

# Southeast Michigan Traffic Crash Facts 2006

October 2007

## ***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.

### Policy decision making

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 2006. 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.

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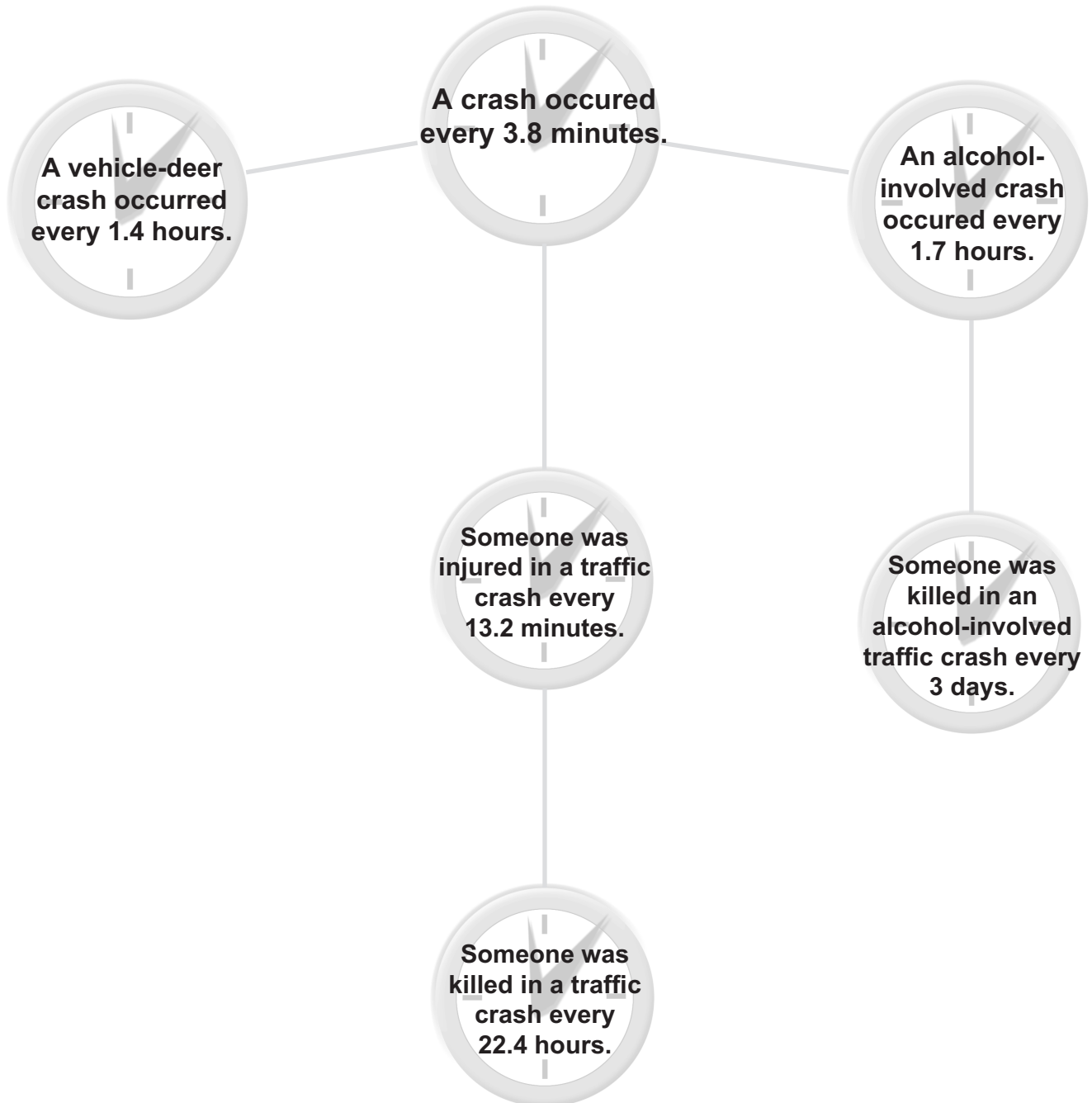
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## 2006 Quick Crash Facts

- Vehicle miles traveled (VMT) in Southeast Michigan increased from 48,761 million miles in 2005 to 49,746 million in 2006. During 2006, 138,165 traffic crashes were reported in Southeast Michigan. These crashes resulted in 39,840 injuries and 391 fatalities. Compared with 2005, traffic crashes decreased 10.1 percent, injuries decreased 8.8 percent, and the number of fatalities remained the same.
- There were 0.73 fatal traffic crashes for every 100 million miles traveled on Southeast Michigan roads in 2006. This is a decrease from the 2005 rate of 0.74 fatal crashes for every 100 million miles of travel.
- Of drivers involved in fatal crashes, 20.8 percent were between the ages of 25 and 34.
- Drivers in the 95 and above age group had the lowest rate of fatal traffic crashes among all with zero fatal crashes per 100 million miles traveled. The 85-94 age group had the highest rate of all licensed drivers (10.3).
- Crashes involving alcohol decreased, from 5,442 in 2005 to 5,079 in 2006. In Southeast Michigan, 3.7 percent of all traffic crashes involved alcohol, but nearly 31 percent of fatal traffic crashes involved alcohol consumption.
- There were 6,358 vehicle-deer crashes in Southeast Michigan in 2006, up from 6,097 in 2005. Nearly 97 percent of collisions with deer resulted only in property damage. Although vehicle-deer crashes occurred in every month in 2006, 37 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 2006. Crashes among young drivers peaked at age 18 for all young drivers.
- Elderly drivers (ages 65 and older) were involved in 12 percent of all traffic crashes in 2006. Elderly drivers were more likely to be involved in angle, head-on, and sideswipe crashes, but less likely to have single-vehicle or rear-end crashes as compared to all other age group crashes.
- Traffic crashes involving pedestrians or bicycles decreased in 2006 compared to 2005 numbers. Only 11.9 percent of crashes involving pedestrians resulted in no injury and only 17.1 percent of all bicycle crashes resulted in no injury.
- Crashes involving commercial trucks or buses in Southeast Michigan decreased 19.8 percent in 2006.
- Safety-belt use among drivers in traffic crashes slightly decreased (0.1 percent) in Southeast Michigan in 2006, where 84.2 percent of drivers in crashes reported wearing their safety belts at the time of the crash. Over 87 percent of belted drivers escaped injury during their crash, compared to only 59.5 percent of unbelted drivers.

# 2006 Crash Clock



# Introduction

This report contains statistical information about all traffic crashes in Southeast Michigan reported in 2005. 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.

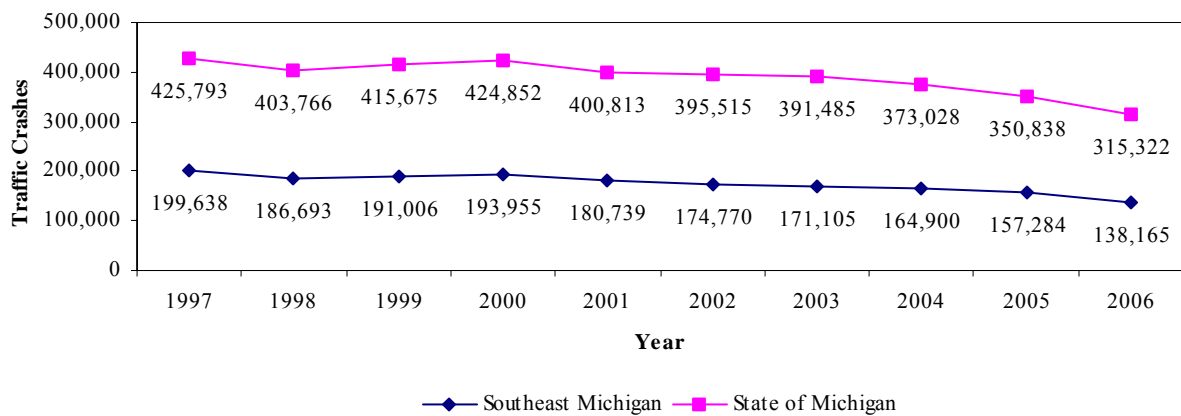
VMT – Vehicle miles traveled. In traffic crash analysis, VMT is typically measured in hundreds of millions of miles. For example, 44,000,000,000 vehicle miles traveled may be represented as 440 hundred million VMT or as 44,000 million VMT.

# All Traffic Crashes

In 2006, 138,165 traffic crashes were reported in Southeast Michigan. This is a decrease of 12.2 percent from 2005. The State of Michigan saw a 10.1 percent decrease between 2005 and 2006 (Figure 1).

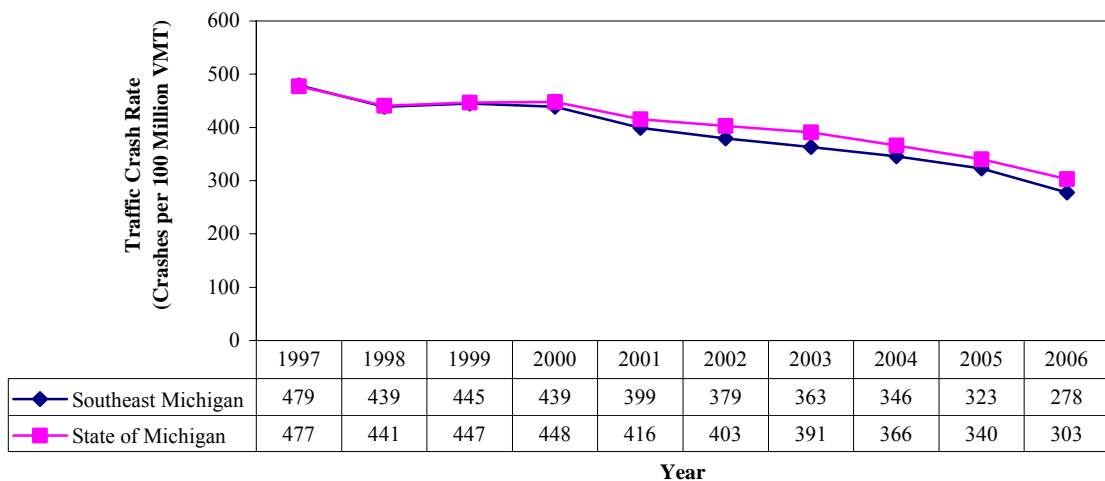
The traffic crash rate, defined as the number of traffic crashes per 100 million vehicle miles traveled (VMT), provides an alternative method of examining traffic crash trends. Figure 2 shows traffic crash rates in Southeast Michigan and the State of Michigan for 1997-2006.

Figure 1  
Traffic Crashes, 1997-2006



Source: Michigan State Police Traffic Crash Database (MSPTCD) and SEMCOG, 2006.

Figure 2  
Traffic Crash Rate, 1997-2006



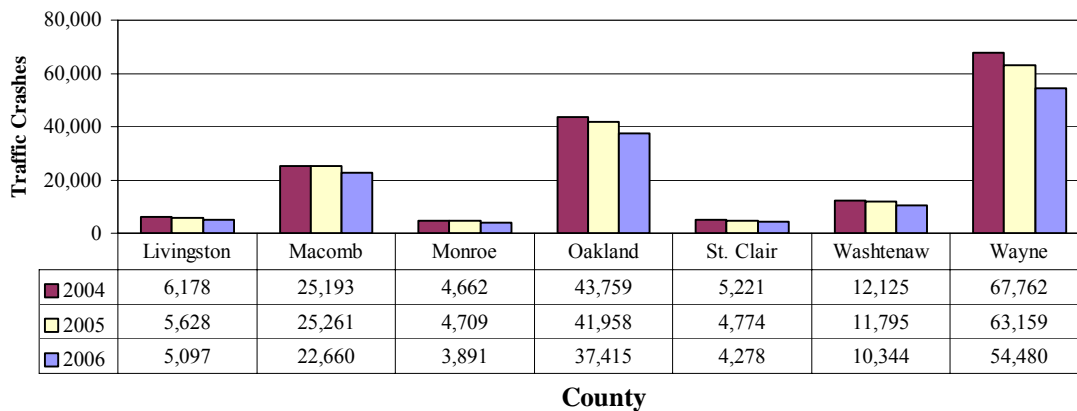
Source: MSPTCD and SEMCOG, 2006.

## Traffic Crashes by County

Figure 3 shows the number of traffic crashes in each Southeast Michigan county for 2004, 2005, and 2006. Monroe experienced the largest decrease 17.4 percent decrease in traffic crashes. All counties saw a decrease in crashes.

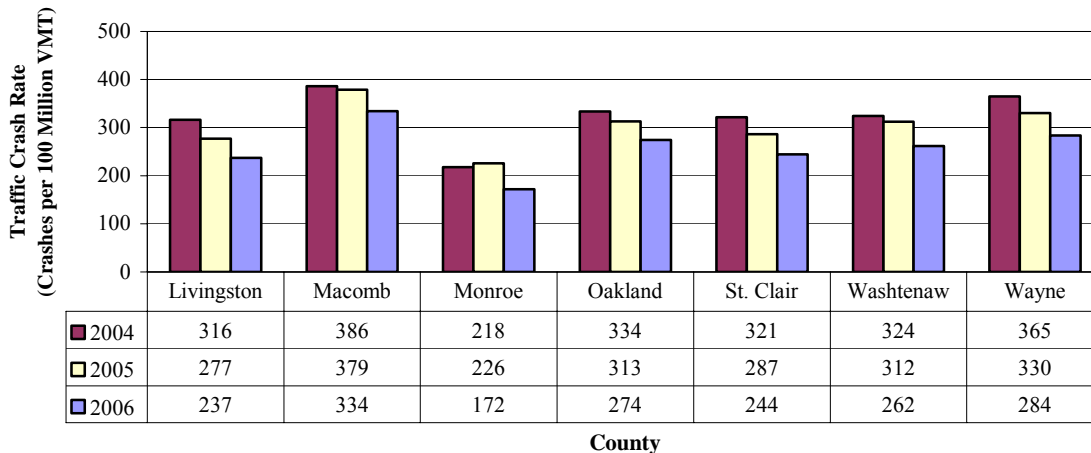
As shown in Figure 4, the traffic crash rate decreased in 2006 in all counties. Monroe County continued to enjoy the lowest traffic crash rate in the region, while Macomb County's crash rate was the highest in the region in 2006.

Figure 3  
Traffic Crashes by County, 2004-2006



Source: MSPTCD and SEMCOG, 2006.

Figure 4  
Traffic Crash Rate by County, 2004-2006

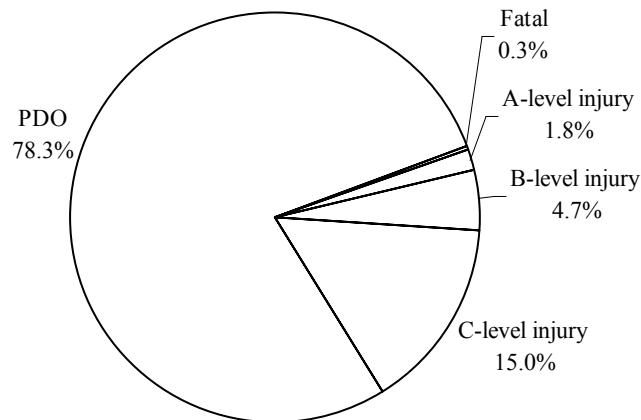


Source: MSPTCD and SEMCOG, 2006.

## Traffic Crashes by Severity

Of the 138,165 traffic crashes in Southeast Michigan in 2006, nearly 22 percent resulted in some degree of injury. A total of 362 fatal crashes resulted in the deaths of 391 people, which is the exact same number from 2005. Figure 5 shows how traffic crashes in 2006 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, 2006



Source: MSPTCD and SEMCOG, 2006.

Table 1  
Traffic Crash Severity, 2006

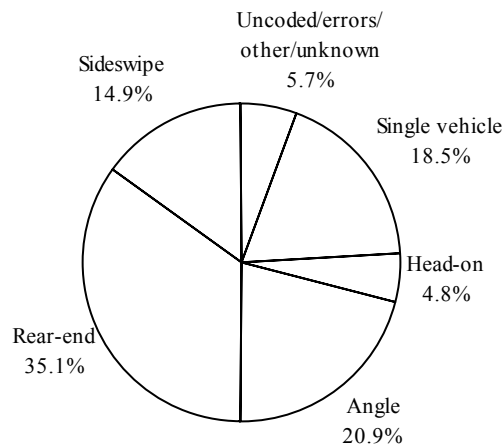
Crash Severity	Number of Traffic Crashes	Number of Injuries
Fatal	362	391
A-level Injury	2,436	2,970
B-level Injury	6,476	7,960
C-level Injury	20,664	28,910
Injury & Fatal Subtotal	29,938	40,231
PDO	108,227	
<b>Total</b>	<b>138,165</b>	

Source: MSPTCD and SEMCOG, 2006.

## Traffic Crashes by Crash Type

Figure 6 shows how traffic crashes were distributed among the various crash types in 2006. As in 2005, the most common type of crash was rear-end (35.1 percent). The least common type of crash was head-on (4.8 percent).

Figure 6  
Traffic Crashes by Crash Type, 2006

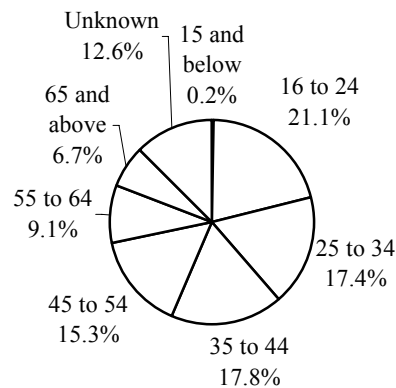


Source: MSPTCD and SEMCOG, 2006.

## Age and Gender of Drivers in Traffic Crashes

Figure 7 shows how the 261,018 drivers involved in traffic crashes in 2006 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 (21.1 percent of drivers in traffic crashes), followed by the 35-44 age group (17.8 percent). Fewer than seven percent of all drivers in crashes were age 65 or older.

Figure 7  
Drivers in Traffic Crashes by Age Group, 2006



Source: MSPTCD and SEMCOG, 2006.

Table 2  
Drivers in Traffic Crashes by Age Group and Gender, 2006

Age of Driver	Number of Drivers by Gender			Total
	Female	Male	Unknown	
15 and below	207	295	3	505
16 to 24	25,583	29,352	25	54,960
25 to 34	20,898	24,476	29	45,403
35 to 44	20,944	25,387	38	46,369
45 to 54	17,460	22,353	25	39,838
55 to 64	10,215	13,425	15	23,655
65 to 74	4,403	5,447	6	9,856
75 to 84	2,854	3,392	1	6,247
85 to 94	615	754	0	1,369
95 and Above	11	19	0	30
Unknown	1,906	4,749	26,131	32,786
<b>Total</b>	<b>105,096</b>	<b>129,649</b>	<b>26,273</b>	<b>261,018</b>

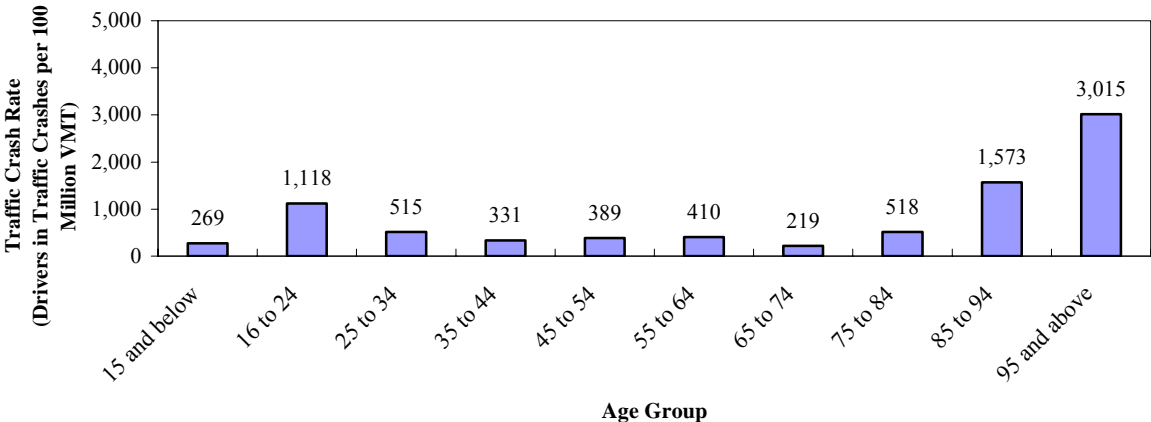
Source: MSPTCD and SEMCOG, 2006.

# Rate of Traffic Crash Involvement by Age Group

Figure 8 shows the traffic-crash rate for each age group in 2006. According to 2006 VMT estimates, drivers age 65-74 had the lowest crash rate of any age group, at 219 crashes per 100 million VMT. Drivers age 95 or older had the highest rate followed by the 85-94 and 16-24 age groups (3,015, 1,573, and 1,118 crashes per 100 million VMT, respectively).

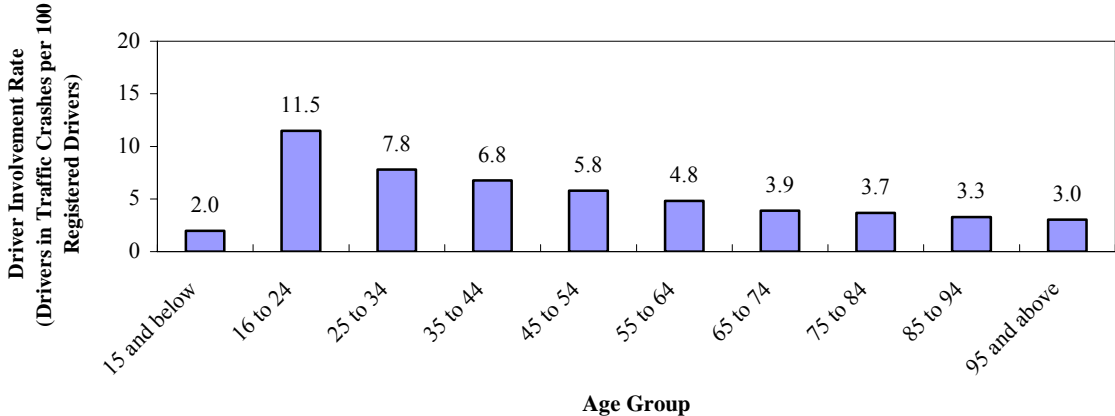
Figure 9 shows how many drivers were in traffic crashes out of every hundred drivers in each age group. There were just over 11 drivers age 16-24 involved in crashes for every hundred registered drivers in that age group, which was the highest rate of any group.

Figure 8  
Traffic Crash Rate by Age Group, 2006



Source: MSPTCD and SEMCOG, 2006.

Figure 9  
Traffic Crash Driver Involvement Rate by Age Group, 2006



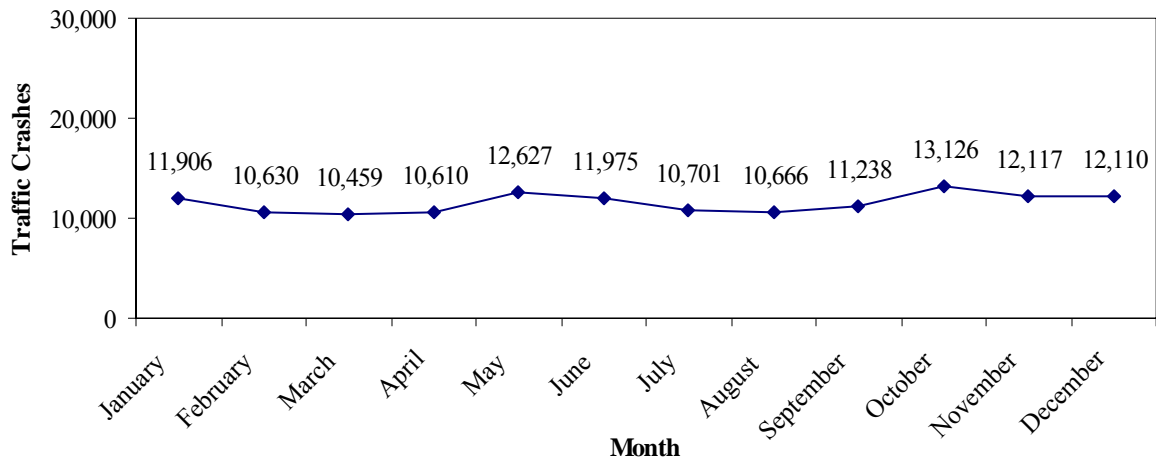
Source: MSPTCD, Michigan Department of State (MDOS), and SEMCOG, 2006.

## Traffic Crashes by Month, Day, and Hour

As seen in Figure 10, more traffic crashes (13,126) occurred during October than any other month in 2006. March had the fewest crashes (10,459) in 2006.

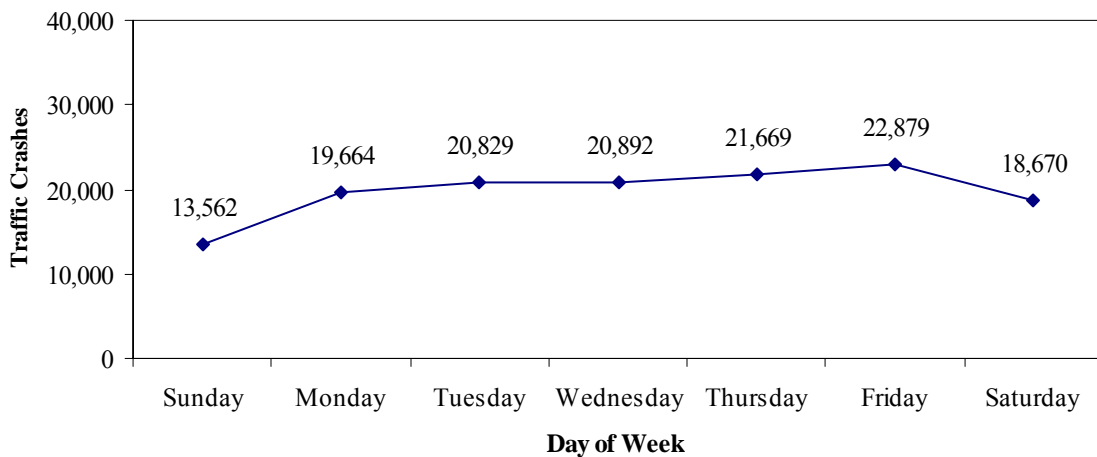
Figure 11 shows that more traffic crashes took place on Fridays than any other day of the week (22,879), and that Sundays had the fewest crashes (13,562).

Figure 10  
Traffic Crashes by Month, 2006



Source: MSPTCD and SEMCOG, 2006.

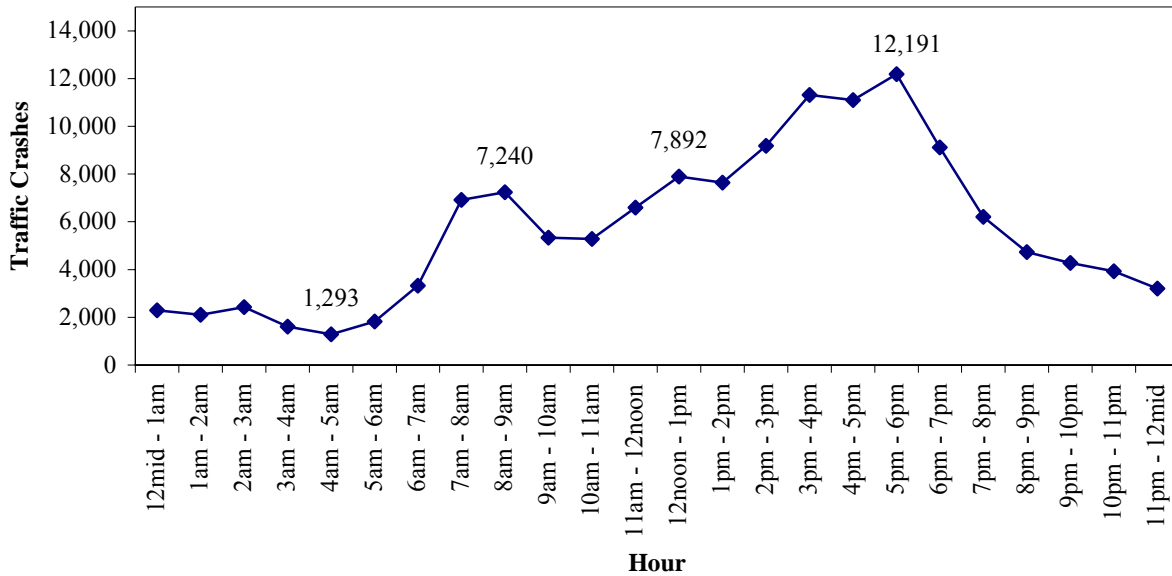
Figure 11  
Traffic Crashes by Day of Week, 2006



Source: MSPTCD and SEMCOG, 2006.

Figure 12 shows the total number of traffic crashes that took place during each hour interval in 2006. The fewest crashes — 1,293 — 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, 2006



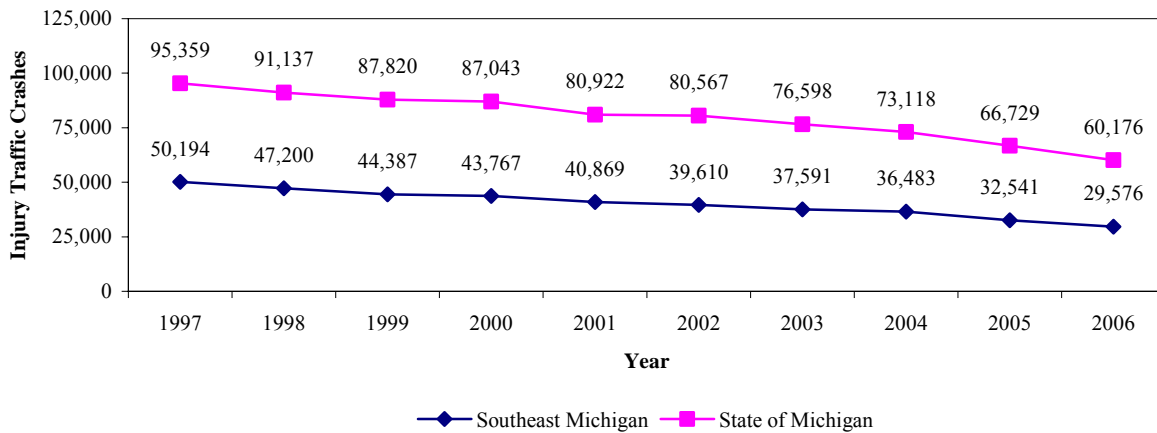
Source: MSPTCD and SEMCOG, 2006.

# 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.

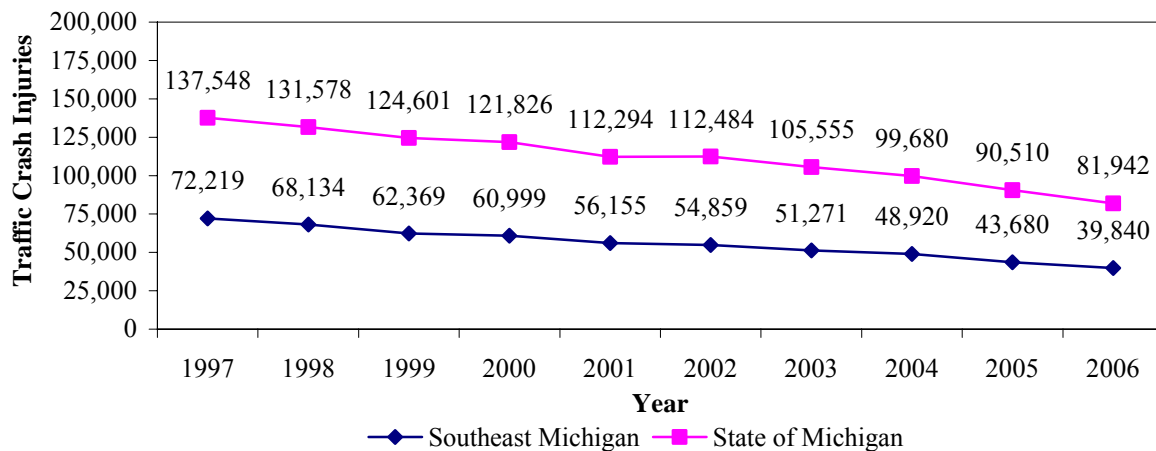
As shown in Figure 13, injury traffic crashes in Southeast Michigan decreased in 2006 — the tenth consecutive year that they have decreased. Injury crashes were down 9.1 percent in Southeast Michigan and 9.8 percent in Michigan compared to 2005. Figure 14 shows the number of injuries caused by traffic crashes for the years 1997-2006. Injuries decreased 8.8 percent in Southeast Michigan and 9.5 percent in Michigan from 2005 to 2006.

Figure 13  
Injury Traffic Crashes, 1997-2006



Source: MSPTCD and SEMCOG, 2006.

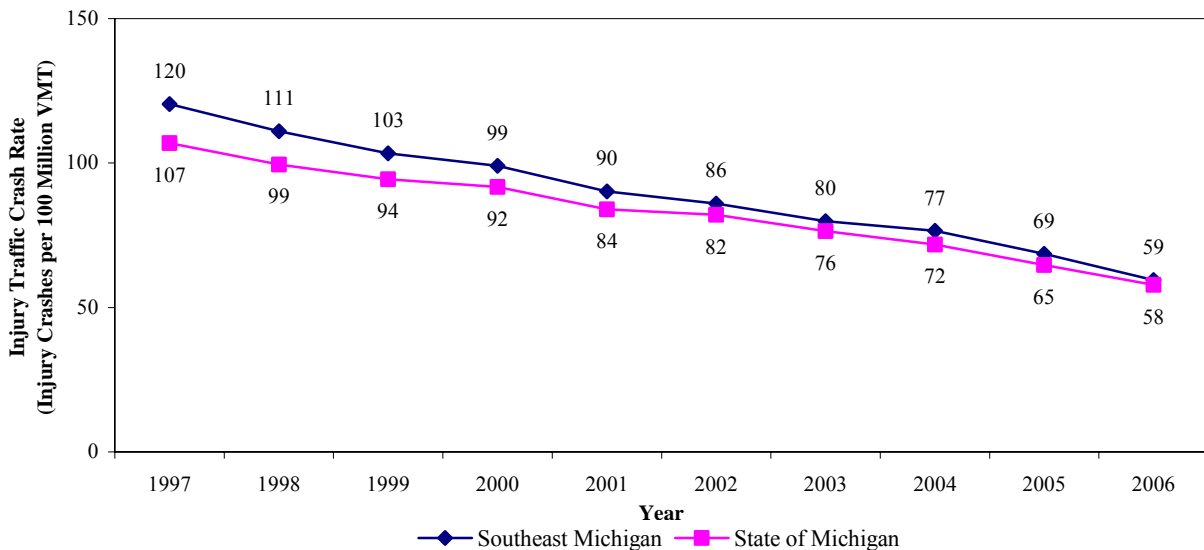
Figure 14  
Traffic Crash Injuries, 1997-2006



Source: MSPTCD and SEMCOG, 2006.

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 1997-2006.

Figure 15  
Injury Traffic Crash Rate, 1997-2006



Source: MSPTCD and SEMCOG, 2006.

Table 3  
Injury Traffic Crash Rate, 1997-2006

	Injury Traffic Crashes		VMT (in millions)		Injury Traffic Crash Rate (Crashes per 100 Million VMT)	
	Southeast Michigan	Michigan	Southeast Michigan	Michigan	Southeast Michigan	Michigan
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
2005	32,541	66,729	47,471	103,159	69	65
2006	29,576	60,176	49,746	104,042	59	58

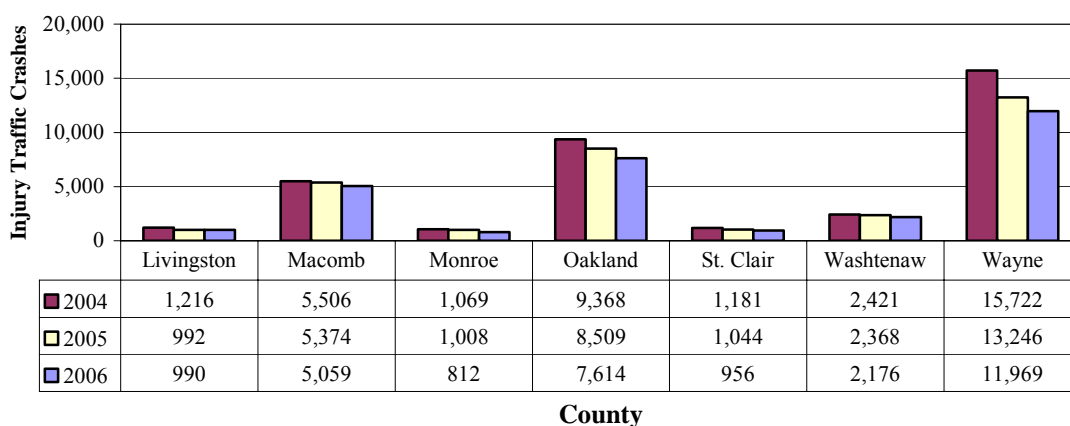
Source: MSPTCD and SEMCOG, 2006.

## Injury Traffic Crashes by County

In 2006 Injury crashes decreased in Southeast Michigan the largest decrease-taking place in Monroe County (19.4 percent).

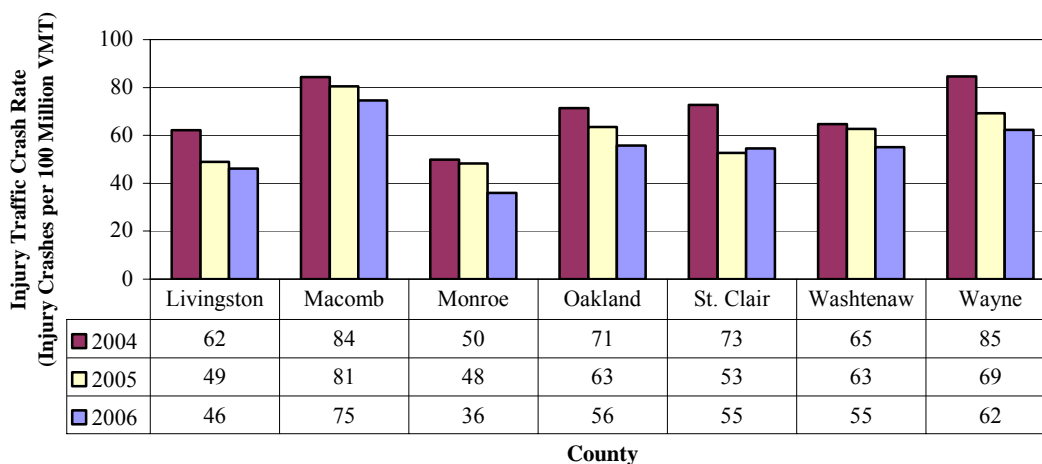
As Figure 17 shows, all counties had injury crash rates lower than those seen in 2005 except for St. Clair County, which had a slight increase. Still, Macomb County and Wayne County's injury crash rates were slightly higher than the regional rate of 59 injury crashes per 100 million VMT. The crash rate in Macomb for 2006 was 75 injury crashes per 100 million VMT — the highest in the region.

Figure 16  
Injury Traffic Crashes by County, 2004-2006



Source: MSPTCD and SEMCOG, 2006.

Figure 17  
Injury Traffic Crash Rate by County, 2004-2006



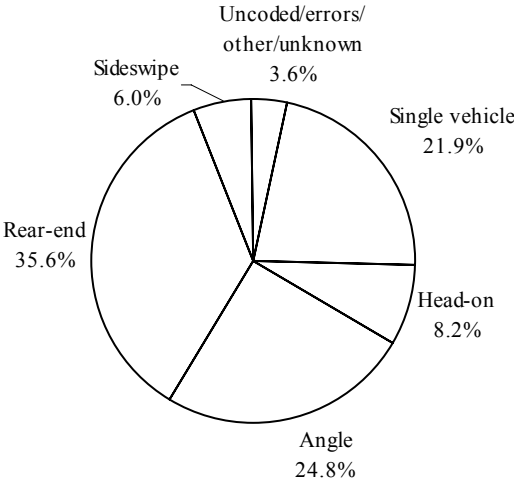
Source: MSPTCD and SEMCOG, 2006.

# Injury Traffic Crashes by Crash Type

Rear-end crashes accounted for more injury crashes (35.6 percent) than any other crash type in 2006, and sideswipe crashes made up the smallest portion (6.0 percent). Figure 18 shows the percentages of other 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 36.2 percent of all head-on crashes causing injury. Only 8.6 percent of all sideswipe crashes caused injury in 2006.

Figure 18  
Injury Traffic Crashes by Crash Type, 2006



Source: MSPTCD and SEMCOG, 2006.

Table 4  
Traffic Crash Type by Percent Resulting in Injury, 2006

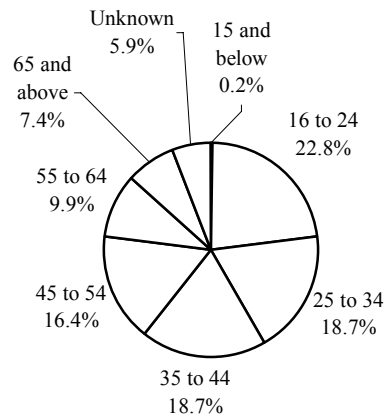
Crash Type	Injury Crashes	All Crashes	Percent resulting in injury
Uncoded/errors/other/unknown	1,054	7,925	13.3%
Single vehicle	6,467	25,594	25.3%
Head-on	2,418	6,688	36.2%
Angle	7,332	28,893	25.4%
Rear-end	10,543	48,466	21.8%
Sideswipe	1,762	20,599	8.6%
<b>Total</b>	<b>29,576</b>	<b>138,165</b>	<b>21.4%</b>

Source: MSPTCD and SEMCOG, 2006.

## Age and Gender of Drivers in Injury Traffic Crashes

Figure 19 and Table 5 show that more 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 except from the 25-34 and 35-44 age groups. For example, drivers age 65 or older were involved in 4,229 injury crashes in 2006, or 7.4 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, 2006



Source: MSPTCD and SEMCOG, 2006.

Table 5  
Drivers in Injury Traffic Crashes by Age Group and Gender, 2006

Age of Driver	Number of Drivers by Gender			Total
	Female	Male	Unknown	
15 and below	50	86	2	138
16 to 24	6,305	6,639	8	12,952
25 to 34	5,114	5,499	4	10,617
35 to 44	5,056	5,591	8	10,655
45 to 54	4,244	5,079	5	9,328
55 to 64	2,500	3,113	1	5,614
65 to 74	1,074	1,278	0	2,352
75 to 84	721	790	1	1,512
85 to 94	176	182	0	358
95 and above	2	5	0	7
Unknown	250	782	2,303	3,335
<b>Total</b>	<b>25,492</b>	<b>29,044</b>	<b>2,332</b>	<b>56,868</b>

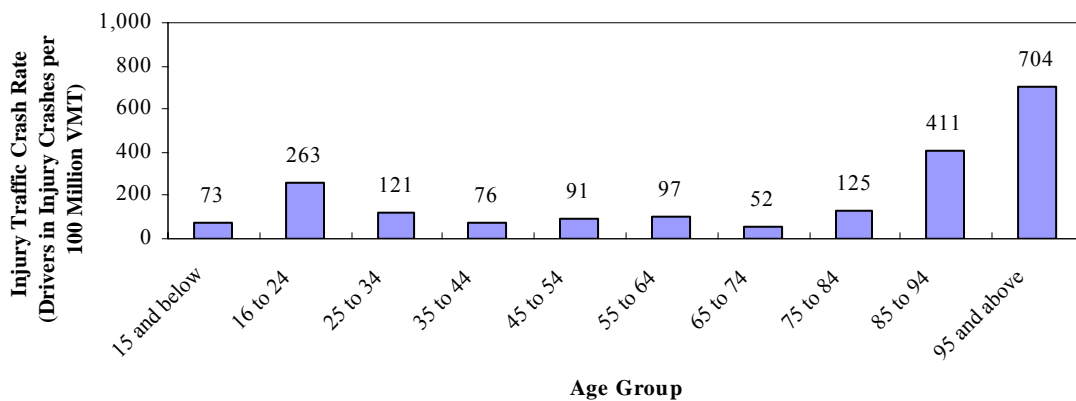
Source: MSPTCD and SEMCOG, 2006.

## 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 2006 (52 crashes). The 95-and-above age group had the highest rate (104), followed by the 85-94 age group (411) and the 16-24 age group (263).

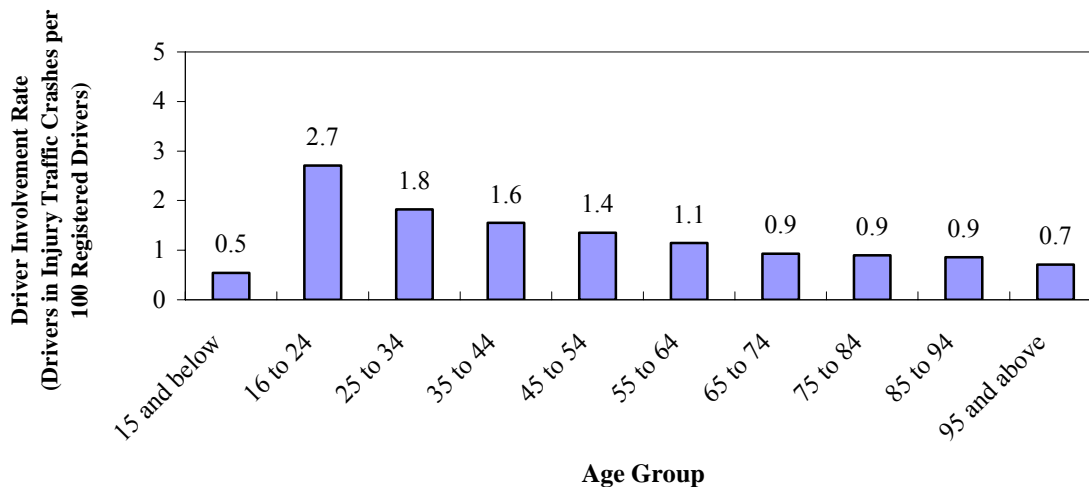
Figure 21 shows the rate of driver involvement in injury crashes for every hundred registered drivers. In 2006, 2.7 drivers age 16-24 were involved in traffic crashes for every hundred registered drivers in that age group. This was the highest rate of involvement of any age group. Drivers age 15 and below had the lowest rate of involvement, at 0.5 drivers for every hundred drivers registered.

Figure 20  
Injury Traffic Crash Rate by Age Group, 2006



Source: MSPTCD and SEMCOG, 2006.

Figure 21  
Injury Traffic Crash Driver Involvement Rate By Age Group, 2006

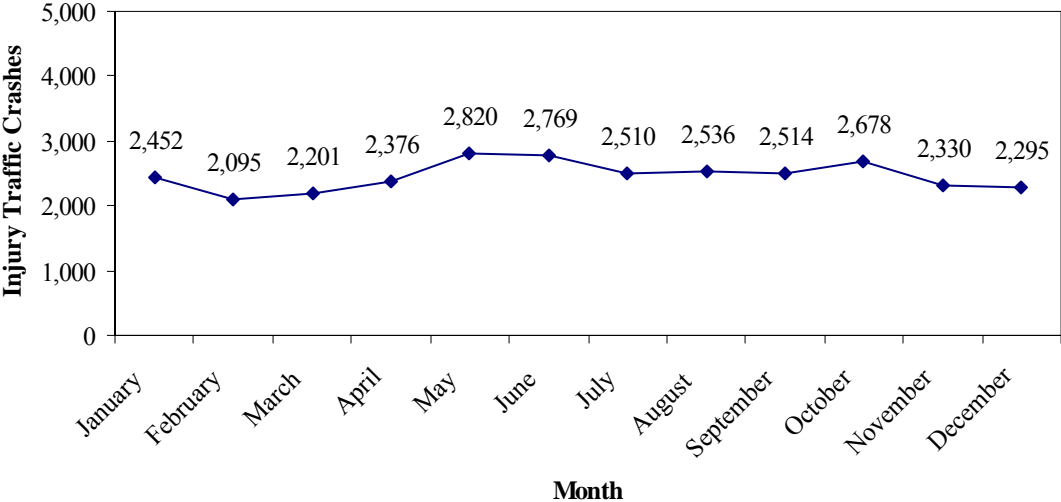


Source: MSPTCD, MDOS, and SEMCOG, 2006.

# Injury Traffic Crashes by Month, Day, and Hour

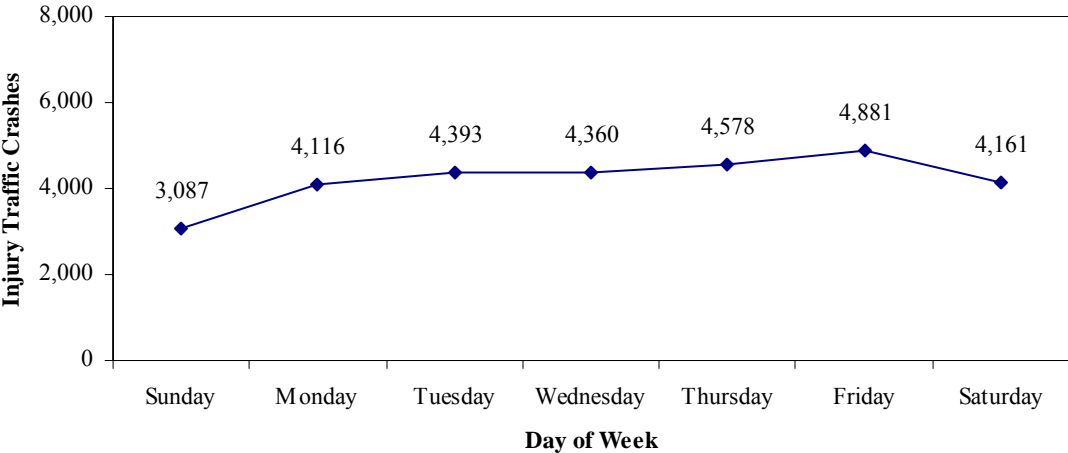
As Figure 22 shows, May was the month in 2006 with the most injury traffic crashes (2,820) even though October was the month with the most overall crashes (Figure 10); February, with 2,095 injury crashes, was the month with the fewest. More injury traffic crashes occurred on Fridays (4,881) than any other day. Sundays (3,087) had the fewest injury crashes of any day (Figure 23).

Figure 22  
Injury Traffic Crashes by Month, 2006



Source: MSPTCD and SEMCOG, 2006.

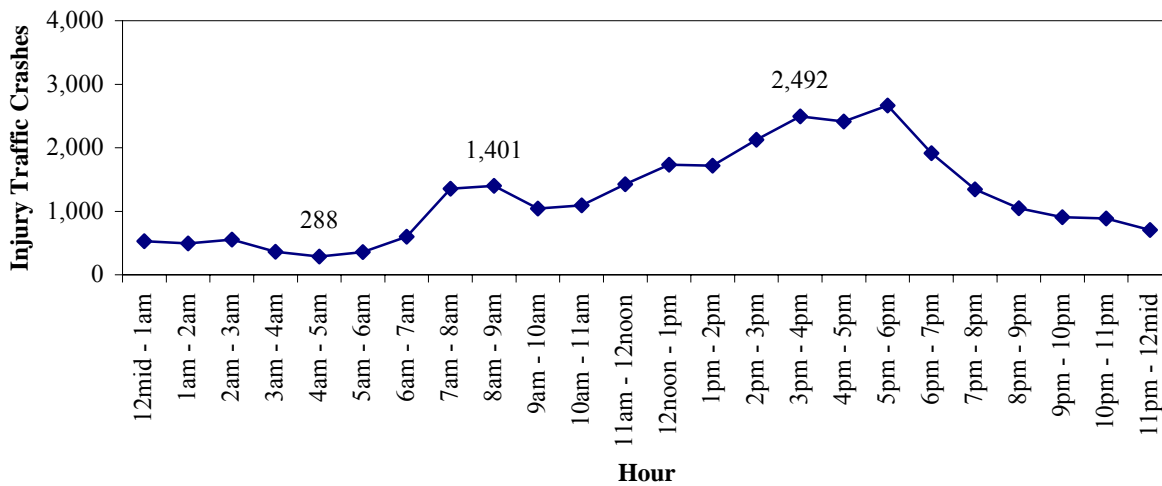
Figure 23  
Injury Traffic Crashes by Day of Week, 2006



Source: MSPTCD and SEMCOG, 2006.

Figure 24 shows the total number of injury traffic crashes that took place during each hour interval in 2006. Following the same general pattern as total crashes (Figure 12), injury crashes were least frequent between 4 a.m. and 5 a.m. (288 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, 2006



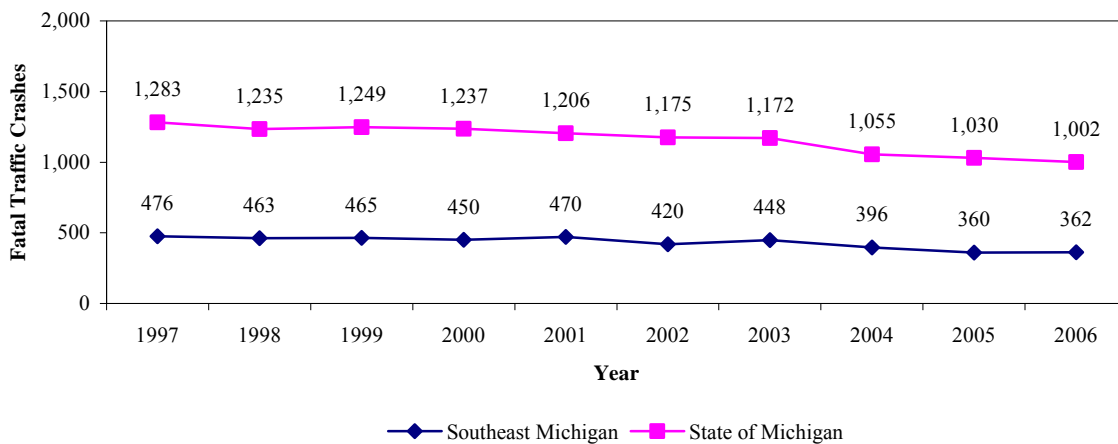
Source: MSPTCD and SEMCOG, 2006.

# Fatal Traffic Crashes

A fatal traffic crash is a traffic crash that causes a death within 30 days of the crash. Fatal traffic crashes increased 0.6 percent in Southeast Michigan in 2006. Fatal traffic crashes, however, decreased 2.7 percent in the state as a whole between 2005 and 2006. Figure 25 shows the number of fatal traffic crashes in Michigan and Southeast Michigan for 1997-2006.

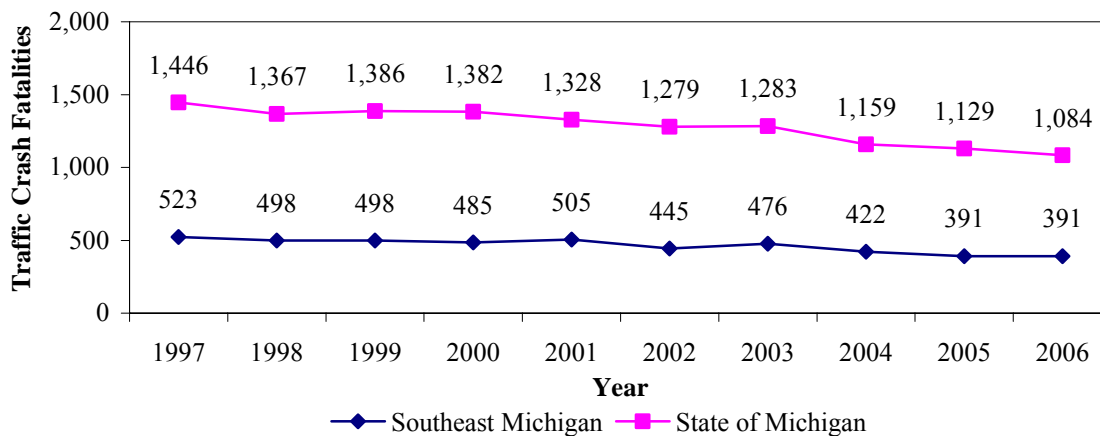
Figure 26 shows that in 2006 traffic crash fatalities remained unchanged in Southeast Michigan and decreased four percent in the State of Michigan between 2005 and 2006.

Figure 25  
Fatal Traffic Crashes, 1997-2006



Source: MSPTCD and SEMCOG, 2006.

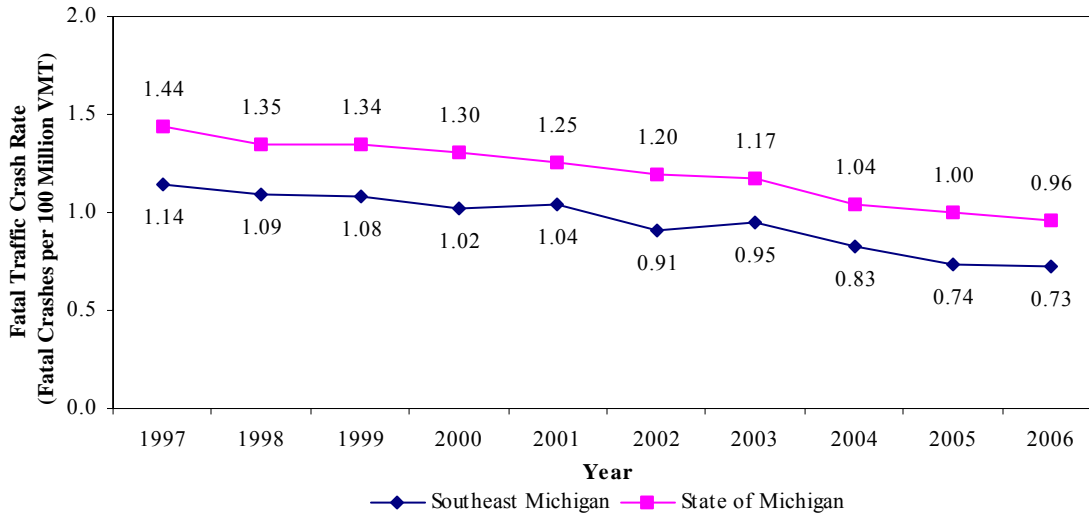
Figure 26  
Traffic Crash Fatalities, 1997-2006



Source: MSPTCD and SEMCOG, 2006.

As shown in Figure 27, the rate of fatal traffic crashes per 100 million miles traveled decreased in Southeast Michigan between 2005 and 2006. Table 6 shows how the number of fatal traffic crashes compared to VMT for 1997-2006.

Figure 27  
Fatal Traffic Crash Rate, 1997-2006



Source: MSPTCD and SEMCOG, 2006.

Table 6  
Fatal Traffic Crash Rate and VMT, 1997-2006

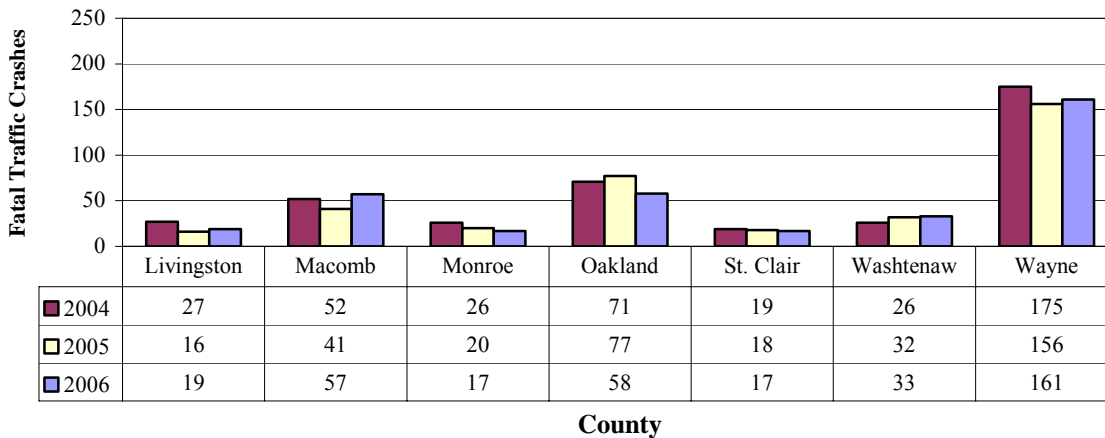
	Fatal Traffic Crashes		VMT (in millions)		Fatal Traffic Crash Rate (crashes per 100 million VMT)	
	Southeast Michigan	Michigan	Southeast Michigan	Michigan	Southeast Michigan	Michigan
1997	476	1,283	41,678	89,232	1.14	1.44
1998	463	1,235	42,513	91,616	1.09	1.35
1999	465	1,249	42,924	93,060	1.08	1.34
2000	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
2005	360	1,030	48,761	103,159	0.74	1.00
2006	362	1,002	49,746	104,042	0.73	0.96

Source: MSPTCD and SEMCOG, 2006.

## Fatal Traffic Crashes by County

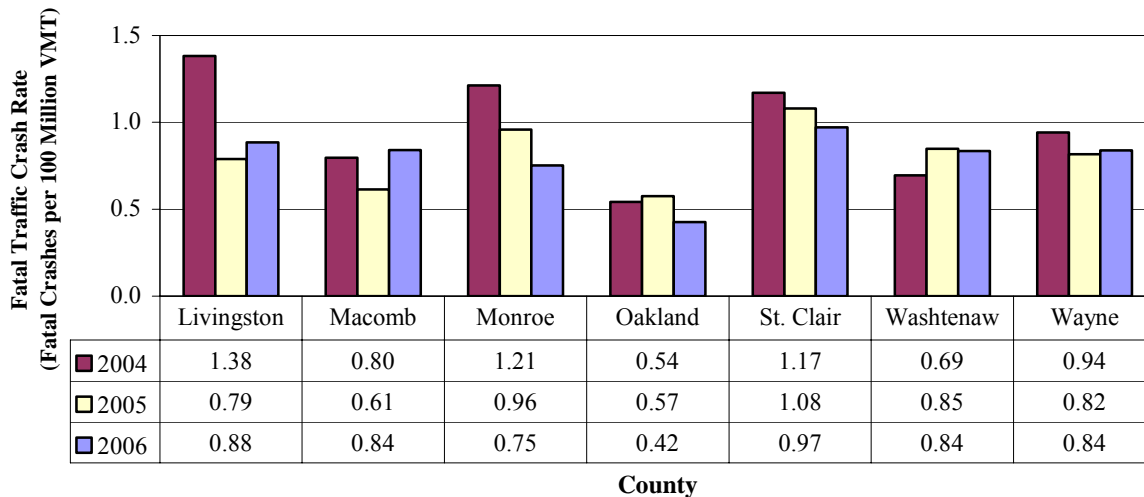
Fatal traffic crashes increased in 2006 in Livingston, Macomb, Washtenaw, and Wayne Counties (Figure 28). Livingston, Macomb, and Wayne Counties also saw increases in their fatal crash rate, which indicates that the increase in the fatal crashes is not fully accounted for by an increase in traffic (Figure 29).

Figure 28  
Fatal Traffic Crashes by County, 2004-2006



Source: MSPTCD and SEMCOG, 2006.

Figure 29  
Fatal Traffic Crash Rate by County, 2004-2006



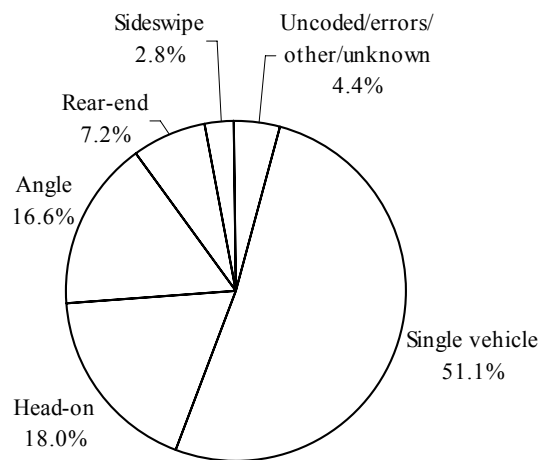
Source: MSPTCD and SEMCOG, 2006.

## Fatal Traffic Crashes by Crash Type

As shown in Figure 30, over 51 percent of all fatal crashes in 2006 were single-vehicle crashes. Head-on crashes made up the next biggest portion of fatal crashes with 18 percent.

Table 7 shows that single-vehicle crashes were the most likely to result in a fatality, with nearly one out of every 103 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, 2006



Source: MSPTCD and SEMCOG, 2006.

Table 7  
Crash Type by Percent Resulting in Fatality, 2006

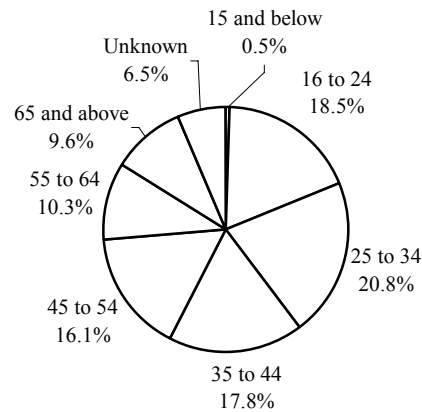
Crash Type	Fatal Traffic Crashes	All Traffic Crashes	Percent Resulting in Fatality
Uncoded/errors/other/unknown	16	7,925	0.20%
Single vehicle	185	25,594	0.72%
Head-on	65	6,688	0.97%
Angle	60	28,893	0.21%
Rear-end	26	48,466	0.05%
Sideswipe	10	20,599	0.05%
<b>Total</b>	<b>362</b>	<b>138,165</b>	<b>0.26%</b>

Source: MSPTCD and SEMCOG, 2006.

## Age and Gender of Drivers in Fatal Traffic Crashes

Figure 31 shows the age distribution of drivers involved in fatal traffic crashes in 2006. Fewer than 58 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 nearly three times more.

Figure 31  
Drivers in Fatal Traffic Crashes by Age Group, 2006



Source: MSPTCD and SEMCOG, 2006.

Table 8  
Drivers in Fatal Traffic Crashes by Age Group and Gender, 2006

Age of Driver	Number of Drivers by Gender			Total
	Female	Male	Unknown	
15 and below	0	3	0	3
16 to 24	28	78	0	106
25 to 34	28	91	0	119
35 to 44	26	76	0	102
45 to 54	26	66	0	92
55 to 64	14	45	0	59
65 to 74	7	14	0	21
75 to 84	9	16	0	25
85 to 94	2	7	0	9
95 and above	0	0	0	0
Unknown	1	1	35	37
<b>Total</b>	<b>141</b>	<b>397</b>	<b>35</b>	<b>573</b>

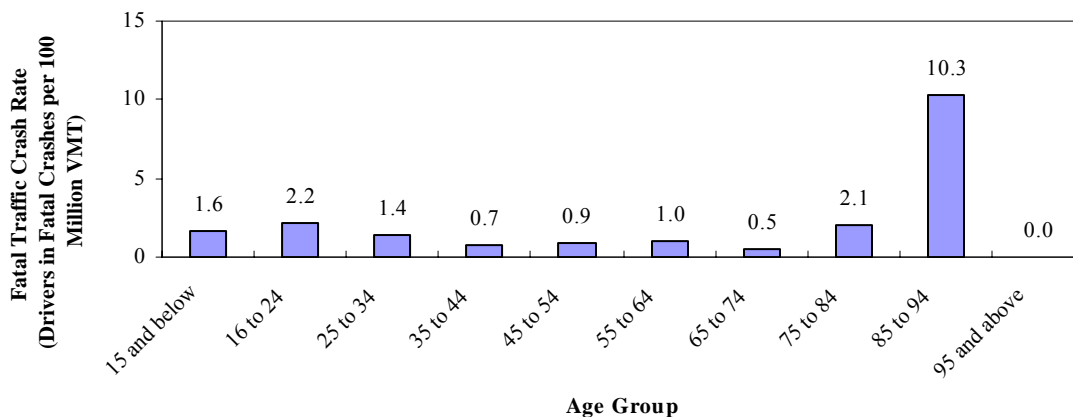
Source: MSPTCD and SEMCOG, 2006.

## 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 2006. Of all drivers age 16-94, drivers age 65-74 had the lowest fatal crash rate with 0.5 fatal crashes per 100 million VMT. Drivers age 85-94 had the highest fatal crash rate (10.3), followed by drivers age 16-24 and 75-84 (with 2.2 and 2.1 respectively).

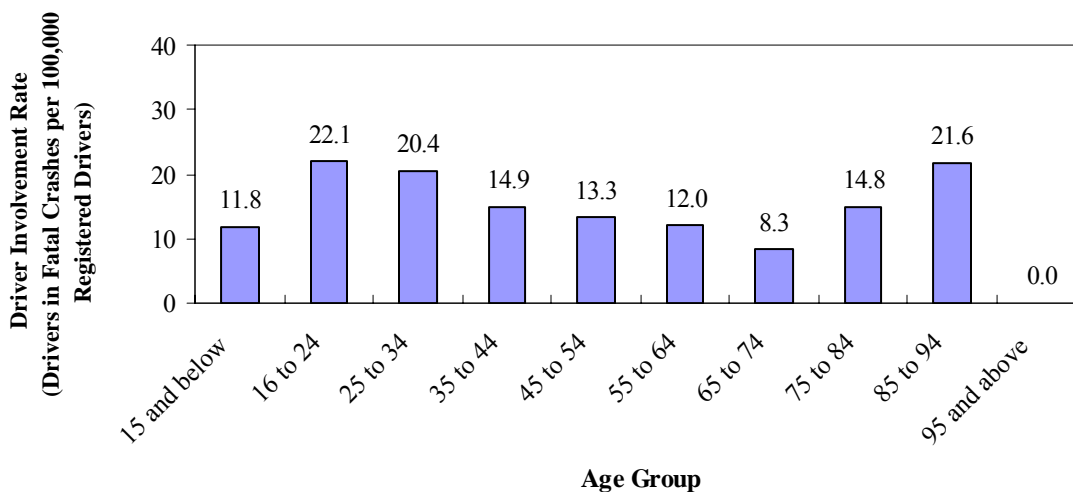
Figure 33 shows the number of drivers involved in fatal crashes compared to the number of registered drivers in that age group. By this measurement, drivers age 65-74 were least likely to be involved in a fatal traffic crash — 8.3 drivers in this age group were in fatal crashes for every hundred thousand registered drivers. Drivers age 16-24 were most likely to be in a fatal crash (22.1), followed by drivers age 85-94 (21.6).

Figure 32  
Fatal Traffic Crash Rate by Age Group, 2006



Source: MSPTCD and SEMCOG, 2006.

Figure 33  
Fatal Traffic Crash Driver Involvement Rate by Age Group, 2006



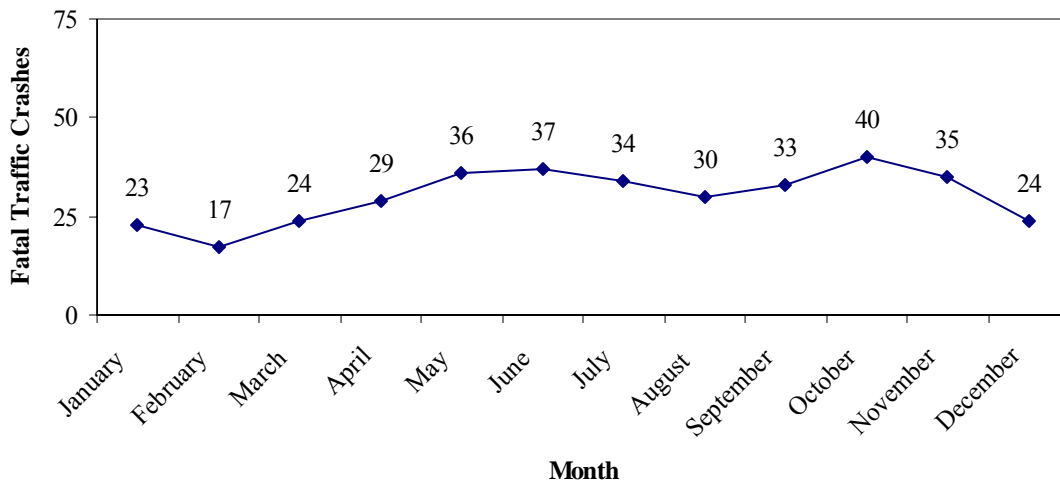
Source: MSPTCD, MDOS, and SEMCOG, 2006.

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

As shown in Figure 34, more fatal traffic crashes took place in October 2006 than any other month (40). February 2006 had the fewest fatal crashes (17).

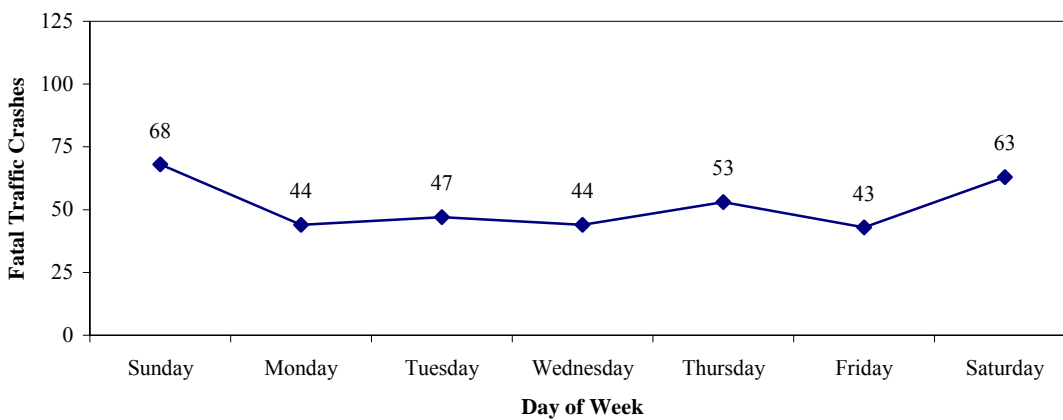
Figure 35 shows the total number of fatal crashes that occurred on each day of the week in 2006. Sundays in 2006 saw the most fatal crashes (68), even though Fridays had the most overall crashes (Figure 11). Friday had the fewest fatal crashes (43).

Figure 34  
Fatal Traffic Crashes by Month, 2006



Source: MSPTCD and SEMCOG, 2006.

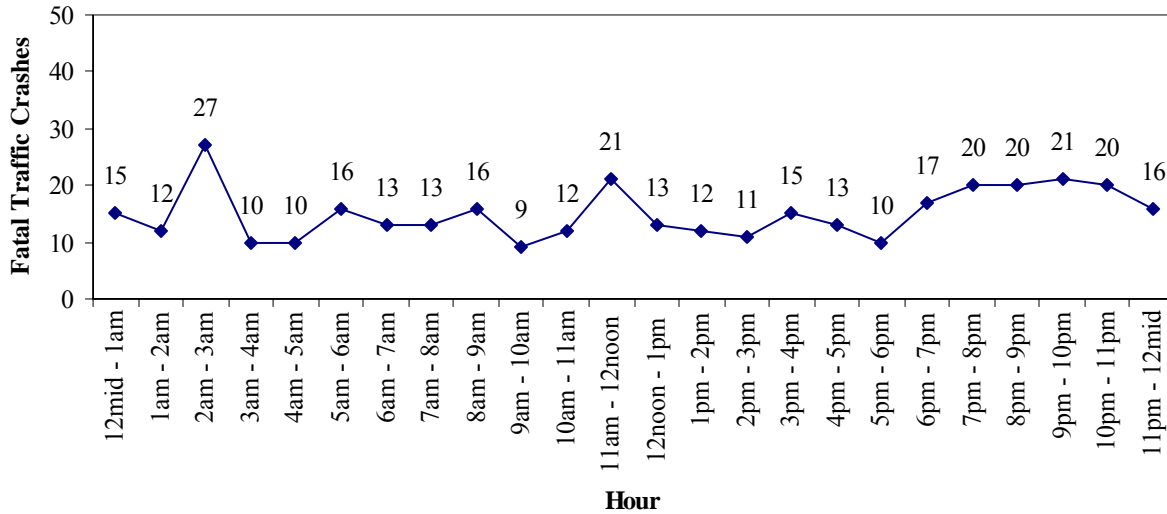
Figure 35  
Fatal Traffic Crashes by Day of Week, 2006



Source: MSPTCD and SEMCOG, 2006.

As shown in Figure 36, the hour from 2 a.m. to 3 a.m. had the most fatal traffic crashes (27), followed by both 11 a.m. to 12 noon and 9 p.m. to 10 p.m. with 21 fatal traffic crashes each. The period with the fewest fatal crashes was the 9 a.m. to 10 a.m. period, with nine 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, 2006



Source: MSPTCD and SEMCOG, 2006.

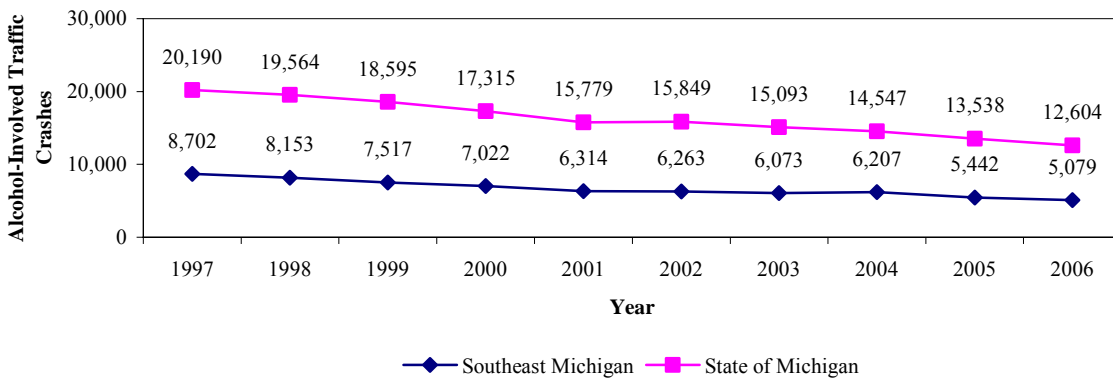
# Alcohol-Involved Traffic Crashes

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 Southeast Michigan and in Michigan in 2006.

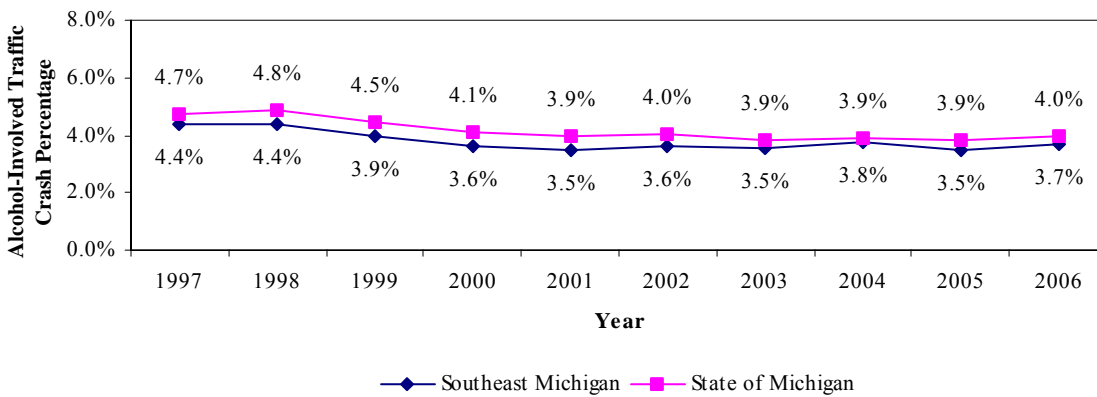
The alcohol-involved crash percentage increased in Southeast Michigan and in the state (Figure 38).

Figure 37  
Alcohol-Involved Traffic Crashes, 1997-2006



Source: MSPTCD and SEMCOG, 2006.

Figure 38  
Alcohol-Involved Traffic Crash Percentage, 1997-2006



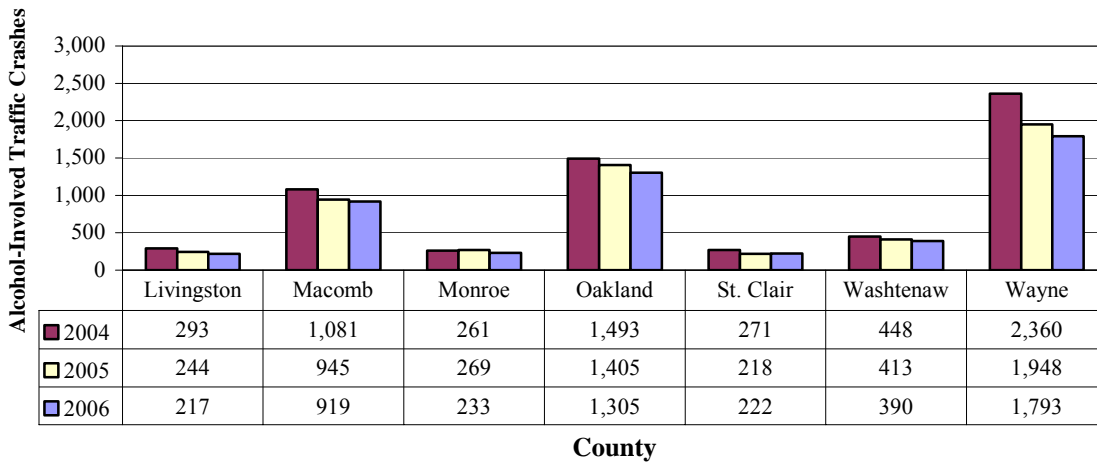
Source: MSPTCD and SEMCOG, 2006.

## Alcohol-Involved Traffic Crashes by County

Figure 39 shows that only St. Clair county saw an increase in alcohol-involved traffic crashes (1.8 percent).

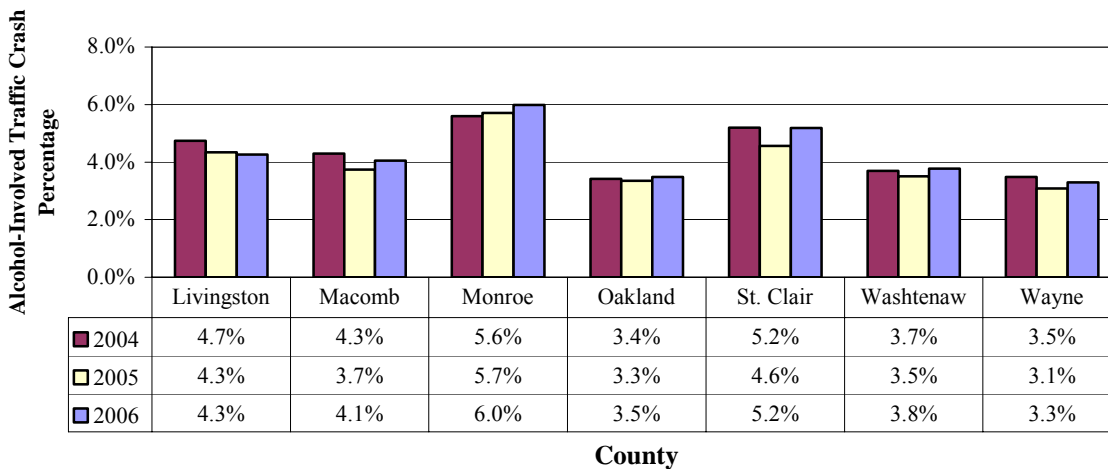
Figure 40 shows that once again Wayne County has the lowest percentage of alcohol-involved crashes in the region. Monroe County had the highest percentage of alcohol-related crashes — six out of every 100 crashes in Monroe County in 2006 involved alcohol.

Figure 39  
Alcohol-Involved Traffic Crashes by County, 2004-2006



Source: MSPTCD and SEMCOG, 2006.

Figure 40  
Alcohol-Involved Traffic Crash Percentage by County, 2004-2006



Source: MSPTCD and SEMCOG, 2006.

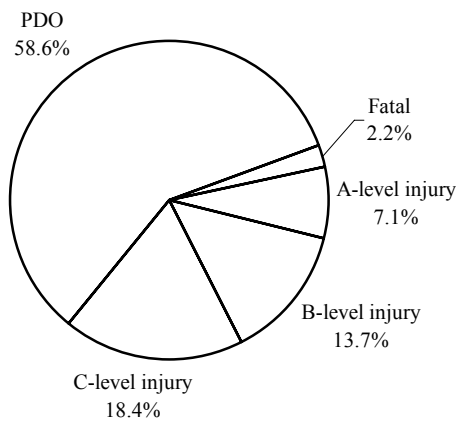
## Alcohol-Involved Traffic Crashes by Severity

Over 79 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 11 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 2006.

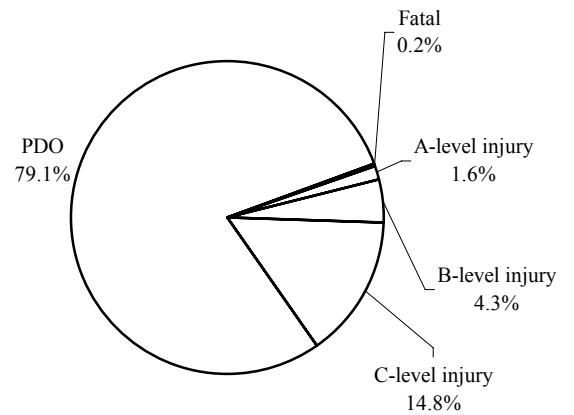
Table 9 shows that nearly 31 percent of all fatal crashes in Southeast Michigan in 2006 involved alcohol, and nearly 15 percent of all A-level injury crashes involved alcohol.

Figure 41  
Alcohol-Involved Traffic Crash Severity, 2006

Alcohol-Involved Traffic Crashes



All Other Traffic Crashes



Source: MSPTCD and SEMCOG, 2006.

Table 9  
Alcohol Involved Traffic Crash Severity, 2006

Crash Severity	Alcohol-Involved Traffic Crashes	All Traffic Crashes	Alcohol-Involved Percentage
Fatal	112	362	30.9%
A-level injury	361	2,436	14.8%
B-level injury	696	6,476	10.7%
C-level injury	932	20,664	4.5%
PDO	2,978	108,227	2.8%
<b>Total</b>	<b>5,079</b>	<b>138,165</b>	<b>3.7%</b>

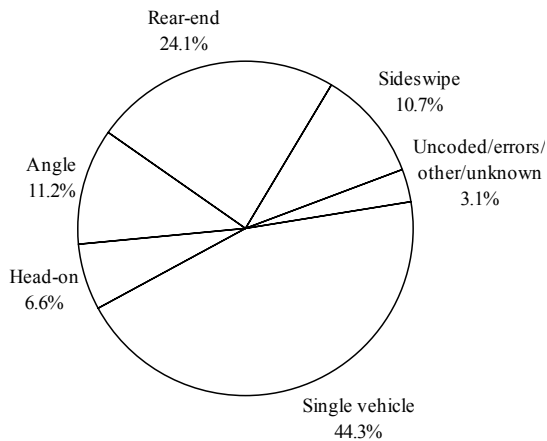
Source: MSPTCD and SEMCOG, 2006.

## Alcohol-Involved Traffic Crashes by Crash Type

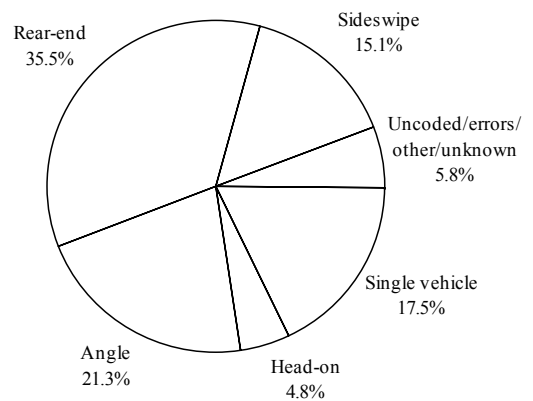
As shown in Figure 42, crashes involving alcohol in 2006 were most often single-vehicle crashes, followed by rear-end crashes. This pattern is different from the one shown by crashes that did not involve alcohol, where rear-end crashes were most common, followed by angle crashes. More than one out of every 11 single-vehicle crashes in 2006 involved alcohol (Table 10).

Figure 42  
Alcohol-Involved Traffic Crashes by Type, 2006

Alcohol-Involved Traffic Crashes



All Other Traffic Crashes



Source: MSPTCD and SEMCOG, 2006.

Table 10  
Traffic Crash Type by Percent Involving Alcohol, 2006

Crash Type	Alcohol-Involved Traffic Crashes	All Traffic Crashes	Alcohol-Involved Percentage
Uncoded/errors/other/unknown	159	7,925	2.0%
Single vehicle	2,249	25,594	8.8%
Head-on	334	6,688	5.0%
Angle	567	28,893	2.0%
Rear-end	1,226	48,466	2.5%
Sideswipe	544	20,599	2.6%
<b>Total</b>	<b>5,079</b>	<b>138,165</b>	<b>3.7%</b>

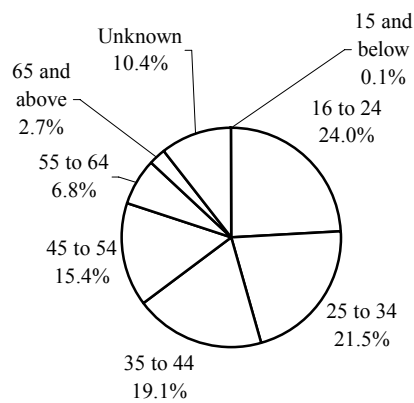
Source: MSPTCD and SEMCOG, 2006.

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

Drivers between the ages of 16 and 44 accounted for nearly 65 percent of had-been-drinking (HBD) drivers in 2006. Figure 43 shows the percent of HBD drivers in each age group in 2006.

Table 11 shows the numbers of HBD drivers in each age group by gender. In 2006, there were nearly 2.3 male drinking drivers in crashes for every one female drinking driver in a crash.

Figure 43  
HBD Drivers by Age Group in Alcohol-Involved Traffic Crashes, 2006



Source: MSPTCD and SEMCOG, 2006.

Table 11  
HBD Drivers in Alcohol-Involved Traffic Crashes by Age and Gender, 2006

Age of Driver	Number of Drivers by Gender			Total
	Female	Male	Unknown	
15 and below	1	4	0	5
16 to 24	631	1,360	0	1,991
25 to 34	548	1,235	0	1,783
35 to 44	527	1,057	0	1,584
45 to 54	370	903	1	1,274
55 to 64	145	416	0	561
65 to 74	38	109	0	147
75 to 84	20	51	0	71
85 to 94	3	6	0	9
95 and above	0	0	0	0
Unknown	8	4	817	866
<b>Total</b>	<b>2,291</b>	<b>5,182</b>	<b>818</b>	<b>8,291</b>

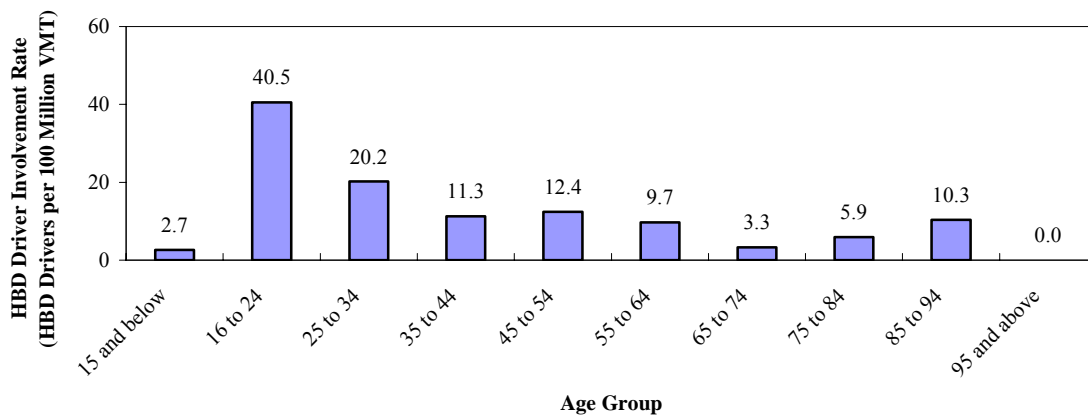
Source: MSPTCD and SEMCOG, 2006.

## 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 having none.

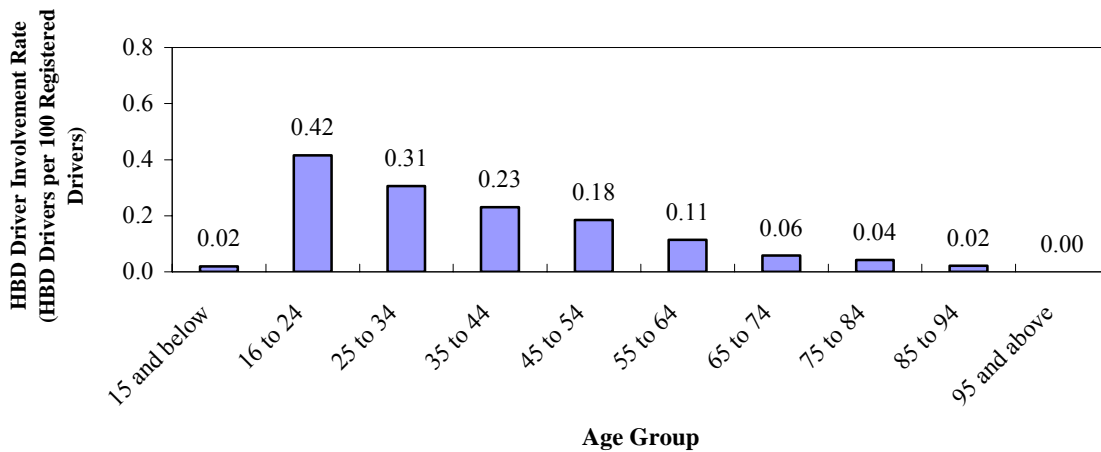
Figure 45 shows the number of HBD drivers compared to the number of registered drivers in each age group, with the 16-24 age group having the highest rate of HBD drivers and the 95 and above age group having the lowest rate at zero.

Figure 44  
Alcohol-Involved Traffic Crash HBD Driver Involvement Rate by Age Group, 2006



Source: MSPTCD and SEMCOG, 2006.

Figure 45  
Alcohol-Involved Traffic Crash HBD Driver Involvement Rate by Age Group, 2006



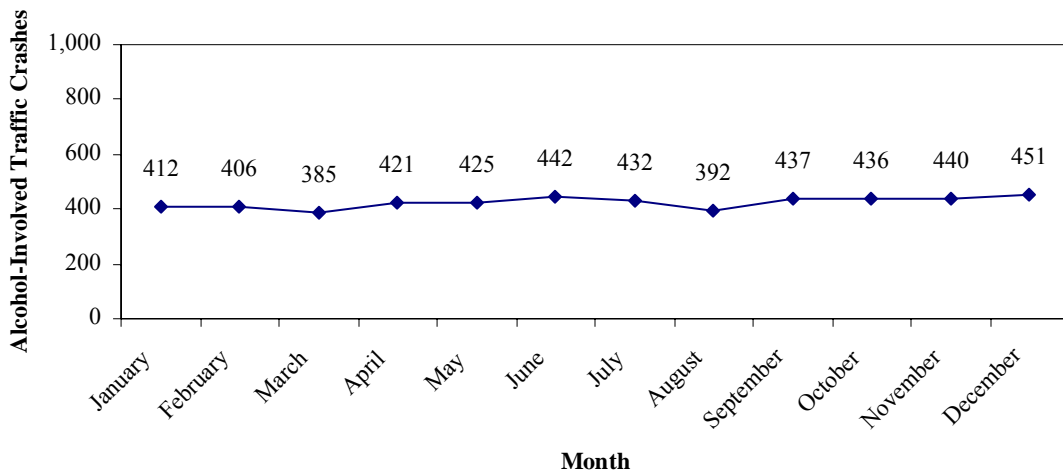
Source: MSPTCD, MDOS, and SEMCOG, 2006.

## 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 2006. December had the most alcohol-involved crashes (451) even though October had the most crashes overall (Figure 10). March saw the fewest alcohol-involved crashes (385), and also had the fewest overall crashes.

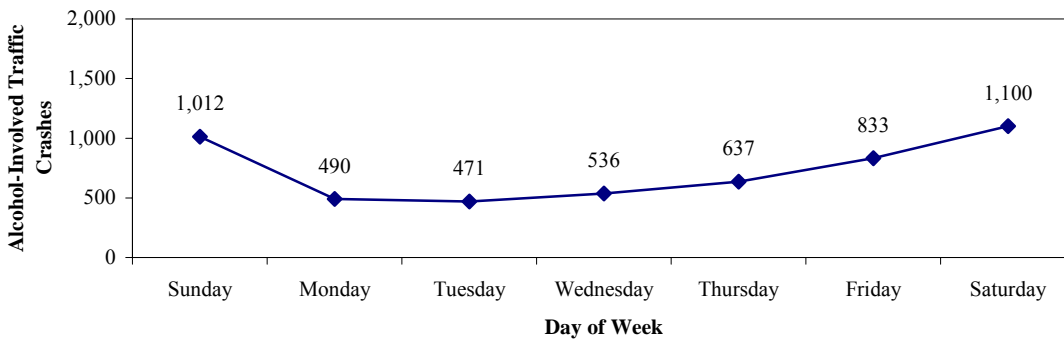
As shown in Figure 47, alcohol-involved traffic crashes increase on the weekends, the opposite of the pattern shown by all crashes (Figure 11). Saturdays had the most alcohol-involved crashes (1,100) and Tuesdays saw the fewest (471).

Figure 46  
Alcohol-Involved Traffic Crashes by Month, 2006



Source: MSPTCD and SEMCOG, 2006.

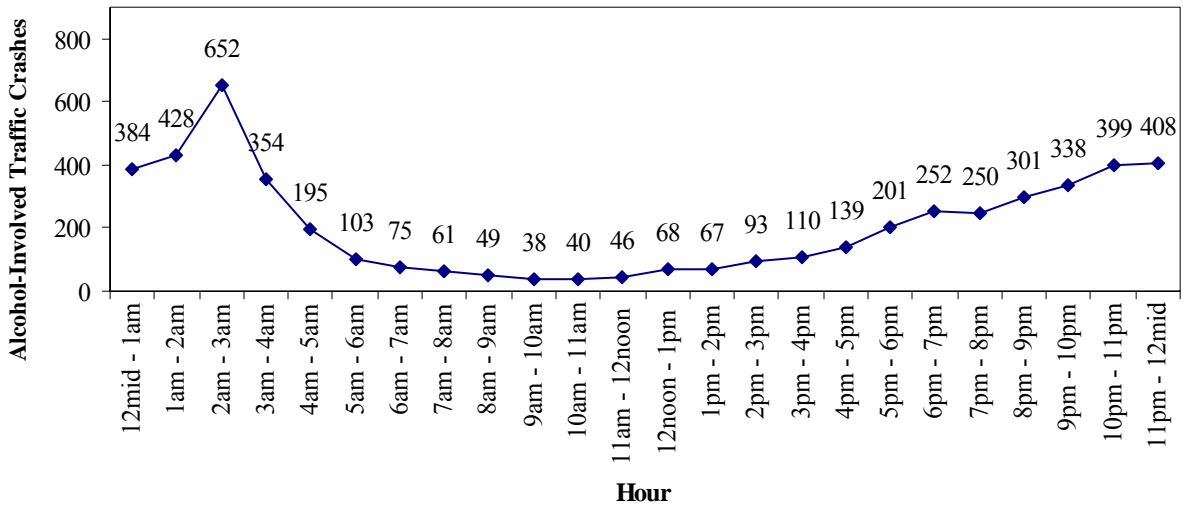
Figure 47  
Alcohol-Involved Traffic Crashes by Day of Week, 2006



Source: MSPTCD and SEMCOG, 2006.

More alcohol-involved crashes (652) took place between 2 a.m. and 3 a.m. than during any other hour interval in 2006, 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, 2006



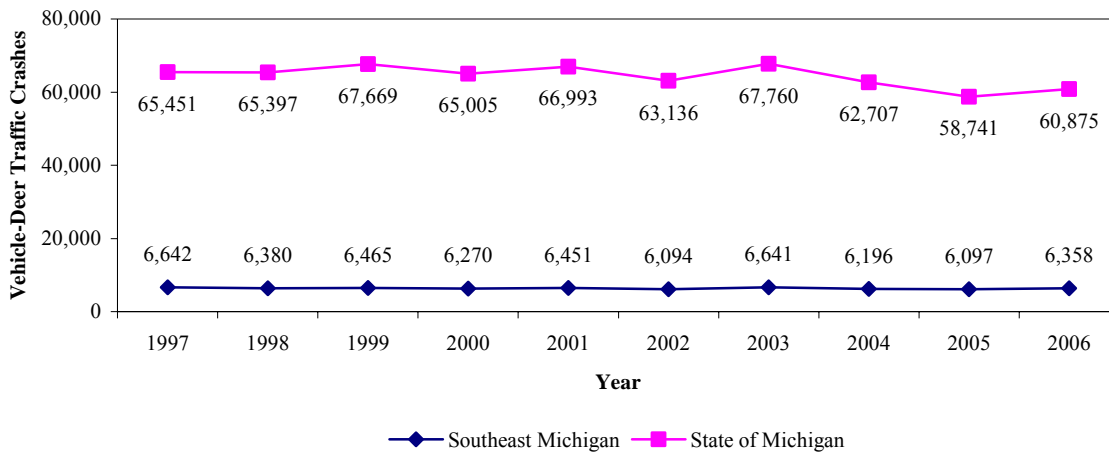
Source: MSPTCD and SEMCOG, 2006.

# Vehicle-Deer Traffic Crashes

Collisions between deer and motor vehicles increased in 2006 for the state and in Southeast Michigan, 3.6 and 4.3 percent, respectively (Figure 49).

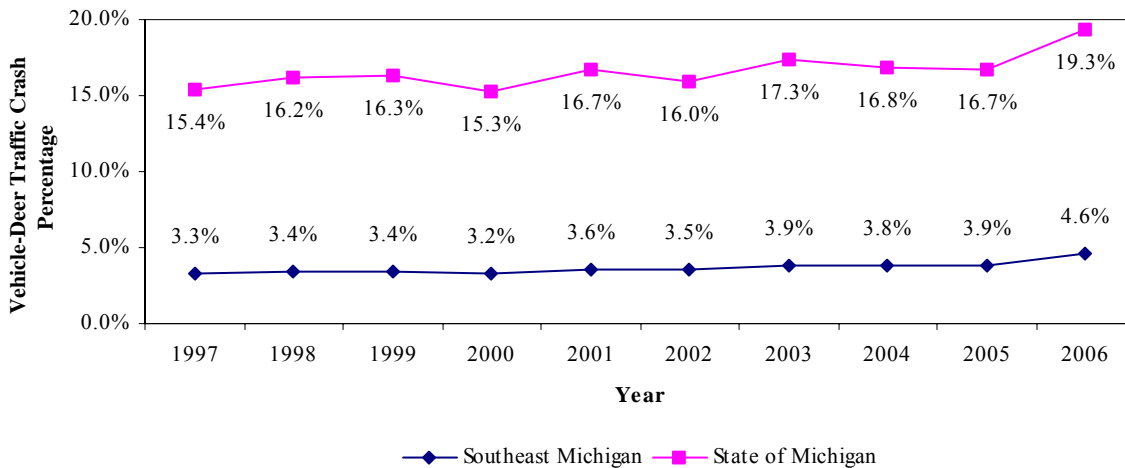
The percentage of all crashes that involved deer in Southeast Michigan increased to 4.6 percent in 2006, making this the highest rate since SEMCOG began keeping records in 1993. The deer-crash rate also increased sharply in Michigan, to 19.3 percent (Figure 50).

Figure 49  
Vehicle-Deer Traffic Crashes, 1997-2006



Source: MSPTCD and SEMCOG, 2006.

Figure 50  
Vehicle-Deer Traffic Crash Percentage, 1997-2006



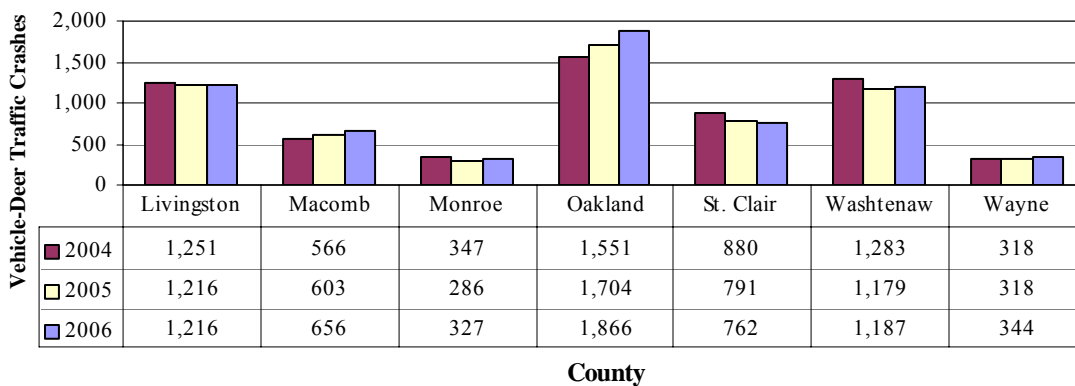
Source: MSPTCD and SEMCOG, 2006

## Vehicle-Deer Traffic Crashes by County

St. Clair was the only county in Southeast Michigan that saw a decrease in car-deer crashes in 2006. Livingston was the only county to have no change in their vehicle-deer traffic crashes. Figure 51 shows the number of vehicle-deer crashes in each county in 2004-2006.

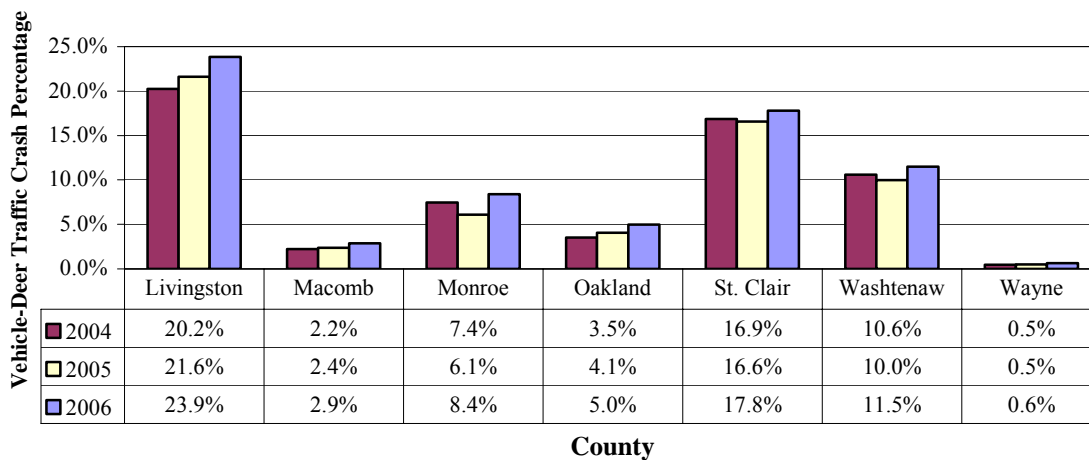
As Figure 52 shows, Livingston County continues to lead the region in vehicle-deer crash percentage. Nearly one out of every four crashes in Livingston County in 2006 involved a deer. St. Clair and Washtenaw Counties followed, with nearly 18 percent and 12 percent, respectively.

Figure 51  
Vehicle-Deer Traffic Crashes by County, 2004-2006



Source: MSPTCD and SEMCOG, 2006.

Figure 52  
Vehicle-Deer Traffic Crash Percentage by County, 2004-2006



Source: MSPTCD and SEMCOG, 2006.

## Vehicle-Deer Traffic Crashes by Severity

As shown in Table 12, crashes with deer accounted for nearly six percent of all PDO crashes in Southeast Michigan in 2006. There was one vehicle-deer crashes that was fatal in Southeast Michigan in 2006, and nearly 97 percent of all crashes with deer resulted only in property damage.

Table 12  
Vehicle-Deer Traffic Crash Severity, 2006

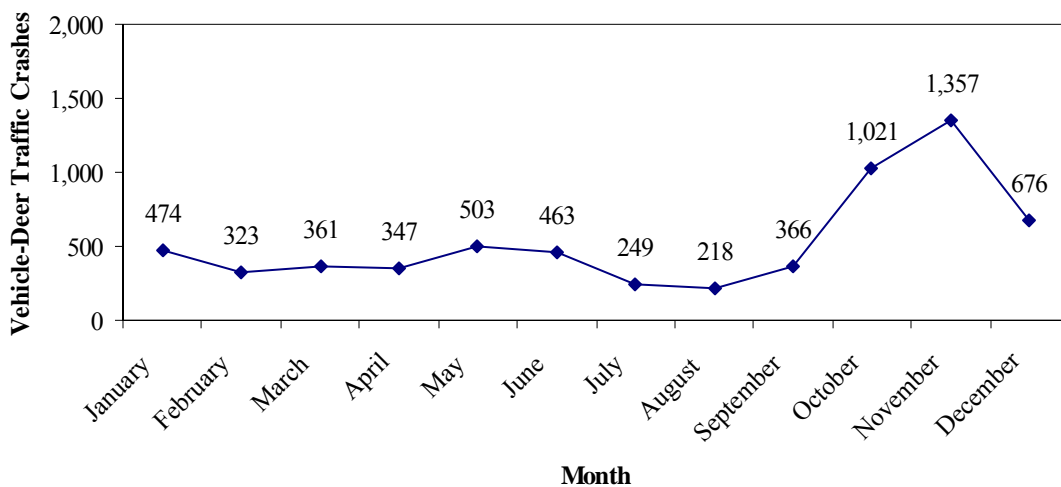
Crash Severity	Vehicle-Deer Traffic Crashes	All Traffic Crashes	Vehicle-Deer Percentage
Fatal	1	362	0.3%
A-level Injury	4	2,436	0.2%
B-level Injury	57	6,476	0.9%
C-level Injury	129	20,664	0.6%
PDO	6,167	108,227	5.7%
<b>Total</b>	<b>6,358</b>	<b>138,165</b>	<b>4.6%</b>

Source: MSPTCD and SEMCOG, 2006.

## 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 2006. Deer crashes peaked in November at 1,357. Over 37 percent of all deer crashes took place in October or November. August had the fewest vehicle-deer crashes at 218.

Figure 53  
Vehicle-Deer Traffic Crashes by Month, 2006

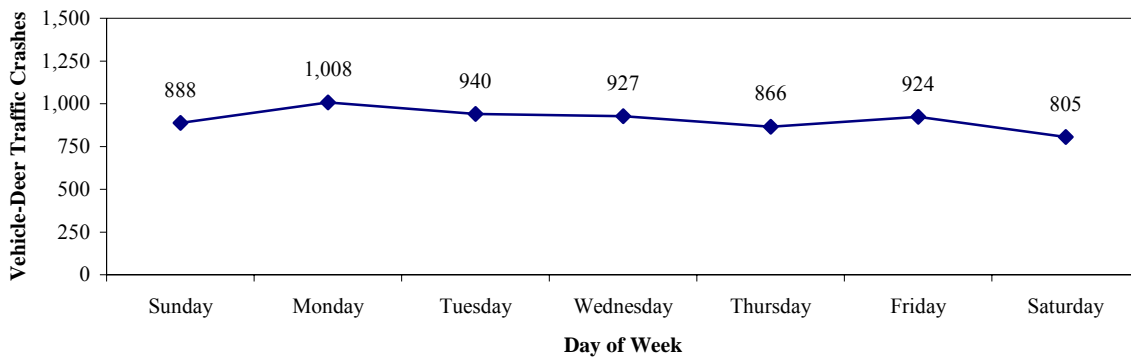


Source: MSPTCD and SEMCOG, 2006.

Figure 54 shows the number of vehicle-deer crashes in 2006 grouped by the day on which they happened. The most crashes with deer occurred on Mondays (1,008) and the fewest occurred on Saturdays (805).

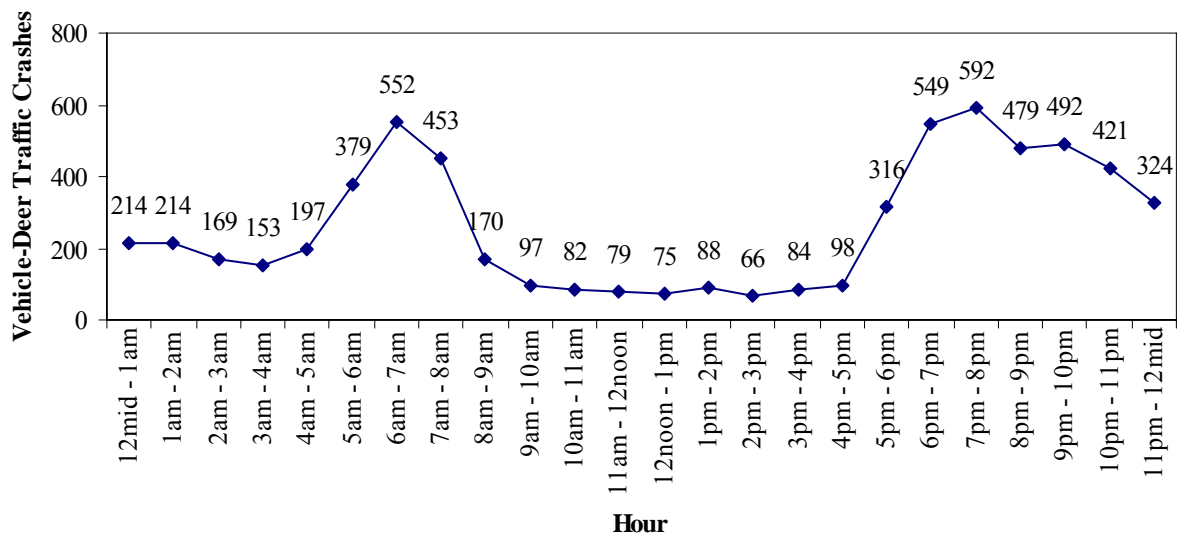
Deer crashes were most likely to occur during evenings or early mornings (Figure 55). The pattern of deer crashes by time of day is quite different from the pattern of all traffic crashes (Figure 12). The morning peak in deer crashes is almost equal to the evening peak, and crashes decrease sharply during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

Figure 54  
Vehicle-Deer Traffic Crashes by Day of Week, 2006



Source: MSPTCD and SEMCOG, 2006.

Figure 55  
Vehicle-Deer Traffic Crashes by Hour of Day, 2006

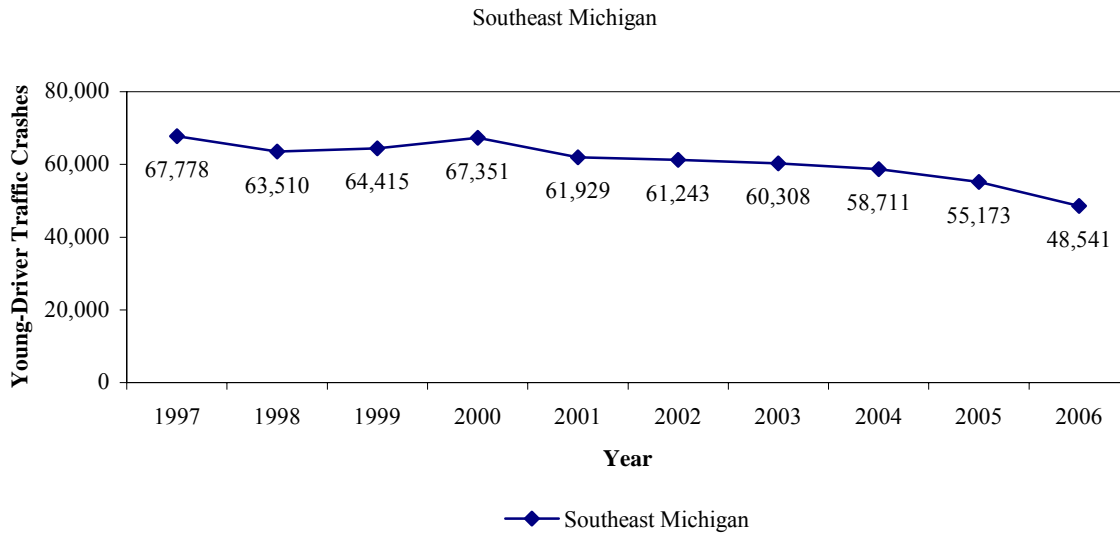


Source: MSPTCD and SEMCOG, 2006.

# 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 12.0 percent in Southeast Michigan between 2005 and 2006. Data for Michigan was not available. Table 13 shows young-driver crash percentages for 1997-2006.

Figure 56  
Young-Driver Traffic Crashes, 1997-2006



Source: MSPTCD and SEMCOG, 2006.

Table 13  
Young-Driver Traffic Crash Percentage, 1997-2006

Year	Young-Driver Traffic Crashes	All Traffic Crashes	Young-Driver Percentage
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%
2005	55,173	157,284	35.1%
2006	48,541	138,165	35.1%

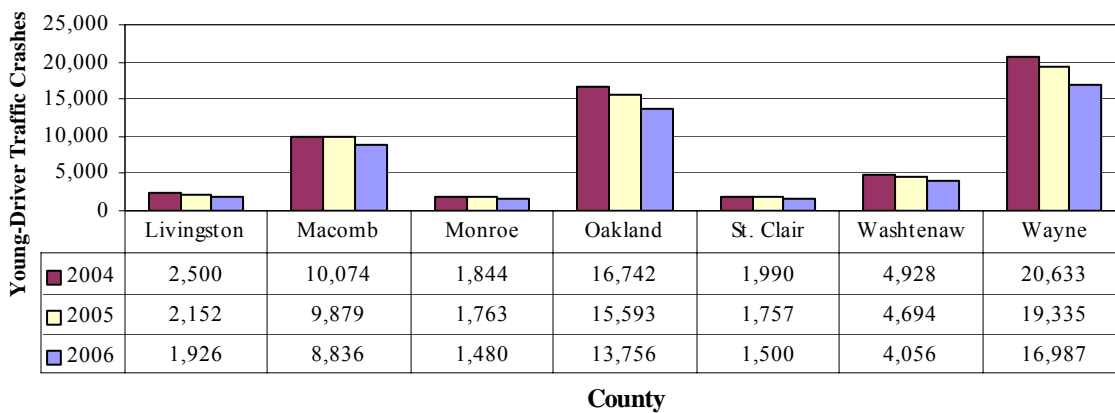
Source: MSPTCD and SEMCOG, 2006.

## Young-Driver Traffic Crashes by County

Figure 57 shows the number of young-driver crashes in each county in 2004-2006. All Southeast Michigan counties experienced a decrease in young-driver crashes with Monroe County receiving the greatest decrease at 16.1 percent.

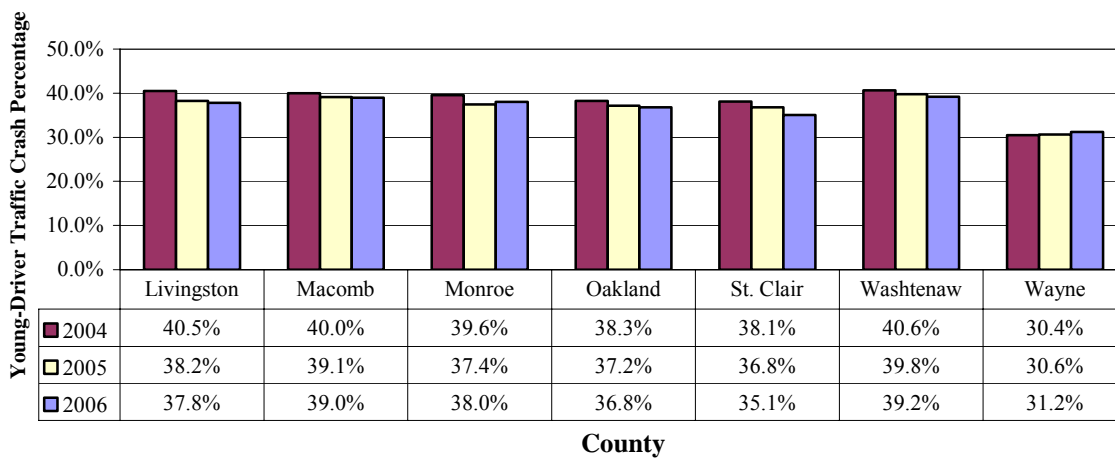
Wayne County continued to have the lowest young-driver traffic crash percentage in the region at just above 31.2 percent (Figure 58). All counties except for Wayne have young-driver crash rates at or above the regional traffic crash percentage of 35.1 percent.

Figure 57  
Young-Driver Traffic Crashes by County, 2004-2006



Source: MSPTCD and SEMCOG, 2006.

Figure 58  
Young-Driver Traffic Crash Percentage by County, 2004-2006

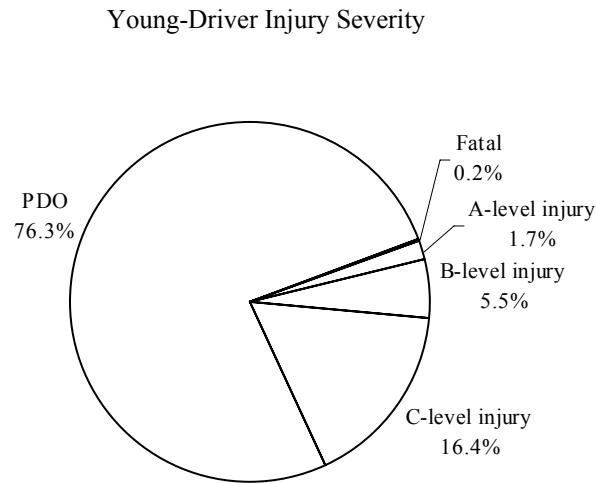


Source: MSPTCD and SEMCOG, 2006.

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

Just over 76 percent of traffic crashes involving young drivers resulted in property damage only. Figure 59 shows the severity of crashes involving young drivers in 2006. When compared to all other drivers, young drivers were more likely to have rear-end, angle, and head-on crashes and less likely to have single vehicles or sideswipe crashes than all drivers (Figure 60).

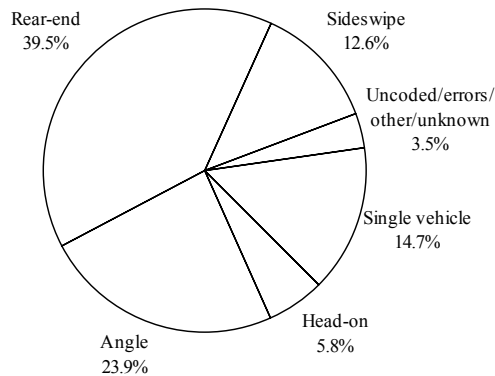
Figure 59  
Young-Driver Traffic Crash Severity, 2006



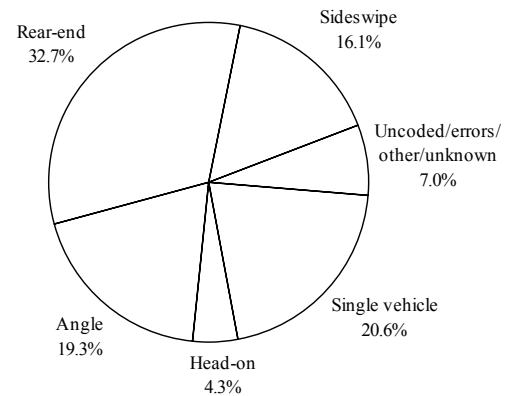
Source: MSPTCD and SEMCOG, 2006.

Figure 60  
Young-Driver Traffic Crashes by Crash Type, 2006

Young-Driver Traffic Crashes



All Other Traffic Crashes

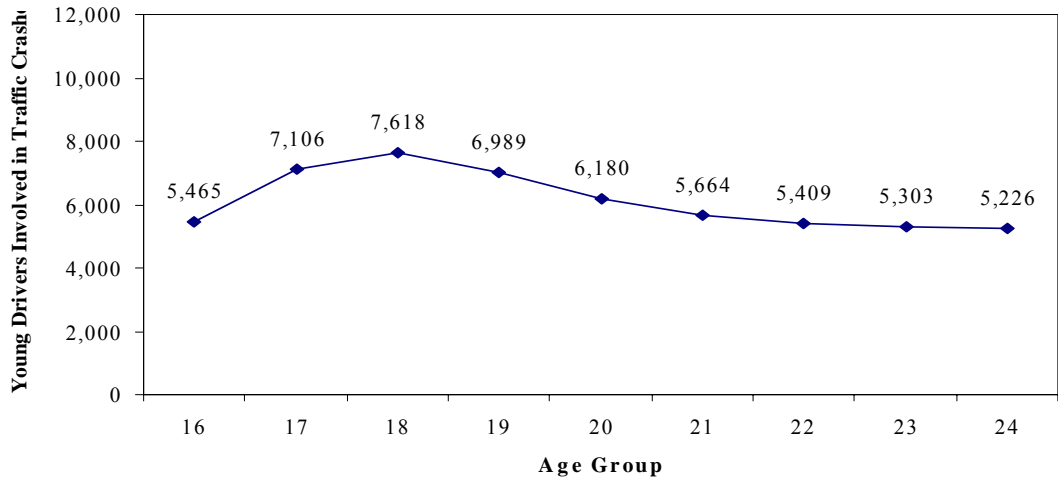


Source: MSPTCD and SEMCOG, 2006.

## 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 2006. Crashes among young drivers peaked at age 18 as a group with over 7,600 crashes, although male drivers experienced higher totals. Table 14 breaks down each age by gender.

Figure 61  
Young Driver Traffic Crash Involvement by Age Group, 2006



Source: MSPTCD and SEMCOG, 2006.

Table 14  
Young Driver Traffic Crash Involvement by Age Group and Gender, 2006

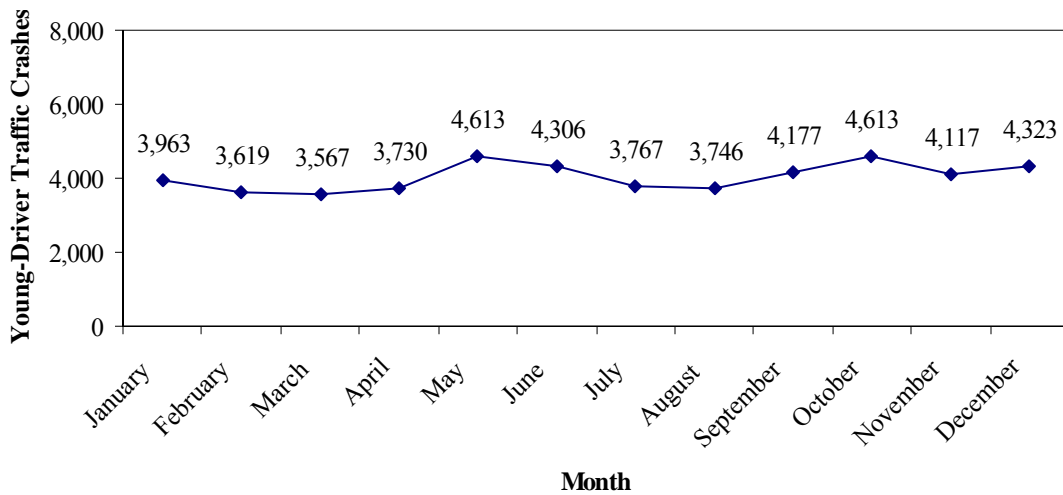
Age Group	Number of Driver by Gender			Total
	Female	Male	Unknown	
16	2,577	2,888	0	5,465
17	3,298	3,807	1	7,106
18	3,407	4,210	1	7,618
19	3,200	3,784	5	6,989
20	2,900	3,784	0	6,180
21	2,680	3,280	3	5,664
22	2,553	2,981	5	5,409
23	2,513	2,851	5	5,303
24	2,455	2,766	5	5,226
<b>Total</b>	<b>25,583</b>	<b>29,352</b>	<b>25</b>	<b>54,960</b>

Source: MSPTCD and SEMCOG, 2006.

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

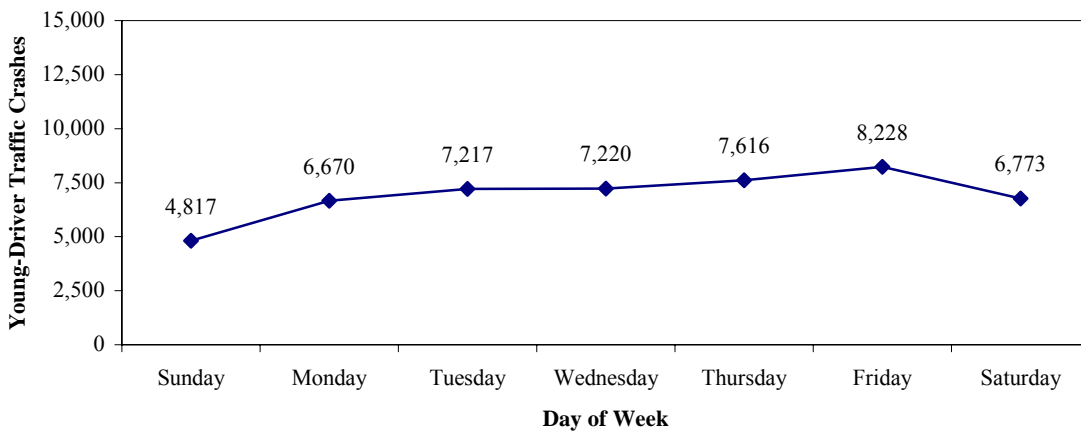
Crashes involving young drivers were most frequent in May and October (4,613) and least frequent in March. When grouped by day of week, young-driver crashes followed the same pattern as all crashes (Figure 11), with most crashes taking place on Fridays (8,228) and the fewest taking place on Sundays (4,817). Figures 62 and 63 show these numbers in greater detail.

Figure 62  
Young-Driver Traffic Crashes by Month, 2006



Source: MSPTCD and SEMCOG, 2006.

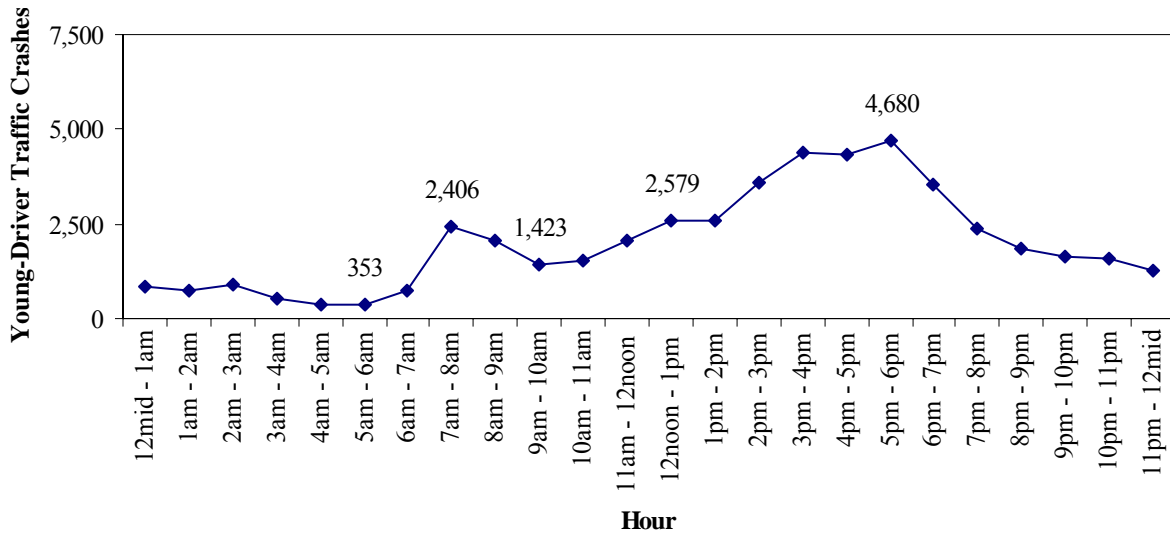
Figure 63  
Young-Driver Traffic Crashes by Day of Week, 2006



Source: MSPTCD and SEMCOG, 2006.

Figure 64 shows the number of young-driver traffic crashes grouped by the hour they occurred. As with all traffic crashes in 2006 (Figure 12), traffic crashes involving young drivers were most frequent between 3 p.m. and 6 p.m. and least frequent between 3 a.m. and 6 a.m.

Figure 64  
Young-Driver Traffic Crashes by Hour of Day, 2006



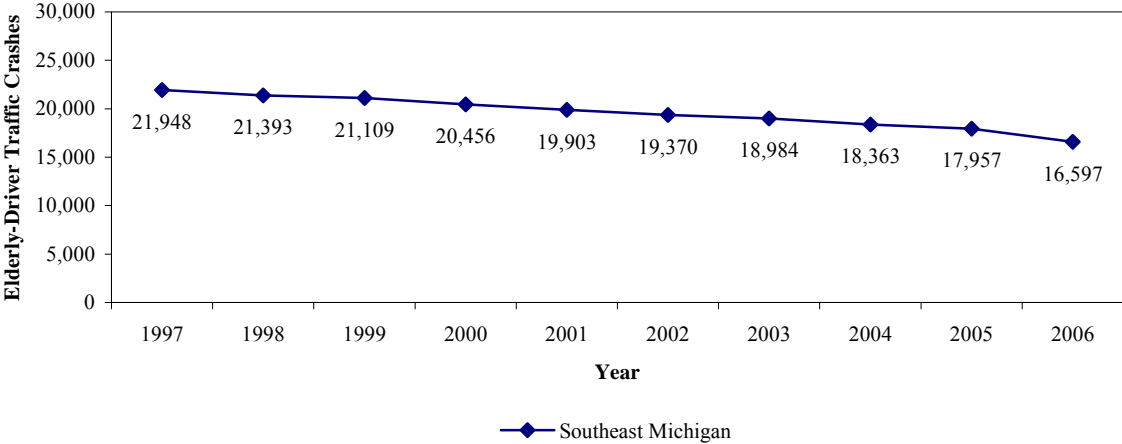
Source: MSPTCD and SEMCOG, 2006.

# 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 2006, regardless of the cause of the crash. Crashes involving elderly drivers in Southeast Michigan declined in 2006 for the ninth consecutive year, to 16,597 crashes.

Table 15 shows that 12 percent of all traffic crashes in Southeast Michigan in 2006 involved an elderly driver.

Figure 65  
Elderly Driver Traffic Crashes, 1997-2006



Source: MSPTCD and SEMCOG, 2006. \* Michigan data not was available.

Table 15  
Elderly Driver Traffic Crash Percentage, 1997-2006

Year	Elderly-Driver Traffic Crashes	All Traffic Crashes	Elderly-Driver Percentage
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%
2005	17,957	157,284	11.4%
2006	16,597	138,165	12.0%

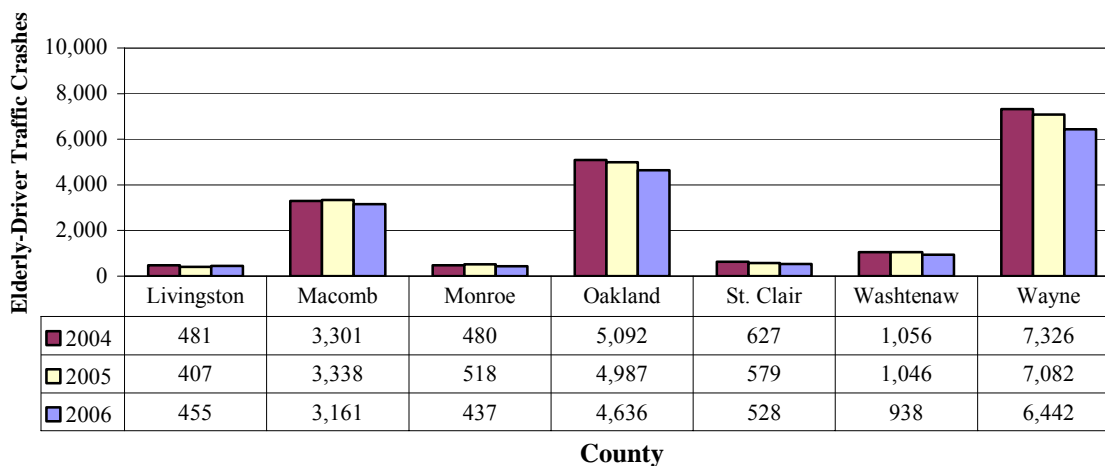
Source: MSPTCD and SEMCOG, 2006

## 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. The region as a whole saw a decrease in elderly-driver crashes even though Livingston County saw a slight increase (10.5 percent).

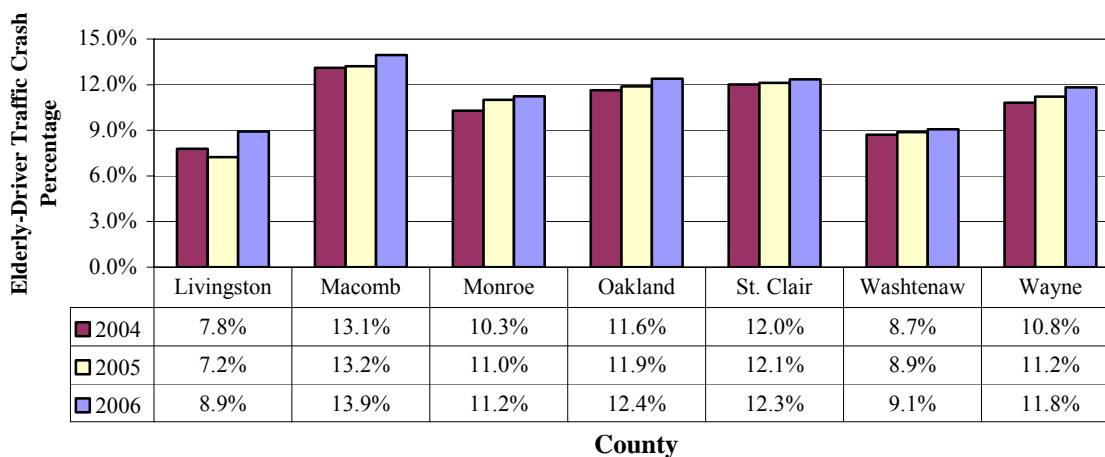
Macomb County continued to have the highest percentage of elderly driver crashes in the region at 13.9 percent. Livingston County had the lowest percentage in the region at 8.9 percent.

Figure 66  
Elderly Driver Traffic Crashes by County, 2004-2006



Source: MSPTCD and SEMCOG, 2006.

Figure 67  
Elderly Driver Traffic Crash Percentage by County, 2004-2006



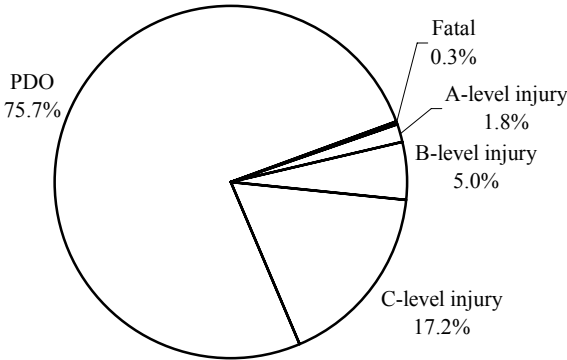
Source: MSPTCD and SEMCOG, 2006.

# Elderly Driver Traffic Crashes by Severity and Crash Type

As shown in Figure 68, nearly 76 percent of all traffic crashes involving elderly drivers resulted in property damage only, compared to 78.3 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 when compared to all other driver crashes.

Figure 68  
Elderly Driver Traffic Crash Severity, 2006

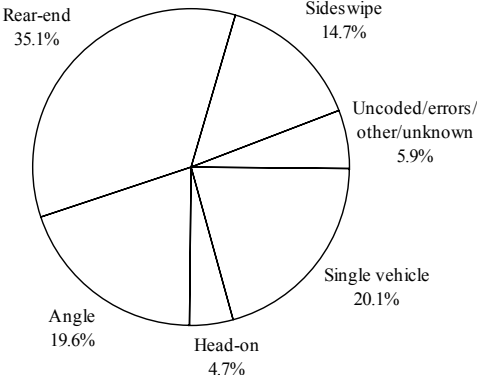
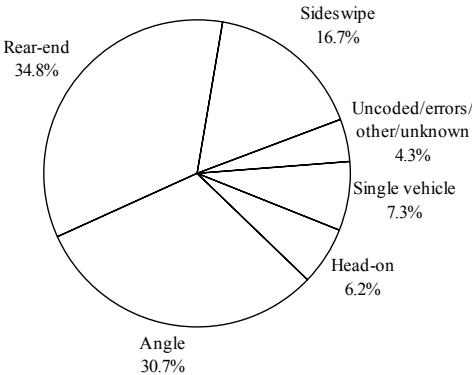


Source: MSPTCD and SEMCOG, 2006.

Figure 69  
Elderly Driver Traffic Crashes by Crash Type, 2006

## Elderly Driver Traffic Crashes

## All Other Traffic Crashes



Source: MSPTCD and SEMCOG, 2006.

## Age and Gender of Elderly Drivers in Traffic Crashes

In 2006, 17,502 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 Involvement in Traffic Crashes by Age and Gender, 2006

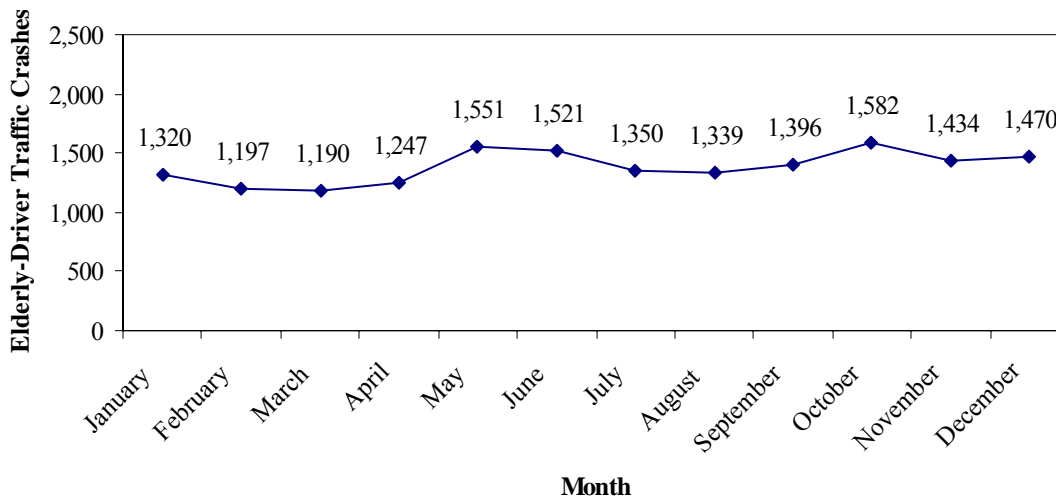
Age Group	Number of Drivers by Gender			Total
	Female	Male	Unknown	
65 to 74	4,403	5,447	6	9,856
75 to 84	2,854	3,392	1	6,247
85 to 94	615	754	0	1,369
95 and above	11	19	0	30
<b>Total</b>	<b>7,883</b>	<b>9,612</b>	<b>7</b>	<b>17,502</b>

Source: MSPTCD and SEMCOG, 2006.

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

As shown in Figure 70, elderly driver crashes were most common in October (1,582) and least common in February and March.

Figure 70  
Elderly Driver Traffic Crashes by Month, 2006

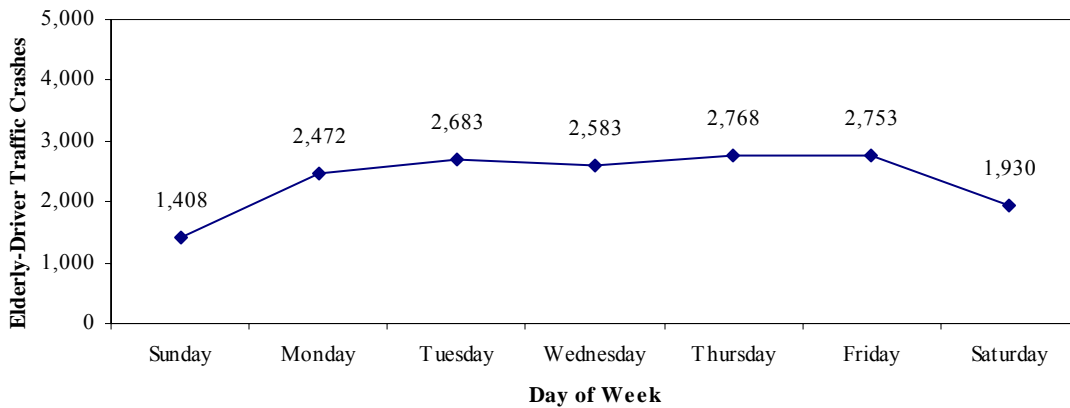


Source: MSPTCD and SEMCOG, 2006.

In 2006, crashes involving elderly drivers occurred more often on Thursdays than any other day and least often on Sundays (Figure 71).

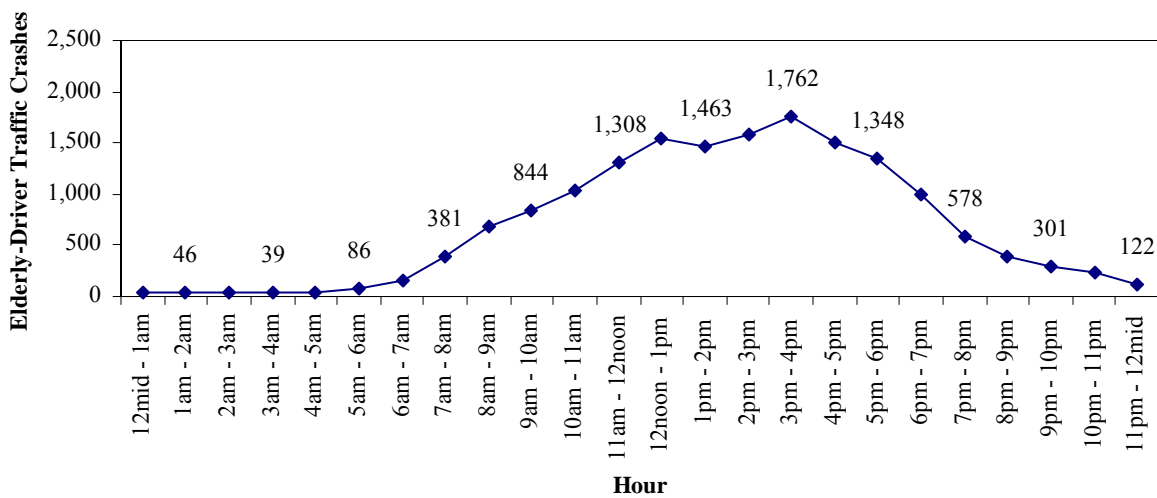
Figure 72 shows the number of elderly driver traffic crashes grouped by the hour during which they occurred. The peak time for elderly driver crashes was between 3 p.m. and 4 p.m., with a noticeable drop after this hour. This is different from the pattern of all traffic crashes (Figure 12), where the 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, 2006



Source: MSPTCD and SEMCOG, 2006.

Figure 72  
Elderly Driver Traffic Crashes by Hour of Day, 2006

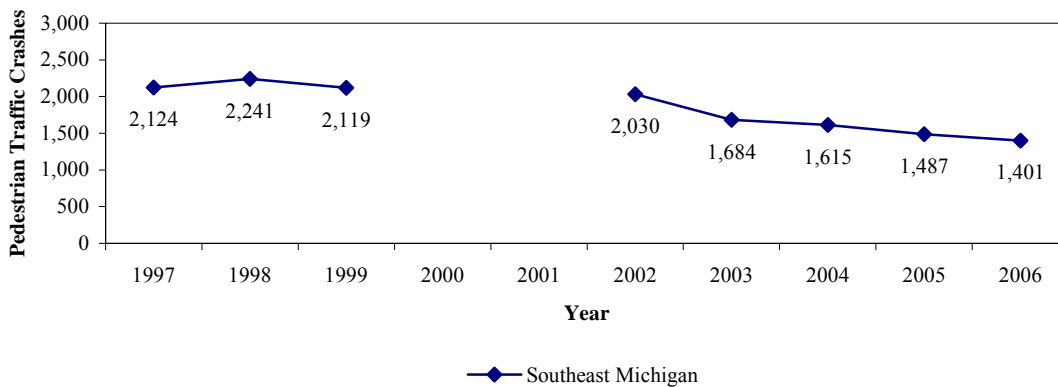


Source: MSPTCD and SEMCOG, 2006.

## Pedestrian Traffic Crashes

A pedestrian is typically defined as a person traveling on foot. Crashes in Southeast Michigan involving pedestrians totaled 1,401 in 2006 as shown in Figure 73. This represents a 5.8 percent decrease from 2005.

Figure 73  
Pedestrian Traffic Crashes, 1997-1999 and 2002-2006

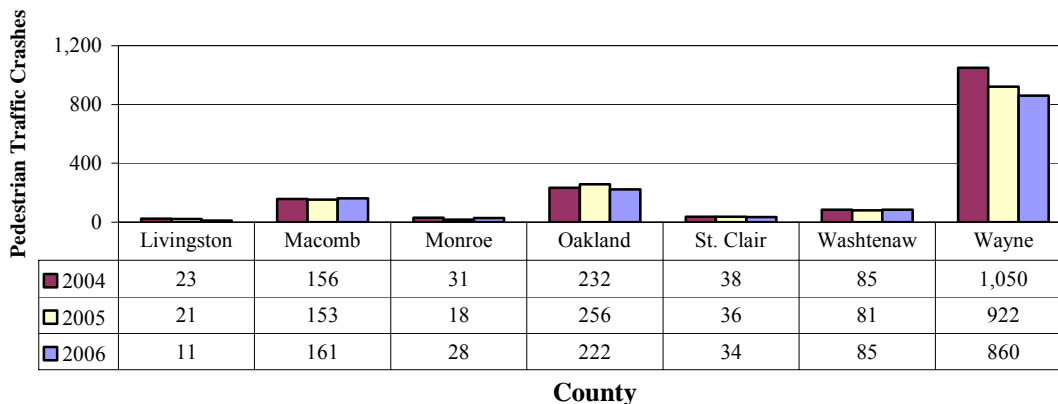


Source: MSPTCD and SEMCOG, 2006. \* Page 1 explains why 2000 and 2001 data is not available.

## Pedestrian Traffic Crashes by County

Figure 74 shows how many pedestrian crashes occurred in each Southeast Michigan county in 2006. Wayne County had the highest number of pedestrian crashes, followed by Oakland and Macomb Counties.

Figure 74  
Pedestrian Traffic Crashes by County, 2004-2006

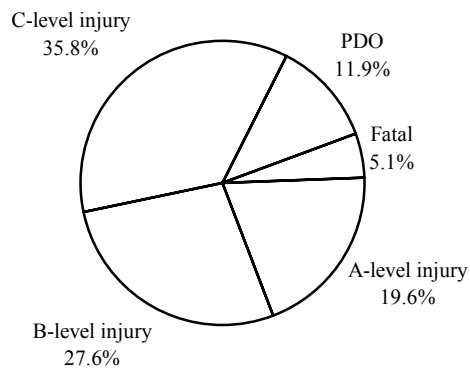


Source: MSPTCD and SEMCOG, 2006.

## Pedestrian Traffic Crashes by Severity

Figure 75 shows that 5.1 percent of the traffic crashes involving pedestrians in 2006 were fatal, compared to only 0.3 percent of all crashes; only 12.0 percent of pedestrian crashes resulted in no injury, compared to 78.3 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, 2006

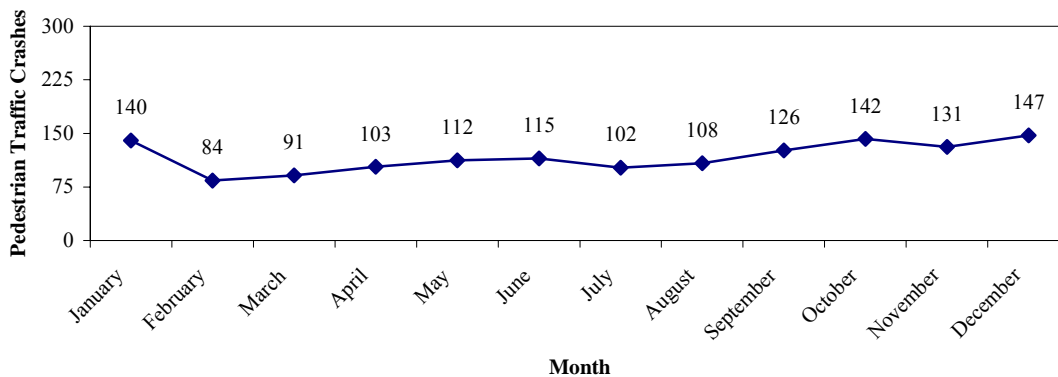


Source: MSPTCD and SEMCOG, 2006.

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

As shown in Figure 76, traffic crashes involving pedestrians peaked in the months of December and October (147 and 142 respectively). February had the fewest pedestrian crashes with 84.

Figure 76  
Pedestrian Traffic Crashes by Month, 2006

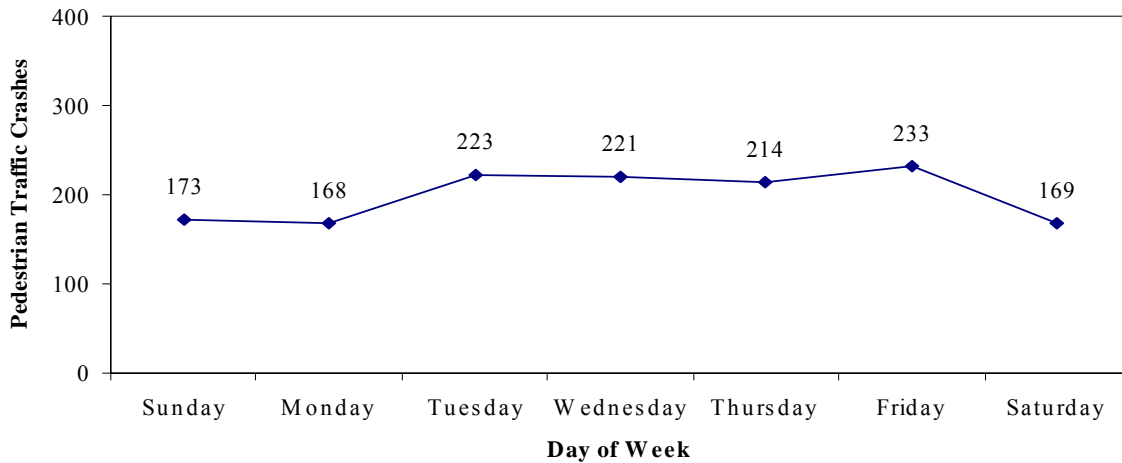


Source: MSPTCD and SEMCOG, 2006.

In 2006 pedestrian crashes were less likely to take place on Saturdays and Mondays than any other day of the week. The lowest pedestrian crash total was 168 on Mondays, and the highest number was 233 on Fridays (Figure 77).

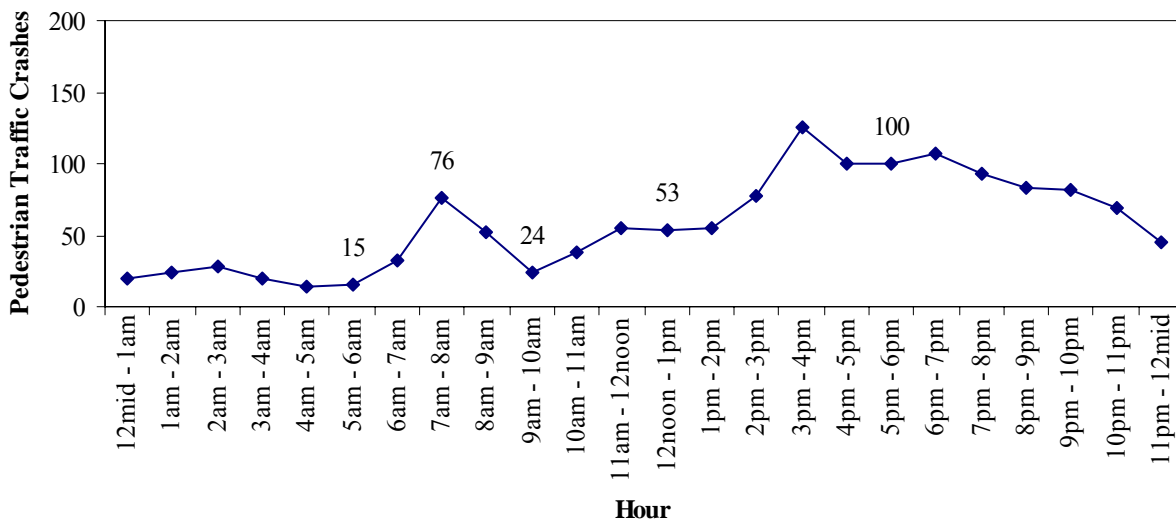
Pedestrian crashes, like all crashes, were more frequent during daylight hours, with most pedestrian crashes taking place in the late afternoon and evening hours (Figure 78).

Figure 77  
Pedestrian Traffic Crashes by Day of Week, 2006



Source: MSPTCD and SEMCOG, 2006.

Figure 78  
Pedestrian Traffic Crashes by Hour of Day, 2006



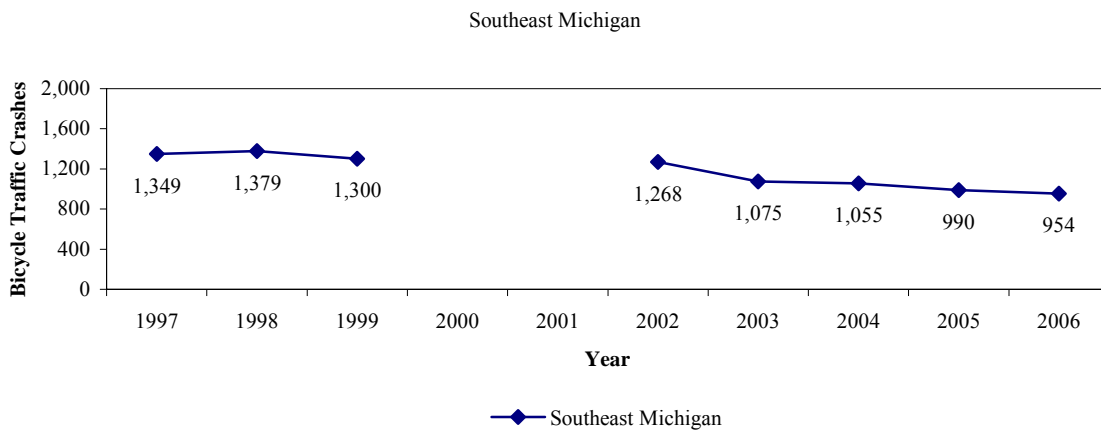
Source: MSPTCD and SEMCOG, 2006.

# 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 3.6 percent between 2005 and 2006.

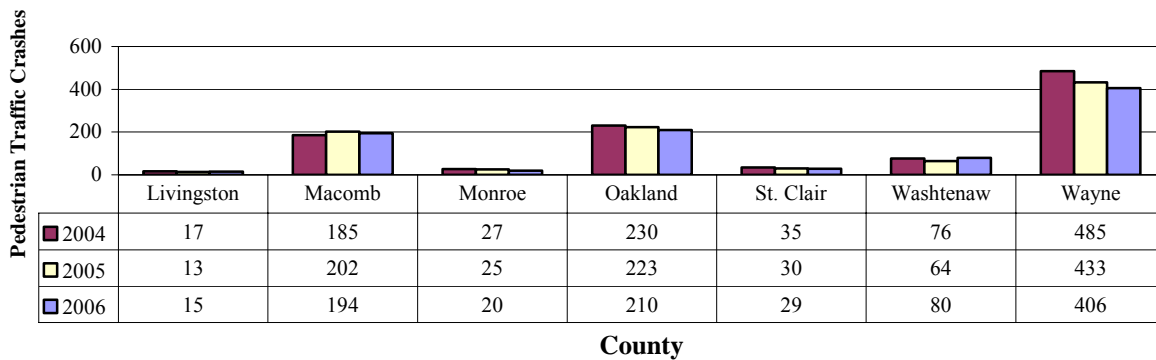
As with pedestrian crashes, Wayne County led the region in bicycle crashes, followed by Oakland County and Macomb County. Livingston and Washtenaw Counties were the only counties to experience increases in traffic crashes involving bicycles (Figure 80).

Figure 79  
Bicycle Traffic Crashes, 1997-1999 and 2002-2006



Source: MSPTCD and SEMCOG, 2006. \*Michigan data was not available and Page 1 explains the missing data for 2000 and 2001.

Figure 80  
Bicycle Traffic Crashes by County, 2004-2006

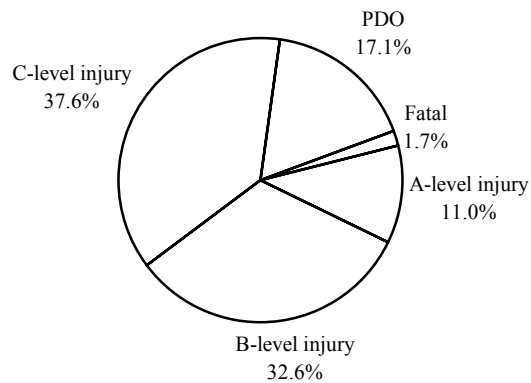


Source: MSPTCD and SEMCOG, 2006.

## 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). More than 17 percent of crashes involving bicycles resulted in no injuries, compared to 78.3 percent of all crashes and 11.9 percent of pedestrian crashes.

Figure 81  
Bicycle Traffic Crash Severity, 2006

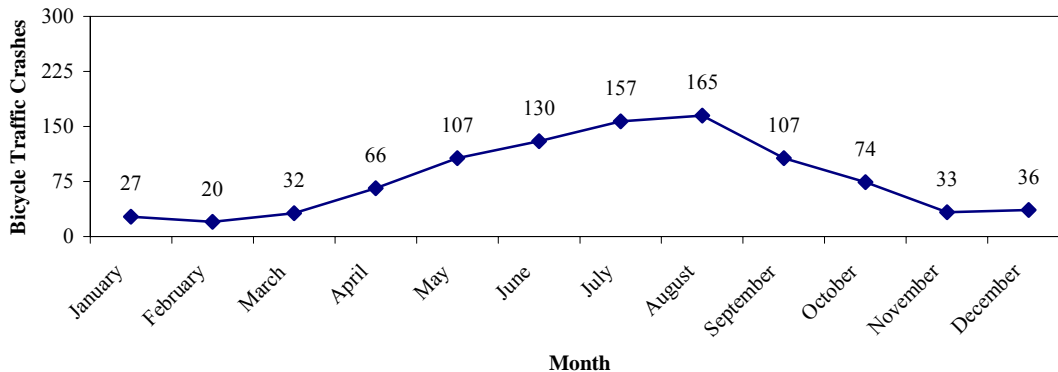


Source: MSPTCD and SEMCOG, 2006.

## 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 August at 165 crashes and hit a low point in February with 20 crashes (Figure 82).

Figure 82  
Bicycle Traffic Crashes by Month, 2006

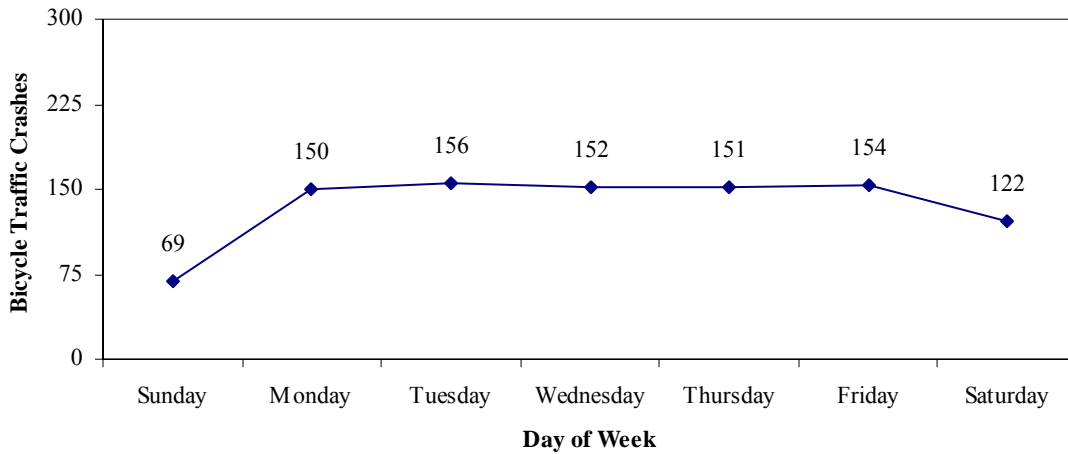


Source: MSPTCD and SEMCOG, 2006.

As with pedestrian crashes and all crashes, bicycle crashes were more common on weekdays (Figure 83). Tuesdays had the most bicycle crashes (156) and Sundays had the fewest (69).

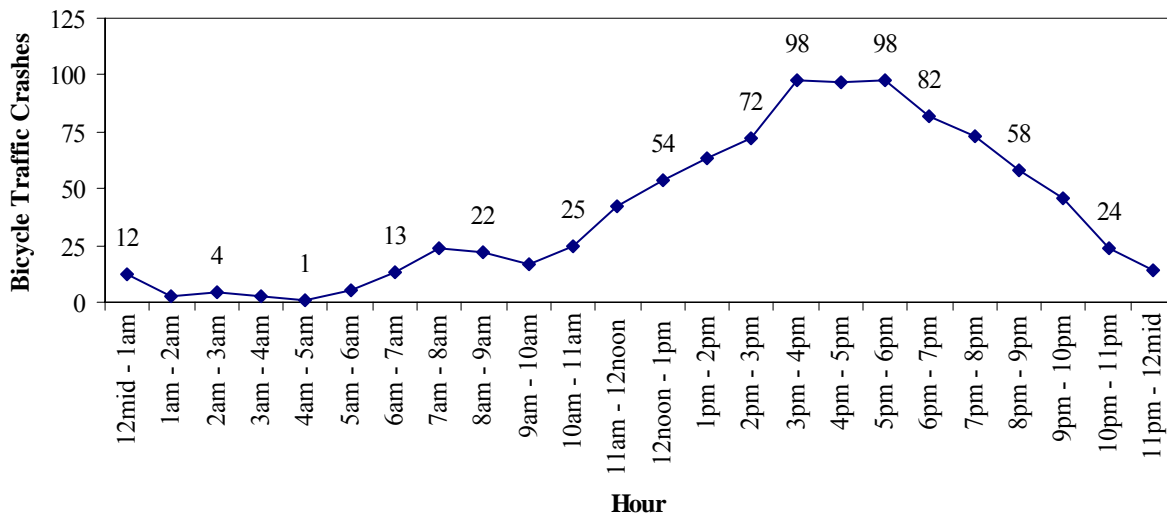
Bicycle crashes follow a time-of-day pattern that is similar to pedestrian crashes, with most crashes occurring in the late afternoon and early evening hours (Figure 84).

Figure 83  
Bicycle Traffic Crashes by Day of Week, 2006



Source: MSPTCD and SEMCOG, 2006.

Figure 84  
Bicycle Traffic Crashes by Hour of Day, 2006



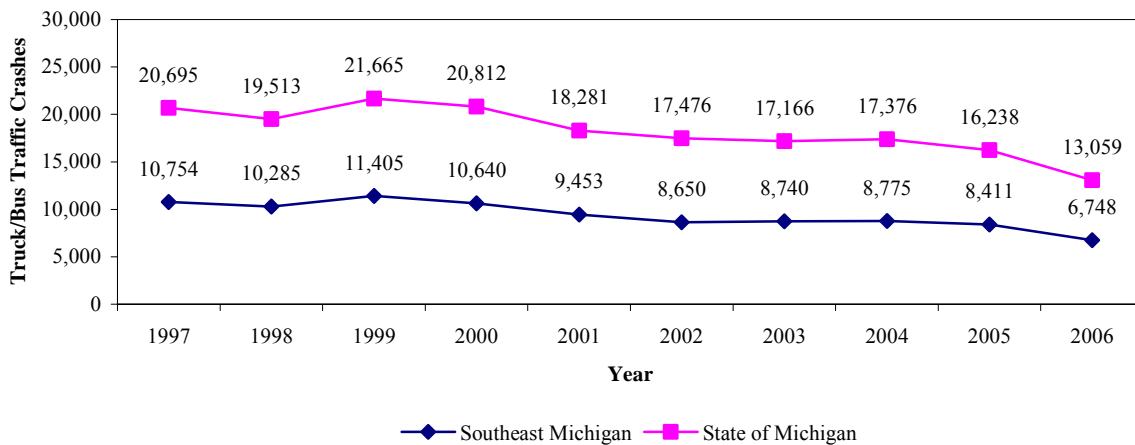
Source: MSPTCD and SEMCOG, 2006.

## Truck/Bus Traffic Crashes

Truck/bus traffic crashes are crashes that involve a commercial truck or bus. Truck/bus crashes decreased in 2006 in both Southeast Michigan and Michigan (19.8 and 19.6 percent respectively) (Figure 85).

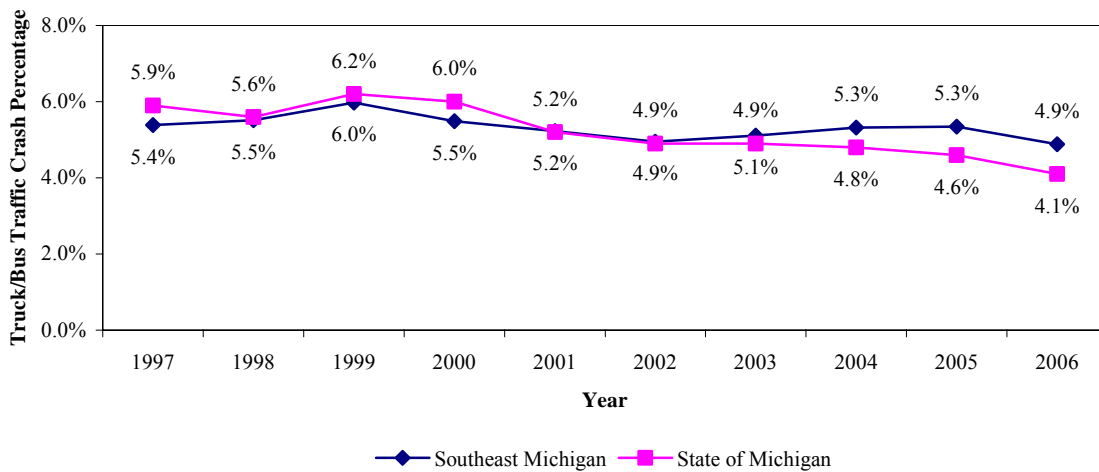
As Figure 86 shows, Southeast Michigan continues to have a higher percentage of truck/bus crashes than the State of Michigan. Nearly one out of every 20 traffic crashes (4.9 percent) in Southeast Michigan in 2006 involved a commercial truck or bus.

Figure 85  
Truck/Bus Traffic Crashes, 1997-2006



Source: MSPTCD and SEMCOG, 2006.

Figure 86  
Truck/Bus Traffic Crash Percentage, 1997-2006



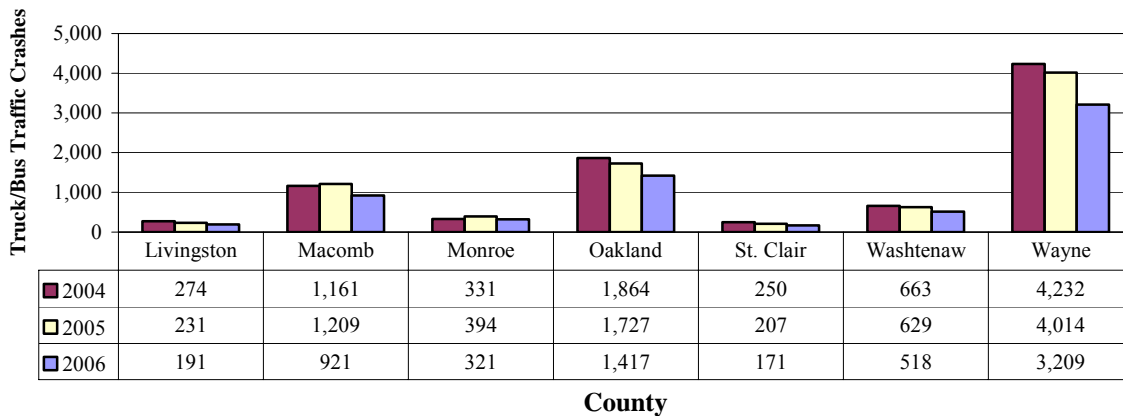
Source: MSPTCD and SEMCOG, 2006.

## 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 2004-2006. All counties experienced a drop in truck/bus crashes in 2006.

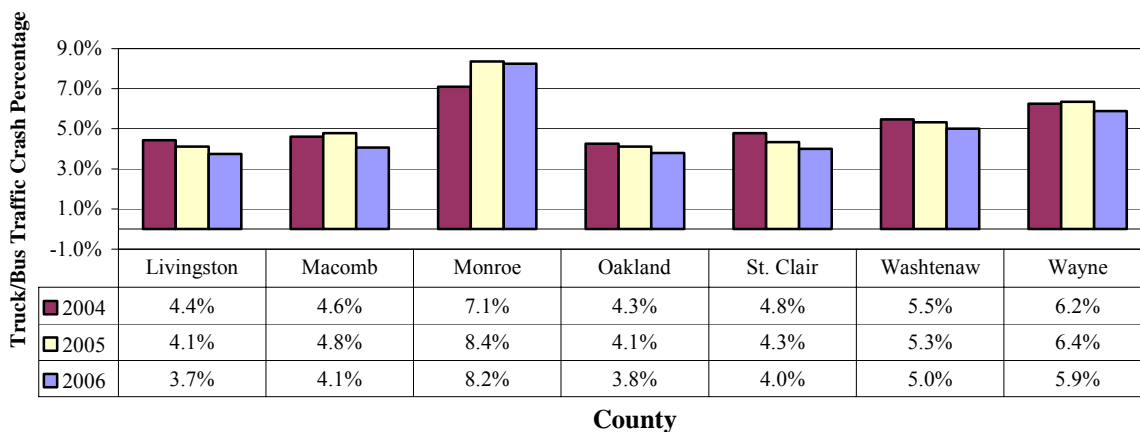
Monroe County continued to lead the region in truck/bus traffic crash percentage at just over eight percent. The counties with the lowest truck/bus crash percentages were Livingston and Oakland at just under four percent each (Figure 88).

Figure 87  
Truck/Bus Traffic Crashes by County, 2004-2006



Source: MSPTCD and SEMCOG, 2006.

Figure 88  
Truck/Bus Traffic Crash Percentage by County, 2004-2006

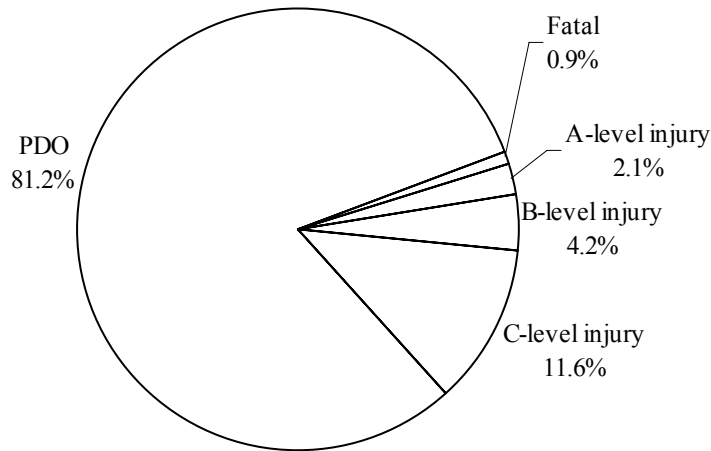


Source: MSPTCD and SEMCOG, 2006.

## 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 78.3 percent of all traffic crashes. 58 truck/bus crashes were fatal, which is 0.9 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, 2006



Source: MSPTCD and SEMCOG, 2006.

Table 17  
Truck/Bus Traffic Crash by Severity, 2006

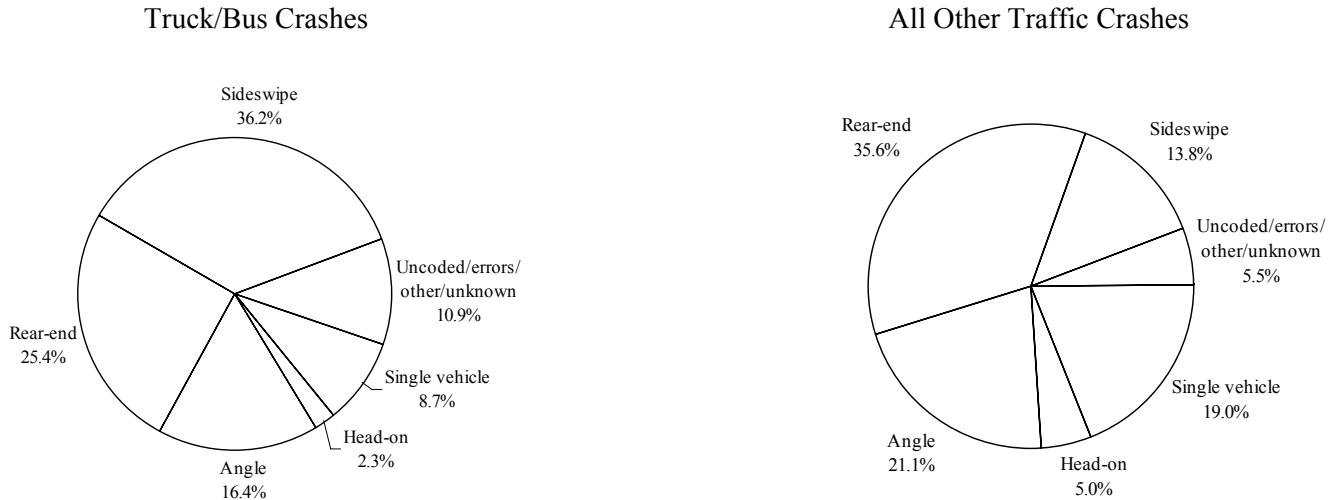
Crash Severity	Truck/Bus Traffic Crashes	All Traffic Crashes	Truck/Bus Percentage
Fatal	58	362	16.0%
A-level Injury	139	2,436	5.7%
B-level Injury	283	6,476	4.4%
C-level Injury	786	20,664	3.8%
PDO	5,482	108,227	5.1%
<b>Total</b>	<b>6,748</b>	<b>138,165</b>	<b>4.9%</b>

Source: MSPTCD and SEMCOG, 2006.

## 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, rear-end, or head-on crashes when compared to same style for all other crashes. Table 18 shows that just over 11.9 percent of all sideswipe crashes involved a commercial truck or bus.

Figure 90  
Truck/Bus Traffic Crashes by Crash Type, 2006



Source: MSPTCD and SEMCOG, 2006.

Table 18  
Traffic Crash Type by Truck/Bus Percentage, 2006

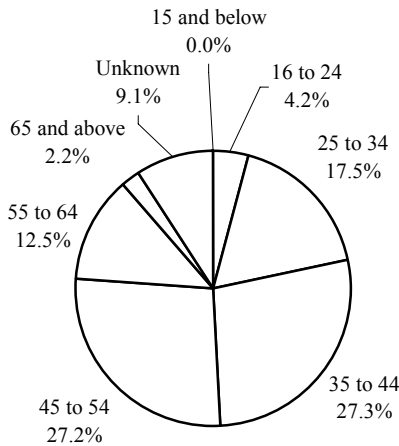
Crash Type	Truck/Bus Traffic Crashes	All Traffic Crashes	Truck/Bus Percentage
Uncoded/errors/other/unknown	735	7,925	9.3%
Single vehicle	589	25,594	2.3%
Head-on	158	6,688	2.4%
Angle	1,104	28,893	3.8%
Rear-end	1,717	48,466	3.5%
Sideswipe	2,445	20,599	11.9%
<b>Total</b>	<b>6,748</b>	<b>138,165</b>	<b>4.9%</b>

Source: MSPTCD and SEMCOG, 2006.

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

Of the truck or bus drivers whose ages were recorded, 27.3 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 2006. Most of those drivers were male.

Figure 91  
Truck/Bus Drivers in Traffic Crashes by Age Group, 2006



Source: MSPTCD and SEMCOG, 2006.

Table 19  
Truck/Bus Drivers in Traffic Crashes by Age and Gender, 2006

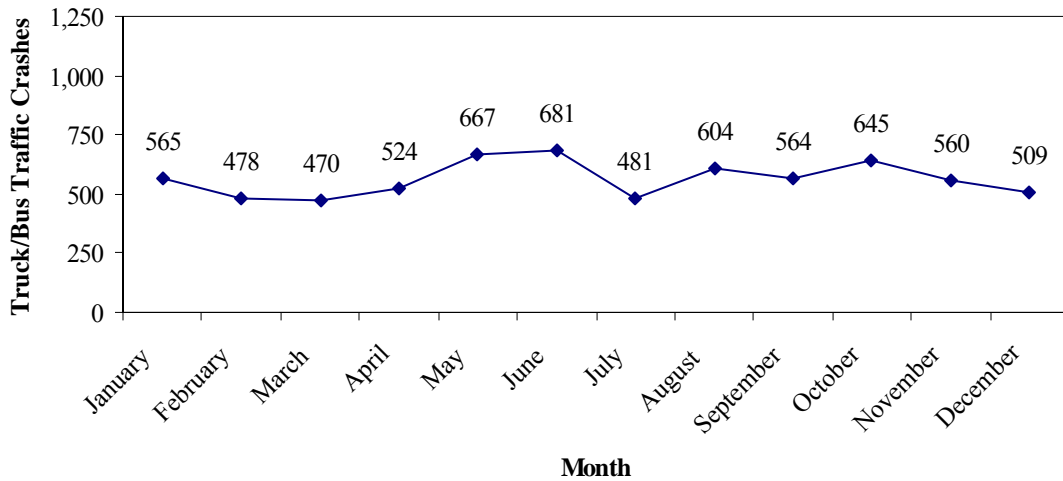
Age group	Number of Driver by Gender			Total
	Female	Male	Unknown	
15 and below	0	2	0	2
16 to 24	16	281	0	297
25 to 34	102	1124	6	1,232
35 to 44	244	1670	4	1,918
45 to 54	273	1630	7	1,910
55 to 64	104	770	0	874
65 to 74	18	118	0	136
75 to 84	0	16	0	16
85 to 94	0	0	0	0
95 and above	0	0	0	0
Unknown	9	122	510	641
<b>Total</b>	<b>766</b>	<b>5,733</b>	<b>527</b>	<b>7,026</b>

Source: MSPTCD and SEMCOG, 2006.

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

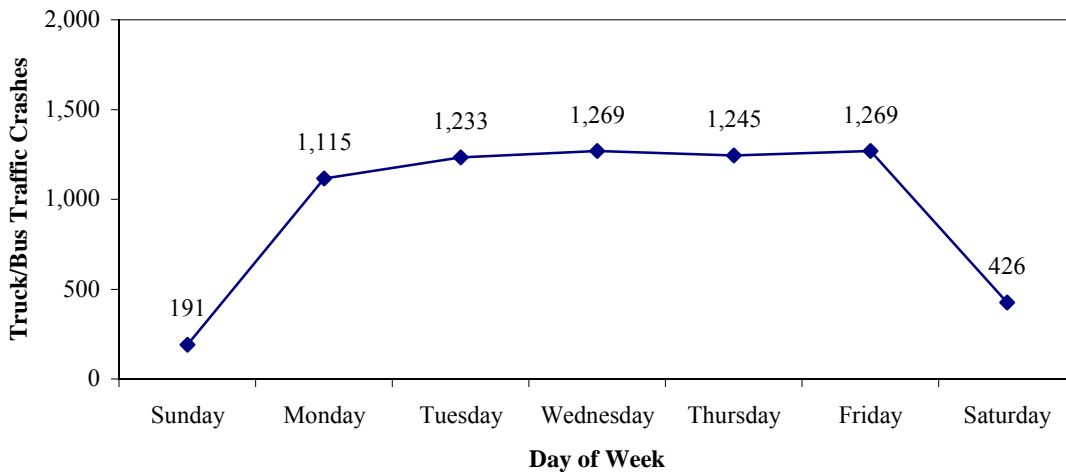
Traffic crashes involving trucks and buses were more frequent during May and June than any other month (Figure 92). Truck/bus crashes were least frequent in July. As Figure 93 shows, truck/bus crashes were much more common on weekdays, with nearly 91 percent of truck/bus crashes taking place during the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

Figure 92  
Truck/Bus Traffic Crashes by Month, 2006



Source: MSPTCD and SEMCOG, 2006.

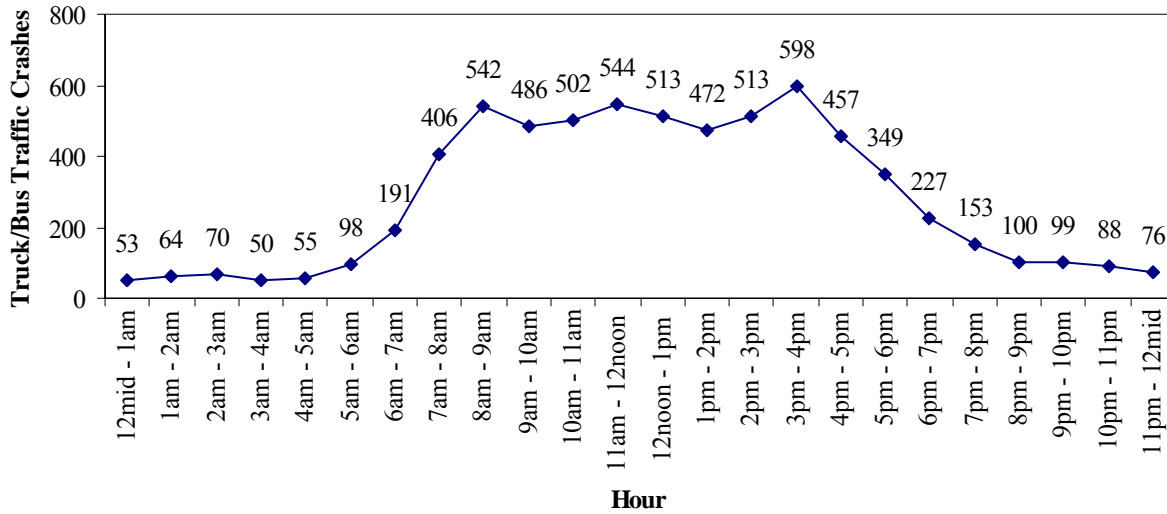
Figure 93  
Truck/Bus Traffic Crashes by Day of Week, 2006



Source: MSPTCD and SEMCOG, 2006.

When grouped by hour of day as in Figure 94, truck/bus crashes were likely to peak during daylight hours, unlike all traffic crashes (Figure 12).

Figure 94  
Truck/Bus Traffic Crashes by Hour of Day, 2006

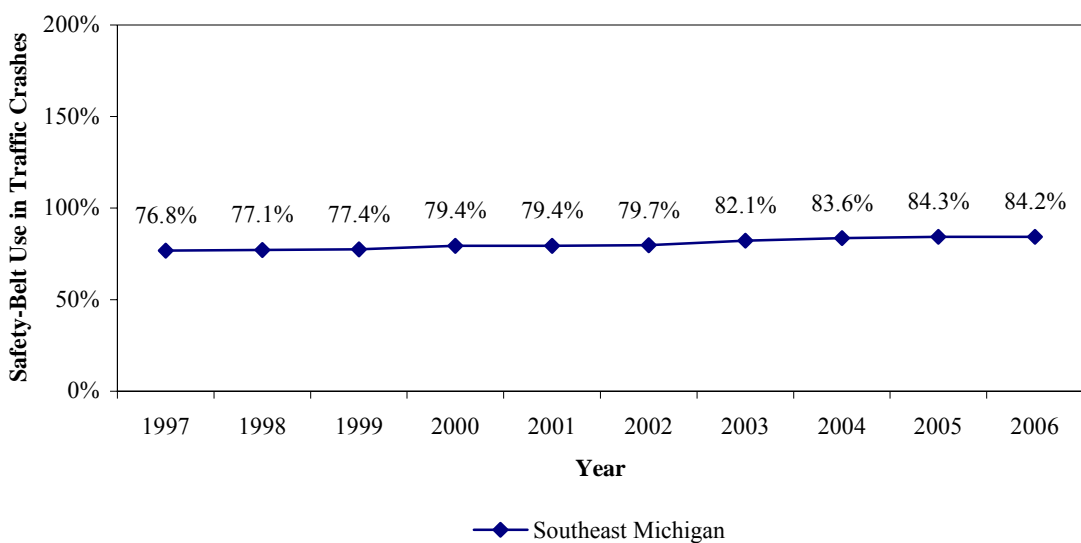


Source: MSPTCD and SEMCOG, 2006.

# Safety-Belt Use

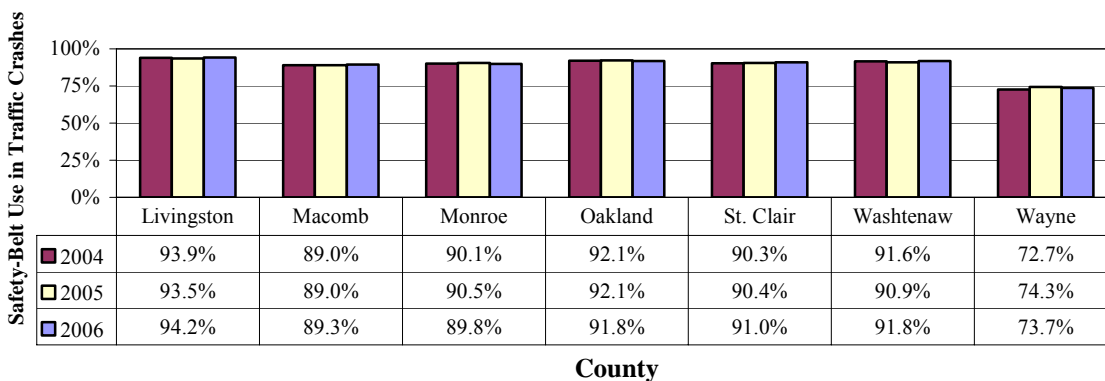
Use of safety belts by drivers in traffic crashes decreased slightly in 2006 in Southeast Michigan (Figure 95). Over 84 percent of drivers in crashes reported that they were wearing their safety belts at the time of the crash. Figure 96 shows safety-belt use in each county. Macomb, Monroe, and Wayne Counties were below 90 percent safety-belt usage in 2006. Wayne County continued to have the lowest rate of belt use at 73.7 percent. Monroe, Oakland, and Wayne Counties showed a slight decrease in safety belt usage in crashes.

Figure 95  
Driver Safety-Belt Use, 1997-2006



Source: MSPTCD and SEMCOG, 2006.

Figure 96  
Driver Safety-Belt Use by County, 2004-2006

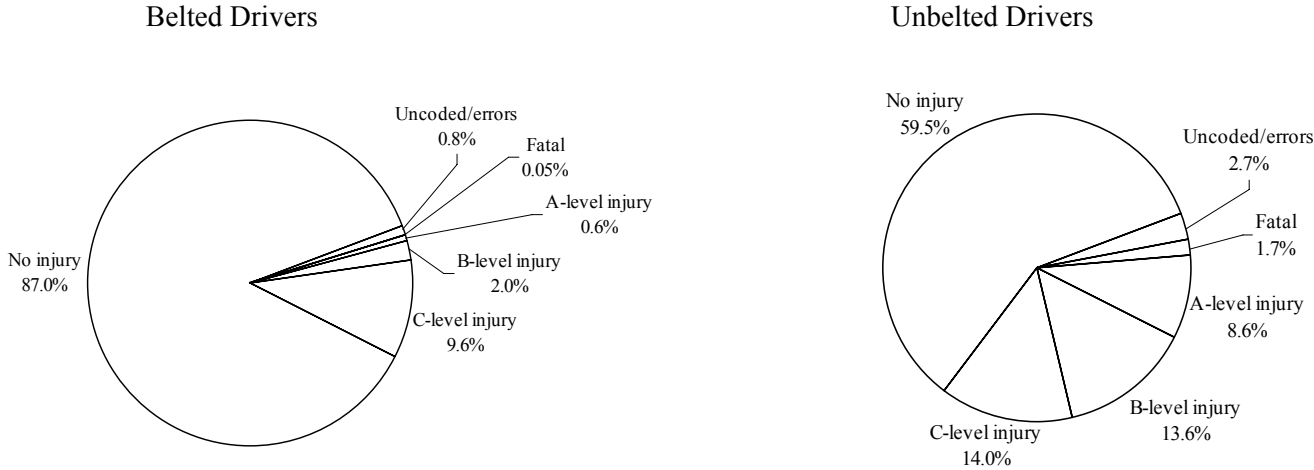


Source: MSPTCD and SEMCOG, 2006.

# Injury Severity of Belted vs. Unbelted Drivers

As shown in Figure 97, over 87 percent of belted drivers escaped injury altogether, but only 59.5 percent of unbelted drivers were uninjured. 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, 2006

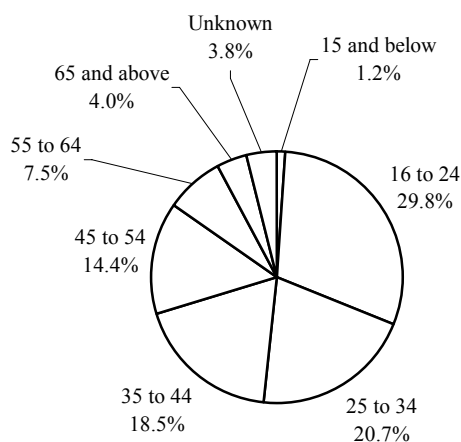


Source: MSPTCD and SEMCOG, 2006.

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

Figure 98 shows how unbelted drivers in 2006 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, 2006



Source: MSPTCD and SEMCOG, 2006.

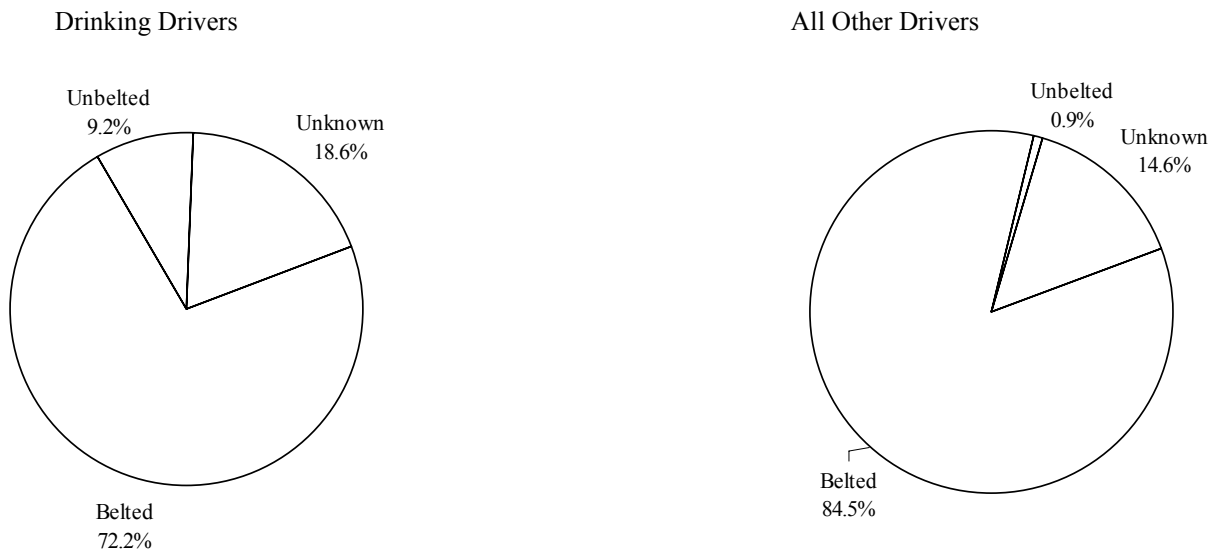
Table 20  
Unbelted Drivers by Age and Gender, 2006

Age Group	Number of Drivers by Gender			Total
	Female	Male	Unknown	
15 and below	4	28	0	32
16 to 24	234	544	0	778
25 to 34	164	377	0	541
35 to 44	142	342	0	484
45 to 54	105	271	0	376
55 to 64	68	128	0	196
65 to 74	21	35	0	56
75 to 84	11	28	0	39
85 to 94	3	6	0	9
95 and above	0	0	0	0
Unknown	11	60	28	99
<b>Total</b>	<b>763</b>	<b>1,819</b>	<b>28</b>	<b>2,610</b>

Source: MSPTCD and SEMCOG, 2006.

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 nine percent of drinking drivers were unbelted at the time of a crash, compared to nearly one percent of all other drivers.

Figure 99  
Safety-Belt Use Among HBD Drivers, 2006



Source: MSPTCD and SEMCOG, 2006.

# 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

<b>Holiday day of week</b>	<b>Holiday period begins</b>	<b>Holiday period ends</b>	<b>Number of Days</b>
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 2004-2006. 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, 2004-2006

<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 2006 [3] 2005 [3] 2004 [3]	8 (3) 3 (1) 3 (3)	10 (4) 3 (1) 3 (3)
Fourth of July 2006 [3] 2005 [3] 2004 [3]	10 (6) 5 (2) 6 (2)	10 (6) 6 (3) 6 (2)
Labor Day 2006 [3] 2005 [3] 2004 [3]	2 (1) 5 (2) 5 (1)	2 (1) 2 (2) 7 (2)
Thanksgiving 2006 [4] 2005 [4] 2004 [4]	5 (3) 7 (4) 3 (1)	5 (3) 7 (4) 3 (1)
Christmas 2006 [3] 2005 [3] 2004 [3]	0 (0) 3 (2) 4 (1)	0 (0) 3 (2) 4 (1)
New Year Holiday 2006/07 [3] 2005/06 [3] 2004/05 [3] 2003/04 [4]	0* (0)* 3 (1) 4 (4) 3 (3)	0* (0)* 4 (1) 4 (4) 3 (3)

Source: MSPTCD and SEMCOG, 2006.

\*Data are incomplete for 2006/2007 New Year Holiday. This count does not include crashes that took place in 2007.



## Appendix A-Vehicle Miles Traveled (VMT)

Data about VMT in each county in 2006 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, 2006

County	VMT (in millions)
Livingston	2,148
Macomb	6,783
Monroe	2,261
Oakland	13,651
St. Clair	1,752
Washtenaw	3,951
Wayne	19,200
<b>Total</b>	<b>49,746</b>

Source: MDOT, 2006.

The results of a 1994 SEMCOG survey were used to estimate VMT for each age group in 2005. 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 2005 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

Age Group	Percent VMT
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 2006 to obtain an estimate for the number of miles driven by each age group in 2006. The results are shown in Table 25.

Table 25  
Estimated Million VMT by Age Group, 2006

<b>Age Group</b>	<b>Estimated 2004 VMT (in millions)</b>
15 and below	188
16 to 24	4,916
25 to 34	8,808
35 to 44	14,028
45 to 54	10,246
55 to 64	5,764
65 to 74	4,501
75 to 84	1,206
85 to 94	87
95 and above	1
<b>Total</b>	<b>49,746</b>

Source: MDOT and SEMCOG, 2006.

## 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 2007, as shown in Table 26.

As of January 2007, there were 3,419,788 drivers registered in Southeast Michigan counties, a 0.5 percent decrease over January 2005. 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 118,470. Wayne County had a decrease in registered drivers with a 2.8 percent loss from January 2005.

For the first time in the ten years that SEMCOG has been tracking this statistic, the 45-54 age group took over as largest registered drivers age group. This was the largest age group in all counties except Macomb, Washtenaw, and Wayne, in which 35-44 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 (2.2 percent) than male registered drivers in Southeast Michigan.

Table 26  
Southeast Michigan Registered Drivers by Age and County, January 2007

Age	County							Total
	Livingston	Macomb	Monroe	Oakland	St. Clair	Washtenaw	Wayne	
15 and below	1,534	5,137	961	8,458	1,078	1,747	6,615	25,530
16 to 24	20,780	89,169	17,804	130,595	18,228	40,123	162,318	479,017
25 to 34	18,556	108,365	17,738	157,509	17,987	51,185	211,651	582,991
35 to 44	30,353	126,982	23,026	192,312	24,530	49,662	239,210	686,075
45 to 54	31,330	125,739	24,924	196,915	26,014	46,688	238,255	689,865
55 to 64	21,245	89,203	17,708	138,763	19,182	33,824	171,598	491,523
65 to 74	9,909	50,453	9,433	66,623	10,788	15,051	90,933	253,190
75 to 84	5,052	34,506	5,612	44,038	6,463	8,737	64,524	168,932
85 to 94	1,097	8,422	1,246	11,274	1,605	2,276	15,757	41,677
95 and above	26	183	18	313	39	63	346	988
<b>Total</b>	<b>139,882</b>	<b>638,159</b>	<b>118,470</b>	<b>946,800</b>	<b>125,914</b>	<b>249,356</b>	<b>1,201,207</b>	<b>3,419,788</b>

Source: MDOS, 2007.

Table 27

## Southeast Michigan Registered Drivers by Age and Gender, January 2007

Age	Gender		
	Female	Male	Total
15 and below	12,744	12,786	25,530
16 to 24	233,870	245,147	479,017
25 to 34	290,053	292,938	582,991
35 to 44	344,526	341,549	686,075
45 to 54	352,162	337,703	689,865
55 to 64	251,739	239,784	491,523
65 to 74	133,412	119,778	253,190
75 to 84	92,275	76,657	168,932
85 to 94	23,107	18,570	41,677
95 and above	516	472	988
<b>Total</b>	<b>1,734,404</b>	<b>1,685,384</b>	<b>3,419,788</b>

Source: MDOS, 2007.

**SEMCOG Officers  
2007-2008**

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Chairperson  
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**Mary Blackmon**  
First Vice Chair  
*Trustee, Wayne County  
Regional Education  
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**Robert J. Cannon**  
Vice Chairperson  
*Supervisor,  
Clinton Township*

**Philip Cavanagh**  
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of Commissioners*

**Robert Hison**  
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