

# Southeast Michigan Traffic Crash Facts 2007

May 2008

## ***SEMCOG . . . Equipping local government leaders for the future***

### 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.

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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 2007. It focuses on 10 categories of traffic crashes: all traffic crashes, injury traffic crashes, fatal traffic crashes, alcohol-involved traffic 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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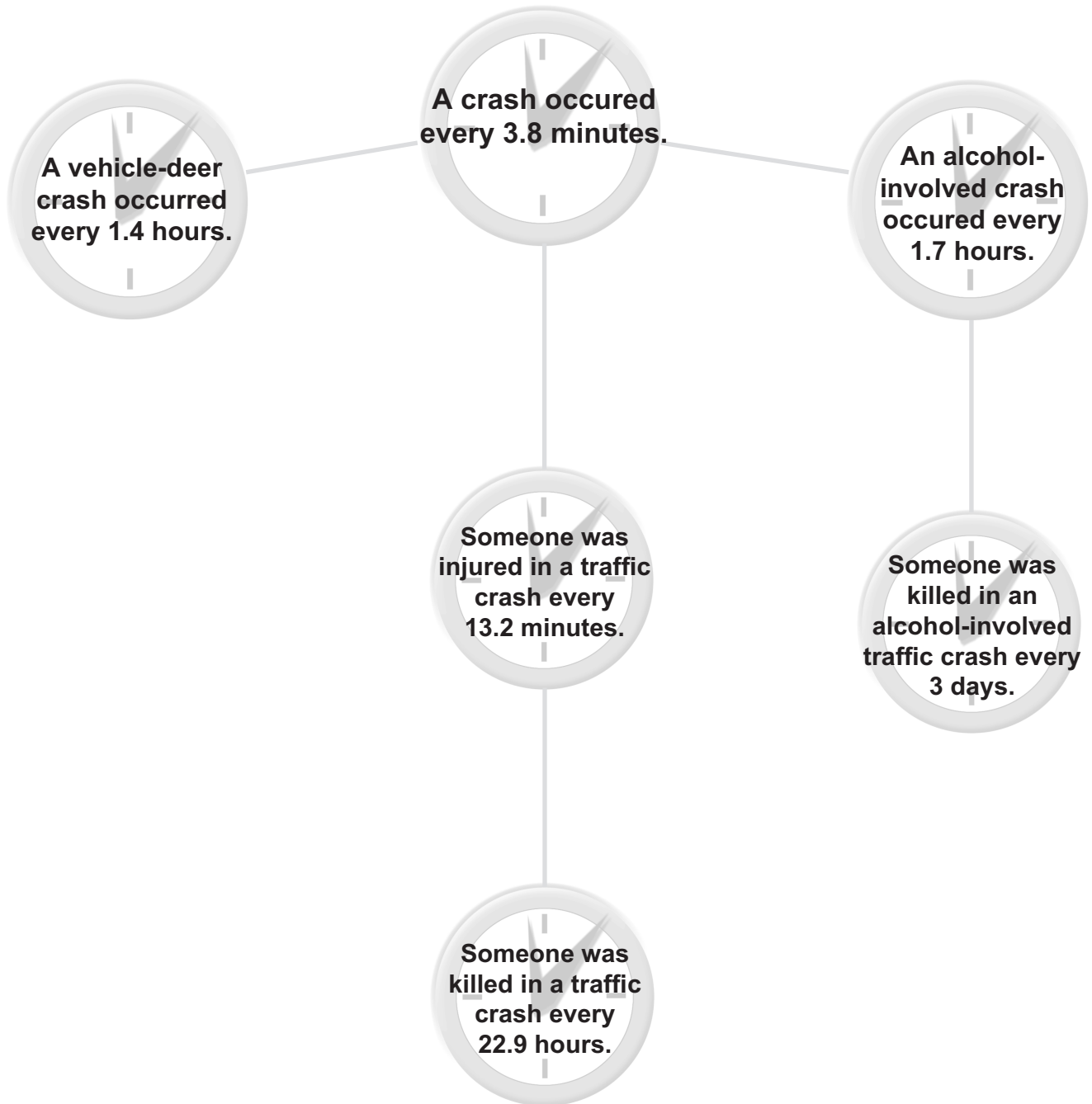
## 2007 Quick Crash Facts

- Vehicle miles traveled (VMT) in Southeast Michigan increased from 48,761 million miles in 2005 to 49,746 million in 2006. During 2007, 140,115 traffic crashes were reported in Southeast Michigan. These crashes resulted in 38,833 injuries and 382 fatalities. Compared with 2006, traffic crashes increased 1.4 percent, injuries decreased 2.5 percent, and the number of fatalities decreased by 2.3 percent.

*Please note: 2006 VMT numbers were used to calculate the crash rates (crashes per 100 million miles) these numbers will be updated as soon as the 2007 vehicle miles of travel are available.*

- There were 0.71 fatal traffic crashes for every 100 million miles traveled on Southeast Michigan roads in 2007. This is a decrease from the 2006 rate of 0.73 fatal crashes for every 100 million miles of travel.
- Of drivers involved in fatal crashes, 23.4 percent were between the ages of 16 and 24.
- 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 (11.5).
- Crashes in Southeast Michigan involving alcohol increased slightly, from 5,079 in 2006 to 5,101 in 2007, while the State of Michigan saw decrease of over three percent. In Southeast Michigan, 3.6 percent of all traffic crashes involved alcohol, and 31 percent of fatal traffic crashes involved alcohol consumption.
- There were 6,280 vehicle-deer crashes in Southeast Michigan in 2007, down from 6,358 in 2006. Nearly 97 percent of collisions with deer resulted only in property damage. Although vehicle-deer crashes occurred in every month in 2007, over 37 percent of these crashes took place in October and November. Deer crashes were most common in the early morning and evening hours.
- Young drivers (ages 16-24) were involved in nearly 35 percent of all traffic crashes in 2007. Crashes among young drivers peaked at age 18 for all young drivers.
- Elderly drivers (ages 65 and older) were involved in 12.0 percent of all traffic crashes in 2007. Elderly drivers were more likely to be involved in rear-end, angle, head-on, and sideswipe crashes, but less likely to have single-vehicle crashes as compared to all other age group crashes.
- Traffic crashes involving pedestrians decreased in 2007 compared to 2006 numbers, however bicycle crashes increased over this same time period. Only 11.7 percent of crashes involving pedestrians in no injury and only 19.6 percent of all bicycle crashes resulted in no injury.
- Crashes involving commercial trucks or buses in Southeast Michigan increased 5.4 percent in 2007.
- Safety-belt use among drivers in traffic crashes increased slightly (0.6 percent) in Southeast Michigan in 2007, where 84.8 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 58.7 percent of unbelted drivers.

# 2007 Crash Clock



# Introduction

This report contains statistical information about all traffic crashes in Southeast Michigan reported in 2007. 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 not incapacitating but evident to observers at the scene of the crash in which 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.

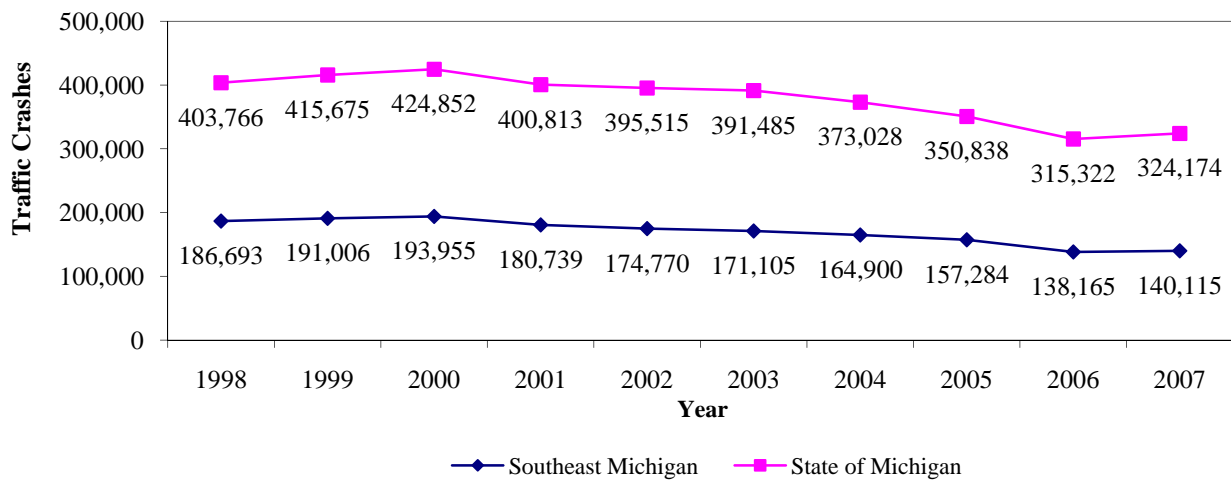


# All Traffic Crashes

In 2007, 140,115 traffic crashes were reported in Southeast Michigan. This is an increase of 1.4 percent from 2006. The State of Michigan saw a 2.8 percent increase between 2006 and 2007 (Figure 1).

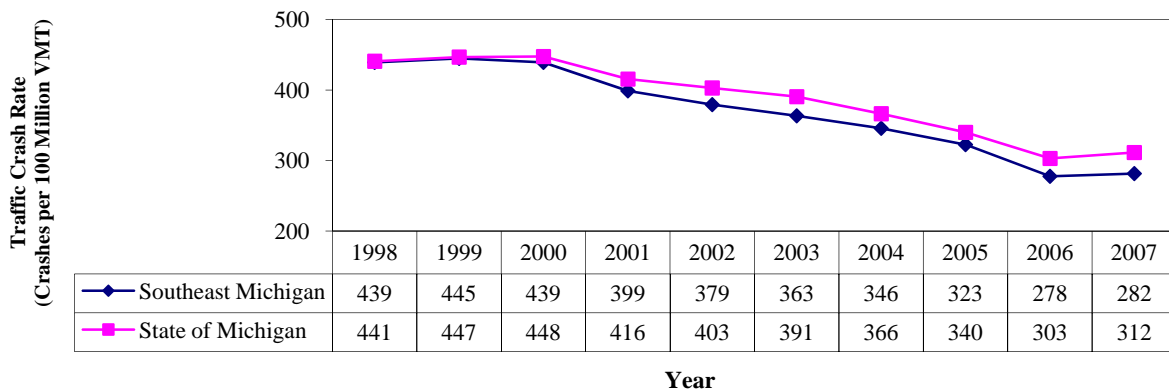
The traffic crash rate, defined as the number of traffic crashes per 100 million vehicle miles traveled (VMT), provides an alternative method of examining traffic crash trends. Figure 2 shows traffic crash rates in Southeast Michigan and the State of Michigan for 1998-2007.

Figure 1  
Traffic Crashes, 1998-2007



Source: Michigan State Police Traffic Crash Database (MSPTCD) and SEMCOG, 2007.

Figure 2  
Traffic Crash Rate, 1998-2007



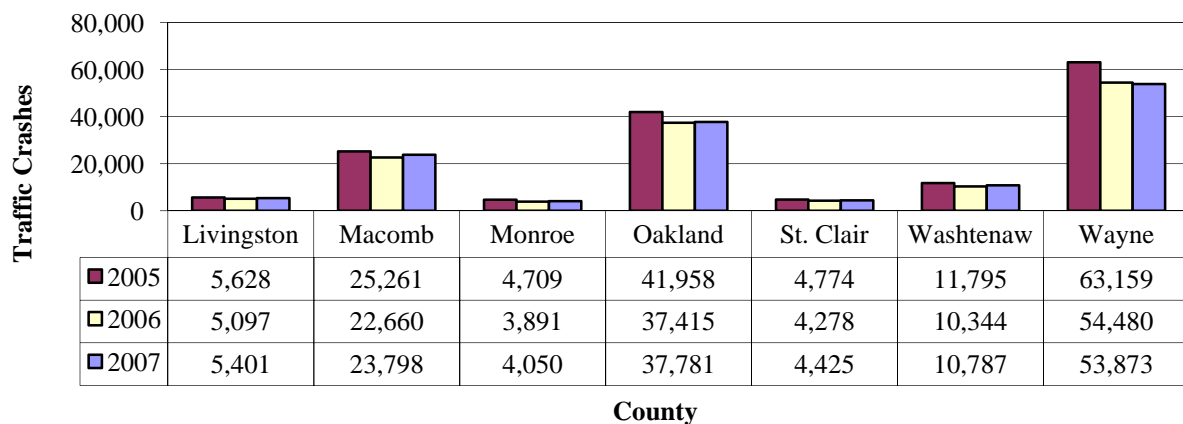
Source: MSPTCD and SEMCOG, 2006 VMTs were used with 2007 data. 2007 VMTs will be available soon.

## Traffic Crashes by County

Figure 3 shows the number of traffic crashes in each Southeast Michigan county for 2005, 2006, and 2007. Wayne County experienced the only decrease (1.1 percent) in traffic crashes from 2006 to 2007. All other counties in Southeast Michigan saw an increase in crashes.

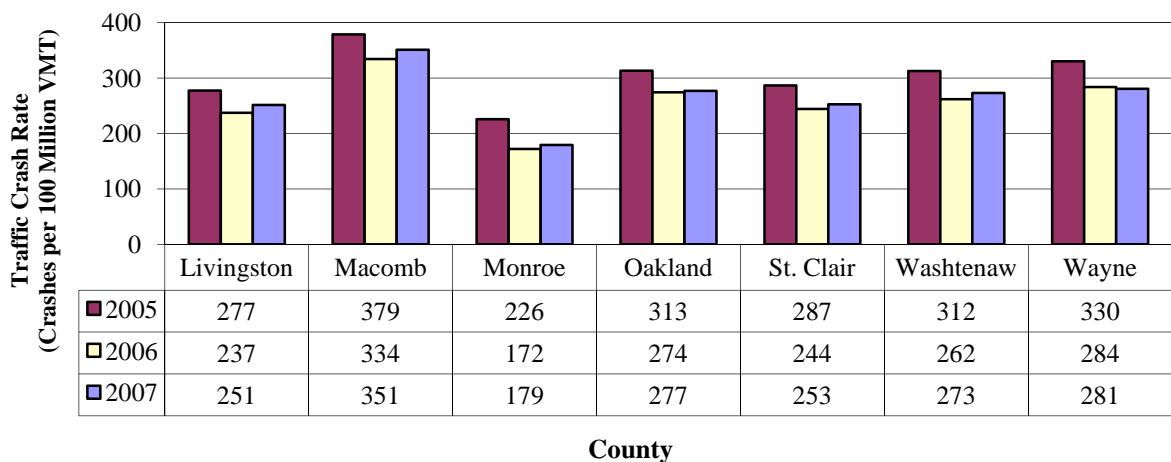
As shown in Figure 4, the traffic crash rate increased in 2007 in all counties but Wayne County. Monroe County continued to have the lowest crash rate in the region while Macomb County experienced the highest rise in crash rate in the region in 2007.

Figure 3  
Traffic Crashes by County, 2005-2007



Source: MSPTCD and SEMCOG, 2007.

Figure 4  
Traffic Crash Rate by County, 2005-2007

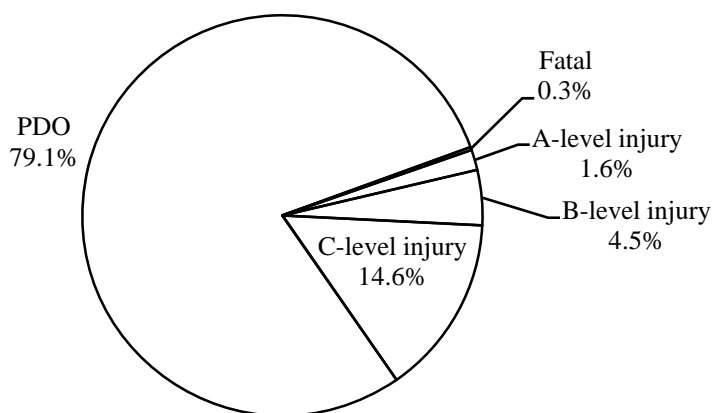


Source: MSPTCD and SEMCOG, 2006 VMTs were used with 2007 data. 2007 VMTs will be available soon.

## Traffic Crashes by Severity

Of the 140,115 traffic crashes in Southeast Michigan in 2007, nearly 21 percent resulted in some degree of injury. A total of 355 fatal crashes resulted in the deaths of 382 people, which is more than two percent lower than 2006 total. Figure 5 shows how traffic crashes in 2007 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, 2007



Source: MSPTCD and SEMCOG, 2007.

Table 1  
Traffic Crash Severity, 2007

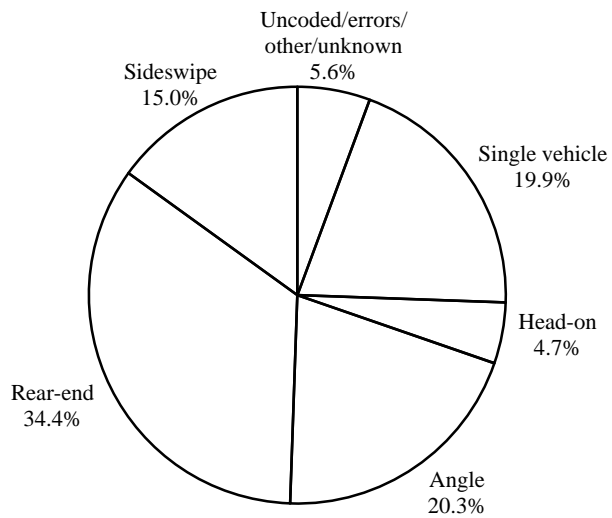
Crash Severity	Number of Traffic Crashes	Number of Injuries
Fatal	355	382
A-level injury	2,297	2,834
B-level injury	6,237	7,612
C-level injury	20,393	28,387
Injury and fatality subtotal	29,282	39,215
PDO	110,833	
<b>Total</b>	<b>140,115</b>	

Source: MSPTCD and SEMCOG, 2007.

## Traffic Crashes by Crash Type

Figure 6 shows how traffic crashes were distributed among the various crash types in 2007. As in previous years, the most common type of crash was rear-end (34.4 percent). The least common type of crash was head-on (4.7 percent).

Figure 6  
Traffic Crashes by Crash Type, 2007

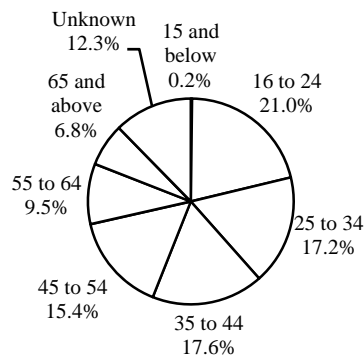


Source: MSPTCD and SEMCOG, 2007.

## Age and Gender of Drivers in Traffic Crashes

Figure 7 shows how the 262,473 drivers involved in traffic crashes in 2007 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 (21.0 percent of drivers in traffic crashes), followed by the 35-44 age group (17.6 percent). Fewer than seven percent of all drivers in crashes were age 65 older.

Figure 7  
Drivers in Traffic Crashes by Age Group, 2007



Source: MSPTCD and SEMCOG, 2007.

Table 2  
Drivers in Traffic Crashes by Age Group and Gender, 2007

Age Group	Number of Drivers by Gender			Total
	Female	Male	Unknown	
15 and below	204	272	63	539
16 to 24	25,901	29,265	29	55,195
25 to 34	20,968	24,177	35	45,180
35 to 44	20,639	25,473	24	46,136
45 to 54	17,863	22,634	19	40,516
55 to 64	10,674	14,177	10	24,861
65 to 74	4,267	5,839	7	10,113
75 to 84	2,773	3,361	2	6,136
85 to 94	651	790	0	1,441
95 and above	14	19	0	33
Unknown	2,056	4,468	25,799	32,323
<b>Total</b>	<b>106,010</b>	<b>130,475</b>	<b>25,988</b>	<b>262,473</b>

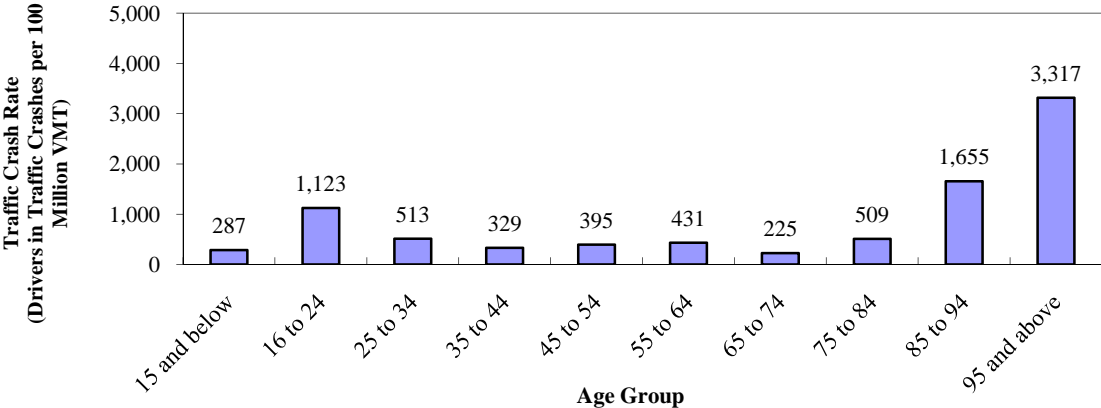
Source: MSPTCD and SEMCOG, 2007.

# Rate of Traffic Crash Involvement by Age Group

Figure 8 shows the traffic-crash rate for each age group in 2007. According to 2006 VMT estimates, drivers age 65-74 had the lowest crash rate of any age group, at 225 crashes per 100 million VMT. Drivers age 95 or older had the highest rate followed by the 85-94 and 16-24 age groups (3,317, 1,655, and 1,123 crashes per 100 million VMT, respectively).

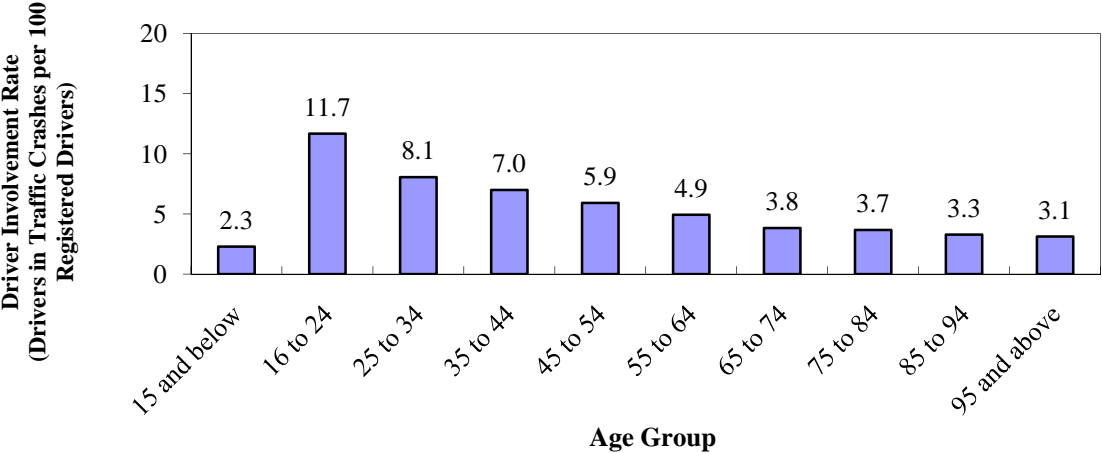
Figure 9 shows how many drivers were in traffic crashes out of every hundred drivers in each age group. There were just under 12 drivers age 16-24 involved in crashes for every hundred registered drivers in that age group, which was the highest rate of any group.

Figure 8  
Traffic Crash Rate by Age Group, 2007



Source: MSPTCD and SEMCOG, 2006 VMTs were used with 2007 data. 2007 VMTs will be available soon.

Figure 9  
Traffic Crash Driver Involvement Rate by Age Group, 2007



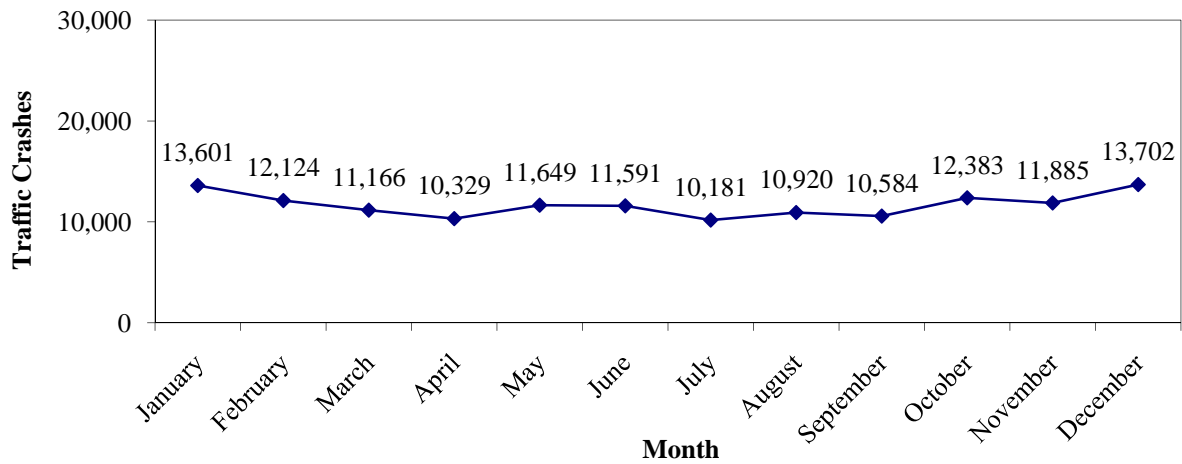
Source: MSPTCD, Michigan Department of State (MDOS), and SEMCOG, 2007.

## Traffic Crashes by Month, Day, and Hour

More traffic crashes (13,702) occurred during December than any other month in 2007. July had the fewest crashes (10,181) in 2007 (Figure 10).

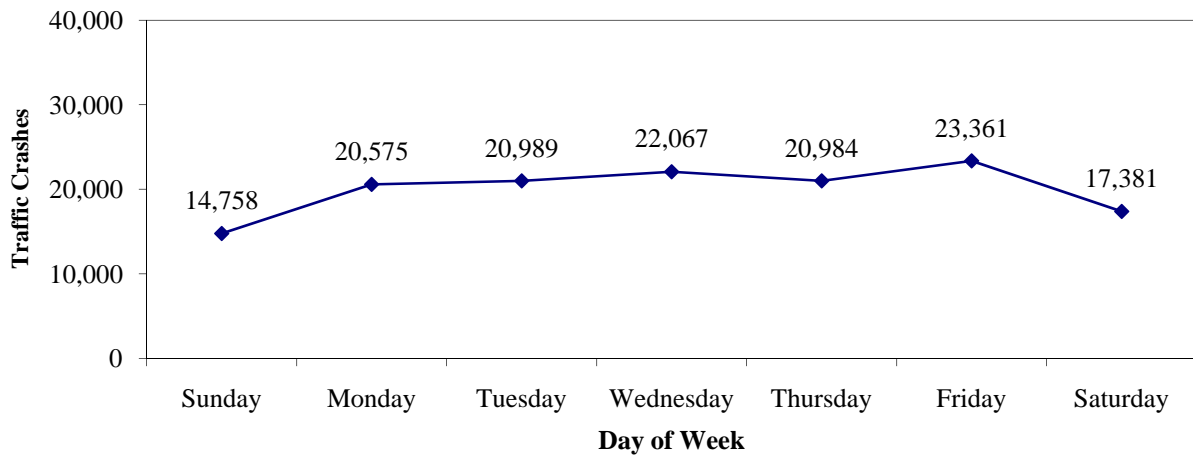
Figure 11 shows that more traffic crashes took place on Fridays than any other day of the week (23,361), and that Sundays had the fewest crashes (14,758).

Figure 10  
Traffic Crashes by Month, 2007



Source: MSPTCD and SEMCOG, 2007.

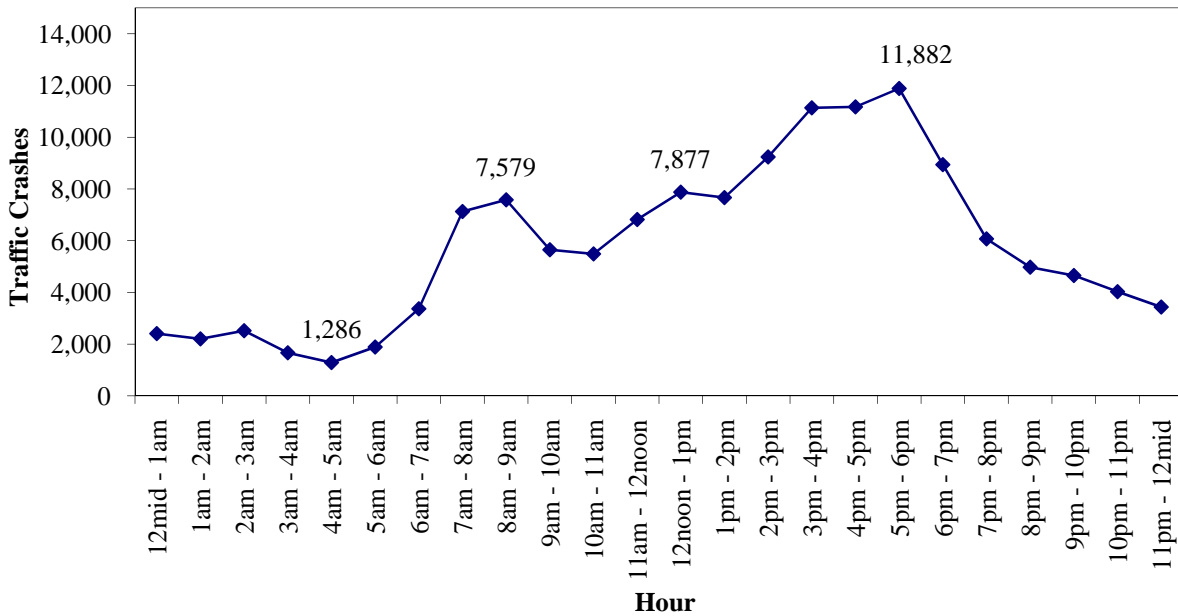
Figure 11  
Traffic Crashes by Day of Week, 2007



Source: MSPTCD and SEMCOG, 2007.

Figure 12 shows the total number of traffic crashes that took place during each hour interval in 2007. The fewest crashes — 1,286 — 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 one out of every four traffic crashes taking place during these hours.

Figure 12  
Traffic Crashes by Hour of Day, 2007



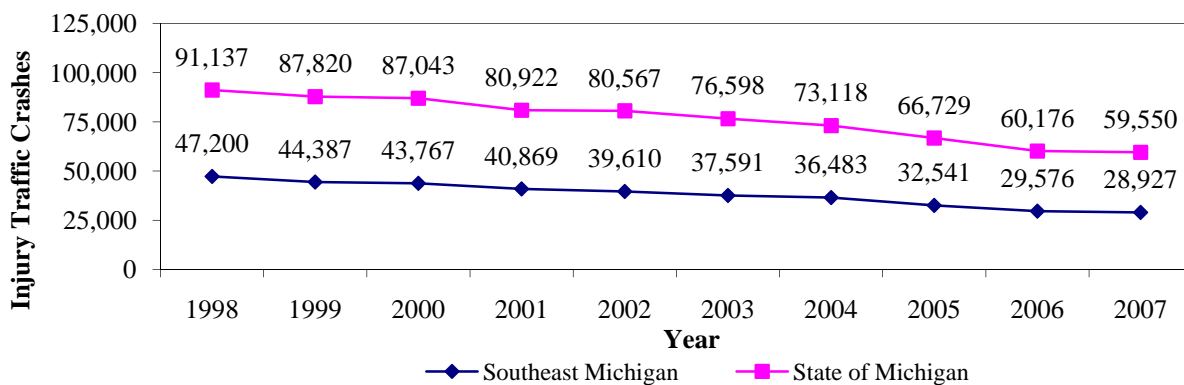
Source: MSPTCD and SEMCOG, 2007.

# 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.

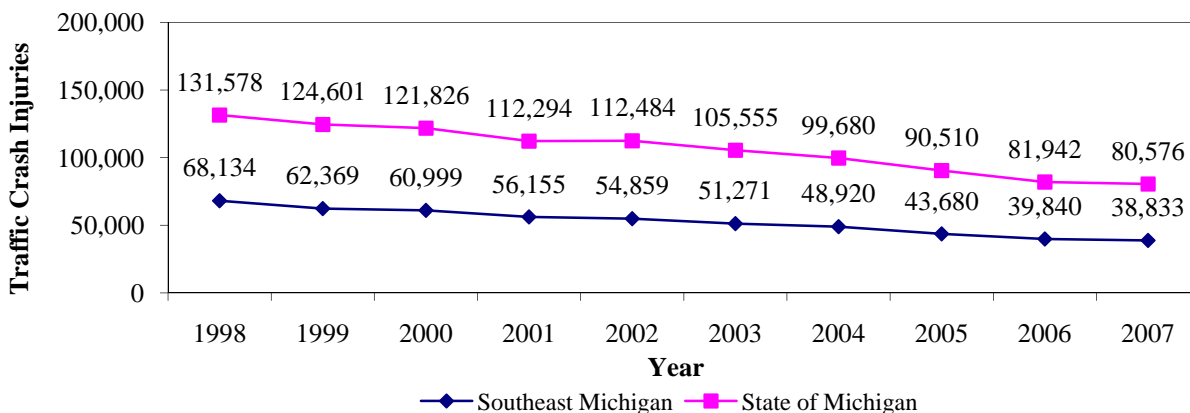
As shown in Figure 13, injury traffic crashes in Southeast Michigan decreased in 2007 — the 11<sup>th</sup> consecutive year of decline. Injury crashes were down 2.2 percent in Southeast Michigan and 1.0 percent in Michigan compared to 2006. Figure 14 shows the number of injuries caused by traffic crashes for the years 1998-2007. Injuries decreased 2.5 percent in Southeast Michigan and 1.7 percent in Michigan from 2006 to 2007.

Figure 13  
Injury Traffic Crashes, 1998-2007



Source: MSPTCD and SEMCOG, 2007.

Figure 14  
Traffic Crash Injuries, 1998-2007

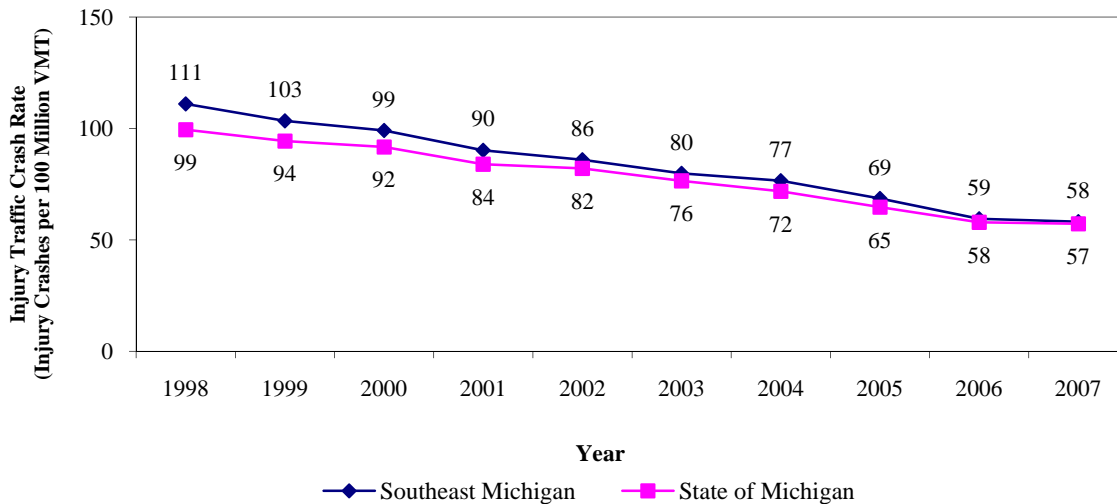


Source: MSPTCD and SEMCOG, 2007.

In 2007, injury traffic crash rates decreased for Southeast Michigan and the State of Michigan by one (Figure 15).

Table 3 shows the steadily declining injury traffic crashes in Southeast Michigan and the State of Michigan over a 10-year span, all while VMTs have been on the rise.

Figure 15  
Injury Traffic Crash Rate, 1998-2007



Source: MSPTCD and SEMCOG, 2006 VMTs were used with 2007 data. 2007 VMTs will be available soon.

Table 3  
Injury Traffic Crash Rate, 1998-2007

	Injury Traffic Crashes		VMT (in Millions)		Injury Traffic Crash Rate (Crashes per 100 Million VMT)	
	Southeast Michigan	Michigan	Southeast Michigan	Michigan	Southeast Michigan	Michigan
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
2007	28,927	59,550	49,746	104,042	58	57

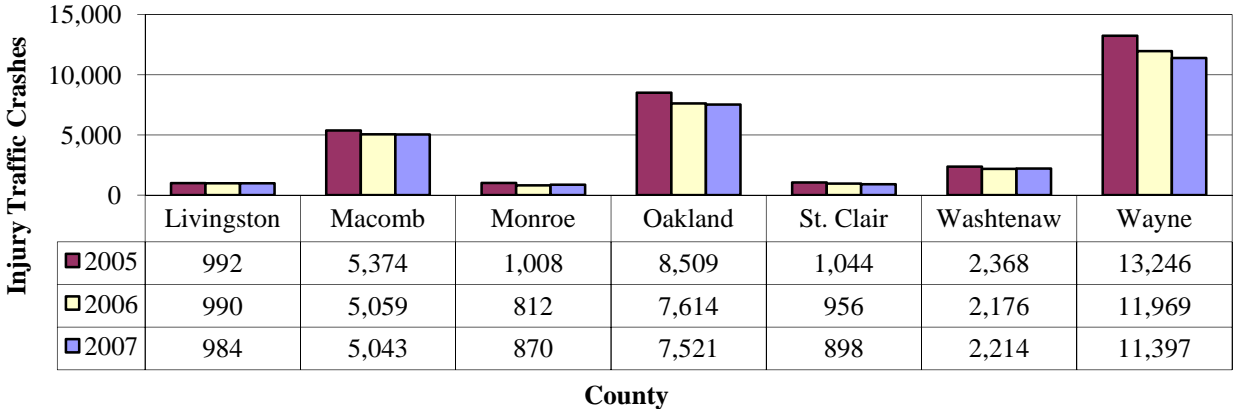
Source: MSPTCD and SEMCOG, 2006 VMTs were used with 2007 data. 2007 VMTs will be available soon.

# Injury Traffic Crashes by County

In 2007 injury crashes decreased in five of seven Southeast Michigan counties. The largest decrease taking place in St. Clair County (6.1 percent)

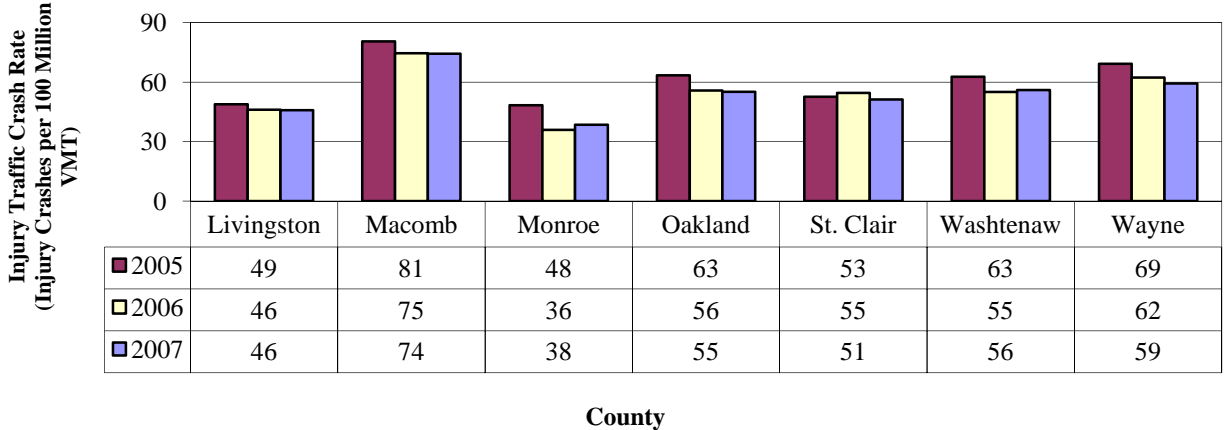
Five out of seven counties had injury crash rates lower or the same than those seen in 2006 except for Monroe and Washtenaw Counties, which had a slight increase (Figure 17). Still, Macomb and Wayne Counties' injury crash rates were slightly higher than the regional rate of 58 injury crashes per 100 million VMT. The crash rate in Macomb County for 2007 was 74 injury crashes per 100 million VMT — the highest in the region.

Figure 16  
Injury Traffic Crashes by County, 2005-2007



Source: MSPTCD and SEMCOG, 2007.

Figure 17  
Injury Traffic Crash Rate by County, 2005-2007



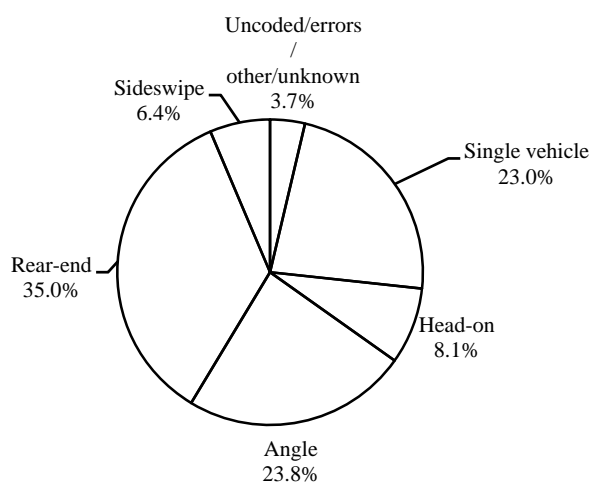
Source: MSPTCD and SEMCOG, 2006 VMTs were used with 2007 data. 2007 VMTs will be available soon.

## Injury Traffic Crashes by Crash Type

Figure 18 shows rear-end crashes accounted for more injury crashes (35.0 percent) than any other crash type in 2007, and sideswipe crashes made up the smallest portion (6.4 percent).

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 35.3 percent of all head-on crashes causing injury. Only 8.8 percent of all sideswipe crashes caused injury in 2007.

Figure 18  
Injury Traffic Crashes by Crash Type, 2007



Source: MSPTCD and SEMCOG, 2007.

Table 4  
Traffic Crash Type by Percent Resulting in Injury, 2007

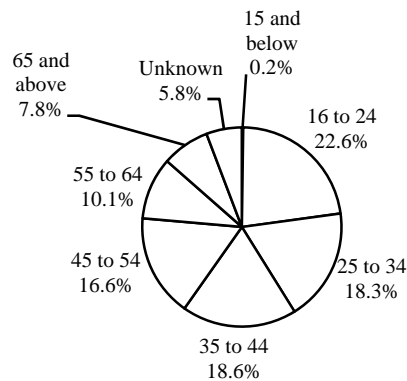
Crash Type	Injury Crashes	All Crashes	Percent Resulting in Injury
Uncoded/errors/other/unknown	1,067	7,912	13.5%
Single vehicle	6,658	27,892	23.9%
Head-on	2,347	6,647	35.3%
Angle	6,888	28,393	24.3%
Rear-end	10,121	48,197	21.0%
Sideswipe	1,846	21,074	8.8%
<b>Total</b>	<b>28,927</b>	<b>140,115</b>	<b>20.6%</b>

Source: MSPTCD and SEMCOG, 2007.

## 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 than any other age group. The number of drivers in injury crashes in each age group decreases as age increases except for the 25-34 and 35-44 age groups. For example, drivers age 65 or older were involved in 4,295 injury crashes in 2007, or 7.8 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, 2007



Source: MSPTCD and SEMCOG, 2007.

Table 5  
Drivers in Injury Traffic Crashes by Age Group and Gender, 2007

Age Group	Number of Drivers by Gender			Total
	Female	Male	Unknown	
15 and below	48	76	2	126
16 to 24	6,119	6,396	7	12,522
25 to 34	4,895	5,241	4	10,140
35 to 44	4,864	5,453	6	10,323
45 to 54	4,256	4,950	2	9,208
55 to 64	2,567	3,014	2	5,583
65 to 74	1,094	1,341	0	2,435
75 to 84	672	828	0	1,500
85 to 94	173	179	0	352
95 and above	3	5	0	8
Unknown	295	681	2,217	3,193
<b>Total</b>	<b>24,986</b>	<b>28,164</b>	<b>2,240</b>	<b>55,390</b>

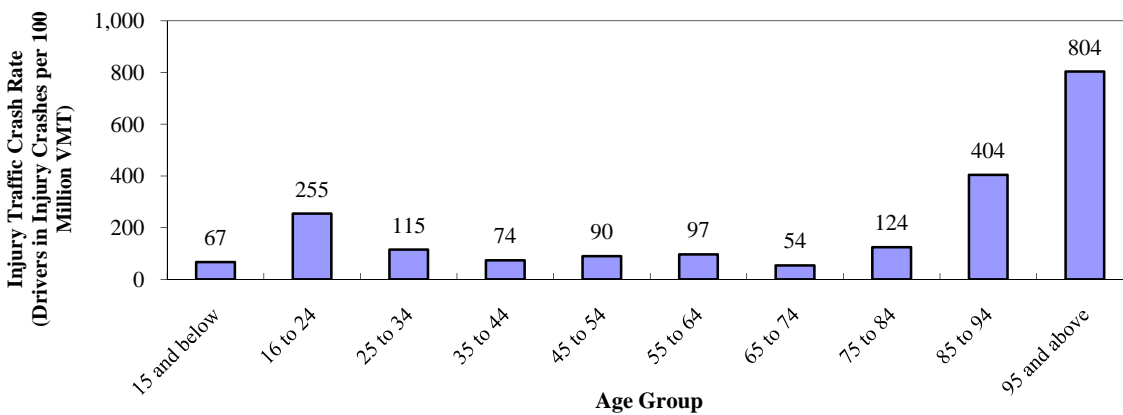
Source: MSPTCD and SEMCOG, 2007.

## Rate of Injury Traffic Crash Involvement by Age Group

The 65-74 age group had the lowest rate of injury crashes per 100 million VMT in 2007 (54 crashes) (Figure 20). The 95-and-above age group had the highest rate (804), followed by the 85-94 age group (404) and the 16-24 age group (255).

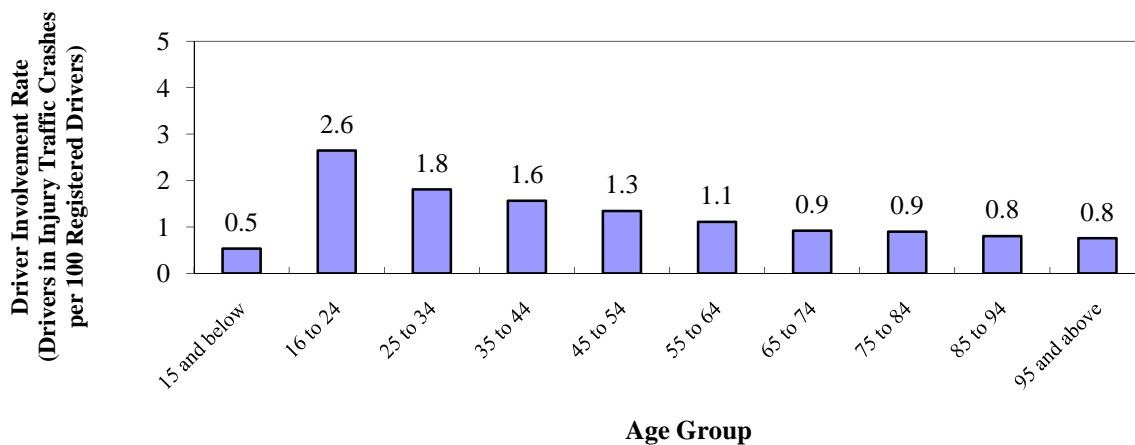
Figure 21 shows the rate of driver involvement in injury crashes for every hundred registered drivers. In 2007, 2.6 drivers age 16-24 were involved in traffic crashes for every hundred registered drivers in that age group. This was the highest rate of involvement of any age group. Drivers age 15 and 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, 2007



Source: MSPTCD and SEMCOG, 2006 VMTs were used with 2007 data. 2007 VMTs will be available soon.

Figure 21  
Injury Traffic Crash Driver Involvement Rate by Age Group, 2007

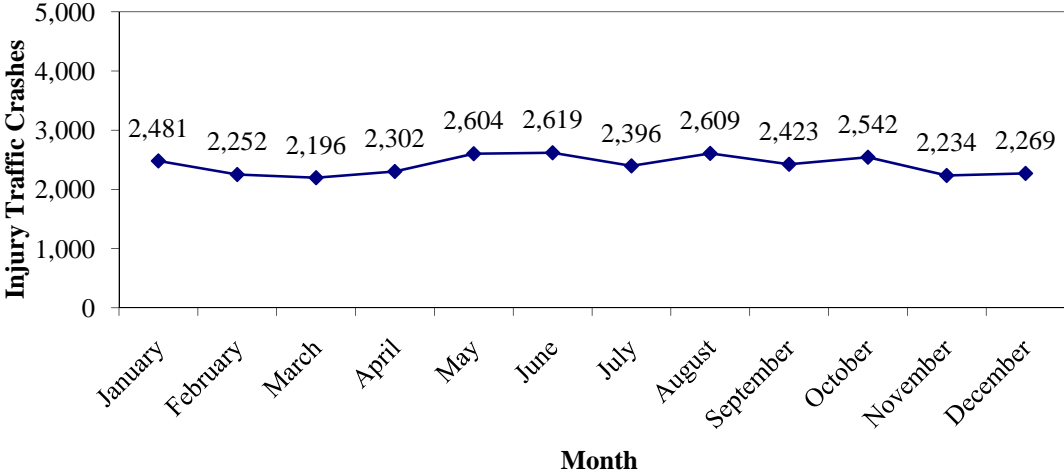


Source: MSPTCD and SEMCOG, 2007.

# Injury Traffic Crashes by Month, Day, and Hour

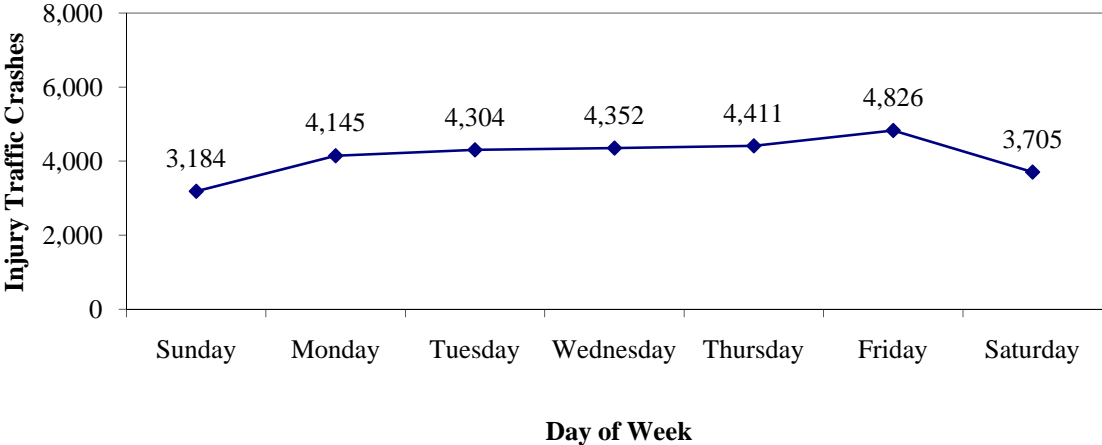
As Figure 22 shows, June was the month in 2007 with the most injury traffic crashes (2,619) even though December was the month with the most overall crashes (Figure 10). March, with 2,196 injury crashes, was the month with the fewest. More injury traffic crashes occurred on Fridays (4,826) than any other day. Sundays (3,184) had the fewest injury crashes of any day (Figure 23).

Figure 22  
Injury Traffic Crashes by Month, 2007



Source: MSPTCD and SEMCOG, 2007.

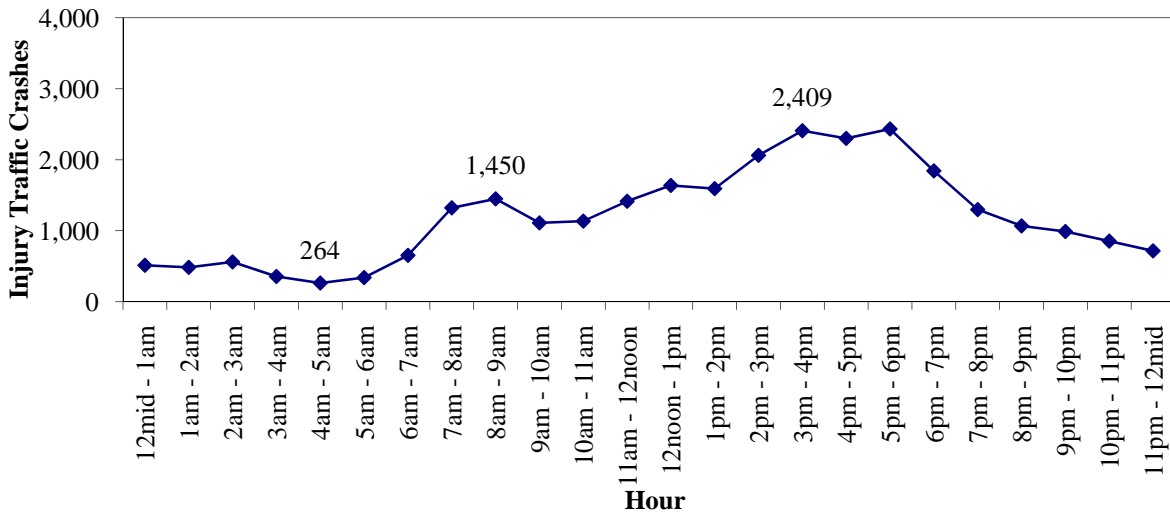
Figure 23  
Injury Traffic Crashes by Day of Week, 2007



Source: MSPTCD and SEMCOG, 2007.

Figure 24 shows the total number of injury traffic crashes that took place during each hour interval in 2007. Following the same general pattern as total crashes (Figure 12), injury crashes were least frequent between 4 a.m. and 5 a.m. (264 injury crashes) and most common between 3 p.m. and 6 p.m. 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, 2007



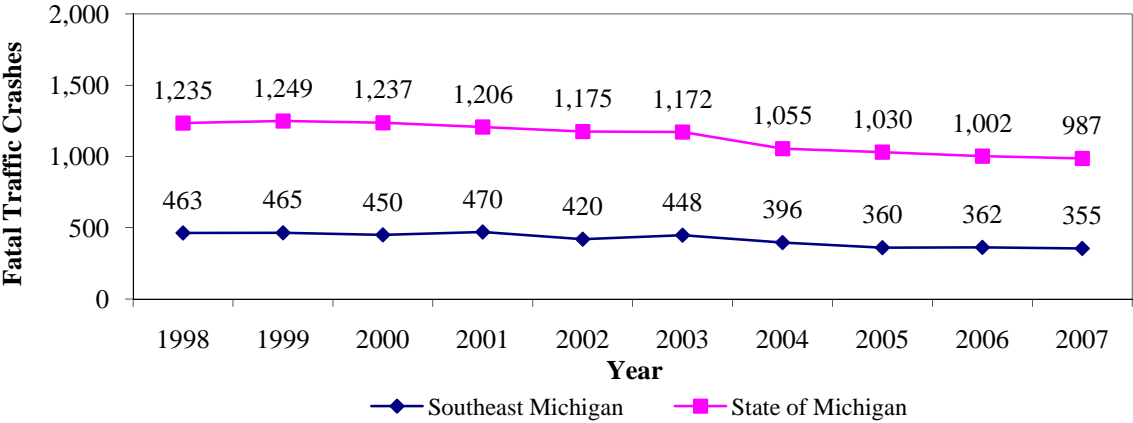
Source: MSPTCD and SEMCOG, 2007.

# 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 1.9 percent in Southeast Michigan in 2007. Fatal traffic crashes also decreased 1.5 percent in the state as a whole between 2006 and 2007. Figure 25 shows the number of fatal traffic crashes in Michigan and Southeast Michigan for 1998-2007.

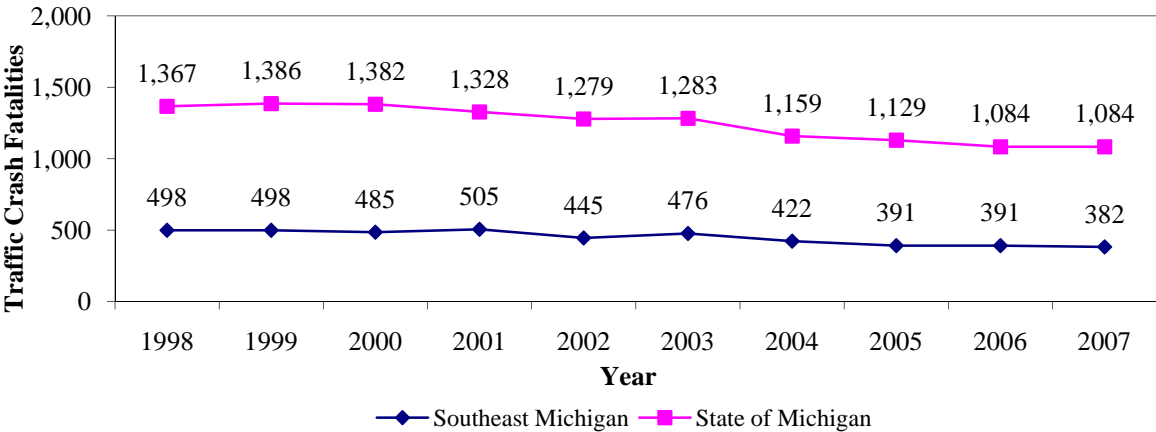
Figure 26 shows that in 2007 traffic crash fatalities remained unchanged in the State of Michigan and decreased by nearly two percent in the Southeast Michigan between 2006 and 2007.

Figure 25  
Fatal Traffic Crashes, 1998-2007



Source: MSPTCD and SEMCOG, 2007.

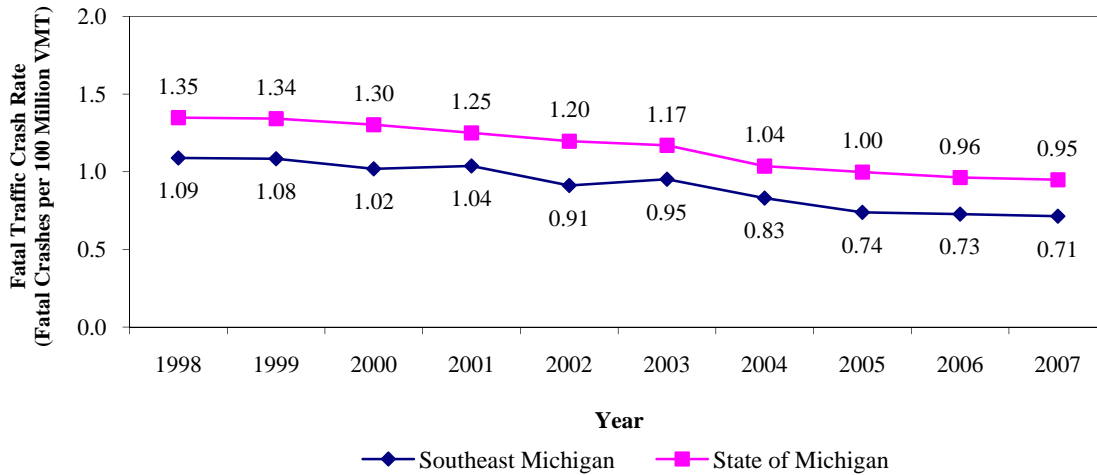
Figure 26  
Traffic Crash Fatalities, 1998-2007



Source: MSPTCD and SEMCOG, 2007.

The rate of fatal traffic crashes per 100 million miles traveled decreased in Southeast Michigan between 2006 and 2007 (Figure 27). Table 6 shows how the number of fatal traffic crashes compared to VMT for 1998-2007.

Figure 27  
Fatal Traffic Crash Rate, 1998-2007



Source: MSPTCD and SEMCOG, 2006 VMTs were used with 2007 data. 2007 VMTs will be available soon.

Table 6  
Fatal Traffic Crash Rate and VMT, 1998-2007

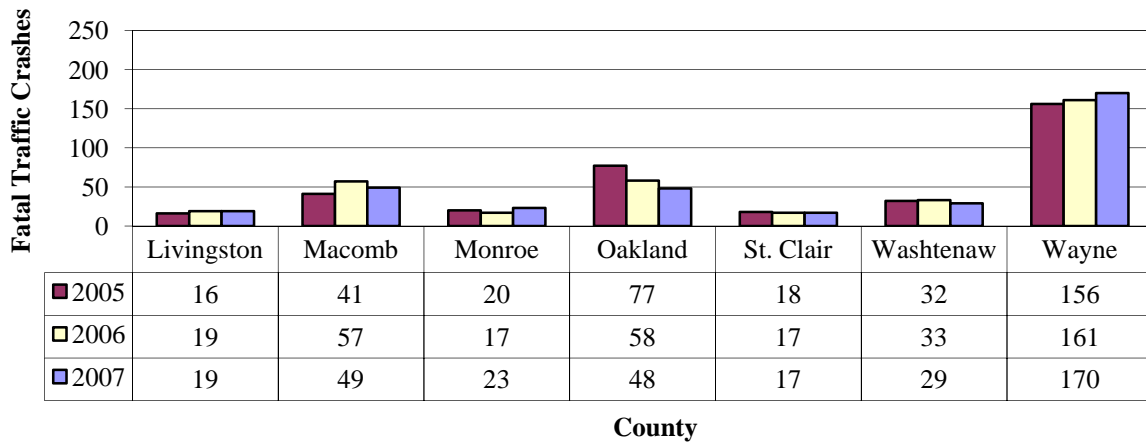
	Fatal Traffic Crashes		VMT (in Millions)		Fatal Traffic Crash Rate (Crashes per 100 Million VMT)	
	Southeast Michigan	Michigan	Southeast Michigan	Michigan	Southeast Michigan	Michigan
1998	463	1,235	42,513	91,616	1.09	1.35
1999	465	1,249	42,924	93,060	1.08	1.34
2000	450	1,237	44,167	94,915	1.02	1.30
2001	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
2007	355	987	49,746	104,042	0.71	0.95

Source: MSPTCD and SEMCOG, 2006 VMTs were used with 2007 data. 2007 VMTs will be available soon.

## Fatal Traffic Crashes by County

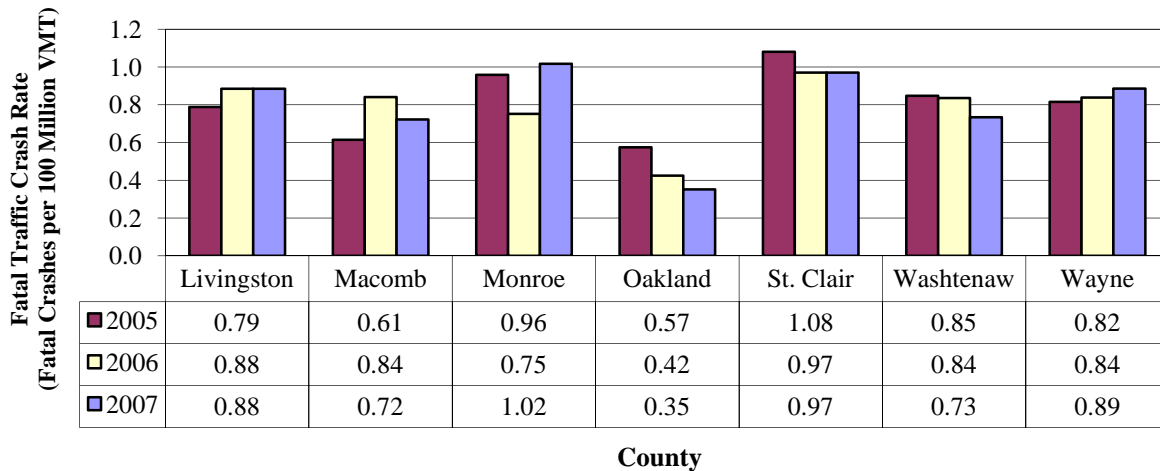
Fatal traffic crashes increased in 2007 in Monroe and Wayne Counties (Figure 28). Monroe and Wayne Counties also saw increases in their fatal crash rate (Figure 29).

Figure 28  
Fatal Traffic Crashes by County, 2005-2007



Source: MSPTCD and SEMCOG, 2007.

Figure 29  
Fatal Traffic Crash Rate by County, 2005-2007



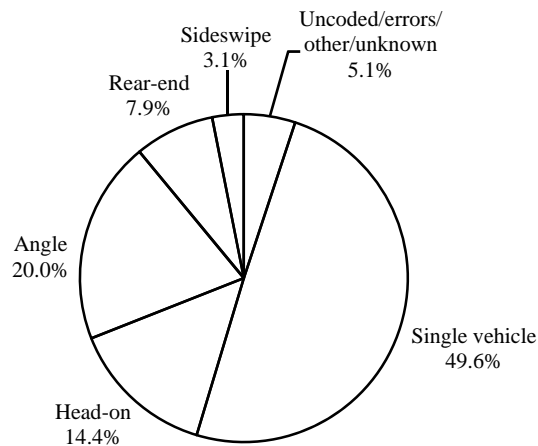
Source: MSPTCD and SEMCOG, 2006 VMTs were used with 2007 data. 2007 VMTs will be available soon.

## Fatal Traffic Crashes by Crash Type

More than 49 percent of all fatal crashes in 2007 were single-vehicle crashes (Figure 30). Angle crashes made up the next biggest portion of fatal crashes with 20 percent.

Table 7 shows that head-on crashes were the most likely to result in a fatality, with one out of every 130 head-on 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, 2007



Source: MSPTCD and SEMCOG, 2007.

Table 7  
Crash Type by Percent Resulting in Fatality, 2007

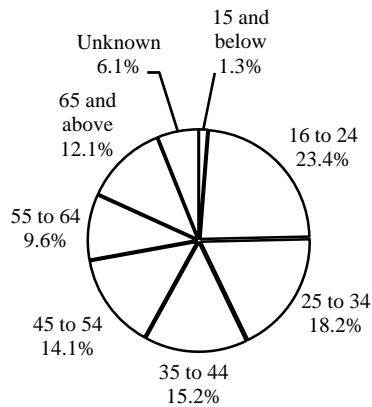
Crash Type	Fatal Traffic Crashes	All Traffic Crashes	Percent Resulting in Fatality
Uncoded/errors/other/unknown	18	7,912	0.23%
Single vehicle	176	27,892	0.63%
Head-on	51	6,647	0.77%
Angle	71	28,393	0.25%
Rear-end	28	48,197	0.06%
Sideswipe	11	21,074	0.05%
<b>Total</b>	<b>355</b>	<b>140,115</b>	<b>0.25%</b>

Source: MSPTCD and SEMCOG, 2007.

## Age and Gender of Drivers in Fatal Traffic Crashes

Figure 31 shows the age distribution of drivers involved in fatal traffic crashes in 2007. Slightly more 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 more than two-and-a-half times.

Figure 31  
Drivers in Fatal Traffic Crashes by Age Group, 2007



Source: MSPTCD and SEMCOG, 2007.

Table 8  
Drivers in Fatal Traffic Crashes by Age Group and Gender, 2007

Age Group	Number of Drivers by Gender			Total
	Female	Male	Unknown	
15 and below	0	7	0	7
16 to 24	36	95	0	131
25 to 34	22	80	0	102
35 to 44	28	57	0	85
45 to 54	19	60	0	79
55 to 64	13	41	0	54
65 to 74	8	18	0	26
75 to 84	14	18	0	32
85 to 94	4	6	0	10
95 and above	0	0	0	0
Unknown	3	1	30	34
<b>Total</b>	<b>147</b>	<b>383</b>	<b>30</b>	<b>560</b>

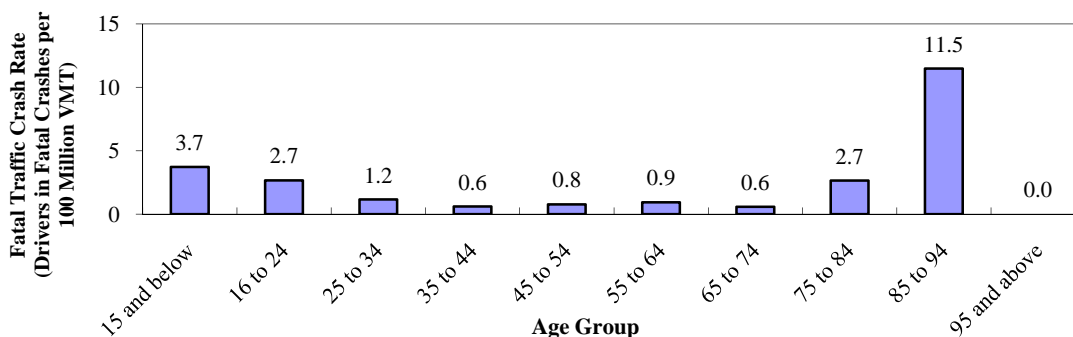
Source: MSPTCD and SEMCOG, 2007.

## 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 2007. Of all drivers age 16-94, drivers 35-44 and 65-74 had the lowest fatal crash rate with 0.6 fatal crashes per 100 million VMT. Drivers age 85-94 had the highest fatal crash rate (11.5).

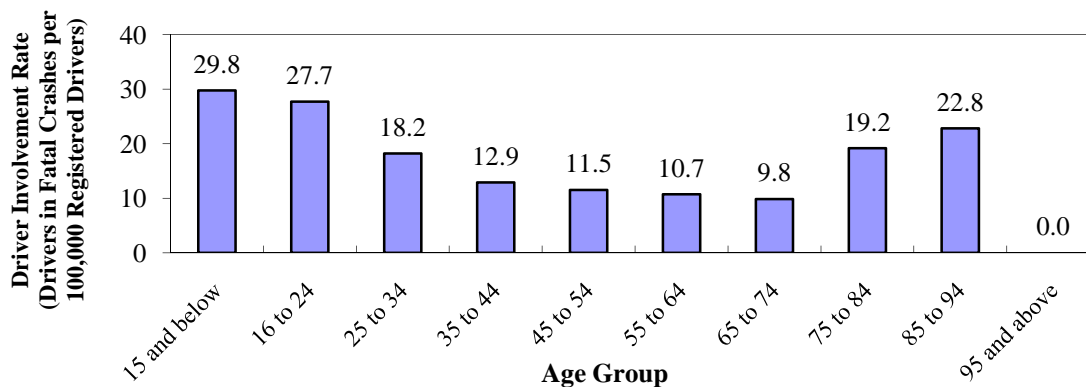
Figure 33 shows the number of drivers involved in fatal crashes compared to the number of registered drivers in that age group. By this measurement, drivers age 65-74 were least likely to be involved in a fatal traffic crash — 9.8 drivers in this age group were in fatal crashes for every hundred thousand registered drivers. Drivers age 15 and below were most likely to be in a fatal crash (29.8), followed by drivers age 16-24 (27.7).

Figure 32  
Fatal Traffic Crash Rate by Age Group, 2007



Source: MSPTCD and SEMCOG, 2006 VMTs were used with 2007 data. 2007 VMTs will be available soon.

Figure 33  
Fatal Traffic Crash Driver Involvement Rate by Age Group, 2007



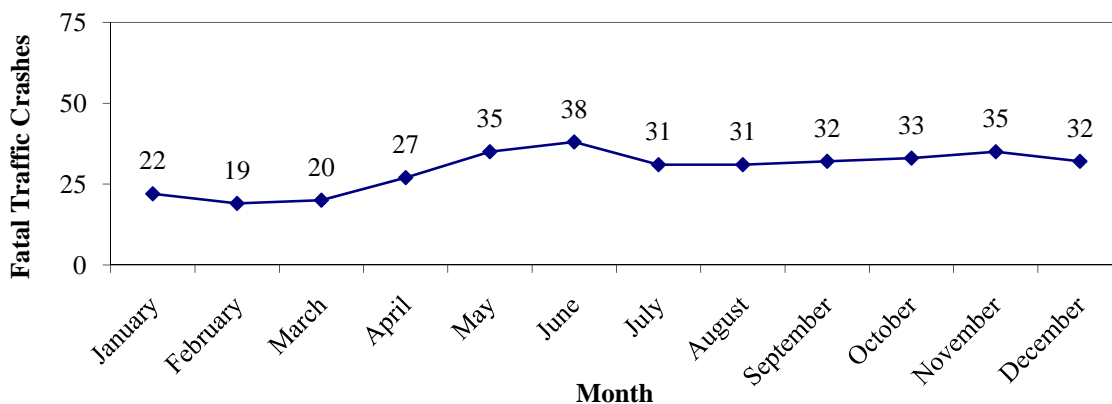
Source: MSPTCD and SEMCOG, 2007.

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

More fatal traffic crashes took place in June 2007 than any other month (38) (Figure 34). February 2007 had the fewest fatal crashes (19).

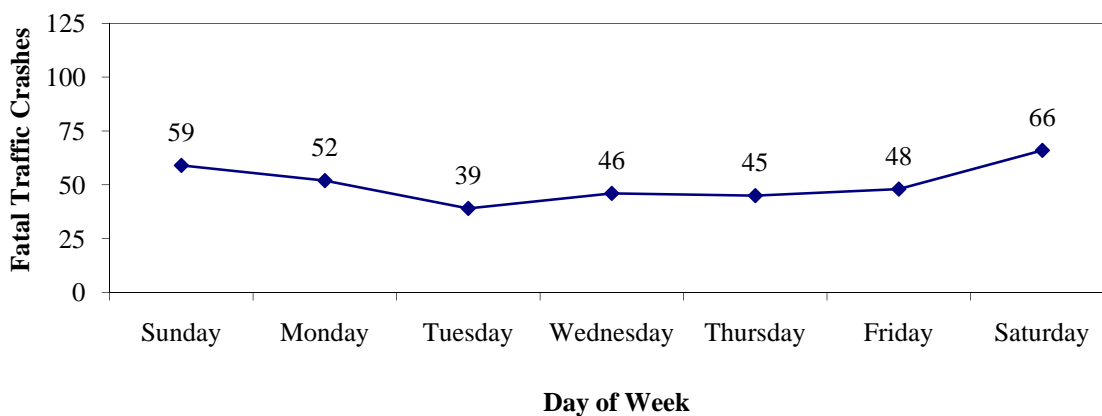
Figure 35 shows the total number of fatal crashes that occurred on each day of the week in 2007. Saturdays in 2007 saw the most fatal crashes (66), even though Fridays had the most overall crashes (Figure 11). Tuesday had the fewest fatal crashes (39).

Figure 34  
Fatal Traffic Crashes by Month, 2007



Source: MSPTCD and SEMCOG, 2007.

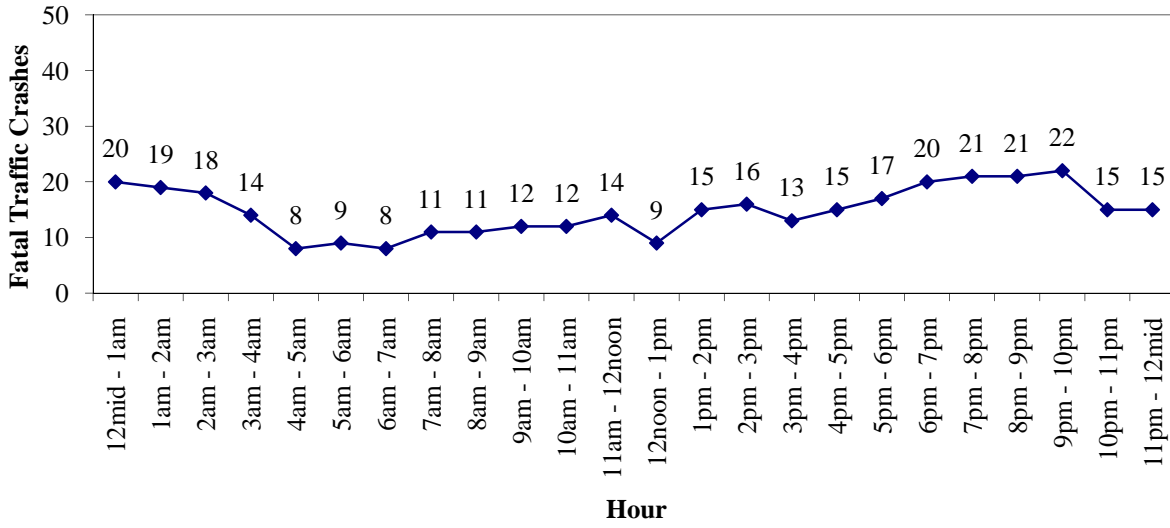
Figure 35  
Fatal Traffic Crashes by Day of Week, 2007



Source: MSPTCD and SEMCOG, 2007.

The 9 a.m. to 10 a.m. hour had the most fatal traffic crashes (22), followed by both 7 p.m. to 8 p.m. and 8 p.m. to 9 p.m. with 21 fatal traffic crashes each (Figure 36). The periods with the fewest fatal crashes were 4 a.m. to 5 a.m. and 6 a.m. to 7 a.m., with eight fatal crashes each.

Figure 36  
Fatal Traffic Crashes by Hour of Day, 2007.



Source: MSPTCD and SEMCOG, 2007.

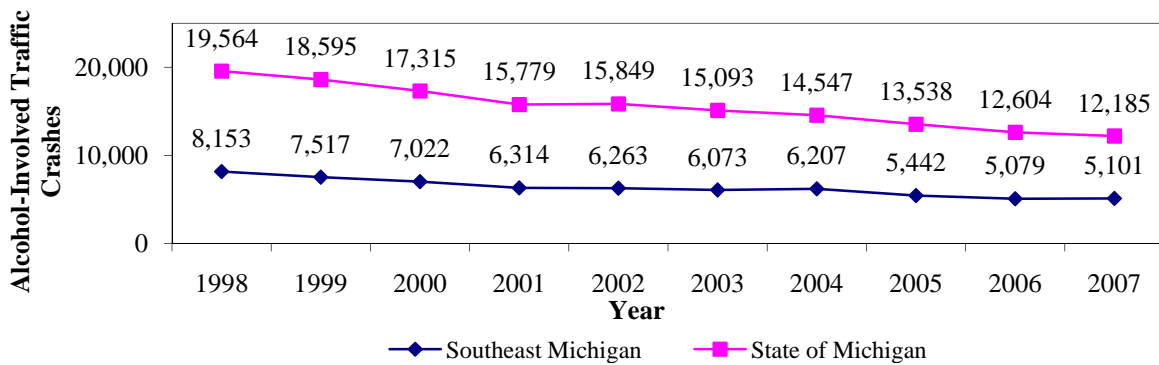
# Alcohol-Involved Traffic Crashes

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.*

There was a slight increase in alcohol-involved traffic crashes in Southeast Michigan and a decrease in Michigan’s alcohol-involved crashes in 2007 (Figure 37).

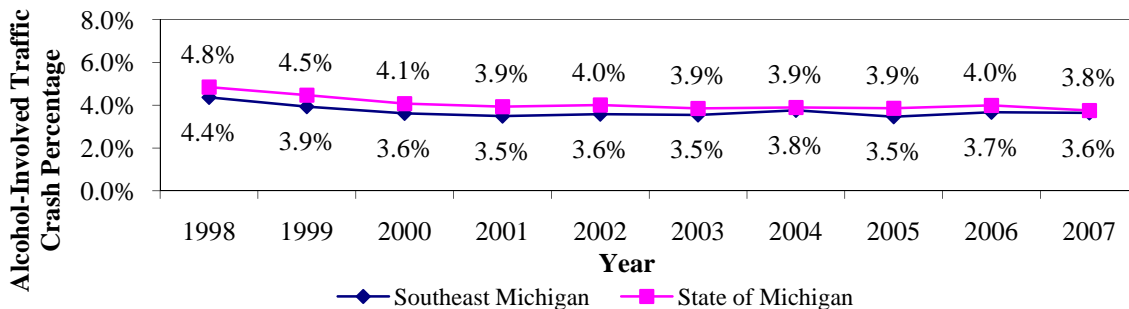
The alcohol-involved crash percentage decreased in Southeast Michigan and in the state (Figure 38).

Figure 37  
Alcohol-Involved Traffic Crashes, 1998-2007



Source: MSPTCD and SEMCOG, 2007.

Figure 38  
Alcohol-Involved Traffic Crash Percentage, 1998-2007



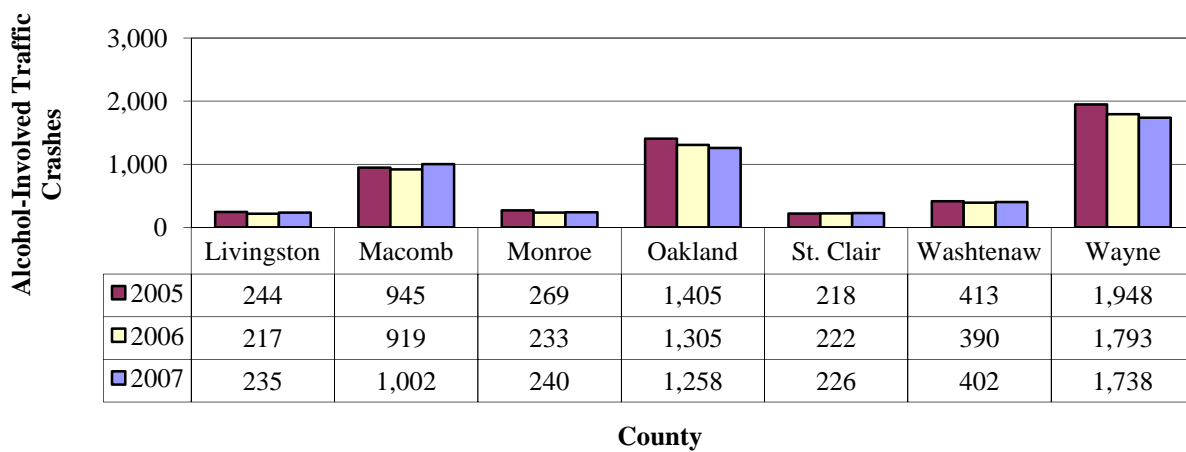
Source: MSPTCD and SEMCOG, 2007.

## Alcohol-Involved Traffic Crashes by County

Figure 39 shows that only Oakland and Wayne Counties saw a decrease in alcohol-involved traffic crashes (3.6 and 3.1 percent respectively).

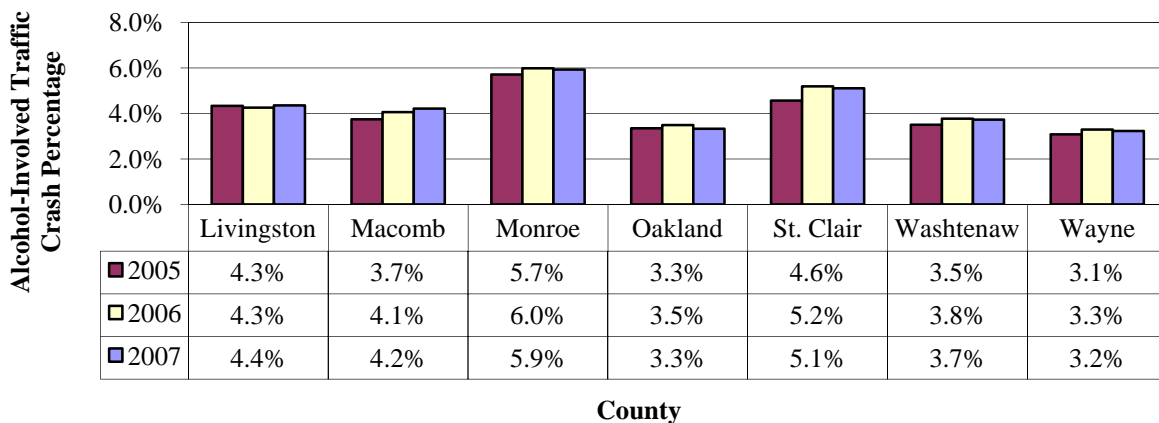
Figure 40 shows that once again Wayne County has the lowest percentage of alcohol-involved crashes in the region. Monroe County had the highest percentage of alcohol-related crashes — nearly six out of every 100 crashes in Monroe County in 2007 involved alcohol.

Figure 39  
Alcohol-Involved Traffic Crashes by County, 2005-2007



Source: MSPTCD and SEMCOG, 2007.

Figure 40  
Alcohol-Involved Traffic Crash Percentage by County, 2005-2007



Source: MSPTCD and SEMCOG, 2007.

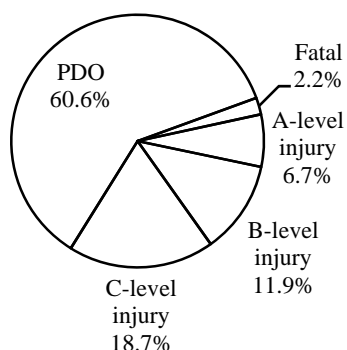
## Alcohol-Involved Traffic Crashes by Severity

Over 79 percent of all traffic crashes that did not involve alcohol did not result in any injuries, compared to just over 60 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 2007.

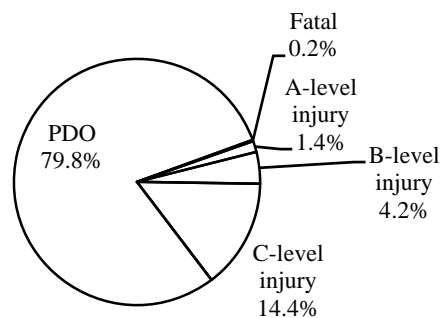
Table 9 shows that 31 percent of all fatal crashes in Southeast Michigan in 2007 involved alcohol, and nearly 15 percent of all A-level injury crashes involved alcohol.

Figure 41  
Alcohol-Involved Traffic Crashes Severity, 2007

Alcohol-Involved Traffic Crashes



All Other Traffic Crashes



Source: MSPTCD and SEMCOG, 2007.

Table 9  
Alcohol-Involved Traffic Crash Severity, 2007

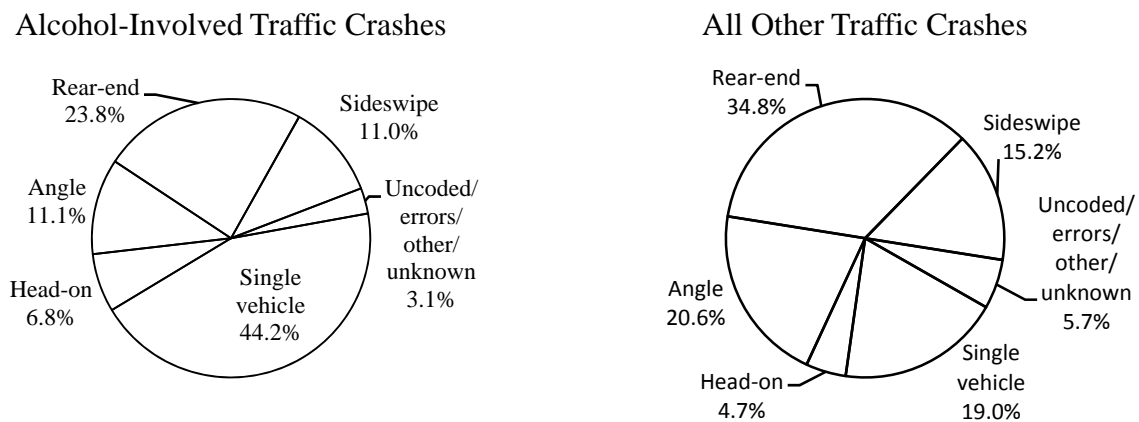
Crash Severity	Alcohol-Involved Traffic Crashes	All Traffic Crashes	Alcohol-Involved Percentage
Fatal	110	355	31.0%
A-level injury	341	2,297	14.8%
B-level injury	606	6,237	9.7%
C-level injury	954	20,393	4.7%
PDO	3,090	110,833	2.8%
<b>Total</b>	<b>5,101</b>	<b>140,115</b>	<b>3.6%</b>

Source: MSPTCD and SEMCOG, 2007.

## Alcohol-Involved Traffic Crashes by Crash Type

Crashes involving alcohol in 2007 were most often single-vehicle crashes, followed by rear-end crashes (Figure 42). 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 12 single-vehicle crashes in 2007 involved alcohol (Table 10).

Figure 42  
Alcohol-Involved Traffic Crashes by Type, 2007



Source: MSPTCD and SEMCOG, 2007.

Table 10  
Traffic Crash type by Percent Involving Alcohol, 2007

Crash Type	Alcohol-Involved Traffic Crashes	All Traffic Crashes	Alcohol-Involved Percentage
Uncoded/errors/other/unknown	152	7,912	1.9%
Single vehicle	2,256	27,892	8.1%
Head-on	347	6,647	5.2%
Angle	568	28,393	2.0%
Rear-end	1,215	48,197	2.5%
Sideswipe	563	21,074	2.7%
<b>Total</b>	<b>5,101</b>	<b>140,115</b>	<b>3.6%</b>

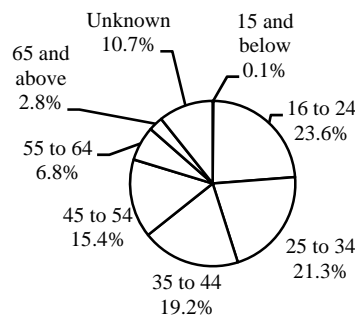
Source: MSPTCD and SEMCOG, 2007.

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

Drivers between the ages of 16 and 44 accounted for more than 64 percent of had-been-drinking (HBD) drivers in 2007. Figure 43 shows the percent of HBD drivers in each age group in 2007.

Table 11 shows the numbers of HBD drivers in each age group by gender. In 2007, there were more than 2.2 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, 2007



Source: MSPTCD and SEMCOG, 2007.

Table 11  
HBD Drivers in Alcohol-Involved Traffic Crashes by Age and Gender, 2007

Age Group	Number of Drivers by Gender			Total
	Female	Male	Unknown	
15 and below	2	7	2	11
16 to 24	645	1,314	0	1,959
25 to 34	497	1,272	2	1,771
35 to 44	510	1,085	0	1,595
45 to 54	420	858	1	1,279
55 to 64	162	399	0	561
65 to 74	47	131	0	178
75 to 84	14	36	0	50
85 to 94	2	4	0	6
95 and above	0	0	0	0
Unknown	11	22	856	889
<b>Total</b>	<b>2,310</b>	<b>5,128</b>	<b>861</b>	<b>8,299</b>

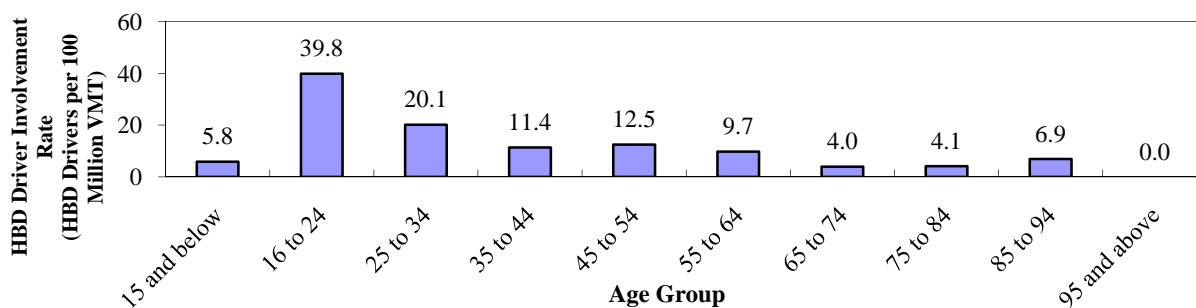
Source: MSPTCD and SEMCOG, 2007.

## 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.

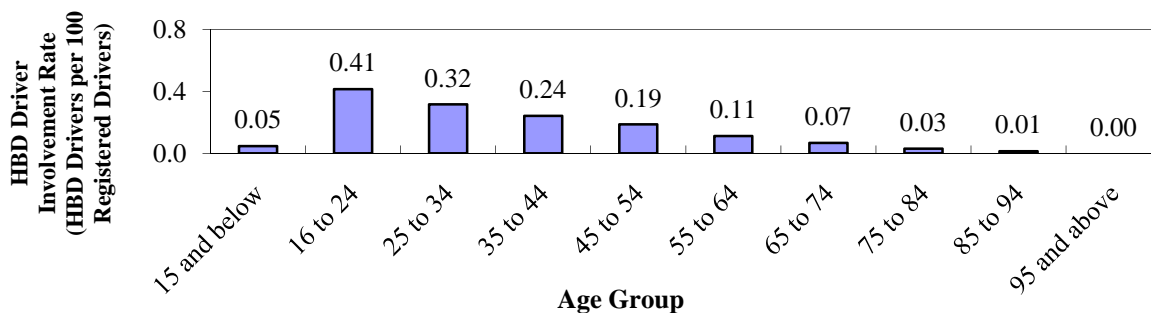
Figure 45 shows the number of HBD drivers compared to the number of registered drivers in each age group, with the 16-24 age group having the highest rate of HBD drivers and the 95 and above age group having the lowest rate of zero.

Figure 44  
Alcohol-Involved Traffic Crash HBD Driver Involvement Rate by Age Group, 2007



Source: MSPTCD and SEMCOG, 2006 VMT's were used with 2007 data. 2007 VMT's will be available soon.

Figure 45  
Alcohol-Involved Traffic Crash HBD Driver Involvement Rate by Age Group, 2007



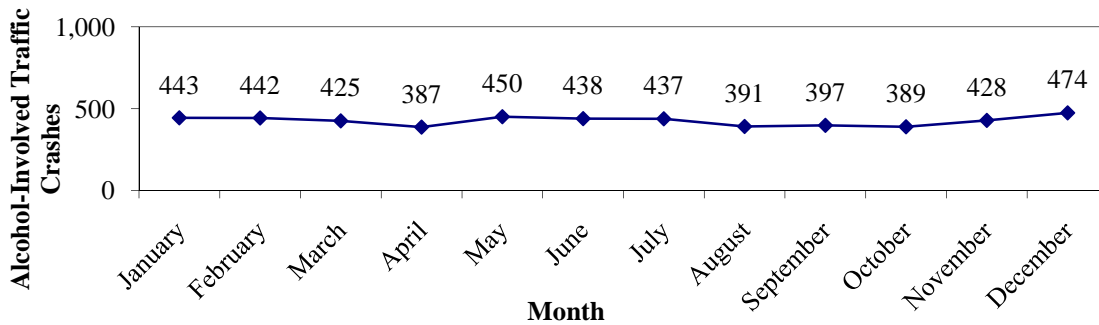
Source: MSPTCD and SEMCOG, 2007.

## 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 2007. December had the most alcohol-involved crashes (474) as well as the most crashes overall (Figure 10). April saw the fewest alcohol-involved crashes (387).

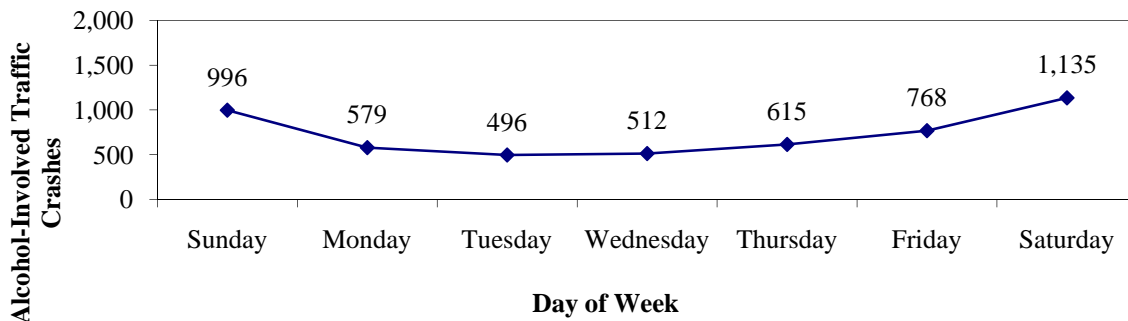
As shown in Figure 47, alcohol-involved traffic crashes increase on the weekends, the opposite of the pattern shown by all crashes (Figure 11). Saturdays had the most alcohol-involved crashes (1,135) and Tuesdays saw the fewest (496).

Figure 46  
Alcohol-Involved Traffic Crashes by Month, 2007



Source: MSPTCD and SEMCOG, 2007.

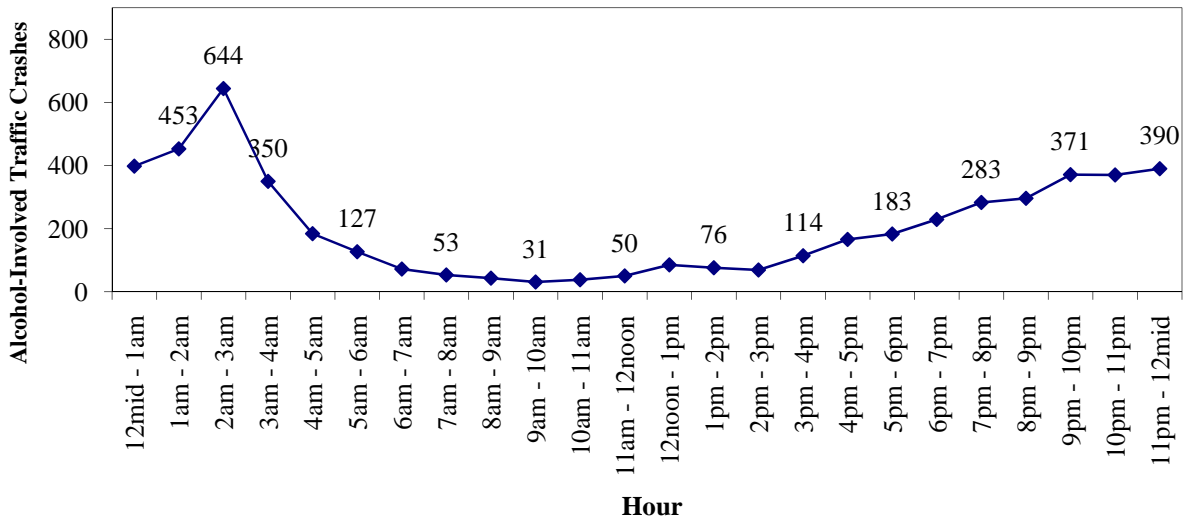
Figure 47  
Alcohol-Involved Traffic Crashes by Day of Week, 2007



Source: MSPTCD and SEMCOG, 2007.

More alcohol-involved crashes (644) took place between 2 a.m. and 3 a.m. than during any other hour interval in 2007 (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, 2007



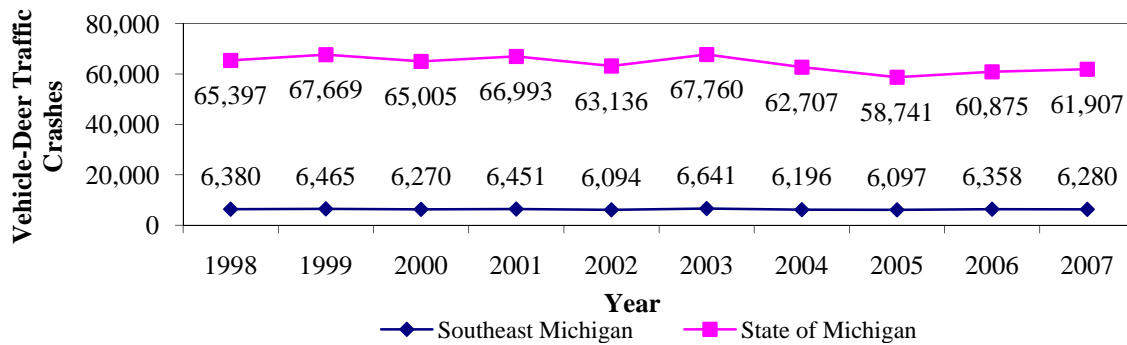
Source: MSPTCD and SEMCOG, 2007.

# Vehicle-Deer Traffic Crashes

Collisions between deer and motor vehicles increased in 2007 in the State of Michigan by 1.7 percent and decreased in Southeast Michigan by 1.2 percent (Figure 49).

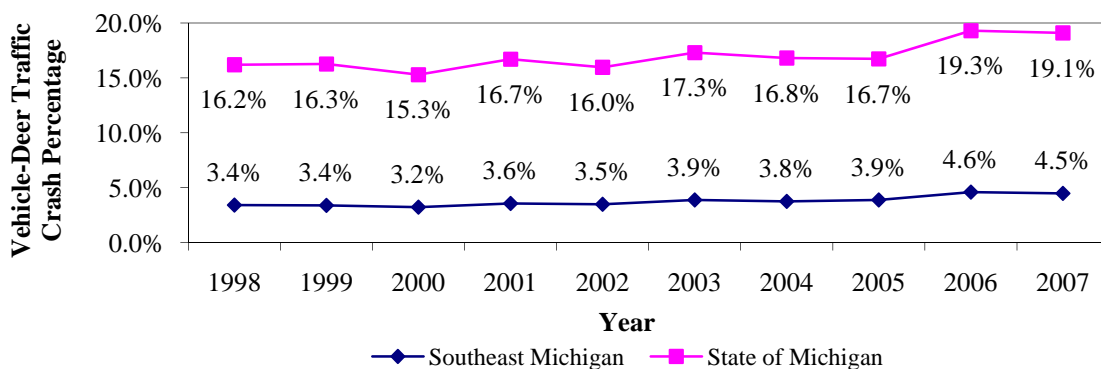
The percentage of all crashes that involved deer in Southeast Michigan decreased to 4.5 percent in 2007, making this the second highest rate since SEMCOG began keeping records in 1993. The deer-crash rate also decreased slightly in Michigan to 19.1 percent (Figure 50).

Figure 49  
Vehicle-Deer Traffic Crashes, 1998-2007



Source: MSPTCD and SEMCOG, 2007.

Figure 50  
Vehicle-Deer Traffic Crash Percentage, 1998-2007



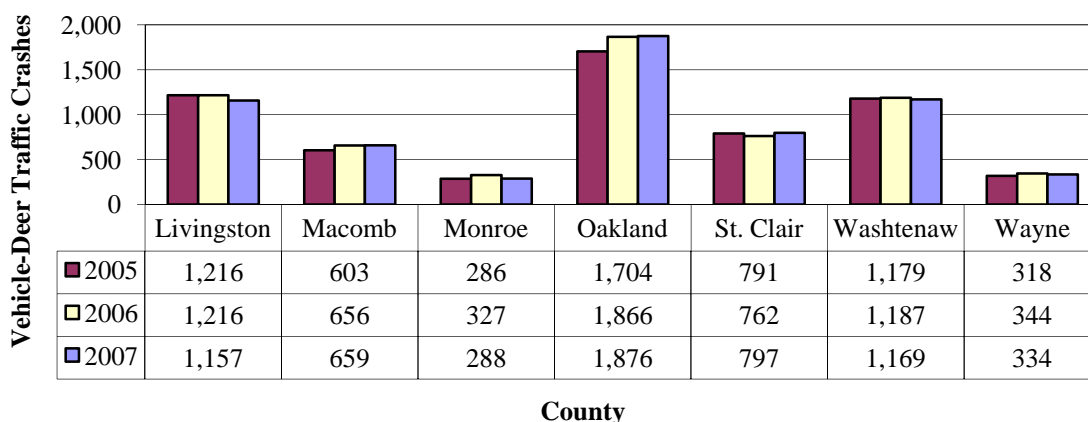
Source: MSPTCD and SEMCOG, 2007.

## Vehicle-Deer Traffic Crashes by County

Car-deer crashes decreased in Livingston, Monroe, Washtenaw, and Wayne Counties in 2007. Figure 51 shows the number of vehicle-deer crashes in each county in 2005-2007.

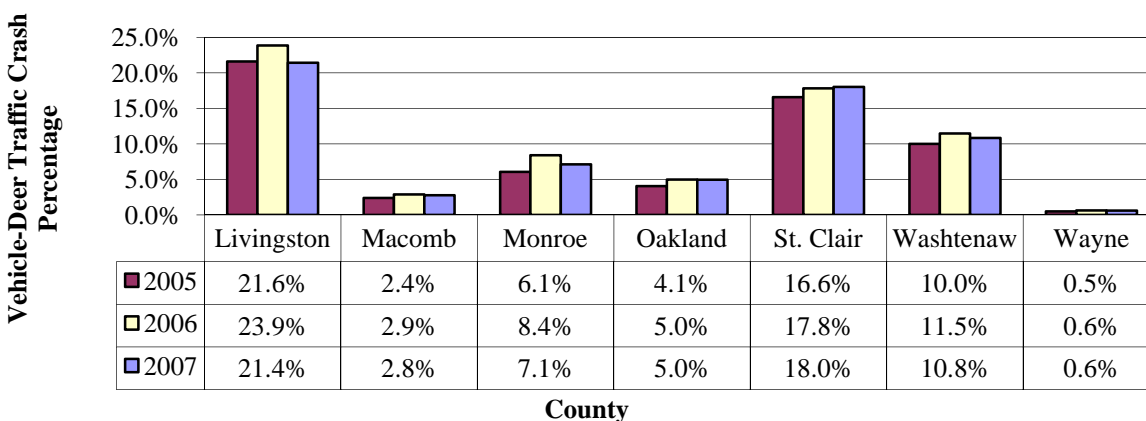
Livingston County continues to lead the region in vehicle-deer crash percentage (Figure 52). More than one out of every five crashes in Livingston County in 2007 involved a deer.

Figure 51  
Vehicle-Deer Traffic Crashes by County, 2005-2007



Source: MSPTCD and SEMCOG, 2007.

Figure 52  
Vehicle-Deer Traffic Crash Percentage by County, 2005-2007



Source: MSPTCD and SEMCOG, 2007.

## Vehicle-Deer Traffic Crashes by Severity

Crashes with deer accounted for over five percent of all PDO crashes in Southeast Michigan in 2007 (Table 12). There was one vehicle-deer crash that was fatal in Southeast Michigan in 2007, and nearly 97 percent of all crashes with deer resulted only in property damage.

Table 12  
Vehicle-Deer Traffic Crash Severity, 2007

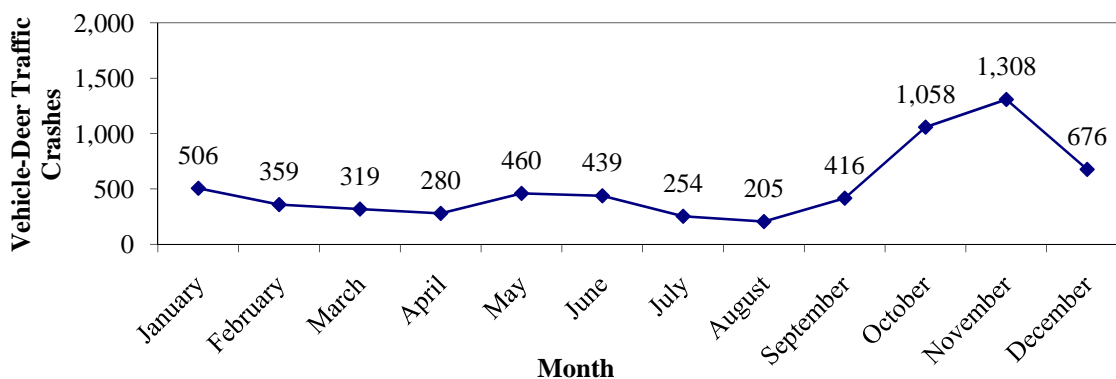
Crash Severity	Vehicle-Deer Traffic Crashes	All Traffic Crashes	Vehicle-Deer Percentage
Fatal	1	355	0.3%
A-level Injury	10	2,297	0.4%
B-level Injury	61	6,237	1.0%
C-level Injury	122	20,393	0.6%
PDO	6,086	110,833	5.5%
<b>Total</b>	<b>6,280</b>	<b>140,115</b>	<b>4.5%</b>

Source: MSPTCD and SEMCOG, 2007.

## 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 2007. More than 37 percent of all deer crashes took place in October or November. Deer crashes peaked in November at 1,308. August had the fewest vehicle-deer crashes at 205.

Figure 53  
Vehicle-Deer Traffic Crashes by Month, 2007

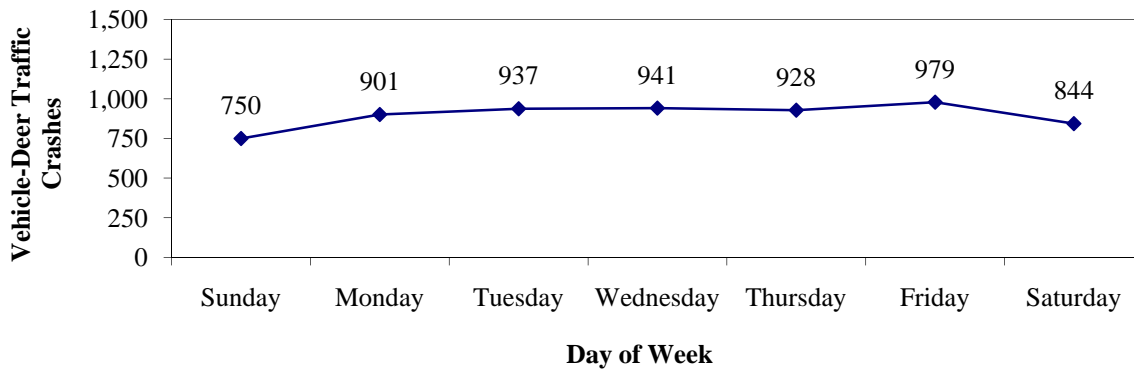


Source: MSPTCD and SEMCOG, 2007.

Figure 54 shows the number of vehicle-deer crashes in 2007 by the day on which they occurred. Most deer crashes occurred on Fridays (979); the fewest occurred on Sundays (750).

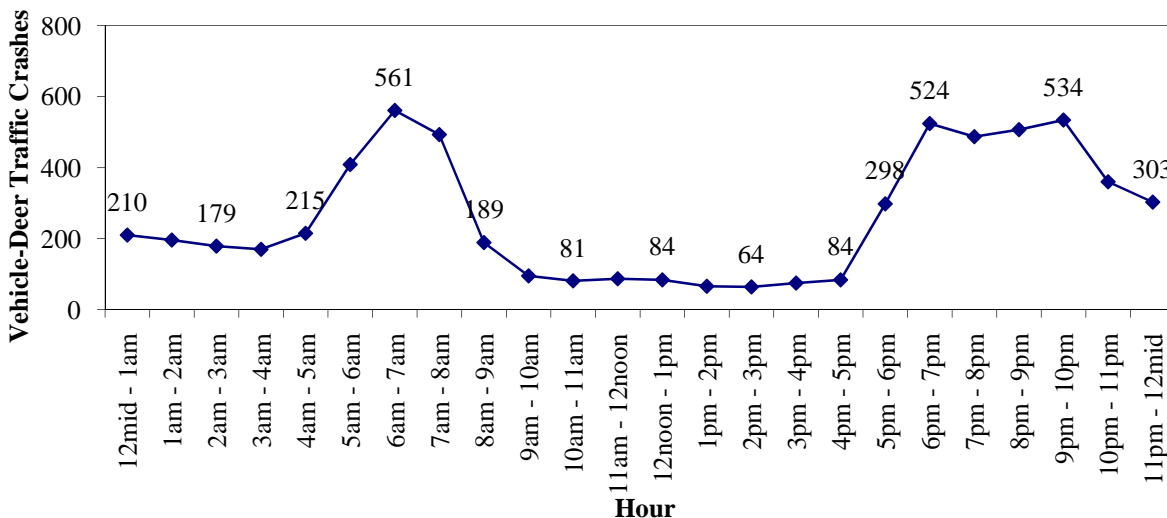
Deer crashes were most likely to occur during evenings or early mornings (Figure 55). The pattern of deer crashes by time of day is quite different from the pattern of all traffic crashes (Figure 12). The morning peak in deer crashes is slightly higher than the evening peak, and crashes decrease sharply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

Figure 54  
Vehicle-Deer Traffic Crashes by Day of Week, 2007



Source: MSPTCD and SEMCOG, 2007.

Figure 55  
Vehicle-Deer Traffic Crashes by Hour of Day, 2007

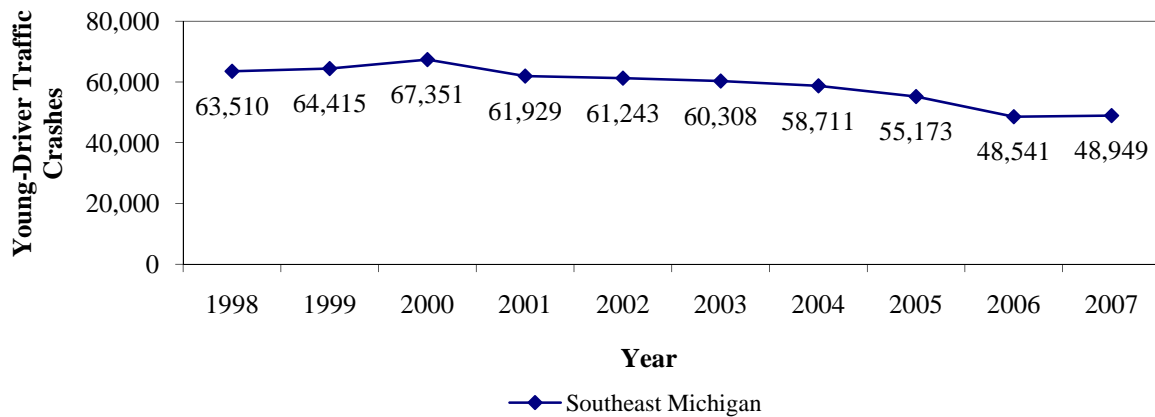


Source: MSPTCD and SEMCOG, 2007.

# Young-Driver Traffic Crashes

A young driver is commonly defined as a driver between the age of 16 and 24. Young-driver crashes increased 0.8 percent in Southeast Michigan between 2006 and 2007 (Figure 56). Table 13 shows young-driver crash percentages for 1998-2007.

Figure 56  
Young-Driver Traffic Crashes, 1998-2007



Source: MSPTCD and SEMCOG, 2007.

Table 13  
Young-Driver Traffic Crash Percentage, 1998-2007

Year	Young-Driver Traffic Crashes	All Traffic Crashes	Young-Driver Percentage
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%
2007	48,949	140,115	34.9%

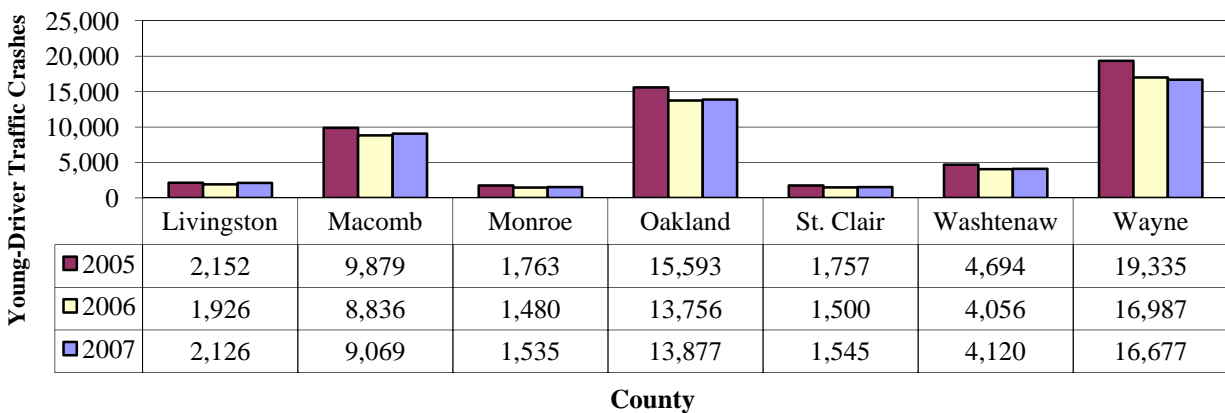
Source: MSPTCD and SEMCOG, 2007.

## Young-Driver Traffic Crashes by County

Figure 57 shows the number of young-driver crashes in each county in 2005-2007. All Southeast Michigan counties except Wayne, experienced an increase in young-driver crashes; at 10 percent, Livingston County had the greatest increase.

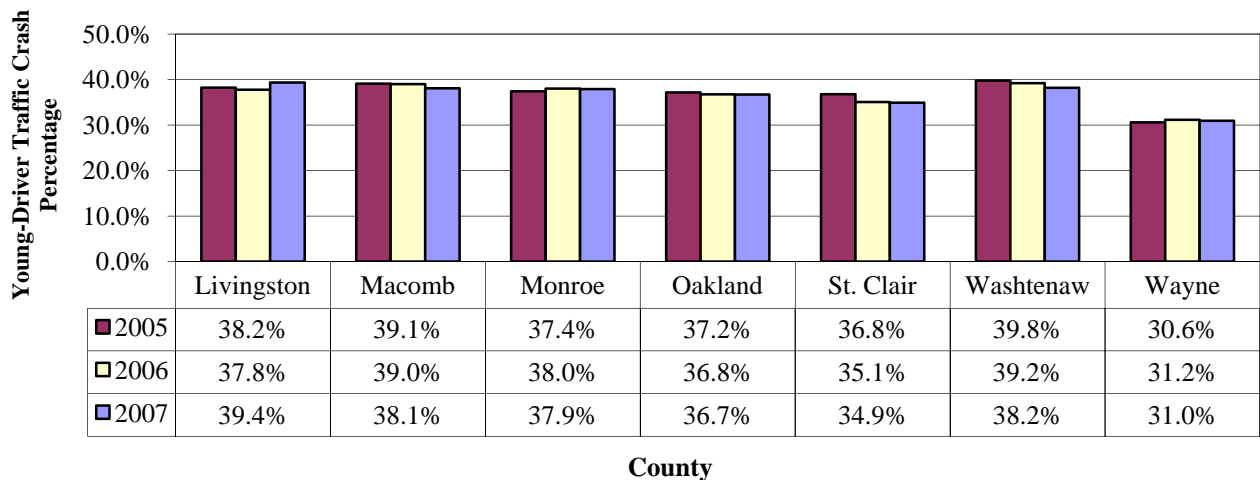
Wayne County continued to have the lowest young-driver traffic crash percentage in the region at 31.0 percent (Figure 58). Except for Wayne, all counties have young-driver crash rates at or above the regional traffic crash percentage of 34.9 percent.

Figure 57  
Young-Driver Traffic Crashes by County, 2005-2007



Source: MSPTCD and SEMCOG, 2007.

Figure 58  
Young-Driver Traffic Crash Percentage by County, 2005-2007

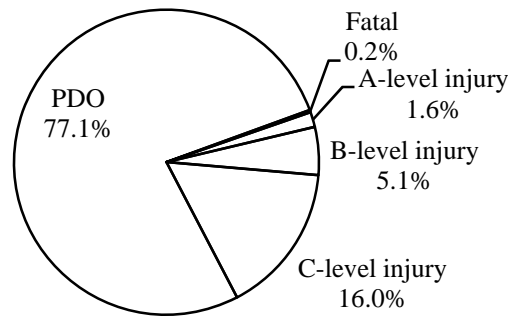


Source: MSPTCD and SEMCOG, 2007.

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

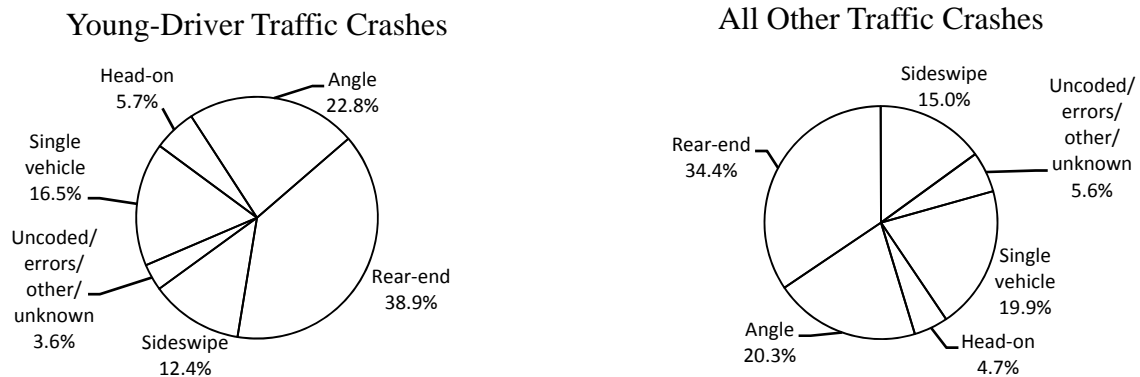
Just over 77 percent of traffic crashes involving young drivers resulted in property damage only. Figure 59 shows the severity of crashes involving young drivers in 2007. When compared to all other drivers, young drivers were more likely to have rear-end, angle, and head-on crashes and less likely to have single vehicle or sideswipe crashes than all drivers (Figure 60).

Figure 59  
Young-Driver Traffic Crashes Severity, 2007



Source: MSPTCD and SEMCOG, 2007.

Figure 60  
Young-Driver Traffic Crashes by Crash Type, 2007

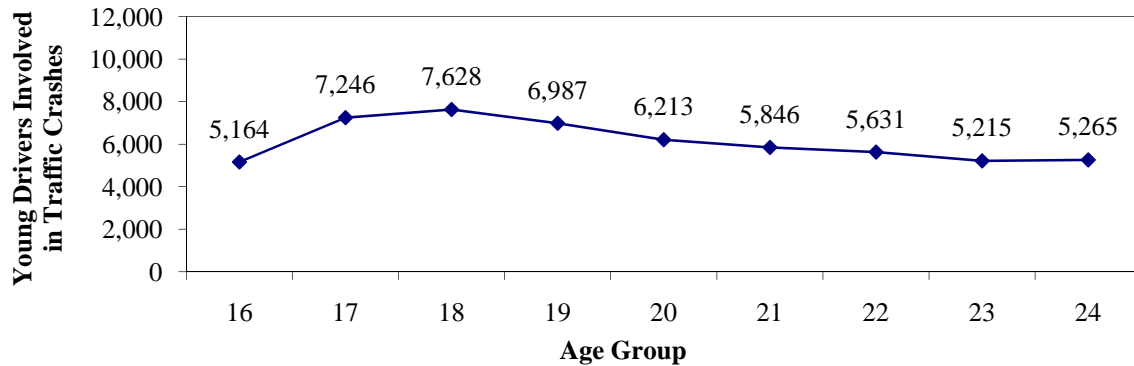


Source: MSPTCD and SEMCOG, 2007.

## 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 2007. Crashes among young drivers peaked at age 18 as a group with over 7,628 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, 2007



Source: MSPTCD and SEMCOG, 2007.

Table 14  
Young Driver Traffic Crash Involvement by Age Group and Gender, 2007

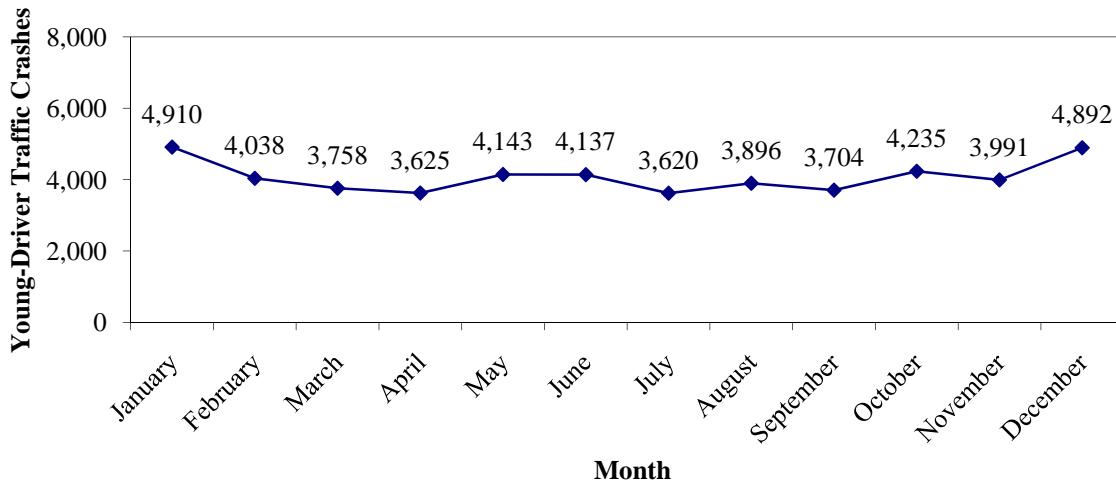
Age Group	Number of Drivers by Gender			Total
	Female	Male	Unknown	
16	2,411	2,753	0	5,164
17	3,442	3,801	3	7,246
18	3,444	4,184	0	7,628
19	3,152	3,828	7	6,987
20	2,996	3,213	4	6,213
21	2,726	3,116	4	5,846
22	2,685	2,945	1	5,631
23	2,556	2,657	2	5,215
24	2,489	2,768	8	5,265
<b>Total</b>	<b>25,901</b>	<b>29,265</b>	<b>29</b>	<b>55,195</b>

Source: MSPTCD and SEMCOG, 2007.

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

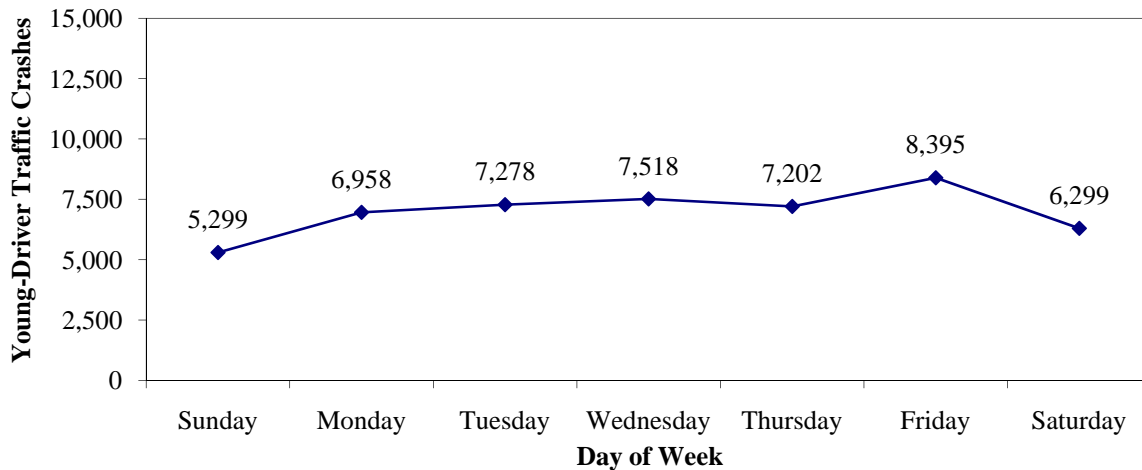
Crashes involving young drivers were most frequent in January (4,910) and December (4,892) and least frequent in July. When grouped by day of week, young-driver crashes followed the same pattern as all crashes (Figure 11), with most crashes taking place on Fridays (8,395) and the fewest taking place on Sundays (5,299). Figures 62 and 63 show these numbers in greater detail.

Figure 62  
Young-Driver Traffic Crashes by Month, 2007



Source: MSPTCD and SEMCOG, 2007.

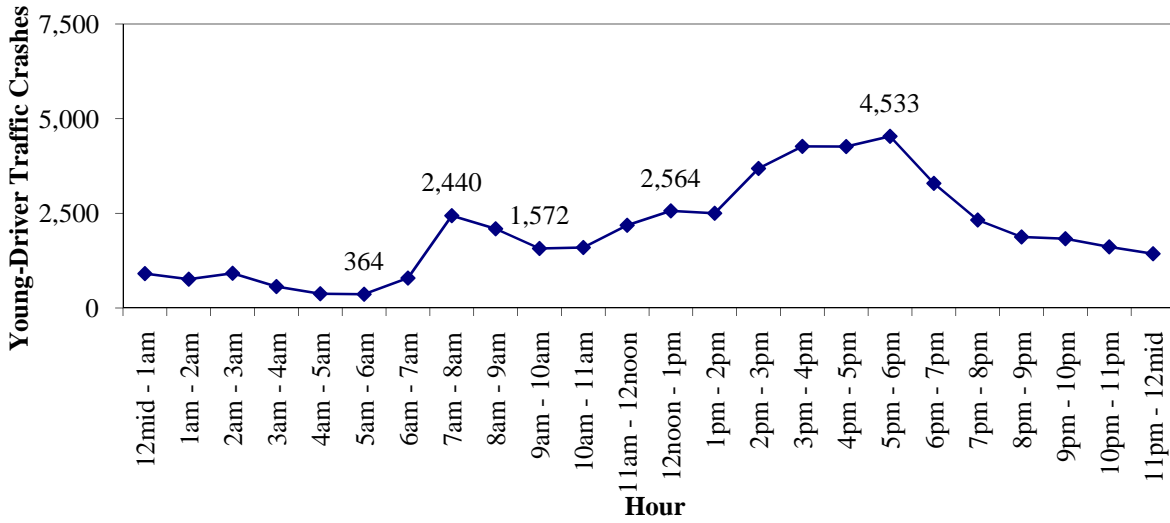
Figure 63  
Young-Driver Traffic Crashes by Day of Week, 2007



Source: MSPTCD and SEMCOG, 2007.

Figure 64 shows the number of young-driver traffic crashes grouped by the hour they occurred. As with all traffic crashes in 2007 (Figure 12), traffic crashes involving young drivers were most frequent between 3 p.m. and 6 p.m. and least frequent between 4 a.m. and 6 a.m.

Figure 64  
Young-Driver Traffic Crashes by Hour of Day, 2007



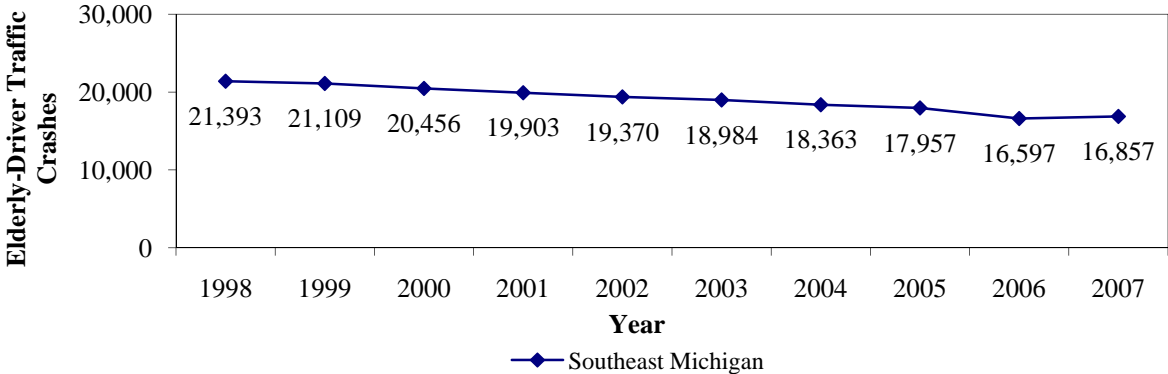
Source: MSPTCD and SEMCOG, 2007.

# 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 2007, regardless of the cause of the crash. Crashes involving elderly drivers in Southeast Michigan increased 1.5 percent in 2007, ending a nine-year decline.

Twelve percent of all traffic crashes in Southeast Michigan in 2007 involved an elderly driver (Table 15).

Figure 65  
Elderly Driver Traffic Crashes, 1998-2007



Source: MSPTCD and SEMCOG, 2007. \*Michigan data was not available.

Table 15  
Elderly Driver Traffic Crash Percentage, 1998-2007

Year	Elderly-Driver Traffic Crashes	All Traffic Crashes	Elderly-Driver Percentage
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%
2007	16,857	140,115	12.0%

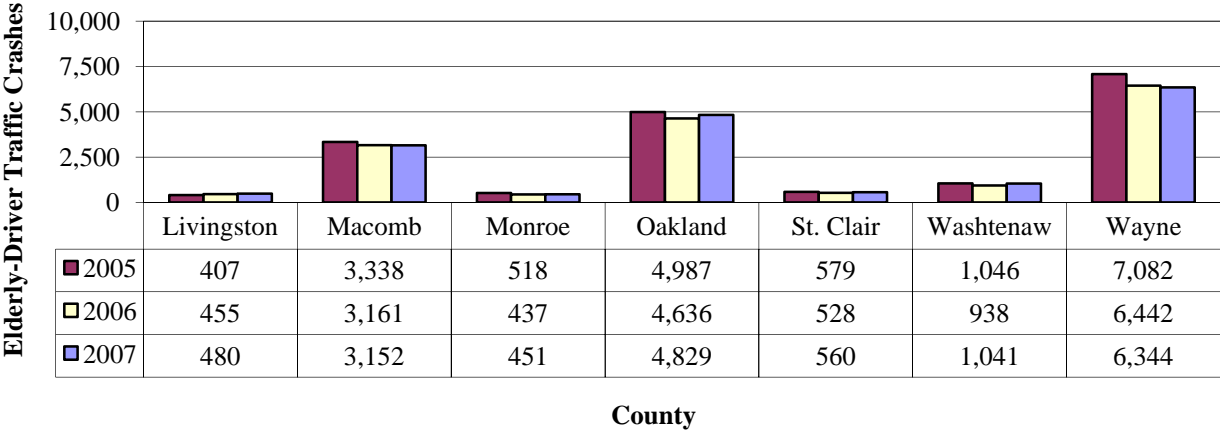
Source: MSPTCD and SEMCOG, 2007.

# 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 an increase in elderly driver crashes even though Wayne and Macomb Counties saw slight decreases.

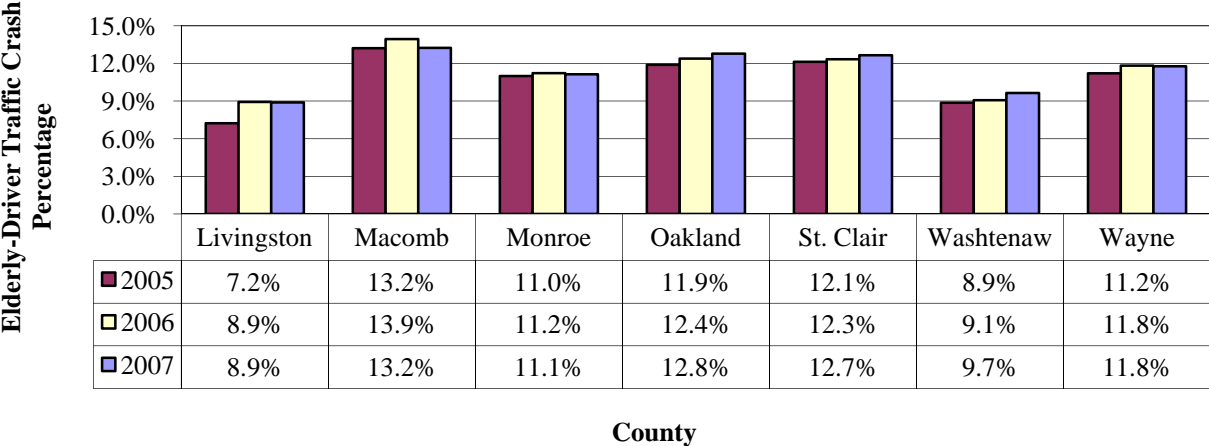
Macomb County continued to have the highest percentage of elderly driver crashes in the region at 13.2 percent. Livingston County had the lowest percentage in the region at 8.9 percent.

Figure 66  
Elderly Driver Traffic Crashes by County, 2005-2007



Source: MSPTCD and SEMCOG, 2007.

Figure 67  
Elderly Driver Traffic Crash Percentage by County, 2005-2007



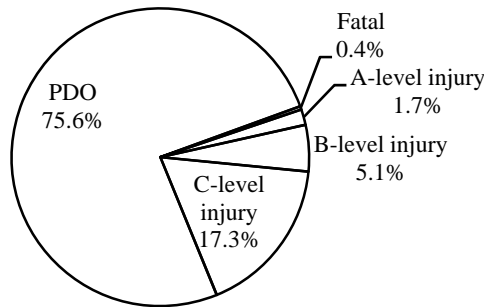
Source: MSPTCD and SEMCOG, 2007.

## Elderly Driver Traffic Crashes by Severity and Crash Type

Nearly 76 percent of all traffic crashes involving elderly drivers resulted in property damage only (Figure 68), compared to 79.1 percent of all traffic crashes (Figure 5).

Elderly drivers were more likely to be involved in rear-end, angle, head-on, and sideswipes crashes and less likely to be involved in single vehicle crashes when compared to all other driver crashes (Figure 69).

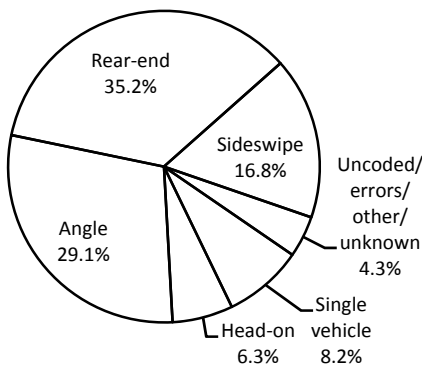
Figure 68  
Elderly Driver Traffic Crash Severity, 2007



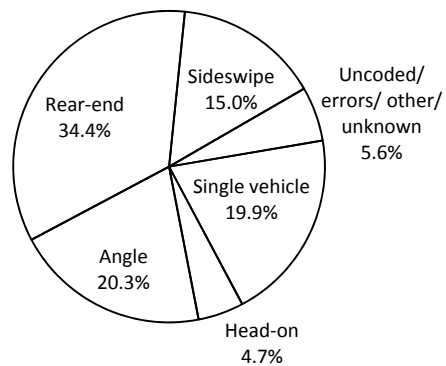
Source: MSPTCD and SEMCOG, 2007.

Figure 69  
Elderly Driver Traffic Crashes by Crash Type, 2007

### Elderly Drivers Traffic Crashes



### All Other Traffic Crashes



Source: MSPTCD and SEMCOG, 2007.

## Age and Gender of Elderly Drivers in Traffic Crashes

In 2007, 17,723 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, 2007

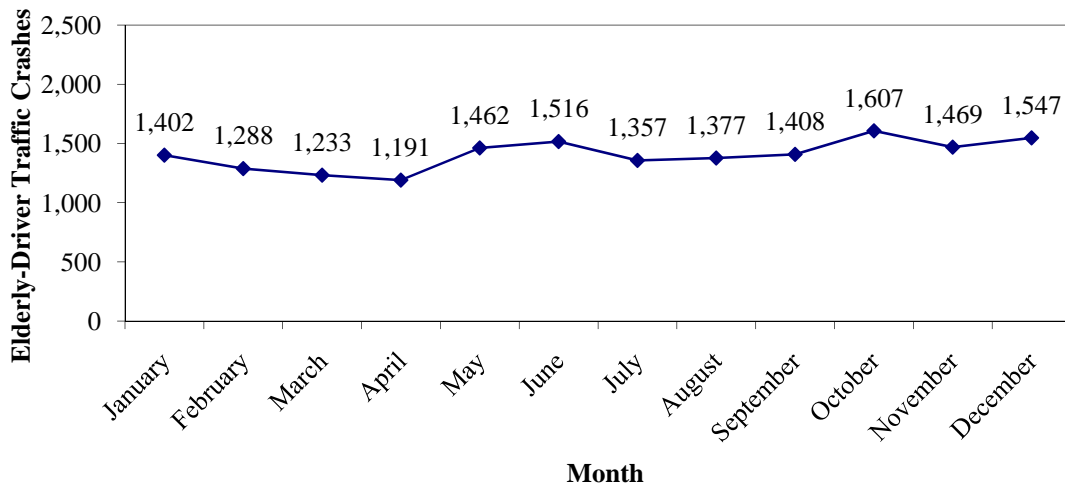
Age Group	Number of Drivers by Gender			Total
	Female	Male	Unknown	
65 to 74	4,267	5,839	7	10,113
75 to 84	2,773	3,361	2	6,136
85 to 94	651	790	0	1,441
95 and above	14	19	0	33
<b>Total</b>	<b>7,705</b>	<b>10,009</b>	<b>9</b>	<b>17,723</b>

Source: MSPTCD and SEMCOG, 2007.

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

Elderly driver crashes were most common in October (1,607) and least common in April (Figure 70).

Figure 70  
Elderly Driver Traffic Crashes by Month, 2007

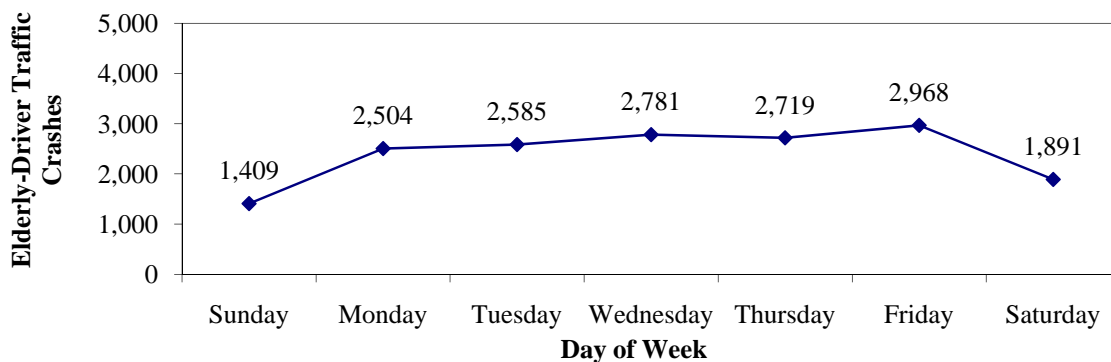


Source: MSPTCD and SEMCOG, 2007.

In 2007, crashes involving elderly drivers occurred more often on Fridays and least often on Sundays (Figure 71).

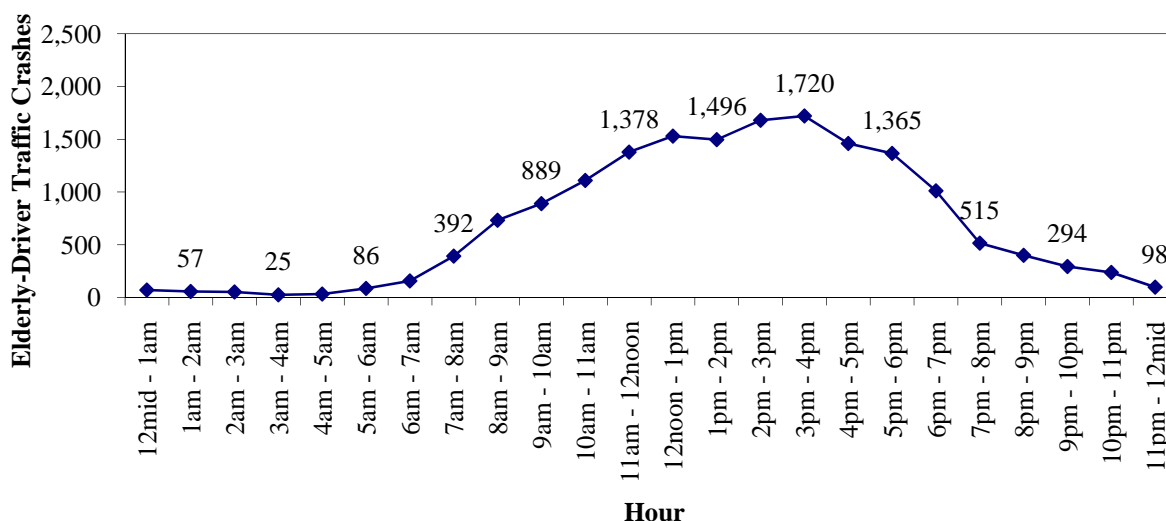
Figure 72 shows the number of elderly driver traffic crashes grouped by the hour during which they occurred. The peak time for elderly driver crashes was between 2 p.m. and 4 p.m., with a noticeable drop after these hours. This is different from the pattern of all traffic crashes (Figure 12), where the 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, 2007



Source: MSPTCD and SEMCOG, 2007.

Figure 72  
Elderly Driver Traffic Crashes by Hour of Day, 2007

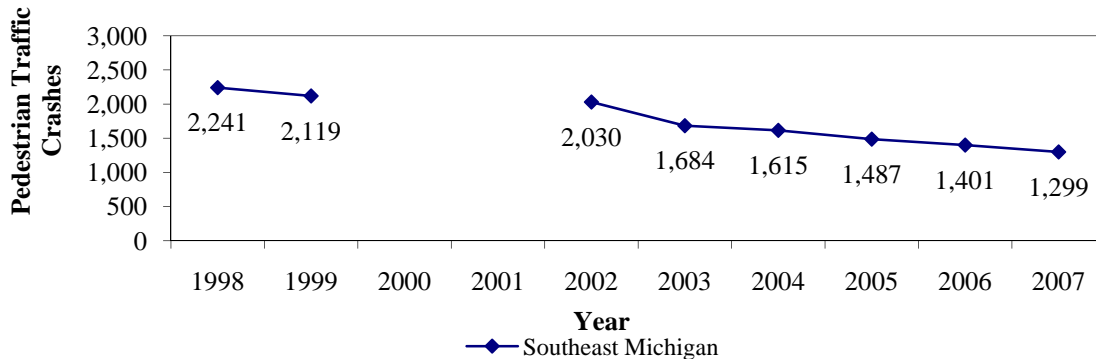


Source: MSPTCD and SEMCOG, 2007.

# Pedestrian Traffic Crashes

A pedestrian is typically defined as a person traveling on foot. Crashes in Southeast Michigan involving pedestrians totaled 1,299 in 2007 (Figure 73), a 7.3 percent decrease from 2006.

Figure 73  
Pedestrian Traffic Crashes, 1998-1999 and 2002-2007

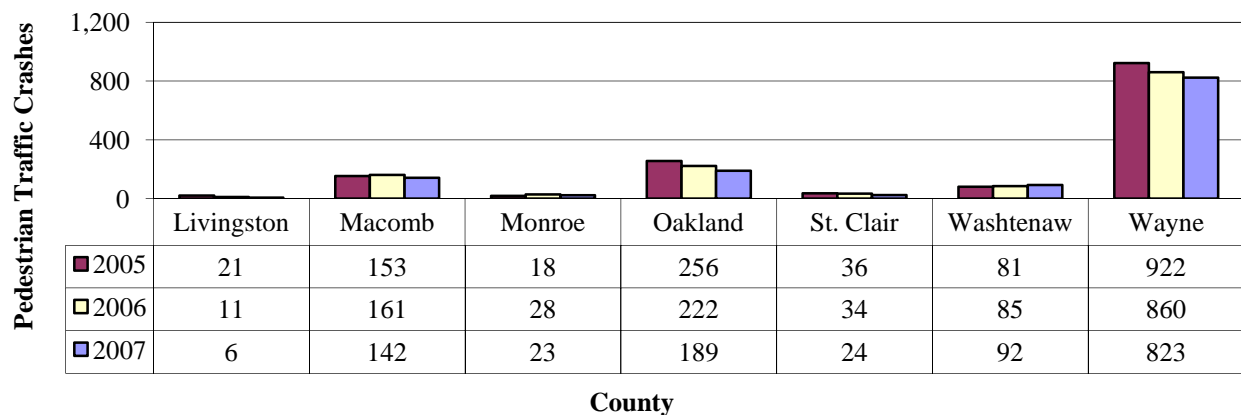


Source: MSPTCD and SEMCOG, 2007. \*Page 1 explains why 2000 and 2001 data are not available.

## Pedestrian Traffic Crashes by County

Wayne County had the highest number of pedestrian crashes in 2007, followed by Oakland and Macomb Counties (Figure 74).

Figure 74  
Pedestrian Traffic Crashes by County, 2005-2007

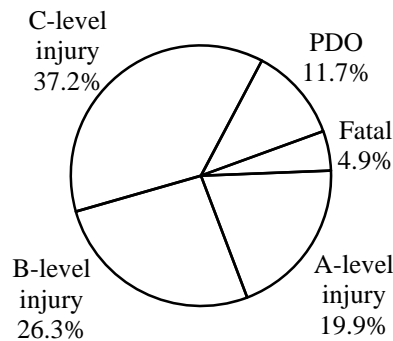


Source: MSPTCD and SEMCOG, 2007.

## Pedestrian Traffic Crashes by Severity

Figure 75 shows 4.9 percent of the traffic crashes involving pedestrians in 2007 were fatal, compared to 0.3 percent of all crashes; only 11.7 percent of pedestrian crashes resulted in no injury, compared to 79.1 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, 2007

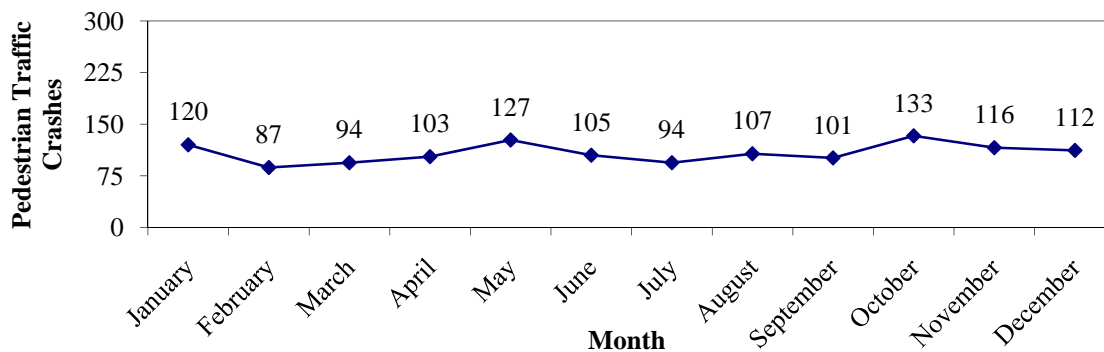


Source: MSPTCD and SEMCOG, 2007.

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

Traffic crashes involving pedestrians (Figure 76) peaked in the months of May (127) and October (133). February had the fewest pedestrian crashes with 87.

Figure 76  
Pedestrian Traffic Crashes by Month, 2007

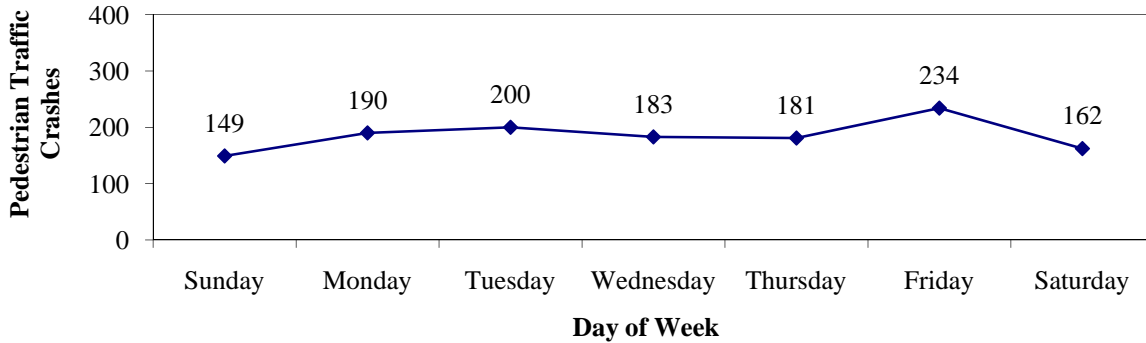


Source: MSPTCD and SEMCOG, 2007.

In 2007, pedestrian crashes were less likely to take place on Sundays and Saturdays than any other days of the week. The lowest pedestrian crash total was 149 on Sundays, and the highest number was 234 on Fridays (Figure 77).

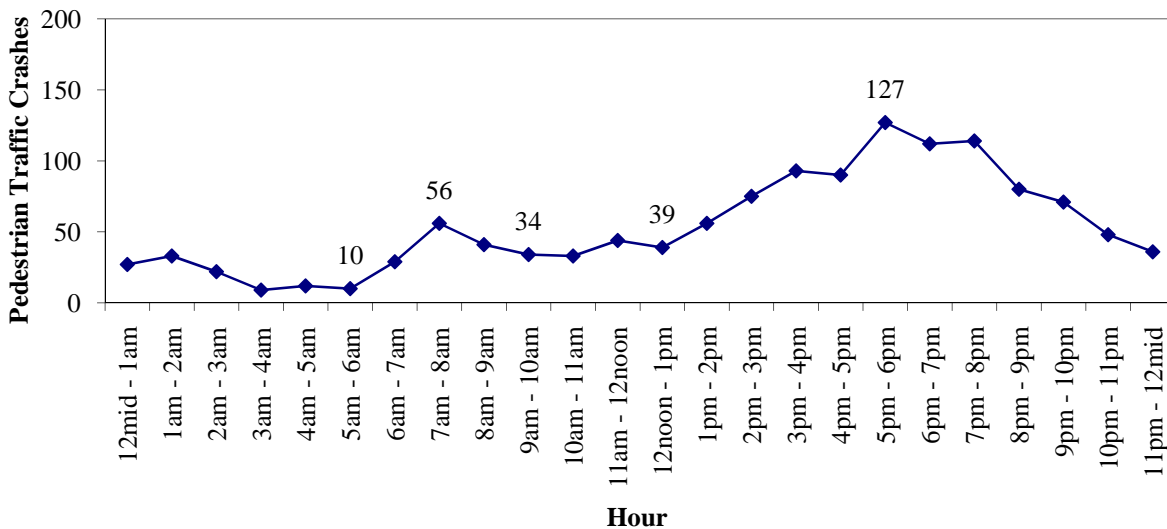
Pedestrian crashes, like all crashes, were more frequent during daylight hours, with most pedestrian crashes taking place in the late afternoon and evening hours (Figure 78).

Figure 77  
Pedestrian Traffic Crashes by Day of Week, 2007



Source: MSPTCD and SEMCOG, 2007.

Figure 78  
Pedestrian Traffic Crashes by Hour of Day, 2007



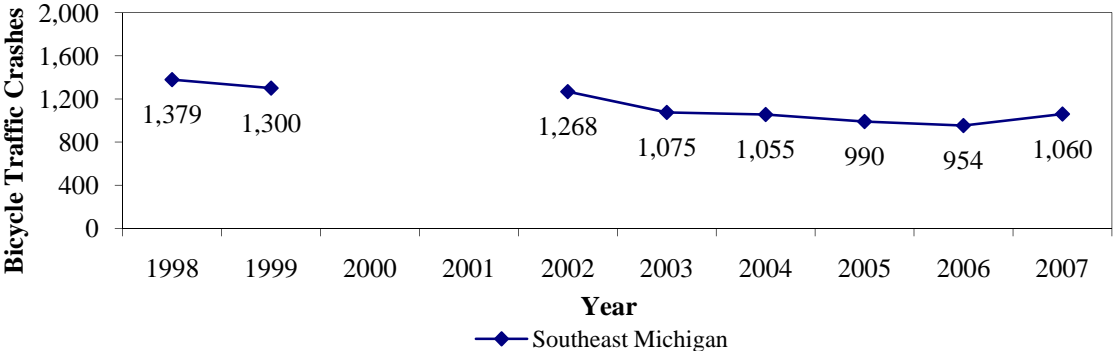
Source: MSPTCD and SEMCOG, 2007.

# 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. Under this definition, a bicycle may have two or three wheels. Traffic crashes in Southeast Michigan involving bicycles increased 11 percent between 2006 and 2007 (Figure 79).

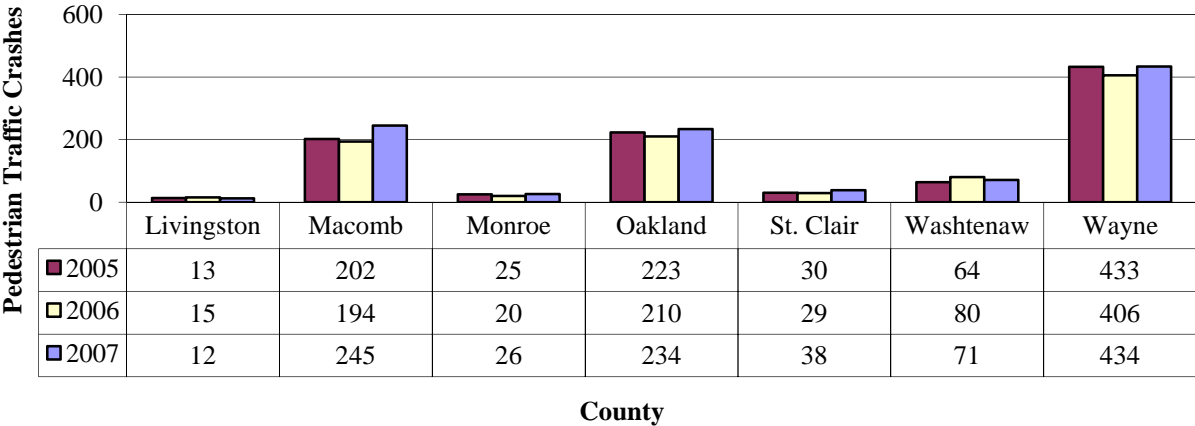
Wayne County led the region in bicycle crashes, followed by Macomb County and Oakland County. Livingston and Washtenaw Counties were the only counties to experience decreases in traffic crashes involving bicycles (Figure 80).

Figure 79  
Bicycle Traffic Crashes, 1998-1999 and 2002-2007



Source: MSPTCD and SEMCOG, 2007. \*Michigan data was not available and Page 1 explains the missing data for 2000 and 2001.

Figure 80  
Bicycle Traffic Crashes by County, 2005-2007

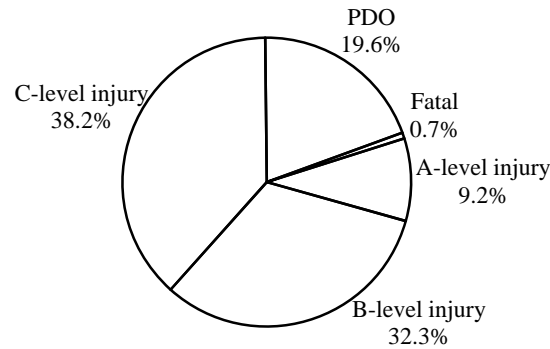


Source: MSPTCD and SEMCOG, 2007.

## Bicycle Traffic Crashes by Severity

Traffic crashes involving bicycles (Figure 81) are more severe than overall crashes (Figure 5), but less severe than crashes involving pedestrians (Figure 75). More than 19.6 percent of crashes involving bicycles resulted in no injuries, compared to 79.1 percent of all crashes and 11.7 percent of pedestrian crashes.

Figure 81  
Bicycle Traffic Crash Severity, 2007

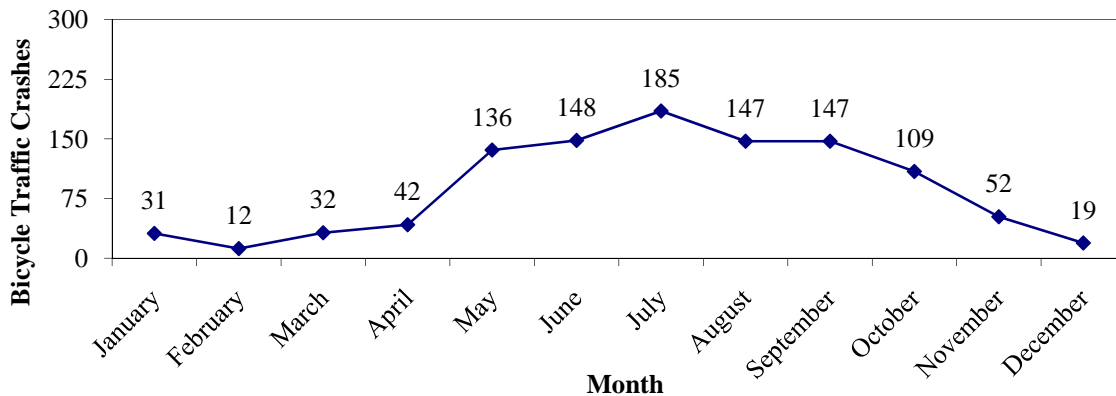


Source: MSPTCD and SEMCOG, 2007.

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

Bicycle crashes were more common in warmer months, unlike pedestrian crashes. This is likely due to the difficulties of bicycling in snowy or icy conditions. Bicycle crashes peaked in the month of July at 185 crashes and hit a low point in February with 12 crashes (Figure 82).

Figure 82  
Bicycle Traffic Crashes by Month, 2007

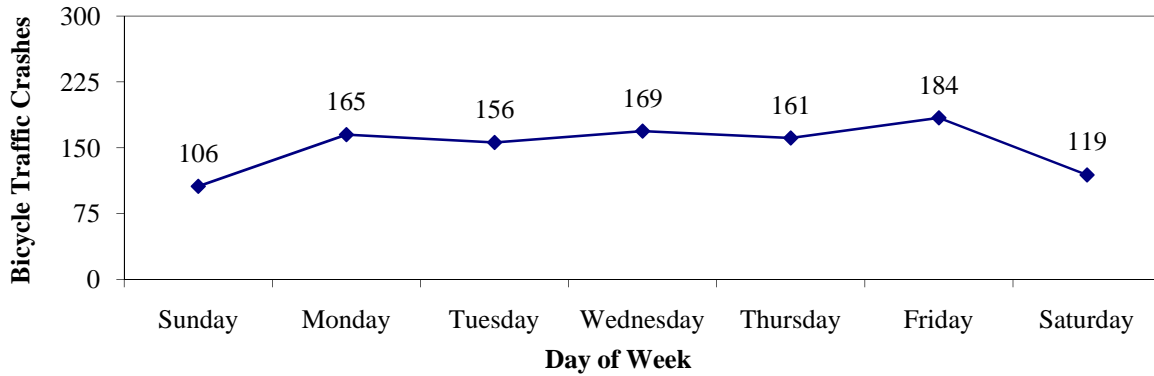


Source: MSPTCD and SEMCOG, 2007.

As with pedestrian crashes and all crashes, bicycle crashes were more common on weekdays (Figure 83). Fridays had the most bicycle crashes (184) and Sundays had the fewest (106).

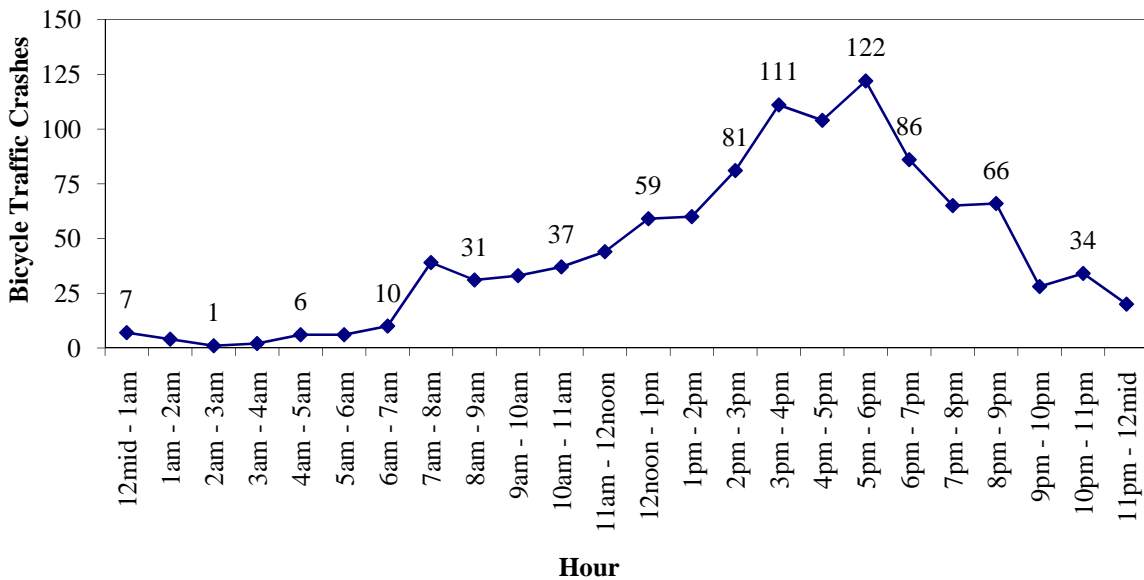
Bicycle crashes follow a time-of-day pattern that is similar to pedestrian crashes, with most crashes occurring in the late afternoon and early evening hours (Figure 84).

Figure 83  
Bicycle Traffic Crashes by Day of Week, 2007



Source: MSPTCD and SEMCOG, 2007.

Figure 84  
Bicycle Traffic Crashes by Hour of Day, 2007



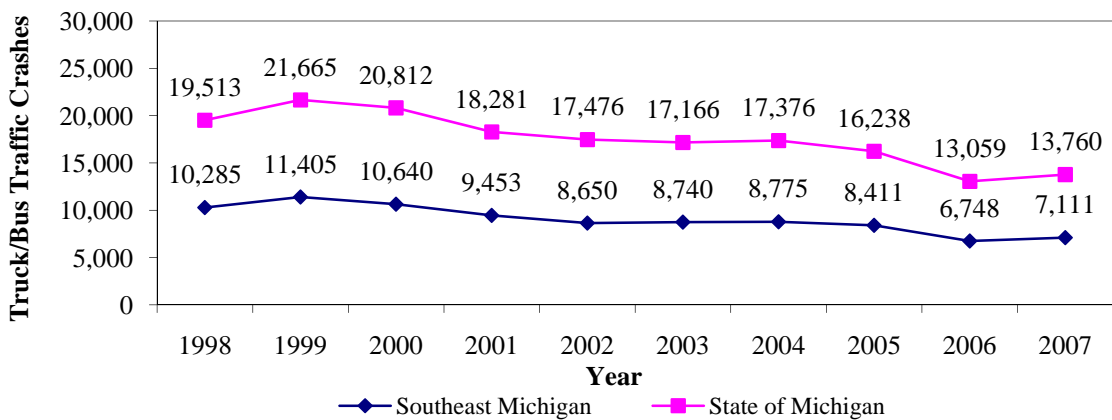
Source: MSPTCD and SEMCOG, 2007.

# Truck/Bus Traffic Crashes

Truck/bus traffic crashes are crashes that involve a commercial truck or bus. Truck/bus crashes increased in 2007 in both Southeast Michigan and Michigan (each by 5.4 percent) (Figure 85).

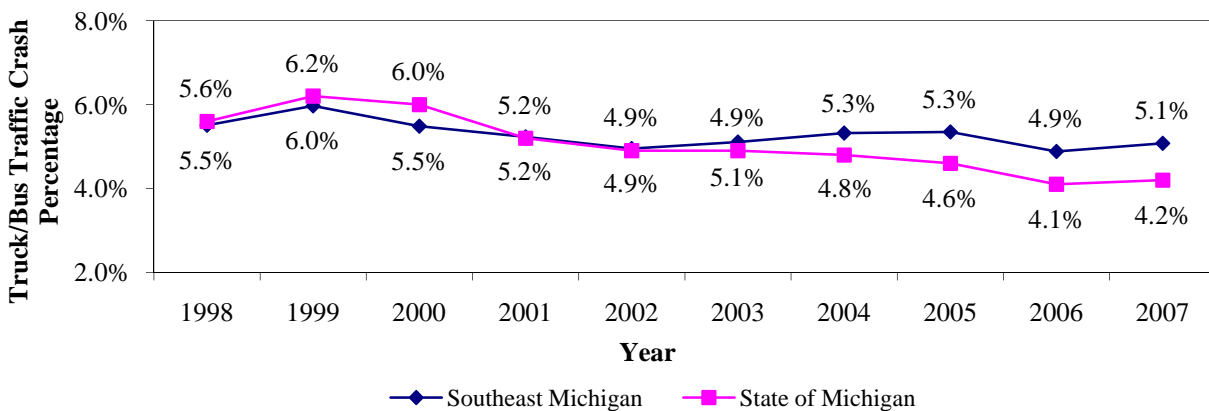
Southeast Michigan continues to have a higher percentage of truck/bus crashes than the State of Michigan (Figure 86). In 2007, more than one out of every 20 traffic crashes (5.1 percent) in Southeast Michigan involved a commercial truck or bus.

Figure 85  
Truck/Bus Traffic Crashes, 1998-2007



Source: MSPTCD and SEMCOG, 2007.

Figure 86  
Truck/Bus Traffic Crash Percentage, 1998-2007



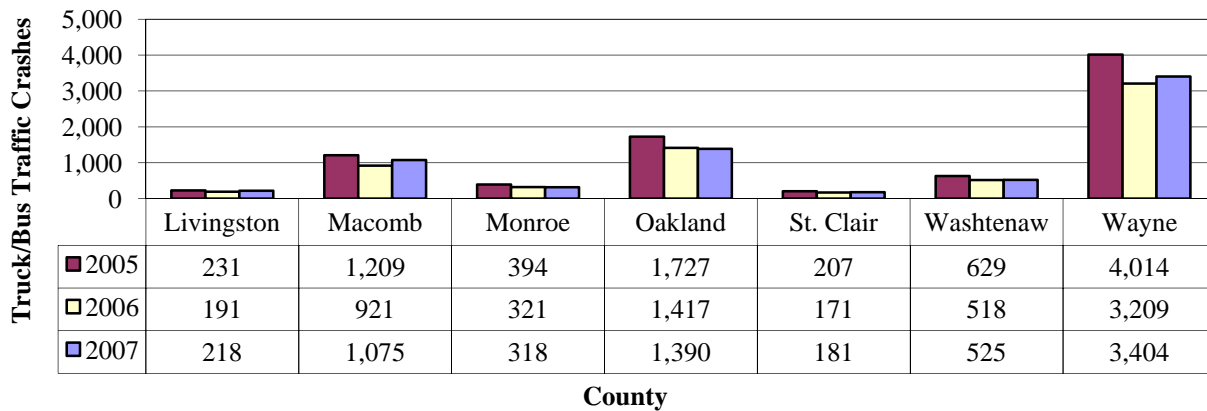
Source: MSPTCD and SEMCOG, 2007.

## Truck/Bus Traffic Crashes by County

Figure 87 shows the number of truck/bus traffic crashes in each Southeast Michigan county in 2005-2007. Only Monroe and Oakland counties experienced a drop in truck/bus crashes in 2007.

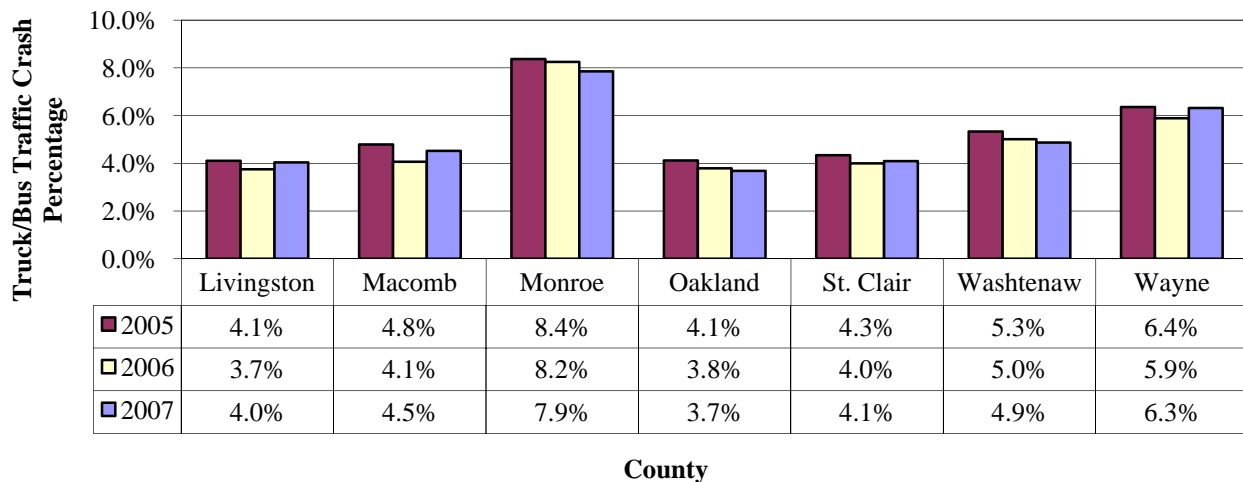
Monroe County continued to lead the region in truck/bus traffic crash percentage at nearly eight percent. The counties with the lowest truck/bus crash percentages were Livingston and Oakland (Figure 88).

Figure 87  
Truck/Bus Traffic Crashes by County, 2005-2007



Source: MSPTCD and SEMCOG, 2007.

Figure 88  
Truck/Bus Traffic Crash Percentage by County, 2005-2007

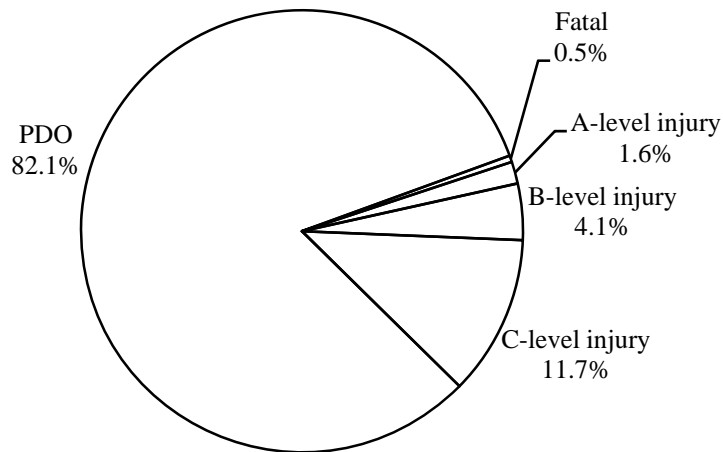


Source: MSPTCD and SEMCOG, 2007.

## Truck/Bus Traffic Crashes by Severity

More than 82 percent of truck/bus crashes resulted in property damage only, compared to 79.1 percent of all traffic crashes (Figure 89). There were 34 fatal truck/bus crashes, which is 0.5 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, 2007



Source: MSPTCD and SEMCOG, 2007.

Table 17  
Truck/Bus Traffic Crash by Severity, 2007

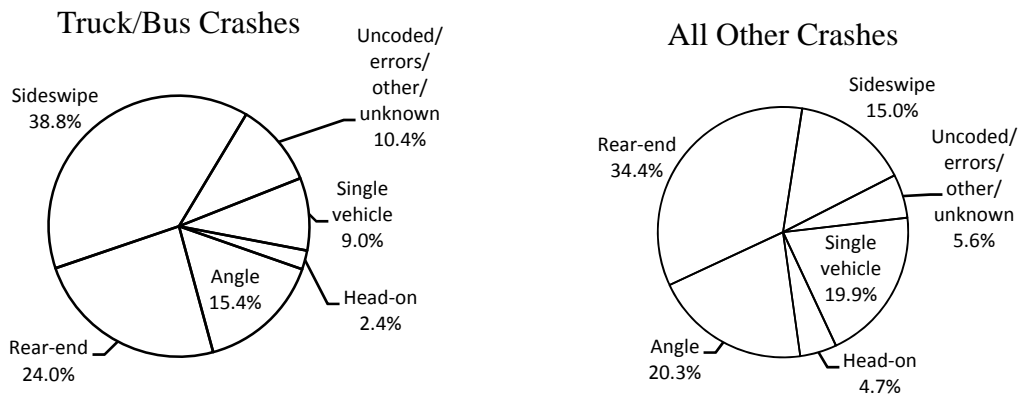
Crash Severity	Truck/Bus Traffic Crashes	All Traffic Crashes	Truck/Bus Percentage
Fatal	34	355	9.6%
A-level Injury	114	2,297	5.0%
B-level Injury	293	6,237	4.7%
C-level Injury	834	20,393	4.1%
PDO	5,836	110,833	5.3%
<b>Total</b>	<b>7,111</b>	<b>140,115</b>	<b>5.1%</b>

Source: MSPTCD and SEMCOG, 2007.

## 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, rear-end, or head-on crashes when compared to all other crashes. Just over 13.1 percent of all sideswipe crashes involved a commercial truck or bus (Table 18).

Figure 90  
Truck/Bus Traffic Crashes by Crash Type, 2007



Source: MSPTCD and SEMCOG, 2007.

Table 18  
Traffic Crash Type by Truck/Bus Percentage, 2007

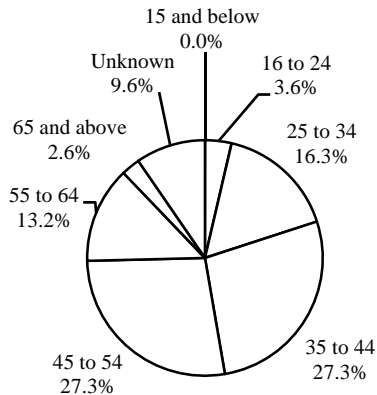
Crash Type	Truck/Bus Traffic Crashes	All Traffic Crashes	Truck/Bus Percentage
Uncoded/errors/other/unknown	739	7,912	9.3%
Single vehicle	639	27,892	2.3%
Head-on	168	6,647	2.5%
Angle	1,097	28,393	3.9%
Rear-end	1,707	48,197	3.5%
Sideswipe	2,761	21,074	13.1%
<b>Total</b>	<b>7,111</b>	<b>140,115</b>	<b>5.1%</b>

Source: MSPTCD and SEMCOG, 2007.

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

Of the truck or bus drivers whose ages were recorded, 54.6 percent were in the 35-54 age group (Figure 91). Table 19 shows the age and gender of truck or bus drivers in crashes in 2007. Most of those drivers were male.

Figure 91  
Truck/Bus Drivers in Traffic Crashes by Age Group, 2007



Source: MSPTCD and SEMCOG, 2007.

Table 19  
Truck/Bus Drivers in Traffic Crashes by Age and Gender, 2007

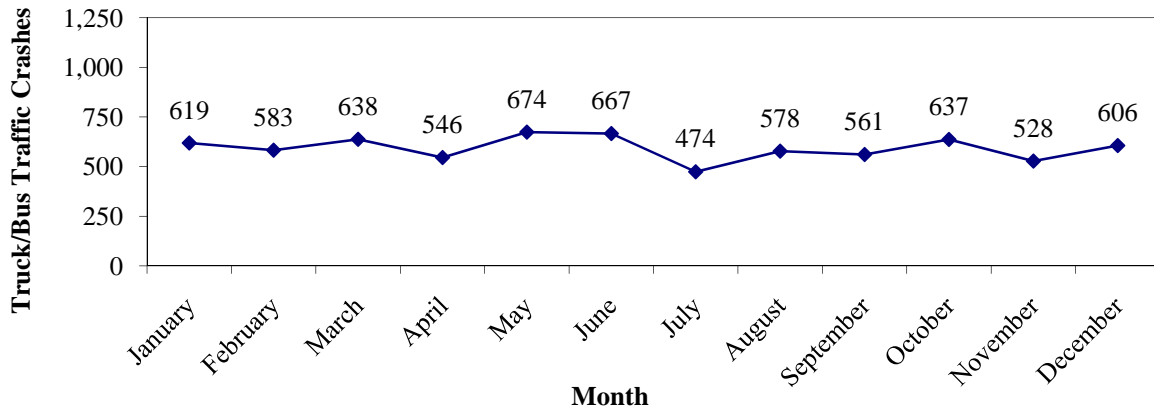
Age Group	Number of Drivers by Gender			Total
	Female	Male	Unknown	
15 and below	1	1	0	2
16 to 24	16	252	0	268
25 to 34	93	1,116	3	1,212
35 to 44	212	1,807	3	2,022
45 to 54	299	1,722	1	2,022
55 to 64	146	833	0	979
65 to 74	9	166	0	175
75 to 84	1	12	0	13
85 to 94	1	1	0	2
95 and above	0	2	0	2
Unknown	11	136	561	708
<b>Total</b>	<b>789</b>	<b>6,048</b>	<b>568</b>	<b>7,405</b>

Source: MSPTCD and SEMCOG, 2007.

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

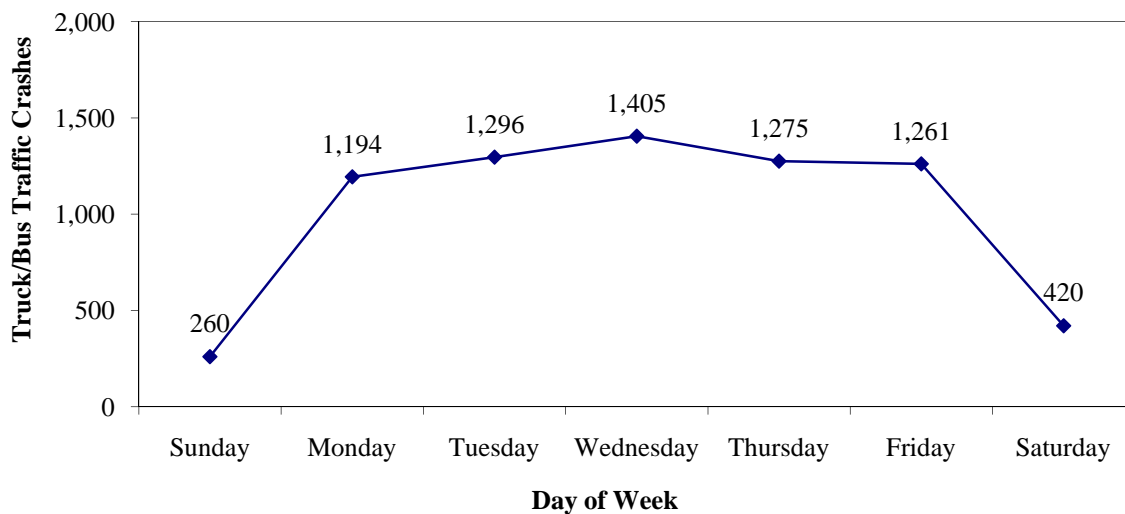
Traffic crashes involving trucks and buses were more frequent during May and June (Figure 92) and least frequent in July. Truck/bus crashes were much more common on weekdays, with just over 90 percent of truck/bus crashes taking place during the Monday-Friday period (Figure 93).

Figure 92  
Truck/Bus Traffic Crashes by Month, 2007



Source: MSPTCD and SEMCOG, 2007.

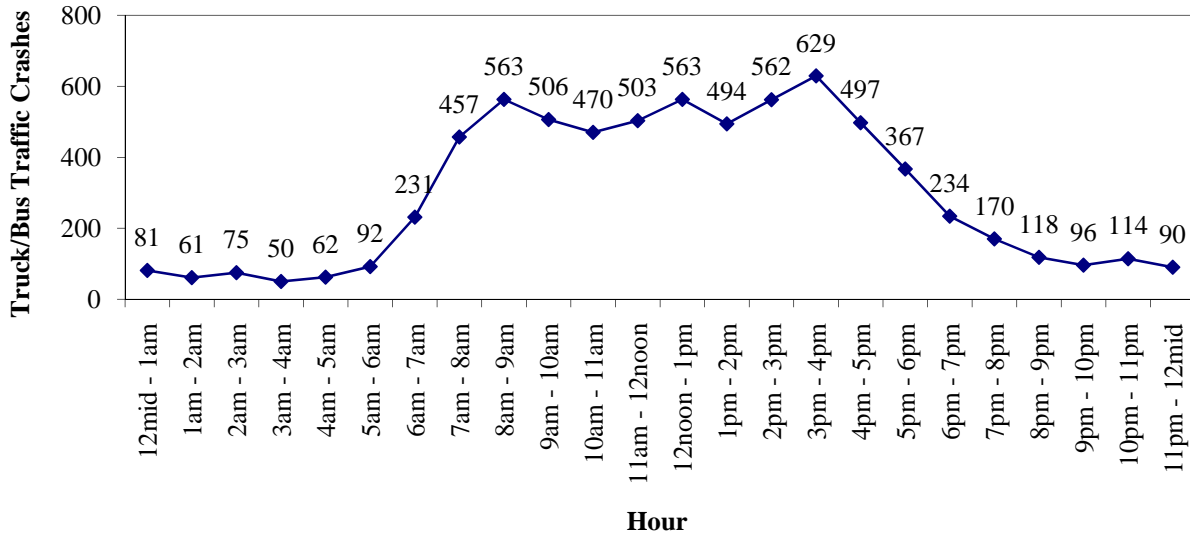
Figure 93  
Truck/Bus Traffic Crashes by Day of Week, 2007



Source: MSPTCD and SEMCOG, 2007.

When grouped by hour of day (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, 2007

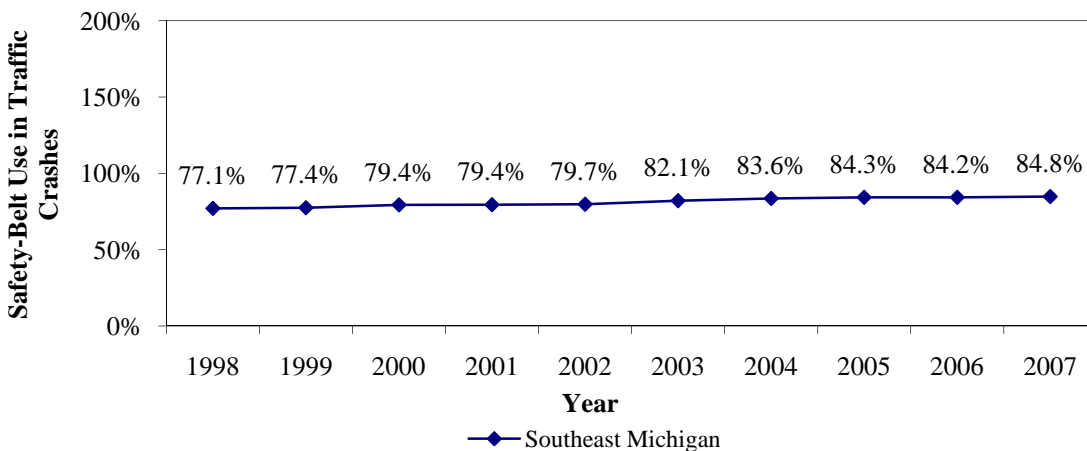


Source: MSPTCD and SEMCOG, 2007.

# Safety-Belt Use

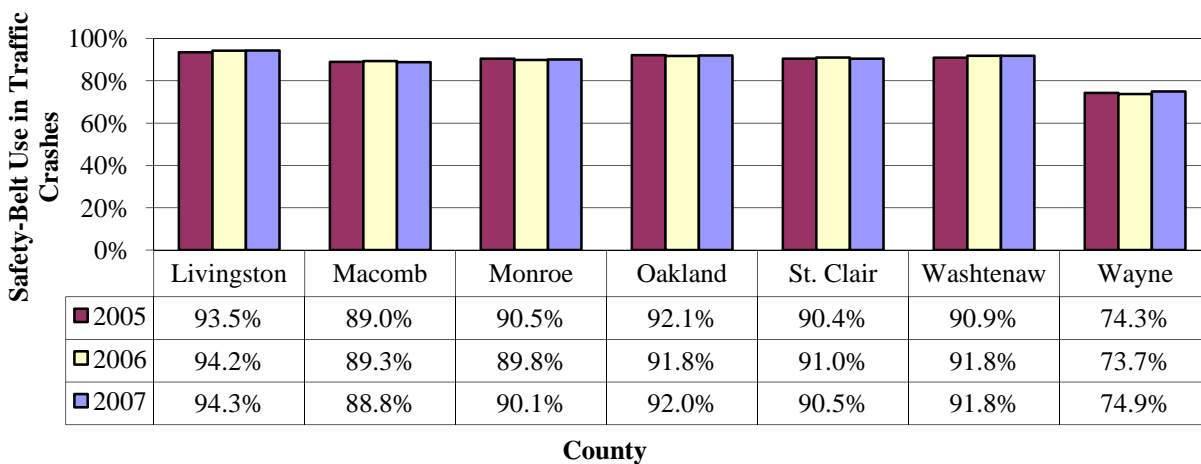
Use of safety belts by drivers in traffic crashes increased slightly in 2007 in Southeast Michigan (Figure 95). Nearly 85 percent of drivers in crashes reported that they were wearing their safety belts at the time of the crash. Figure 96 shows safety-belt use in each county. Macomb and Wayne Counties were below 90 percent safety-belt usage in 2007. Wayne County continued to have the lowest rate of belt use at 74.9 percent. Macomb and St. Clair Counties showed slight decreases in safety-belt usage in crashes.

Figure 95  
Driver Safety-Belt Use, 1998-2007



Source: MSPTCD and SEMCOG, 2007.

Figure 96  
Driver Safety-Belt Use by County, 2005-2007

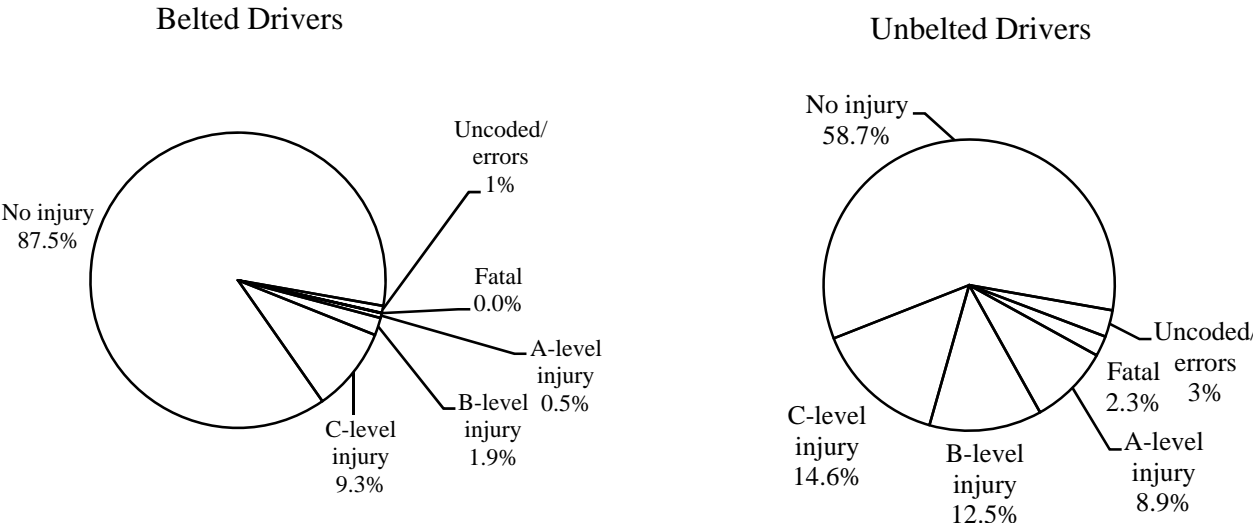


Source: MSPTCD and SEMCOG, 2007.

# Injury Severity of Belted vs. Unbelted Drivers

More than 87 percent of belted drivers escaped injury altogether, but only 59 percent of unbelted drivers were uninjured (Figure 97). 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, 2007

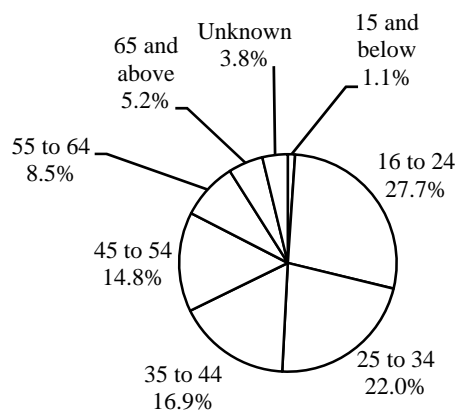


Source: MSPTCD and SEMCOG, 2007.

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

Nearly 50 percent of drivers not wearing their safety belts during a crash were between the ages of 16 and 34 (Figure 98). 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, 2007



Source: MSPTCD and SEMCOG, 2007.

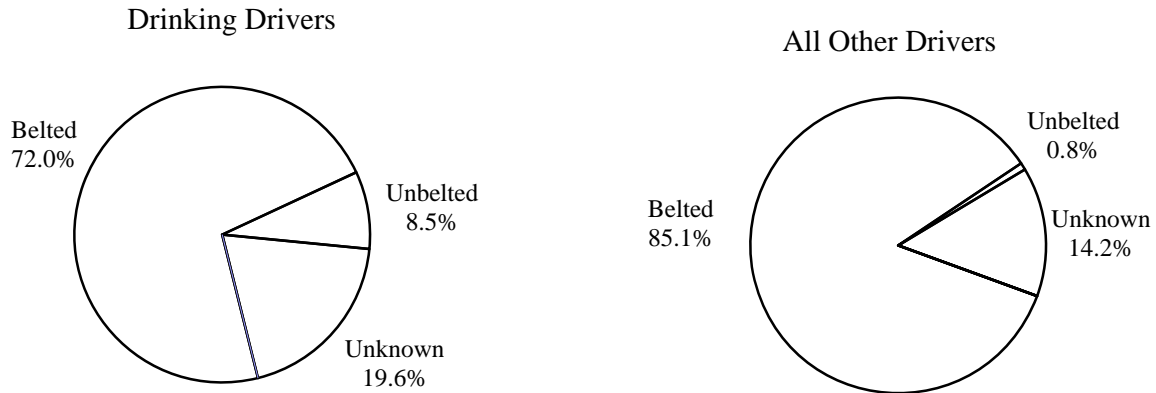
Table 20  
Unbelted Drivers by Age and Gender, 2007

Age Group	Number of Drivers by Gender			Total
	Female	Male	Unknown	
15 and below	4	21	0	25
16 to 24	188	464	0	652
25 to 34	147	371	0	518
35 to 44	131	267	0	398
45 to 54	112	236	0	348
55 to 64	64	133	2	199
65 to 74	17	45	1	63
75 to 84	16	34	0	50
85 to 94	2	5	0	7
95 and above	1	1	0	2
Unknown	10	46	33	89
<b>Total</b>	<b>692</b>	<b>1,623</b>	<b>36</b>	<b>2,351</b>

Source: MSPTCD and SEMCOG, 2007.

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

Figure 99  
Safety-Belt Use Among HBD Drivers, 2007



Source: MSPTCD and SEMCOG, 2007.

# 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 (Table 21).<sup>1/4</sup>

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 2005-2007. 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, 2005-2007

<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		
2007 [3]	3 (1)	4 (1)
2006 [3]	8 (3)	10 (4)
2005 [3]	3 (1)	3 (1)
Fourth of July		
2007 [1]	1 (1)	1 (1)
2006 [3]	10 (6)	10 (6)
2005 [3]	5 (2)	6 (3)
Labor Day		
2007 [3]	7 (4)	8 (4)
2006 [3]	2 (1)	2 (1)
2005 [3]	5 (2)	2 (2)
Thanksgiving		
2007 [4]	7 (1)	7 (1)
2006 [3]	5 (3)	5 (3)
2005 [4]	7 (4)	7 (4)
Christmas		
2007 [4]	4 (1)	4 (1)
2006 [3]	0 (0)	0 (0)
2005 [3]	3 (2)	3 (2)
New Year Holiday		
2007/08 [4]	5* (1)*	5* (1)*
2006/07 [3]	2 (2)	2 (2)
2005/06 [3]	4 (1)	5 (1)
2004/05 [4]	4 (4)	4 (4)

Source: MSPTCD and SEMCOG, 2007.

\* Incomplete data for 2007/2008 New Year Holiday. This count does not include crashes that took place in 2008.

## 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 2006. 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 2006 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 (Table 25).

Table 25  
Estimated Million VMT by Age Group, 2006

<b>Age Group</b>	<b>Estimated 2006 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 2008 (Table 26).

As of January 2008, there were 3,381,440 drivers registered in Southeast Michigan counties, a 1.1 percent decrease over January 2007. Wayne County remained the only county with more than one million registered drivers. Monroe County had the fewest registered drivers in the region at nearly 118,000. Wayne County registered drivers decreased 2.4 percent from January 2007.

The 45-54 age group remained the largest registered drivers age group for the second year in a row. This was the largest age group in all counties except Washtenaw where 35-44 made up the largest age group.

There are slightly more female registered drivers (3.8 percent) than male registered drivers in Southeast Michigan (Table 27).

Table 26  
Southeast Michigan Registered Drivers by Age and County, January 2008

Age	County							Total
	Livingston	Macomb	Monroe	Oakland	St. Clair	Washtenaw	Wayne	
15 and below	1,450	4,549	875	8,029	1,023	1,705	5,893	23,524
16 to 24	21,007	88,618	17,691	130,425	17,748	38,462	159,020	472,971
25 to 34	18,027	105,614	17,367	154,178	17,261	49,223	199,004	560,674
35 to 44	28,797	123,822	21,927	185,313	23,338	47,788	228,493	659,478
45 to 54	31,649	126,688	24,901	196,616	25,894	46,166	233,204	685,118
55 to 64	21,991	91,704	18,270	142,477	19,582	35,032	174,472	503,528
65 to 74	10,807	52,568	9,897	70,755	11,358	16,138	92,806	264,329
75 to 84	5,138	34,296	5,633	43,799	6,470	8,882	62,682	166,900
85 to 94	1,197	8,863	1,275	11,960	1,679	2,339	16,548	43,861
95 and above	29	210	30	303	52	61	372	1,057
<b>Total</b>	<b>140,092</b>	<b>636,932</b>	<b>117,866</b>	<b>943,855</b>	<b>124,405</b>	<b>245,796</b>	<b>1,172,494</b>	<b>3,381,440</b>

Source: MDOS, 2008.

Table 27

Southeast Michigan Registered Drivers by Age and Gender, January 2008

Age	Gender		
	Female	Male	Total
15 and below	11,698	11,826	23,524
16 to 24	231,233	241,738	472,971
25 to 34	280,457	280,217	560,674
35 to 44	333,246	326,232	659,478
45 to 54	350,573	334,545	685,118
55 to 64	258,845	244,683	503,528
65 to 74	139,061	125,268	264,329
75 to 84	91,813	75,087	166,900
85 to 94	24,717	19,144	43,861
95 and above	588	469	1,057
<b>Total</b>	<b>1,722,231</b>	<b>1,659,209</b>	<b>3,381,440</b>

Source: MDOS, 2007.

**SEMCOG Officers  
2007-2008**

**William T. Roberts**  
Chairperson  
*Mayor,  
City of Walled Lake*

**Mary Blackmon**  
First Vice Chair  
*Trustee, Wayne County  
Regional Education  
Service Agency*

**Robert J. Cannon**  
Vice Chairperson  
*Supervisor,  
Clinton Township*

**Philip Cavanagh**  
Vice Chairperson  
*Commissioner,  
Wayne County Board  
of Commissioners*

**Robert Hison**  
Vice Chairperson  
*Mayor,  
City of St. Clair Shores*

**Michael Sedlak**  
Vice Chairperson  
*Clerk,  
Green Oak Township*

**John F. Jones**  
Immediate Past Chair  
*Supervisor,  
Ira Township*

**Paul E. Tait**  
Executive Director