

August | 10

# Transportation Safety Report

Transportation Planning Series



Lincoln Trail Area Development District

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**Lincoln Trail Area Development District  
Regional Transportation & Highway Safety Committee**

**Transportation Safety Report**



**Transportation Planning Series**

August 2010

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## Executive Summary

One of the goals of the Committee is to *Improve the overall safety of the Lincoln Trail ADD regional transportation system through the redevelopment of dangerous corridors*. In working toward this goal, the following study was conducted to evaluate the safety condition of the Lincoln Trail ADD transportation network and to identify dangerous corridors based on collision, fatality, and injury data.

### ***LTADD vs. Kentucky***

When compared with the Commonwealth of Kentucky, from 2005-2009 the LTADD accounted for roughly 6% of the total statewide population, number of licensed drivers, daily vehicle miles traveled, number of alcohol-related collisions, and number of alcohol-related injuries. Encouragingly, the ADD accounted for roughly 5% of the total statewide number of collisions and injuries. However, it also contributed to roughly 7.5% of the total statewide number of fatalities and alcohol-related fatalities.

As shown in the table below, the LTADD 2005-2009 fatality rate is 18% higher than the statewide rate and the alcohol-related fatality rate is 17% higher than that of the state. Although the other rates are encouraging, the fatality rates may indicate a higher level in the severity of collisions.

**Table 1. 2005-2009 Kentucky and LTADD Collision-Related Rates per 100 MVMT**

<b>Jurisdiction</b>	<b>Collision Rate</b>	<b>Fatality Rate</b>	<b>Injury Rate</b>	<b>Alcohol Collision Rate</b>	<b>Alcohol Fatality Rate</b>	<b>Alcohol Injury Rate</b>
Breckinridge	167.70	3.46	88.03	8.71	0.95	6.68
Grayson	203.74	1.99	83.05	9.30	0.38	8.08
Hardin	216.64	1.49	59.90	7.99	0.09	3.44
Larue	139.77	2.31	56.62	8.49	0.42	5.35
Marion	280.78	3.16	83.23	21.51	1.58	10.21
Meade	214.27	3.95	94.74	13.64	1.03	8.50
Nelson	265.89	2.25	80.20	15.32	0.74	8.05
Washington	184.65	4.16	60.40	10.90	1.00	9.47
<b>LTADD</b>	<b>216.66</b>	<b>2.24</b>	<b>70.93</b>	<b>10.65</b>	<b>0.49</b>	<b>6.01</b>
<b>Kentucky</b>	<b>265.59</b>	<b>1.85</b>	<b>83.44</b>	<b>10.99</b>	<b>0.41</b>	<b>6.16</b>

Sources: Kentucky Transportation Cabinet; Kentucky Transportation Center

### ***Dangerous Corridors***

Based on the 2009 Adequacy Ratings developed by the Kentucky Transportation Cabinet, the section of roadway with the highest critical rate factor (CRF) is on KY 259 in Grayson County. The second highest is on US 62, also in Grayson County. The sections with the two highest number of persons killed are on I-65 in Hardin County. The sections with the two highest number of persons injured are on US 31W, also in Hardin County.

**Table 2. LTADD 2009 Top 5 Highest Critical Rate Factors**

County	Roadway	BMP	EMP	Length	CRF
Grayson	KY 259	11.761	12.12	0.359	3.15
Grayson	US 62	20.787	22.86	2.073	2.38
Hardin	US 31W	19.478	19.86	0.382	2.34
Nelson	US 31E	14.205	14.612	0.407	2.09
Grayson	US 62	0	18.952	18.952	1.89

Source: Kentucky Transportation Cabinet

**Table 3. LTADD 2009 Top 5 Highest Number of Persons Killed**

County	Roadway	BMP	EMP	Length	Persons Killed
Hardin	I 65	78.661	91.086	12.425	8
Hardin	I 65	94.154	103.308	9.154	7
Washington	KY 55	0	4.551	4.551	5
Hardin	US 62	21.43	28.194	6.764	4
Hardin	WK Pkwy	119.649	135.694	16.045	4

Source: Kentucky Transportation Cabinet

**Table 4. LTADD 2009 Top 5 Highest Number of Persons Injured**

County	Roadway	BMP	EMP	Length	Persons Injured
Hardin	US 31W	20.772	24.408	3.636	138
Hardin	US 31W	26.036	28.438	2.402	131
Hardin	I 65	78.661	91.086	12.425	107
Grayson	US 62	0	18.952	18.952	77
Nelson	BG Pkwy	8.837	39.267	30.430	72

Source: Kentucky Transportation Cabinet

According to the 2008 Adequacy Ratings, the section of roadway with the highest CRF is on US 68 in Marion County. The second highest is on US 62 in Hardin County. The sections with the highest number of persons killed are on US 31W and I 65 in Hardin County. The sections with the highest number of persons injured are on US 31W, also in Hardin County.

**Table 5. LTADD 2008 Top 5 Highest Critical Rate Factors**

County	Roadway	BMP	EMP	Length	CRF
Marion	US 68	11.189	11.309	0.120	4.412
Hardin	US 62	14.495	15.192	0.697	3.625
Grayson	KY 259	11.860	12.230	0.370	3.453
Breckinridge	US 60	13.537	13.717	0.180	3.334
Nelson	US 31E	14.612	15.127	0.515	3.196

Source: Kentucky Transportation Cabinet

**Table 6. LTADD 2008 Top 5 Highest Number of Persons Killed**

County	Roadway	BMP	EMP	Length	Persons Killed
Hardin	US 31W	0.000	13.510	13.510	7
Hardin	I 65	78.661	91.033	12.372	6
Hardin	I 65	94.109	103.308	9.199	6
Larue	I 65	74.622	78.661	4.039	5
Grayson	KY 54	0.000	17.310	17.310	4

Source: Kentucky Transportation Cabinet

**Table 7. LTADD 2008 Top 5 Highest Number of Persons Injured**

County	Roadway	BMP	EMP	Length	Persons Injured
Hardin	US 31W	20.772	24.408	3.636	175
Hardin	US 31W	26.036	28.438	2.402	162
Hardin	I 65	78.661	91.033	12.372	114
Nelson	US 31E	20.536	27.310	6.774	89
Hardin	US 31W	24.408	26.036	1.628	88

Source: Kentucky Transportation Cabinet

From 2005-2009, the roadway with the highest number of collisions is US 31W in Hardin County. The roadway with the second highest number is I 65, also in Hardin County. Outside of the Metropolitan Planning Organization area, the roadway with highest number is on US 31E in Nelson County and the roadway with the second highest is KY 245, also in Nelson County.

**Table 8. LTADD 2005-2009 Roadways with 500+ Collisions**

County	Roadway	No. of Collisions
Hardin	US 31W	4,213
Hardin	I 65	1,243
Nelson	US 31E	1,151
Hardin	US 62	1,114
Nelson	KY 245	897
Nelson	US 62	812
Grayson	US 62	780
Marion	US 68	674
Hardin	KY 3005	656
Grayson	KY 259	538

Source: Kentucky State Police

### ***Contributing Factors***

As shown on Figures 10-11 in the report, 46% of collisions, in which a human factor was evaluated, were caused by cell phone use or another distraction. Another 15% were caused by the driver failing to maintain control. Also 46% of collisions, in which an environmental factor was evaluated, were caused by a slippery surface or water pooling. About 19% were caused by animal activity.

Although it would be significantly time-consuming, it would be beneficial to analyze the contributing factors along each roadway identified above.

# INTRODUCTION

## ***Research Purpose***

The purpose of this report is to identify the dangerous highway corridors within the Lincoln Trail ADD region. It is meant to be used by Transportation & Highway Safety Committee and General Assembly members to evaluate current and potential transportation improvement projects.

## ***Methodology***

The tasks involved in completing this report focused mainly on collecting and organizing currently available data. The first task was to identify needed information. The Hampton Roads Rural Safety Study completed by the Hampton Roads Planning District Commission in February 2006 was used as a basis to identify necessary information.<sup>1</sup>

The second task was to identify sources of information and to obtain these data. State, ADD, and county aggregated data were obtained from the Kentucky Traffic Collision Facts annual report developed by the Kentucky Transportation Center in cooperation with the Kentucky State Police.<sup>2</sup> Information in these annual reports served as the basis for the ADD safety database.

Collision statistics were obtained from the Kentucky State Police crash information website.<sup>3</sup> The query included collision data for the years 2005 through 2009 for state numbered roadways. Therefore, county and city roadway, parking lot and private property collisions were excluded.

The contributing factors information was also obtained from the Kentucky State Police. However, the data were aggregated for the entire time period from 2005 through July 2010 for each county and included all collisions regardless of location.

The Kentucky Transportation Cabinet provided the 2009 Adequacy Ratings spreadsheet and ArcGIS shapefile that include the critical rate factor, number of persons killed, and number of persons injured for specific segments of state-maintained highways.

The last task was to organize these data into a usable safety database aggregated by county. Available aggregated data were used as the basis of this database. Raw and derived collision data were included in a separate database and then aggregated by county.

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<sup>1</sup> This report can be found at [http://www.hrtpo.org/TPO\\_Reports.asp](http://www.hrtpo.org/TPO_Reports.asp)

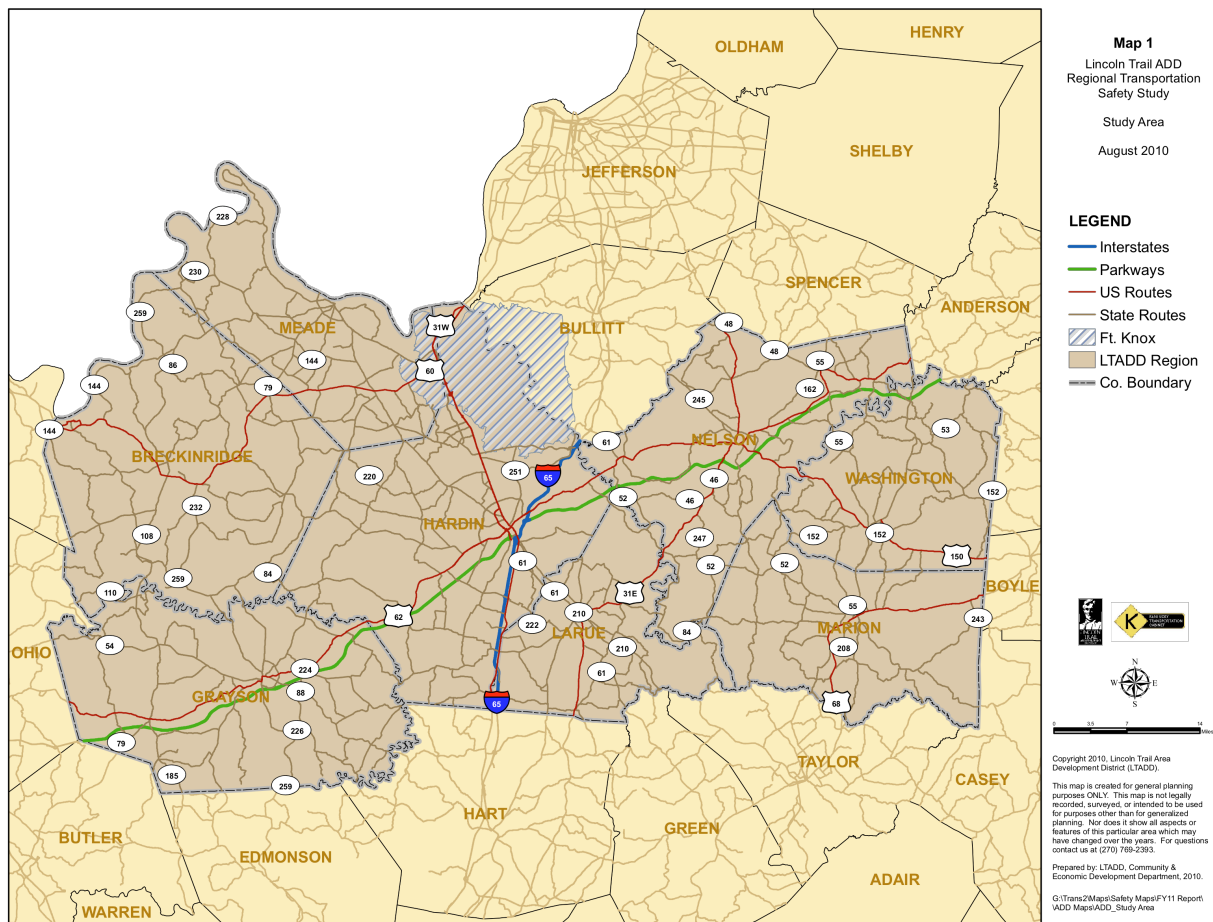
<sup>2</sup> These annual reports can be found at [http://www.ktc.uky.edu/rep\\_TS.html](http://www.ktc.uky.edu/rep_TS.html)

<sup>3</sup> <http://crashinformationky.org/KCAP/KYOPS/SearchWizard.aspx>

## Study Area

The study area includes all counties within the Lincoln Trail ADD (LTADD) region as shown in Map 1. These are Breckinridge, Grayson, Hardin, Larue, Marion, Meade, Nelson, and Washington Counties. Hardin and Meade Counties make up the Radcliff-Elizabethtown Metropolitan Planning Organization (MPO) and were included for the sake of consistency.

**Map 1. Transportation Report Study Area**



## Organization

The first section of this report describes specific trends in population growth, vehicle miles traveled, and collision-related statistics for the State of Kentucky. The second section describes the same trends for the Lincoln Trail ADD and includes highlights for specific counties. The last section contains adequacy ratings information and a list of the dangerous roadways by county based on the number of collisions.

Appendices A and B contain the raw and derived data used in this report.

## GENERAL DATA AND TRENDS

### *Kentucky*

#### Population and Miles Traveled

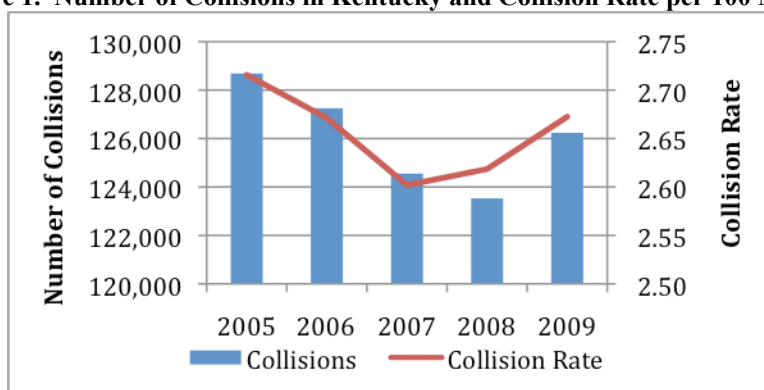
According to the 2000 Census, Kentucky was ranked 25th nationally with regard to population. Based on 2009 population estimates, Kentucky fell one spot to 26th. Overall, the state has grown at an average rate of 0.78% from 2005 to 2009. This number is slightly lower than the United States growth rate of 0.94%.

Statewide, the 2005 to 2009 population has increased by 3.2% to 4,314,113 people. During the same time period, the number of registered drivers has increased by 5.6%, while the daily vehicle miles traveled (DVMT) has slightly decreased by 0.3%.

#### Collision Statistics

This decrease in DVMT is associated with a 1.9% reduction in the number of collisions across the state. As shown in Table 9 on page 13, the 2005 to 2009 combined collision rate is 265.59 per 100 million vehicle miles traveled (100 MVMT). However, as shown in Figure 1, there has been an upward trend in the collision rate per 100 MVMT since 2007. The 2008 collision rate is 0.6% higher than in 2007 and the 2009 collision rate (267.25) is 2.1% higher than in 2008.

**Figure 1. Number of Collisions in Kentucky and Collision Rate per 100 MVMT**

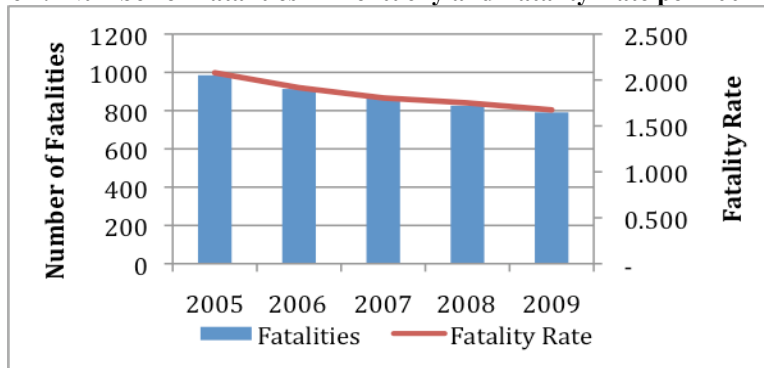


Sources: Kentucky Transportation Cabinet, Kentucky Transportation Center

Both the number of fatalities and the fatality rates per 100 MVMT have decreased since 2005. There has been a 19.7% reduction in the number of fatalities since 2005 and a 19.4% reduction in the fatality rate. Similarly, both the number of injuries and the injury rates per 100 MVMT have decreased during the same time period. There has also been a 13.6% reduction in the number of injuries and a 13.3% reduction in the injury rate.

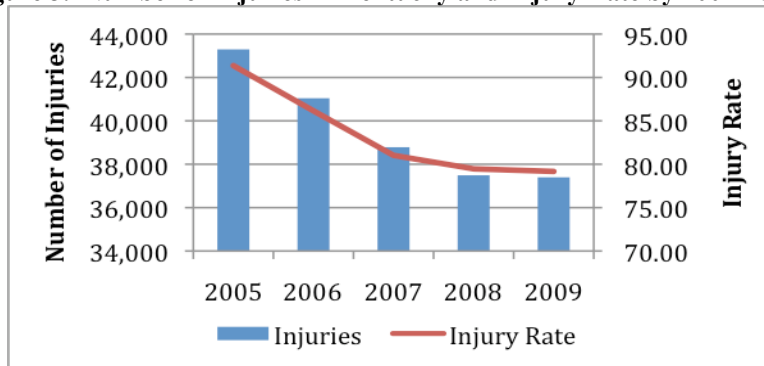


**Figure 2. Number of Fatalities in Kentucky and Fatality Rate per 100 MVMT**



Sources: Kentucky Transportation Cabinet, Kentucky Transportation Center

**Figure 3. Number of Injuries in Kentucky and Injury Rate by 100 MVMT**



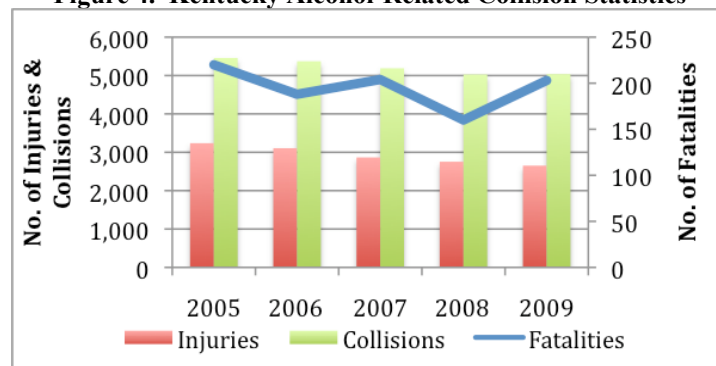
Sources: Kentucky Transportation Cabinet, Kentucky Transportation Center

### Alcohol-Related Collision Statistics

Overall there has been a steady decline in the number of alcohol-related collisions and injuries from 2005 to 2009 with a 7.7% reduction in the number of collisions and an 18.1% reduction in the number of injuries. This decrease is consistent with a 7.4% reduction in the collision rate and a 17.8% reduction in the injury rate.

However, the number and rate of alcohol-related fatalities has fluctuated annually. The largest decrease in the number of fatalities and fatality rate was from 2007 to 2008 with a reduction of 27.5% and 20.4%, respectively. The largest increase was from 2008 to 2009 with an additional 21.2% in the number of fatalities and 26.7% in the fatality rate.

**Figure 4. Kentucky Alcohol-Related Collision Statistics**



Sources: Kentucky Transportation Cabinet, Kentucky Transportation Center

**Table 9. 2005-2009 Kentucky and LTADD Collision-Related Rates per 100 MVT**

Jurisdiction	Collision Rate	Fatality Rate	Injury Rate	Alcohol Collision Rate	Alcohol Fatality Rate	Alcohol Injury Rate
LTADD	216.66	2.24	70.93	10.65	0.49	6.01
Kentucky	265.59	1.85	83.44	10.99	0.41	6.16

Sources: Kentucky Transportation Cabinet, Kentucky Transportation Center

## **Lincoln Trail ADD**

### **Population Statistics**

According to the 2000 Census and 2009 population estimates, the Lincoln Trail ADD (LTADD) was ranked 5th among other Area Development Districts. Overall, the LTADD has consistently contained about 6.0% of the state population and has grown at an average rate of 0.52% from 2005 to 2009.

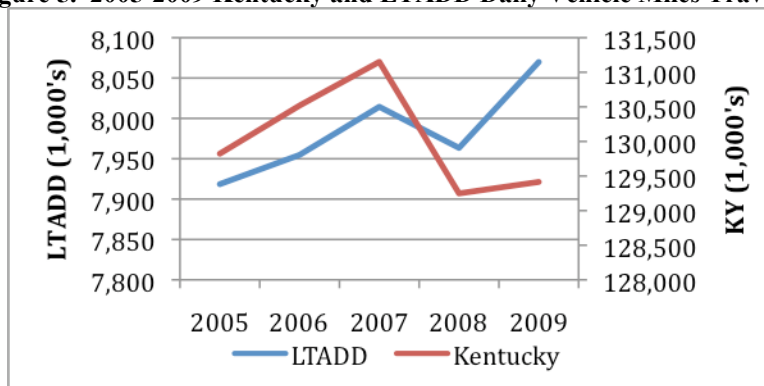
Within the LTADD, the 2005 to 2009 population has increased by 2.1% to 258,865 people. Nelson County experienced the greatest increase of 6.6% to 43,550 people and Hardin County was second with a population increase of 3.0% to 99,770. The only negative growth was in Meade County with a reduction of 5.0% to 26,501.

During the same time period, the number of registered drivers has increased by 2.7%. Again, Nelson County experienced the largest increase of 5.0% to 31,264 and Hardin County was second with an increase of 2.9% to 68,102.

### **Daily Vehicle Miles Traveled**

From 2005 to 2009, the number of daily vehicle miles traveled (DVMT) has increased by 1.9%. The two counties with the largest increase in DVMT were Larue and Meade with 5.8% and 5.3%, respectively. In terms of actual numbers, Hardin and Nelson County combined contribute to 58.1% of the total DVMT for the LTADD. As a whole, the LTADD contributes 6.1% to the total state DVMT.

**Figure 5. 2005-2009 Kentucky and LTADD Daily Vehicle Miles Traveled**

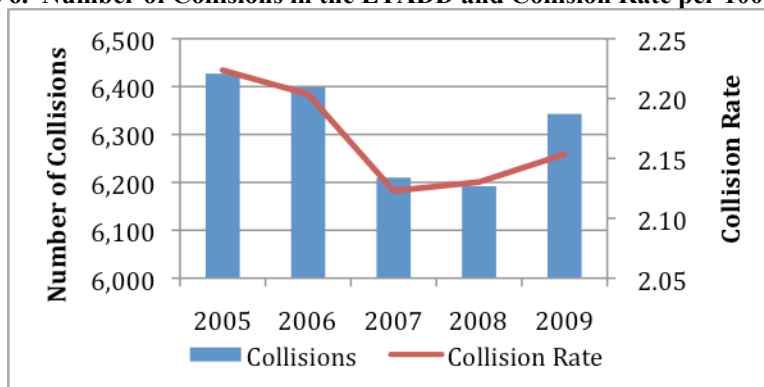


Sources: Kentucky Transportation Cabinet

## Collision Statistics

Overall, the number of collisions has been reduced by 1.3% from 2005 to 2009. As shown in Table 9 above, the 2005 to 2009 combined collision rate is 216.66 per 100 million vehicle miles traveled (100 MVMT). However, similar to the state, there has been an upward trend in the collision rate per 100 MVMT since 2007. The 2008 collision rate is 0.3% higher than in 2007 and the 2009 collision rate (215.35) is 1.1% higher than the previous year. Comparatively, the 2005 to 2009 number of collisions within the LTADD account for 5.0% of the statewide total.

**Figure 6. Number of Collisions in the LTADD and Collision Rate per 100 MVMT**



Sources: Kentucky Transportation Cabinet, Kentucky Transportation Center

Meade County had the largest decrease in the number of collisions with 23.4%. Breckinridge, Grayson, and Larue Counties were the only jurisdictions with a positive change with 12.2%, 8.7%, and 3.4%, respectively. However, Marion County had the highest collision rate of 280.78 and Nelson was second with 265.89 collisions per 100 MVMT.

**Table 10. 2005-2009 Rates per 100 Million Vehicle Miles Traveled**

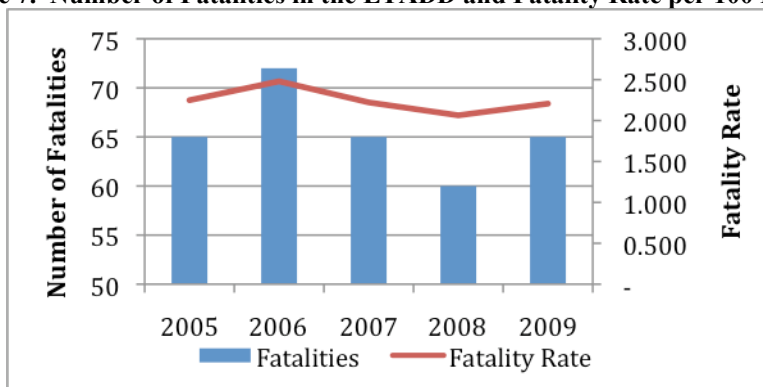
Jurisdiction	Collision Rate	Fatality Rate	Injury Rate	Alcohol Collision Rate	Alcohol Fatality Rate	Alcohol Injury Rate
Breckinridge	167.70	3.46	88.03	8.71	0.95	6.68
Grayson	203.74	1.99	83.05	9.30	0.38	8.08
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Larue	139.77	2.31	56.62	8.49	0.42	5.35
Marion	280.78	3.16	83.23	21.51	1.58	10.21
Meade	214.27	3.95	94.74	13.64	1.03	8.50
Nelson	265.89	2.25	80.20	15.32	0.74	8.05
Washington	184.65	4.16	60.40	10.90	1.00	9.47
LTADD	216.66	2.24	70.93	10.65	0.49	6.01
Kentucky	265.59	1.85	83.44	10.99	0.41	6.16

Sources: Kentucky Transportation Cabinet; Kentucky Transportation Center

## Fatality and Injury Statistics

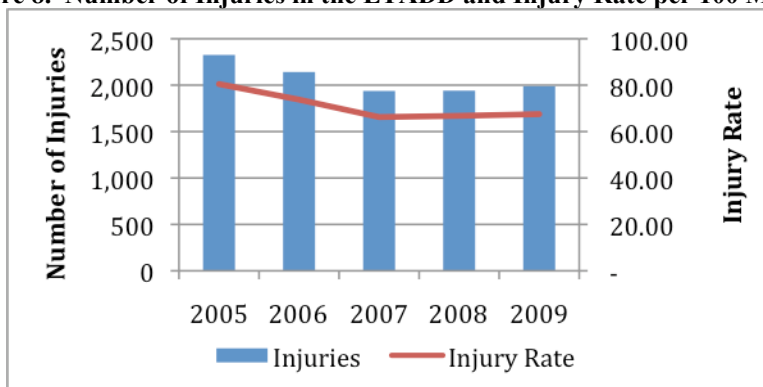
The total number of fatalities within the LTADD accounts for 7.5%, on average, of the statewide total. Also, the 2005-2009 number of fatalities has stayed the same at 65, while the fatality rate has slightly decreased by 1.9%. However, there has been a large decrease in both the number of injuries and the injury rates per 100 MVMT during the same time period. There has been a 14.5% reduction in the number of injuries and a 16.1% reduction in the injury rate.

**Figure 7. Number of Fatalities in the LTADD and Fatality Rate per 100 MVMT**



Sources: Kentucky Transportation Cabinet, Kentucky Transportation Center

**Figure 8. Number of Injuries in the LTADD and Injury Rate per 100 MVMT**



Sources: Kentucky Transportation Cabinet, Kentucky Transportation Center

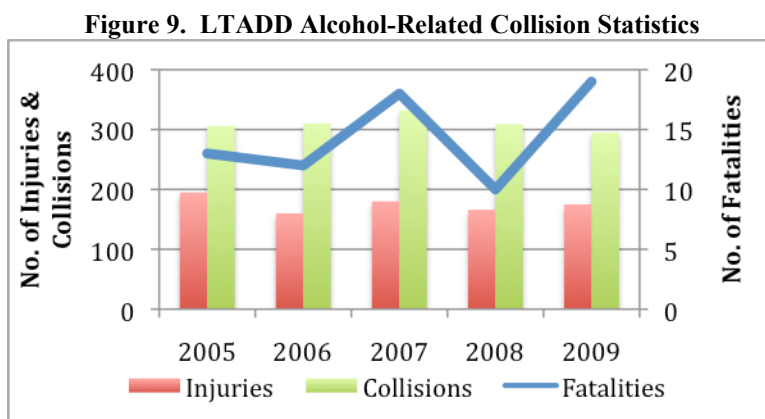
The largest decrease in the number of fatalities was in Marion County with a reduction of 50.0%. The only increases were in Meade (71.4%), Grayson (60.0%), and Hardin (11.8%) Counties. However, Washington County had the highest fatality rate of 4.16 and Meade County was second with 3.95 fatalities per 100 MVMT.

The largest decrease in the number of injuries was in Washington County with 24.4% and Marion County with 24.2%. The only increase was in Breckinridge County with 7.7%. Meade County had the highest injury rate of 94.74 and Breckinridge County was second with 88.03 injuries per 100 MVMT.

## Alcohol-Related Collision Statistics

Between 2005 and 2009, the number of alcohol-related collisions has decreased by 3.6%. The number of collisions seems to have peaked in 2007 and has since steadily declined. In 2007 there was an increase of 6.6% from 2006 and then a decrease of 7.4% and 4.7% in 2008 and 2009, respectively.

The greatest decrease in the number of alcohol-related collisions was in Larue County with a 40.0% reduction. The greatest increase was in Breckinridge County with a 260.0% increase to 18 collisions.



Sources: Kentucky Transportation Cabinet, Kentucky Transportation Center

## Alcohol-Related Fatality and Injury Statistics

On average, the number of alcohol-related fatalities within the LTADD accounts for 7.3% of the statewide total, with a low of 5.9% in 2005 and a high of 9.4% in 2009. In general, the numbers of alcohol-related fatalities and injuries have fluctuated annually. The largest decrease in the number of fatalities and fatality rate was from 2007 to 2008 with a reduction of 80% and 44.1%, respectively. The largest decrease in the number of injuries and the injury rate was from 2005 to 2006 with a reduction of 21.9% and 18.3%, respectively.

The largest increase in the number of fatalities and fatality rate was from 2008 to 2009 with an increase of 47.4% and 87.5%, respectively. The greatest increase in the number of injuries and injury rate was from 2006 to 2007 with an increase of 11.1% and 11.7%, respectively.

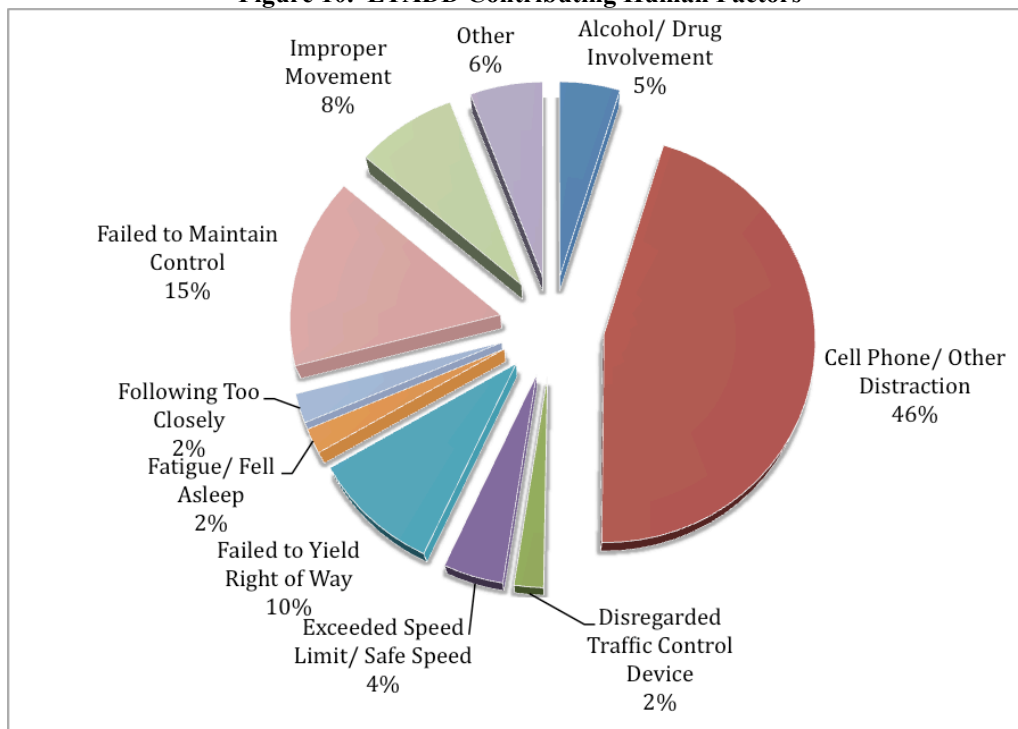
Marion County had the largest decrease in the number of alcohol-related fatalities with a reduction of 50.0%. However, Marion County still had the highest fatality rate with 1.58 per 100 MVMT. Again, Breckinridge County had the greatest increase in the number of alcohol-related fatalities with a 400.0% increase to four (4) fatalities.

## Contributing Factors

From January 2005 to July 2010, 79,748 collisions were reported in which a contributing human factor was evaluated. Of these collisions, 45,821 had a contributing human factor. As shown in Figure 10, the majority (46%) of these were caused by cell phone use or another distraction. The second largest number (15%) was caused by loss of vehicle control, while failing to yield the right of way (10%) accounted for the third.

During the same time period, 70,599 collisions were reported in which a contributing environmental factor was evaluated. Of these collisions, 11,134 had a contributing environmental factor. As shown in Figure 11, the majority (46%) of these were caused by slippery surfaces or pooling water. The second largest number (19%) was caused by animal activity, while obstructed views (14%) accounted for the third. Appendix C contains a list of all contributing factors by county.<sup>4</sup>

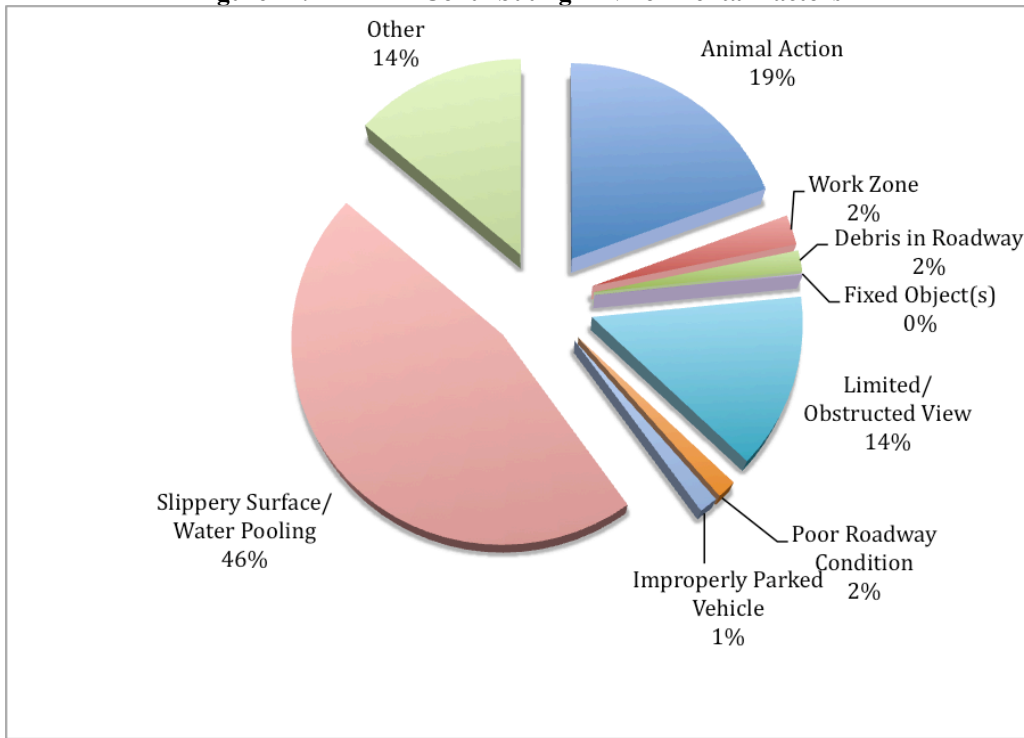
**Figure 10. LTADD Contributing Human Factors**



Source: Kentucky State Police

<sup>4</sup> Several contributing factor categories were combined for the ease of analysis. *Environmental*: Work Zone = Codes 2,9; Poor Roadway Condition = 6, 8, 10; Slippery Surface/ Water Pooling = 11, 13. *Human*: Alcohol/Drug Involvement = 1, 5, 16; Cell Phone/ Other Distraction = 2, 4, 6, 14; Exceeded Speed Limit/ Safe Speed = 7, 22, 24; Fatigue/ Fell Asleep = 9, 10, 15; Other = 20, 21, 97.

**Figure 11. LTADD Contributing Environmental Factors**



Source: Kentucky State Police

## Dangerous Corridors

### Adequacy Ratings

According to the 2009 Adequacy Ratings, the roadway segment with the highest critical rate factor is on KY 259 in Grayson County. The segment with the highest number of persons killed is on I 65 in Hardin County and the segment with the highest number of persons injured is US 31W in Hardin County.

**Table 11. LTADD 2009 Top 5 Highest Critical Rate Factors**

County	Roadway	BMP	EMP	Length	CRF
Grayson	KY 259	11.761	12.12	0.359	3.15
Grayson	US 62	20.787	22.86	2.073	2.38
Hardin	US 31W	19.478	19.86	0.382	2.34
Nelson	US 31E	14.205	14.612	0.407	2.09
Grayson	US 62	0	18.952	18.952	1.89

Source: Kentucky Transportation Cabinet

**Table 12. LTADD 2009 Top 5 Highest Number of Persons Killed**

County	Roadway	BMP	EMP	Length	Persons Killed
Hardin	I 65	78.661	91.086	12.425	8
Hardin	I 65	94.154	103.308	9.154	7
Washington	KY 55	0	4.551	4.551	5
Hardin	US 62	21.43	28.194	6.764	4
Hardin	WK Pkwy	119.649	135.694	16.045	4

Source: Kentucky Transportation Cabinet

**Table 13. LTADD 2009 Top 5 Highest Number of Injuries**

County	Roadway	BMP	EMP	Length	Persons Injured
Hardin	US 31W	20.772	24.408	3.636	138
Hardin	US 31W	26.036	28.438	2.402	131
Hardin	I 65	78.661	91.086	12.425	107
Grayson	US 62	0	18.952	18.952	77
Nelson	BG Pkwy	8.837	39.267	30.430	72

Source: Kentucky Transportation Cabinet

According to the 2008 Adequacy Ratings, the section of roadway with the highest critical rate factor is on US 68 in Marion County. The sections with the highest number of persons killed and the highest number of persons injured are on US 31W in Hardin County.

**Table 14. LTADD 2008 Top 5 Highest Critical Rate Factors**

County	Roadway	BMP	EMP	Length	CRF
Marion	US 68	11.189	11.309	0.120	4.412
Hardin	US 62	14.495	15.192	0.697	3.625
Grayson	KY 259	11.860	12.230	0.370	3.453
Breckinridge	US 60	13.537	13.717	0.180	3.334
Nelson	US 31E	14.612	15.127	0.515	3.196

Source: Kentucky Transportation Cabinet

**Table 15. LTADD 2008 Top 5 Highest Number of Persons Killed**

County	Roadway	BMP	EMP	Length	Persons Killed
Hardin	US 31W	0.000	13.510	13.510	7
Hardin	I 65	78.661	91.033	12.372	6
Hardin	I 65	94.109	103.308	9.199	6
Larue	I 65	74.622	78.661	4.039	5
Grayson	KY 54	0.000	17.310	17.310	4

Source: Kentucky Transportation Cabinet

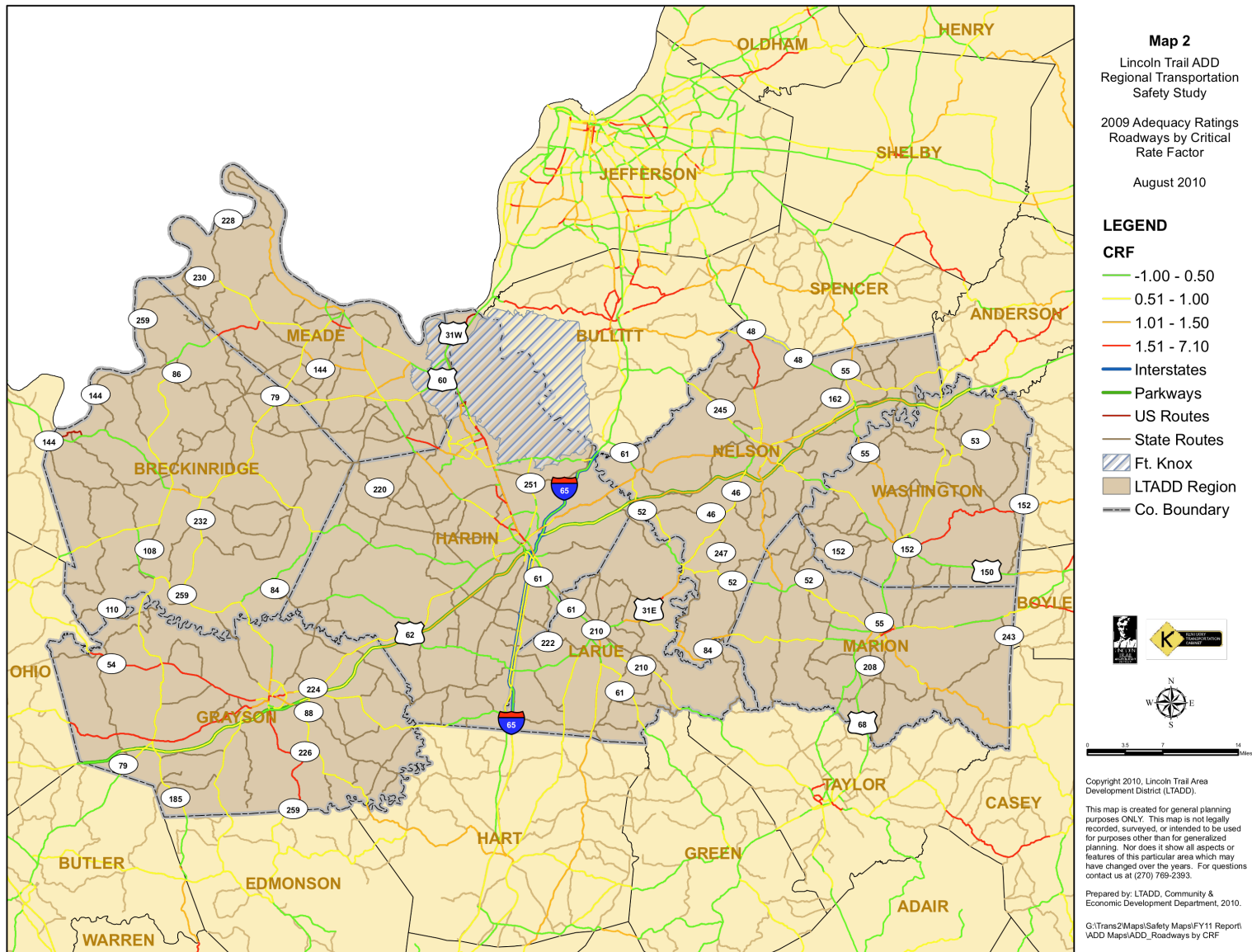
**Table 16. LTADD 2008 Top 5 Highest Number of Persons Injured**

County	Roadway	BMP	EMP	Length	Persons Injured
Hardin	US 31W	20.772	24.408	3.636	175
Hardin	US 31W	26.036	28.438	2.402	162
Hardin	I 65	78.661	91.033	12.372	114
Nelson	US 31E	20.536	27.310	6.774	89
Hardin	US 31W	24.408	26.036	1.628	88

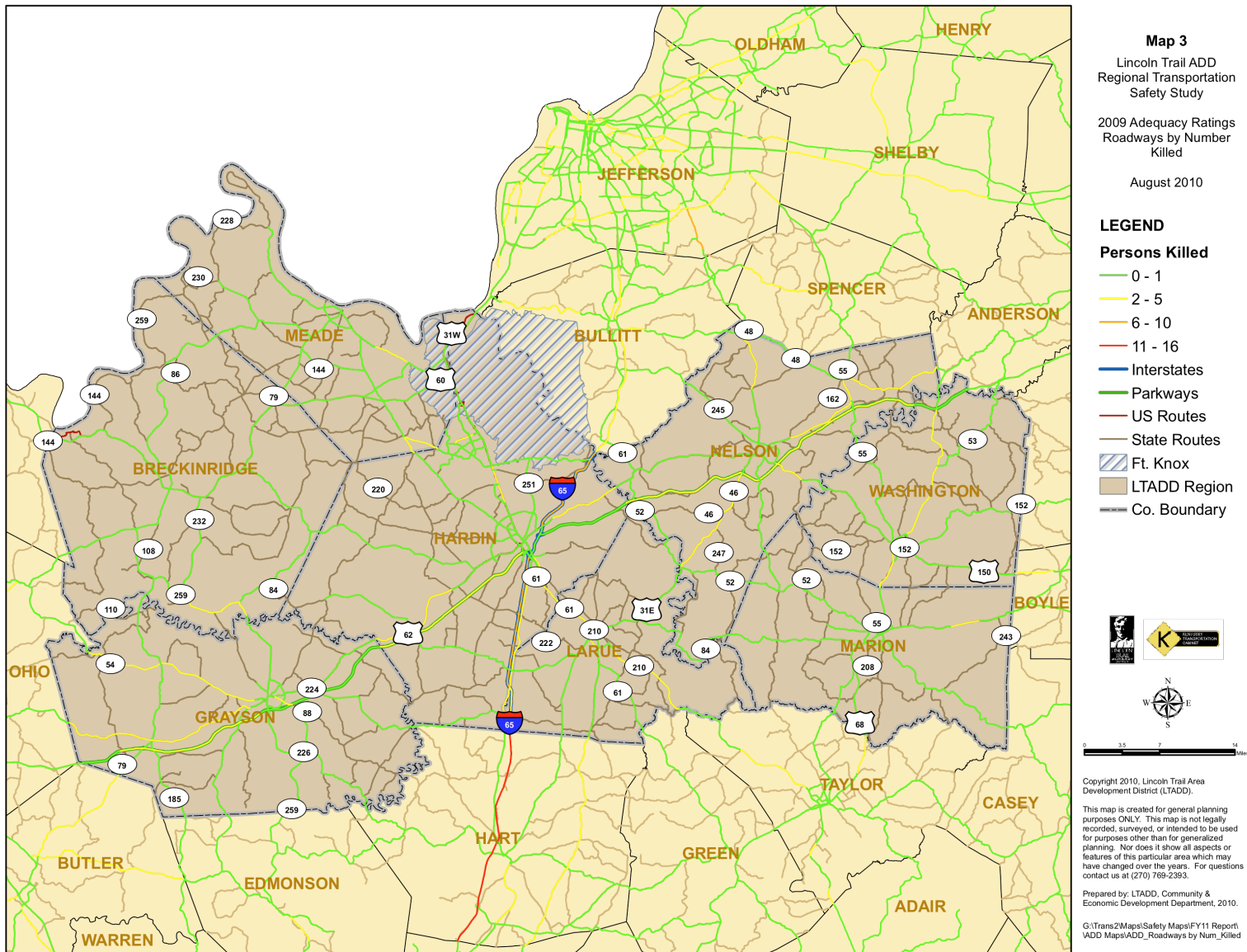
Source: Kentucky Transportation Cabinet



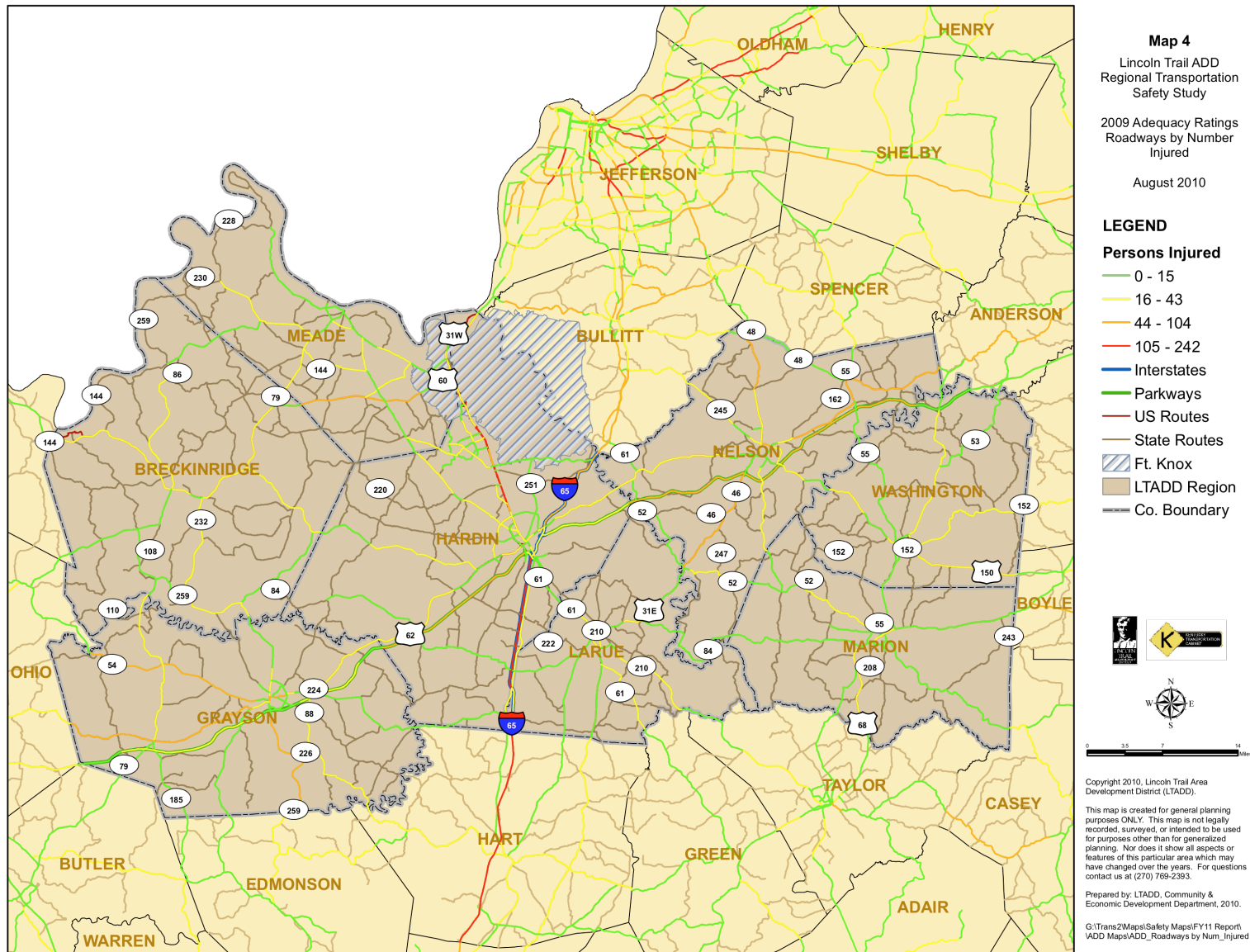
**Map 2. LTADD 2009 Critical Rate Factors**



**Map 3. LTADD 2009 Number of Persons Killed**



**Map 4. LTADD 2009 Number of Persons Injured**



## Number of Collisions

As shown in Appendix A, there were 50 roadways in the Lincoln Trail ADD region with 100 or more collisions. Table 17 below shows the 10 roadways with over 500 collisions each. The roadway with the highest number of collisions is US 31W in Hardin County with 4,213. Outside of the Radcliff-Elizabethtown Metropolitan Planning Organization (MPO) area, the roadway with the highest number of collisions is US 31E in Nelson County with 1,151.

### Lincoln Trail ADD

**Table 17. LTADD 2005-2009 Roadways with 500+ Collisions**

County	Roadway	No. of Collisions
Hardin	US 31W	4,213
Hardin	I 65	1,243
Nelson	US 31E	1,151
Hardin	US 62	1,114
Nelson	KY 245	897
Nelson	US 62	812
Grayson	US 62	780
Marion	US 68	674
Hardin	KY 3005	656
Grayson	KY 259	538

Source: Kentucky State Police

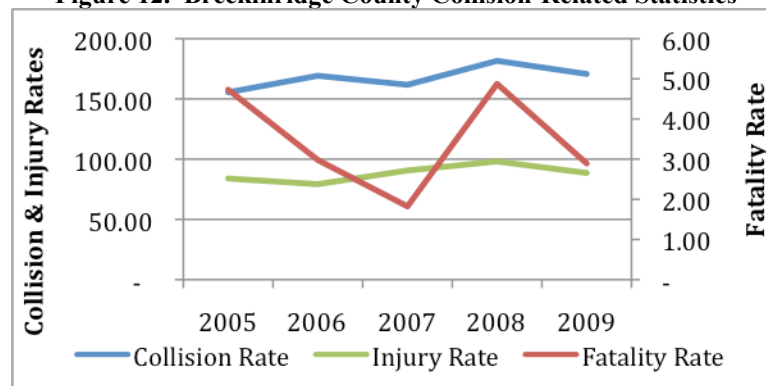
### By County

**Table 18. Breckinridge County 2005-2009 Top 5 Roadways by Number of Collisions**

County	Roadway	No. of Collisions
Breckinridge	US 60	343
Breckinridge	KY 79	148
Breckinridge	KY 259	130
Breckinridge	KY 261	88
Breckinridge	KY 86	82

Source: Kentucky State Police

**Figure 12. Breckinridge County Collision-Related Statistics**



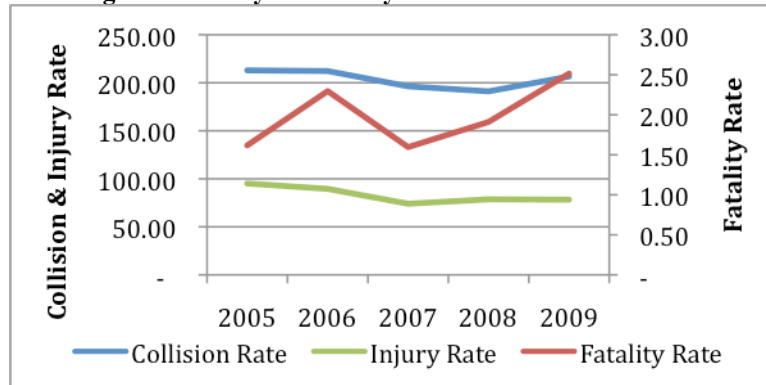
Source: Kentucky Transportation Cabinet; Kentucky Transportation Center

**Table 19. Grayson County 2005-2009 Top 5 Roadways by Number of Collisions**

County	Roadway	No. of Collisions
Grayson	US 62	780
Grayson	KY 259	538
Grayson	WK Pkwy	276
Grayson	KY 54	166
Grayson	KY 79	110

Source: Kentucky State Police

**Figure 13. Grayson County Collision-Related Statistics**



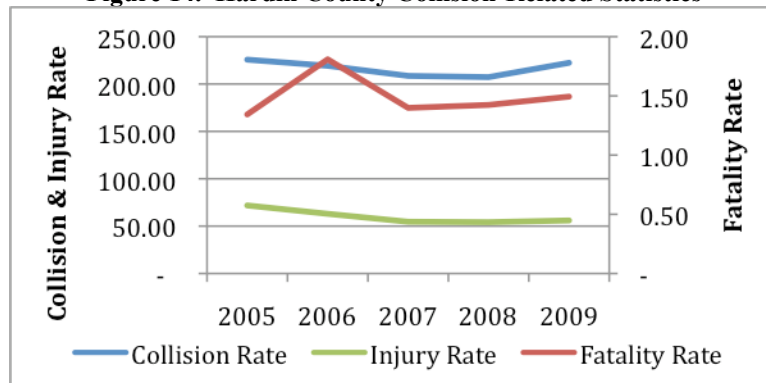
Source: Kentucky Transportation Cabinet; Kentucky Transportation Center

**Table 20. Hardin County 2005-2009 Top 5 Roadways by Number of Collisions**

County	Roadway	No. of Collisions
Hardin	US 31W	4,213
Hardin	I 65	1,243
Hardin	US 62	1,114
Hardin	KY 3005	656
Hardin	WK Pkwy	354

Source: Kentucky State Police

**Figure 14. Hardin County Collision-Related Statistics**



Source: Kentucky Transportation Cabinet; Kentucky Transportation Center

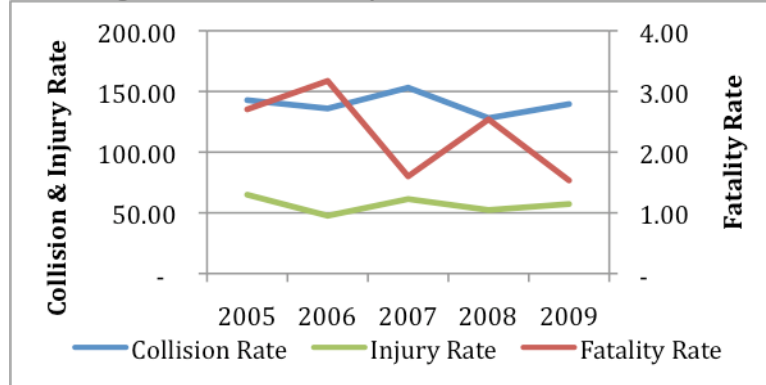


**Table 21. Larue County 2005-2009 Top 5 Roadways by Number of Collisions**

County	Roadway	No. of Collisions
Larue	US 31E	324
Larue	KY 210	208
Larue	KY 61	155
Larue	I 65	85
Larue	KY 470	80

Source: Kentucky State Police

**Figure 15. Larue County Collision-Related Statistics**



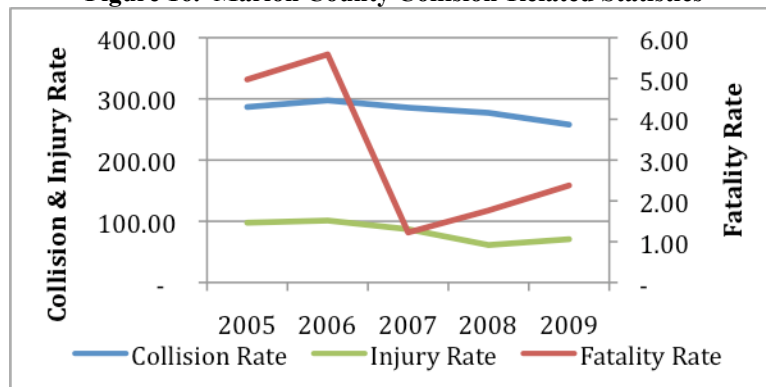
Source: Kentucky Transportation Cabinet; Kentucky Transportation Center

**Table 22. Marion County 2005-2009 Top 5 Roadways by Number of Collisions**

County	Roadway	No. of Collisions
Marion	US 68	674
Marion	KY 49	334
Marion	KY 55	234
Marion	KY 527	91
Marion	KY 84	83

Source: Kentucky State Police

**Figure 16. Marion County Collision-Related Statistics**



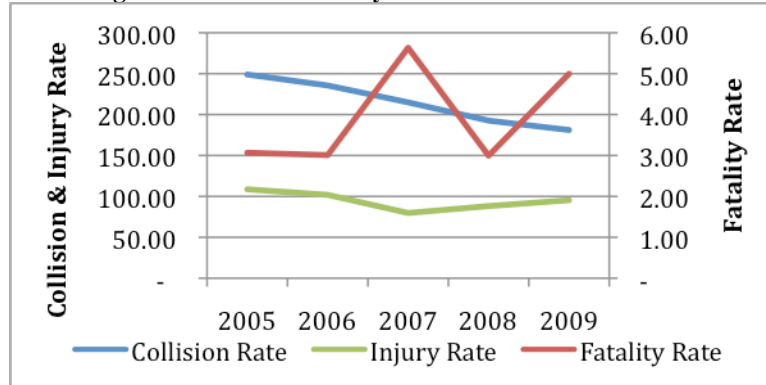
Source: Kentucky Transportation Cabinet; Kentucky Transportation Center

**Table 23. Meade County 2005-2009 Top 5 Roadways by Number of Collisions**

County	Roadway	No. of Collisions
Meade	KY 144	403
Meade	KY 448	229
Meade	US 60	200
Meade	KY 1638	188
Meade	KY 79	171

Source: Kentucky State Police

**Figure 17. Meade County Collision-Related Statistics**



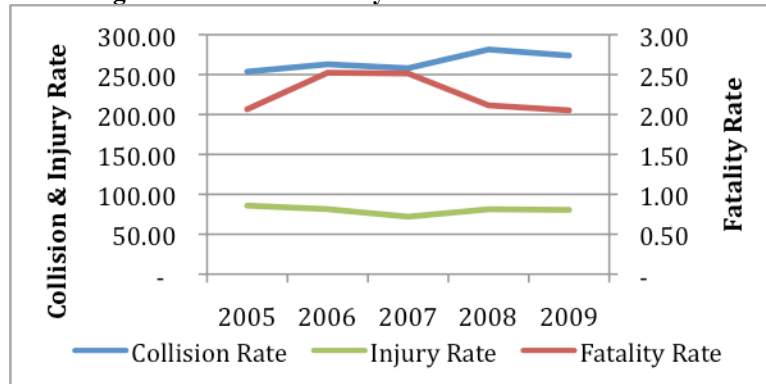
Source: Kentucky Transportation Cabinet; Kentucky Transportation Center

**Table 24. Nelson County 2005-2009 Top 5 Roadways by Number of Collisions**

County	Roadway	No. of Collisions
Nelson	US 31E	1151
Nelson	KY 245	897
Nelson	US 62	812
Nelson	BG Pkwy	403
Nelson	KY 49	132

Source: Kentucky State Police

**Figure 18. Nelson County Collision-Related Statistics**



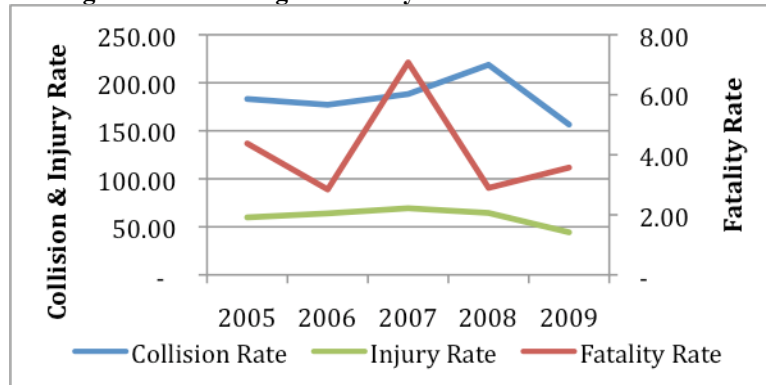
Source: Kentucky Transportation Cabinet; Kentucky Transportation Center

**Table 25. Washington County 2005-2009 Top 5 Roadways by Number of Collisions**

County	Roadway	No. of Collisions
Washington	US 150	336
Washington	KY 555	156
Washington	KY 55	149
Washington	KY 152	102
Washington	KY 528	78

Source: Kentucky State Police

**Figure 19. Washington County Collision-Related Statistics**



Source: Kentucky Transportation Cabinet; Kentucky Transportation Center



## Appendices

### Appendix A: General Data

Population Estimates							
County	2000	2005	2006	2007	2008	2009	% Change 2005- 2009
Breckinridge	18,648	19,052	18,957	19,074	19,144	19,057	0.0%
Grayson	24,053	25,075	25,166	25,312	25,466	25,581	2.0%
Hardin	94,174	96,842	97,092	98,064	98,795	99,770	3.0%
Larue	13,373	13,482	13,561	13,578	13,613	13,663	1.3%
Marion	18,212	19,029	19,140	19,195	19,373	19,486	2.4%
Meade	26,349	27,908	27,520	27,207	27,013	26,501	-5.0%
Nelson	37,477	40,859	41,766	42,434	43,101	43,550	6.6%
Washington	10,916	11,258	11,360	11,524	11,424	11,257	0.0%
LTADD	243,202	253,505	254,562	256,388	257,929	258,865	2.1%
Kentucky	4,041,769	4,182,293	4,219,374	4,256,278	4,287,931	4,314,113	3.2%
U.S.	281,424,602	295,753,151	298,593,212	301,579,895	304,374,846	307,006,550	3.8%

Sources: US Census Bureau; Kentucky State Data Center

Licensed Drivers						
County	2005	2006	2007	2008	2009	% Change 2005- 2009
Breckinridge	13,770	13,893	13,884	13,919	14,003	1.7%
Grayson	18,016	18,206	18,342	18,245	18,228	1.2%
Hardin	66,169	67,373	67,876	67,781	68,102	2.9%
Larue	10,020	10,181	10,228	10,237	10,206	1.9%
Marion	12,439	12,551	12,598	12,597	12,648	1.7%
Meade	18,360	18,541	18,678	18,621	18,800	2.4%
Nelson	29,779	30,425	30,827	30,939	31,264	5.0%
Washington	8,063	8,200	8,185	8,143	8,213	1.9%
LTADD	176,616	179,370	180,618	180,482	181,464	2.7%
Kentucky	2,927,232	2,961,827	3,004,756	3,032,956	3,089,942	5.6%
*U.S.	200,549,000	202,810,000	205,742,000	208,321,000	-	3.9%

Source: Kentucky Transportation Center

Daily Vehicle Miles Traveled (thousands)						
County	2005	2006	2007	2008	2009	% Change 2005-2009
Breckinridge	463.4	459.8	450.6	449.6	473.5	2.2%
Grayson	846.7	835.3	858.4	860.3	871.6	2.9%
Hardin	3,467.4	3,483.7	3,526.5	3,464.2	3,485.1	0.5%
Larue	506.5	517.9	513.5	539.2	535.8	5.8%
Marion	440.5	441.1	446.9	465.5	460.9	4.6%
Meade	625.1	637.3	632.3	640.1	658.0	5.3%
Nelson	1,193.5	1,194.3	1,199.0	1,166.2	1,201.6	0.7%
Washington	375.5	385.2	387.1	378.3	383.4	2.1%
LTADD	7,918.5	7,954.7	8,014.4	7,963.4	8,069.8	1.9%
Kentucky	129,823.2	130,518.8	131,150.5	129,248.9	129,414.7	-0.3%

Source: Kentucky Transportation Cabinet

Annual Vehicle Miles Traveled (millions)							
County	2005	2006	2007	2008	2009	% Change 2005-2009	Sum of 2005-2009
Breckinridge	169	168	164	164	173	2.2%	838
Grayson	309	305	313	314	318	2.9%	1,559
Hardin	1,266	1,272	1,287	1,264	1,272	0.5%	6,361
Larue	185	189	187	197	196	5.8%	954
Marion	161	161	163	170	168	4.6%	823
Meade	228	233	231	234	240	5.3%	1,165
Nelson	436	436	438	426	439	0.7%	2,173
Washington	137	141	141	138	140	2.1%	697
LTADD	2,890	2,903	2,925	2,907	2,945	1.9%	14,571
Kentucky	47,385	47,639	47,870	47,176	47,236	-0.3%	237,307
U.S.	2,989,000	3,014,000	3,032,000	2,974,000	-	-0.5%	12,009,000

Source: National Highway Traffic Safety Administration; Kentucky Transportation Cabinet

Number of Collisions							
County	2005	2006	2007	2008	2009	% Change 2005-2009	2005-2009 Collisions per 100 MVT
Breckinridge	263	284	266	298	295	12.2%	167.70
Grayson	658	647	615	600	657	-0.2%	203.74
Hardin	2,857	2,788	2,685	2,621	2,829	-1.0%	216.64
Larue	264	257	287	252	273	3.4%	139.77
Marion	461	479	466	471	434	-5.9%	280.78
Meade	568	548	496	450	435	-23.4%	214.27
Nelson	1,105	1,146	1,129	1,198	1,201	8.7%	265.89
Washington	251	249	266	302	219	-12.7%	184.65
LTADD	6,427	6,398	6,210	6,192	6,343	-1.3%	216.66
Kentucky	128,685	127,252	124,553	123,530	126,237	-1.9%	265.59

Source: Kentucky Traffic Collisions Facts 2005-2009 Editions

Number of Fatalities							
County	2005	2006	2007	2008	2009	% Change 2005-2009	2005-2009 Fatalities per 100 MVMT
Breckinridge	8	5	3	8	5	-37.5%	3.46
Grayson	5	7	5	6	8	60.0%	1.99
Hardin	17	23	18	18	19	11.8%	1.49
Larue	5	6	3	5	3	-40.0%	2.31
Marion	8	9	2	3	4	-50.0%	3.16
Meade	7	7	13	7	12	71.4%	3.95
Nelson	9	11	11	9	9	0.0%	2.25
Washington	6	4	10	4	5	-16.7%	4.16
LTADD	65	72	65	60	65	0.0%	2.24
Kentucky	985	913	864	826	791	-19.7%	1.85
*U.S.	43,510	42,708	41,259	37,261	-	-14.4%	1.37

Source: Kentucky Traffic Collisions Facts 2005-2009 Editions

Number of Injuries							
County	2005	2006	2007	2008	2009	% Change 2005-2009	2005-2009 Injuries per 100 MVMT
Breckinridge	142	133	149	161	153	7.7%	88.03
Grayson	294	273	232	247	249	-15.3%	83.05
Hardin	909	801	703	685	712	-21.7%	59.90
Larue	120	90	115	103	112	-6.7%	56.62
Marion	157	163	142	104	119	-24.2%	83.23
Meade	248	237	184	206	229	-7.7%	94.74
Nelson	374	355	315	346	353	-5.6%	80.20
Washington	82	90	98	89	62	-24.4%	60.40
LTADD	2,326	2,142	1,938	1,941	1,989	-14.5%	70.93
Kentucky	43,295	41,044	38,786	37,491	37,398	-13.6%	83.44

Source: Kentucky Traffic Collisions Facts 2005-2009 Editions

Number of Alcohol Related Collisions							
County	2005	2006	2007	2008	2009	% Change 2005-2009	2005-2009 Collisions per 100 MVMT
Breckinridge	5	18	14	18	18	260.0%	8.71
Grayson	30	21	32	30	32	6.7%	9.30
Hardin	110	112	102	98	86	-21.8%	7.99
Larue	20	18	14	17	12	-40.0%	8.49
Marion	34	31	36	37	39	14.7%	21.51
Meade	27	32	47	29	24	-11.1%	13.64
Nelson	65	65	69	62	72	10.8%	15.32
Washington	15	13	18	18	12	-20.0%	10.90
LTADD	306	310	332	309	295	-3.6%	10.65

Kentucky	5,458	5,372	5,189	5,029	5,038	-7.7%	10.99
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Source: Kentucky Traffic Collisions Facts 2005-2009 Editions

Number of Alcohol Related Fatalities							
County	2005	2006	2007	2008	2009	% Change 2005-2009	2005-2009 Fatalities per 100 MVMT
Breckinridge	0	1	2	1	4	400.0%	0.95
Grayson	1	2	1	0	2	100.0%	0.38
Hardin	1	1	2	0	2	100.0%	0.09
Larue	0	0	2	2	0	0.0%	0.42
Marion	4	3	2	2	2	-50.0%	1.58
Meade	1	1	6	1	3	200.0%	1.03
Nelson	4	3	3	2	4	0.0%	0.74
Washington	2	1	0	2	2	0.0%	1.00
LTADD	13	12	18	10	19	46.2%	0.49
Kentucky	220	188	204	160	203	-7.7%	0.41

Source: Kentucky Traffic Collisions Facts 2005-2009 Editions

Number of Alcohol Related Injuries							
County	2005	2006	2007	2008	2009	% Change 2005-2009	2005-2009 Injuries per 100 MVMT
Breckinridge	6	12	8	13	17	183.3%	6.68
Grayson	28	16	21	32	29	3.6%	8.08
Hardin	51	49	47	29	43	-15.7%	3.44
Larue	15	8	6	10	12	-20.0%	5.35
Marion	16	8	23	12	25	56.3%	10.21
Meade	24	20	28	18	9	-62.5%	8.50
Nelson	35	37	30	36	37	5.7%	8.05
Washington	20	10	17	16	3	-85.0%	9.47
LTADD	195	160	180	166	175	-10.3%	6.01
Kentucky	3,237	3,107	2,866	2,754	2,652	-18.1%	6.16

Source: Kentucky Traffic Collisions Facts 2005-2009 Editions

2005-2009 Roadways by Number of Collisions		
COUNTY	RD	COLLISIONS
Hardin	47 US0031W	4213
Hardin	47 I 0065	1243
Nelson	90 US0031E	1151
Hardin	47 US0062	1114
Nelson	90 KY0245	897
Nelson	90 US0062	812
Grayson	43 US0062	780
Marion	78 US0068	674
Hardin	47 KY3005	656
Grayson	43 KY0259	538
Meade	82 KY0144	403
Nelson	90 BG9002	403
Hardin	47 WK9001	354
Breckinridge	14 US0060	343
Hardin	47 KY1600	339
Washington	115 US0150	336
Marion	78 KY0049	334
Larue	62 US0031E	324
Grayson	43 WK9001	276
Marion	78 KY0055	234
Hardin	47 KY0313	229
Meade	82 KY0448	229
Hardin	47 KY0144	222
Hardin	47 KY1357	222
Larue	62 KY0210	208
Hardin	47 KY0251	206
Meade	82 US0060	200
Meade	82 KY1638	188
Meade	82 KY0079	171
Hardin	47 KY1646	169
Grayson	43 KY0054	166
Meade	82 KY1051	166
Washington	115 KY0555	156
Larue	62 KY0061	155
Hardin	47 KY0220	154
Washington	115 KY0055	149
Breckinridge	14 KY0079	148
Hardin	47 US0031WB	143
Hardin	47 KY0222	141
Hardin	47 KY0084	133
Nelson	90 KY0049	132
Nelson	90 KY0605	132
Breckinridge	14 KY0259	130
Hardin	47 BG9002	129
Hardin	47 KY0086	121

Source: Kentucky State Police

Hardin	47 KY1815	119
Grayson	43 KY0079	110
Hardin	47 KY0434	105
Washington	115 KY0152	102
Meade	82 US0031W	100
Grayson	43 KY0187	97
Hardin	47 KY0447	95
Grayson	43 KY0088	92
Marion	78 KY0527	91
Meade	82 KY0228	91
Hardin	47 KY0061	89
Breckinridge	14 KY0261	88
Hardin	47 KY0210	88
Hardin	47 KY1500	88
Larue	62 I 0065	85
Nelson	90 KY0052	85
Marion	78 KY0084	83
Breckinridge	14 KY0086	82
Marion	78 KY0208	82
Larue	62 KY0470	80
Meade	82 KY0710	80
Nelson	90 KY0162	79
Nelson	90 KY0509	79
Washington	115 KY0528	78
Nelson	90 KY1430	75
Grayson	43 KY0224	74
Nelson	90 KY0046	73
Nelson	90 KY0055	73
Larue	62 KY0084	72
Meade	82 KY1238	69
Hardin	47 KY0567	68
Grayson	43 KY0920	67
Grayson	43 KY3155	64
Washington	115 BG9002	63
Hardin	47 KY0920	60
Grayson	43 KY1214	59
Hardin	47 KY1136	59
Breckinridge	14 KY0333	53
Grayson	43 KY0737	52
Meade	82 KY1692	50
Marion	78 KY0052	49
Meade	82 KY0933	47
Marion	78 KY0429	45
Meade	82 KY1882	44
Grayson	43 KY0720	42
Hardin	47 KY0583	41
Meade	82 KY0941	40

## Appendix B: Derived Data

Population Growth Rates						
County	2000-2005	2005-2006	2006-2007	2007-2008	2008-2009	2005-2009 Average
Breckinridge	2.2%	-0.5%	0.6%	0.4%	-0.5%	0.01%
Grayson	4.2%	0.4%	0.6%	0.6%	0.5%	0.50%
Hardin	2.8%	0.3%	1.0%	0.7%	1.0%	0.75%
Larue	0.8%	0.6%	0.1%	0.3%	0.4%	0.33%
Marion	4.5%	0.6%	0.3%	0.9%	0.6%	0.60%
Meade	5.9%	-1.4%	-1.1%	-0.7%	-1.9%	-1.28%
Nelson	9.0%	2.2%	1.6%	1.6%	1.0%	1.61%
Washington	3.1%	0.9%	1.4%	-0.9%	-1.5%	0.01%
LTADD	4.2%	0.4%	0.7%	0.6%	0.4%	0.52%
Kentucky	3.5%	0.9%	0.9%	0.7%	0.6%	0.78%
U.S.	5.1%	1.0%	1.0%	0.9%	0.9%	0.94%

Sources: US Census Bureau; Kentucky State Data Center

Daily Vehicle Miles Traveled Growth Rate					
County	2005	2006	2007	2008	2009
Breckinridge	-	-0.8%	-2.0%	-0.2%	5.3%
Grayson	-	-1.3%	2.8%	0.2%	1.3%
Hardin	-	0.5%	1.2%	-1.8%	0.6%
Larue	-	2.3%	-0.9%	5.0%	-0.6%
Marion	-	0.1%	1.3%	4.2%	-1.0%
Meade	-	2.0%	-0.8%	1.2%	2.8%
Nelson	-	0.1%	0.4%	-2.7%	3.0%
Washington	-	2.6%	0.5%	-2.3%	1.3%
LTADD	-	0.5%	0.7%	-0.6%	1.3%
Kentucky	-	0.5%	0.5%	-1.4%	0.1%

Source: Kentucky Transportation Cabinet

Collision Rates per 100 Million Vehicle Miles Traveled						
County	2005	2006	2007	2008	2009	% Change 2005-2009
Breckinridge	155.49	169.22	161.72	181.59	170.69	9.8%
Grayson	212.92	212.22	196.29	191.07	206.52	-3.0%
Hardin	225.74	219.26	208.60	207.29	222.40	-1.5%
Larue	142.81	135.94	153.12	128.04	139.58	-2.3%
Marion	286.72	297.50	285.68	277.19	257.98	-10.0%
Meade	248.95	235.57	214.92	192.61	181.13	-27.2%
Nelson	253.66	262.89	257.98	281.44	273.83	8.0%
Washington	183.13	177.08	188.25	218.71	156.51	-14.5%

LTADD	222.37	220.36	212.29	213.03	215.35	-3.2%
Kentucky	271.57	267.12	260.19	261.85	267.25	-1.6%

Sources: Kentucky Transportation Cabinet; Kentucky Transportation Center

Fatality Rates per 100 Million Vehicle Miles Traveled						
County	2005	2006	2007	2008	2009	% Change 2005-2009
Breckinridge	4.73	2.98	1.82	4.87	2.89	-38.8%
Grayson	1.62	2.30	1.60	1.91	2.51	55.4%
Hardin	1.34	1.81	1.40	1.42	1.49	11.2%
Larue	2.70	3.17	1.60	2.54	1.53	-43.3%
Marion	4.98	5.59	1.23	1.77	2.38	-52.2%
Meade	3.07	3.01	5.63	3.00	5.00	62.9%
Nelson	2.07	2.52	2.51	2.11	2.05	-0.7%
Washington	4.38	2.84	7.08	2.90	3.57	-18.4%
LTADD	2.25	2.48	2.22	2.06	2.21	-1.9%
Kentucky	2.08	1.92	1.80	1.75	1.67	-19.4%

Sources: Kentucky Transportation Cabinet; Kentucky Transportation Center

Injury Rates per 100 Million Vehicle Miles Traveled						
County	2005	2006	2007	2008	2009	% Change 2005-2009
Breckinridge	83.96	79.25	90.59	98.11	88.53	5.4%
Grayson	95.13	89.54	74.05	78.66	78.27	-17.7%
Hardin	71.82	62.99	54.62	54.17	55.97	-22.1%
Larue	64.92	47.61	61.35	52.33	57.26	-11.8%
Marion	97.65	101.24	87.05	61.21	70.74	-27.6%
Meade	108.70	101.88	79.73	88.17	95.36	-12.3%
Nelson	85.85	81.44	71.98	81.29	80.49	-6.3%
Washington	59.83	64.00	69.35	64.45	44.31	-25.9%
LTADD	80.48	73.77	66.25	66.78	67.53	-16.1%
Kentucky	91.37	86.16	81.02	79.47	79.17	-13.3%

Sources: Kentucky Transportation Cabinet; Kentucky Transportation Center

Alcohol Related Collisions per 100 Million Vehicle Miles Traveled						
County	2005	2006	2007	2008	2009	% Change 2005-2009
Breckinridge	2.96	10.73	8.51	10.97	10.42	252.3%
Grayson	9.71	6.89	10.21	9.55	10.06	3.6%
Hardin	8.69	8.81	7.92	7.75	6.76	-22.2%
Larue	10.82	9.52	7.47	8.64	6.14	-43.3%
Marion	21.15	19.25	22.07	21.78	23.18	9.6%
Meade	11.83	13.76	20.37	12.41	9.99	-15.6%
Nelson	14.92	14.91	15.77	14.57	16.42	10.0%
Washington	10.94	9.25	12.74	13.04	8.58	-21.6%

LTADD	10.59	10.68	11.35	10.63	10.02	-5.4%
Kentucky	11.52	11.28	10.84	10.66	10.67	-7.4%

Sources: Kentucky Transportation Cabinet; Kentucky Transportation Center

<b>Alcohol Related Fatalities per 100 Million Vehicle Miles Traveled</b>						
<b>County</b>	2005	2006	2007	2008	2009	% Change 2005-2009
Breckinridge	0.00	0.60	1.22	0.61	2.31	231.4%
Grayson	0.32	0.66	0.32	0.00	0.63	94.3%
Hardin	0.08	0.08	0.16	0.00	0.16	99.0%
Larue	0.00	0.00	1.07	1.02	0.00	0.0%
Marion	2.49	1.86	1.23	1.18	1.19	-52.2%
Meade	0.44	0.43	2.60	0.43	1.25	185.0%
Nelson	0.92	0.69	0.69	0.47	0.91	-0.7%
Washington	1.46	0.71	0.00	1.45	1.43	-2.0%
LTADD	0.45	0.41	0.62	0.34	0.65	43.4%
Kentucky	0.46	0.39	0.43	0.34	0.43	-7.4%

Sources: Kentucky Transportation Cabinet; Kentucky Transportation Center

<b>Alcohol Related Injuries per 100 Million Vehicle Miles Traveled</b>						
<b>County</b>	2005	2006	2007	2008	2009	% Change 2005-2009
Breckinridge	3.55	7.15	4.86	7.92	9.84	136.1%
Grayson	9.06	5.25	6.70	10.19	9.12	0.6%
Hardin	4.03	3.85	3.65	2.29	3.38	-16.1%
Larue	8.11	4.23	3.20	5.08	6.14	0.0%
Marion	9.95	4.97	14.10	7.06	14.86	49.3%
Meade	10.52	8.60	12.13	7.70	3.75	-64.4%
Nelson	8.03	8.49	6.86	8.46	8.44	5.0%
Washington	14.59	7.11	12.03	11.59	2.14	-85.3%
LTADD	6.75	5.51	6.15	5.71	5.94	-11.9%
Kentucky	6.83	6.52	5.99	5.84	5.61	-17.8%

Sources: Kentucky Transportation Cabinet; Kentucky Transportation Center



## Appendix C: Contributing Factors<sup>5</sup>

Breckinridge County Contributing Human Factors								
Code	Human Factor	Total Reported	Total %	Fatal	Injury	Prop. Damage Only	Number Killed	Number Injured
1	Alcohol Involvement	87	2.7%	7	41	39	8	63
2	Cell Phone	5	0.2%	1	1	3	1	4
3	Disregard Traffic Control	16	0.5%	0	7	9	0	18
4	Distraction	61	1.9%	1	20	40	1	44
5	Drug Involvement	13	0.4%	2	5	6	2	7
6	Emotional	7	0.2%	0	1	6	0	1
7	Exceeded Stated Speed Limit	15	0.5%	2	7	6	3	17
8	Failed to Yield Right of Way	190	5.8%	4	61	125	4	108
9	Fatigue	3	0.1%	0	2	1	0	2
10	Fell Asleep	29	0.9%	0	11	18	0	18
11	Following Too Close	23	0.7%	0	5	18	0	9
12	Improper Backing	19	0.6%	0	2	17	0	2
13	Improper Passing	11	0.3%	0	5	6	0	10
14	Inattention	556	17.0%	3	100	453	3	179
15	Lost Consciousness	15	0.5%	0	7	8	0	8
16	Medication	3	0.1%	0	1	2	0	1
17	Misjudge Clearance	131	4.0%	0	16	115	0	14
18	Not Under Proper Control	320	9.8%	10	142	168	11	230
19	Overcorrecting/Oversteering	125	3.8%	1	64	60	1	96
20	Physical Disability	1	0.0%	0	1	0	0	1
21	Sick	7	0.2%	0	1	6	0	1
22	Too Fast for Conditions	49	1.5%	3	17	29	3	26
23	Turning Improperly	12	0.4%	2	4	6	2	7
24	Weaving in Traffic	1	0.0%	0	1	0	0	1
97	Other	123	3.8%	7	27	89	9	49
99	None Detected	1450	44.3%	14	311	1125	13	484

Breckinridge County Contributing Environmental Factors								
Code	Environmental Factor	Total Reported	Total %	Fatal	Injury	Prop. Damage Only	Number Killed	Number Injured
1	Animal Action	162	5.3%	0	29	133	0	36
2	Construction Work Zone	5	0.2%	0	3	2	0	5
3	Debris in Roadway	8	0.3%	0	1	7	0	3
4	Fixed Object(s)	2	0.1%	0	0	2	0	0
5	Glare	39	1.3%	0	12	27	0	19
6	Holes/Deep Ruts/Bumps	5	0.2%	0	1	4	0	1

<sup>5</sup> All tables were obtained from Kentucky State Police

7	Improperly Parked Vehicle(s)	9	0.3%	0	2	7	0	4
8	Improper/Non-Working Traffic Controls	0	0.0%	0	0	0	0	0
9	Maintenance/Utility Work Zone	1	0.0%	0	0	1	0	0
10	Shoulders Defective/Drop-Off	16	0.5%	0	5	11	0	7
11	Slippery Surface	211	6.9%	2	69	140	2	93
12	View Obstructed/Limited	90	2.9%	2	29	59	2	38
13	Water Pooling	18	0.6%	1	6	11	1	9
97	Other	68	2.2%	1	14	53	1	17
99	None Detected	2,431	79.3%	36	615	1,780	29	682

Grayson County Contributing Human Factors								
Code	Human Factor	Total Reported	Total %	Fatal	Injury	Prop. Damage Only	Number Killed	Number Injured
1	Alcohol Involvement	168	2.1%	5	91	72	5	139
2	Cell Phone	26	0.3%	0	2	24	0	2
3	Disregard Traffic Control	74	0.9%	1	28	45	1	41
4	Distraction	124	1.6%	2	38	84	2	46
5	Drug Involvement	32	0.4%	0	21	11	0	33
6	Emotional	12	0.2%	0	6	6	0	8
7	Exceeded Stated Speed Limit	34	0.4%	1	15	18	1	24
8	Failed to Yield Right of Way	314	4.0%	6	82	226	7	138
9	Fatigue	26	0.3%	0	13	13	0	16
10	Fell Asleep	78	1.0%	1	31	46	1	34
11	Following Too Close	24	0.3%	0	6	18	0	8
12	Improper Backing	29	0.4%	1	0	28	1	2
13	Improper Passing	30	0.4%	0	9	21	0	16
14	Inattention	2192	27.7%	10	400	1782	11	606
15	Lost Consciousness	20	0.3%	0	16	4	0	18
16	Medication	6	0.1%	0	4	2	0	4
17	Misjudge Clearance	159	2.0%	0	8	151	0	9
18	Not Under Proper Control	466	5.9%	10	183	273	11	276
19	Overcorrecting/Oversteering	234	3.0%	3	110	121	3	154
20	Physical Disability	5	0.1%	0	2	3	0	2
21	Sick	15	0.2%	1	8	6	1	13
22	Too Fast for Conditions	141	1.8%	1	44	96	1	58
23	Turning Improperly	15	0.2%	0	6	9	0	10
24	Weaving in Traffic	5	0.1%	0	1	4	0	1
97	Other	406	5.1%	10	78	318	10	106
99	None Detected	3267	41.3%	15	576	2676	15	838

**Grayson County Contributing Environmental Factors**

Code	Environmental Factor	Total Reported	Total %	Fatal	Injury	Prop. Damage Only	Number Killed	Number Injured
1	Animal Action	309	4.3%	0	54	255	0	62
2	Construction Work Zone	18	0.3%	0	2	16	0	2
3	Debris in Roadway	16	0.2%	0	2	14	0	3
4	Fixed Object(s)	1	0.0%	0	0	1	0	0
5	Glare	59	0.8%	0	24	35	0	34
6	Holes/Deep Ruts/Bumps	7	0.1%	0	2	5	0	7
7	Improperly Parked Vehicle(s)	15	0.2%	0	1	14	0	3
8	Improper/Non-Working Traffic Controls	4	0.1%	0	2	2	0	6
9	Utility/Utility Work Zone	3	0.0%	0	0	3	0	0
10	Shoulders Defective/Drop-Off	7	0.1%	0	2	5	0	3
11	Slippery Surface	394	5.5%	4	122	268	4	155
12	View Obstructed/Limited	111	1.6%	0	27	84	0	29
13	Water Pooling	99	1.4%	0	28	71	0	41
97	Other	119	1.7%	1	24	94	1	36
99	None Detected	5,993	83.8%	42	1,218	4,733	30	1184

**Hardin County Contributing Human Factors**

Code	Human Factor	Total Reported	Total %	Fatal	Injury	Prop. Damage Only	Number Killed	Number Injured
1	Alcohol Involvement	651	1.8%	11	179	461	13	256
2	Cell Phone	104	0.3%	0	25	79	0	42
3	Disregard Traffic Control	685	1.9%	10	191	484	13	322
4	Distraction	835	2.3%	5	150	680	5	231
5	Drug Involvement	79	0.2%	3	23	53	3	31
6	Emotional	79	0.2%	3	13	63	3	24
7	Exceeded Stated Speed Limit	195	0.5%	11	73	111	14	126
8	Failed to Yield Right of Way	2737	7.6%	20	594	2123	24	999
9	Fatigue	72	0.2%	1	25	46	1	33
10	Fell Asleep	207	0.6%	7	78	122	7	111
11	Following Too Close	796	2.2%	0	104	692	0	142
12	Improper Backing	341	0.9%	1	7	333	1	8
13	Improper Passing	141	0.4%	0	24	117	0	34
14	Inattention	7886	21.9%	24	1136	6726	28	1763
15	Lost Consciousness	79	0.2%	0	44	35	0	57
16	Medication	22	0.1%	0	7	15	0	10
17	Misjudge Clearance	1031	2.9%	2	84	945	2	132
18	Not Under Proper Control	2212	6.2%	31	495	1686	34	739
19	Overcorrecting/Oversteering	722	2.0%	19	219	484	22	362
20	Physical Disability	20	0.1%	1	10	9	1	12
21	Sick	42	0.1%	1	14	27	1	22
22	Too Fast for Conditions	686	1.9%	5	154	527	5	229

23	Turning Improperly	228	0.6%	1	47	180	1	86
24	Weaving in Traffic	24	0.1%	1	4	19	1	6
97	Other	934	2.6%	10	150	774	11	200
99	None Detected	15134	42.1%	59	2237	12838	57	3116

Hardin County Contributing Environmental Factors								
Code	Environmental Factor	Total Reported	Total %	Fatal	Injury	Prop. Damage Only	Number Killed	Number Injured
1	Animal Action	700	2.2%	0	65	635	0	73
2	Construction Work Zone	105	0.3%	2	22	81	1	22
3	Debris in Roadway	91	0.3%	0	15	76	0	12
4	Fixed Object(s)	4	0.0%	0	1	3	0	4
5	Glare	166	0.5%	0	39	127	0	55
6	Holes/Deep Ruts/Bumps	14	0.0%	0	4	10	0	4
7	Improperly Parked Vehicle(s)	60	0.2%	0	7	53	0	6
8	Improper/Non-Working Traffic Controls	36	0.1%	0	11	25	0	13
9	Utility/Utility Work Zone	25	0.1%	0	7	18	0	7
10	Shoulders Defective/Drop-Off	25	0.1%	1	6	18	1	8
11	Slippery Surface	2,172	7.0%	11	376	1,785	7	471
12	View Obstructed/Limited	477	1.5%	9	81	387	6	114
13	Water Pooling	265	0.9%	4	64	197	5	100
97	Other	852	2.7%	7	106	739	6	156
99	None Detected	26,151	84.0%	129	4,185	21,837	92	3775

Larue County Contributing Human Factors								
Code	Human Factor	Total Reported	Total %	Fatal	Injury	Prop. Damage Only	Number Killed	Number Injured
1	Alcohol Involvement	87	2.8%	2	36	49	2	54
2	Cell Phone	12	0.4%	1	2	9	1	3
3	Disregard Traffic Control	36	1.2%	2	11	23	2	28
4	Distraction	72	2.3%	1	17	54	1	35
5	Drug Involvement	15	0.5%	0	8	7	0	12
6	Emotional	11	0.4%	0	4	7	0	8
7	Exceeded Stated Speed Limit	24	0.8%	4	9	11	4	17
8	Failed to Yield Right of Way	95	3.1%	2	20	73	3	52
9	Fatigue	6	0.2%	0	4	2	0	5
10	Fell Asleep	28	0.9%	1	11	16	1	19
11	Following Too Close	22	0.7%	0	4	18	0	6
12	Improper Backing	9	0.3%	0	0	9	0	0
13	Improper Passing	10	0.3%	0	0	10	0	0
14	Inattention	655	21.2%	5	134	516	5	231
15	Lost Consciousness	4	0.1%	0	1	3	0	1
16	Medication	2	0.1%	0	1	1	0	2
17	Misjudge Clearance	115	3.7%	0	14	101	0	16

18	Not Under Proper Control	279	9.0%	8	97	174	8	162
19	Overcorrecting/Oversteering	97	3.1%	3	39	55	3	55
20	Physical Disability	0	0.0%	0	0	0	0	0
21	Sick	3	0.1%	0	2	1	0	2
22	Too Fast for Conditions	100	3.2%	2	30	68	2	43
23	Turning Improperly	8	0.3%	0	1	7	0	1
24	Weaving in Traffic	0	0.0%	0	0	0	0	0
97	Other	151	4.9%	3	31	117	3	40
99	None Detected	1243	40.3%	13	217	1013	12	362

Larue County Contributing Environmental Factors								
Code	Environmental Factor	Total Reported	Total %	Fatal	Injury	Prop. Damage Only	Number Killed	Number Injured
1	Animal Action	133	4.9%	0	8	125	0	8
2	Construction Work Zone	7	0.3%	0	0	7	0	0
3	Debris in Roadway	11	0.4%	0	1	10	0	1
4	Fixed Object(s)	1	0.0%	0	0	1	0	0
5	Glare	18	0.7%	0	3	15	0	4
6	Holes/Deep Ruts/Bumps	1	0.0%	0	0	1	0	0
7	Improperly Parked Vehicle(s)	11	0.4%	1	0	10	1	1
8	Improper/Non-Working Traffic Controls	2	0.1%	0	0	2	0	0
9	Utility/Utility Work Zone	0	0.0%	0	0	0	0	0
10	Shoulders Defective/Drop-Off	4	0.1%	0	1	3	0	2
11	Slippery Surface	234	8.6%	5	71	158	5	97
12	View Obstructed/Limited	61	2.2%	0	13	48	0	13
13	Water Pooling	26	1.0%	1	5	20	1	5
97	Other	85	3.1%	0	20	65	0	23
99	None Detected	2,130	78.2%	27	430	1,673	19	482

Marion County Contributing Human Factors								
Code	Human Factor	Total Reported	Total %	Fatal	Injury	Prop. Damage Only	Number Killed	Number Injured
1	Alcohol Involvement	217	3.5%	13	75	129	14	96
2	Cell Phone	11	0.2%	0	3	8	0	8
3	Disregard Traffic Control	29	0.5%	0	13	16	0	18
4	Distraction	71	1.2%	0	16	55	0	24
5	Drug Involvement	35	0.6%	1	12	22	1	20
6	Emotional	13	0.2%	0	3	10	0	4
7	Exceeded Stated Speed Limit	37	0.6%	6	16	15	7	24
8	Failed to Yield Right of Way	301	4.9%	2	74	225	3	135
9	Fatigue	8	0.1%	0	3	5	0	4
10	Fell Asleep	23	0.4%	0	8	15	0	9
11	Following Too Close	60	1.0%	0	4	56	0	5
12	Improper Backing	16	0.3%	0	0	16	0	0

13	Improper Passing	17	0.3%	1	2	14	2	3
14	Inattention	1,682	27.4%	3	175	1,504	4	290
15	Lost Consciousness	12	0.2%	0	10	2	0	15
16	Medication	4	0.1%	0	1	3	0	1
17	Misjudge Clearance	156	2.5%	0	9	147	0	14
18	Not Under Proper Control	212	3.5%	9	64	139	10	107
19	Overcorrecting/Oversteering	105	1.7%	4	34	67	5	50
20	Physical Disability	5	0.1%	0	2	3	0	3
21	Sick	4	0.1%	0	2	2	0	2
22	Too Fast for Conditions	68	1.1%	0	26	42	0	37
23	Turning Improperly	15	0.2%	0	0	15	0	0
24	Weaving in Traffic	0	0.0%	0	0	0	0	0
97	Other	143	2.3%	1	23	119	1	31
99	None Detected	2,884	47.1%	6	344	2,534	7	506

Marion County Contributing Environmental Factors								
Code	Environmental Factor	Total Reported	Total %	Fatal	Injury	Prop. Damage Only	Number Killed	Number Injured
1	Animal Action	122	2.2%	0	8	114	0	8
2	Construction Work Zone	12	0.2%	0	1	11	0	2
3	Debris in Roadway	8	0.1%	0	2	6	0	3
4	Fixed Object(s)	1	0.0%	0	0	1	0	0
5	Glare	27	0.5%	0	4	23	0	5
6	Holes/Deep Ruts/Bumps	1	0.0%	0	0	1	0	0
7	Improperly Parked Vehicle(s)	18	0.3%	0	0	18	0	0
8	Improper/Non-Working Traffic Controls	1	0.0%	0	1	0	0	2
9	Utility/Utility Work Zone	2	0.0%	0	0	2	0	0
10	Shoulders Defective/Drop-Off	7	0.1%	0	0	7	0	0
11	Slippery Surface	213	3.8%	2	51	160	2	68
12	View Obstructed/Limited	77	1.4%	0	5	72	0	8
13	Water Pooling	21	0.4%	0	4	17	0	4
97	Other	54	1.0%	0	11	43	0	12
99	None Detected	5,076	90.0%	28	691	4,357	26	686

Meade County Contributing Human Factors								
Code	Human Factor	Total Reported	Total %	Fatal	Injury	Prop. Damage Only	Number Killed	Number Injured
1	Alcohol Involvement	191	3.4%	10	75	106	10	113
2	Cell Phone	20	0.4%	1	9	10	1	14
3	Disregard Traffic Control	43	0.8%	2	24	17	2	44
4	Distraction	128	2.3%	2	37	89	2	62
5	Drug Involvement	22	0.4%	2	10	10	3	16
6	Emotional	14	0.3%	1	2	11	1	3
7	Exceeded Stated Speed Limit	52	0.9%	9	26	17	9	55

8	Failed to Yield Right of Way	190	3.4%	4	67	119	4	124
9	Fatigue	13	0.2%	0	7	6	0	12
10	Fell Asleep	36	0.6%	1	14	21	1	20
11	Following Too Close	41	0.7%	0	5	36	0	12
12	Improper Backing	11	0.2%	0	1	10	0	3
13	Improper Passing	32	0.6%	0	9	23	0	15
14	Inattention	1,261	22.5%	9	315	937	9	503
15	Lost Consciousness	22	0.4%	1	13	8	1	20
16	Medication	4	0.1%	0	2	2	0	2
17	Misjudge Clearance	117	2.1%	0	15	102	0	19
18	Not Under Proper Control	474	8.5%	7	154	313	8	246
19	Overcorrecting/Oversteering	116	2.1%	3	34	79	3	49
20	Physical Disability	1	0.0%	0	1	0	0	1
21	Sick	6	0.1%	0	2	4	0	2
22	Too Fast for Conditions	101	1.8%	3	33	65	5	55
23	Turning Improperly	18	0.3%	0	2	16	0	5
24	Weaving in Traffic	2	0.0%	0	2	0	0	3
97	Other	196	3.5%	0	42	154	0	54
99	None Detected	2,485	44.4%	32	583	1,870	31	835

Meade County Contributing Environmental Factors								
Code	Environmental Factor	Total Reported	Total %	Fatal	Injury	Prop. Damage Only	Number Killed	Number Injured
1	Animal Action	268	5.3%	2	35	231	2	46
2	Construction Work Zone	35	0.7%	0	4	31	0	3
3	Debris in Roadway	16	0.3%	0	3	13	0	8
4	Fixed Object(s)	0	0.0%	0	0	0	0	0
5	Glare	22	0.4%	0	7	15	0	11
6	Holes/Deep Ruts/Bumps	0	0.0%	0	0	0	0	0
7	Improperly Parked Vehicle(s)	10	0.2%	0	0	10	0	0
8	Improper/Non-Working Traffic Controls	0	0.0%	0	0	0	0	0
9	Utility/Utility Work Zone	9	0.2%	0	0	9	0	0
10	Shoulders Defective/Drop-Off	4	0.1%	0	1	3	0	2
11	Slippery Surface	309	6.1%	5	59	245	7	88
12	View Obstructed/Limited	84	1.7%	3	20	61	3	26
13	Water Pooling	33	0.6%	0	7	26	0	11
97	Other	113	2.2%	3	34	76	3	56
99	None Detected	4,174	82.2%	54	1,130	2,990	39	1102

Nelson County Contributing Human Factors								
Code	Human Factor	Total Reported	Total %	Fatal	Injury	Prop. Damage Only	Number Killed	Number Injured
1	Alcohol Involvement	394	2.7%	14	151	229	14	206
2	Cell Phone	56	0.4%	0	19	37	0	23

3	Disregard Traffic Control	84	0.6%	0	24	60	0	46
4	Distraction	249	1.7%	1	46	202	1	65
5	Drug Involvement	50	0.3%	1	19	30	1	27
6	Emotional	30	0.2%	0	9	21	0	10
7	Exceeded Stated Speed Limit	76	0.5%	7	37	32	7	55
8	Failed to Yield Right of Way	476	3.2%	2	99	375	2	174
9	Fatigue	46	0.3%	0	18	28	0	24
10	Fell Asleep	114	0.8%	4	51	59	5	78
11	Following Too Close	82	0.6%	0	11	71	0	14
12	Improper Backing	63	0.4%	0	2	61	0	2
13	Improper Passing	68	0.5%	0	8	60	0	16
14	Inattention	3,845	26.2%	5	481	3,359	5	726
15	Lost Consciousness	31	0.2%	1	20	10	1	28
16	Medication	13	0.1%	1	1	11	1	1
17	Misjudge Clearance	632	4.3%	2	49	581	2	70
18	Not Under Proper Control	910	6.2%	11	276	623	11	380
19	Overcorrecting/Oversteering	423	2.9%	9	152	262	9	200
20	Physical Disability	12	0.1%	0	4	8	0	5
21	Sick	11	0.1%	0	6	5	0	8
22	Too Fast for Conditions	318	2.2%	5	95	218	5	136
23	Turning Improperly	47	0.3%	0	3	44	0	3
24	Weaving in Traffic	5	0.0%	0	0	5	0	0
97	Other	475	3.2%	6	102	367	7	145
99	None Detected	6,193	42.1%	18	886	5,289	17	1186

Nelson County Contributing Environmental Factors								
Code	Environmental Factor	Total Reported	Total %	Fatal	Injury	Prop. Damage Only	Number Killed	Number Injured
1	Animal Action	350	2.7%	1	54	295	1	62
2	Construction Work Zone	38	0.3%	0	7	31	0	6
3	Debris in Roadway	25	0.2%	0	8	17	0	11
4	Fixed Object(s)	3	0.0%	0	0	3	0	0
5	Glare	61	0.5%	0	13	48	0	20
6	Holes/Deep Ruts/Bumps	3	0.0%	0	0	3	0	0
7	Improperly Parked Vehicle(s)	26	0.2%	0	3	23	0	2
8	Improper/Non-Working Traffic Controls	9	0.1%	0	2	7	0	3
9	Utility/Utility Work Zone	5	0.0%	0	0	5	0	0
10	Shoulders Defective/Drop-Off	10	0.1%	0	5	5	0	5
11	Slippery Surface	931	7.1%	6	232	693	5	251
12	View Obstructed/Limited	165	1.3%	2	40	123	1	51
13	Water Pooling	39	0.3%	0	10	29	0	12
97	Other	173	1.3%	3	42	128	3	47
99	None Detected	11,279	86.0%	49	1,776	9,454	42	1646



### Washington County Contributing Human Factors

Code	Human Factor	Total Reported	Total %	Fatal	Injury	Prop. Damage Only	Number Killed	Number Injured
1	Alcohol Involvement	80	2.6%	2	45	33	3	70
2	Cell Phone	12	0.4%	0	3	9	0	4
3	Disregard Traffic Control	28	0.9%	1	9	18	1	20
4	Distraction	99	3.2%	1	20	78	2	34
5	Drug Involvement	15	0.5%	1	5	9	1	9
6	Emotional	10	0.3%	1	2	7	1	4
7	Exceeded Stated Speed Limit	29	0.9%	1	15	13	1	18
8	Failed to Yield Right of Way	135	4.3%	5	37	93	7	78
9	Fatigue	8	0.3%	0	3	5	0	4
10	Fell Asleep	28	0.9%	0	8	20	0	8
11	Following Too Close	27	0.9%	0	4	23	0	4
12	Improper Backing	21	0.7%	0	1	20	0	1
13	Improper Passing	20	0.6%	1	4	15	2	7
14	Inattention	704	22.6%	7	124	573	13	201
15	Lost Consciousness	7	0.2%	0	5	2	0	5
16	Medication	2	0.1%	0	1	1	0	1
17	Misjudge Clearance	129	4.1%	1	4	124	1	4
18	Not Under Proper Control	241	7.7%	8	89	144	10	127
19	Overcorrecting/Oversteering	74	2.4%	3	25	46	3	39
20	Physical Disability	1	0.0%	0	0	1	0	0
21	Sick	3	0.1%	0	2	1	0	3
22	Too Fast for Conditions	89	2.9%	4	29	56	5	46
23	Turning Improperly	12	0.4%	0	4	8	0	11
24	Weaving in Traffic	2	0.1%	0	1	1	0	1
97	Other	74	2.4%	0	17	57	0	26
99	None Detected	1,271	40.7%	15	172	1,084	19	276

### Washington County Contributing Environmental Factors

Code	Environmental Factor	Total Reported	Total %	Fatal	Injury	Prop. Damage Only	Number Killed	Number Injured
1	Animal Action	101	3.8%	0	10	91	0	12
2	Construction Work Zone	1	0.0%	0	0	1	0	0
3	Debris in Roadway	7	0.3%	0	1	6	0	1
4	Fixed Object(s)	0	0.0%	0	0	0	0	0
5	Glare	16	0.6%	0	4	12	0	11
6	Holes/Deep Ruts/Bumps	1	0.0%	0	0	1	0	0
7	Improperly Parked Vehicle(s)	9	0.3%	0	0	9	0	0
8	Improper/Non-Working Traffic Controls	0	0.0%	0	0	0	0	0
9	Utility/Utility Work Zone	0	0.0%	0	0	0	0	0
10	Shoulders Defective/Drop-Off	6	0.2%	1	0	5	1	0
11	Slippery Surface	166	6.2%	5	33	128	4	41

12	View Obstructed/Limited	68	2.5%	0	19	49	0	25
13	Water Pooling	18	0.7%	1	6	11	1	9
97	Other	54	2.0%	0	11	43	0	15
99	None Detected	2,231	83.3%	30	397	1,804	28	408