Tennessee Traffic Crash Facts





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SECTION 1

Summary and Overview of Traffic Crashes

1.0 Introduction

This is the first and most comprehensive approach at analyzing Tennessee crash data. This will be the first in a series of reports entitled, Tennessee Traffic Crash Facts. These reports will summarize crashes, deaths and injuries that occurred in the State of Tennessee between 2003 and 2006 under various conditions. It is hoped that the information contained in this publication will be of value to everyone that is interested in traffic crashes occurring in the State of Tennessee.

1.1 All Crashes

Between 2003 and 2006 traffic crashes investigated by law enforcement agencies statewide and reported to the Tennessee Department of Safety depict urban traffic crashes increasing by 15.4%, rural traffic crashes decreasing by 7.9%, and statewide traffic crashes increasing by 6.1%. That is, the number of urban traffic crashes increased twice as much as that of rural traffic crashes, and more than twice as much as that of statewide traffic crashes. The increase in urban and statewide traffic crashes may be may be justified by the fact that Tennessee has witnessed a steady increase in its population during this period, especially in its urban centers. It is not surprising to note that the number of Tennessee traffic crashes increased proportionately with its population. Tennessee population has increased by 3.4% between 2003 and 2006 with the number of licensed drivers increasing by 3.7% and the number of vehicle miles traveled increasing by 2.6%. This shows the number of licensed drivers increasing almost at the same rate as the population, and 1.4 times as fast as the number of vehicle miles traveled. The number of registered vehicles increased by 14.3% during this period. That is, 3.9 times as fast as the number of licensed drivers, 4.2 times as fast as the population and 5.5 times as fast as the vehicle miles traveled. Perhaps a salient point to note here is that between 2003 and 2006, there were more registered vehicles than the number of Tennessee residents. On average, 5,937,776 residents registered 5,975,206 vehicles.

The number of drivers involved in traffic crashes increased from 349,504 in 2003 to 374,790 in 2006. This represents a 9.3% increase and accounts for an average of 485 crashes per day and an average fatality rate of 1.81 (per 100 million VMT) over the four year period. Here are the statistics at a glance.

Statewide	2003	2004	2005	2006	Average	Percent Increase
Traffic Crashes	168,711	182,494	177,578	179,000	176,946	6.1%
Drivers Involved	349,504	377,930	369,938	374,790	368,041	7.2%
Average Crashes Per Day	461	499	485	495	485	7.4%
Fatality Rate per 100 million VMT	1.73	1.89	1.8	1.82	1.81	5.2%
VMT (100 million miles)	689.36	708.6	707.04	707.08	703.02	2.6%

Table 1.1: Average Crashes per Day and Fatality Rate

Figure 1.1: Traffic Demographics, Fatalities and Alcohol-Related Fatalities



1.2 Fatalities and Fatal Crashes

In 2006 there were 1,164 fatal crashes and 1,284 fatalities in the state of Tennessee as compared to 1,091 fatal crashes and 1,193 fatalities in 2003. Although fatal traffic crashes and fatalities still appear to remain at high levels, these numbers suggest that significant progress had been made in traffic law enforcement considering the 3.4% population growth and 2.6% increase in VMT experienced in the state of Tennessee during this period. Here are the statistics at a glance.

Statewide	2003	2004	2005	2006	Average Annual Increase
Fatalities	1,193	1,339	1,270	1,284	7.9%
Fatal Crashes	1,091	1,191	1,161	1,164	6.7%

Table 1.2: Statewide Fatalities and Fatal Crashes*

*At the time this report was published, preliminary 2007 data indicates 1,210 fatalities, the lowest number in the last 5 years, with a fatality rate of 1.70, the lowest in 2 decades.

1.3 Injuries and Injury Crashes

Between 2003 and 2006, injury crashes increased by 12.3%, fatal injuries increased by 7.9%, and non-fatal injuries increased by 1.1%. Compared to 2004, there was a 2.0% decrease in injury crashes and a 5.8% decrease in non-fatal injuries in 2006. Here are the statistics at a glance.

Table 1.3: Statewide Traffic Injuries

Statewide	2003	2004	2005	2006
Injury Crashes	45,791	52,759	51,603	51,429
No Injury	333,554	358,962	372,779	359,807
Possible Injuries	43,413	47,500	47,289	46,740
Non-Incapacitating Injuries	23,538	24,398	22,522	21,411
Incapacitating Injuries	7,052	7,523	6,884	6,683
Total Non-Fatal Injuries	74,003	79,421	76,695	74,834

1.4 Alcohol-Related Fatalities, Injuries and Crashes

In 2006, 5.75% of all crashes were alcohol-related, a decrease of 0.01% over the four-year period (2003-2006). Similarly, there was a 0.4% decrease in the number of alcohol-related injuries from 7,408 (10.2% of all injuries) in 2003 to 7,139 (9.8% of all injuries) in 2006. On the other hand, alcohol-related fatalities increased from 443 (37% of all fatalities) in 2003 to 518 (40% of all fatalities) in 2006, and alcohol-impaired driving fatalities increased from 370 (31% of all fatalities) in 2003 to 414 (32% of all fatalities) in 2006.

Statewide	2003	2004	2005	2006
All Crashes	168,711	182,494	177,578	179,000
Alcohol-Related Crashes	9,722	10,523	10,239	10,297
% of Alcohol-Related Crashes	5.76%	5.77%	5.77%	5.75%
Alcohol-Related Injuries	7,408	7,748	7,562	7,139
% of Alcohol-Related Injuries	10.2%	10.0%	10.1%	9.8%
Alcohol-Related Fatalities with BAC = 0.01+*	443	542	473	518
% of Alcohol-Related Fatalities	37%	40%	37%	40%
Alcohol-Impaired Driving Fatalities with BAC = 0.08+**	370	439	376	414
% of Alcohol-Impaired Driving Fatalities with BAC = 0.08+	31%	33%	30%	32%

Table 1.4: Alcohol-Related Crashes

*includes BAC of all Involved Drivers, Motorcycle Riders, Pedalcyclists and Pedestrians

**includes BAC of all Involved Drivers and Motorcycle Riders only

1.5 Safety Restraint Usage in Fatal Crashes

Tennessee's law relating to safety belt usage in passenger vehicles was changed from a 'secondary' to a 'primary' use law effective July 1, 2004. As a result, the number of unrestrained fatalities was significantly impacted. Compared to 2004, the percentage of unrestrained occupant fatalities dropped by 14.3% in 2005 and by 16.0% in 2006, whereas the number of passenger vehicle occupant fatalities dropped by 9.1% in 2005 and by 11.3% in 2006. Here are the statistics at a glance.

Table 1.5: Statewide Safety Restraint Fatalities

Statewide	2003	2004	2005	2006
Passenger Vehicle Occupant Fatalities	966	1,111	1,010	995
Passenger Vehicle Unrestrained Occupant Fatalities	632	714	612	600
Passenger Vehicle Restrained Fatalities	334	397	398	395
% of Unrestrained Fatalities	65.4%	64.3%	60.6%	60.3%

1.6 Motorcycle Crashes

Motorcycle crash data reported in Table 1.6 below shows that each year between 2003 and 2006 an average of 114 motorcyclists was killed. Of this 114 motorcyclists killed, 17 (15%) of them were un-helmeted, which means that Tennessee motorcycle fatality rate can be reduced each year if all motorcycle riders were to be helmeted at all times. Statistics show that motorcycle riders involved in crashes who are properly helmeted are 4.9 times more likely to survive the crash than riders who are improperly helmeted or not helmeted. It is also reported that an average of 1,969 motorcycle riders were injured each year over a four-year period (2003-2006) with an average number of fatal crashes as 110 per year.

Table 1.6: Motorcycle-Related Crashes

Statewide	2003	2004	2005	2006		
Motorcycle Crashes	1,911	2,169	2,568	2,827		
Motorcycle Fatal Crashes	87	92	125	133		
Motorcycle Injuries	1,487	1,816	2,125	2,327		
Motorcycle Fatalities by Helmet Usage						
Unhelmeted	15	13	20	21		
Helmeted	75	84	109	120		
Total	90	97	129	141		

1.7 Pedalcyclist Crashes

Pedalcyclist crash data in the State of Tennessee over a period of four years (2003 – 2006) is given in Table 1.7. A total of 1,412 crashes involved bicycle riders within this period, with 28 fatalities. This gives an average of 353 pedalcyclist crashes, 324 injuries, and 7 fatalities each year. Data was not available on helmet usage by bicyclists. However, data shows that wearing a helmet at the time of crash may reduce the severity of injury or even save the live of the bicyclist. So we encourage all bicycle riders to wear their helmets when riding their bicycles.

Statewide	2003	2004	2005	2006
Crashes Involving Bicycles	339	412	296	365
Bicycle Injuries	307	376	275	339
Bicycle Fatalities	4	7	10	7

Table 1.7: Pedalcyclist Crashes

1.8 Crashes by Location

Table 1.8 and Figures 1.2a-c depict the distribution of crashes by location, crash type and the trend of crashes by area that the crashes occurred from 2003 to 2006. There were 707,789 crashes within this period, 4,607 (1%) of which were fatal crashes, 201,582 (28%) were injury crashes, and 501,597 (71%) were property damage over \$400 crashes. Each type of crash remained relatively constant over the period, with fatal crashes fluctuating around an average of 1,152, injury crashes fluctuating around an average of 50,396, and property damage over \$400 around an average of 126,303. On average between 2003 and 2006, the urban crashes increased at the rate of 5.0% annually but the rural crashes decreased at the rate of 2.5% annually. Migration to urban centers and commuting from rural areas might probably justify the increase of urban crashes at the rate of 2.5% higher than rural crashes annually over the past four years (2003 - 2006).

Table 1.8: Traffic Crashes by Area

Area	2003	2004	2005	2006	Percent Increase
Fatal	1,091	1,191	1,161	1,164	6.7%
Injury	45,791	52,759	51,603	51,429	12.3%
Property Damage >\$400	121,829	128,544	124,814	126,407	3.8%
Urban	114,777	127,879	130,087	132,470	15.4%
Rural	50,482	52,417	47,119	46,494	-7.9%
Unknown Area	3,452	2,198	372	36	-99.0%
Grand Total	168,711	182,494	177,578	179,000	6.1%

Figure 1.2: Crashes by Crash Type and Location



Figure 1.3: Proportions of Crashes by Area



SECTION 2

Licensed Drivers, Motor Vehicle Registrations, and Population

2.0 Introduction

This section will present a brief analysis of the number of licensed drivers grouped by age and also the trend of motor vehicle registrations over the period from 2003 to 2006 in the State of Tennessee.

2.1 Licensed Drivers by Age Groups

Tables 2.1a & b depict the number of licensed drivers in the period from 2003 to 2006 in the State of Tennessee. Within this period the number of licensed drivers rose from 4,228,235 in 2003 to 4,384,517 in 2006. Over the four-year period, 48.94% of licensed drivers were male, 51.06% were female. The graph below reveals that the number of licensed male drivers remained nearly constant between 2005 and 2006, while the number of licensed female drivers was on the increase. Comparing 2005 to 2006, the number of all licensed drivers increased by 0.28%, the number of licensed female drivers increased by 0.81%, and the number of licensed male drivers decreased by 0.27%.



Figure 2.1a: Licensed Drivers by Gender

٨٥٥		2003			2004	
лус	Male	Female	Total	Male	Female	Total
14	100	20	120	81	13	94
15-19	124,357	121,776	246,133	125,959	123,509	249,468
20-24	176,895	176,830	353,725	177,732	176,891	354,623
25-29	182,863	184,123	366,986	185,429	185,836	371,265
30-34	202,198	202,852	405,050	200,295	199,883	400,178
35-39	200,373	204,718	405,091	198,660	201,758	400,418
40-44	211,902	222,459	434,361	213,583	223,008	436,591
45-49	204,937	218,026	422,963	206,675	219,787	426,462
50-54	186,474	196,667	383,141	190,154	201,289	391,443
55-59	165,496	169,845	335,341	172,184	178,519	350,703
60-64	128,144	132,907	261,051	133,464	138,210	271,674
65-69	98,223	103,901	202,124	100,660	106,843	207,503
70-74	76,351	84,296	160,647	77,433	85,875	163,308
75-79	57,251	68,698	125,949	57,346	68,462	125,808
80-84	34,815	45,143	79,958	35,849	46,964	82,813
85+	19,412	26,183	45,595	19,548	27,164	46,712
Total	2,069,791	2,158,444	4,228,235	2,095,052	2,184,011	4,279,063
		2005	-		2006	-
14	62	14	76	49	13	62
15-19	127,070	124,675	251,745	129,601	127,617	257,218
20-24	179,826	177,260	357,086	174,176	175,489	349,665
25-29	190,516	189,784	380,300	186,896	190,651	377,547
30-34	196,124	194,622	390,746	186,538	187,859	374,397
35-39	202,922	204,400	407,322	203,723	207,123	410,846
40-44	213,591	221,627	435,218	209,083	217,074	426,157
45-49	209,597	222,619	432,216	209,728	223,359	433,087
50-54	195,454	208,166	403,620	197,950	212,849	410,799
55-59	181,433	188,590	370,023	183,549	193,443	376,992
60-64	139,015	143,221	282,236	146,163	151,702	297,865
65-69	105,704	111,360	217,064	109,392	115,429	224,821
70-74	80,943	89,175	170,118	81,673	90,461	172,134
75-79	60,845	70,730	131,575	60,152	70,764	130,916
80-84	39,042	50,302	89,344	37,886	49,671	87,557
85+	22,657	30,960	53,617	22,433	32,021	54,454
Total	2,144,801	2,227,505	4,372,306	2,138,992	2,245,525	4,384,517

Table 2.1: Licensed Drivers by Age

As seen in Figure 2.1b, the yearly distributions of the number of licensed drivers by age groups were relatively constant over the period from 2003 to 2006. 13.8% of licensed drivers were under the age of 25 and 50.1% under the age of 45 in 2006, and 14.1% were under the age of 25 and 51.7% under the age of 45 in 2004 as compared to 14.2% and 52.3% in 2003 respectively.



Figure 2.1b: Licensed Drivers by Age

2.2 Motor Vehicle Registrations

Table 2.2 depicts the population and the number of motor vehicles registered in the State of Tennessee in the period from 2003 to 2006. Figure 2.3 compares the trend of motor vehicle registrations with that of the population and licensed drivers in the period from 2003 to 2006. The graph shows that the last quarter of 2004 witnessed an increase in the number of registered motor vehicles with the rate of growth that surpassed the rate of population growth. In this period, while the population grew at the rate of 3.4%, motor vehicle registrations grew at the rate of 14.3%, meaning that motor vehicle registrations increased approximately 4 times a much as the population. Finally, when comparing the population and motor vehicles registered between 2003 and 2006, there was almost a 1:1 ratio between the population and the number of registered motor vehicles.

Year	Number of Vehicles Registered	Population	Licensed Drivers
2003	5,577,514	5,841,748	4,228,235
2004	5,881,412	5,900,962	4,279,063
2005	6,065,085	5,969,590	4,368,325
2006	6,376,092	6,038,803	4,384,517
Average Increase	4.57%	1.11%	1.22%

Table 2.2: Motor Vehicle Registrations and Population

Figure 2.2: Motor Vehicle Registrations and Population



2.3 Motorcycle Registrations

Section 2.3 compares motorcycle registrations with motorcycle fatalities in crashes occurring between 2003 and 2006. Table 2.3 and Figure 2.3 present the registration data and motorcycle fatalities with the associated graph. Within this period, motorcycle registrations increased at the rate of 43.0%, nearly 13 times the rate of population increase (3.4%). This rapid increase in motorcycle registrations may have contributed to the 56.7% increase in the number of motorcycle fatalities, raising the motorcycle fatality rate per 100,000 residents from 1.54 in 2003 to 2.33 in 2006. From Figure 2.3, it is seen that prior to 2005 motorcycle registrations were increasing at a rate higher than motorcycle fatalities, but after this date the situation was reversed.

Year	Number of Motorcycles Registered	Motorcycle Fatalities	Motorcycle Fatalities Per 100,000 Residents
2003	93,814	90	1.54
2004	108,659	97	1.64
2005	122,087	129	2.16
2006	134,123	141	2.33
Percent Increase	42.97%	56.67%	51.55%

Table 2.3: Motorcycle Registrations and Motorcycle Fatalities



Figure 2.3: Trends of Motorcycle Registrations and Motorcycle Fatalities

SECTION 3

General Crash Data

3.0 Introduction

This section will present a summary analysis of the crash data. Detailed analyses on individual crash topics will be presented in subsequent reports. The following is the summary of crash data at a glance.

3.1 Crashes and Injuries by Types

Table 3.1 gives a summary of crashes and injuries by types between 2003 and 2006. In the table, a minor injury was classified as possible injury, moderate injury as non-incapacitating injury, severe injury as incapacitating injury, and an injury in which the victim died as fatal injury. Within this period, 707,789 crashes were reported, with 4,607 (0.7%) fatal crashes, 201,582 (28.5%) injury crashes, and 501,597 (70.9%) crashes involving property damage greater than \$400 (see Figure 3.1a). Over this period, fatal crashes increased by 6.7%, injury crashes by 12.3%, PDO>\$400 by 3.8%, and all crashes by 6.1%. The increase in injury crashes was almost twice as much as the increases in fatal and all crashes, and nearly three times as much as the increase in PDO>\$400 crashes.



Figure 3.1a: Proportions of Crashes by Type

Type Of Crash	2003	2004	2005	2006	Average Increase
Fatal	1,091	1,191	1,161	1,164	2.3%
Injury	45,791	52,759	51,603	51,429	4.2%
PDO	121,829	128,544	124,814	126,407	1.3%
Total	168,711	182,494	177,578	179,000	2.1%
	I	NJURIES B	Υ ΤΥΡΕ	-	
Possible Injuries	43,413	47,500	47,289	46,740	2.6%
Non- Incapacitating Injuries	23,538	24,398	22,522	21,411	-3.0%
Incapacitating Injuries	7,052	7,523	6,884	6,683	-1.6%
Total Non-Fatal Injuries	74,003	79,421	76,695	74,834	0.5%
Fatal Injuries	1,193	1,339	1,270	1,287	2.8%
Total Injuries	75,196	80,760	77,965	76,121	0.5%

Table 3.1 and Figure 3.1c depict injuries sustained by crash victims by crash type. 310,042 injuries were sustained in 707,783 crashes occurring between 2003 and 2006. Of the 310,042, 59.7% were possible (minor) injuries, 29.6% were non-incapacitating (moderate), 9.1% were incapacitating (severe) injuries, and 1.6% were fatal injuries.

On average in this period, non-incapacitating injuries dropped by 3.0%, fatal injuries increased by 2.8%, minor injuries increased by 2.6%, and incapacitating injuries dropped by 1.6%. The trend lines for injuries in Figure 3.1c show either a constant or downward slope after 2004. This pattern may be associated with the passage of Tennessee Safety Belt primary law of July 1, 2004, which appears to have had a positive influence on the behavior of Tennessee drivers.

Despite the apparent successes in maintaining minimal increases in both the number of non-fatal injuries and total injuries (non-fatal injuries increased from 74,003 in 2003 to 74,843 in 2006, and total injuries increased from 75,196 in 2003 to 76,121 in 2006), a 2.8% and 2.3% increases in fatal injuries and fatal crashes remind us that the battle for safer Tennessee roadways remains a challenge.

Figure 3.1b: Trends of Crashes by Type



Figure 3.1c: Trends of Injuries by Type



Figure 3.1d: Proportions of Injuries by Type



3.2 Crashes by Reporting Agency

This section looks at crashes investigated by various law enforcement agencies in the State of Tennessee between 2003 and 2006. Tennessee Highway Patrol (THP) investigated 122,975 (17.4%) crashes, City/Metropolitan Police Department (CPD) investigated 487,480 (69.0%), Sheriff's Office investigated 93,395 (13.2%), and other agencies in the state investigated 3,573 (0.5%). Looking at Figure 3.2b, it is found that THP investigated 7 times as many fatal crashes as Sheriff's Offices and nearly twice as many as CPD. For injury crashes, CPD investigated nearly three times as many as THP and 5 times as many as Sheriff's Office. For PDO>\$400, CPD investigated 5 times as many as both THP and Sheriff's Office.

Agency	Crash Type	2003	2004	2005	2006
	Fatal	611	653	652	621
тир	Injury	11,796	12,548	12,193	11,796
Inr	PDO>\$400	17,764	18,513	17,874	17,954
	Total	30,171	31,714	30,719	30,371
	Fatal	329	415	413	416
City Police	Injury	28,929	33,641	32,889	33,240
	PDO	86,645	91,304	89,070	90,549
	Total	115,903	125,360	122,372	124,205
	Fatal	70	117	96	98
Shoriff	Injury	4,923	6,401	6,304	5,936
Sherm	PDO	16,828	18,039	17,053	17,530
	Total	21,821	24,557	23,453	23,564
	Fatal	81	6	0	29
Other	Injury	143	169	217	457
other	PDO	592	688	817	374
	Total	816	863	1034	860

Table 3.2: Types of Crashes by Reporting Agency Type



Figure 3.2a: Crashes by Reporting Agency



Figure 3.2b: Types of Crashes by Reporting Agency



3.3 Crashes by County

This section presents crash data by county and by type of crash, and also crash rates by county. Table 3.3a gives the total county crashes for the period from 2003 to 2006. Tables 3.3b to 3.3.d give the crashes by type, and Table 3e gives the 4-year rankings of the county crash rates per 1,000 licensed drivers. County Crash rates were calculated by dividing the county crashes by the county licensed drivers and multiplying the result by 1,000. This gives the county crash rates per 1,000 licensed rates per 1,000 licensed drivers and multiplying the result by 1,000. This gives the county crash rates per 1,000 licensed drivers over the four years.

The four-year crash rate for the state of Tennessee is 41.16 crashes per 1,000 licensed drivers. Davidson County ranked first with 57.04 crashes per 1,000 licensed drivers followed by Madison County and Shelby County with 54.48 and 53.87 crashes per 1,000 licensed drivers respectively. Knox County ranked 6th Hamilton ranked 14th with crash rates per 1,000 licensed drivers of 48.17 and 42.19 crashes respectively. The least ranking counties were Lake, Pickett and Clay Counties with crash rates of 7.42, 15.28, and 15.73 crashes per 1,000 licensed drivers, and ranking 95th, 94th, and 93rd respectively.

County	2003	2004	2005	2006	County	2003	2004	2005	2006
Anderson	1,569	1,891	2,374	2,049	Lawrence	1,074	1,071	1,032	995
Bedford	1,217	1,215	1,153	1,309	Lewis	241	283	199	196
Benton	314	409	378	402	Lincoln	867	986	946	1,024
Bledsoe	157	169	146	76	Loudon	1,016	1,210	1,297	1,279
Blount	3,169	3,557	3,480	3,523	McMinn	1,631	1,600	1,598	1,482
Bradley	2,691	2,656	2,653	2,562	McNairy	444	559	539	611
Campbell	1,167	1,163	1,083	1,079	Macon	429	548	473	450
Cannon	364	337	331	314	Madison	3,393	3,826	3,453	3,439
Carroll	507	594	540	522	Marion	853	882	756	797
Carter	1,367	1,411	1,222	1,062	Marshall	686	686	722	764
Cheatham	1,011	1,063	914	940	Maury	1,500	2,116	2,117	2,176
Chester	331	392	350	350	Meigs	173	162	171	176
Claiborne	652	590	679	624	Monroe	748	854	850	885
Clay	96	103	79	102	Montgomery	3,147	3,987	3,670	3,916
Cocke	867	903	940	1,039	Moore	103	113	125	137
Coffee	1,784	1,863	1,765	1,492	Morgan	334	320	304	379
Crockett	194	265	252	215	Obion	886	761	742	827
Cumberland	1,692	1,638	1,657	1,655	Overton	463	488	491	528
Davidson	23,381	23,613	22,991	23,717	Perry	163	200	176	188
Decatur	306	296	262	266	Pickett	69	50	52	73
DeKalb	467	573	474	466	Polk	372	366	390	305
Dickson	1,514	1,476	1,496	1,441	Putnam	2,313	2,389	2,187	2,161
Dyer	513	951	897	911	Rhea	643	716	676	409
Fayette	550	649	569	497	Roane	1,312	1,233	1,334	1,364
Fentress	265	259	257	172	Robertson	1,523	1,554	1,528	1,445
Franklin	901	976	942	940	Rutherford	6,544	7,008	6,982	7,601
Gibson	906	946	868	874	Scott	350	338	290	372
Giles	620	616	657	621	Sequatchie	171	264	240	263
Grainger	429	449	418	430	Sevier	2,745	3,189	3,420	3,598
Greene	2,234	2,280	2,367	2,129	Shelby	30,057	32,243	31,293	31,649
Grundy	223	249	248	165	Smith	545	562	529	525
Hamblen	1,846	1,839	1,866	1,705	Stewart	227	294	262	282
Hamilton	10,427	10,238	10,047	10,119	Sullivan	4,010	4,494	4,119	4,067
Hancock	102	131	129	107	Sumner	3,260	3,405	3,274	3,307
Hardeman	552	497	477	492	Tipton	780	828	981	1,182
Hardin	661	/14	732	769	Irousdale	262	259	217	239
Hawkins	1,045	1,182	1,157	1,037	Unicol	466	414	398	401
Haywood	551	612	345	480	Union	336	283	346	338
Henderson	990	1,035	909	834	Van Buren	96	90	93	89
Henry	660	6//	647	648	warren	1,111	1,127	959	994
HICKMAN	532	635	612	611	Washington	2,413	4,192	4,158	4,003
Houston	189	166	129	113	wayne	360	396	324	351
Humphreys	350	407	327	314	Weakley	330	599	523	4/5
Jackson	269	200	254	2/8	White Williamaan	230	530	421	491
Jenerson	1,358	1,337	1,320	1,314	Wilcon	2,000	১,3∠ŏ ১.242	3,3/8	3,190
Johnson	434	403	400	410	VIISON	2,123	2,243	2,413	2,430
	12,128	14,901	14,858	14,824	Total	169 714	304	4	30 170 000
	39	<u> </u>	<u> 20</u>	<u> 29</u>	Total	100,711	102,494	111,318	179,000
Lauueruale	420	4/1	443	4/0		V	V	V	

 Table 3.3a: Total Crashes by County

County	2003	2004	2005	2006	County	2003	2004	2005	2006
Anderson	11	13	15	17	Lawrence	12	14	14	12
Bedford	8	7	13	11	Lewis	2	3	3	1
Benton	8	6	6	3	Lincoln	12	12	7	8
Bledsoe	2	2	2	4	Loudon	10	12	9	4
Blount	21	32	17	23	McMinn	10	16	16	12
Bradley	10	14	11	17	McNairy	12	9	6	10
Campbell	5	16	9	16	Macon	4	4	5	4
Cannon	2	5	4	1	Madison	16	27	19	23
Carroll	6	9	6	9	Marion	6	18	16	12
Carter	15	12	9	11	Marshall	6	7	6	10
Cheatham	12	12	7	7	Maury	21	14	16	15
Chester	2	5	8	6	Meigs	2	6	2	1
Claiborne	10	13	13	8	Monroe	9	9	9	7
Clay	4	1	2	2	Montgomery	18	33	20	22
Cocke	16	5	11	13	Moore	1	0	0	2
Coffee	20	5	17	16	Morgan	3	3	3	13
Crockett	6	4	4	4	Obion	5	8	11	6
Cumberland	16	15	10	11	Overton	6	2	5	8
Davidson	68	91	82	89	Perry	4	4	6	4
Decatur	8	3	7	7	Pickett	3	2	3	2
DeKalb	1	10	8	4	Polk	5	8	5	7
Dickson	16	8	16	14	Putnam	11	17	10	22
Dyer	10	9	9	7	Rhea	4	6	7	6
Fayette	7	12	10	13	Roane	7	10	12	7
Fentress	7	6	10	9	Robertson	13	10	16	6
Franklin	6	3	9	10	Rutherford	26	29	29	34
Gibson	10	9	7	18	Scott	5	5	4	5
Giles	10	7	10	8	Sequatchie	6	9	2	4
Grainger	1	/	5	5	Sevier	14	25	24	18
Greene	11	15	15	18	Shelby	86	107	110	109
Grundy	5	/	6	/	Smith	12	9	3	/
Hamblen	13	12	13	9	Stewart	3	/	4	2
Hamilton	33	36	41	49	Sullivan	23	36	34	24
Hancock	3	3	4	2	Sumner	15	23	23	11
	12	10	0	12	Trousdale	1	1	2	
Howking	9	/ 0	0	12	Unicoi	2	4 5	5	3
	0	6	6	5	Union	<u> </u>	5	1	4
Handarson	11	17	10	0	Van Buron	4	1	4	4
Henry	0 0	9	8	0 0	Warren	6	10	11	 13
Hickman	6	6	6	3	Washington	12	20	24	13
Houston	1	2	1	4	Wayno	6	20	<u></u>	2
Humphreys	9 9	6	8	6	Weakley	2	4	5	5
Jackson	3	0	4	3	White	12	6	10	9 9
Jefferson	12	q	11	10	Williamson	11	12	10	7
Johnson	3	4	4	5	Wilson	16	24	19	22
Knox	51	69	72	68	Unknown	76	1	0	28
Lake	0	0	1	0	Total	1.091	1,191	1.161	1.164
Lauderdale	7	6	9	4		.,	.,	.,	-,-••
		-	-	-		***************************************			

County	2003	2004	2005	2006	County	2003	2004	2005	2006
Anderson	418	543	712	582	Lawrence	266	323	315	295
Bedford	371	388	371	420	Lewis	77	76	64	71
Benton	92	147	133	138	Lincoln	235	270	288	310
Bledsoe	62	80	64	54	Loudon	337	358	414	350
Blount	797	999	984	957	McMinn	464	469	492	435
Bradley	664	750	770	673	McNairy	166	190	196	187
Campbell	323	361	301	363	Macon	138	183	144	148
Cannon	100	84	95	84	Madison	680	902	831	842
Carroll	177	192	205	209	Marion	279	302	248	263
Carter	379	390	376	309	Marshall	153	169	178	212
Cheatham	238	258	233	236	Maury	455	771	688	711
Chester	104	124	97	99	Meigs	76	69	75	74
Claiborne	176	194	235	212	Monroe	305	323	317	310
Clay	47	53	35	51	Montgomery	1,209	1,527	1316	1390
Cocke	246	283	328	307	Moore	43	54	61	60
Coffee	452	536	555	438	Morgan	142	137	143	165
Crockett	67	106	105	78	Obion	223	221	229	266
Cumberland	454	473	508	473	Overton	138	152	145	151
Davidson	7,277	7,615	7210	7228	Perry	70	73	87	85
Decatur	67	97	92	75	Pickett	37	26	28	34
DeKalb	140	172	128	137	Polk	132	128	140	127
Dickson	409	467	484	465	Putnam	670	722	673	699
Dyer	181	303	271	295	Rhea	181	206	191	98
Fayette	199	234	218	165	Roane	398	393	479	479
Fentress	92	99	83	69	Robertson	416	446	472	423
Franklin	215	272	261	249	Rutherford	1,926	2,133	2141	2427
Gibson	298	321	284	270	Scott	113	96	104	123
Giles	190	184	197	212	Sequatchie	55	84	92	74
Grainger	131	152	156	124	Sevier	706	937	954	948
Greene	618	679	691	655	Shelby	6,763	8,010	8009	8219
Grundy	88	107	104	76	Smith	143	158	140	150
Hamblen	444	485	450	467	Stewart	83	100	86	96
Hamilton	2,425	2,649	2589	2702	Sullivan	1,042	1,285	1180	1221
Hancock	31	50	50	37	Sumner	1,001	1,009	963	980
Hardeman	171	195	203	173	Tipton	257	283	317	360
Hardin	183	208	227	203	Trousdale	69	66	60	62
Hawkins	314	391	370	372	Unicol	130	125	110	128
Haywood	146	152	119	123	Union	117	106	123	115
Henderson	244	309	288	222	Van Buren	31	25	39	40
Henry	232	244	254	249	Warren	300	323	251	283
Hickman	182	223	234	215	washington	546	864	827	/58
Houston	61	54	48	46	wayne	97	132	102	134
Humphreys	124	136	119	113	Weakley	104	163	156	151
Jackson	12	70	73	67	White	144	1/9	123	147
Jetterson	363	3/5	361	351	williamson	906	1,007	1037	7719
Jonnson	105	121	105	112	wiison	000	/4/	824	//6
KNOX	2,811	3,836	3/8/	3563	Unknown	158	82	2	U
Lake	26	12	15	25	Iotal	45,791	52,759	51,603	51,429
Lauderdale	148	182	171	190				V	

Table3.3c: Injury Crashes by County

County	2003	2004	2005	2006	County	2003	2004	2005	2006
Anderson	1140	1338	1647	1450	Lawrence	796	734	703	688
Bedford	838	820	769	878	Lewis	162	204	132	124
Benton	214	256	239	261	Lincoln	620	704	651	706
Bledsoe	93	89	80	18	Loudon	669	840	874	925
Blount	2351	2527	2479	2543	McMinn	1,157	1,115	1090	1035
Bradley	2017	1892	1872	1872	McNairy	266	360	337	414
Campbell	839	791	773	700	Macon	287	361	324	298
Cannon	262	248	232	229	Madison	2,697	2,897	2603	2574
Carroll	324	395	329	304	Marion	568	562	492	522
Carter	973	1009	837	742	Marshall	527	510	538	542
Cheatham	761	793	674	697	Maury	1,024	1,331	1413	1450
Chester	225	263	245	245	Meigs	95	87	94	101
Claiborne	466	383	431	404	Monroe	434	522	524	568
Clay	45	49	42	49	Montgomery	1,920	2,427	2334	2504
Cocke	605	615	601	719	Moore	59	59	64	75
Coffee	1,312	1,322	1193	1038	Morgan	189	180	158	201
Crockett	121	155	143	133	Obion	658	532	502	555
Cumberland	1,222	1,150	1139	1171	Overton	319	334	341	369
Davidson	16,036	15,907	15697	16402	Perry	89	123	83	99
Decatur	231	196	163	184	Pickett	29	22	21	37
DeKalb	326	391	338	325	Polk	235	230	245	171
Dickson	1,089	1,001	996	962	Putnam	1,632	1,650	1504	1440
Dyer	322	639	617	609	Rhea	458	504	478	305
Fayette	344	403	341	319	Roane	907	830	843	878
Fentress	166	154	164	94	Robertson	1,094	1,098	1040	1016
Franklin	680	701	672	681	Rutherford	4,592	4,846	4812	5141
Gibson	598	616	577	586	Scott	232	237	182	244
Giles	420	425	450	401	Sequatchie	110	171	146	185
Grainger	291	290	257	301	Sevier	2,025	2,227	2442	2632
Greene	1,605	1,586	1661	1456	Shelby	23,208	24,126	23170	23323
Grundy	130	135	138	82	Smith	390	395	386	368
Hamblen	1,389	1,342	1403	1229	Stewart	141	187	1/2	184
Hamilton	7,969	7,553	7416	7369	Sullivan	2,945	3,173	2905	2823
Hancock	68	78	75	08	Sumner	2,244	2,373	2288	2310
Hardeman	369	280	208	513	Trougdala	516	238	003	470
Hardin	469	499	497	554	Trousdale	190	189	154	172
	207	103	220	252	Union	215	204 170	203	209
Hondorson	725	700	611	50Z	Van Buron	62	64	Z19 54	47
Henry	/10	109	385	300	Warron	805	70/	607	608
Hickman	244	424	272	202	Washington	1 955	2 209	2207	2222
Houston	124	110	77	66	Wayne	257	255	218	215
Humphrove	217	265	200	195	Weakley	201	432	362	310
Jackson	194	196	177	208	White	380	345	288	335
Jefferson	983	953	954	953	Williamson	1 951	2,309	2330	2664
Johnson	326	338	201	301	Wilson	1 451	1 472	1570	1637
Knox	9,266	10,996	10997	11194	Unknown	487	209	12	1
Lake	13	9	10	4	Total	121.829	128.545	124.815	126.408
Lauderdale	271	283	263	276		,•=•	,	,0.0	,
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Table 3.3d: PDO>\$400 Crashes by County

County	2003-2006 Licensed Drivers	2003-2006 Crashes	Crash Rate	Ranking	County	2003-2006 Licensed Drivers	2003-2006 Crashes	Crash Rate	Ranking
Anderson	228,655	7,883	34.48	37	Lawrence	122,329	919	34.10	41
Bedford	117,344	4,894	41.71	16	Lewis	34,392	3,823	26.72	71
Benton	51,722	1,503	29.06	59	Lincoln	101,297	4,802	37.74	26
Bledsoe	33,099	548	16.56	92	Loudon	138,850	6,311	34.58	36
Blount	355,722	13,729	38.59	22	McMinn	151,080	2,153	41.77	15
Bradley	279,720	10,562	37.76	25	McNairy	75,728	1,900	28.43	60
Campbell	113,389	4,492	39.62	21	Macon	60,522	14,111	31.39	51
Cannon	38,279	1,346	35.16	33	Madison	259,022	3,288	54.48	2
Carroll	87,520	2,163	24.71	81	Marion	86,555	2,858	37.99	24
Carter	165,874	5,062	30.52	56	Marshall	83,435	7,909	34.25	38
Cheatham	111,830	3,928	35.12	34	Maury	222,801	682	35.50	31
Chester	43,034	1,423	33.07	46	Meigs	34,039	3,337	20.04	90
Claiborne	96,832	2,545	26.28	74	Monroe	118,989	14,720	28.04	62
Clay	24,163	380	15.73	93	Montgomery	421,221	478	34.95	35
Cocke	103,528	3,749	36.21	30	Moore	17,737	1,337	26.95	69
Coffee	155,455	6,904	44.41	10	Morgan	55,115	3,216	24.26	82
Crockett	39,876	926	23.22	86	Obion	96,326	1,970	33.39	44
Cumberland	164,841	6,642	40.29	20	Overton	58,935	727	33.43	43
Davidson	1,642,617	93,702	57.04	1	Perry	23,562	244	30.85	54
Decatur	35,141	1,130	32.16	48	Pickett	15,972	1,433	15.28	94
DeKalb	55,949	1,980	35.39	32	Polk	52,343	9,050	27.38	64
Dickson	137,395	5,927	43.14	13	Putnam	196,161	2,444	46.14	8
Dyer	108,098	3,272	30.27	57	Rhea	89,331	5,243	27.36	65
Fayette	94,053	2,265	24.08	83	Roane	162,447	6,050	32.28	47
Fentress	49,964	953	19.07	91	Robertson	177,142	28,135	34.15	39
Franklin	119,403	3,759	31.48	50	Rutherford	602,803	1,350	46.67	7
Gibson	139,791	3,594	25.71	75	Scott	62,310	938	21.67	87
Giles	88,495	2,514	28.41	61	Sequatchie	37,774	12,952	24.83	79
Grainger	65,146	1,726	26.49	73	Sevier	263,409	125,242	49.17	5
Greene	196,064	9,010	45.95	9	Shelby	2,324,849	2,161	53.87	3
Grundy	41,582	885	21.28	88	Smith	52,593	1,065	41.09	18
Hamblen	174,470	7,256	41.59	17	Stewart	39,179	16,690	27.18	66
Hamilton	951,660	40,831	42.91	14	Sullivan	488,772	13,246	34.15	83
Hancock	18,866	469	24.86	78	Sumner	427,846	3,771	30.96	52
Hardeman	69,108	2,018	29.20	58	Tipton	156,890	977	24.04	84
Hardin	76,909	2,876	37.39	27	Trousdale	22,451	1,679	43.52	11
Hawkins	163,057	4,421	27.11	68	Unicoi	54,858	1,303	30.61	55
Haywood	49,190	1,988	40.41	19	Union	51,262	368	25.42	76
Henderson	76,455	3,768	49.28	4	Van Buren	15,438	4,191	23.84	85
Henry	98,719	2,632	26.66	72	Warren	115,471	14,766	36.29	29
Hickman	64,703	2,390	36.94	28	Washington	339,903	1,431	43.44	12
Houston	24,044	597	24.83	80	Wayne	45,182	1,927	31.67	49
Humphreys	55,586	1,398	25.15	77	Weakley	94,197	1,978	20.46	89
Jackson	32,119	1,067	33.22	45	White	73,802	13,364	26.80	70
Jetterson	138,927	5,335	38.40	23	Williamson	481,900	9,214	27.73	63
Johnson	50,526	1,715	33.94	42	Wilson	298,368	1,071	30.88	53
Knox	1,177,422	56,711	48.17	6	Iotal	17,194,220	707,789	41.16	
Lake	15,507	115	7.42	95					
Lauderdale	66,724	4,172	27.13	67			V		

 Table 3.3e: Four-Year Crash Rates by County

3.4 Holiday Crashes

This section presents holiday crashes for the period from 2003 to 2006. In this period, Tennessee observed 6 types of holidays with varying durations each year. For comparison purposes, the lengths of these holidays were set at 78-hours and 102 hours. The 78-hour holidays comprised the New Year, Christmas, Independence, Labor, and Memorial holidays, and the 102-hour holidays comprised the Thanksgiving holidays. Table 3.4a presents the lengths of these holidays in hours and Table 3.4b presents the holiday crashes. Figure 3.4a depicts the average number of crashes per holiday-hour for each holiday type. On average, Christmas holidays had the highest number of crashes per holiday-hour; Labor, New Year, and Independence holidays had 17 crashes per holiday-hour; Labor, New Year, and Independence holidays each had 16 crashes per holiday-hour (15). This analysis reveals Christmas holidays as the most unsafe time of the year for Tennessee travelers, followed by Thanksgiving holidays.

For the 78-hour holidays, 2004 Christmas holiday had the highest number of crashes (1,719), and 2003 Independence holiday had the lowest number of crashes (1015). The 78-hour holidays crashes appear to be steadily distributed around the 1,258 mean-line, having a peak at 2004 Christmas holiday. For the 102-hour holidays, 2003 Thanksgiving holiday had the highest number of crashes (1,833), and 2005 Thanksgiving holiday had the lowest number of crashes (1,606). The 102-holidays crashes distribute narrowly around the 1712 median-line.

It is worth noting that for 78-hour holidays, Christmas holidays had the lowest average number of fatal crashes (6 fatal crashes per holiday), but the highest average number of total crashes (18 crashes per holiday-hour). On the other hand, Memorial holidays had the highest average number of fatal crashes (14 fatal crashes per holiday), but the lowest average number of total crashes (15 crashes per holiday-hour). In terms of fatalities, that makes Memorial holidays the most unsafe holidays for Tennessee travelers.

Holiday	Duration in Hours	Holiday	Duration in Hours
New Year	78	Labor	78
Christmas	78	Independence	78
Thanksgiving	102	Memorial day	78

Voor	L	_abor Da	y Holida	у	Voar		emorial D	Day Holid	lay
Tear	Fatal	Injury	PDO	Total	Tear	Fatal	Injury	PDO	Total
2003	9	423	971	1,403	2003	10	365	748	1,123
2004	12	419	756	1,187	2004	13	400	831	1,244
2005	14	355	720	1,089	2005	19	404	781	1,204
2006	15	402	745	1,162	2006	12	401	795	1,208
Voar	Inde	pendence	e Day Ho	liday	Voar	Th	anksgivi	ing Holid	ay
Tear	Fatal	Injury	PDO	Total	Teal	Fatal	Injury	PDO	Total
2003	11	315	689	1,015	2003	14	440	1,379	1,833
2004	10	427	858	1,295	2004	13	492	1,269	1,774
2005	10	495	882	1,387	2005	15	487	1,104	1,606
2006	7	405	815	1,227	2006	19	507	1,110	1,636
Voor	(Christma	s Holida	у	Voor		New Yea	r Holiday	/
Tear	Fatal	Injury	PDO	Total	Tear	Fatal	Injury	PDO	Total
2003	7	288	762	1,057	2003	10	369	911	1,290
2004	5	393	1,321	1,719	2004	10	359	803	1,172
2005	6	427	969	1,402	2005	8	413	862	1,283
2006	7	372	996	1,375	2006	14	380	926	1,320

 Table 3.4b: Holiday Crashes by Type of Crash

Figure 3.4a: Average Number of Crashes per Holiday-Hour





Figure 3.4b: Average Number of Fatal Crashes per Holiday

Figure 3.4c: Total Crashes by Holiday and Year



3.5 Crashes by Month

This section gives the monthly crashes between 2003 and 2006 in Tables 3.5a & b and Figures 3.5a and 3.5b. Within this period, fatal crashes were lowest between December and April, but fluctuated around an average of 100 crashes per month for the rest of the year. Injury crashes remained steady for most part of each year averaging 4,200 crashes per month, with lowest number of crashes between December and April. The PDO>\$400 crashes fluctuated widely within each year having the lowest number of crashes in February and the highest in November and December. Figures 3.5a and b depict the average number of crashes for each month.

July recorded average monthly fatal crashes of 113, followed by May with 107, then October with 106, and November with 101. January recorded the lowest average monthly fatal crashes of 74.

Year		2003			2004	
	Fatal	Injury	PDO	Fatal	Injury	PDO
Jan	57	2,970	9,163	75	3,493	9,775
Feb	73	3,118	9,113	80	3,584	8,536
Mar	91	3,340	8,759	86	4,048	10,611
April	81	3,912	9,741	89	4,641	11,184
Мау	94	4,013	10,347	122	4,722	11,022
Jun	83	3,853	9,676	105	4,690	10,688
Jul	100	3,918	9,536	118	4,646	10,384
Aug	74	4,112	10,193	104	4,465	10,115
Sept	93	4,243	10,394	98	4,495	10,017
Oct	94	4,432	11,404	116	4,866	11,400
Nov	100	4,079	11,900	100	4,596	12,041
Dec	75	3,801	11,603	98	4,513	12,771
Unk	76	0	0	0	0	0
Total	1,091	45,791	121,829	1,191	52,759	128,544

Table 3.5a: Crashes by Month and Crash Type: 2003 - 2004

Year		2005			2006	
	Fatal	Injury	PDO	Fatal	Injury	PDO
Jan	88	3,613	9,362	77	3,880	10,146
Feb	76	3,681	9,432	77	3,644	9,612
Mar	90	4,217	10,351	86	3,997	9,834
April	90	4,678	11,191	88	4,534	10,070
Мау	118	4,612	10,512	92	4,555	10,858
Jun	100	4,649	10,396	105	4,437	9,955
Jul	119	4,473	10,180	115	4,130	9,218
Aug	101	4,533	10,533	109	4,464	10,159
Sept	102	4,239	9,748	91	4,441	10,536
Oct	104	4,370	10,405	108	4,661	12,111
Nov	103	4,358	11,384	99	4,368	12,036
Dec	73	4,180	11,320	89	4,317	11,872
Unk	0	0	0	28	1	0
Total	1,164	51,603	124,814	1,164	51,429	126,407

Table 3.5b: Crashes by Month and Crash Type: 2005 – 2006

Figure 3.5a: Average Monthly Fatal Crashes





Figure 3.5b: Average Monthly Injury and PDO>\$400 Crashes

3.6: Crashes by Day of Week

This section presents 2003-2006 crashes by the day of week. The statewide distribution of traffic crashes was a bimodal distribution with peak traffic times at 7 AM to 9 AM and 5 PM to 8 PM, corresponding to rush hours for going and returning from work respectively. The high volume of traffic at these peak times was responsible for the high traffic crashes at these times. This information may be helpful to law enforcement agencies in the areas of planning and staff duty assignments.

Weekend crashes were lower than the weekday crashes. Saturdays had the lowest number of crashes and Fridays had the highest. Friday traffic crashes constitute nearly 18% of all weekly statewide traffic crashes; Sunday crashes constitute 10%, and Saturday 13%. Over the period, the distribution was relatively uniform for each day of the week with yearly averages as shown in Figure 3.6c.

Time of Day	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Unk	Total
0000-0059	607	260	242	281	293	368	597	36	2,684
0100-0159	527	218	228	228	227	258	550	25	2,261
0200-0259	504	169	147	192	182	243	492	21	1,950
0300-0359	504	166	144	206	172	259	474	22	1,947
0400-0459	374	167	181	186	193	206	325	21	1,653
0500-0559	314	310	314	307	304	361	354	26	2,290
0600-0659	293	733	802	709	719	627	372	41	4,296
0700-0759	304	1,683	1,802	1,738	1,701	1,413	450	87	9,178
0800-0859	388	1,250	1,367	1,361	1,321	1,208	595	70	7,560
0900-0959	534	931	1,036	994	1,035	972	782	68	6,352
1000-1059	667	985	1,057	983	1,055	1,111	1,025	76	6,959
1100-1159	737	1,273	1,339	1,230	1,418	1,511	1,328	103	8,939
1200-1259	1,144	1,502	1,490	1,448	1,475	1,780	1,403	120	10,362
1300-1359	1,070	1,419	1,343	1,468	1,454	1,661	1,426	135	9,976
1400-1459	1,027	1,765	1,718	1,750	1,754	2,012	1,412	127	11,565
1500-1559	1,155	2,251	2,244	2,265	2,331	2,803	1,459	111	14,619
1600-1659	1,173	2,078	1,968	2,090	2,170	2,563	1,373	127	13,542
1700-1759	1,177	2,037	2,089	2,103	2,198	2,381	1,315	132	13,432
1800-1859	994	1,313	1,289	1,411	1,335	1,675	1,226	92	9,335
1900-1959	865	845	899	844	858	1,118	968	49	6,446
2000-2059	744	660	702	863	740	917	938	45	5,609
2100-2159	704	576	669	653	668	887	857	37	5,051
2200-2259	492	486	501	554	525	870	777	41	4,246
2300-2359	365	351	346	422	411	756	659	38	3,348
Unknown	634	640	675	697	724	727	701	315	5,111
Total	17,297	24,068	24,592	24,983	25,263	28,687	21,858	1,965	168,711

 Table 3.6a: 2003 Crashes by Day of Week and Time of Day

Time of Day	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Unk	Total
0000-0059	646	273	301	253	320	370	632	17	2,812
0100-0159	584	200	221	208	251	301	595	12	2,372
0200-0259	523	194	182	171	271	250	553	9	2,153
0300-0359	582	188	185	168	260	304	507	8	2,202
0400-0459	360	196	189	174	243	236	383	8	1,789
0500-0559	325	315	346	304	377	315	364	15	2,361
0600-0659	336	716	786	702	805	747	366	8	4,466
0700-0759	356	1,743	1,856	1,804	1,909	1,701	482	32	9,883
0800-0859	409	1,315	1,495	1,340	1,402	1,346	646	27	7,980
0900-0959	608	956	1,110	908	1,068	1,137	885	29	6,701
1000-1059	677	1,125	1,107	1,064	1,164	1,370	1,111	28	7,646
1100-1159	799	1,404	1,365	1,342	1,342	1,687	1,382	32	9,353
1200-1259	1,264	1,574	1,694	1,527	1,630	1,970	1,584	49	11,292
1300-1359	1,103	1,579	1,591	1,477	1,563	2,014	1,508	49	10,884
1400-1459	1,172	1,883	1,844	1,750	1,884	2,252	1,601	58	12,444
1500-1559	1,201	2,553	2,429	2,330	2,579	3,014	1,625	49	15,780
1600-1659	1,227	2,385	2,385	2,200	2,313	2,776	1,516	49	14,851
1700-1759	1,289	2,335	2,471	2,285	2,476	2,587	1,767	61	15,271
1800-1859	1,151	1,555	1,551	1,516	1,517	1,966	1,277	40	10,573
1900-1959	894	1,012	949	882	1,024	1,282	1,092	30	7,165
2000-2059	744	775	748	825	853	913	1,005	57	5,920
2100-2159	672	670	693	722	787	971	937	20	5,472
2200-2259	560	549	595	550	649	974	913	30	4,820
2300-2359	380	356	387	442	496	778	787	17	3,643
Unknown	599	588	602	590	640	741	631	270	4,661
Total	18,461	26,439	27,082	25,534	27,823	32,002	24,149	1,005	182,494

 Table 3.6b: 2004 Crashes by Day of Week and Time of Day

Time of Day	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Unk	Total
0000-0059	585	280	271	255	297	336	642	1	2,667
0100-0159	557	220	208	215	232	282	596	3	2,313
0200-0259	569	189	166	188	190	256	543	1	2,102
0300-0359	569	199	200	147	197	241	595	1	2,149
0400-0459	405	181	207	181	174	241	398	0	1,787
0500-0559	323	310	371	346	306	363	385	1	2,405
0600-0659	327	751	820	779	753	752	422	1	4,605
0700-0759	331	1,734	1,882	1,901	1,867	1,708	506	0	9,929
0800-0859	408	1,404	1,413	1,394	1,390	1,352	682	0	8,043
0900-0959	645	1,071	1,030	1,013	1,022	980	778	3	6,542
1000-1059	750	1,141	1,053	1,000	1,084	1,213	1,178	3	7,422
1100-1159	733	1,321	1,245	1,275	1,330	1,638	1,385	1	8,928
1200-1259	1,213	1,582	1,481	1,559	1,541	1,902	1,506	0	10,784
1300-1359	1,038	1,597	1,501	1,546	1,519	1,894	1,474	1	10,570
1400-1459	1,165	1,765	1,789	1,813	1,873	2,294	1,488	4	12,191
1500-1559	1,103	2,430	2,398	2,362	2,603	3,043	1,530	2	15,471
1600-1659	1,102	2,290	2,241	2,121	2,402	2,871	1,571	3	14,601
1700-1759	1,163	2,388	2,391	2,375	2,430	2,556	1,428	2	14,733
1800-1859	1,082	1,470	1,458	1,614	1,570	1,837	1,344	0	10,375
1900-1959	959	965	956	980	948	1,306	1,145	1	7,260
2000-2059	787	793	735	845	784	1,025	966	1	5,936
2100-2159	700	706	631	704	799	1,005	989	1	5,535
2200-2259	549	538	519	559	608	996	866	0	4,635
2300-2359	407	400	367	371	466	802	794	0	3,607
Unknown	476	365	334	342	340	460	557	114	2,988
Total	17,946	26,090	25,667	25,885	26,725	31,353	23,768	144	177,578

 Table 3.6c: 2005 Crashes by Day of Week and Time of Day

Time of Day	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Unk	Total
0000-0059	728	246	295	284	287	344	642	3	2,829
0100-0159	614	207	210	239	245	295	632	1	2,443
0200-0259	610	198	182	203	189	239	537	1	2,159
0300-0359	657	198	160	191	222	256	604	1	2,289
0400-0459	383	173	187	175	188	265	455	0	1,826
0500-0559	363	304	358	344	389	348	447	0	2,553
0600-0659	336	723	776	841	827	798	498	0	4,799
0700-0759	342	1,779	1,955	1,983	1,891	1,809	557	1	10,317
0800-0859	391	1,291	1,554	1,544	1,480	1,396	647	1	8,304
0900-0959	525	948	1,060	1,003	981	1,217	910	0	6,644
1000-1059	683	1,095	1,046	1,061	1,090	1,218	1,144	1	7,338
1100-1159	667	1,277	1,290	1,284	1,266	1,611	1,347	0	8,742
1200-1259	1,056	1,503	1,570	1,430	1,526	2,049	1,459	2	10,595
1300-1359	1,065	1,548	1,424	1,446	1,490	1,965	1,430	0	10,368
1400-1459	1,102	1,850	1,834	1,656	1,911	2,349	1,438	1	12,141
1500-1559	1,157	2,382	2,349	2,258	2,445	3,183	1,492	0	15,266
1600-1659	1,123	2,153	2,228	1,908	2,356	2,927	1,405	0	14,100
1700-1759	1,211	2,388	2,451	2,294	2,423	2,780	1,363	0	14,910
1800-1859	1,092	1,462	1,557	1,546	1,628	2,007	1,348	2	10,642
1900-1959	911	991	897	913	1,062	1,285	1,118	0	7,177
2000-2059	812	805	792	832	846	1,004	947	1	6,039
2100-2159	661	708	745	725	819	996	964	1	5,619
2200-2259	541	578	566	541	661	1,030	923	0	4,840
2300-2359	411	372	408	397	504	834	835	0	3,761
Unknown	521	383	383	354	414	505	617	122	3,299
Total	17,962	25,562	26,277	25,452	27,140	32,710	23,759	138	179,000

 Table 3.6d: 2006 Crashes by Day of Week and Time of Day



Figure 3.6a: Statewide Crashes by Time of Day: 2003 – 2006

Figure 3.6b: Statewide Crashes by Day of Week: 2003 – 2006





Figure 3.6c: Average Annual Crashes for Each Day: 2003 – 2006

3.7 Number of Vehicles in Crashes by Route Signing

This section reports the number of vehicles involved in traffic crashes by type of crash according to route classification. On the whole, Interstate routes had 10% of all vehicles in crashes, US routes had 13%, State routes had 21%, County routes had 13%, and Municipal routes had 40%. Tables 3.7a and b show Municipal routes had 2 in 5 vehicles in crashes between 2003 and 2006; meaning that about 40% of all crashes investigated by state law enforcement agencies during this time frame were reported as occurring on municipal routes and 1 in 5 vehicles in crashes was reported for state routes. As seen in Figure 3.7, the total number of vehicles was uniformly distributed over the years covered by this period.

For fatal crashes, State routes had the highest percentage of vehicles in crashes (30%), followed by Municipal routes (21%), County routes (20.7%), US routes (17.2%), and Interstate highways (15.3%). The distribution of vehicles for injury and PDO > \$400 crashes were similar to that of fatal crashes, except that Municipal routes had the highest percentages of vehicles, 35.2% for injury and 41.9% for PDO > \$400 crashes. The distribution is shown in Figure 307b.



Figure 3.7a: Total Number of Vehicles by Route Signing: 2003 – 2006

Figure 3.7b: Distribution of Vehicles in Crashes by Type of Crash and Route Signing: 2003 – 2006



Roadway Route		Type of Cra	ash	Total C	rashes
Signing	Fatal	Injury	PD > \$400	Number	Percent
			2003		•
Interstate	217	8,046	21,255	29,518	10.02%
U. S. Route	291	11,537	25,336	37,164	12.62%
State Route	456	18,830	42,375	61,661	20.94%
County Route	287	10,527	25,163	35,977	12.22%
Municipal Route	221	27,255	89,174	116,650	39.61%
Other/Unknown	27	2,268	11,250	13,545	4.60%
Total	1,499	78,463	214,553	294,515	100.00%
	Ī		2004		
Interstate	234	8,618	22,297	31,149	9.63%
U. S. Route	341	13,172	28,183	41,696	12.89%
State Route	569	21,727	44,832	67,128	20.75%
County Route	347	13,074	28,504	41,925	12.96%
Municipal Route	290	32,365	96,188	128,843	39.82%
Other/Unknown	47	3,934	8,801	12,782	3.95%
Total	1,828	92,890	228,805	323,523	100.00%
		-	2005		-
Interstate	261	8,730	21,353	30,344	9.53%
U. S. Route	294	13,475	28,121	41,890	13.15%
State Route	512	20,959	43,377	64,848	20.36%
County Route	354	12,954	27,748	41,056	12.89%
Municipal Route	359	32,601	94,920	127,880	40.16%
Other/Unknown	38	2,930	9,449	12,417	3.90%
Total	1,818	91,649	224,968	318,435	100.00%
	0.1.0	0.740	2006	04.000	0.700/
Interstate	218	8,742	22,060	31,020	9.72%
U. S. Route	343	13,074	28,506	41,923	13.14%
State Route	493	20,891	43,033	65,017	20.38%
Municipal Poute	J∠1 210	12,040	21,901	40,947	12.03%
Other/Unknown	<u> </u>	2 955	94,007	12 034	4 05%
	1 737	90 644	226 652	319 033	100 00%
iulai	1,737	30,044	220,052	515,055	100.00 /0

Table 3.7a: Number of Vehicles in Crashes by Type of Crash and RoadwayRoute Signing: 2003 – 2006

3.8 Drivers Involved in Crashes by Race and Gender

Drivers in crashes in the state of Tennessee by race, gender and crash type are presented in this section for the period 2003 to 2006. The trend in the distribution of both male and female drivers in fatal/injury crashes by race has remained about the same within this period. For fatal/injury crashes, 68% of both male and female drivers were White, 20% male and 21% female drivers were Black, 6% male and 5% female drivers were Hispanic, and 6% male and 7% female drivers were of other race.

Tables 3.8b and 3.8c present a breakdown of male and female drivers by race and crash type between 2003 and 2006. On an average, nearly two-thirds (67%) of the drivers in crashes were White, 19% were Black, and 5% were Hispanic, and 9 were of other races. The proportions of White, Black, and other/unknown race male drivers in fatal crashes reduced from 78%, 14%, and 3% in 2003 to 76%, 9%, and 5% in 2006 respectively, while the proportion of Hispanic male drivers in fatal crashes increased from 5% in 2003 to 10% in 2006. Like male drivers, the proportion of White, Black and other/unknown race female drivers in fatal crashes decreased from 79% , 14% and 5% in 2003 to 77%, 11% and 4% in 2006, but the proportion of Hispanic female drivers in fatal crashes increased from 3% in 2003 to 9% in 2006 respectively. In summary, the proportion of Hispanic drivers in crashes (male and female) tends to increase rapidly, while the proportion of drivers in crashes from other races tends to decrease slowly.

Race	Male	Female	Unk Sex	Total	Male	Female	Unk Sex	Total	
		2003			2005				
White	104,746	83,116	5,559	193,421	110,241	88,511	6,194	204,946	
Black	29,850	25,073	2,581	57,504	31,446	26,536	3,433	61,415	
Hispanic	7,139	3,767	349	11,255	9,337	5,314	422	15,073	
Others/Unk	12,737	9,446	9,715	31,898	13,128	10,460	12,570	36,158	
Total	154,472	121,402	18,204	294,078	164,152	130,821	22,619	317,592	
		2004	-		2006				
White	113,735	91,010	3826	208,571	109,760	88,686	6,045	204,491	
Black	31,933	27,284	2,005	61,222	28,396	24,239	2,783	55,418	
Hispanic	8,257	4,546	214	13,017	12,447	8,426	921	21,794	
Others/Unk	12,879	10,057	7,588	30,524	13,442	10,777	12,932	37,151	
Total	166,804	132,897	13,633	313,334	164,045	132,128	22,681	318,854	

Table 3.8a: Drivers in Crashes by Race and Gender

	Fatal	Injury	PD>\$400	Total	Fatal	Injury	PD>\$400	Total
Race		2	2003		2004			
White	714	28,174	75,858	104,746	868	32,317	80,550	113,735
Black	129	8,362	21,359	29,850	144	9,472	22,317	31,933
Hispanic	43	2,034	5,062	7,139	59	2,508	5,690	8,257
Others/Unk	26	2,356	10,355	12,737	36	3,482	9,361	12,879
Total	912	40,926	112,634	154,472	1,107	47,779	117,918	166,804
		2	2005	-	2006			
White	847	31,894	77,500	110,241	822	31,252	77,686	109,760
Black	175	9,562	21,709	31,446	99	8,649	19,648	28,396
Hispanic	46	2,874	6,417	9,337	107	3,636	8,704	12,447
Others/Unk	49	3,048	10,031	13,128	50	3,026	10,366	13,442
Total	1,117	47,378	115,657	164,152	1,078	46,563	116,404	164,045

 Table 3.8a: Drivers in Crashes by Race and Gender

 Table 3.8c: Female Drivers by Race and Crash Type

	Fatal	Injury	PD>\$400	Total	Fatal	Injury	PD>\$400	Total	
Race			2003		2004				
White	358	23,019	59,739	83,116	380	26,983	63,647	91,010	
Black	61	7,369	17,643	25,073	71	8,676	18,537	27,284	
Hispanic	13	1,155	2,599	3,767	17	1,477	3,052	4,546	
Others/Unk	21	1,966	7,459	9,446	11	2,869	7,177	10,057	
Total	453	33,509	87,440	121,402	479	40,005	92,413	132,897	
2005					2006				
White	377	26,290	61,844	88,511	358	25,895	62,433	88,686	
Black	81	8,498	17,957	26,536	49	7,816	16,374	24,239	
Hispanic	24	1,729	3,561	5,314	41	2,570	5,815	8,426	
Others/Unk	15	2,687	7,758	10,460	20	2,602	8,155	10,777	
Total	497	39,204	91,120	130,821	468	38,883	92,777	132,128	



Figure 3.8: Proportions of Tennessee Drivers in Crashes by Race

3.9 Fatal Crashes by First Harmful Event

This section presents fatal crashes by first harmful event in Table 3.9 for the period from 2003 to 2006. First harmful event is defined as the first injury or damage producing event for the crash that characterizes the crash type and identifies the nature of the harmful event. For a majority of the fatal crashes the most common first harmful event was a motor vehicle in transport on same roadway. This event accounted for 1,686 of the 4,607 fatal crashes, which is a 37% of the total fatal crashes. The next common first harmful event was a tree (standing tree only) contributing to 13% of fatal crashes, followed by overturn/rollover contributing to 8%. Pedestrians were another predominant first harmful event in fatal crashes, contributing to about 7% of fatal crashes in this period.

First Harmful Event for the Crash	2003	2004	2005	2006	4-Year Average	Total
Overturn/Rollover		115	106	98	106	391
Immersion		0	2	0	1	4
Fell/Jumped from Vehicle		13	6	4	8	28
Injured in Vehicle (Other than Cargo/Equipment Loss or Shift)	0	0	0	1	0	1
Other Non-Collision	1	3	0	1	1	5
Pedestrian	85	74	66	84	75	309
Pedalcvcle	4	7	10	7	8	28
Railway Train	8	4	4	5	4	21
Animal	3	3	3	2	3	11
Motor Vehicle in Transport on Same Roadway	402	436	429	419	428	1.686
Motor Vehicle in Transport on Other Roadway		17	17	21	18	74
Parked Motor Vehicle or Motor Vehicle Stopped off Roadway	11	9	12	4	8	36
Non-Motorist on Personal Conveyance	1	3	2	3	3	9
Thrown or Falling Object	0	0	0	1	0	1
Boulder	1	1	2	8	4	12
Other Object(not fixed)	4	5	3	6	5	18
Building	6	6	2	2	3	16
Impact Attenuator/Crash Cushion	0	1	2	0	1	3
Bridge Pier or Abutment	2	5	2	4	4	13
Bridge Parapet End	6	4	5	5	5	20
Bridge Bail	2	3	4	4	4	13
Guardrail Eace	59	34	27	36	32	156
Concrete Traffic Barrier	7	7	6	11	8	31
Other Traffic Barrier	2	1	2	1	1	6
Highway/Traffic Sign Post/Sign	3	15	15	7	12	40
Overbead Sign Support/Sign	0	0	0	0	0	0
Luminaire/Light Support	1	1	3	3	2	8
Utility Pole	48	52	57	50	53	207
Other Post, Other Pole, or Other Supports	12	5	1	4	3	22
Culvert	30	51	39	35	42	155
Curb	7	7	12	12	10	38
Ditch	52	24	41	51	39	168
Embankment-Earth	8	7	8	31	15	54
Embankment-Rock, Stone, or Concrete	10	7	2	2	4	21
Embankment-Material Type Unknown	47	48	48	17	38	160
Fence	17	23	23	16	21	79
Wall	1	5	4	4	4	14
Fire Hydrant	3	4	0	2	2	9
Shrubbery	0	1	3	0	1	4
Tree(Standing Tree Only)	133	145	149	159	151	586
Other Fixed Object	13	9	11	10	10	43
Working Motor Vehicle (construction, maintenance or utility vehicle only)	2	1	0	0	0	3
Traffic Signal Support/Signal	1	1	0	1	1	3
Vehicle Occupant Struck or Run Over by Own Vehicle	0	0	1	0	0	1
Ridden Animal or Animal Drawn Conveyance	Õ	Õ	0	1	0	1
Guardrail End	0	11	8	12	10	31
Mail Box	0	22	24	17	21	63
Motor Vehicle Strikes or is Struck by Cargo, Persons or Objects Set in Motion from/by Another Motor Vehicle In Transport	0	1	0	0	0	1
Other Not In-Transport Motor Vehicle	0	0	0	2	1	2
Total	1,091	1,191	1,161	1,164	1,172	4,605

Table 3.9: Fatal Crashes by First Harmful Event

Source: NHTSA – FARS