

# Missouri Commercial Motor Vehicle Safety Belt Survey Final Report



Submitted by:  
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## Executive Summary

In August of 2008, the Missouri Safety Center in conjunction with the Highway Safety Division of the Missouri Department of Transportation conducted the commercial motor vehicle driver's safety belt use survey. The methodology for this year's survey was identical to the established methodology for the 2006 survey. The survey was conducted at 250 locations in 76 Missouri counties. Survey sites were located throughout the nine Missouri State Highway Patrol (MSHP) Troop areas. The number of sites per Troop was proportional to the percentage of Commercial Motor Vehicle (CMV) Daily Vehicle Miles of Travel (DVMT) each Troop has in comparison to the state-total of 18,100,711 CMV DVMT.

The number of sites per MSHP Troop continues to be assigned proportionally to four roadway types; freeway, expressway, two-lane and other (super 2 lane, 5-lane section, 3-lane section, multi-lane section, and one way) based upon CMV DVMT on each roadway type.

Shoulder belt usage in Class 7 (six to nine tires) and Class 8 (10 or more tires) trucks for the CMV driver was observed at each selected site. Observations were collected over a one week period (August 25-31) and each observation was 40 minutes in length. Sixteen percent of the vehicles observed were Type 7 vehicles and the remaining 81 percent were Type 8. A total of 22,029 observations were collected in the 76 counties at 250 observational sites.

The following is a list of the major findings.

- The overall safety belt usage rate for commercial motor vehicle drivers observed in the survey was 73.4 percent. This is an increase of 5.9 percent over the 67.5 percent usage rate in 2007.
- The MSHP Troop G region had the highest safety belt usage rate and Troop H region had the lowest with 79.5 and 61.4 percent respectively.
- CMV drivers observed on the "freeway" roadway type had the highest safety belt usage rate of 74.5 percent and drivers on "two-lane" roadways had the lowest usage rate of 61.8 percent.
- There were 5 counties that had a safety belt usage rate of 40 percent or less. They were St. Clair, Dunklin, Gentry, Taney and Andrew.
- Fourteen counties: Pettis, Saline, Henry, Lynn, Randolph, Crawford, St. Francis, Lawrence, McDonald, Vernon, Webster, Texas, Phelps, Pulaski had safety belt usage rates between 80 and 89 percent.
- The safety belt usage rate was above 90 percent in three counties, Perry, Ste. Genevieve, and Newton.
- Commercial motor vehicle drivers of vehicles displaying hazardous material placards had a safety belt usage rate 86.3 percent

**Historic**  
**Commercial Vehicle Driver's Safety Belt Usage Rate**  
**By MSHP Troop**  
*(Data for Restrained Driver Only)*

MSHP	Frequency 2004	Usage Rate	Frequency 2005	Usage Rate	Percent Change 04/05	Frequency 2006	Usage Rate	Percent Change 05/06	Frequency 2007	Usage Rate	Percent Change 06/07	Frequency 2008	Usage Rate	Percent Change 07/08
<b>A</b>	1,707	55.97	1,583	60.35	+ 4.38	1,976	66.82	+ 6.47	2,464	62.9	- 3.9	2275	72.0	+ 9.1
<b>B</b>	132	59.73	132	60.27	+ 0.54	105	68.63	+ 6.36	146	78.1	+ 9.5	147	73.5	- 4.6
<b>C</b>	2,215	52.08	2,599	67.30	+ 15.22	3,300	63.83	- 3.48	6,066	68.8	+ 5.0	6848	74.8	+6.0
<b>D</b>	1,266	71.97	1,309	72.88	+ 0.91	1,437	72.72	- 0.16	1,364	76.8	+ 4.6	1404	77.0	+0.2
<b>E</b>	773	49.17	775	51.43	+ 2.26	854	57.94	+ 6.51	934	59.5	+ 1.6	1051	68.3	+8.8
<b>F</b>	1,459	72.12	1,061	74.56	+ 2.44	961	75.31	+ 0.75	1,276	72.1	- 3.2	1373	70.3	- 1.8
<b>G</b>	78	60.47	123	74.55	+ 14.08	161	62.16	- 12.39	257	71.0	+ 8.8	303	79.5	+ 8.5
<b>H</b>	656	59.42	613	56.86	- 2.56	804	63.96	+ 7.10	745	62.2	- 1.8	608	61.4	- 0.8
<b>I</b>	794	59.56	1,035	75.55	+ 15.99	888	61.07	- 14.48	1,350	66.5	+ 5.4	1656	77.8	+ 11.3
<b>Total</b>	<b>9,080</b>	<b>58.79</b>	<b>9,230</b>	<b>65.73</b>	<b>+ 6.94</b>	<b>10,486</b>	<b>65.64</b>	<b>- 0.09</b>	<b>14,602</b>	<b>67.5</b>	<b>+ 1.9</b>	<b>16,165</b>	<b>73.4</b>	<b>+ 5.9</b>

## Introduction

In November of 2003, the Federal Motor Carrier Safety Administration released a national study, "Safety Belt Usage by Commercial Motor Vehicle Drivers." A total of 3,909 observations were conducted in 12 states which resulted in an overall commercial vehicle safety belt use of 48 percent. Missouri was selected as one of the sample states for this survey. Surveys were conducted at seven locations in Missouri (Boone, Callaway, Cole, Cooper, Lafayette, and Saline counties) which resulted in 329 truck observations. Based upon this limited sample, Missouri's commercial vehicle safety belt usage rate was 50.0 percent.

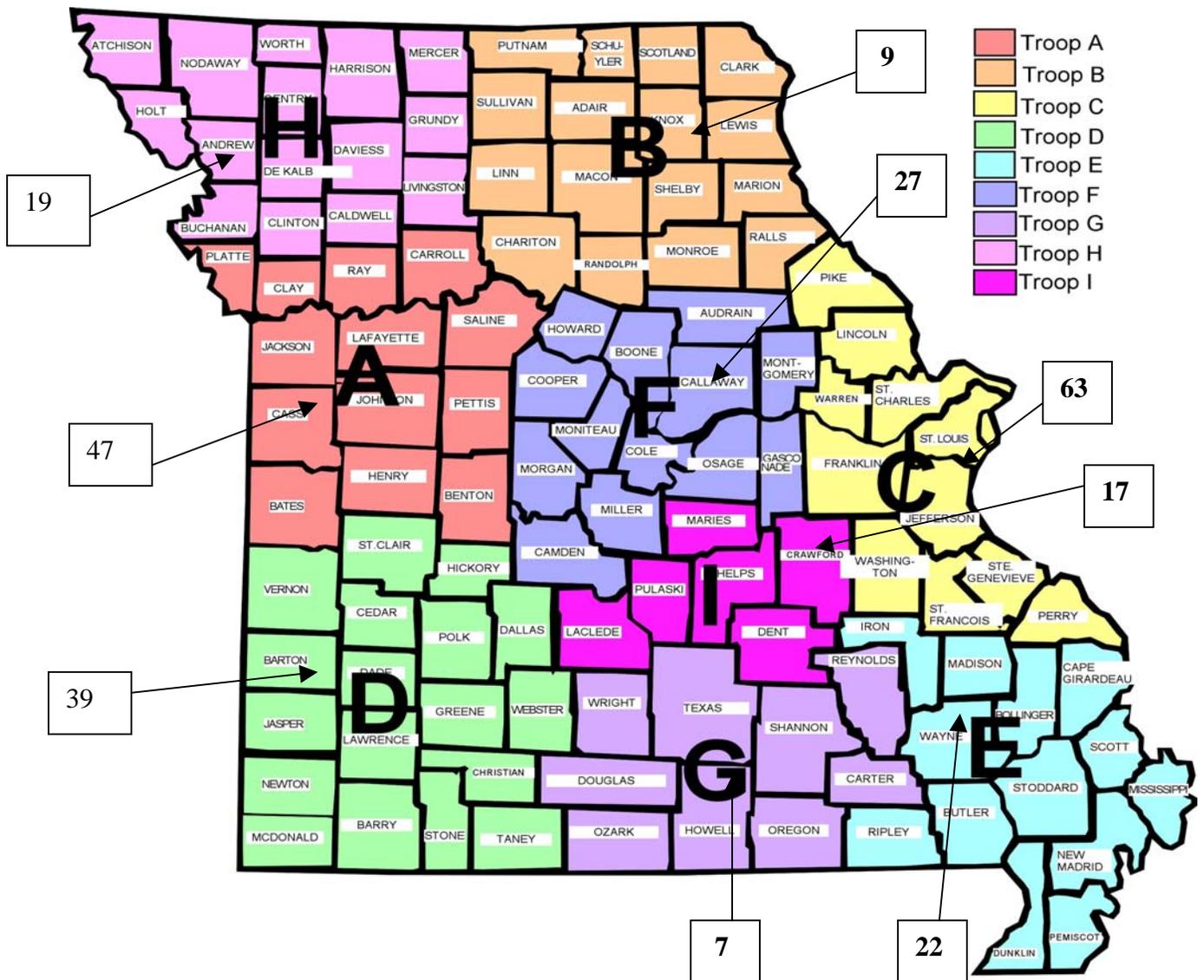
In 2004, the Missouri Safety Center was requested by the Highway Safety Division of the Missouri Department of Transportation to conduct a Commercial Vehicle Safety Belt Observational Survey. In preparation for the survey, meetings were held to outline the survey parameters, guiding principles and sampling procedures.

Five guiding principles identified through these collaborative meetings, served as the underlying basis for the sampling plan used in this study.

- The individual observation site would be the basic sample unit at which safety belt usage observations would be made.
- The safety belt usage rates of commercial vehicle drivers would be computed for each of the nine Missouri State Highway Patrol (MSHP) Troops.
- The number of sites selected from each of the Missouri State Highway Patrol troops would be in proportion to the commercial motor vehicle (CMV) daily vehicle miles of travel (DVMT) that troop has in comparison to the state total of 18,100,711 CMV DVMT.
- The location for each site in the nine MSHP Troops would be selected in proportion to the number of CMV DVMT for each of four roadway types; Freeway, Expressway, Two-lane and Other (Super 2 Lane, 5-Lane Section, 3-Lane Section, Multi-Lane, and One Way) that each troop has in comparison to the state total CMV DVMT of Freeway (10,216,308), Expressway (2,795,514), Two-lane (3,493,485) and Other (159,703).
- The sites within each troop would be selected in their descending order of CMV DVMT by roadway type to maximize the number of commercial vehicle drivers from each MSHP Troop.

The sampling procedure involved the development of a list of CMV DVMT by MSHP troop. Table 1 shows the total CMV DVMT by troop in descending order and the proportion that each troop has in comparison to the state-total of 18,100,711 CMV DVMT. The proportion of CMV DVMT that each troop has was then divided into 250 which is the total number of sites selected for the survey. Troop C had the highest number of sites, 67 and Troop G had the lowest, 7. The state of Missouri map shows the number of observation sites in the nine MSHP Troops.

For the 2007 survey, all the 2004 methodology was carried forward and used as the base line for future data collections.



**Number of Observation Sites  
By MSHP Troops**

## Methodology

**Table 1**  
**Percent of Daily CMV VMT by MSHP Troop**  
**by Number of Observation Sites**

<i><b>MSHP TROOP</b></i>	<i><b>CMV VMT Total</b></i>	<i><b>Percentage of Total CMV VMT</b></i>	<i><b>Total Number of Observation Sites</b></i>
<i><b>C</b></i>	4,666,704	25.55%	63
<i><b>A</b></i>	3,510,976	19.28%	47
<i><b>D</b></i>	2,735,803	15.66%	39
<i><b>F</b></i>	1,848,753	10.27%	27
<i><b>E</b></i>	1,605,545	8.80%	22
<i><b>H</b></i>	1,391,631	7.63%	19
<i><b>I</b></i>	1,216,495	6.65%	17
<i><b>B</b></i>	623,664	3.41%	9
<i><b>G</b></i>	501,141	2.75%	7
<i><b>Total</b></i>	<b>18,100,711</b>	<b>100%</b>	<b>250</b>

The specific number of observation sites from each MSHP troop was computed by multiplying the troops' percentages of the state's CMV DVMT by the total number of observation sites.

To identify the specific number of observation sites by roadway type for each troop, the number of observations for each troop was multiplied by the percentage of each roadway type's CMV DVMT in that troop. Tables 2-5 depicts the number of observation sites by troop for freeway, expressway, two-lane and other (Super 2 Lane, 5-Lane Section, 3-Lane Section, Multi-Lane, and One Way) roadway types.

**Table 2**  
**Percent of Observation Sites by MSHP Troop**  
**by Freeway Roadway Type**

<b>MSHP TROOP</b>	<b>Total Number of Observation Sites</b>	<b>Total Number of Freeway CMV DVMT</b>	<b>Percent of Freeway CMV DVMT</b>	<b>Total Number of Freeway Sites</b>
<b>A</b>	47	1,938,788	55%	26
<b>B</b>	9	3,171	0.005%	0
<b>C</b>	63	3,207,418	69%	43
<b>D</b>	39	1,288,821	47%	18
<b>E</b>	22	919,341	57%	12
<b>F</b>	27	956,412	52%	15
<b>G</b>	7	0	0%	0
<b>H</b>	19	945,203	68%	13
<b>I</b>	17	957,154	79%	14
<b>Total</b>	<b>250</b>	<b>10,216,308</b>	<b>100.00%</b>	<b>141</b>

**Table 3**  
**Percent of Observation Sites by Troop**  
**by Expressway Roadway Type**

<b>MSHP TROOP</b>	<b>Total Number of Observation Sites</b>	<b>Total Number of Expressway CMV DVMT</b>	<b>Percent of Expressway CMV DVMT</b>	<b>Total Number of Expressway Sites</b>
<b>A</b>	47	845,887	24%	11
<b>B</b>	9	193,188	31%	3
<b>C</b>	63	491,889	11%	7
<b>D</b>	39	472,208	17%	7
<b>E</b>	22	137,776	9%	2
<b>F</b>	27	366,351	20%	5
<b>G</b>	7	127,503	25%	2
<b>H</b>	19	150,946	11%	2
<b>I</b>	17	9,466	1%	0
<b>Total</b>	<b>250</b>	<b>2,795,214</b>	<b>100.00%</b>	<b>39</b>

**Table 4**  
**Percent of Observation Sites by Troop**  
**by Two-Lane Roadway Type**

<b>MSHP TROOP</b>	<b>Total Number of Observation Sites</b>	<b>Total Number of Two-Lane CMV DVMT</b>	<b>Percent of Two-Lane CMV DVMT</b>	<b>Total Number of Two-Lane Sites</b>
<b>A</b>	47	556,958	16%	8
<b>B</b>	9	410,297	66%	6
<b>C</b>	63	546,597	12%	8
<b>D</b>	39	588,871	22%	9
<b>E</b>	22	405,617	25%	6
<b>F</b>	27	388,411	21%	6
<b>G</b>	7	185,281	37%	2
<b>H</b>	19	249,582	18%	3
<b>I</b>	17	161,871	13%	2
<b>Total</b>	<b>250</b>	<b>3,493,485</b>	<b>100.00%</b>	<b>50</b>

**Table 5**  
**Percent of Observation Sites by Troop**  
**by Other Roadway Type**

<b>MSHP TROOP</b>	<b>Total Number of Observation Sites</b>	<b>Total Number of Other CMV DVMT</b>	<b>Percent of Other CMV DVMT</b>	<b>Total Number of Other Sites</b>
<b>A</b>	47	169,344	5%	2
<b>B</b>	9	17,007	3%	0
<b>C</b>	63	420,800	9%	5
<b>D</b>	39	385,902	14%	5
<b>E</b>	22	142,809	8%	1
<b>F</b>	27	137,580	7%	2
<b>G</b>	7	188,357	38%	3
<b>H</b>	19	45,900	3%	1
<b>I</b>	17	88,004	7%	1
<b>Total</b>	<b>250</b>	<b>1,595,703</b>	<b>100.00%</b>	<b>20</b>

The specific observational sites selected from each MSHP troop were determined by reviewing a state map that showed the total number of CMV DVMT on each state system roadway. In addition, MSHP Troop maps color-coded by roadway type; i.e. freeway, expressway, two-lane, and other, were also used in the selection process. See Attachment A. Observation sites for each troop were selected based upon the highest descending order of CMV DVMT on each roadway for each roadway type. The number of observation sites by troop, county, and roadway type is shown in Table 6.

**Table 6**  
**Observation Sites**  
**by Troop, County and Roadway Type**

County	Total # of Sites	Roadway Type			
		Freeway	Expressway	2 Lane	Other
<b>MSHP Troop A</b>					
Bates	2	0	2	0	0
Cass	3	0	3	0	0
Clay	7	7	0	0	0
Henry	2	0	1	1	0
Jackson	10	9	1	0	0
Johnson	2	0	1	1	0
Lafayette	7	3	3	0	1
Pettis	2	0	2	0	0
Platte	5	5	0	0	0
Ray	2	0	0	2	0
Saline	5	2	0	3	0
<b>Total 11 Counties</b>	<b>47</b>	<b>26</b>	<b>13</b>	<b>7</b>	<b>1</b>
<b>MSHP Troop B</b>					
Linn	3	0	1	2	0
Ralls	2	0	1	1	0
Randolph	3	0	1	2	0
Schuyler	1	0	1	0	0
<b>Total 4 Counties</b>	<b>9</b>	<b>0</b>	<b>4</b>	<b>5</b>	<b>0</b>

**Table 6  
Continued**

County	Total # of Sites	Roadway Type			
		Freeway	Expressway	2 Lane	Other
<b>MSHP Troop C</b>					
Franklin	11	9	0	2	0
Jefferson	8	3	1	2	2
Lincoln	3	0	2	1	0
Perry	4	3	0	1	0
Pike	3	0	0	3	0
St. Charles	4	4	0	0	0
St. Francis	1	0	1	0	0
St. Louis	21	17	1	0	3
Ste. Genevieve	4	3	0	1	0
Warren	4	4	0	0	0
<b>Total 10 Counties</b>	<b>63</b>	<b>43</b>	<b>5</b>	<b>10</b>	<b>5</b>
<b>MSHP Troop D</b>					
Barry	1	0	0	1	0
Barton	1	0	1	0	0
Christian	3	1	1	0	1
Dallas	2	0	2	0	0
Greene	7	2	3	1	1
Jasper	4	2	2	0	0
Lawrence	6	2	1	2	1
McDonald	1	0	1	0	0
Newton	4	2	2	0	0
Polk	3	0	0	3	0
St. Clair	1	0	1	0	0
Taney	1	1	0	0	0
Vernon	1	1	0	0	0
Webster	4	2	1	1	0
<b>Total 14 Counties</b>	<b>39</b>	<b>13</b>	<b>15</b>	<b>8</b>	<b>3</b>

**Table 6  
Continued**

County	Total # of Sites	Roadway Type			
		Freeway	Expressway	2 Lane	Other
<b>MSHP Troop E</b>					
Bollinger	1	0	0	1	0
Butler	1	0	1	0	0
Cape Girardeau	4	2	0	2	0
Dunklin	1	0	0	1	0
Mississippi	2	2	0	0	0
New Madrid	3	3	0	0	0
Pemiscot	3	3	0	0	0
Scott	4	2	0	1	1
Stoddard	2	0	1	1	0
<b>Total 9 Counties</b>	<b>21</b>	<b>12</b>	<b>2</b>	<b>6</b>	<b>1</b>
<b>MSHP Troop F</b>					
Audrain	2	0	1	1	0
Boone	7	4	1	1	1
Callaway	5	4	1	0	0
Camden	1	0	1	0	0
Cole	4	3	0	1	0
Cooper	2	2	0	0	0
Gasconade	1	0	0	1	0
Miller	1	0	1	0	0
Moniteau	1	0	0	1	0
Montgomery	2	2	0	0	0
Osage	1	0	0	0	1
<b>Total 11 Counties</b>	<b>27</b>	<b>15</b>	<b>5</b>	<b>5</b>	<b>2</b>
<b>MSHP Troop G</b>					
Howell	3	0	1	1	1
Oregon	2	0	0	1	1
Texas	2	0	1	0	1
<b>Total 3 Counties</b>	<b>7</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>3</b>

**Table 6  
Continued**

County	Total # of Sites	Roadway Type			
		Freeway	Expressway	2 Lane	Other
<b>MSHP Troop H</b>					
Andrew	1	0	1	0	0
Atchison	2	2	0	0	0
Buchanan	5	3	1	0	1
Clinton	2	2	0	0	0
Daviess	2	2	0	0	0
DeKalb	1	0	0	1	0
Gentry	1	0	0	1	0
Harrison	2	2	0	0	0
Holt	2	2	0	0	0
Nodaway	1	0	0	1	0
<b>Total 10 Counties</b>	<b>19</b>	<b>13</b>	<b>2</b>	<b>3</b>	<b>1</b>
<b>MSHP Troop I</b>					
Crawford	4	3	0	1	0
Laclede	6	4	0	1	1
Phelps	4	3	0	1	0
Pulaski	3	3	0	0	0
<b>Total 4 Counties</b>	<b>17</b>	<b>13</b>	<b>0</b>	<b>3</b>	<b>1</b>

Two instruments were used to collect these data; Site Summary Form and a Vehicle/Driver Form (See Attachment B). The Site Summary Form identified the MSHP troop, county, site number, roadway type, day of week, direction of traffic flow, road condition and time of day. Data elements on the Vehicle/Driver Form included Vehicle Type 7 – Straight Frame (Van, Tanker, Dump truck, flat bed, bus and other, i.e. fire truck), Vehicle Type 8- Combination Vehicle (box trailer, single tanker, double trailer, flat trailer, car hauler, bobtail, dump and other i.e. large cement truck), driver’s restraint status, and if the vehicle was carrying hazardous materials.

The observations were held Monday, August 25 through Sunday, August 31, 2008. The observation period was 40 minutes in length and began at one of the following times: 8:00 am, 9:00 am, 10:00 am, 11:00 am, 12 noon, 1:00 pm, 2:00 pm, or 3:00 pm. Observational surveyors were identified and received written training instructions by mail (See Attachment D). Ninety percent of the surveyors were experienced and had previously participated in safety belt observational surveys.

The majority of the observations, 92.8 percent were conducted in dry weather. Thirty-one percent of the observations were from the east direction of traffic flow, 26.2 percent from the west, with 21.4 percent and 21.6 percent from the north and south respectively. The percentage of observations by the time of day are: 8:00 am (10.8%), 9:00 am (16.8%), 10:00 am (16.4%), 11:00 am (14.4%), 12:00 noon (7.6%), 1:00 pm (14.2%), 2:00 pm (12.8%) and 3:00 pm (7.5%).

## Key Findings

There were a total of 22,029 commercial vehicles observed. The frequency and percent of observations by Troop are located in Table 7.

**Table 7**  
**Frequency and Percent of Observations**  
**By Troop**

<b>MSHP TROOP</b>	<b>Frequency of Observations</b>	<b>Percent of Observations</b>
Troop A	3857	17.5
Troop B	200	0.9
Troop C	9159	41.6
Troop D	1824	8.3
Troop E	1538	7.0
Troop F	1952	8.9
Troop G	381	1.7
Troop H	990	4.5
Troop I	2128	9.6
<b>TOTAL</b>	<b>22,029</b>	<b>100.0</b>

Figure 1 shows the safety belt use by Driver for CMV and non-commercial vehicles. The commercial vehicle driver's usage rate, 73.4 percent, is 3.8 percent lower than the 2007 passenger vehicle safety belt usage rate of 77.2 percent on Missouri roadways.

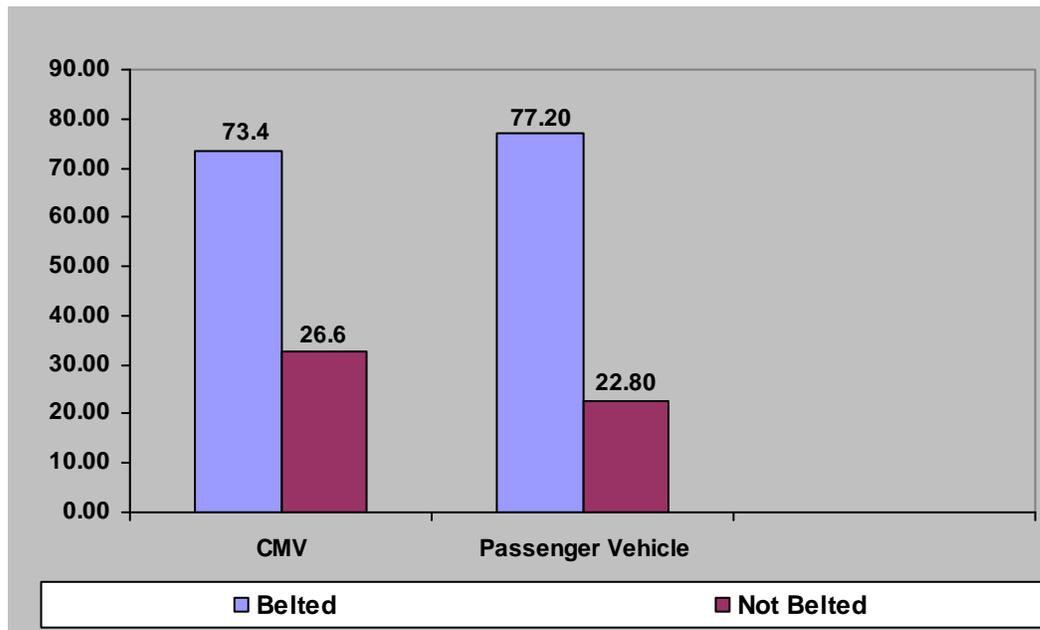


Figure 1 Safety Belt Use Rate for CMV Drivers and Passenger Vehicle Occupants

The commercial vehicle driver's safety belt use by MSHP Troop is depicted in Table 8. MSHP Troops G and I had the highest safety belt usage rates of 79.5 and 77.8 respectively. The lowest safety belt usage rates were in Troops E and H with 68.3 and 61.4 percent respectively.

There were 250 observation sites located in 76 counties in the nine MSHP Troops. In Troop A the safety belt usage rate ranged from 86.8 to 50.0 percent, Troop B from 85.7 to 55.6 percent, Troop C from 95.6 to 63.2 percent, Troop D from 91.6 to 20.0 percent, Troop E from 73.1 to 14.3 percent, Troop F from 77.1 to 50.0 percent, Troop G from 82.0 to 77.3 percent, Troop H from 71.1 to 33.3 percent and Troop I from 88.6 to 66.0 percent. The commercial vehicle driver's safety belt use by Troop by county is located in Table 9.

**Table 8**  
**Commercial Vehicle Driver's Safety Belt Use**  
**By MSHP Troop**

<b>Drivers Safety Belt Use by MSHP Troop</b>				
<b>MSHP TROOP</b>	<b>Restrained</b>		<b>Not Restrained</b>	
	<b>Frequency</b>	<b>Percent</b>	<b>Frequency</b>	<b>Percent</b>
A	2775	72.0	1082	28.0
B	147	73.5	53	26.5
C	6848	74.8	2311	25.2
D	1404	77.0	420	23.0
E	1051	68.3	487	31.7
F	1373	70.3	579	29.7
G	303	79.5	78	20.5
H	608	61.4	382	38.6
I	1656	77.8	472	22.2
<b>TOTAL: Total Observations: 21,628</b>	<b>16,165</b>	<b>73.4</b>	<b>5864</b>	<b>26.6</b>

**Table 9**  
**Commercial Vehicle Driver's Safety Belt Use**  
**by MSHP Troop by County**

County	Restrained		Not Restrained	
	Frequency	Percent	Frequency	Percent
<b>Troop A</b>				
Bates	63	75.9	20	24.1
Cass	110	76.4	34	23.6
Clay	498	71.2	201	28.8
Henry	33	86.8	5	13.2
Jackson	696	68.7	317	31.3
Johnson	25	78.1	7	21.9
Lafayette	533	79.3	139	20.7
Pettis	26	86.7	4	13.3
Platte	320	55.7	255	44.3
Ray	16	50.0	16	50.0
Saline	455	84.4	84	15.6
<b>Troop B</b>				
Linn	32	82.1	7	17.9
Ralls	62	64.6	34	35.4
Randolph	48	85.7	8	14.3
Schuyler	5	55.6	4	44.4
<b>Troop C</b>				
Franklin	1134	76.4	351	23.6
Jefferson	699	70.3	295	29.7
Lincoln	112	66.3	57	33.7
Perry	285	95.3	14	4.7
Pike	51	73.9	18	26.1
St. Charles	404	64.0	227	36.0
St. Francis	48	87.3	7	12.7
St. Louis	3571	75.0	1188	25.0
Ste. Genevieve	304	95.6	14	4.4
Warren	240	63.2	140	36.8
<b>Troop D</b>				
Barry	16	51.6	15	48.4
Barton	12	75.0	4	25.0
Christian	54	67.5	26	32.5
Dallas	32	57.1	24	42.9
Greene	282	64.7	154	35.3
Jasper	136	78.6	37	21.4
Lawrence	169	84.5	31	15.5
McDonald	36	85.7	6	14.3
Newton	241	91.6	22	8.4

County	Restrained		Not Restrained	
	Frequency	Percent	Frequency	Percent
<b>Troop D (con't)</b>				
Polk	57	60.0	38	40.0
St. Clair	1	20.0	4	80.0
Taney	2	33.3	4	66.7
Vernon	16	84.2	3	15.8
Webster	350	87.1	52	12.9
<b>Troop E</b>				
Bollinger	8	57.1	6	42.9
Butler	22	53.7	19	46.3
Cape Girardeau	181	68.8	82	31.2
Dunklin	1	14.3	6	85.7
Mississippi	140	71.8	55	28.2
New Madrid	240	69.0	108	31.0
Pemiscot	288	73.1	106	26.9
Scott	156	63.2	91	36.8
Stoddard	15	51.7	14	48.3
<b>Troop F</b>				
Audrain	18	69.2	8	30.8
Boone	333	74.3	115	25.7
Callaway	460	67.9	218	32.1
Camden	22	50.0	22	50.0
Cole	83	73.5	30	26.5
Cooper	224	75.7	72	24.3
Gasconade	6	66.7	3	33.3
Miller	27	77.1	8	22.9
Moniteau	8	61.5	5	38.5
Montgomery	180	66.9	89	33.1
Osage	12	57.1	9	42.9
<b>Troop G</b>				
Howell	102	77.3	30	22.7
Oregon	87	79.1	23	20.9
Texas	114	82.0	25	18.0

County	Restrained		Not Restrained	
	Frequency	Percent	Frequency	Percent
<b>Troop H</b>				
Andrew	8	36.4	14	63.6
Atchison	64	54.7	53	45.3
Buchanan	195	58.0	141	42.0
Clinton	113	64.9	61	35.1
Daviess	95	71.4	38	28.6
DeKalb	0	0	0	0
Gentry	1	33.3	2	66.7
Harrison	56	62.2	34	37.8
Holt	70	70.0	30	30.0
Nodaway	6	40.0	9	60.0
<b>Troop I</b>				
Crawford	414	82.3	89	17.7
Laclede	482	66.0	248	34.0
Phelps	309	80.1	77	19.9
Pulaski	451	88.6	58	11.4
<b>Total 76 Counties</b>	<b>16,165</b>	<b>73.4</b>	<b>5,864</b>	<b>26.6</b>

Figure 2 shows the commercial vehicle driver's safety belt use by roadway type. Commercial motor vehicle drivers' on "Freeway" roadway type had the highest usage at 74.5 percent and CMV drivers' on "Two-lane" roads was the lowest at 61.8 percent.

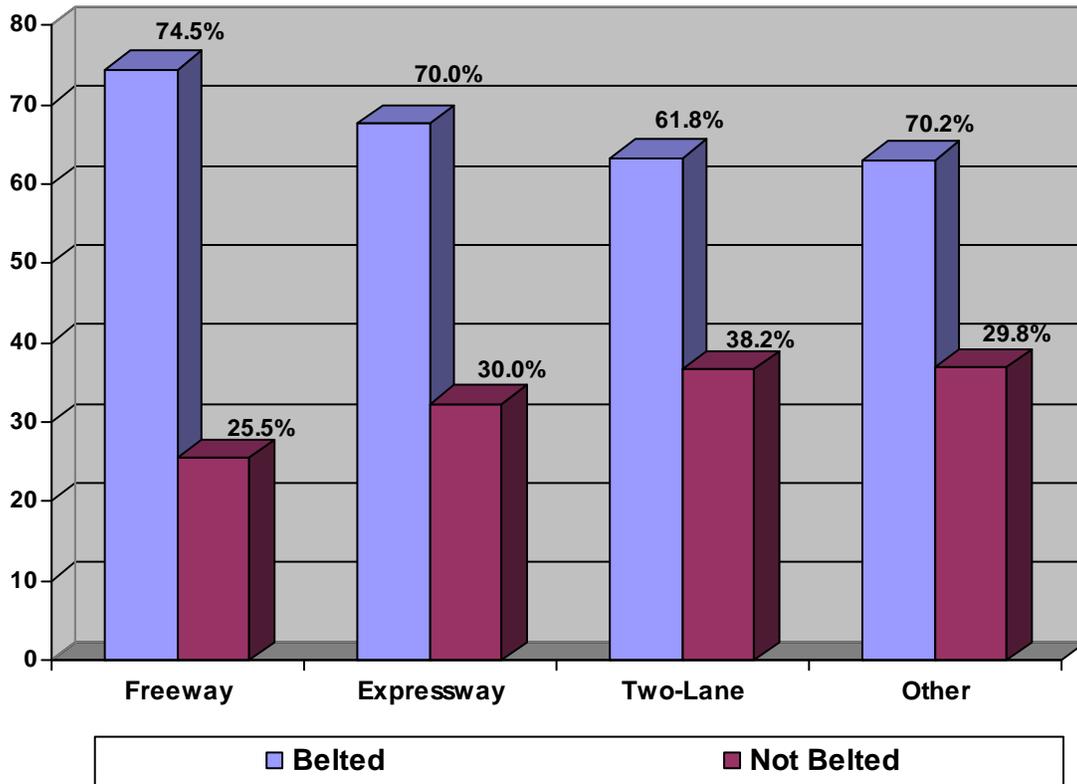


Figure 2 Percent of Commercial Vehicle Driver's Safety Belt Use by Roadway Type

Table 10 shows the frequency of restrained and not restrained commercial motor vehicle drivers' and their corresponding safety belt usage rate by MSHP Troop by county by roadway type. Of the 250 observational sites, 82.9 percent were on freeways, 8.4 percent were on expressways, 4.8 percent were on two-lane roadways and 3.9 percent were on other roadways.

**Table 10**  
**Commercial Vehicle Driver's Safety Belt Use**  
**by MSHP Troop by County by Roadway Type**

County	Freeway				Expressway				Two-Lane				Other			
	Restrained		Not Restrained		Restrained		Not Restrained		Restrained		Not Restrained		Restrained		Not Restrained	
	Freq.	%	Freq.	%												
<b>Troop A</b>																
Bates	0	0	0	0	63	75.9	20	24.1	0	0	0	0	0	0	0	0
Cass	0	0	0	0	110	76.4	34	23.6	0	0	0	0	0	0	0	0
Clay	498	71.2	201	28.8	0	0	0	0	0	0	0	0	0	0	0	0
Henry	0	0	0	0	20	87.0	3	13.0	13	86.7	2	13.3	0	0	0	0
Jackson	676	70.1	288	29.9	20	40.8	29	59.2	0	0	0	0	0	0	0	0
Johnson	0	0	0	0	9	81.8	2	18.2	16	76.2	5	23.8	0	0	0	0
Lafayette	453	81.9	100	18.1	55	65.5	29	34.5	0	0	0	0	25	71.4	10	28.6
Pettis	26	86.7	4	13.3	0	0	3	0	0	0	0	0	0	0	0	0
Platte	320	55.7	255	44.3	0	0	0	0	0	0	0	0	0	0	0	0
Ray	0	0	0	0	0	0	0	0	16	50.0	16	50.0	0	0	0	0
Saline	373	86.5	58	13.5	0	0	0	0	82	75.9	26	24.1	0	0	0	0
<b>Troop B</b>																
Linn	0	0	0	0	24	82.8	5	17.2	8	80.0	2	20.0	0	0	0	0
Ralls	0	0	0	0	30	61.2	19	38.8	32	68.1	15	31.9	0	0	0	0
Randolph	0	0	0	0	19	82.6	4	17.4	29	87.9	4	12.1	0	0	0	0
Schuyler	0	0	0	0	5	55.6	4	44.4	0	0	0	0	0	0	0	0

County	Freeway				Expressway				Two-Lane				Other			
	Restrained		Not Restrained		Restrained		Not Restrained		Restrained		Not Restrained		Restrained		Not Restrained	
	Freq.	%	Freq.	%												
<b>Troop C</b>																
Franklin	1114	77.2	330	22.8	0	0	0	0	20	48.8	21	51.2	0	0	0	0
Jefferson	546	74.9	183	25.1	27	43.6	35	56.4	45	54.9	37	45.1	18	66.9	40	33.1
Lincoln	0	0	0	0	101	67.3	49	32.7	11	57.9	8	42.1	0	0	0	0
Perry	274	96.1	11	3.9	0	0	0	0	11	78.6	3	21.4	0	0	0	0
Pike	0	0	0	0	0	0	0	0	51	73.9	18	26.1	0	0	0	0
St. Charles	404	64.0	227	36.0	0	0	0	0	0	0	0	0	0	0	0	0
St. Francis	0	0	0	0	48	87.3	7	12.7	0	0	0	0	0	0	0	0
St. Louis	3,197	74.9	1071	25.1	106	80.3	26	19.7	0	0	0	0	268	74.7	91	25.3
Ste. Genevieve	292	96.4	11	3.6	0	0	0	0	12	80.0	3	20.0	0	0	0	0
Warren	240	63.2	140	36.8	0	0	0	0	0	0	0	0	0	0	0	0
<b>Troop D</b>																
Barry	0	0	0	0	0	0	0	0	16	51.6	15	48.4	0	0	0	0
Barton	0	0	0	0	12	75.0	4	25.0	0	0	0	0	0	0	0	0
Christian	15	75.0	5	25.0	34	72.3	13	27.7	0	0	0	0	5	38.5	8	61.5
Dallas	0	0	0	0	32	57.1	24	42.9	0	0	0	0	0	0	0	0
Greene	185	76.1	58	23.9	92	56.8	70	43.2	2	8.7	21	91.3	3	37.5	5	62.5
Jasper	103	81.1	24	18.9	33	71.7	13	28.3	0	0	0	0	0	0	0	0
Lawrence	142	88.2	19	11.8	4	50.0	4	50.0	10	71.4	4	28.6	13	76.5	4	23.5
McDonald	0	0	0	0	36	85.7	6	14.3	0	0	0	0	0	0	0	0
Newton	164	89.1	20	10.9	77	97.5	2	2.5	0	0	0	0	0	0	0	0
Polk	0	0	0	0	0	0	0	0	57	60.0	38	40.0	0	0	0	0
St. Clair	0	0	0	0	1	20.0	4	80.0	0	0	0	0	0	0	0	0
Taney	2	33.3	4	66.7	0	0	0	0	0	0	0	0	0	0	0	0
Vernon	16	84.2	3	15.8	0	0	0	0	0	0	0	0	0	0	0	0
Webster	310	90.9	31	9.1	24	72.7	9	27.3	16	57.1	12	42.9	0	0	0	0

County	Freeway				Expressway				Two-Lane				Other			
	Restrained		Not Restrained		Restrained		Not Restrained		Restrained		Not Restrained		Restrained		Not Restrained	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
<b>Troop E</b>																
Bollinger	0	0	0	0	0	0	0	0	8	57.1	6	42.9	0	0	0	0
Butler	0	0	0	0	22	53.7	19	46.3	0	0	0	0	0	0	0	0
Cape Girardeau	162	73.0	60	27.0	0	0	0	0	19	46.3	22	53.7	0	0	0	0
Dunklin	0	0	0	0	0	0	0	0	1	14.3	6	85.7	0	0	0	0
Mississippi	140	71.8	55	28.2	0	0	0	0	0	0	0	0	0	0	0	0
New Madrid	240	69.0	108	32.0	0	0	0	0	0	0	0	0	0	0	0	0
Pemiscot	288	73.1	106	26.9	0	0	0	0	0	0	0	0	0	0	0	0
Scott	142	65.7	74	34.3	0	0	0	0	2	33.3	4	66.7	12	48.0	13	52.0
Stoddard	0	0	0	0	10	58.8	7	41.2	5	41.7	7	58.3	0	0	0	0
<b>Troop F</b>																
Audrain	0	0	0	0	12	63.2	7	36.8	6	85.7	1	14.3	0	0	0	0
Boone	316	75.2	104	24.8	6	60.0	4	40.0	4	57.1	3	42.9	7	63.6	4	36.6
Callaway	434	67.9	205	32.1	26	66.7	13	33.33	0	0	0	0	0	0	0	0
Camden	0	0	0	0	22	50.0	22	50.0	0	0	0	0	0	0	0	0
Cole	82	73.9	29	26.1	0	0	0	0	1	50.0	1	50.0	0	0	0	0
Cooper	224	75.7	72	24.3	0	0	0	0	0	0	0	0	0	0	0	0
Gasconade	0	0	0	0	0	0	0	0	6	66.7	3	33.3	0	0	0	0
Miller	0	0	0	0	27	77.1	8	22.9	0	0	0	0	0	0	0	0
Moniteau	0	0	0	0	0	0	0	0	8	61.5	5	38.5	0	0	0	0
Montgomery	180	66.9	89	33.1	0	0	0	0	0	0	0	0	0	0	0	0
Osage	0	0	0	0	0	0	0	0	0	0	0	0	12	57.1	9	42.9

County	Freeway				Expressway				Two-Lane				Other			
	Restrained		Not Restrained		Restrained		Not Restrained		Restrained		Not Restrained		Restrained		Not Restrained	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
<b>Troop G</b>																
Howell	0	0	0	0	51	81.0	12	19.0	28	65.1	15	34.9	23	88.5	3	11.5
Oregon	0	0	0	0	0	0	0	0	31	70.5	13	29.5	56	84.9	10	15.2
Texas	0	0	0	0	91	85.1	16	14.9	0	0	0	0	23	71.9	9	28.1
<b>Troop H</b>																
Andrew	0	0	0	0	8	36.4	14	63.6	0	0	0	0	0	0	0	0
Atchison	64	54.7	53	45.3	0	0	0	0	0	0	0	0	0	0	0	0
Buchanan	169	59.9	113	40.1	17	51.5	16	48.5	0	0	0	0	9	42.9	12	57.1
Clinton	113	64.9	61	35.1	0	0	0	0	0	0	0	0	0	0	0	0
Daviess	95	71.4	38	28.6	0	0	0	0	0	0	0	0	0	0	0	0
DeKalb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gentry	0	0	0	0	0	0	0	0	1	33.3	2	66.7	0	0	0	0
Harrison	56	62.2	34	37.8	0	0	0	0	0	0	0	0	0	0	0	0
Holt	70	70.0	30	30.0	0	0	0	0	0	0	0	0	0	0	0	0
Nodaway	0	0	0	0	0	0	0	0	6	40.0	9	60.0	0	0	0	0
<b>Troop I</b>																
Crawford	389	85.7	65	14.3	0	0	0	0	25	51.0	24	49.0	0	0	0	0
Laclede	371	67.2	181	32.8	0	0	0	0	44	60.3	29	39.7	67	63.8	38	36.2
Phelps	305	79.8	77	20.2	0	0	0	0	4	100.0	0	0.0	0.0	0	0	0
Pulaski	451	88.6	58	11.4	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total 76 Counties</b>	<b>13615</b>	<b>74.5</b>	<b>4651</b>	<b>25.5</b>	<b>1300</b>	<b>70.0</b>	<b>557</b>	<b>30.0</b>	<b>646</b>	<b>61.8</b>	<b>400</b>	<b>38.2</b>	<b>604</b>	<b>70.2</b>	<b>256</b>	<b>29.8</b>

Table 11 and 12 depicts the commercial vehicle driver's safety belt use by type of vehicle. Type 7 vehicles generally had six or more tires and a straight frame and Type 8 vehicles had 10 or more tires and were combination vehicles. The commercial vehicle driver's safety belt use was lower for the Type 7 vehicles (65.1%) than for Type 8 vehicles (75.4%). Among the Type 7 vehicles, bus driver's had the highest safety belt use and dump truck driver's the lowest with 78.2 and 53.3 percent respectively. The Type 8 single trailer drivers' safety belt use was 80.8 percent while the Type 8 dump truck drivers' had only a 58.2 percent safety belt usage rate.

**Table 11**  
**CMV Driver's Safety Belt Use**  
**By Vehicle – Type 7**

Vehicle Type 7 Straight Frame	Restrained		Not Restrained	
	Frequency	Percent	Frequency	Percent
Van	989	68.5	455	31.5
Tanker	176	76.5	54	23.5
Dump	305	53.3	267	46.7
Flat Bed	415	57.5	307	42.5
Bus	401	78.2	112	21.8
Other	493	62.7	293	37.3
<b>Total</b>	<b>2779</b>	<b>65.1</b>	<b>1488</b>	<b>34.9</b>

**Table 12**  
**CMV Driver's Safety Belt Use**  
**By Vehicle – Type 8**

Vehicle Type 8 Combination Vehicle	Restrained		Not Restrained	
	Frequency	Percent	Frequency	Percent
Box Trailer	8807	75.9	2800	24.1
Single Tanker	942	80.8	224	19.2
Double Trailer	985	80.1	245	19.9
Flat Trailer	1435	74.0	505	26.0
Car Hauler	331	75.7	106	24.3
Bobtail	342	74.0	120	26.0
Dump	373	58.2	268	41.8
Other	171	61.3	108	38.7
<b>Total</b>	<b>13386</b>	<b>75.4</b>	<b>4,376</b>	<b>24.6</b>

There were 874 vehicles with hazardous material placards. Of those commercial vehicle drivers', 86.3(754) percent were wearing safety belts. These results are displayed in Figure 3.

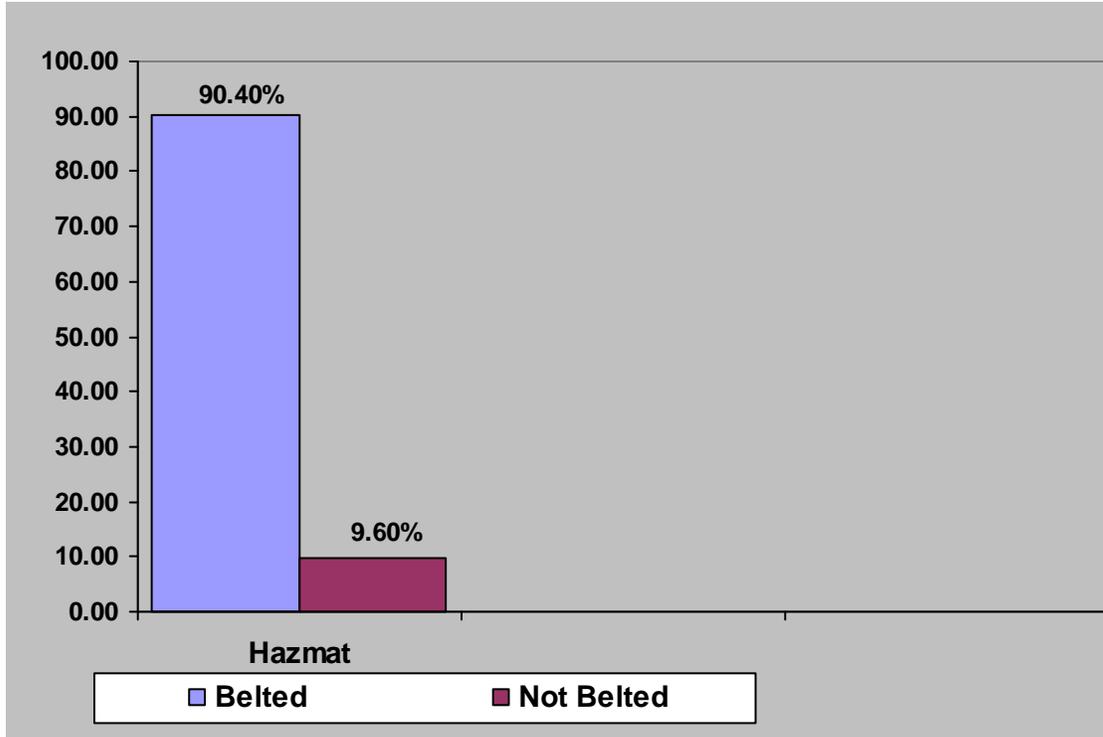
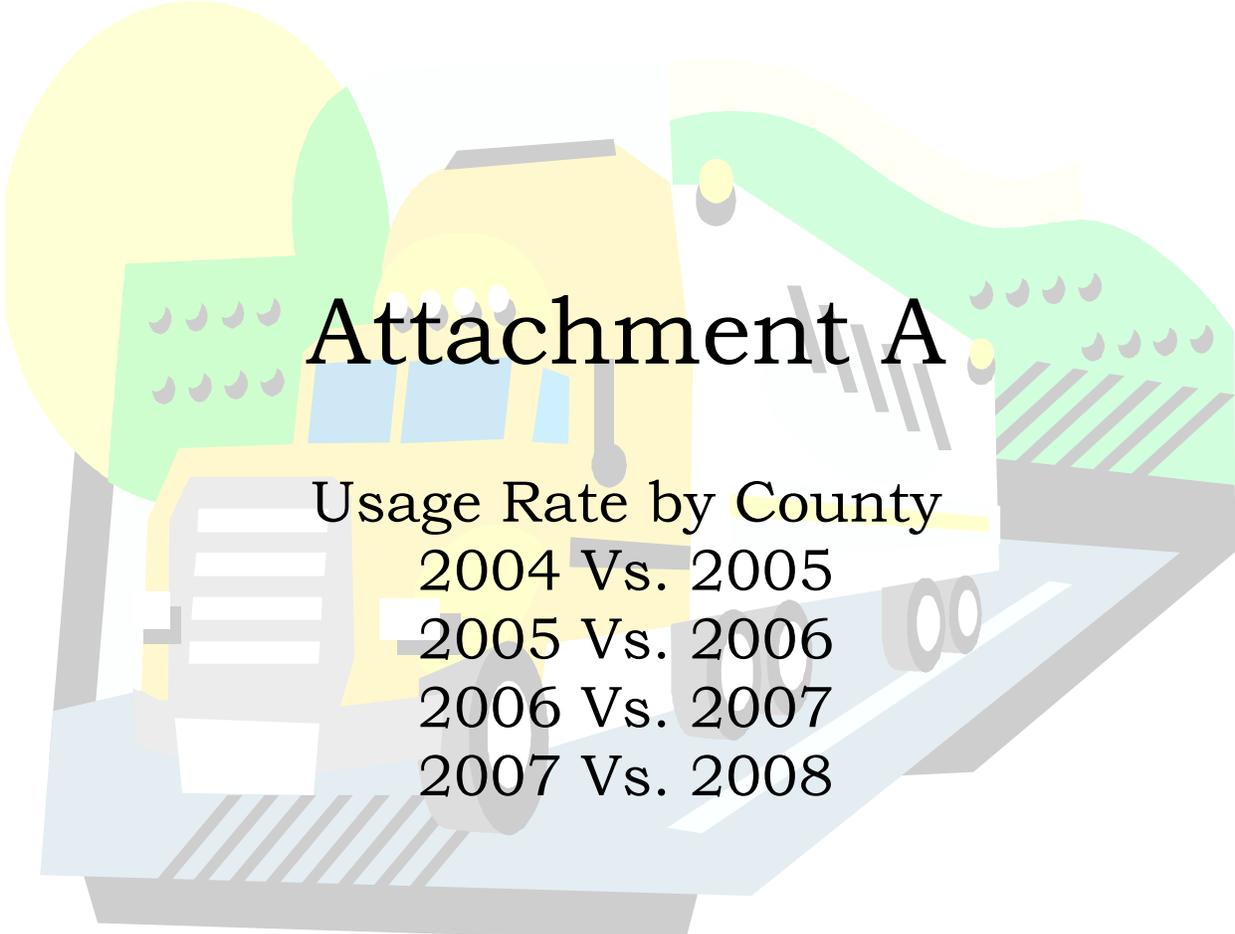


Figure 3 Safety Belt Use Rate for Commercial Drivers' of Vehicles with Hazardous Material Placards



# Attachment A

## Usage Rate by County

2004 Vs. 2005

2005 Vs. 2006

2006 Vs. 2007

2007 Vs. 2008

## Attachment A

Please note the percentage change between 2005, 2006, 2007 and 2008 may be somewhat misleading in counties where the sampling was small. Data collections from larger frequency bases are more reflective of indicated change.

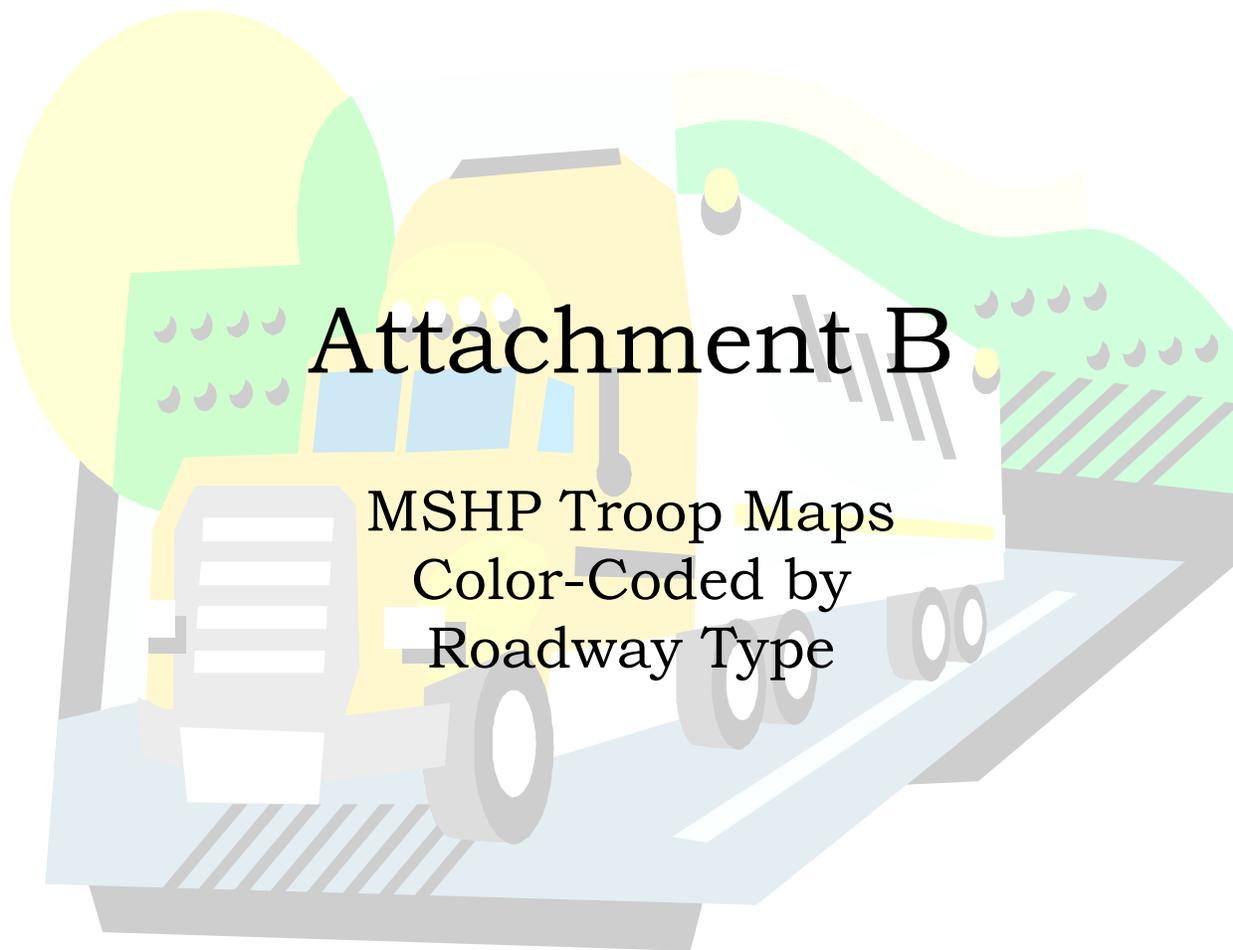
### Commercial Vehicle Driver's Safety Belt Usage Rate By MSHP Troop by County by Year of Survey

County	Restrained 2004		Restrained 2005		Percent Change	Restrained 2006		Percent Change	Restrained 2007		Percent Change	Restrained 2008		Percent Change
	Freq.	%	Freq.	%		Freq.	%		Freq.	%		Freq.	%	
<b>Troop A</b>														
Bates	31	46.27	42	55.26	+ 8.99	46	61.33	+6.07	72	69.2	+7.9	63	75.9	+6.7
Cass	81	72.32	82	56.55	- 15.77	119	76.77	+20.22	115	73.7	-3.1	110	76.4	+2.7
Clay	494	50.82	472	61.22	+ 10.40	415	58.70	-2.52	505	66.7	+8.0	498	71.2	+4.5
Henry	35	62.50	22	84.62	+ 22.12	23	76.67	-7.95	26	70.3	-6.4	33	86.8	+16.5
Jackson	355	52.67	337	52.66	- 0.01	446	65.01	+12.35	523	61.1	-3.9	696	68.7	+7.6
Johnson	28	63.64	6	66.67	+ 3.03	9	60.00	-6.67	20	80.0	+20.0	25	78.1	-1.9
Lafayette	268	73.63	185	78.72	+ 5.09	292	81.56	+2.84	350	69.2	-12.4	533	79.3	+10.1
Pettis	28	59.57	9	90.00	+ 30.43	18	85.71	-4.29	14	60.9	-24.8	26	86.7	+25.8
Platte	159	42.97	177	42.65	- 0.32	246	52.12	+9.47	514	50.5	-1.6	320	55.7	+5.2
Ray	11	61.11	9	47.37	- 13.74	15	51.72	+4.35	7	43.8	-7.9	16	50.0	+6.2
Saline	217	66.56	242	87.36	+ 20.80	347	84.84	-2.52	318	75.5	-9.1	455	84.4	+8.9
<b>Total</b>	<b>1,707</b>	<b>55.97</b>	<b>1,583</b>	<b>60.35</b>	<b>+ 4.38</b>	<b>1,976</b>	<b>66.82</b>	<b>+6.47</b>	<b>2,464</b>	<b>62.9</b>	<b>-3.9</b>	<b>2775</b>	<b>72.0</b>	<b>+9.1</b>
<b>Troop B</b>														
Linn	40	52.63	23	52.27	- 0.36	29	82.86	+30.59	28	82.4	-0.5	32	82.1	-0.3
Ralls	44	68.75	62	64.58	- 4.17	38	67.86	+3.28	61	76.3	+8.4	62	64.6	-11.7
Randolph	44	58.67	44	60.27	+ 1.60	36	63.16	+2.89	56	78.9	+15.7	48	85.7	+6.8
Schuyler	4	66.67	3	50.00	- 16.67	2	40.00	-10.00	1	50.0	+10.0	5	55.6	+5.6
<b>Total</b>	<b>132</b>	<b>59.73</b>	<b>132</b>	<b>60.27</b>	<b>+ 0.54</b>	<b>105</b>	<b>68.65</b>	<b>+8.38</b>	<b>146</b>	<b>78.1</b>	<b>+9.5</b>	<b>147</b>	<b>73.5</b>	<b>-4.6</b>

County	Restrained 2004		Restrained 2005		Percent Change	Restrained 2006		Percent Change	Restrained 2007		Percent Change	Restrained 2007		Percent Change
	Freq.	%	Freq.	%		Freq.	%		Freq.	%		Freq.	%	
<b>Troop C</b>														
Franklin	183	71.48	254	66.15	- 5.33	311	55.83	-10.32	938	66.5	+10.7	1134	76.4	+9.9
Jefferson	176	50.29	148	69.81	+ 19.52	257	64.09	-5.72	482	77.9	+13.8	699	70.3	-7.6
Lincoln	65	54.62	70	57.85	+ 3.23	80	55.56	-2.29	236	71.1	+15.5	112	66.3	-4.8
Perry	148	44.18	197	75.48	+ 31.30	236	79.19	+3.71	255	83.1	+3.9	285	95.3	+12.2
Pike	81	45.76	91	47.64	+ 1.88	112	57.14	+9.50	288	72.2	+15.1	51	73.9	+1.7
St. Charles	222	60.67	232	52.13	- 8.54	390	65.55	+13.42	550	63.9	-1.7	404	64.0	+0.1
St. Francis	15	32.61	19	51.35	+ 18.74	29	64.44	+13.09	50	84.8	+20.4	48	87.3	+2.5
St. Louis	984	47.33	1,194	69.74	+ 22.41	1478	63.03	-6.71	2,616	65.5	+2.5	3571	75.0	+9.5
Ste. Genevieve	190	58.28	212	77.66	+ 19.38	224	73.20	-4.46	232	87.2	+14.0	304	95.6	+8.4
Warren	151	75.88	182	80.53	+ 4.65	183	64.66	-15.87	419	73.6	+8.9	240	63.2	-10.4
<b>Total</b>	<b>2,215</b>	<b>52.08</b>	<b>2,599</b>	<b>67.30</b>	<b>+ 15.22</b>	<b>3,300</b>	<b>63.83</b>	<b>-3.47</b>	<b>6,066</b>	<b>68.8</b>	<b>+5.0</b>	<b>6848</b>	<b>74.7</b>	<b>+5.9</b>
<b>Troop D</b>														
Barry	13	52.00	19	63.33	+ 11.33	17	48.57	-14.76	13	68.4	+19.8	16	51.6	-16.8
Barton	20	86.96	32	91.43	+ 4.47	28	93.33	+1.90	20	74.1	-19.2	12	75.0	+0.9
Christian	42	56.00	34	41.98	- 14.02	31	38.75	-3.23	81	75.7	+37.0	54	67.5	-8.2
Dallas	20	66.67	38	63.33	- 3.34	102	85.00	+21.67	24	46.2	-38.8	32	57.1	+10.9
Greene	287	65.53	258	56.55	- 8.98	255	52.15	-4.40	335	72.4	+20.3	282	64.7	-7.7
Jasper	180	88.67	246	91.45	+ 2.78	268	91.78	+0.33	143	80.3	-11.5	136	78.6	-1.7
Lawrence	178	82.79	182	86.26	+ 3.47	189	87.10	+0.84	184	87.6	+0.5	169	84.5	-3.1
McDonald	15	78.95	25	83.33	+ 4.38	36	97.30	+13.97	29	96.7	-0.6	36	85.7	-11.0
Newton	243	84.97	203	83.83	- 1.14	213	87.30	+3.47	229	89.8	+2.5	241	91.6	+1.8
Polk	54	52.43	71	73.20	+ 20.77	72	64.86	-8.34	76	71.1	+6.8	57	60.0	-11.1
St. Clair	3	37.50	2	33.33	- 4.17	3	37.50	+4.17	7	35.0	-2.5	1	20.0	-15.0
Taney	2	50.00	7	77.78	+ 27.78	1	14.29	-63.49	2	66.7	+52.4	2	33.3	-33.4
Vernon	23	92.00	27	100.0	+ 8.00	22	84.62	-15.38	17	73.9	-10.7	16	84.2	+10.3
Webster	186	60.98	165	67.90	+ 6.92	200	71.43	+3.53	203	71.7	+0.3	350	87.1	+15.4
<b>Total</b>	<b>1,266</b>	<b>71.97</b>	<b>1,309</b>	<b>72.88</b>	<b>+ 0.91</b>	<b>1437</b>	<b>72.72</b>	<b>-0.16</b>	<b>1,364</b>	<b>76.8</b>	<b>+4.1</b>	<b>1404</b>	<b>77.0</b>	<b>+0.2</b>

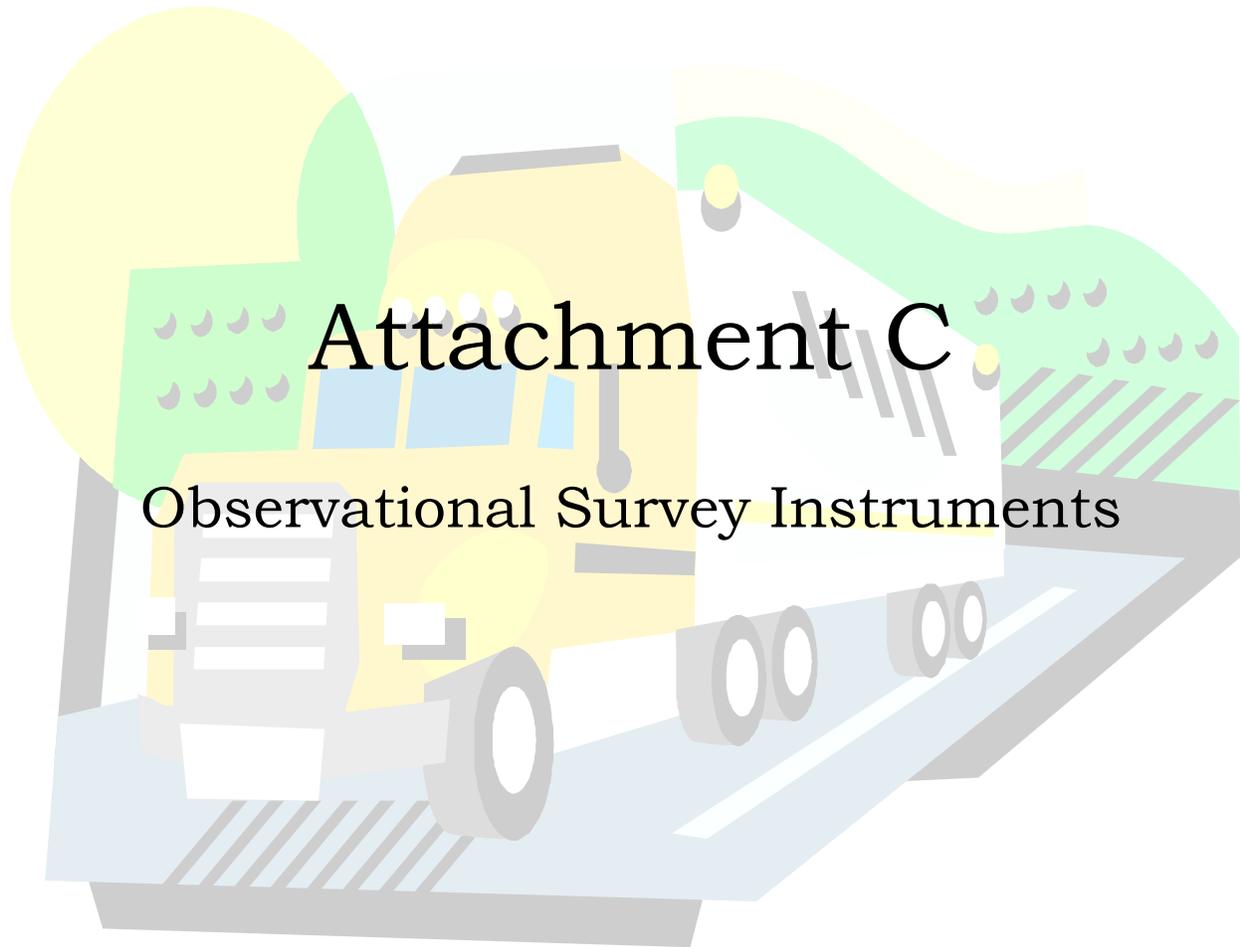
County	Restrained 2004		Restrained 2005		Percent Change	Restrained 2006		Percent Change	Restrained 2007		Percent Change	Restrained 2007		Percent Change
	Freq.	%	Freq.	%		Freq.	%		Freq.	%		Freq.	%	
<b>Troop E</b>														
Bollinger	7	31.82	4	33.33	+ 1.51	9	52.94	+19.61	9	50.0	-2.9	8	57.1	+71
Butler	18	36.00	13	28.26	- 7.74	13	36.11	+7.85	20	45.5	+9.4	22	53.7	+8.2
Cape Girardeau	124	49.80	106	47.32	- 2.48	119	60.10	+12.78	143	56.5	-3.6	181	68.8	+12.3
Dunklin	7	36.84	4	28.57	- 8.27	2	28.57	0.0	3	27.3	-1.3	1	14.3	-13.0
Mississippi	105	54.69	111	56.92	+ 2.23	122	64.21	+7.29	116	63.0	-1.2	140	71.8	+8.8
New Madrid	183	49.86	205	56.63	+ 6.77	217	60.28	+3.65	222	62.0	+1.7	240	69.0	+7.0
Pemiscot	193	55.62	199	57.85	+ 2.23	209	57.26	-0.59	233	63.0	+5.7	288	73.1	+10.1
Scott	121	44.49	119	44.74	+ 0.25	148	55.85	+11.11	165	57.7	+1.9	156	63.2	+5.5
Stoddard	15	27.78	14	31.82	+ 4.04	15	41.67	+9.85	23	51.1	+9.4	15	51.7	+0.6
<b>Total</b>	<b>773</b>	<b>49.17</b>	<b>775</b>	<b>51.43</b>	<b>+ 2.26</b>	<b>854</b>	<b>57.94</b>	<b>+6.51</b>	<b>934</b>	<b>59.5</b>	<b>+1.6</b>	<b>1051</b>	<b>68.3</b>	<b>+8.8</b>
<b>Troop F</b>														
Audrain	18	37.50	24	52.17	+ 14.67	18	41.86	-10.31	21	46.7	+4.8	18	69.2	+22.5
Boone	519	80.4	445	85.41	+ 5.07	348	85.71	+0.30	451	80.5	-5.2	333	74.3	-6.2
Callaway	397	63.52	215	69.35	+ 5.83	222	71.15	+1.80	385	70.0	-1.2	460	67.9	-2.1
Camden	13	28.89	22	38.60	+ 9.71	39	52.70	+14.10	22	34.4	-18.3	22	50.0	+15.6
Cole	52	41.94	70	59.32	+ 17.38	67	55.83	-3.49	81	60.9	+5.1	83	73.5	+12.6
Cooper	261	92.23	167	86.53	- 5.70	140	94.59	+8.06	155	77.5	-17.1	224	75.7	-1.8
Gasconade	3	60.00	3	50.00	- 10.00	6	60.00	+10.00	2	25.0	-35.0	6	66.7	+41.7
Miller	8	25.00	17	65.38	+ 40.38	13	34.21	-31.17	8	47.1	+12.9	27	77.1	+30.0
Moniteau	5	62.50	6	54.55	- 7.95	8	80.00	+25.45	3	23.1	-56.9	8	61.5	+38.4
Montgomery	174	90.16	87	74.36	- 15.80	86	91.49	+17.13	141	83.9	-7.6	180	66.9	-17.0
Osage	9	64.29	5	27.78	- 36.51	14	66.67	+38.89	7	58.3	-8.4	12	57.1	-1.2
<b>Total</b>	<b>1,459</b>	<b>72.12</b>	<b>1,061</b>	<b>74.56</b>	<b>+ 2.44</b>	<b>961</b>	<b>75.31</b>	<b>+0.75</b>	<b>1,276</b>	<b>72.1</b>	<b>-3.2</b>	<b>1373</b>	<b>70.3</b>	<b>-1.8</b>

County	Restrained 2004		Restrained 2005		Percent Change	Restrained 2006		Percent Change	Restrained 2007		Percent Change	Restrained 2008		Percent Change
	Freq.	%	Freq.	%		Freq.	%		Freq.	%		Freq.	%	
<b>Troop G</b>														
Howell	31	53.45	40	75.47	+ 22.02	60	57.14	-18.33	129	69.7	+12.6	102	77.3	+7.6
Oregon	19	76.00	33	71.74	- 4.26	29	55.77	-15.97	11	55.0	-0.8	87	79.1	+24.1
Texas	28	60.87	50	75.76	+ 14.89	72	70.59	-5.17	117	74.5	+3.9	114	82.0	+7.5
<b>Total</b>	<b>78</b>	<b>60.47</b>	<b>123</b>	<b>74.55</b>	<b>+ 14.08</b>	<b>161</b>	<b>62.16</b>	<b>-12.39</b>	<b>257</b>	<b>71.0</b>	<b>+8.8</b>	<b>303</b>	<b>79.5</b>	<b>+8.5</b>
<b>Troop H</b>														
Andrew	4	17.39	13	50.00	+ 32.61	15	51.72	+1.72	15	51.7	-0.02	8	36.4	-15.3
Atchison	85	51.83	72	60.50	+ 8.67	121	72.89	+12.39	90	62.9	-10.0	64	54.7	-8.2
Buchanan	234	66.29	235	58.46	- 7.83	235	60.41	+1.95	284	65.4	+5.0	195	58.0	-7.4
Clinton	153	71.83	128	59.26	- 12.57	138	56.79	-2.47	106	71.1	+14.3	113	64.9	-6.2
Daviess	45	51.14	60	50.42	- 0.72	113	76.35	+25.63	106	62.4	-14.0	95	71.4	+9.0
DeKalb	0	0	4	66.67	+ 66.67	3	75.00	+8.33	1	20.0	-55.0	0	0.0	+55.0
Gentry	1	50.00	1	50.00	0	1	50.00	0.0	1	16.7	-33.3	1	33.3	+16.6
Harrison	45	67.16	39	45.85	- 21.31	87	71.31	+25.46	79	56.8	-14.5	56	62.2	+5.4
Holt	85	48.85	53	61.63	+ 12.78	84	62.69	+1.06	60	53.6	-9.1	70	70.0	+16.4
Nodaway	4	26.67	8	47.06	+ 20.39	7	35.00	-12.06	3	27.3	-7.7	6	40.0	+12.7
<b>Total</b>	<b>656</b>	<b>59.42</b>	<b>613</b>	<b>56.86</b>	<b>- 2.56</b>	<b>804</b>	<b>63.96</b>	<b>+7.10</b>	<b>745</b>	<b>62.2</b>	<b>-1.8</b>	<b>608</b>	<b>61.4</b>	<b>-0.8</b>
<b>Troop I</b>														
Crawford	180	62.50	229	72.70	+ 10.20	250	72.67	-0.03	247	63.3	-9.4	414	82.3	+19.0
Laclede	260	60.05	357	77.61	+ 17.56	244	47.56	-30.05	552	72.8	+25.2	482	66.0	-6.8
Phelps	189	55.43	239	76.11	+ 20.68	197	64.17	-11.94	222	55.1	-9.1	309	80.1	+25.0
Pulaski	165	60.89	210	74.73	+ 13.84	197	67.93	-6.8	329	68.5	-0.6	451	88.6	+20.1
<b>Total</b>	<b>794</b>	<b>59.56</b>	<b>1,035</b>	<b>75.55</b>	<b>+ 15.99</b>	<b>888</b>	<b>61.07</b>	<b>-14.48</b>	<b>1,350</b>	<b>66.5</b>	<b>+5.4</b>	<b>1656</b>	<b>77.8</b>	<b>+11.3</b>
<b>Total 76 Counties</b>	<b>9,080</b>	<b>58.79</b>	<b>9,230</b>	<b>65.73</b>	<b>+ 6.94</b>	<b>10,486</b>	<b>65.64</b>	<b>-0.09</b>	<b>14,602</b>	<b>67.5</b>	<b>+1.9</b>	<b>16165</b>	<b>73.4</b>	<b>+5.9</b>



# Attachment B

MSHP Troop Maps  
Color-Coded by  
Roadway Type



# Attachment C

## Observational Survey Instruments



# Attachment D

Surveyor Training Materials