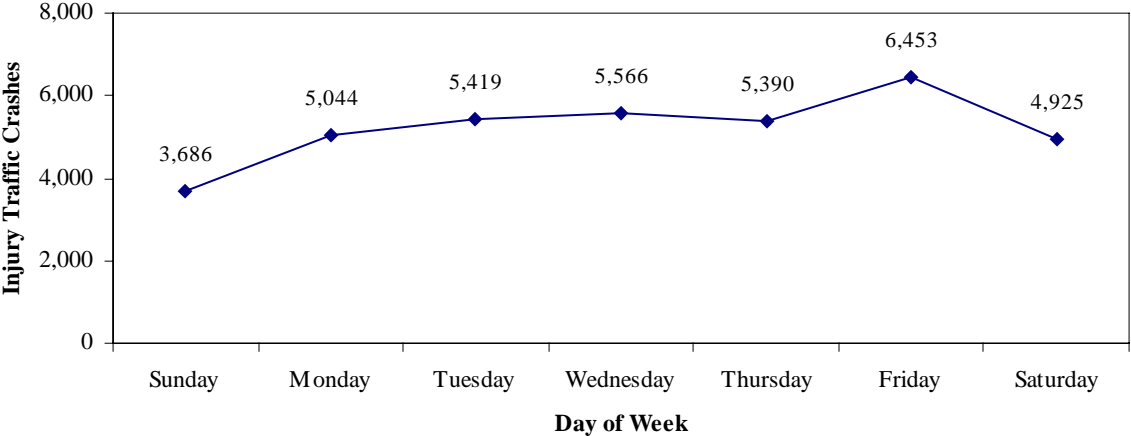
As Figure 22 shows, May was the month in 2004 with the most injury traffic crashes (3,415) even though January was the month with the most overall crashes (Figure 10); February, with 2,330 injury crashes, was the month with the fewest. More injury traffic crashes occurred on Fridays (6,453) than any other day. Sundays (3,686) had the fewest injury crashes of any day (Figure 23).

Figure 22  
Injury Traffic Crashes by Month, 2004



Source: MSPTCD and SEMCOG, 2004.

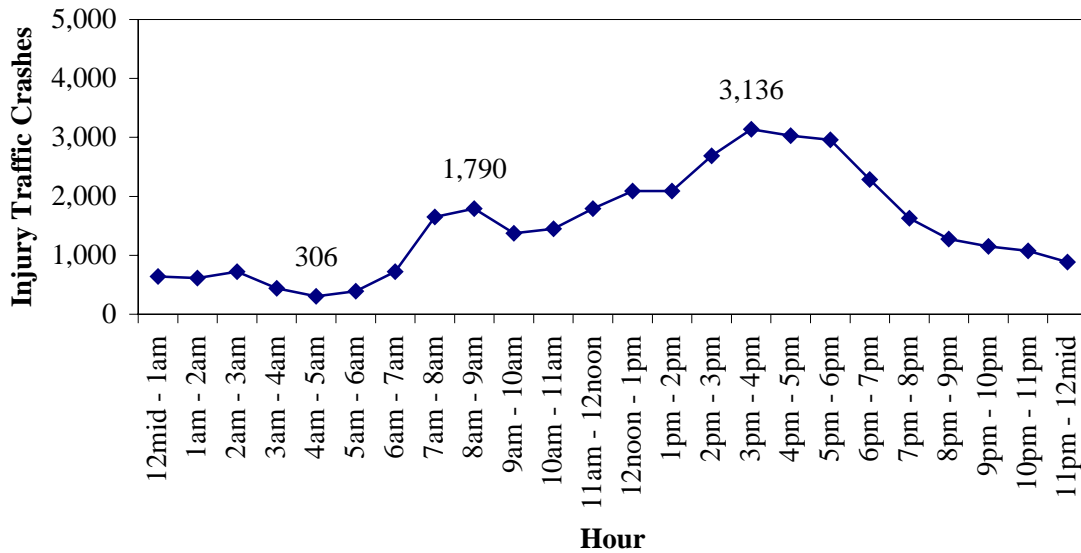
Figure 23  
Injury Traffic Crashes by Day of Week, 2004



Source: MSPTCD and SEMCOG, 2004.

Figure 24 shows the total number of injury traffic crashes that took place during each hour interval in 2004. Following the same general pattern as total crashes (Figure 12), injury crashes were least frequent between 4 a.m. and 5 a.m. (306 injury crashes) and most common between 3 p.m. and 6 p.m. Nearly one out of every four injury crashes took place between 3 p.m. and 6 p.m.

Figure 24  
Injury Traffic Crashes by Hour of Day, 2004



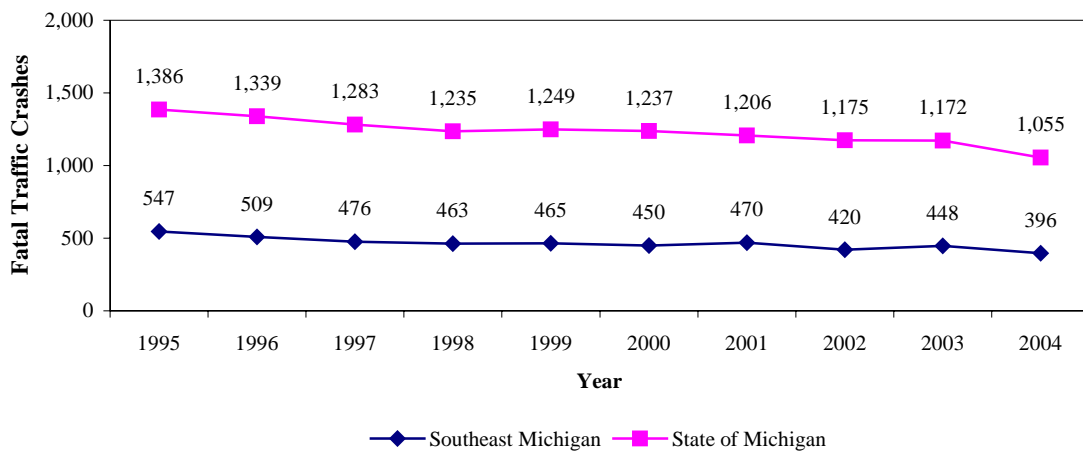
Source: MSPTCD and SEMCOG, 2004.

# Fatal Traffic Crashes

A fatal traffic crash is a traffic crash that causes a death within 30 days of the crash. Fatal traffic crashes decreased 11.6 percent in Southeast Michigan in 2004, at the same time decreasing (10 percent) in the state as a whole between 2003 and 2004. Figure 25 shows the number of fatal traffic crashes in Michigan and Southeast Michigan for 1995-2004.

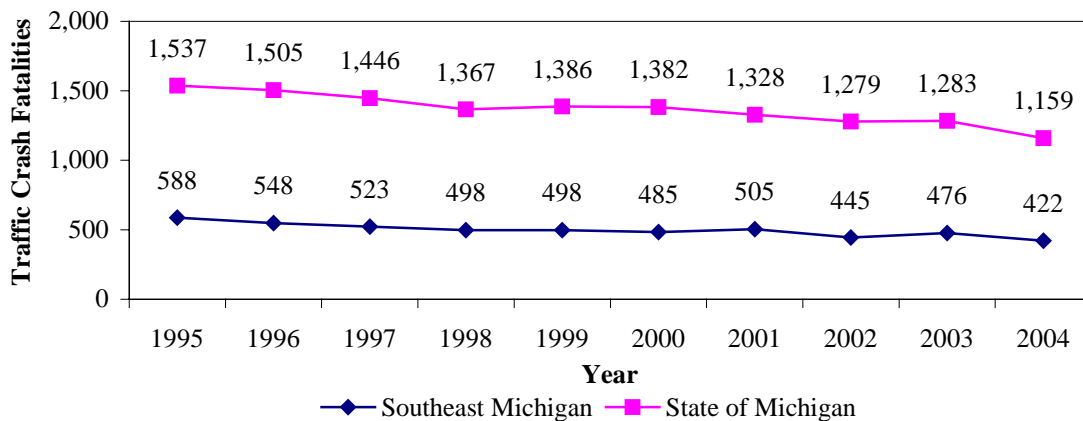
Figure 26 shows that in 2004 traffic crash fatalities decreased 11.3 percent in Southeast Michigan and 9.7 percent in the State of Michigan between 2003 and 2004.

Figure 25  
Fatal Traffic Crashes, 1995-2004



Source: MSPTCD and SEMCOG, 2004.

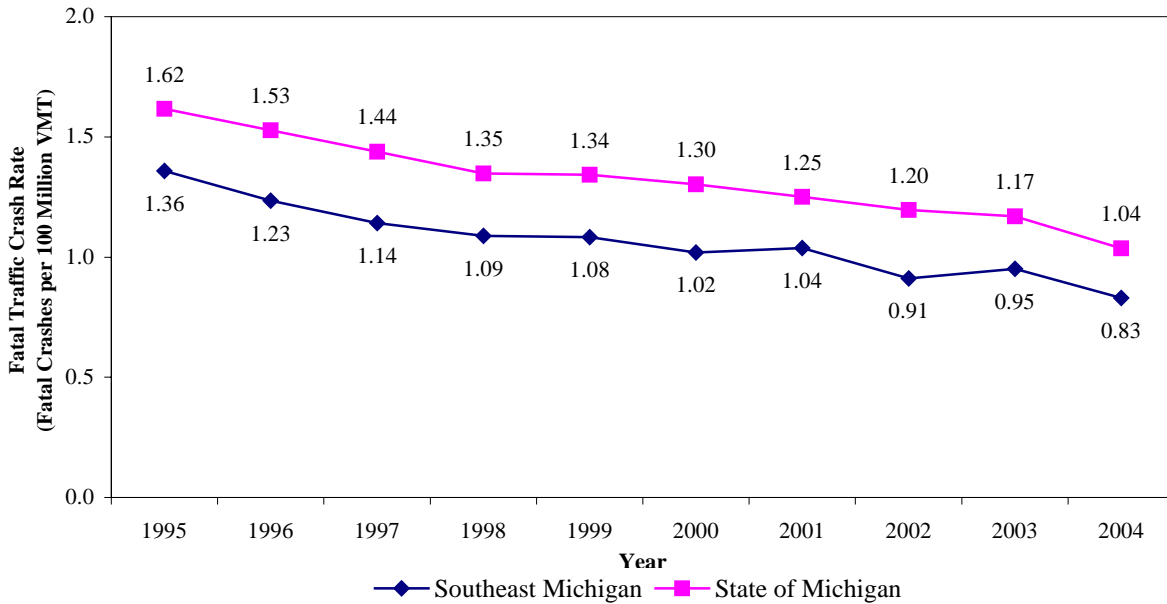
Figure 26  
Traffic Crash Fatalities, 1995-2004



Source: MSPTCD and SEMCOG, 2004.

As shown in Figure 27, the rate of fatal traffic crashes per 100 million miles traveled decreased in Southeast Michigan between 2003 and 2004. Table 6 shows how the number of fatal traffic crashes compared to VMT for 1995-2004.

Figure 27  
Fatal Traffic Crash Rate, 1995-2004



Source: MSPTCD and SEMCOG, 2004.

Table 6  
Fatal Traffic Crash Rate and VMT, 1995-2004

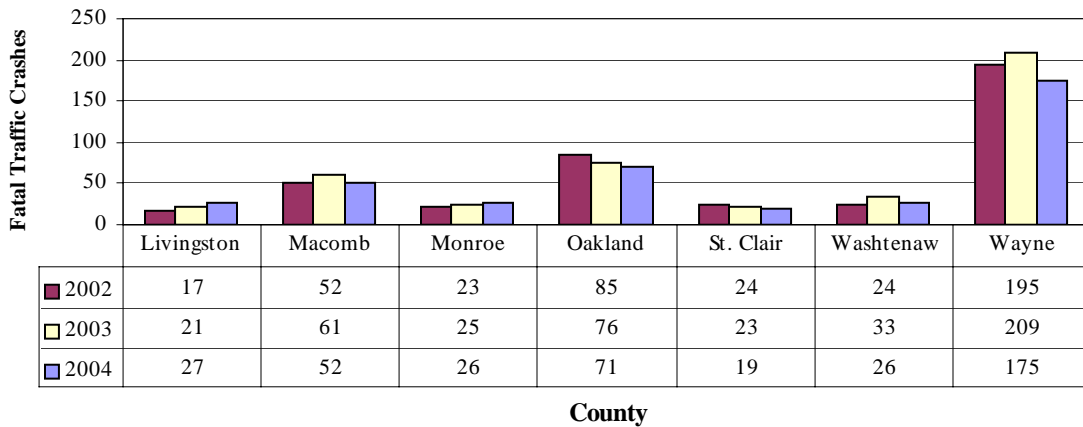
	Fatal Traffic Crashes		VMT (in millions)		Fatal Traffic Crash Rate (crashes per 100 million VMT)	
	Southeast Michigan	Michigan	Southeast Michigan	Michigan	Southeast Michigan	Michigan
1995	547	1,386	40,255	85,693	1.36	1.62
1996	509	1,339	41,239	87,664	1.23	1.53
1997	476	1,283	41,678	89,232	1.14	1.44
1998	463	1,235	42,513	91,616	1.09	1.35
1999	465	1,249	42,924	93,060	1.08	1.34
2000	450	1,237	44,167	94,915	1.02	1.30
2001	470	1,206	45,304	96,427	1.04	1.25
2002	420	1,175	46,067	98,173	0.91	1.20
2003	448	1,172	47,085	100,192	0.95	1.17
2004	396	1,055	47,681	101,820	0.83	1.04

Source: MSPTCD and SEMCOG, 2004.

## Fatal Traffic Crashes by County

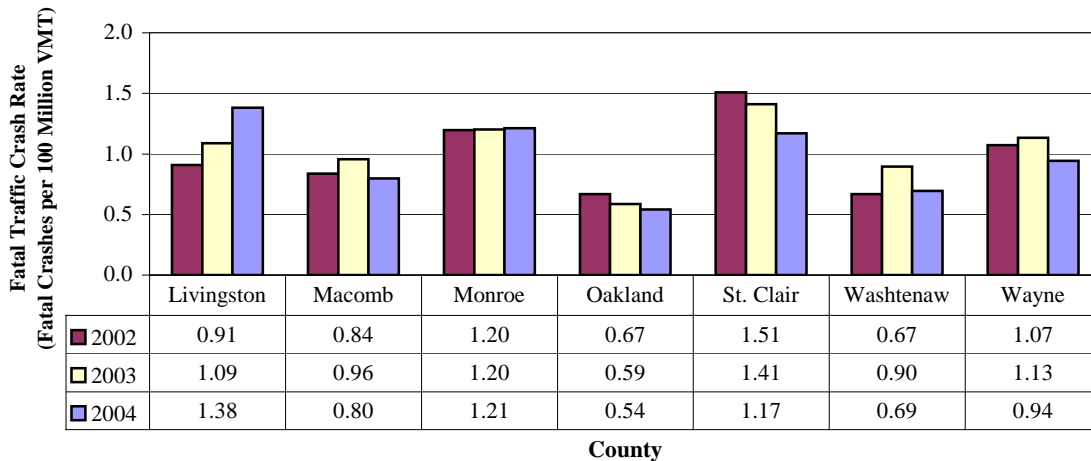
Fatal traffic crashes increased in 2004 in Livingston, and Monroe Counties (Figure 28). The same counties also saw increases in their fatal crash rate, which indicates that the increase in fatal crashes is not fully accounted for by an increase in traffic (Figure 29).

Figure 28  
Fatal Traffic Crashes by County, 2002-2004



Source: MSPTCD and SEMCOG, 2004.

Figure 29  
Fatal Traffic Crash Rate by County, 2002-2004



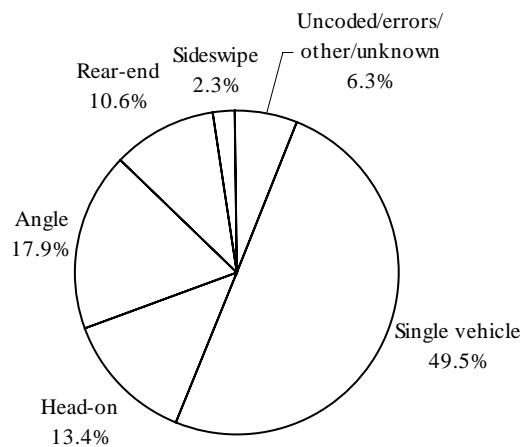
Source: MSPTCD and SEMCOG, 2004.

## Fatal Traffic Crashes by Crash Type

As shown in Figure 30, over 49 percent of all fatal crashes in 2004 were single-vehicle crashes. Angle crashes made up the next biggest portion of fatal crashes at just fewer than 18 percent.

Table 7 shows that single-vehicle crashes were the most likely to result in a fatality, with 71 out of every 10,000 single vehicle crashes resulting in a death. Rear-end and sideswipe crashes were the least likely to cause a death.

Figure 30  
Fatal Traffic Crashes by Crash Type, 2004



Source: MSPTCD and SEMCOG, 2004.

Table 7  
Crash Type by Percent Resulting in Fatality, 2004

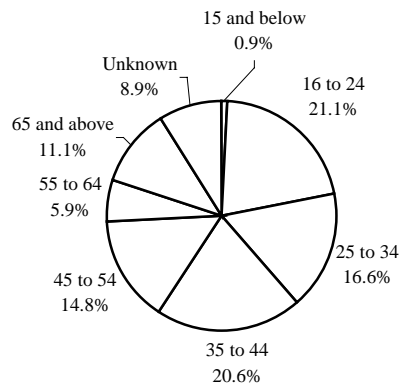
Crash Type	Fatal Traffic Crashes	All Traffic Crashes	Percent Resulting in Fatality
Uncoded/errors/other/unknown	25	9,970	0.25%
Single vehicle	196	27,785	0.71%
Head-on	53	8,294	0.64%
Angle	71	36,097	0.20%
Rear-end	42	58,029	0.07%
Sideswipe	9	24,725	0.04%
<b>Total</b>	<b>396</b>	<b>164,900</b>	<b>0.24%</b>

Source: MSPTCD and SEMCOG, 2004.

## Age and Gender of Drivers in Fatal Traffic Crashes

Figure 31 shows the age distribution of drivers involved in fatal traffic crashes in 2004. Over 59 percent of drivers in fatal crashes were age 44 or younger. Table 8 divides age groups by gender of the driver. Male drivers outnumbered female drivers in fatal crashes by a three-to-one ratio.

Figure 31  
Drivers in Fatal Traffic Crashes by Age Group, 2004



Source: MSPTCD and SEMCOG, 2004.

Table 8  
Drivers in Fatal Traffic Crashes by Age Group and Gender, 2004

Age of Driver	Number of Drivers by Gender			Total
	Female	Male	Unknown	
15 and Below	3	3	0	6
16 to 24	31	104	0	135
25 to 34	27	79	0	106
35 to 44	26	105	1	132
45 to 54	24	71	0	95
55 to 64	13	25	0	38
65 to 74	9	24	0	33
75 to 84	8	17	0	25
85 to 94	9	4	0	13
95 and above	0	0	0	0
Unknown	0	1	56	57
<b>Total</b>	<b>150</b>	<b>433</b>	<b>57</b>	<b>640</b>

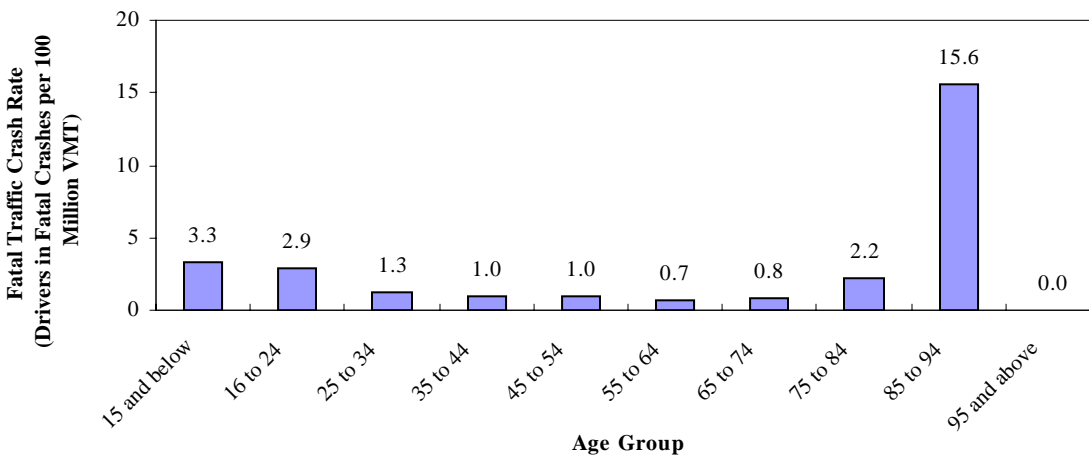
Source: MSPTCD and SEMCOG, 2004.

## Rate of Fatal Traffic Crash Involvement by Age Group

Figure 32 shows the rate of fatal traffic crashes per 100 million VMT for each age group. No drivers age 95 or older were involved in a fatal traffic crash in 2004. Of all drivers age 16-94, drivers age 55-64 had the lowest fatal crash rate with 0.7 fatal crashes per 100 million VMT. Drivers age 85-94 had the highest fatal crash rate (15.6), followed by drivers age 16-24 (2.9).

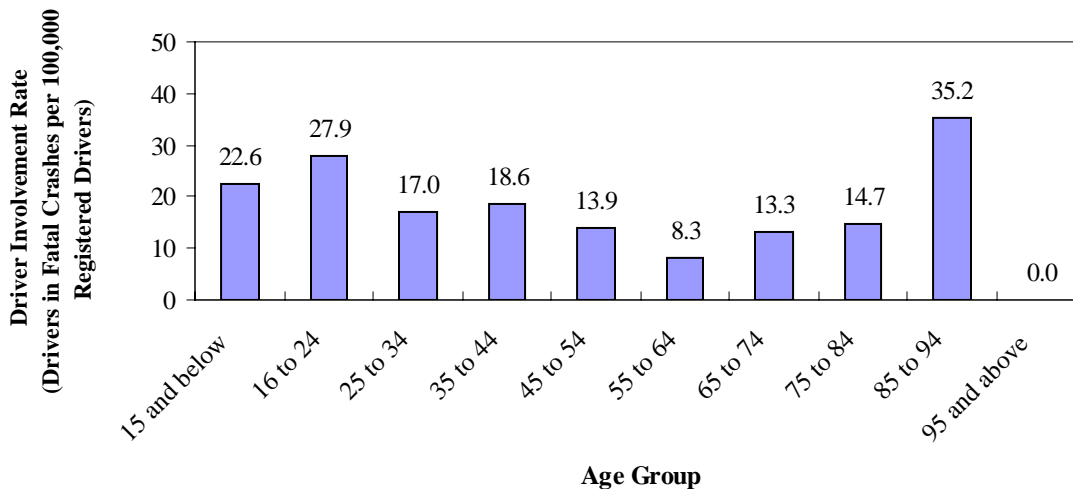
Figure 33 shows the number of drivers involved in fatal crashes compared to the number of registered drivers in that age group. By this measurement, drivers age 55-64 were least likely to be involved in a fatal traffic crash — 8.3 drivers in this age group were in fatal crashes for every hundred thousand registered drivers. Drivers age 85-94 were most likely to be in a fatal crash (35.2), followed by drivers age 16-24 (27.9).

Figure 32  
Fatal Traffic Crash Rate by Age Group, 2004



Source: MSPTCD and SEMCOG, 2004.

Figure 33  
Fatal Traffic Crash Driver Involvement Rate by Age Group, 2004



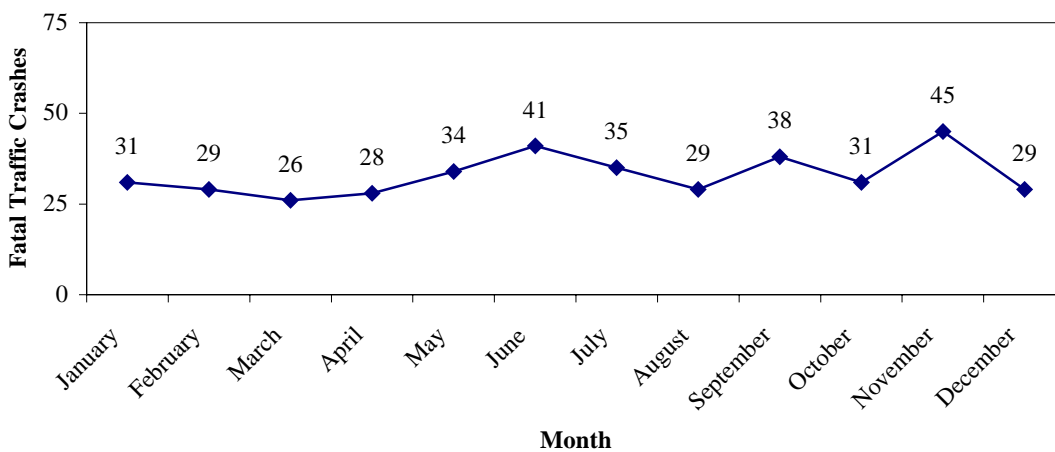
Source: MSPTCD, MDOS, and SEMCOG, 2004.

## Fatal Traffic Crashes by Month, Day, and Hour

As shown in Figure 34, more fatal traffic crashes took place in November 2004 than any other month (45), even though January 2004 had the most crashes overall (Figure 10). March 2004 had the fewest fatal crashes (26).

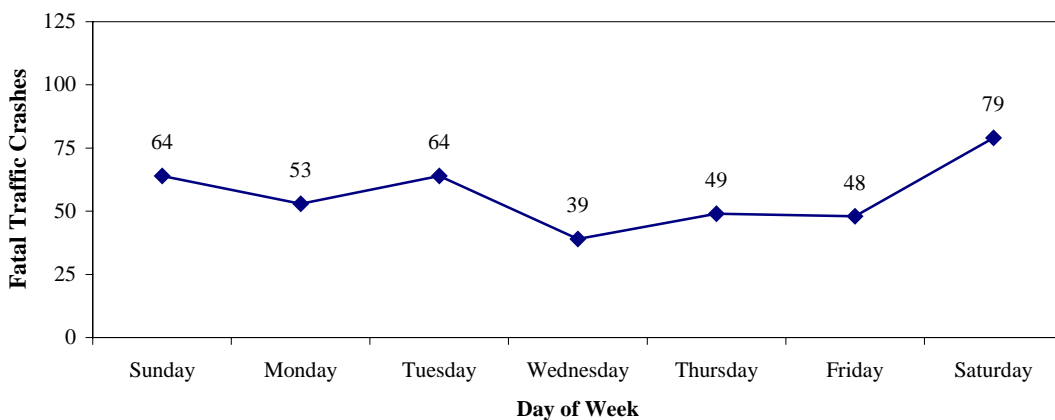
Figure 35 shows the total number of fatal crashes that occurred on each day of the week in 2004. Saturdays in 2004 saw the most fatal crashes (79), even though Fridays had the most overall crashes (Figure 11). Wednesday had the fewest fatal crashes (39).

Figure 34  
Fatal Traffic Crashes by Month, 2004



Source: MSPTCD and SEMCOG, 2004.

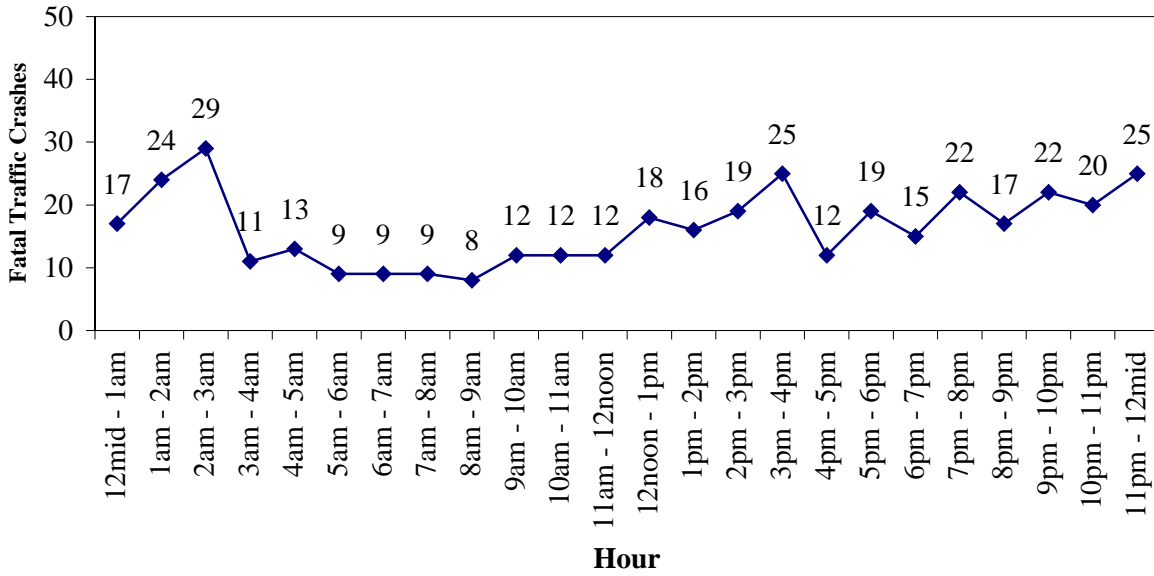
Figure 35  
Fatal Traffic Crashes by Day of Week, 2004



Source: MSPTCD and SEMCOG, 2004.

As shown in Figure 36, the hour from 2 a.m. to 3 a.m. had the most fatal traffic crashes (29), followed by 3 p.m. to 4 p.m. and 11 p.m. to 12 p.m., with 25 and 24 fatal traffic crashes respectively. The period with the fewest fatal crashes was the 8 a.m. to 9 a.m. period, with eight fatal crashes. Comparing this figure to Figure 12 illustrates that times of day with low numbers of overall crashes can have high numbers of fatal crashes.

Figure 36  
Fatal Traffic Crashes by Hour of Day, 2004



Source: MSPTCD and SEMCOG, 2004.

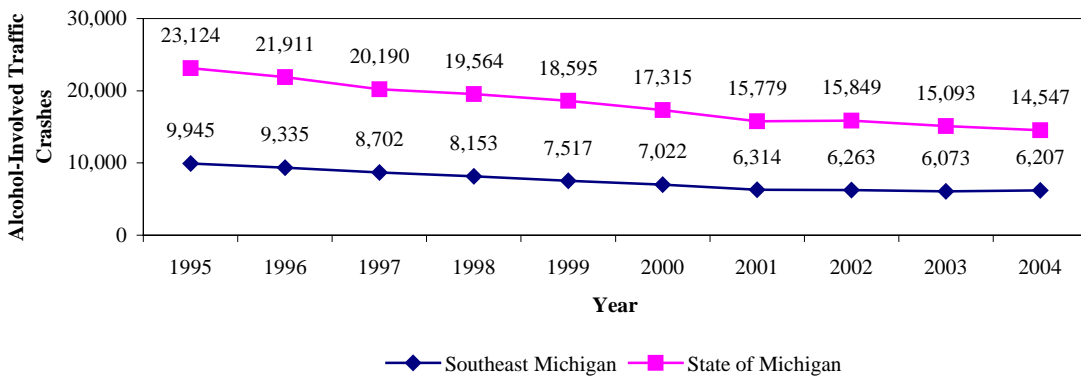
# Alcohol-Involved Traffic Crashes

Beginning in 2000, an alcohol-involved crash is defined as a traffic crash where a driver, pedestrian, or cyclist had been drinking prior to the crash as reported by police, the coroner, or other accepted authorities. *Alcohol-involved crashes no longer include crashes where drugs other than alcohol were a factor.*

Figure 37 shows that the decrease in alcohol-involved traffic crashes in Michigan continued in 2004, however alcohol-involved crashes increased by 2.2 percent in Southeast Michigan in 2004.

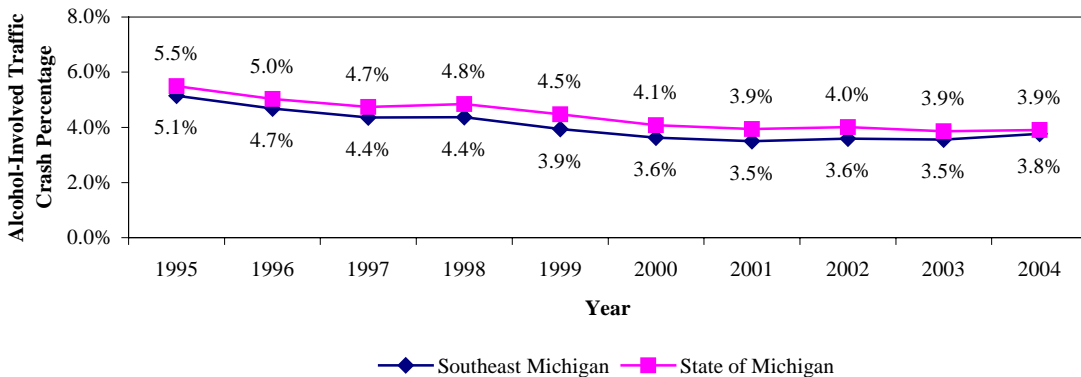
Since the decreases in total crashes in Michigan were accompanied by a proportional decrease in alcohol-involved crashes in Michigan, the alcohol-involved crash percentage decreased in the state (Figure 38). However this was not the case for Southeast Michigan.

Figure 37  
Alcohol-Involved Traffic Crashes, 1995-2004



Source: MSPTCD and SEMCOG, 2004.

Figure 38  
Alcohol-Involved Traffic Crash Percentage, 1995-2004



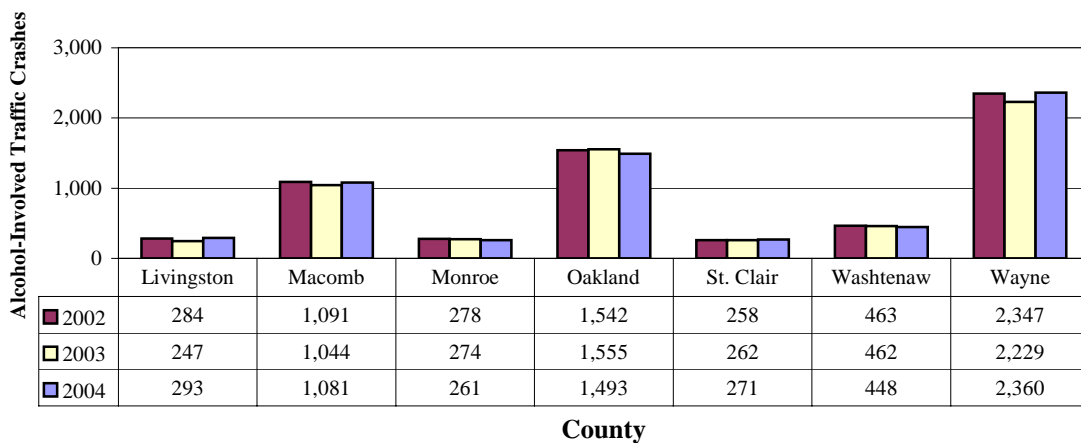
Source: MSPTCD and SEMCOG, 2004.

## Alcohol-Involved Traffic Crashes by County

Since the increase in alcohol-involved crashes in Southeast Michigan in 2004 was small, it was expected that some counties saw decreases in alcohol-involved crashes while other counties saw increases (Figure 39). Livingston County had an 18.6 percent increase while Monroe County had a 4.7 percent decrease.

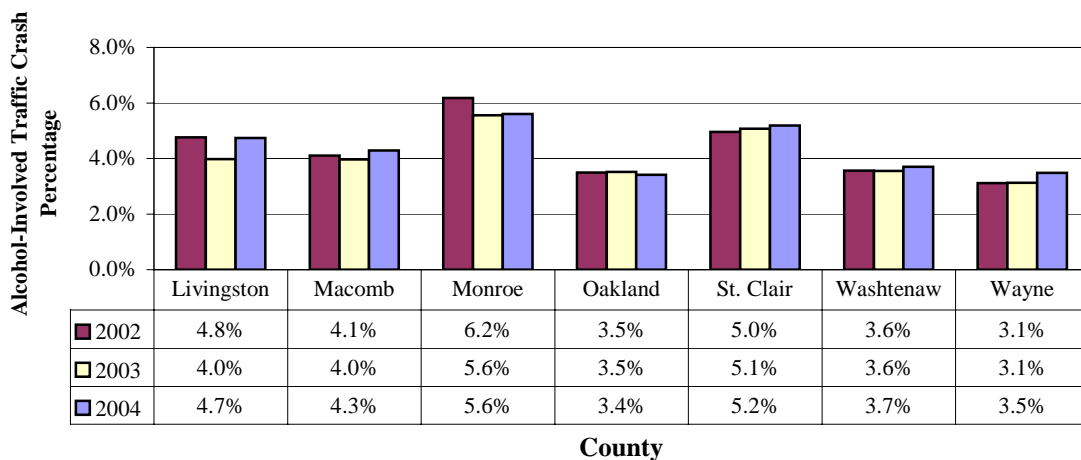
Figure 40 shows that Oakland County now has the lowest percentage of alcohol-involved crashes in the region. Monroe County had the highest percentage of alcohol-related crashes — almost six out of every 100 crashes in Monroe County in 2004 involved alcohol.

Figure 39  
Alcohol-Involved Traffic Crashes by County, 2002-2004



Source: MSPTCD and SEMCOG, 2004.

Figure 40  
Alcohol-Involved Traffic Crash Percentage by County, 2002-2004



Source: MSPTCD and SEMCOG, 2004.

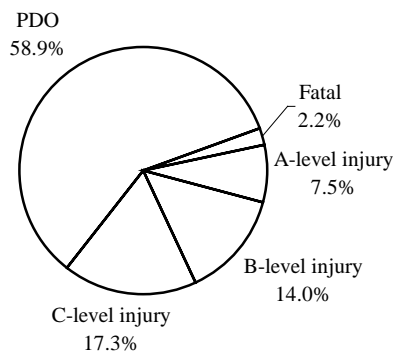
## Alcohol-Involved Traffic Crashes by Severity

Over 78 percent of all traffic crashes that did not involve alcohol did not result in any injuries, compared to fewer than 59 percent of alcohol-involved crashes. Alcohol-involved crashes were 10 times as likely to be fatal as non-alcohol-involved crashes. Figure 41 shows how the severity of alcohol-involved crashes compared to all other crashes in 2004.

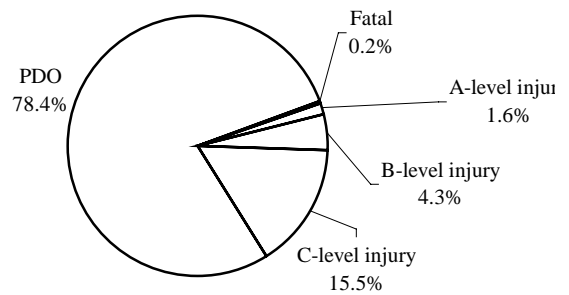
Table 9 shows that nearly 35 percent of all fatal crashes in Southeast Michigan in 2004 involved alcohol, and over 15 percent of all A-level injury crashes involved alcohol.

Figure 41  
Alcohol-Involved Traffic Crash Severity, 2004

Alcohol-Involved Traffic Crashes



All Other Traffic Crashes



Source: MSPTCD and SEMCOG, 2004.

Table 9  
Alcohol Involved Traffic Crash Severity, 2004

Crash Severity	Alcohol-Involved Traffic Crashes	All Traffic Crashes	Alcohol-Involved Percentage
Fatal	138	396	34.8%
A-level injury	467	3,047	15.3%
B-level injury	869	7,692	11.3%
C-level injury	1,075	25,744	4.2%
PDO	3,658	128,021	2.9%
<b>Total</b>	<b>6,207</b>	<b>164,900</b>	<b>3.8%</b>

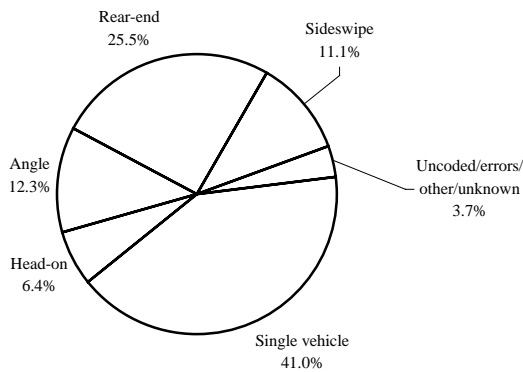
Source: MSPTCD and SEMCOG, 2004.

## Alcohol-Involved Traffic Crashes by Crash Type

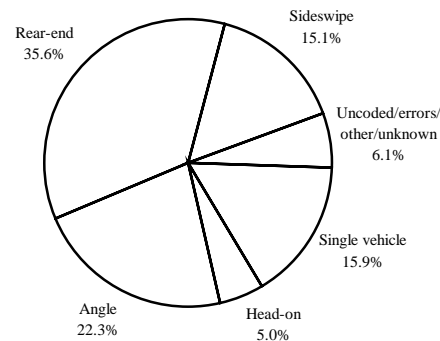
As shown in Figure 42, crashes involving alcohol in 2004 were most often single-vehicle crashes, followed by rear-end crashes. This pattern is different from the one shown by crashes that did not involve alcohol, where rear-end crashes were most common, followed by angle crashes. Nearly one out of every 11 single-vehicle crashes in 2004 involved alcohol (Table 10).

Figure 42  
Alcohol-Involved Traffic Crashes by Type, 2004

Alcohol-Involved Traffic Crashes



All Other Traffic Crashes



Source: MSPTCD and SEMCOG, 2004.

Table 10  
Traffic Crash Type by Percent Involving Alcohol, 2004

Crash Type	Alcohol-Involved Traffic Crashes	All Traffic Crashes	Alcohol-Involved Percentage
Uncoded/errors/other/unknown	230	9,970	2.3%
Single-vehicle	2,544	27,785	9.2%
Head-on	398	8,294	4.8%
Angle	765	36,097	2.1%
Rear-end	1,584	58,029	2.7%
Sideswipe	686	24,725	2.8%
<b>Total</b>	<b>6,207</b>	<b>164,900</b>	<b>3.8%</b>

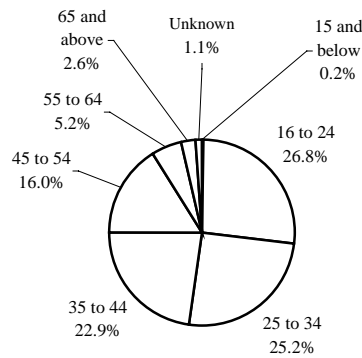
Source: MSPTCD and SEMCOG, 2004.

## Age and Gender Had-Been-Drinking Drivers in Alcohol-Involved Traffic Crashes

As in 2003, drivers between the ages of 16 and 44 accounted for nearly 75 percent of had-been-drinking (HBD) drivers in 2004. Figure 43 shows the percent of HBD drivers in each age group in 2004.

Table 11 shows the numbers of HBD drivers in each age group by gender. In 2004, there were more than three male drinking drivers in crashes for every female drinking driver in a crash.

Figure 43  
HBD Drivers by Age Group in Alcohol-Involved Traffic Crashes, 2004



Source: MSPTCD and SEMCOG, 2004.

Table 11  
HBD Drivers in Alcohol-Involved Traffic Crashes by Age and Gender, 2004

Age of Driver	Number of Drivers by Gender			Total
	Female	Male	Unknown	
15 and below	4	8	0	12
16 to 24	380	1,281	1	1,662
25 to 34	365	1,192	3	1,560
35 to 44	392	1,021	5	1,418
45 to 54	225	762	2	989
55 to 64	59	261	0	320
65 to 74	20	99	0	119
75 to 84	10	26	0	36
85 to 94	1	4	0	5
95 and above	0	0	0	0
Unknown	10	40	21	71
<b>Total</b>	<b>1,466</b>	<b>4,694</b>	<b>32</b>	<b>6,192</b>

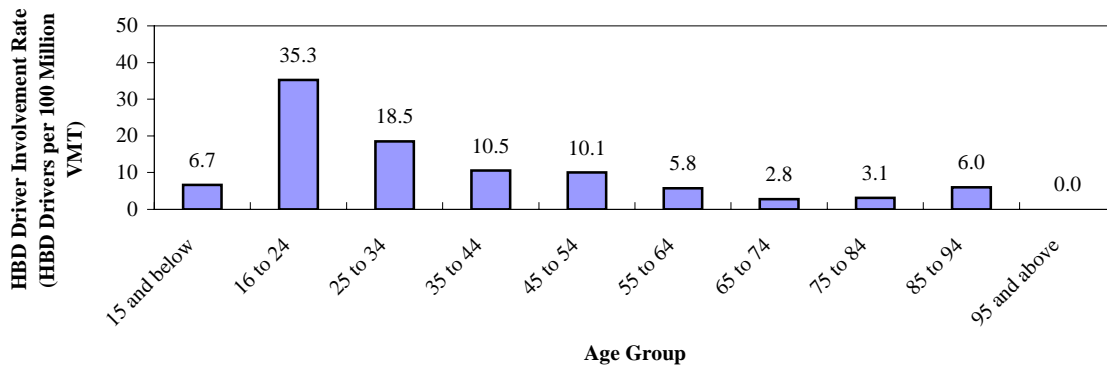
Source: MSPTCD and SEMCOG, 2004.

## Rate of Had-Been-Drinking Traffic Crash Involvement by Age Group

Figure 44 shows the number of HBD drivers in each age group per 100 million miles traveled by that age group. The 16-24 age group had the highest number of HBD drivers compared to the number of miles traveled, and the 95 and above age group had the lowest number.

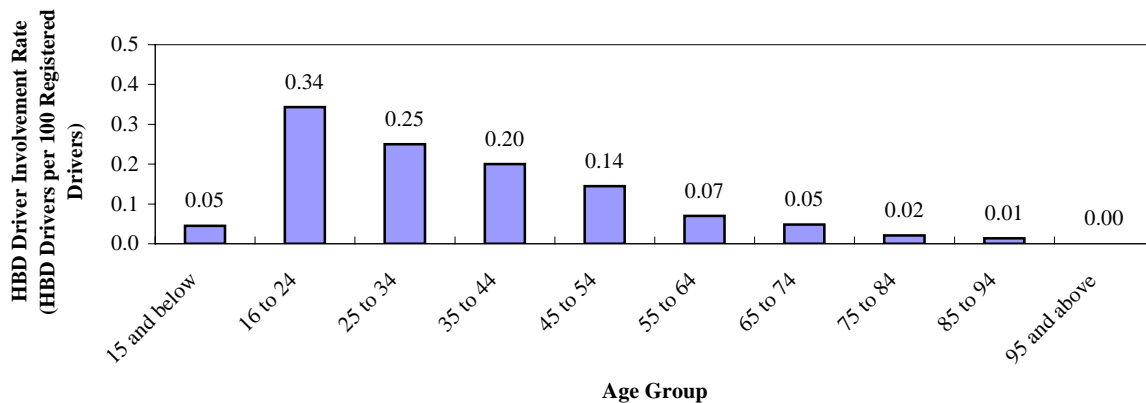
Figure 45 shows the number of HBD drivers compared to the number of registered drivers in each age group, with the 16-24 age group having the highest rate of HBD drivers and the 95 and above age group having the lowest rate.

Figure 44  
Alcohol-Involved Traffic Crash HBD Driver Involvement Rate by Age Group, 2004



Source: MSPTCD and SEMCOG, 2004.

Figure 45  
Alcohol-Involved Traffic Crash HBD Driver Involvement Rate by Age Group, 2004



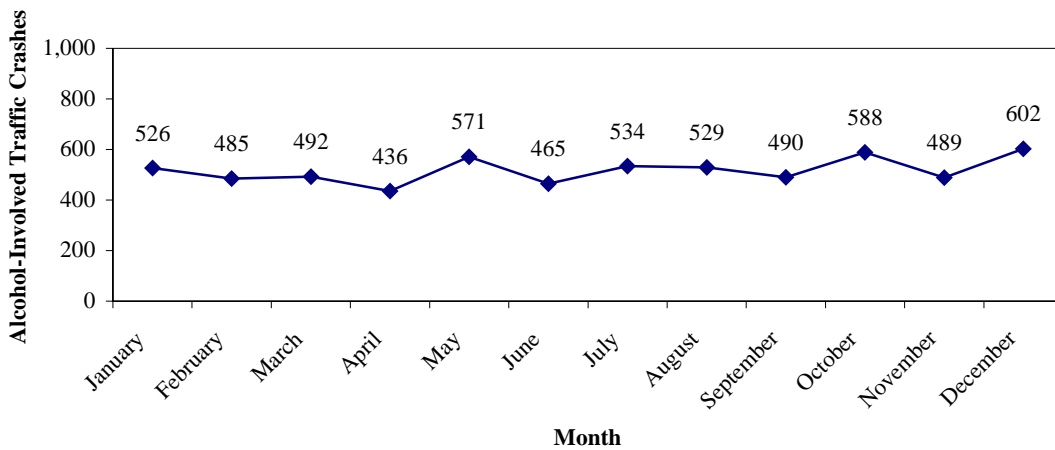
Source: MSPTCD, MDOS, and SEMCOG, 2004.

## Alcohol-Involved Traffic Crashes by Month, Day, and Hour

Figure 46 shows the number of alcohol-involved traffic crashes that took place during each month of 2004. December had the most alcohol-involved crashes (602) even though January had the most crashes overall (Figure 10). April saw the fewest alcohol-involved crashes (436), and April had the fewest overall crashes.

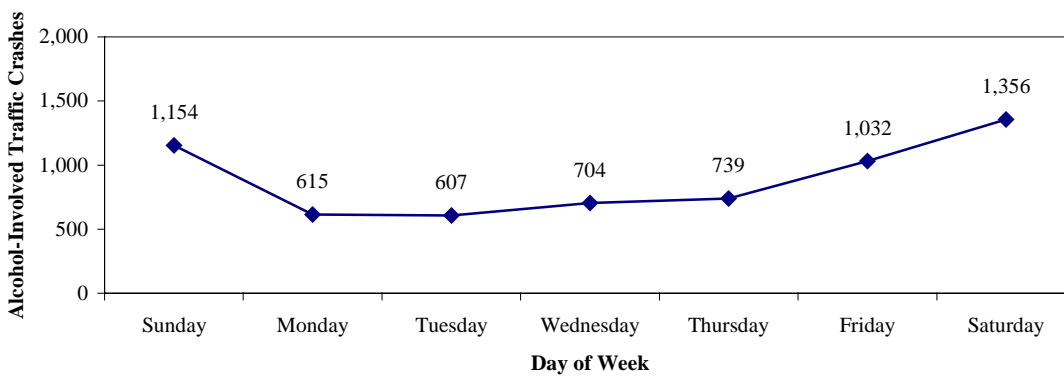
As shown in Figure 47, alcohol-involved traffic crashes increase on the weekends, the opposite of the pattern shown by all crashes (Figure 11). Saturdays had the most alcohol-involved crashes (1,356) and Tuesdays saw the fewest (607).

Figure 46  
Alcohol-Involved Traffic Crashes by Month, 2004



Source: MSPTCD and SEMCOG, 2004.

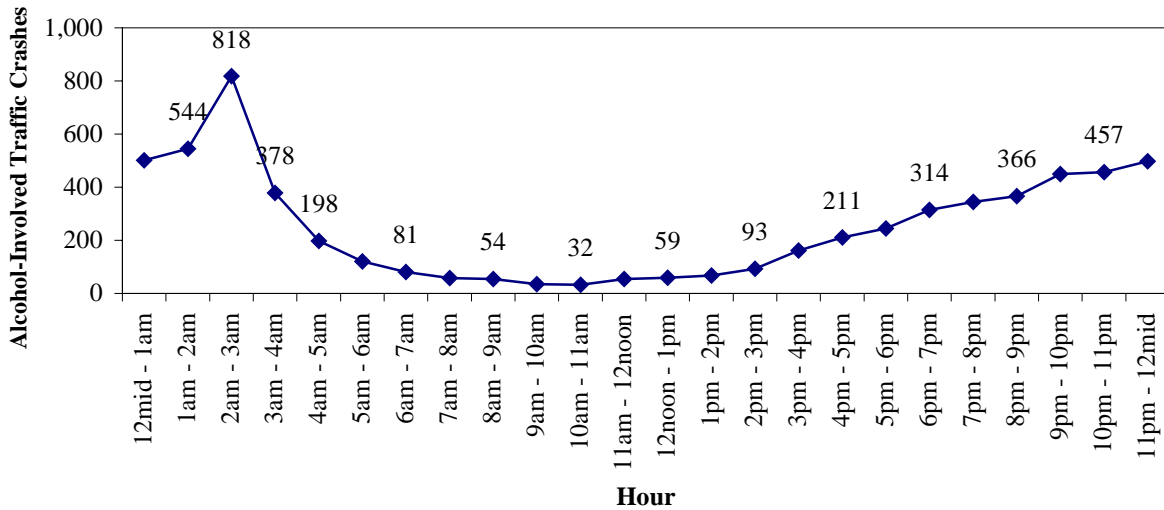
Figure 47  
Alcohol-Involved Traffic Crashes by Day of Week, 2004



Source: MSPTCD and SEMCOG, 2004.

More alcohol-involved crashes (818) took place between 2 a.m. and 3 a.m. than during any other hour interval in 2004, as shown in Figure 48. Because of the relatively small number of overall crashes taking place during that hour (Figure 12), nearly one out of every four traffic crashes that took place between 2 a.m. and 3 a.m. involved alcohol.

Figure 48  
Alcohol-Involved Traffic Crashes by Hour of Day, 2004



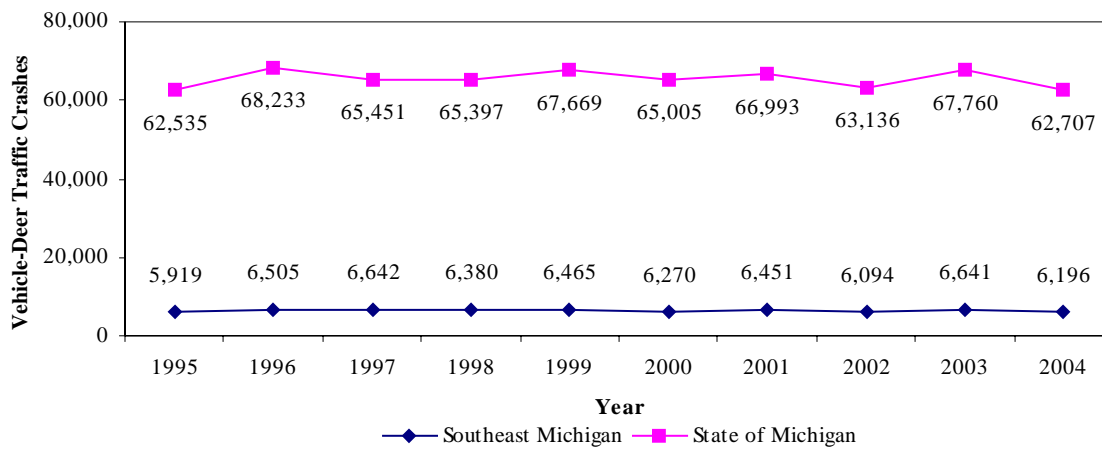
Source: MSPTCD and SEMCOG, 2004.

# Vehicle-Deer Traffic Crashes

Collisions between deer and motor vehicles decreased in 2004 after increasing in 2003. This decrease in vehicle-deer crashes was seen both in Southeast Michigan and in the State of Michigan (Figure 49).

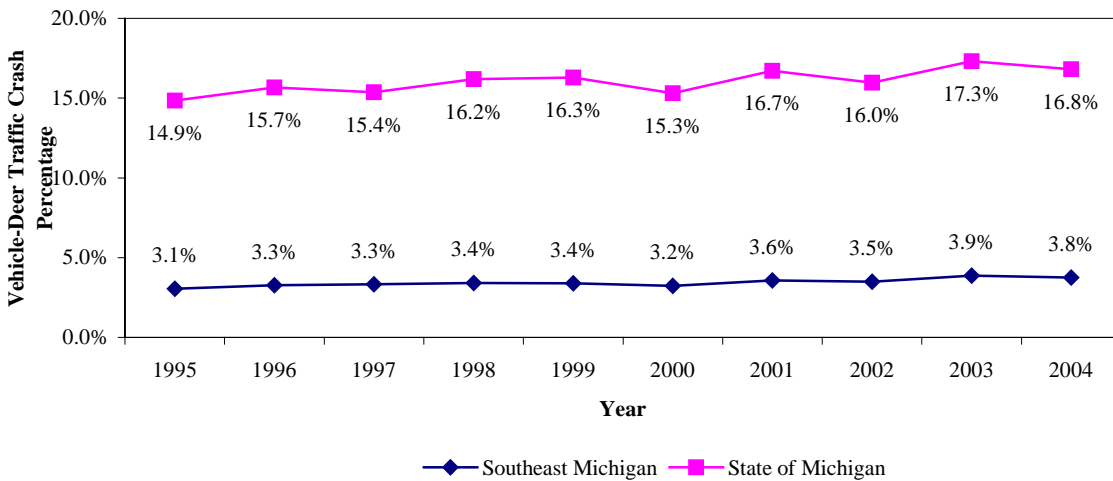
The percentage of all crashes that involved deer decreased to 3.8 percent in 2004, making it the second highest rate since SEMCOG began keeping records in 1993. The deer-crash rate decreased in Michigan as well, to 16.8 percent (Figure 50).

Figure 49  
Vehicle-Deer Traffic Crashes, 1995-2004



Source: MSPTCD and SEMCOG, 2004.

Figure 50  
Vehicle-Deer Traffic Crash Percentage, 1995-2004



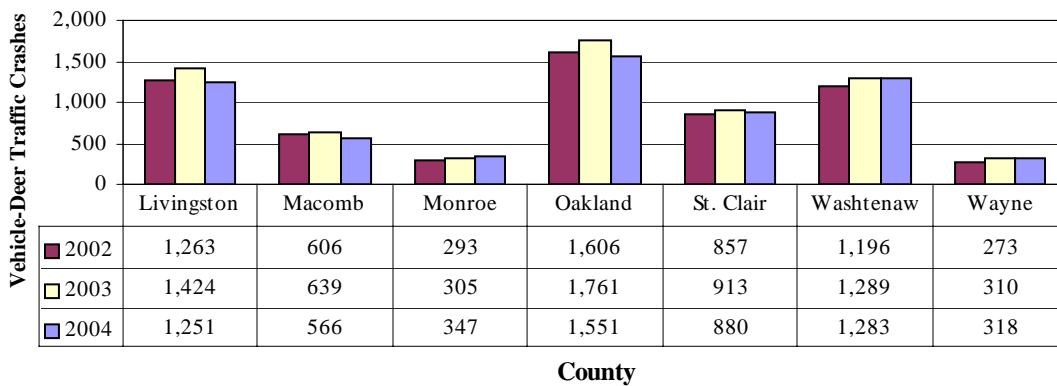
Source: MSPTCD and SEMCOG, 2004

## Vehicle-Deer Traffic Crashes by County

Monroe and Wayne were the only two counties in Southeast Michigan that saw an increase in car-deer crashes in 2004. The largest increase was in Monroe County (13.7 percent). Figure 51 shows the number of vehicle-deer crashes in each county in 2002-2004.

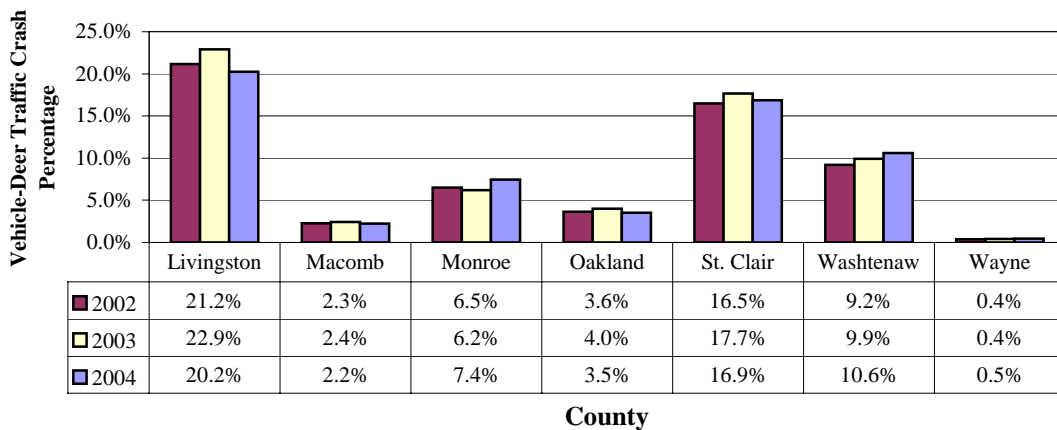
As Figure 52 shows, Livingston County continues to lead the region in vehicle-deer crash percentage. More than one out of every five crashes in Livingston County in 2004 involved a deer. St. Clair and Washtenaw Counties followed, with nearly 17 percent and 11 percent, respectively.

Figure 51  
Vehicle-Deer Traffic Crashes by County, 2002-2004



Source: MSPTCD and SEMCOG, 2004.

Figure 52  
Vehicle-Deer Traffic Crash Percentage by County, 2002-2004



Source: MSPTCD and SEMCOG, 2004.

## Vehicle-Deer Traffic Crashes by Severity

As shown in Table 12, crashes with deer accounted for nearly five percent of all PDO crashes in Southeast Michigan in 2004. There were no vehicle-deer crashes that were fatal in Southeast Michigan in 2004, and over 97 percent of all crashes with deer resulted only in property damage.

Table 12  
Vehicle-Deer Traffic Crash Severity, 2004

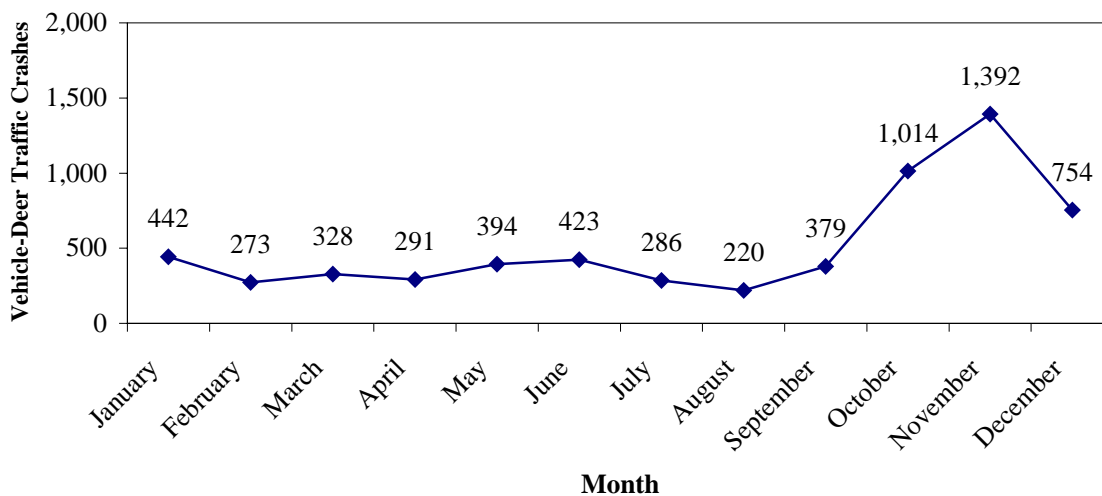
Crash Severity	Vehicle-Deer Traffic Crashes	All Traffic Crashes	Vehicle-Deer Percentage
Fatal	0	396	0.0%
A-level Injury	11	3,047	0.4%
B-level Injury	50	7,692	0.7%
C-level Injury	118	25,744	0.5%
PDO	6,017	128,021	4.7%
<b>Total</b>	<b>6,196</b>	<b>164,900</b>	<b>3.8%</b>

Source: MSPTCD and SEMCOG, 2004.

## Vehicle-Deer Traffic Crashes by Month, Day, and Hour

Figure 53 shows the number of vehicle-deer crashes that took place in each month of 2004. Deer crashes peaked in November at 1,392. Over 38 percent of all deer crashes took place in October or November. August had the fewest vehicle-deer crashes at 220.

Figure 53  
Vehicle-Deer Traffic Crashes by Month, 2004

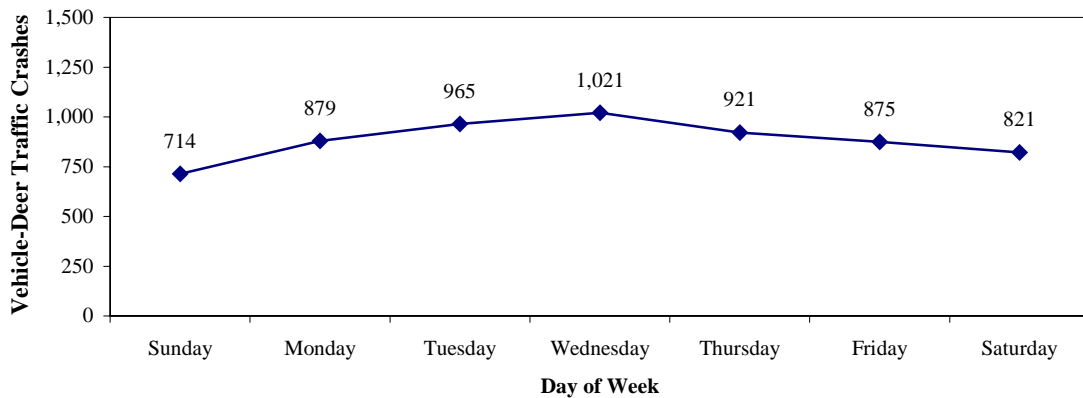


Source: MSPTCD and SEMCOG, 2004.

Figure 54 shows the number of vehicle-deer crashes in 2004 grouped by the day on which they happened. The most crashes with deer occurred on Wednesdays (1,021) and the fewest occurred on Sundays (714). Sunday was also the day of the week with the fewest overall crashes (Figure 11).

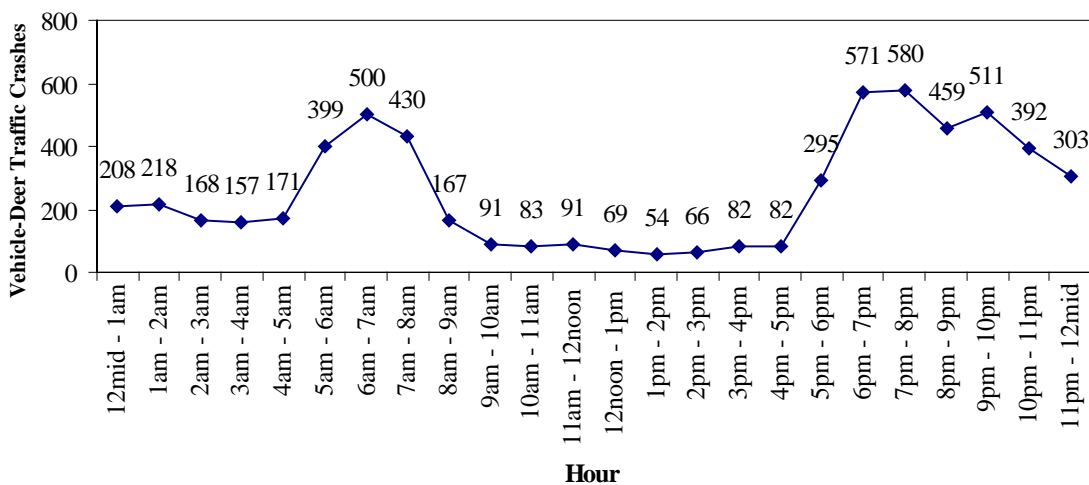
Deer crashes were most likely to occur during evenings or early mornings (Figure 55). The pattern of deer crashes by time of day is quite different from the pattern of all traffic crashes (Figure 12). The morning peak in deer crashes is almost equal to the evening peak, and crashes decrease sharply during daylight hours.

Figure 54  
Vehicle-Deer Traffic Crashes by Day of Week, 2004



Source: MSPTCD and SEMCOG, 2004.

Figure 55  
Vehicle-Deer Traffic Crashes by Hour of Day, 2004

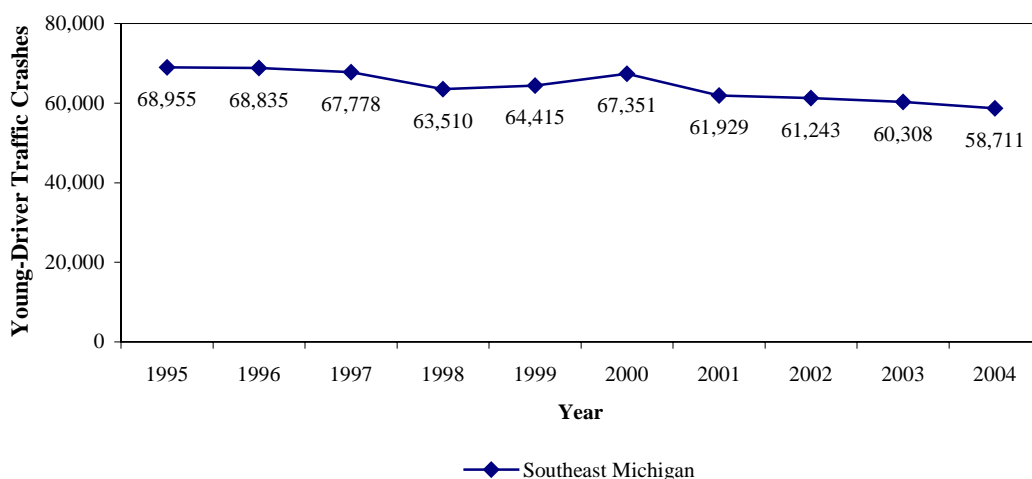


Source: MSPTCD and SEMCOG, 2004.

# Young-Driver Traffic Crashes

A young driver is commonly defined as a driver between the age of 16 and 24. As Figure 56 shows, young-driver crashes decreased 2.6 percent in Southeast Michigan between 2003 and 2004. Data for Michigan was not available. Though traffic crashes of all types decreased in Southeast Michigan in 2004, young-driver crashes accounted for a slightly larger percentage of all crashes than in 2003. Table 13 shows young-driver crash percentages for 1995-2004.

Figure 56  
Young-Driver Traffic Crashes, 1995-2004



Source: MSPTCD and SEMCOG, 2004.

Table 13  
Young-Driver Traffic Crash Percentage, 1995-2004

Year	Young-Driver Traffic Crashes	All Traffic Crashes	Young-Driver Percentage
1995	68,955	193,557	35.6%
1996	68,835	199,420	34.5%
1997	67,778	199,638	34.0%
1998	63,510	186,693	34.0%
1999	64,415	191,006	33.7%
2000	67,351	193,955	34.7%
2001	61,929	180,739	34.3%
2002	61,243	174,770	35.0%
2003	60,308	171,105	35.2%
2004	58,711	164,900	35.6%

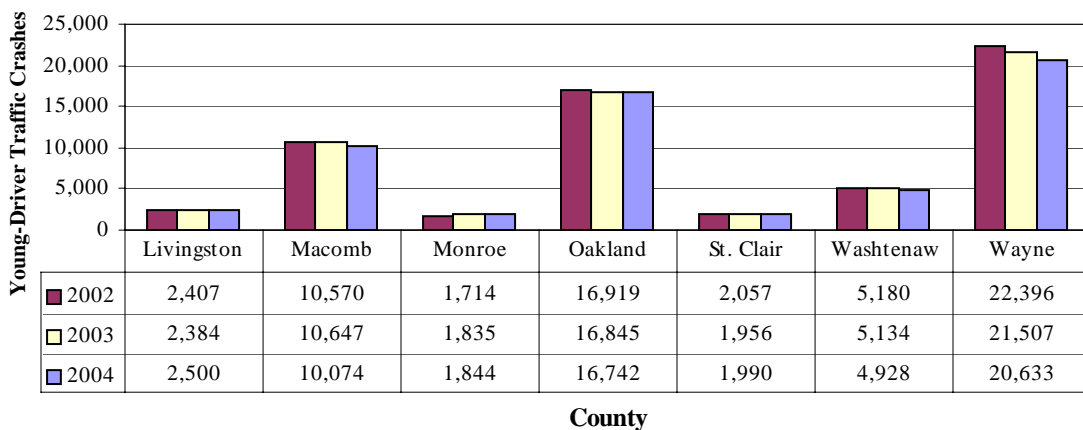
Source: MSPTCD and SEMCOG, 2004.

## Young-Driver Traffic Crashes by County

Figure 57 shows the number of young-driver crashes in each county in 2002-2004. All Southeast Michigan counties experienced a decrease in young-driver crashes except Livingston County, Monroe County, and St. Clair County.

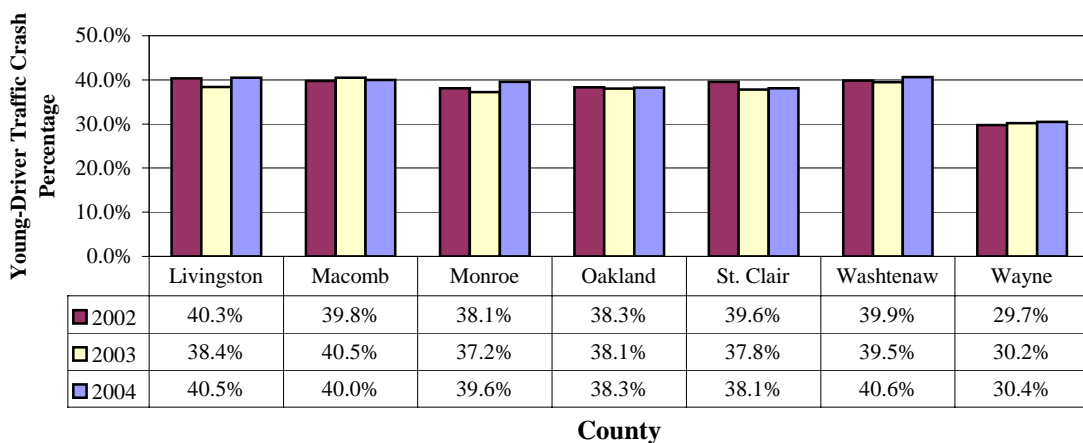
Wayne County continued to have the lowest young-driver traffic crash percentage in the region at just above 30 percent (Figure 58). All counties except for Wayne have young-driver crash rates above the regional traffic crash percentage of 35.6 percent.

Figure 57  
Young-Driver Traffic Crashes by County, 2002-2004



Source: MSPTCD and SEMCOG, 2004.

Figure 58  
Young-Driver Traffic Crash Percentage by County, 2002-2004

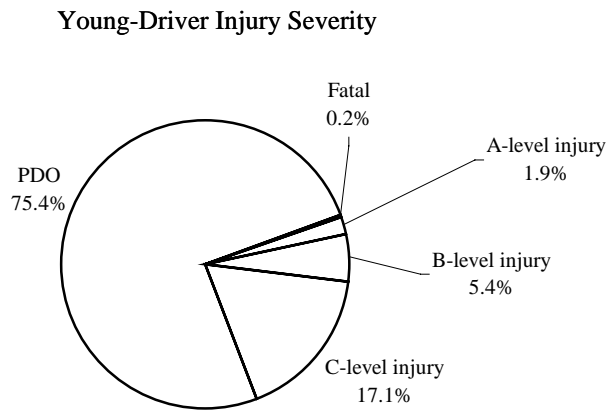


Source: MSPTCD and SEMCOG, 2004.

## Young-Driver Traffic Crashes by Severity and Crash Type

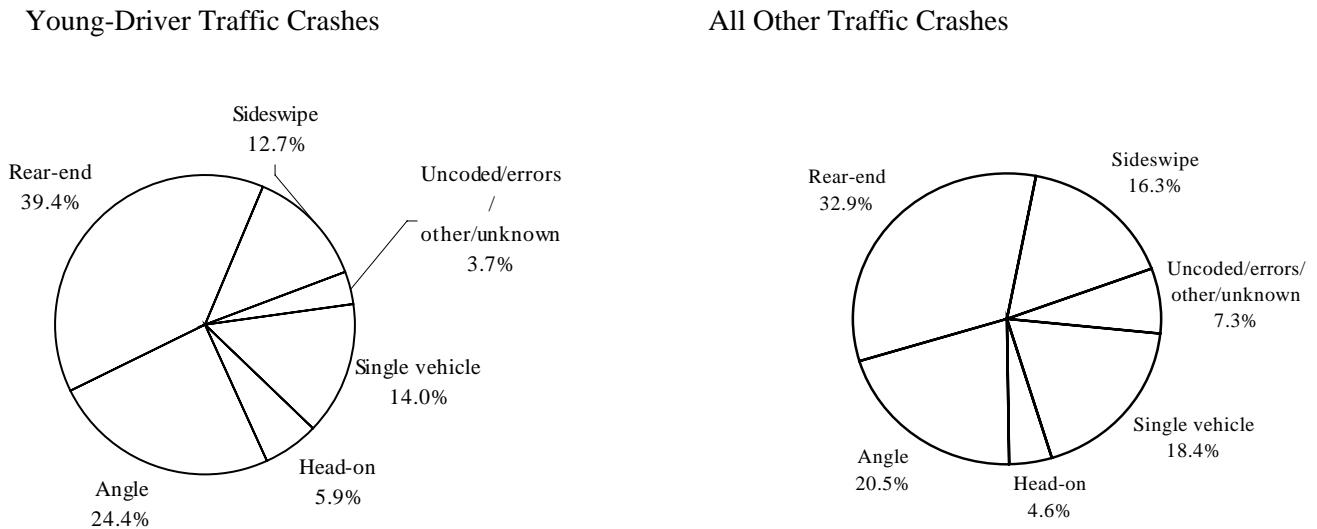
Just over 75 percent of traffic crashes involving young drivers resulted in property damage only. Figure 59 shows the severity of crashes involving young drivers in 2004. When compared to all other drivers, young drivers were more likely to have rear-end, head-on, or angle crashes and less likely to have sideswipe or single-vehicle traffic crashes (Figure 60).

Figure 59  
Young-Driver Traffic Crash Severity, 2004



Source: MSPTCD and SEMCOG, 2004.

Figure 60  
Young-Driver Traffic Crashes by Crash Type, 2004

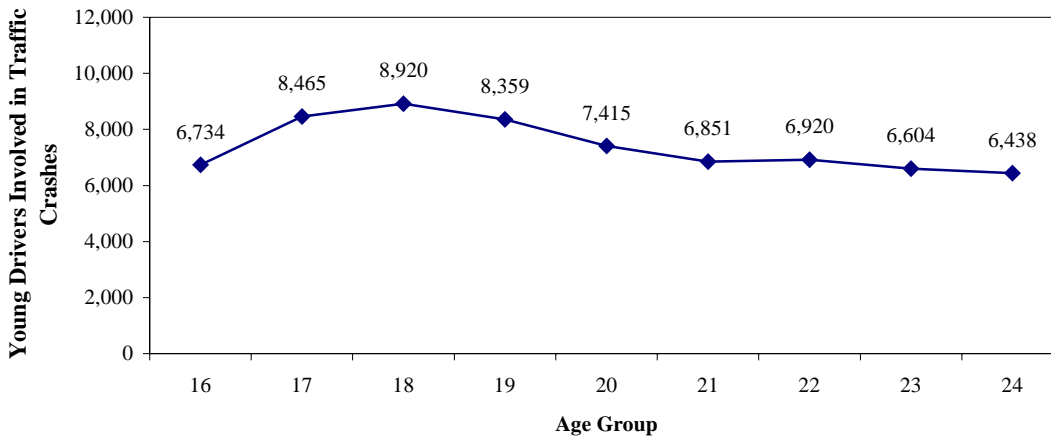


Source: MSPTCD and SEMCOG, 2004.

## Age and Gender of Young Drivers in Traffic Crashes

Figure 61 shows how many young drivers of each specific age were involved in traffic crashes in 2004. Crashes among young drivers peaked at age 17 and 18 as a group with over 17,300 crashes, although crashes peaked at age 17 for female drivers and age 18 for male drivers. Table 14 breaks down each age by gender.

Figure 61  
Young Driver Traffic Crash Involvement by Age Group, 2004



Source: MSPTCD and SEMCOG, 2004.

Table 14  
Young Driver Traffic Crash Involvement by Age Group and Gender, 2004

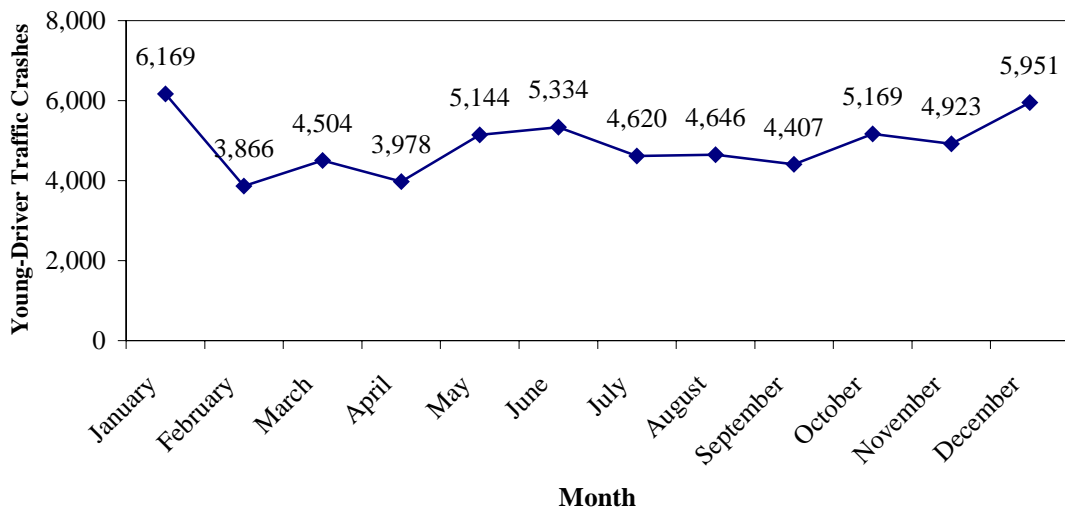
Age Group	Number of Driver by Gender			Total
	Female	Male	Unknown	
16	3,122	3,603	9	6,734
17	3,914	4,530	21	8,465
18	3,837	5,062	21	8,920
19	3,634	4,694	31	8,359
20	3,288	4,102	25	7,415
21	3,102	3,727	22	6,851
22	3,160	3,735	25	6,920
23	3,047	3,533	24	6,604
24	2,913	3,505	20	6,438
<b>Total</b>	<b>30,017</b>	<b>36,491</b>	<b>198</b>	<b>66,706</b>

Source: MSPTCD and SEMCOG, 2004.

## Young-Driver Traffic Crashes by Month, Day, and Hour

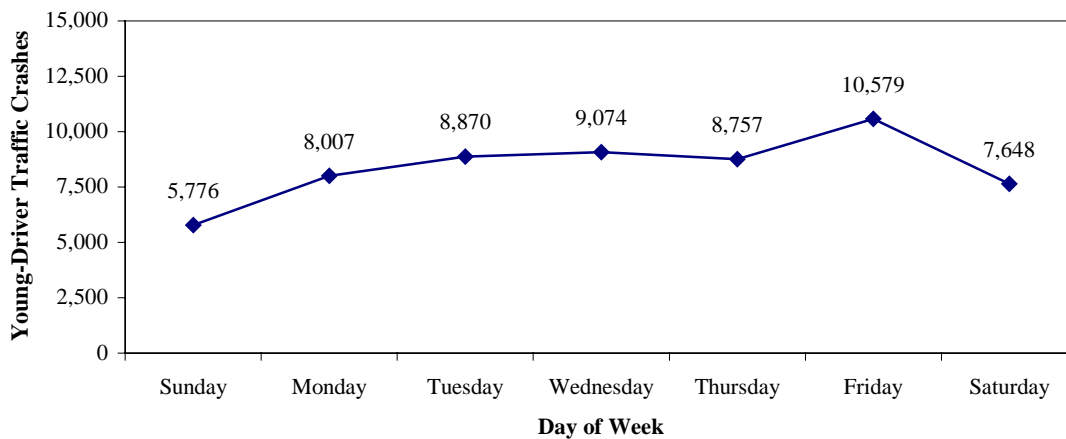
As with all traffic crashes, crashes involving young drivers were most frequent in January (6,169) and least frequent in February and April. When grouped by day of week, young-driver crashes followed the same pattern as all crashes (Figure 11), with most crashes taking place on Fridays (10,579) and the fewest taking place on Sundays (5,776). Figures 62 and 63 show these numbers in greater detail.

Figure 62  
Young-Driver Traffic Crashes by Month, 2004



Source: MSPTCD and SEMCOG, 2004.

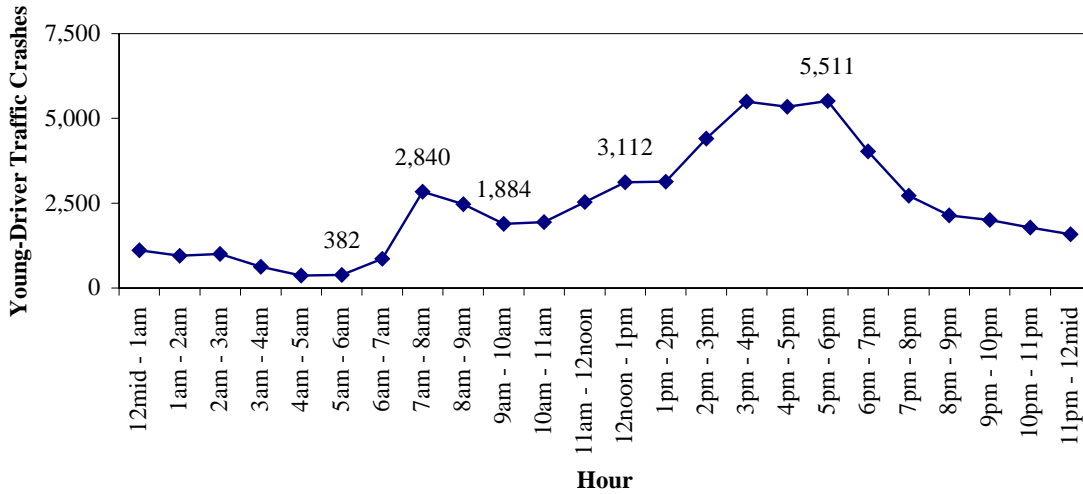
Figure 63  
Young-Driver Traffic Crashes by Day of Week, 2004



Source: MSPTCD and SEMCOG, 2004.

Figure 64 shows the number of young-driver traffic crashes grouped by the hour they occurred. As with all traffic crashes in 2004 (Figure 12), traffic crashes involving young drivers were most frequent between 3 p.m. and 7 p.m. and least frequent between 4 a.m. and 6 a.m.

Figure 64  
Young-Driver Traffic Crashes by Hour of Day, 2004



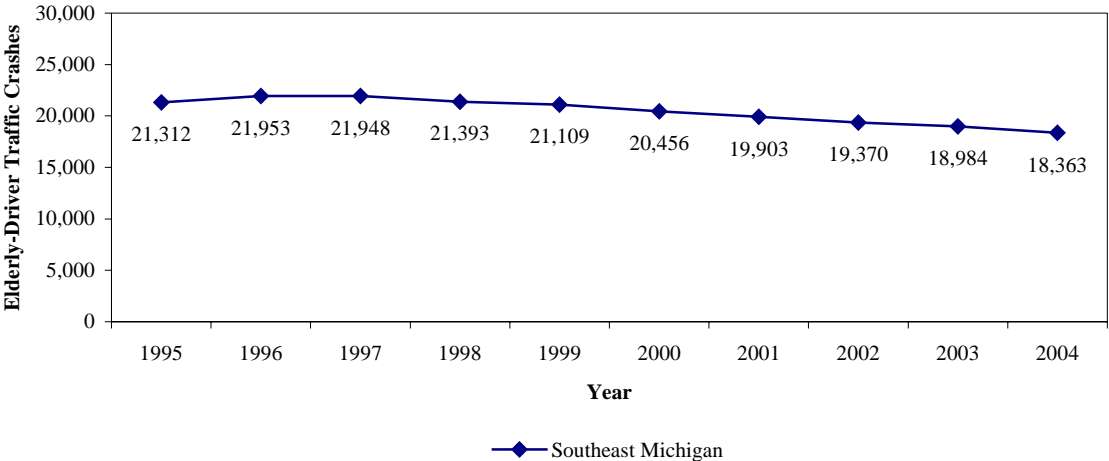
Source: MSPTCD and SEMCOG, 2004.

# Elderly Driver Traffic Crashes

An elderly driver is commonly defined as a driver who is age 65 or older. Figure 65 shows the number of traffic crashes involving elderly drivers in Southeast Michigan in 2004, regardless of the cause of the crash. Crashes involving elderly drivers in Southeast Michigan declined in 2004 for the eighth consecutive year, to 18,363 crashes.

Table 15 shows that 11.1 percent of all traffic crashes in Southeast Michigan in 2004 involved an elderly driver.

Figure 65  
Elderly Driver Traffic Crashes, 1995-2004



Source: MSPTCD and SEMCOG, 2004. \* Michigan data not available.

Table 15  
Elderly Driver Traffic Crash Percentage, 1995-2004

Year	Elderly Driver Traffic Crashes	All Traffic Crashes	Elderly Driver Percentage
1995	21,312	193,557	11.0%
1996	21,953	199,420	11.0%
1997	21,948	199,638	11.0%
1998	21,393	186,693	11.5%
1999	21,109	191,006	11.1%
2000	20,456	193,955	10.5%
2001	19,903	180,739	11.0%
2002	19,370	174,770	11.1%
2003	18,984	171,105	11.1%
2004	18,363	164,900	11.1%

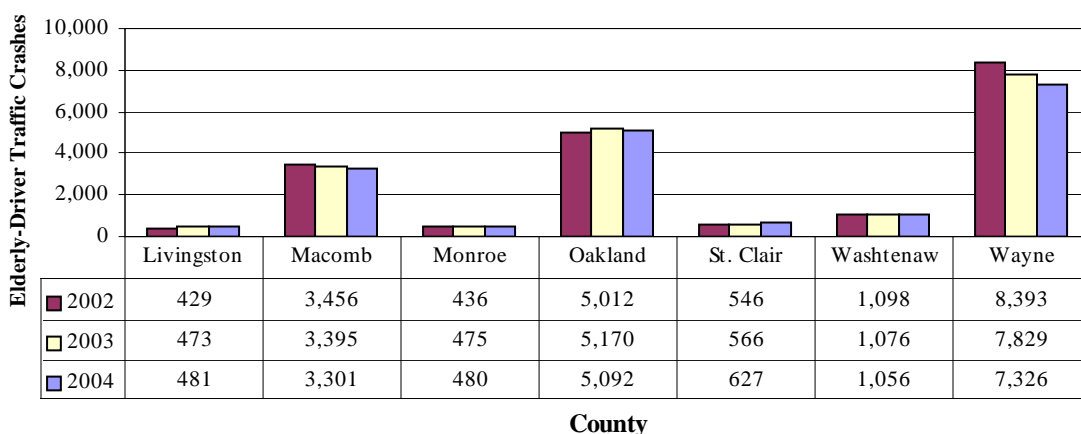
Source: MSPTCD and SEMCOG, 2004

## Elderly Driver Traffic Crashes by County

Figures 66 and 67 show the number of elderly driver traffic crashes in each county as well as the elderly driver traffic crash percentage by county. Though the region as a whole saw a decrease in elderly driver crashes, elderly driver crashes increased in Livingston, Monroe, and St. Clair Counties.

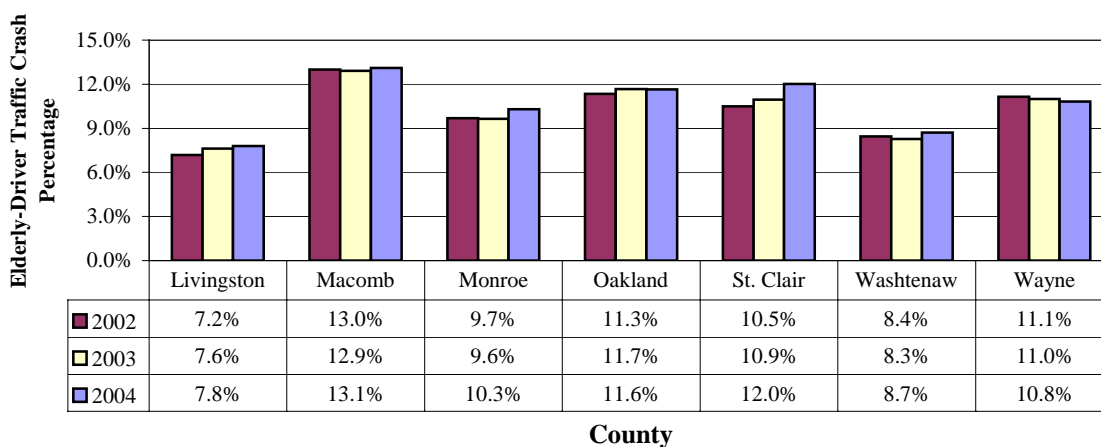
Macomb County continued to have the highest percentage of elderly driver crashes in the region at 13.1 percent. Livingston County had the lowest percentage in the region at just fewer than eight percent.

Figure 66  
Elderly Driver Traffic Crashes by County, 2002-2004



Source: MSPTCD and SEMCOG, 2004.

Figure 67  
Elderly Driver Traffic Crash Percentage by County, 2002-2004



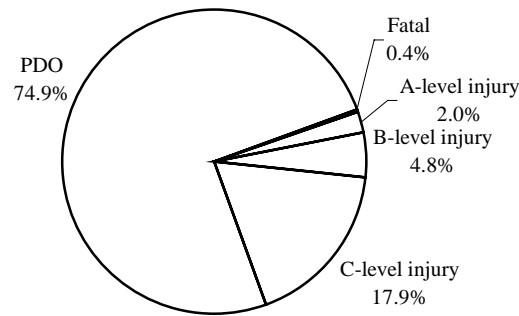
Source: MSPTCD and SEMCOG, 2004.

## Elderly Driver Traffic Crashes by Severity and Crash Type

As shown in Figure 68, nearly 75 percent of all traffic crashes involving elderly drivers resulted in property damage only, compared to nearly 78 percent of all traffic crashes (Figure 5).

Figure 69 shows that elderly drivers were more likely to be involved in angle, head-on and sideswipe crashes and less likely to be involved in single vehicle, or rear-end crashes than non-elderly drivers.

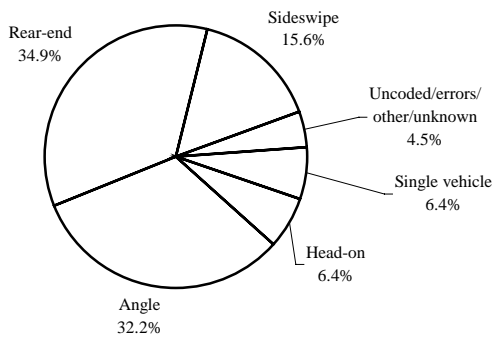
Figure 68  
Elderly Driver Traffic Crash Severity, 2004



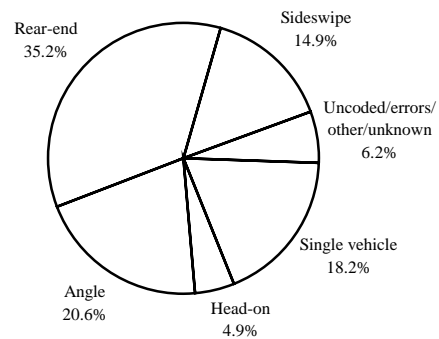
Source: MSPTCD and SEMCOG, 2004.

Figure 69  
Elderly Driver Traffic Crashes by Crash Type, 2004

Elderly Driver Traffic Crashes



All Other Traffic Crashes



Source: MSPTCD and SEMCOG, 2004.

## Age and Gender of Elderly Drivers in Traffic Crashes

In 2004, 19,292 elderly drivers were involved in traffic crashes in Southeast Michigan. Over half of these drivers were in the 65-74 age group. Table 16 shows the distribution of elderly drivers in traffic crashes by age and gender.

Table 16  
Elderly Driver Traffic Crash Involvement by Age Group and Gender, 2004

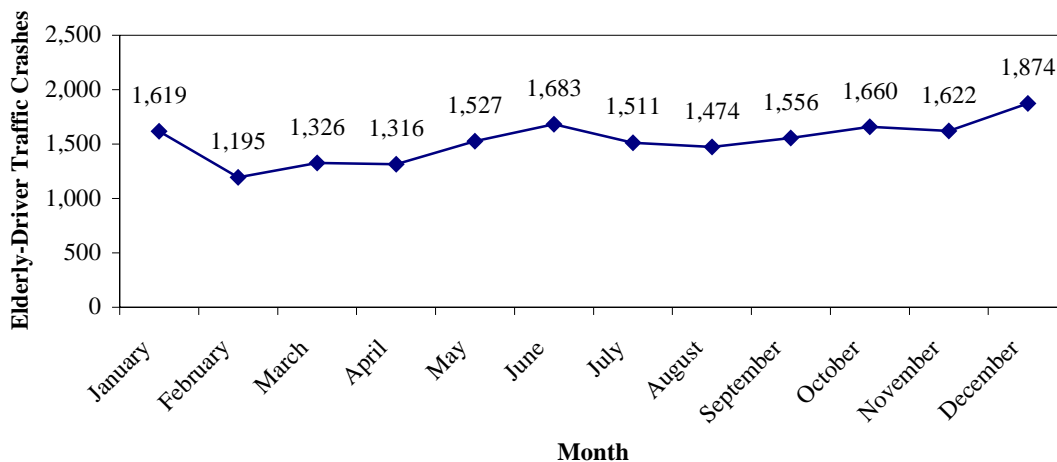
Age Group	Number of Drivers by Gender			Total
	Female	Male	Unknown	
65 to 74	4,501	6,388	33	10,922
75 to 84	3,052	3,868	17	6,937
85 to 94	625	736	2	1,363
95 and above	25	44	1	70
<b>Total</b>	<b>8,203</b>	<b>11,036</b>	<b>53</b>	<b>19,292</b>

Source: MSPTCD and SEMCOG, 2004.

## Elderly Driver Traffic Crashes by Month, Day, and Hour

As shown in Figure 70, elderly driver crashes were most common in December (1,874) and least common in February.

Figure 70  
Elderly Driver Traffic Crashes by Month, 2004

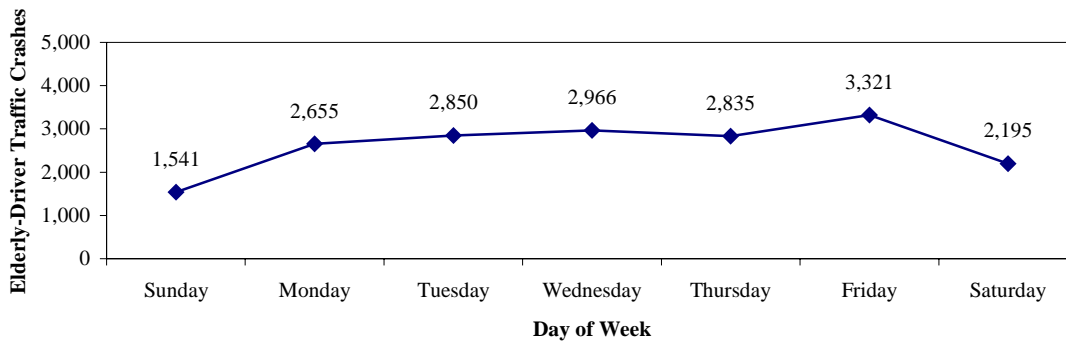


Source: MSPTCD and SEMCOG, 2004.

As with all traffic crashes in 2004, crashes involving elderly drivers occurred more often on Fridays than any other day and least often on Sundays (Figure 71).

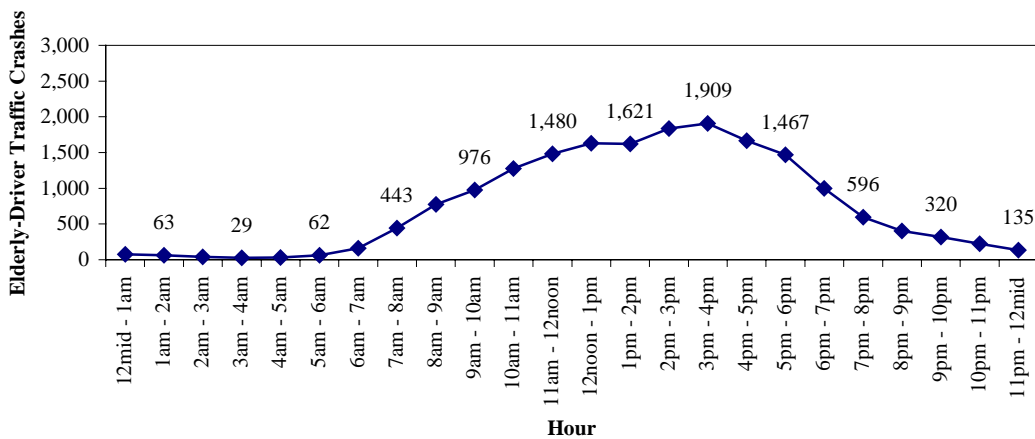
Figure 72 shows the number of elderly driver traffic crashes grouped by the hour during which they occurred. The peak time for elderly driver crashes was between 3 p.m. and 4 p.m., with a noticeable drop after this hour. This is different from the pattern of all traffic crashes (Figure 12), where the afternoon peak lasts for three hours, from 3 p.m. to 6 p.m. Elderly driver crashes also do not appear to have the morning peak between 7 a.m. and 9 a.m. that is shown among all traffic crashes.

Figure 71  
Elderly Driver Traffic Crashes by Day of Week, 2004



Source: MSPTCD and SEMCOG, 2004.

Figure 72  
Elderly Driver Traffic Crashes by Hour of Day, 2004

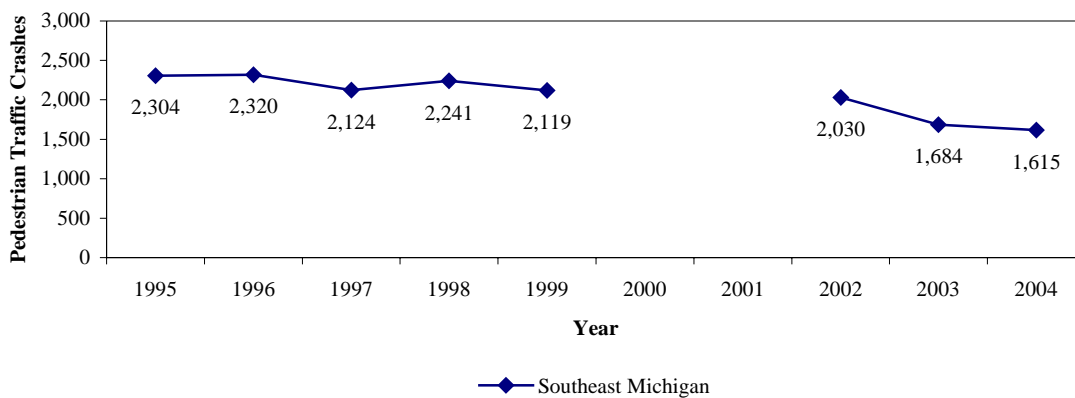


Source: MSPTCD and SEMCOG, 2004

# Pedestrian Traffic Crashes

A pedestrian is typically defined as a person traveling on foot. Crashes in Southeast Michigan involving pedestrians totaled 1,615 in 2004 as shown in Figure 73. This represents a 4.1 percent decrease from 2003.

Figure 73  
Pedestrian Traffic Crashes, 1995-1999 and 2002-2004

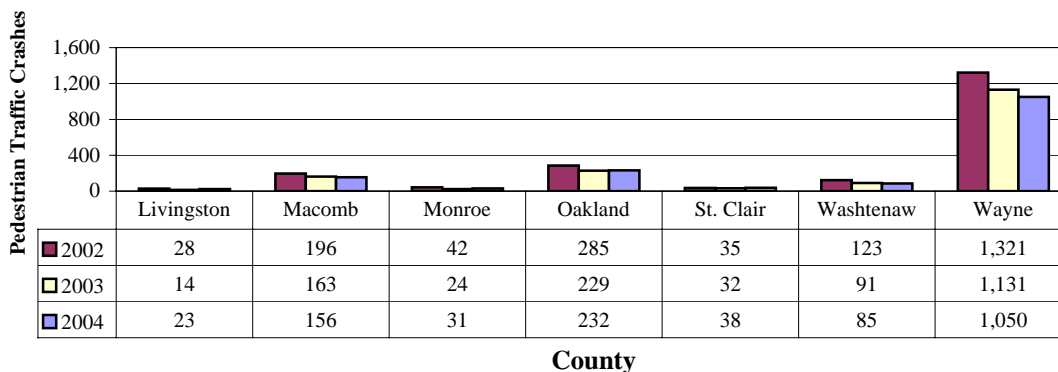


Source: MSPTCD and SEMCOG, 2004. \* Page 1 explains why 2000 and 2001 data are not available.

## Pedestrian Traffic Crashes by County

Figure 74 shows how many pedestrian crashes occurred in each Southeast Michigan county in 2004. Wayne County had the highest number of pedestrian crashes, followed by Oakland and Macomb Counties.

Figure 74  
Pedestrian Traffic Crashes by County, 2002-2004

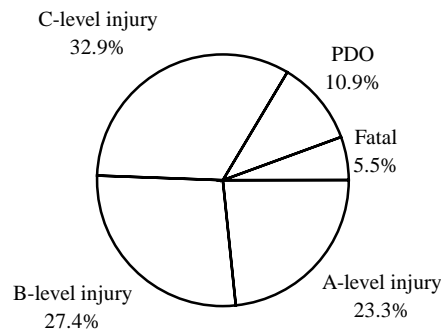


Source: MSPTCD and SEMCOG, 2004.

## Pedestrian Traffic Crashes by Severity

Figure 75 shows that 5.5 percent of the traffic crashes involving pedestrians in 2004 were fatal, compared to only 0.2 percent of all crashes; only 10.9 percent of pedestrian crashes resulted in no injury, compared to 77.6 percent of all crashes (Figure 5). Due to ongoing issues with the data, it is not possible to compare the injury severity of pedestrians with the injury severity of drivers, although it may be reasonable to assume that in most cases pedestrians are injured more severely than drivers.

Figure 75  
Pedestrian Traffic Crash Severity, 2004

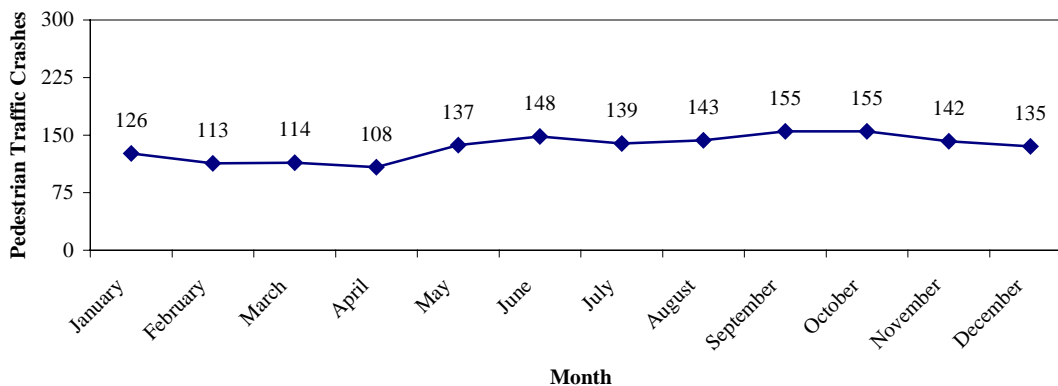


Source: MSPTCD and SEMCOG, 2004.

## Pedestrian Traffic Crashes by Month, Day, and Hour

As shown in Figure 76, traffic crashes involving pedestrians peaked in the months of September and October each totaling 155. April had the fewest pedestrian crashes with 108.

Figure 76  
Pedestrian Traffic Crashes by Month, 2004

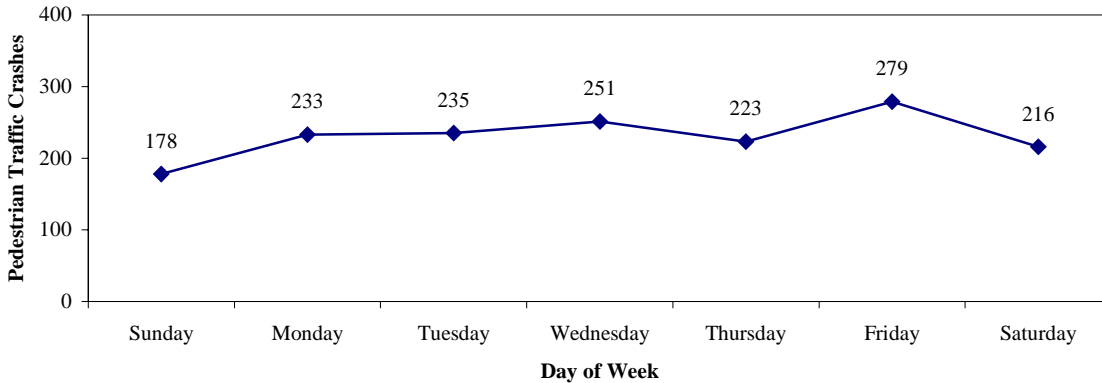


Source: MSPTCD and SEMCOG, 2004.

Pedestrian crashes were slightly less likely to take place on weekends than on weekdays. The lowest pedestrian crash total was 178 on Sundays, and the highest number was 279 on Fridays (Figure 77).

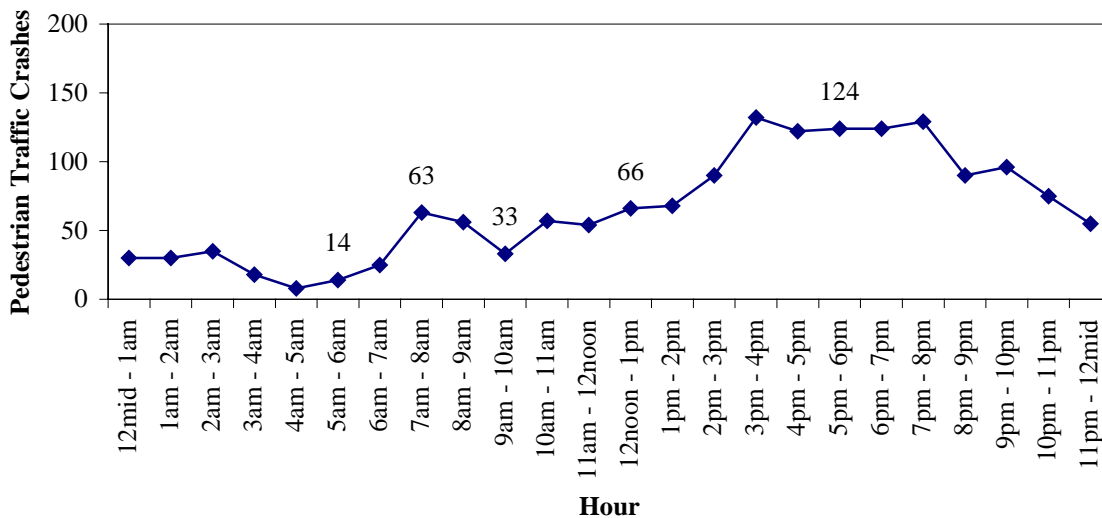
Pedestrian crashes, like all crashes, were more frequent during daylight hours, with most pedestrian crashes taking place in the late afternoon and evening hours (Figure 78).

Figure 77  
Pedestrian Traffic Crashes by Day of Week, 2004



Source: MSPTCD and SEMCOG, 2004.

Figure 78  
Pedestrian Traffic Crashes by Hour of Day, 2004



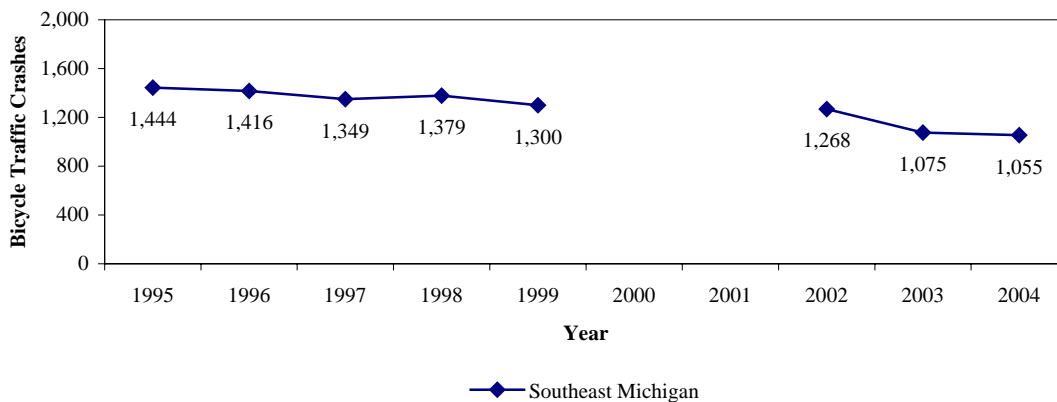
Source: MSPTCD and SEMCOG, 2004. \* 97 pedestrian crashes had no time associated to them.

# Bicycle Traffic Crashes

A bicycle is defined in the 2000 Michigan Traffic Crash Facts Book as a device propelled by human power upon which a person may ride. A bicycle under this definition may have two or three wheels. As shown in Figure 79, traffic crashes in Southeast Michigan involving bicycles decreased 1.9 percent between 2003 and 2004.

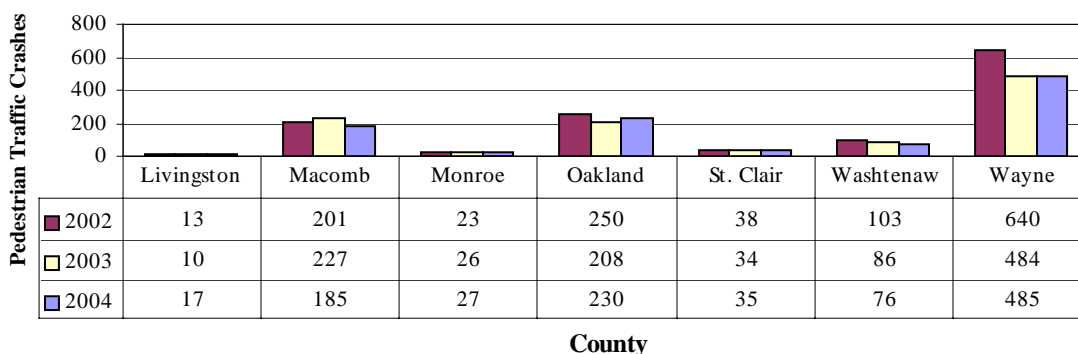
As with pedestrian crashes, Wayne County led the region in bicycle crashes, followed by Oakland County and Macomb County. Macomb and Washtenaw Counties were the only counties to experience decreases in traffic crashes involving bicycles between 2002-2004 (Figure 80). Macomb was the only county to decrease between 2003 and 2004; Washtenaw is the only county to decrease over all three years.

Figure 79  
Bicycle Traffic Crashes, 1995-1999 and 2002-2004



Source: MSPTCD and SEMCOG, 2004. \*Michigan data was not available and Page 1 explains the missing data for 2000 and 2001.

Figure 80  
Bicycle Traffic Crashes by County, 2002-2004

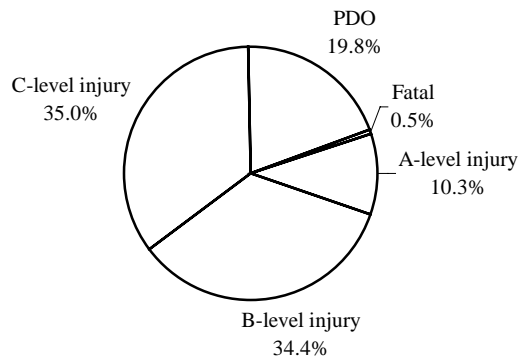


Source: MSPTCD and SEMCOG, 2004.

## Bicycle Traffic Crashes by Severity

Figure 81 shows that traffic crashes involving bicycles are more severe than overall crashes (Figure 5), but less severe than crashes involving pedestrians (Figure 75). Nearly 20 percent of crashes involving bicycles resulted in no injuries, compared to 77.6 percent of all crashes and 10.9 percent of pedestrian crashes.

Figure 81  
Bicycle Traffic Crash Severity, 2004

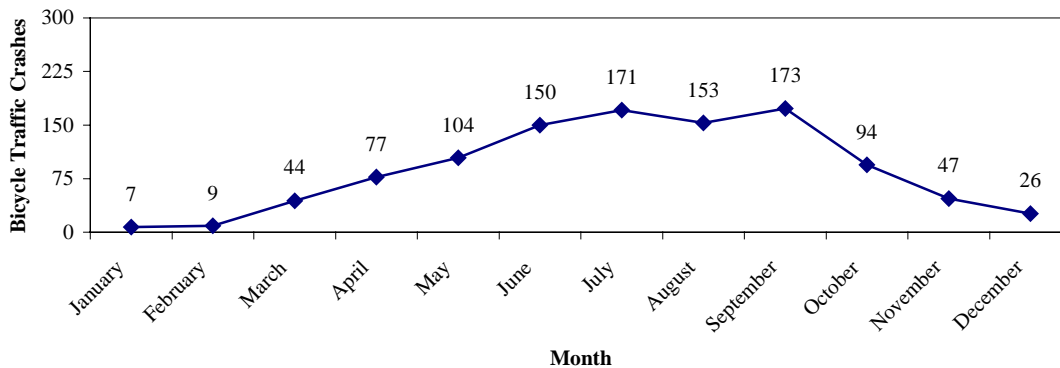


Source: MSPTCD and SEMCOG, 2004.

## Bicycle Traffic Crashes by Month, Day, and Hour

Bicycle crashes were more common in warmer months, unlike pedestrian crashes. This is probably due to the difficulties of bicycling in snowy or icy conditions. Bicycle crashes peaked in the month of September at 173 crashes and hit a low point in January with 7 crashes (Figure 82).

Figure 82  
Bicycle Traffic Crashes by Month, 2004

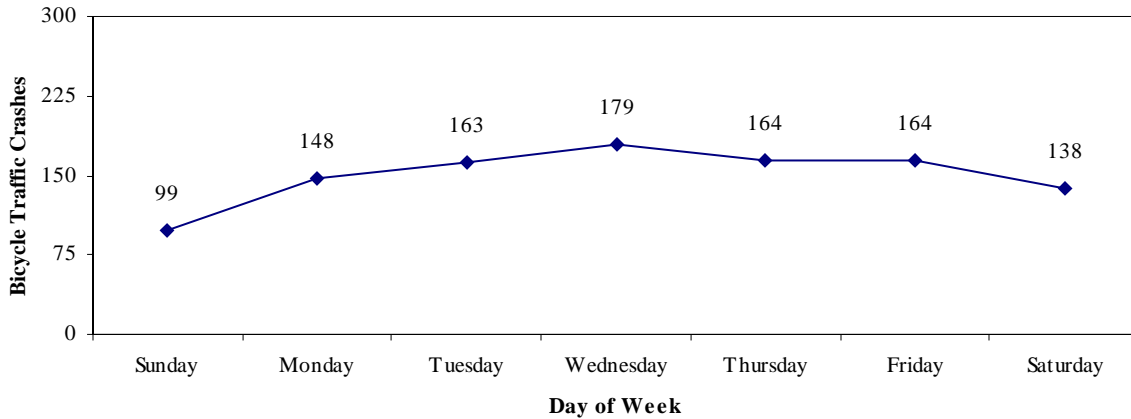


Source: MSPTCD and SEMCOG, 2004.

As with pedestrian crashes and all crashes, bicycle crashes were more common on weekdays (Figure 83). Wednesdays had the most bicycle crashes (179) and Sundays had the fewest (99).

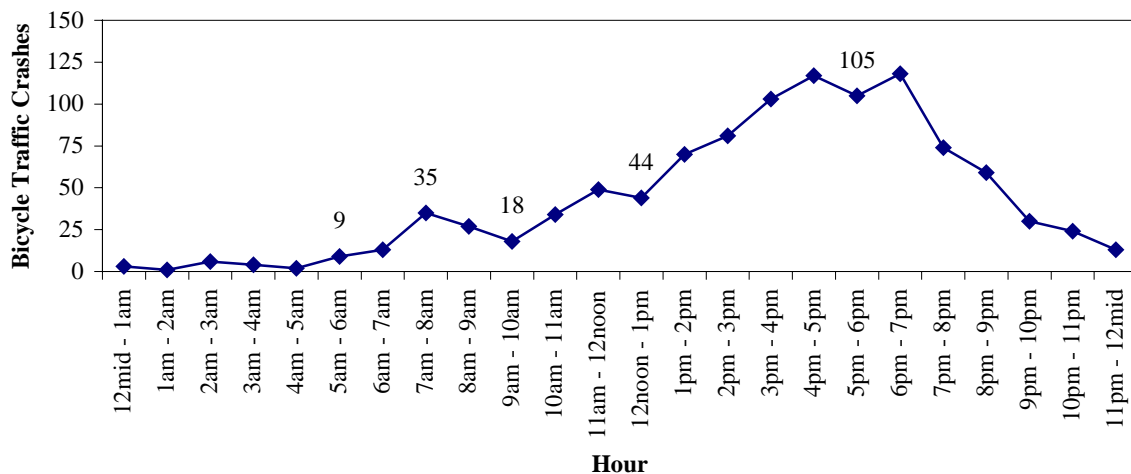
Bicycle crashes follow a time-of-day pattern that is similar to pedestrian crashes, with most crashes occurring in the late afternoon and early evening hours (Figure 84).

Figure 83  
Bicycle Traffic Crashes by Day of Week, 2004



Source: MSPTCD and SEMCOG, 2004.

Figure 84  
Bicycle Traffic Crashes by Hour of Day, 2004



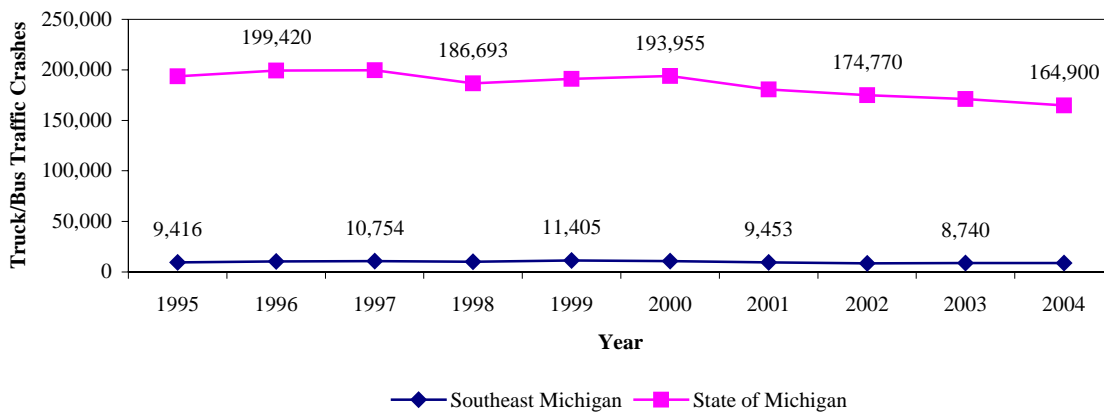
Source: MSPTCD and SEMCOG, 2004. \* 67 pedestrian crashes had no time assigned to them.

# Truck/Bus Traffic Crashes

Truck/bus traffic crashes are crashes that involve a commercial truck or bus. Truck/bus crashes increased slightly in 2004 in Southeast Michigan (0.4 percent) (Figure 85).

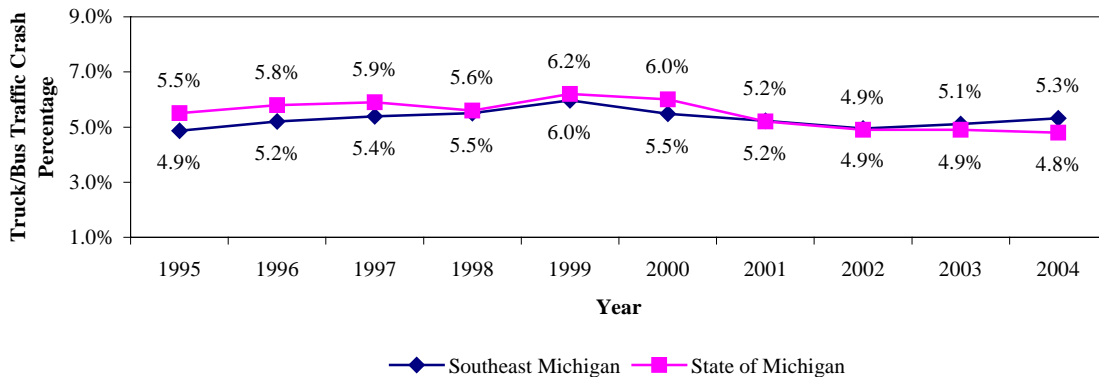
As Figure 86 shows, Southeast Michigan continues to have a higher percentage of truck/bus crashes than the State of Michigan. Nearly one out of every 20 traffic crashes (5.3 percent) in Southeast Michigan in 2004 involved a commercial truck or bus.

Figure 85  
Truck/Bus Traffic Crashes, 1995-2004



Source: MSPTCD and SEMCOG, 2004.

Figure 86  
Truck/Bus Traffic Crash Percentage, 1995-2004



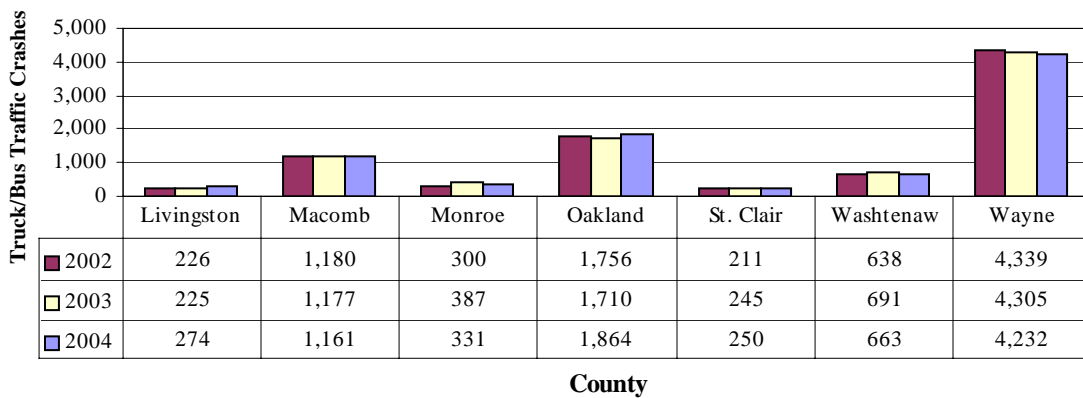
Source: MSPTCD and SEMCOG, 2004.

## Truck/Bus Traffic Crashes by County

Figure 87 shows the number of truck/bus traffic crashes that took place in each Southeast Michigan county in 2002-2004. All counties experienced a drop in truck/bus crashes in 2004 except Livingston County, Oakland County, and St. Clair County, which saw increases.

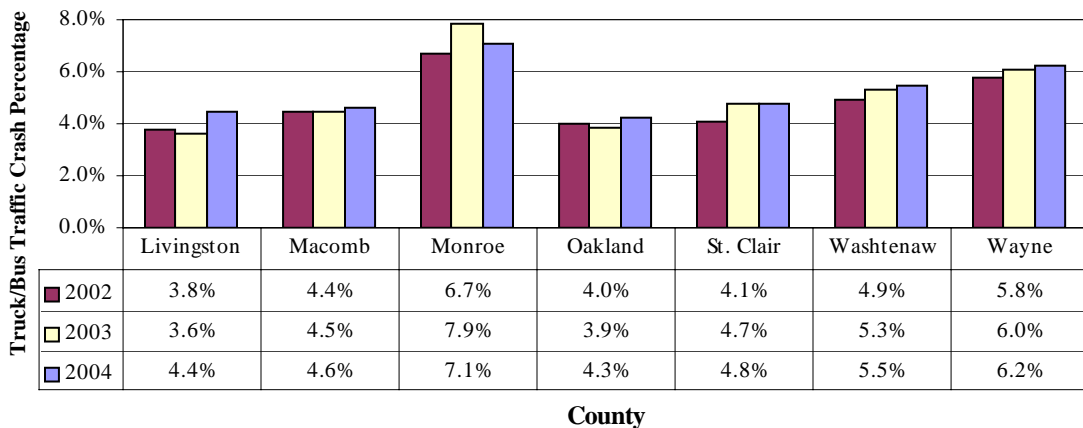
Monroe County continued to lead the region in truck/bus traffic crash percentage at just over seven percent. The counties with the lowest truck/bus crash percentages were Livingston and Oakland at just over four percent each (Figure 88).

Figure 87  
Truck/Bus Traffic Crashes by County, 2002-2004



Source: MSPTCD and SEMCOG, 2004.

Figure 88  
Truck/Bus Traffic Crash Percentage by County, 2002-2004

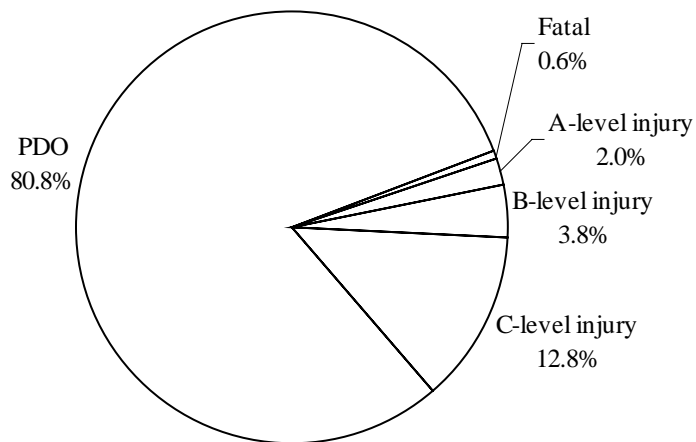


Source: MSPTCD and SEMCOG, 2004.

## Truck/Bus Traffic Crashes by Severity

As shown in Figure 89, over 80 percent of truck/bus crashes resulted in property damage only, compared to 77.6 percent of all traffic crashes. Fifty-one truck/bus crashes were fatal, which is 0.6 percent of all truck/bus crashes. Table 17 shows the number of truck/bus crashes compared to all crashes for each severity level.

Figure 89  
Truck/Bus Traffic Crash by Severity, 2004



Source: MSPTCD and SEMCOG, 2004.

Table 17  
Truck/Bus Traffic Crash by Severity, 2004

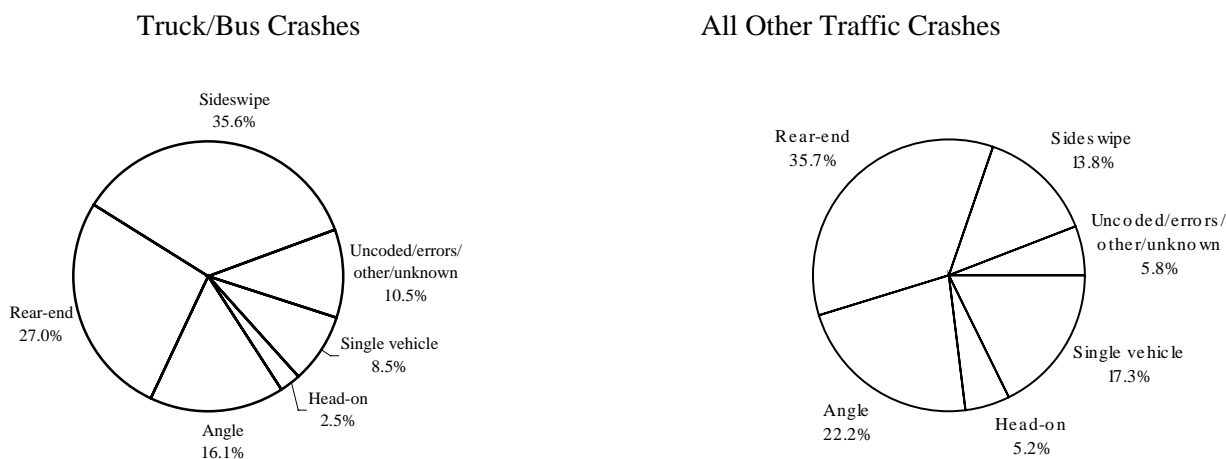
Crash Severity	Truck/Bus Traffic Crashes	All Traffic Crashes	Truck/Bus Percentage
Fatal	51	396	12.9%
A-level Injury	172	3,047	5.6%
B-level Injury	337	7,692	4.4%
C-level Injury	1,123	25,744	4.4%
PDO	7,092	128,021	5.5%
<b>Total</b>	<b>8,775</b>	<b>164,900</b>	<b>5.3%</b>

Source: MSPTCD and SEMCOG, 2004.

## Truck/Bus Traffic Crashes by Crash Type

Figure 90 shows how truck/bus crashes and all other crashes were distributed among crash types. Crashes involving commercial trucks and buses were more often sideswipes and less often angle crashes, single-vehicle crashes, or head-on crashes compared to all other crashes. Table 18 shows that just over 12 percent of all sideswipe crashes involved a commercial truck or bus.

Figure 90  
Truck/Bus Traffic Crashes by Crash Type, 2004



Source: MSPTCD and SEMCOG, 2004.

Table 18  
Traffic Crash Type by Truck/Bus Percentage, 2004

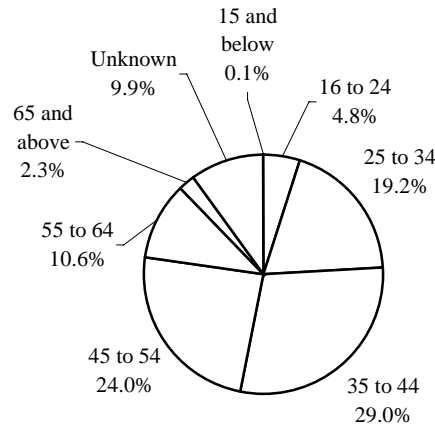
Crash Type	Truck/Bus Traffic Crashes	All Traffic Crashes	Truck/Bus Percentage
Uncoded/errors/other/unknown	919	9,970	9.2%
Single vehicle	742	27,785	2.7%
Head-on	215	8,294	2.6%
Angle	1,410	36,097	3.9%
Rear-end	2,366	58,029	4.1%
Sideswipe	3,123	24,725	12.6%
<b>Total</b>	<b>8,775</b>	<b>164,900</b>	<b>5.3%</b>

Source: MSPTCD and SEMCOG, 2004.

## Age and Gender of Truck/Bus Drivers in Traffic Crashes

Of the truck or bus drivers whose ages were recorded, 29.0 percent were in the 35-44 age group (Figure 91). Table 19 shows the age and gender of truck or bus drivers in crashes in 2004. Most of those drivers were male.

Figure 91  
Truck/Bus Drivers in Traffic Crashes by Age Group, 2004



Source: MSPTCD and SEMCOG, 2004.

Table 19  
Truck/Bus Drivers in Traffic Crashes by Age Group and Gender, 2004

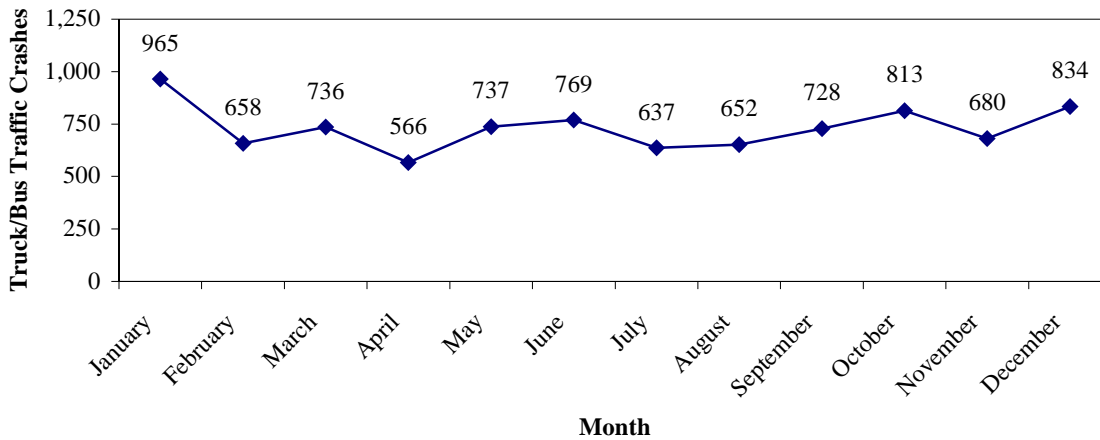
Age group	Number of Driver by Gender			Total
	Female	Male	Unknown	
15 and below	2	6	0	8
16 to 24	21	419	1	441
25 to 34	141	1,608	9	1,758
35 to 44	317	2,316	19	2,652
45 to 54	293	1,888	18	2,199
55 to 64	98	870	5	973
65 to 74	20	162	4	186
75 to 84	0	20	0	20
85 to 94	0	1	0	1
95 and above	0	0	0	0
Unknown	30	260	620	910
<b>Total</b>	<b>922</b>	<b>7,550</b>	<b>676</b>	<b>9,148</b>

Source: MSPTCD and SEMCOG, 2004.

## Truck/Bus Traffic Crashes by Month, Day, and Hour

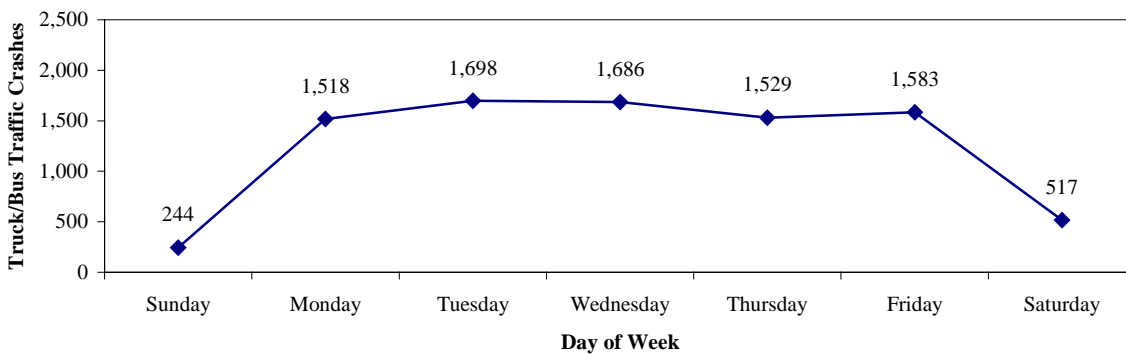
Traffic crashes involving trucks and buses were more frequent during January and December than any other month (Figure 92). Truck/bus crashes were least frequent in April. As Figure 93 shows, truck/bus crashes were much more common on weekdays, with over 91 percent of truck/bus crashes taking place during the Monday-Friday period.

Figure 92  
Truck/Bus Traffic Crashes by Month, 2004



Source: MSPTCD and SEMCOG, 2004.

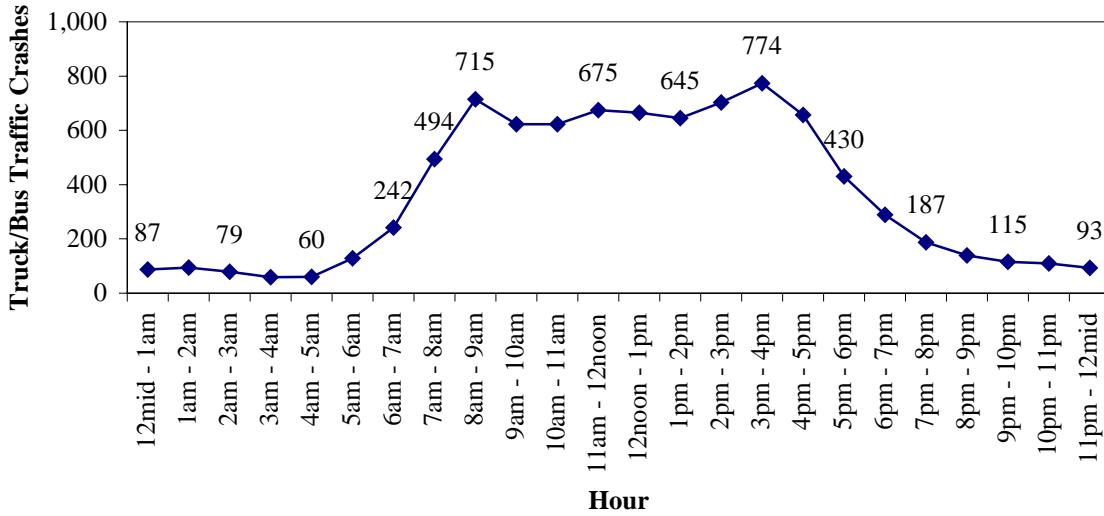
Figure 93  
Truck/Bus Traffic Crashes by Day of Week, 2004



Source: MSPTCD and SEMCOG, 2004.

When grouped by hour of day as in Figure 94, truck/bus crashes were more common during daylight hours. Unlike all traffic crashes (Figure 12), truck/bus crashes were almost as common in the morning as in the evening, with a sharper evening peak.

Figure 94  
Truck/Bus Traffic Crashes by Hour of Day, 2004

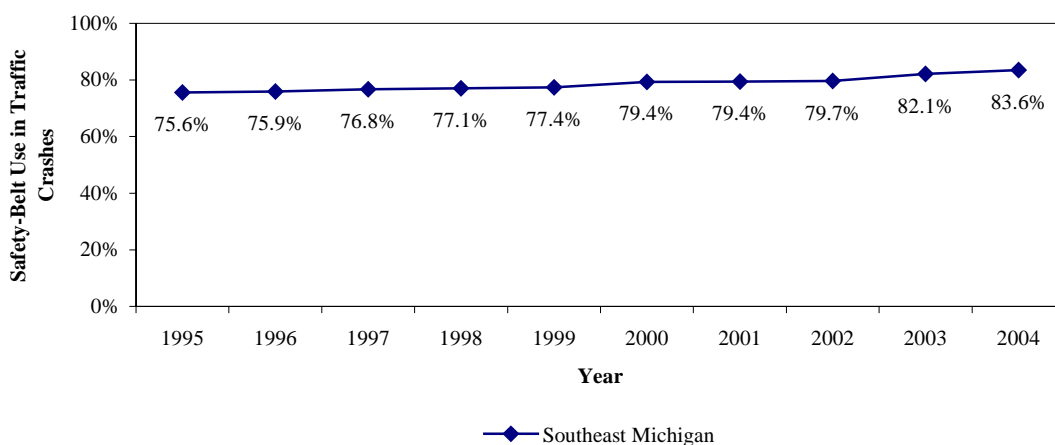


Source: MSPTCD and SEMCOG, 2004.

# Safety-Belt Use

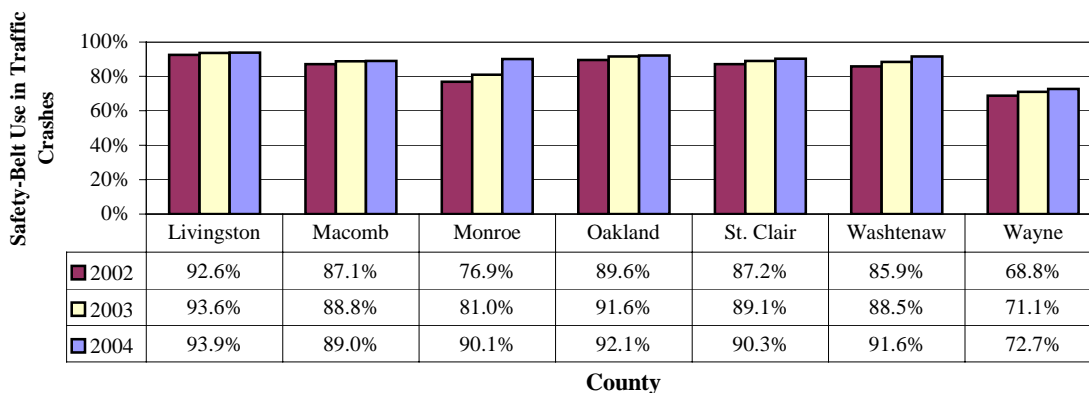
Use of safety belts by drivers in traffic crashes increased slightly in 2004 in Southeast Michigan (Figure 95). Nearly 84 percent of drivers in crashes reported that they were wearing their safety belts at the time of the crash. Figure 96 shows safety-belt use in each county. Macomb and Wayne were the only counties with safety-belt use below 90 percent. Wayne County continued to have the lowest rate of belt use at 72.7 percent. All counties showed increases in safety belt use over 2003.

Figure 95  
Driver Safety-Belt Use, 1995-2004



Source: MSPTCD and SEMCOG, 2004.

Figure 96  
Driver Safety-Belt Use by County, 2002-2004

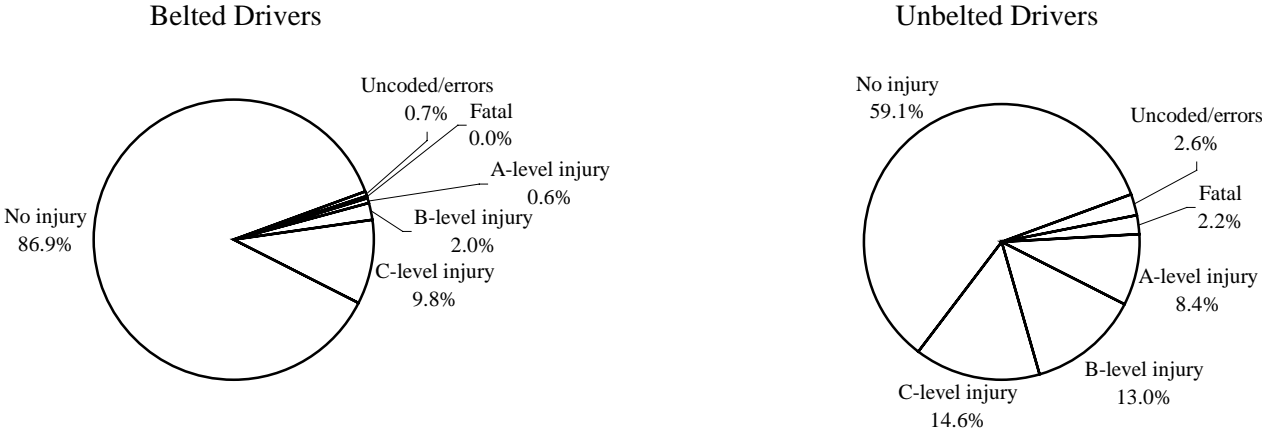


Source: MSPTCD and SEMCOG, 2004.

# Injury Severity of Belted vs. Unbelted Drivers

As shown in Figure 97, nearly 87 percent of belted drivers escaped injury altogether, but only 59 percent of unbelted drivers were not injured at all. These figures should not be confused with crash severity, which is determined by the most severe injury outcome in a crash.

Figure 97  
 Injury Severity of Belted Drivers Compared to Unbelted Drivers, 2004

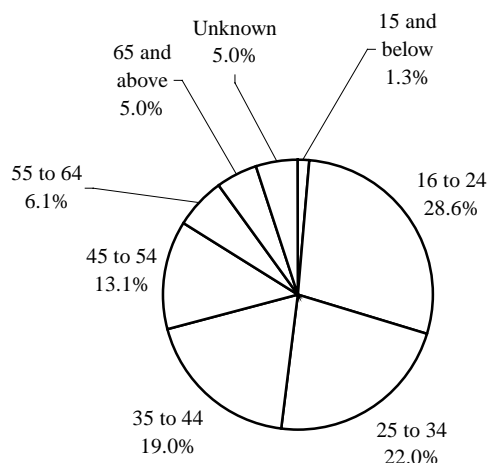


Source: MSPTCD and SEMCOG, 2004.

## Unbelted Drivers by Age, Gender, and Alcohol Use

Figure 98 shows how unbelted drivers in 2004 were distributed among the age groups. Over 50 percent of drivers who were not wearing their safety belts during a crash were between the ages of 16 and 34. Table 20 shows that more than twice as many males as females were not wearing their safety belts at the time of a crash.

Figure 98  
Unbelted Drivers by Age Group, 2004



Source: MSPTCD and SEMCOG, 2004.

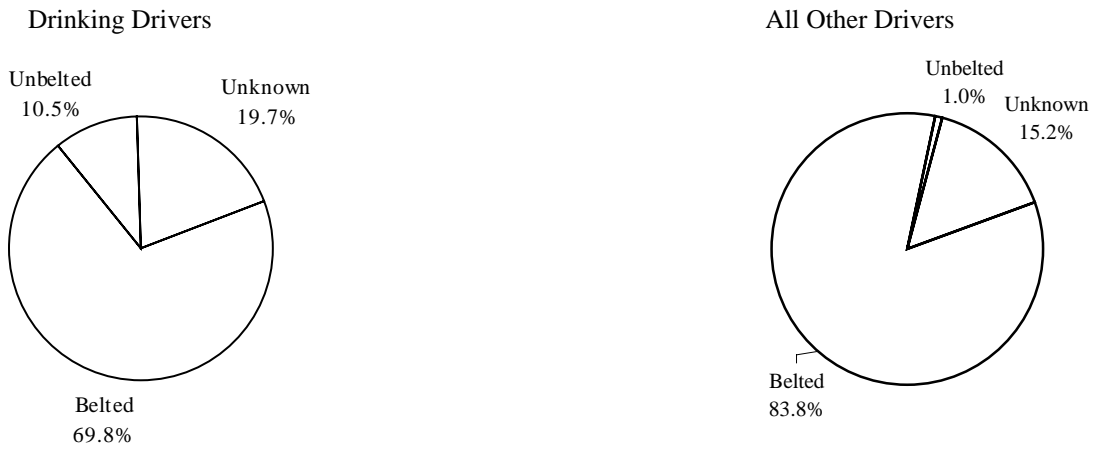
Table 20  
Unbelted Drivers by Age Group and Gender, 2004

Age Group	Number of Drivers by Gender			Total
	Female	Male	Unknown	
15 and below	11	33	0	44
16 to 24	275	702	7	984
25 to 34	220	536	1	757
35 to 44	207	446	2	655
45 to 54	127	320	3	450
55 to 64	68	142	0	210
65 to 74	24	58	1	83
75 to 84	22	48	0	70
85 to 94	7	12	0	19
95 and above	1	0	0	1
Unknown	34	87	50	171
<b>Total</b>	<b>996</b>	<b>2,384</b>	<b>64</b>	<b>3,444</b>

Source: MSPTCD and SEMCOG, 2004.

Drivers who had been consuming alcohol were more than 10 times as likely as non-drinking drivers to not wear their safety belts. As Figure 99 shows, over 10 percent of drinking drivers were unbelted at the time of a crash, compared to only one percent of all other drivers.

Figure 99  
Safety-Belt Use Among HBD Drivers, 2004



Source: MSPTCD and SEMCOG, 2004.

# Holiday Traffic Crashes

Holiday periods as defined by the National Safety Council vary according to the day of the week on which the holiday falls. Time periods for holidays that always fall on the same day of the week (such as Memorial Day and Thanksgiving) will always be the same length, and time periods for holidays determined by date (such as Fourth of July and Christmas) will vary from year to year. Time periods for holidays are defined in Table 21.

Table 21  
Holiday Time Periods

Holiday Day of Week	Holiday Period Begins	Holiday Period Ends	Number of Days
Sunday	6:00 p.m. Friday	11:59 p.m. Monday	$3\frac{1}{4}$
Monday	6:00 p.m. Friday	11:59 p.m. Monday	$3\frac{1}{4}$
Tuesday	6:00 p.m. Friday	11:59 p.m. Tuesday	$4\frac{1}{4}$
Wednesday	6:00 p.m. Tuesday	11:59 p.m. Wednesday	$1\frac{1}{4}$
Thursday	6:00 p.m. Wednesday	11:59 p.m. Sunday	$4\frac{1}{4}$
Friday	6:00 p.m. Thursday	11:59 p.m. Sunday	$3\frac{1}{4}$
Saturday	6:00 p.m. Thursday	11:59 p.m. Sunday	$3\frac{1}{4}$

Source: 2000 Michigan Traffic Crash Facts Book.

Table 22 shows the number of fatal crashes and fatalities that took place in Southeast Michigan during selected holidays in 2001-2004. The number of days in each holiday period is listed in brackets after the year. The number of alcohol-related fatal crashes and fatalities is listed in parentheses.

Table 22  
Fatal Holiday Traffic Crashes, 2001-2004

<b>Holiday Period [number of whole days]</b>	<b>Fatal Crashes (alcohol-involved fatal crashes)</b>	<b>Persons Killed (persons killed in alcohol- involved crashes)</b>
Memorial Day		
2004 [3]	3 (3)	3 (3)
2003 [3]	4 (1)	4 (1)
2002 [3]	5 (3)	5 (3)
Fourth of July		
2004 [3]	6 (2)	6 (2)
2003 [3]	7 (1)	7 (1)
2002 [4]	8 (3)	9 (4)
Labor Day		
2004 [3]	5 (1)	7 (2)
2003 [3]	4 (0)	5 (0)
2002 [3]	3 (2)	3 (2)
Thanksgiving		
2004 [4]	3 (1)	3 (1)
2003 [4]	10 (3)	10 (3)
2002 [4]	5 (2)	5 (2)
Christmas		
2004 [3]	4 (1)	4 (1)
2003 [4]	2 (2)	2 (2)
2002 [1]	0 (0)	0 (0)
New Year Holiday		
2004/05 [3]	0* (0)*	0* (0)*
2003/04 [4]	3 (3)	3 (3)
2002/03 [1]	3 (0)	3 (0)
2001/02 [4]	3 (2)	4 (2)

Source: MSPTCD and SEMCOG, 2004.

\*Data are incomplete for 2004/2005 New Year Holiday. This count does not include crashes that took place in 2005.



## Appendix A-Vehicle Miles Traveled (VMT)

Data about VMT in each county in 2004 come from the Michigan Department of Transportation (MDOT). These estimates (Table 23) come from information about traffic volumes provided by local agencies through the Highway Performance Monitoring System (HPMS).

Table 23  
Estimated Million VMT by County, 2004

<b>County</b>	<b>VMT (in millions)</b>
Livingston	1,954
Macomb	6,528
Monroe	2,143
Oakland	13,114
St. Clair	1,625
Washtenaw	3,742
Wayne	18,575
<b>Total</b>	<b>47,681</b>

Source: MDOT, 2004.

The results of a 1994 SEMCOG survey were used to estimate VMT for each age group in 2004. As part of this survey, 18,344 randomly selected participants kept diaries detailing their driving habits. The percentages of miles driven by each age group in the 1994 survey were used to partition the 2004 VMT for Southeast Michigan among the age groups. Table 24 shows the percent of all VMT driven by each age group in the 1994 survey.

Table 24  
Percent VMT Driven by Age Group, 1994

<b>Age Group</b>	<b>Percent VMT</b>
15 and below	0.378%
16 to 24	9.883%
25 to 34	17.706%
35 to 44	28.200%
45 to 54	20.597%
55 to 64	11.587%
65 to 74	9.048%
75 to 84	2.424%
85 to 94	0.175%
95 and above	0.002%
<b>Total</b>	<b>100%</b>

Source: SEMCOG, 1994.

The percentages for each age group were then multiplied by the total VMT driven in Southeast Michigan in 2004 to obtain an estimate for the number of miles driven by each age group in 2004. The results are shown in Table 25.

Table 25  
Estimated Million VMT by Age Group, 2004

<b>Age Group</b>	<b>Estimated 2004 VMT (in millions)</b>
15 and below	180
16 to 24	4,712
25 to 34	8,442
35 to 44	13,446
45 to 54	9,821
55 to 64	5,525
65 to 74	4,314
75 to 84	1,156
85 to 94	83
95 and above	1
<b>Total</b>	<b>47,681</b>

Source: MDOT and SEMCOG, 2004.

## Appendix B-Registered Driver Data

Data on the numbers of registered drivers were obtained from the Michigan Department of State (MDOS). The numbers of registered drivers used in this report are the numbers that were registered as of January 2005, as shown in Table 26.

As of October 2004, there were 3,437,627 drivers registered in Southeast Michigan counties, a 0.4 percent increase over October 2003. Wayne County remained the only county with more than one million registered drivers. Monroe County had the fewest registered drivers in the region at over 117,000. St. Clair County had the largest increase in registered drivers with a 3.5 percent gain over October 2003.

The 35-44 age group continued to have more registered drivers than any other age group, though nearly 12,000 fewer than October 2003. This was the largest age group in all counties except Washtenaw, in which drivers age 25-34 made up the largest age group and Monroe in which drivers age 45 to 54 made up the largest age group.

Table 27 shows the number of male and female drivers in each age group. There are slightly more female registered drivers (1.8 percent) than male registered drivers in Southeast Michigan.

Table 26

Southeast Michigan Registered Drivers by Age Group and County, October 2004

Age	County							Total
	Livingston	Macomb	Monroe	Oakland	St. Clair	Washtenaw	Wayne	
15and below	1,499	5,426	1,031	8,776	1,150	1,816	6,822	26,520
16 to 24	19,928	88,574	17,910	130,388	18,343	40,453	168,594	484,190
25 to 34	19,441	113,514	18,741	165,943	18,943	53,477	233,242	623,301
35 to 44	30,981	128,932	23,638	199,032	25,703	50,411	249,786	708,483
45 to 54	29,483	121,015	24,246	194,126	24,970	46,542	241,753	682,135
55 to 64	19,055	82,982	16,229	128,965	17,678	30,596	162,339	457,844
65 to 74	8,855	49,712	8,881	63,927	10,141	13,882	92,011	247,409
75 to 84	4,693	34,267	5,445	43,928	6,397	8,530	66,661	169,921
85 to 94	893	7,379	1,116	9,950	1,488	1,983	14,084	36,893
95and above	28	162	26	276	31	53	355	931
<b>Total</b>	<b>134,856</b>	<b>631,963</b>	<b>117,263</b>	<b>945,311</b>	<b>124,844</b>	<b>247,743</b>	<b>1,235,647</b>	<b>3,437,627</b>

Source: MDOS, 2004.

Table 27

Southeast Michigan Registered Drivers by Age Group and Gender, October 2004

Age Group	Gender		
	Female	Male	Total
15 and below	13,167	13,353	26,520
16 to 24	235,029	249,161	484,190
25 to 34	307,740	315,561	623,301
35 to 44	354,670	353,813	708,483
45 to 54	347,163	334,972	682,135
55 to 64	232,945	224,899	457,844
65 to 74	130,673	116,736	247,409
75 to 84	92,443	77,478	169,921
85 to 94	20,511	16,382	36,893
95 and above	470	461	931
<b>Total</b>	<b>1,734,811</b>	<b>1,702,816</b>	<b>3,437,627</b>

Source: MDOS, 2004.