

## Number of fatalities and disabling injuries-3a

**Result Driver:** Don Hillis, Director of System Management  
**Measurement Driver:** Leanna Depue, Highway Safety Director

**Purpose of the Measure:**

This measure tracks annual trends in fatal and disabling injuries resulting from traffic crashes on all Missouri roadways. This data drives the development and focus of the Missouri Highway Safety Plan. This plan is required annually by the National Highway Traffic Safety Administration and outlines key strategies to reduce these losses. In addition, this data supports Missouri’s Blueprint to Arrive Alive. This document identifies the statewide initiatives with a goal of reducing fatalities to 850 or fewer by 2012.

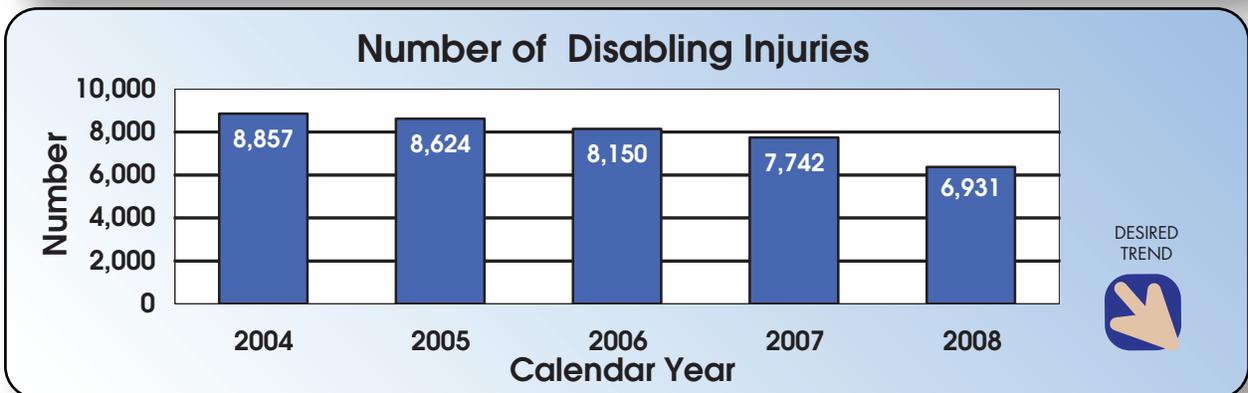
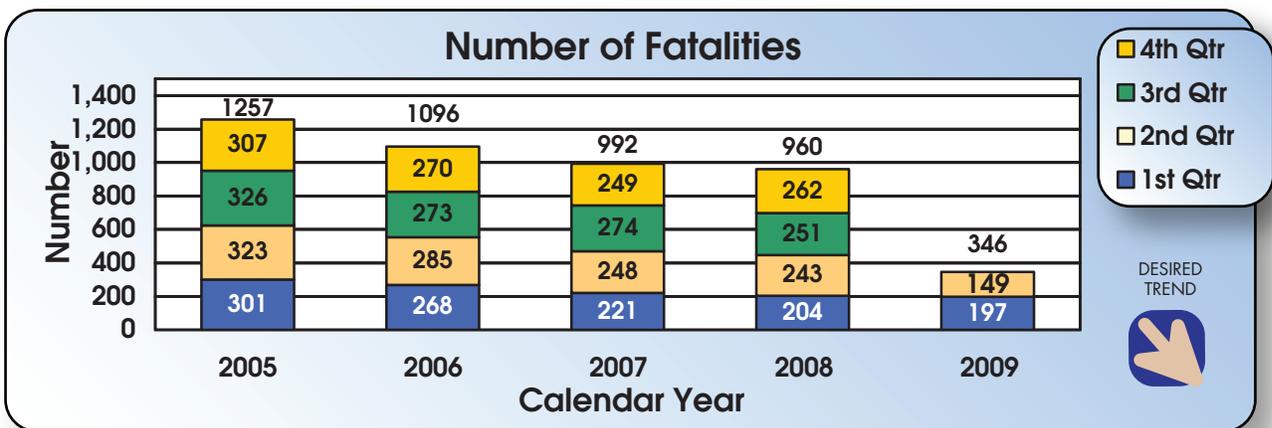
**Measurement and Data Collection:**

Crash data is collected by the Missouri State Highway Patrol and entered into a traffic accident record system. The record system automatically updates MoDOT’s traffic management system. Crash data reports are available to law enforcement and traffic safety advocates for crash analysis through both databases. Final data is collected on an annual basis and is updated in July of the following year.

**Note:** The 2009 quarterly fatalities are not final numbers.

**Improvement Status:**

Fatalities decreased 24 percent from 2005 to 2008 in a continued downward trend. Until 2007, Missouri had not been under 1,000 fatalities since 1993. The 960 fatalities in 2008 means the Missouri Coalition for Roadway Safety can again celebrate accomplishing their goal of 1,000 or fewer fatalities by 2008. Disabling injuries continue to show a decreasing trend with a reduction of over 400 when compared to the 2006 number. The national data comparison shows that Missouri moved from 38<sup>th</sup> in 2006 to 35<sup>th</sup> in 2007 for total fatalities. The 2008 national comparison is not yet available. Fatalities and disabling injuries are decreasing due in part to engineering enhancements such as three-strand guard cable, rumble strips and enhanced delineation. Also contributing are strong safety belt public information campaigns combined with increased law enforcement participation in statewide campaigns.





## Number of impaired driver-related fatalities and disabling injuries-3b

**Result Driver:** Don Hillis, Director of System Management

**Measurement Driver:** Leanna Depue, Highway Safety Director

### Purpose of the Measure:

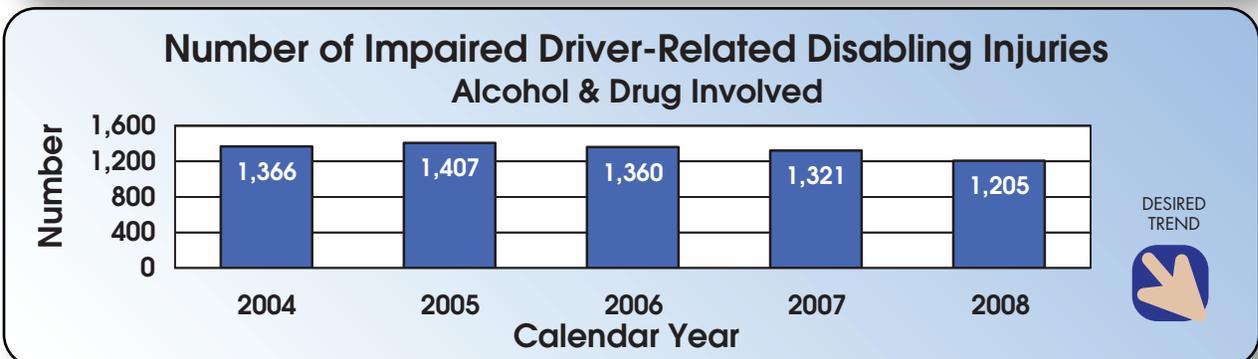
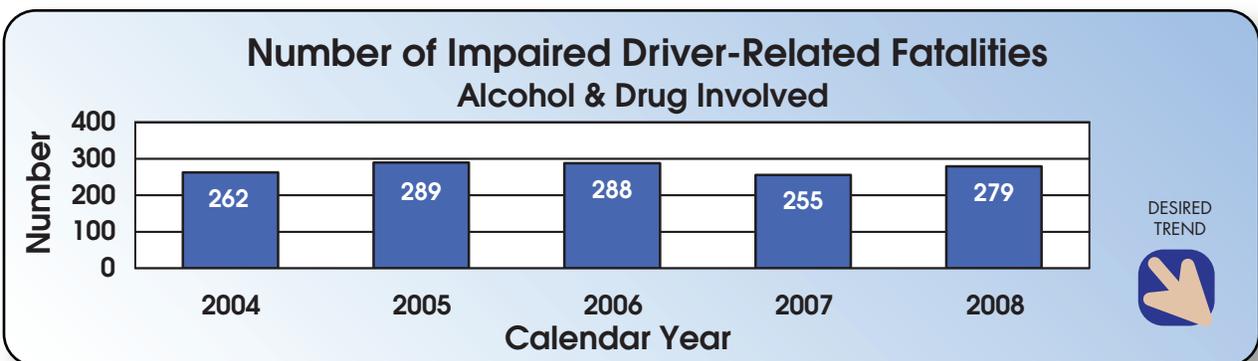
This measure tracks annual trends in fatalities and injuries resulting from traffic crashes on all Missouri roadways involving drivers who are impaired by alcohol and/or drugs. This data drives the development and focus of the Missouri Highway Safety Plan. This plan is required annually by the National Highway Traffic Safety Administration and outlines key strategies to reduce these losses. In addition, this data supports Missouri’s Blueprint to Arrive Alive. This document identifies the statewide initiatives with a goal of reducing fatalities to 850 or fewer by 2012.

### Measurement and Data Collection:

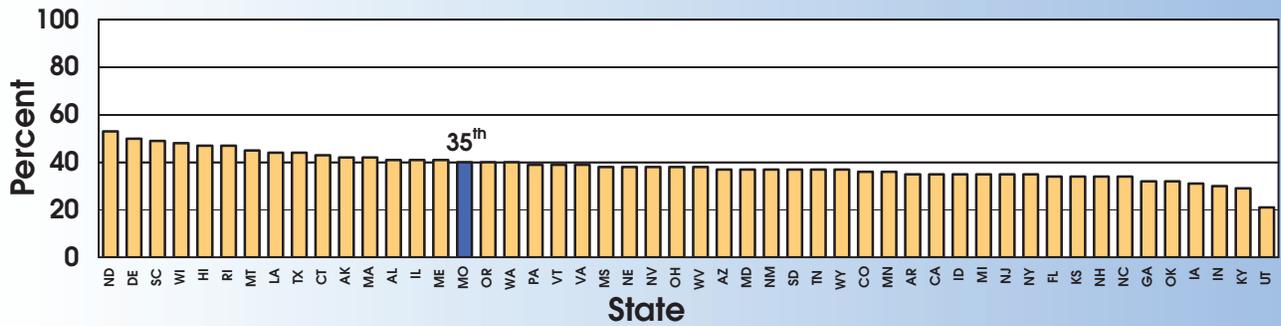
Crash data is collected by the Missouri State Highway Patrol and entered into a traffic accident record system. The record system automatically updates MoDOT’s traffic management system. Crash data reports are available to law enforcement and traffic safety advocates for crash analysis through both databases. Final data is collected on an annual basis and is updated in July of the following year.

### Improvement Status:

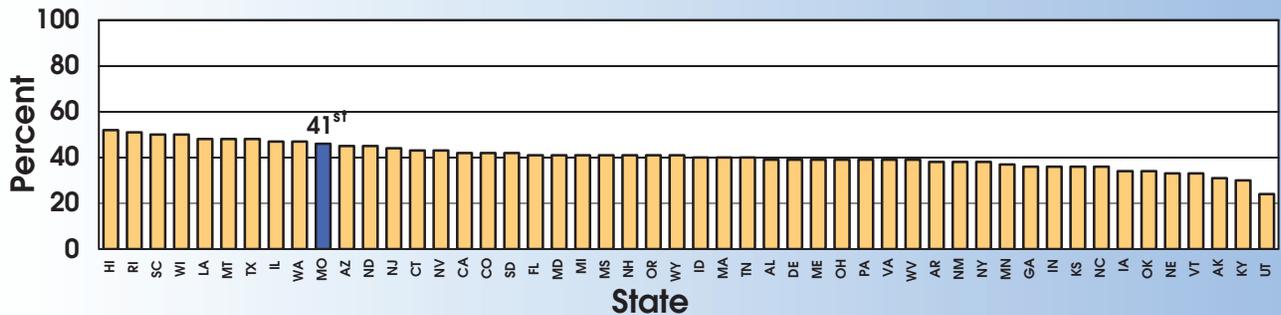
Alcohol- and drug-related fatalities remain steady after a three-year decrease. Disabling injuries continue to decrease in 2008. In the national comparison, Missouri moved from 41<sup>st</sup> in 2006 to 35<sup>th</sup> in 2007. The 2008 comparison is not yet available. In addition to Missouri participating in the national “You Drink and Drive, You Lose” campaign, the Missouri Law Enforcement Traffic Safety Advisory Council selected specific days to increase law enforcement activity through December 2009. Public information and education has been directed at high-risk drivers ages 21 to 35. Law enforcement efforts have been concentrated on high-crash corridors and increasing the number of sobriety checkpoints. These efforts have helped reduce impaired driving crashes overall and have started a downward trend in fatalities and disabling injuries. An increasing number of people who work in liquor establishments are completing the online server training modules that were first developed in 2005.



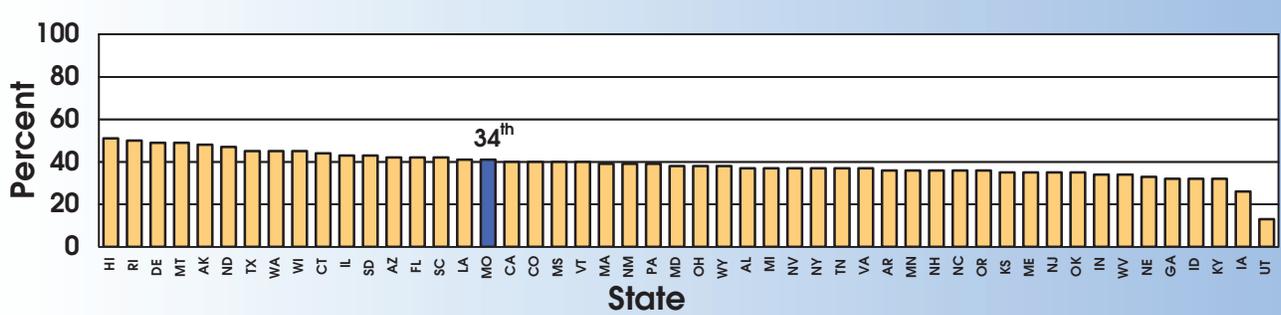
**Missouri's National Ranking by Percent Killed in Alcohol-Related Crashes  
2007**



**Missouri's National Ranking by Percent Killed in Alcohol-Related Crashes  
2006**



**Missouri's National Ranking by Percent Killed in Alcohol-Related Crashes  
2005**



## Rate of annual fatalities and disabling injuries-3c

**Result Driver:** Don Hillis, Director of System Management

**Measurement Driver:** Leanna Depue, Highway Safety Director

### Purpose of the Measure:

This measure tracks annual trends in fatal and disabling injury rates per 100 million vehicle miles traveled (HMVM) in Missouri. This data drives the development and focus of the Missouri Highway Safety Plan. This plan is required annually by the National Highway Traffic Safety Administration and outlines key strategies to reduce these losses. In addition, this data supports Missouri's Blueprint to Arrive Alive. This document identifies the statewide initiatives with a goal of reducing fatalities to 850 or fewer by 2012.

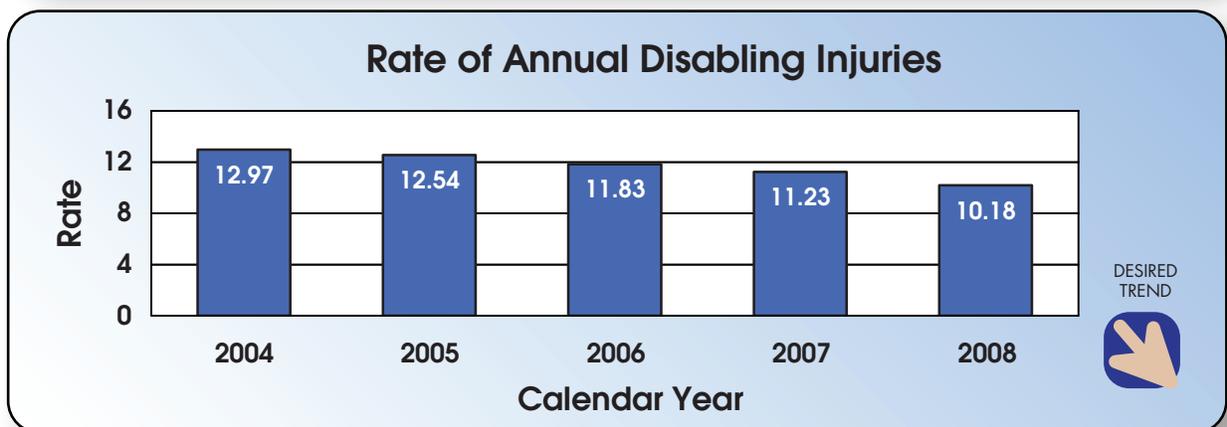
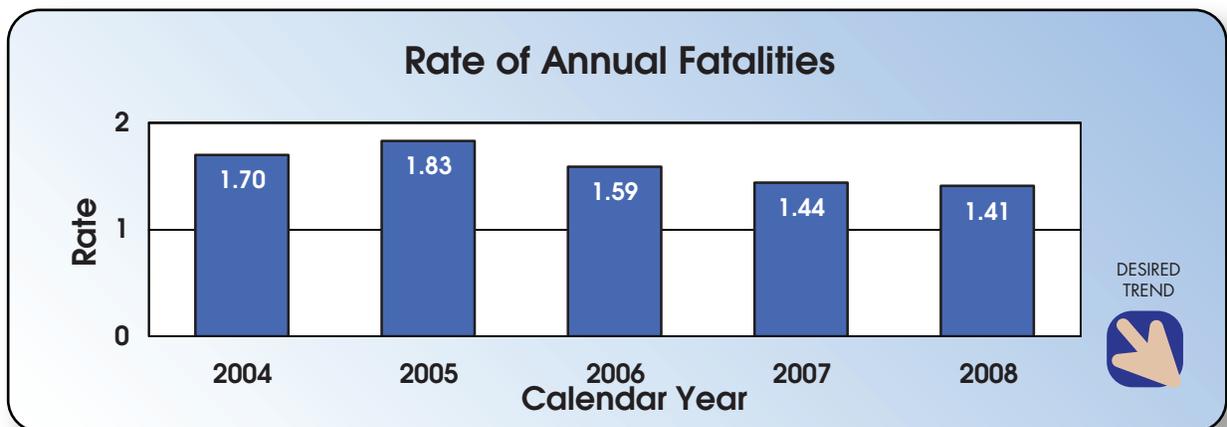
### Measurement and Data Collection:

Crash data is collected by the Missouri State Highway Patrol and entered into a traffic accident record system. The record system automatically updates MoDOT's traffic management system. Crash data reports are available to law enforcement

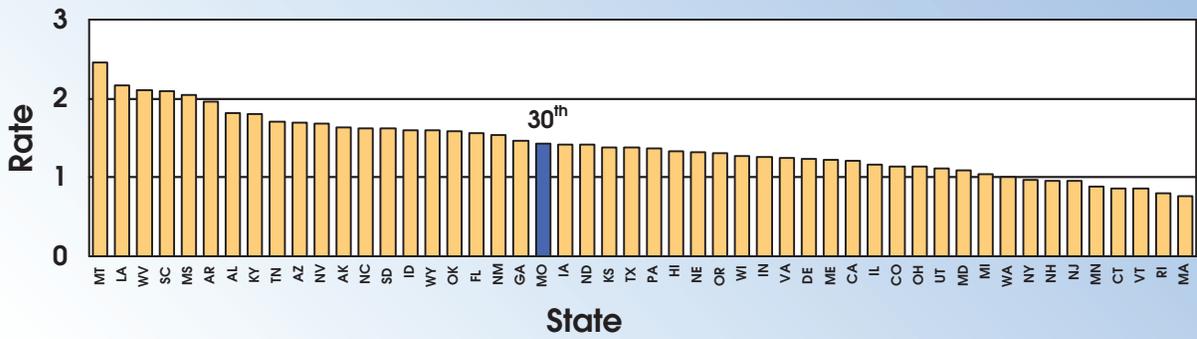
and traffic safety advocates for crash analysis through both databases. Data is collected on an annual basis and is updated in July of the following year.

### Improvement Status:

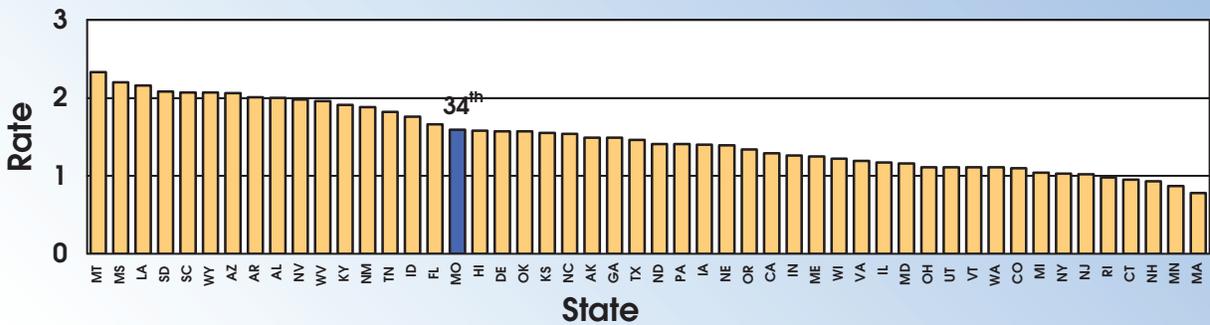
Both the fatality and disabling injury rates in Missouri are at the lowest ever recorded. Missouri has seen a 23 percent decrease since 2005. Based on the national comparison, Missouri has moved from 34<sup>th</sup> in 2006 to 30<sup>th</sup> in 2007. The 2008 national comparison is not yet available. Based on the NHTSA national goal of a 1.0 fatality rate, Missouri is still moving in the right direction. Focused law enforcement efforts, engineering safety enhancements and increased public awareness all contribute to the decrease.



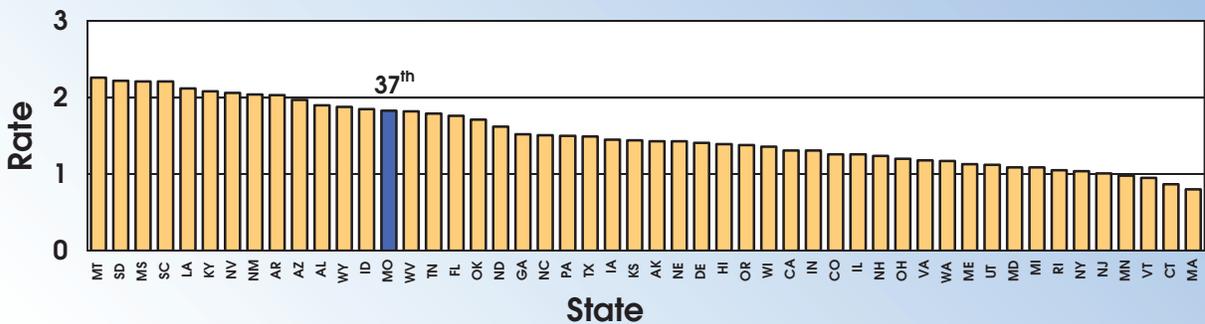
### Missouri's National Ranking in State Fatality Rates 2007



### Missouri's National Ranking in State Fatality Rates 2006



### Missouri's National Ranking in State Fatality Rates 2005



## Percent of safety belt/passenger vehicle restraint use-3d

**Result Driver:** Don Hillis, Director of System Management

**Measurement Driver:** Leanna Depue, Highway Safety Director

### Purpose of the Measure:

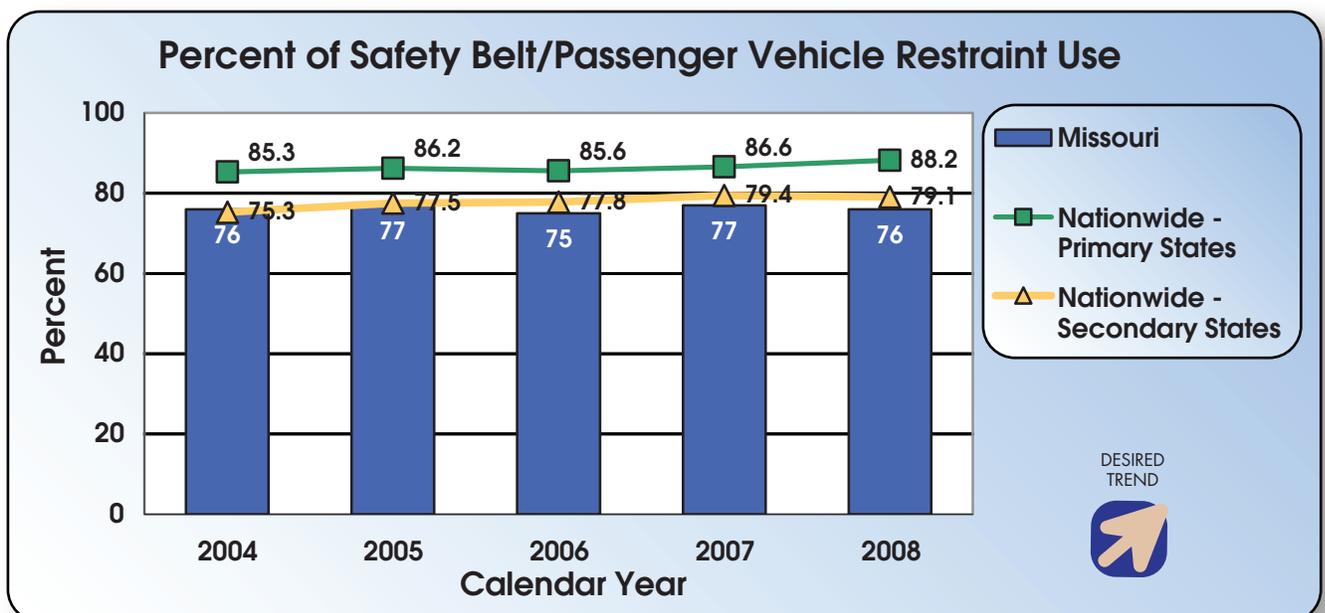
This measure tracks annual trends in safety belt usage by persons in passenger vehicles. This data drives the development and focus of the Missouri Highway Safety Plan. This plan is required annually by the National Highway Traffic Safety Administration and outlines key strategies to reduce these losses. In addition, this data supports Missouri’s Blueprint to Arrive Alive. This document identifies the statewide initiatives with a goal of reducing fatalities to 850 or fewer by 2012.

### Measurement and Data Collection:

Each June, a statewide survey is conducted at 460 pre-selected locations in 20 counties. The data collected at these sites is calculated into a safety belt usage rate by using a formula approved by the National Highway Traffic Safety Administration. The safety belt usage survey enables data collection from locations representative of 85 percent of the state’s population. The data collection plan is the same each year for consistency and compliance with the National Highway Traffic Safety Administration guidelines. Data is collected on an annual basis and is updated in August of the following year. Annual information for the national rankings may not be available from all 50 states.

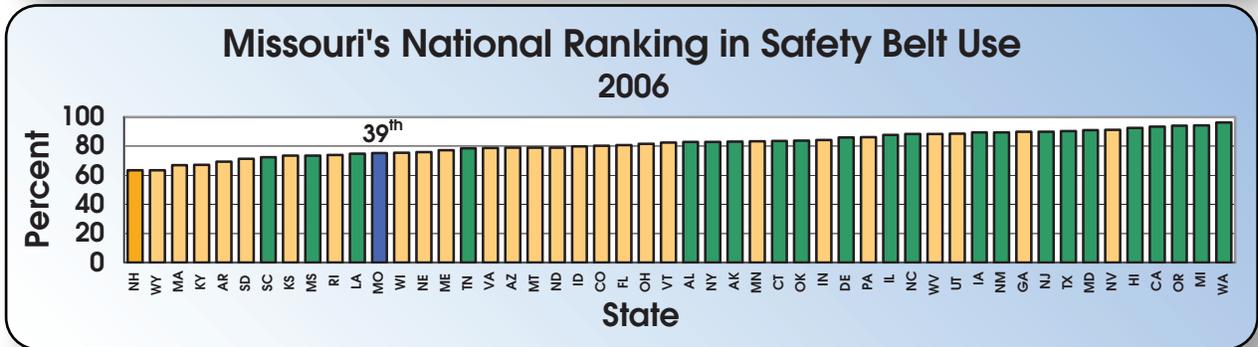
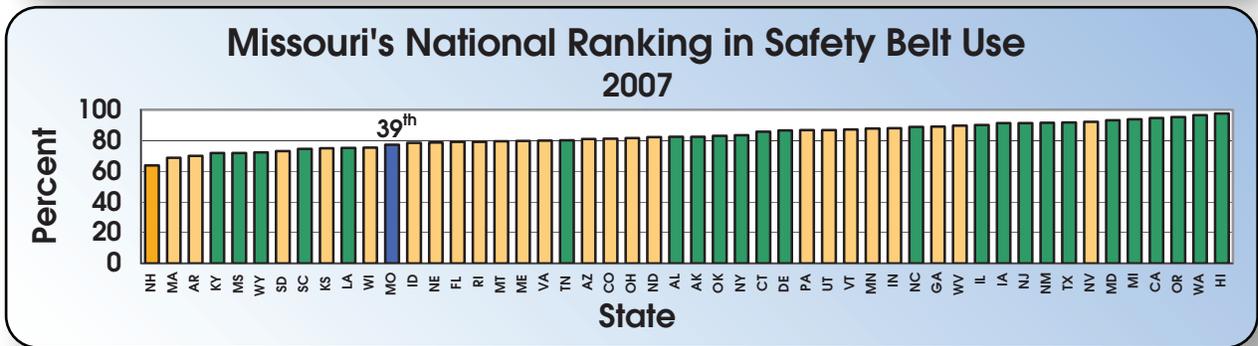
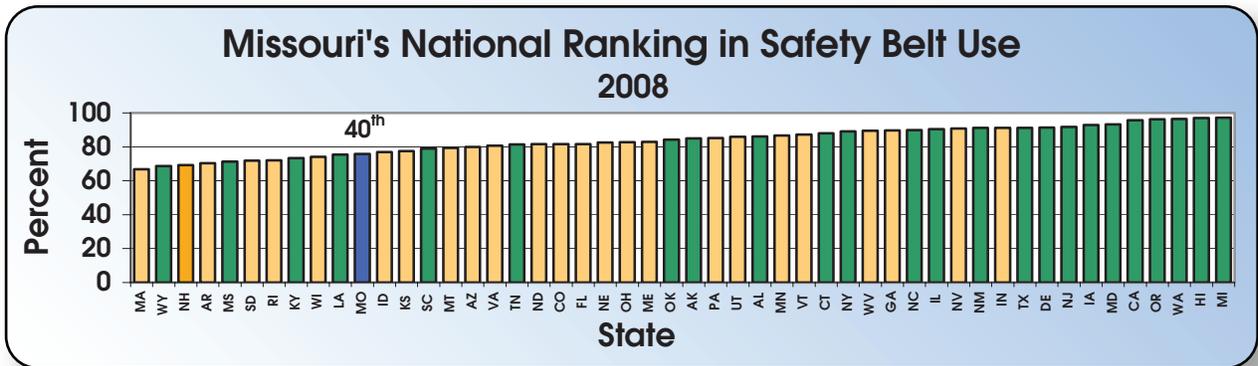
### Improvement Status:

Safety belt use in Missouri has remained fairly constant for the past five years. In the 2008 national comparison, Missouri ranked 40<sup>th</sup> in safety belt usage. The national average for seat belt use for 2008 is 83%. Missouri currently has a secondary seat belt law, which means law enforcement may not stop a vehicle solely to determine seat belt compliance. Law enforcement must observe another driving violation to stop a vehicle and issue a seat belt citation. Many states have a primary seat belt law, which means law enforcement may stop a vehicle if they observe an occupant is not wearing a seat belt. Missouri continues to focus efforts through public information and education and law enforcement participation in the national “Click It or Ticket” campaign. The Law Enforcement Traffic Safety Advisory Council (LETSAC) recently added additional quarterly enforcement dates through December 2009 to focus on safety belt use. A statewide program focusing on teen safety belt use has also proven to be successful in increasing use among teenagers. MoDOT continues to promote the need for a primary safety belt law in Missouri.



For all graphs on this page, the following legend applies:

- States that have primary seat belt laws
- States that have secondary seat belt laws
- States that have neither a primary nor a secondary seat belt law (1 total)
- Missouri – secondary seat belt law in place (Source: <http://www.ghsa.gov/>, June 2008)



## Number of bicycle and pedestrian fatalities and disabling injuries-3e

**Result Driver:** Don Hillis, Director of System Management

**Measurement Driver:** Leanna Depue, Highway Safety Director

### Purpose of the Measure:

This measure tracks annual trends in fatalities and disabling injuries resulting from traffic crashes with bicycles and pedestrians on Missouri roadways. This data drives the development and focus of the Missouri Highway Safety Plan. This plan is required annually by the National Highway Traffic Safety Administration and outlines key strategies to reduce these losses. In addition, this data supports Missouri's Blueprint to Arrive Alive. This document identifies the statewide initiatives with a goal of reducing fatalities to 850 or fewer by 2012.

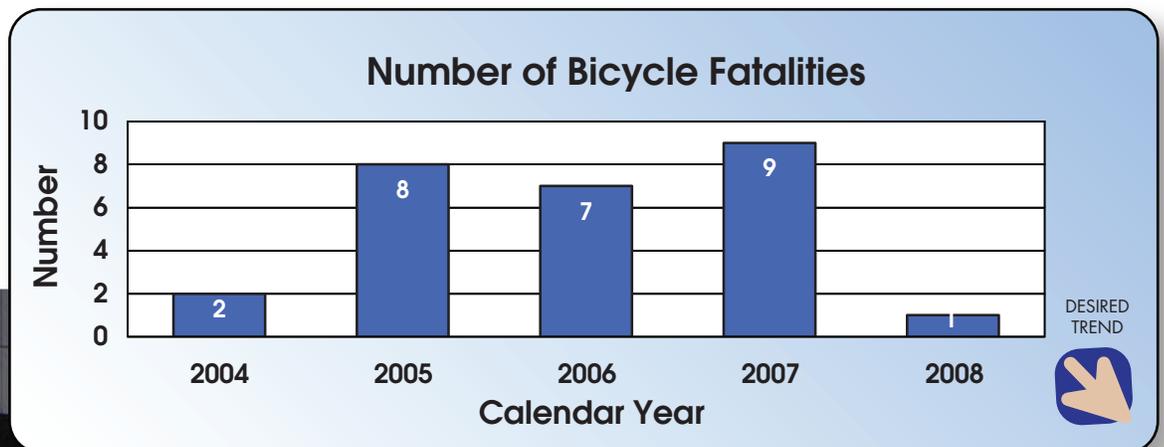
### Measurement and Data Collection:

Crash data is collected by the Missouri State Highway Patrol and entered into a traffic accident record system. The record system automatically updates MoDOT's traffic management system.

Crash data reports are available to law enforcement and traffic safety advocates for crash analysis through both databases. Final data is collected on an annual basis and updated in July of the following year.

### Improvement Status:

This data reflects the number of fatalities and disabling injuries occurring when a motor vehicle is involved in a crash with a bicycle or pedestrian. These bicycle numbers remain steady, although MoDOT has been increasing the miles of dedicated bike lanes. Pedestrian fatalities and disabling injuries show a slight decrease over the past five years due to signaling and dedicated crossing area improvements. Funds have been dedicated to support the Bicycle Pedestrian Advisory Committee.



www.pedbikeimages.org/Dan Burden

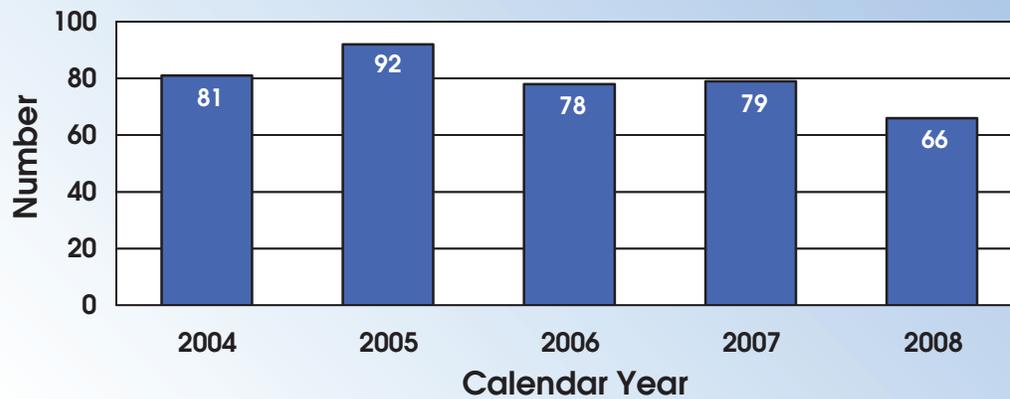
Number of Bicycle Disabling Injuries



DESIRED  
TREND



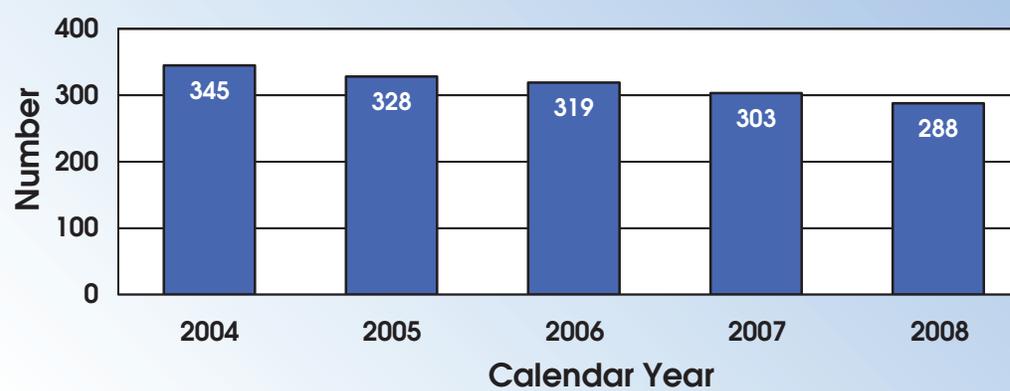
Number of Pedestrian Fatalities



DESIRED  
TREND



Number of Pedestrian Disabling Injuries



DESIRED  
TREND



## Number of motorcycle fatalities and disabling injuries-3f

**Result Driver:** Don Hillis, Director of System Management

**Measurement Driver:** Leanna Depue, Highway Safety Director

### Purpose of the Measure:

This measure tracks annual trends in fatal and disabling injuries resulting from motorcycle traffic crashes on all Missouri roadways. This data drives the development and focus of the Missouri Highway Safety Plan. This plan is required annually by the National Highway Traffic Safety Administration and outlines key strategies to reduce these losses. In addition, this data supports the Missouri’s Blueprint to Arrive Alive. This document identifies the statewide initiatives with a goal of reducing fatalities to 850 or fewer by 2012.

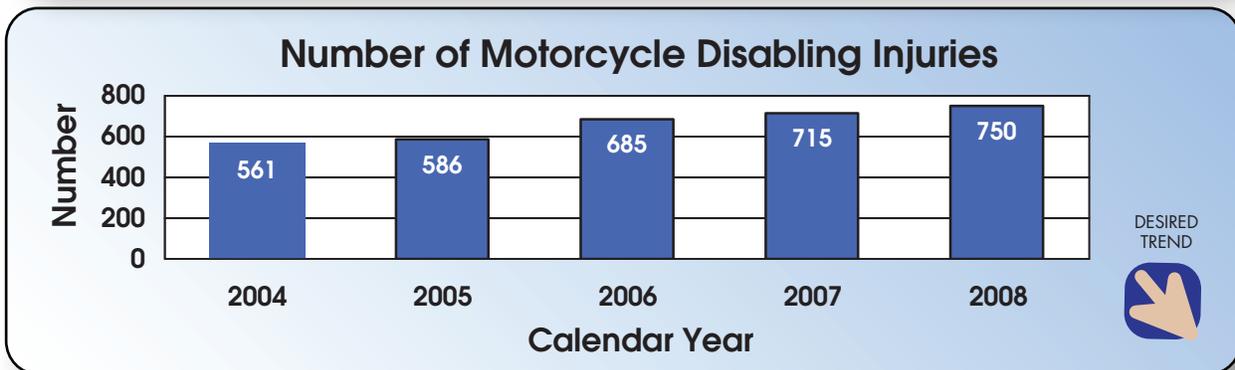
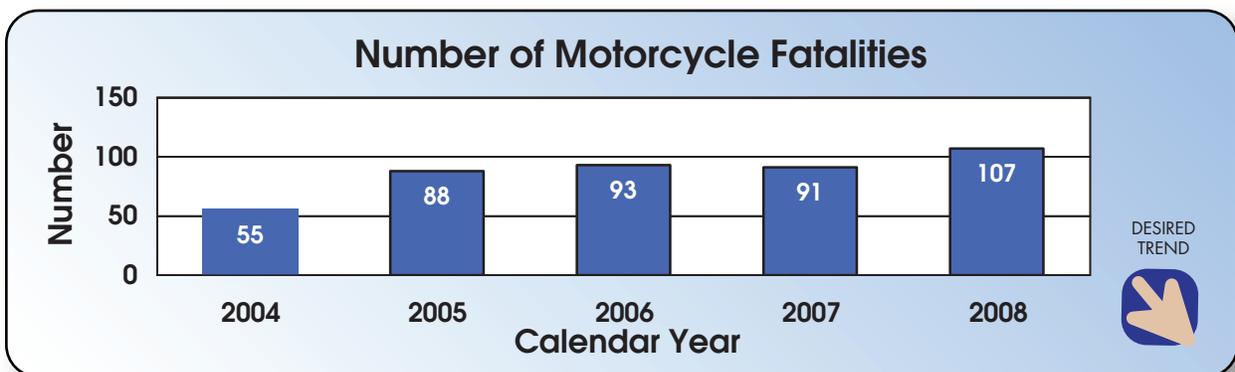
### Measurement and Data Collection:

Crash data is collected by the Missouri State Highway Patrol and entered into a traffic accident record system. The record system automatically updates MoDOT’s traffic management system. Crash data reports are available to law enforcement and traffic safety advocates for crash analysis through

both databases. Final data is collected on an annual basis and updated in July of the following year.

### Improvement Status:

Motorcycle fatalities and disabling injuries have shown an upward trend over the past five years. Missouri continues to experience high numbers of motorcycle fatalities. The national data comparison shows Missouri moved from 33<sup>rd</sup> in 2006 to 32<sup>nd</sup> in 2007. The 2008 national comparison is not yet available. Longer riding seasons and a significant increase in the number of licensed motorcycles and riders has increased the exposure rate in recent years. Rider education classes are offered within one hour’s driving time throughout Missouri. More than 5,000 riders at 28 sites are trained each year. In 2006, a Motorcycle Safety Task Force was organized and charged with developing a strategic plan. The task force has completed the plan and continues to move forward with implementation.

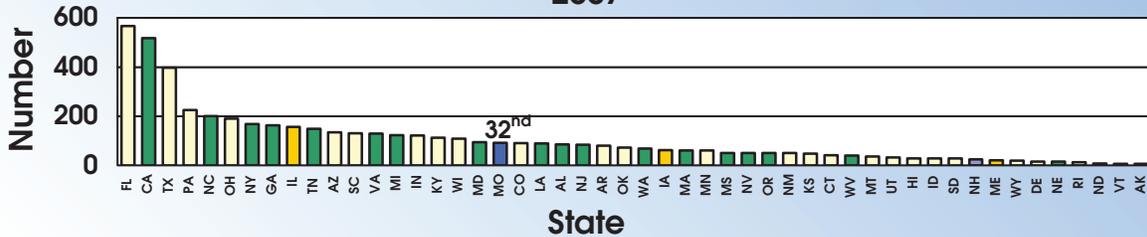


For all graphs on this page, the following legend applies:

- States that have all rider helmet laws
- States that require use for a specific segment of riders (usually under age 18)
- States that do not require helmet use (3 total)
- Missouri – motorcycle helmet law in place (Source: [www.nhtsa.gov](http://www.nhtsa.gov), January 2008)

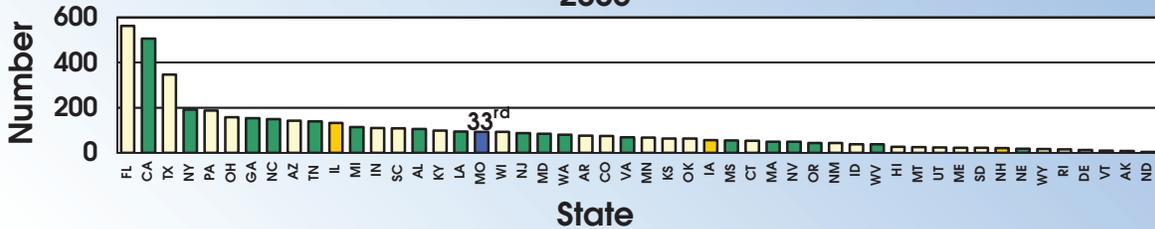
### Missouri's National Ranking in Motorcycle Fatalities

2007



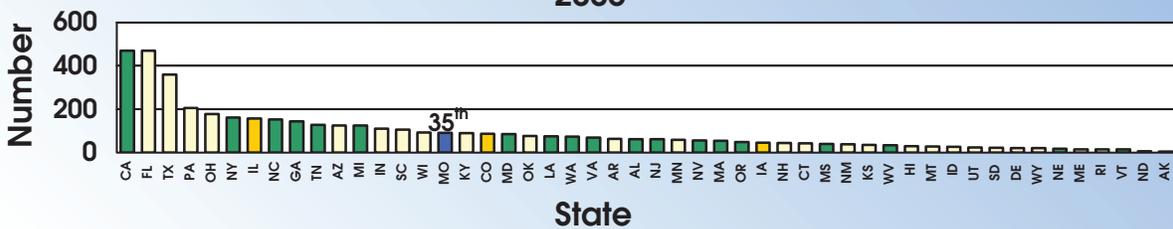
### Missouri's National Ranking in Motorcycle Fatalities

2006



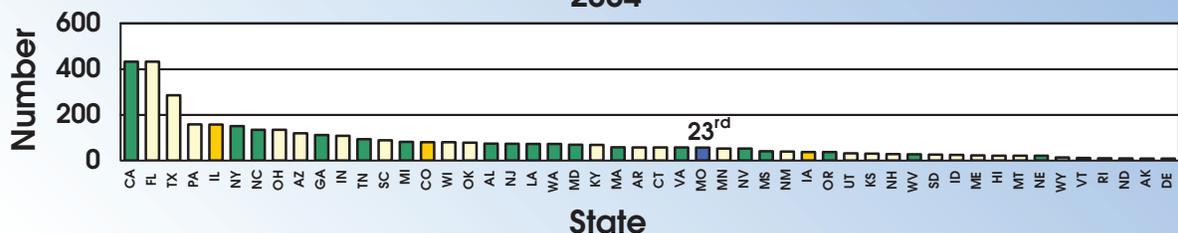
### Missouri's National Ranking in Motorcycle Fatalities

2005



### Missouri's National Ranking in Motorcycle Fatalities

2004



## Number of commercial motor vehicle crashes resulting in fatalities-3g

**Result Driver:** Don Hillis, Director of Systems Management

**Measurement Driver:** Mark Biesemeyer, Motor Carrier Services Program Manager

### Purpose of the Measure:

This measure tracks the number of commercial motor vehicles involved in fatal crashes each year. MoDOT uses the information to target educational and enforcement efforts.

### Measurement and Data Collection:

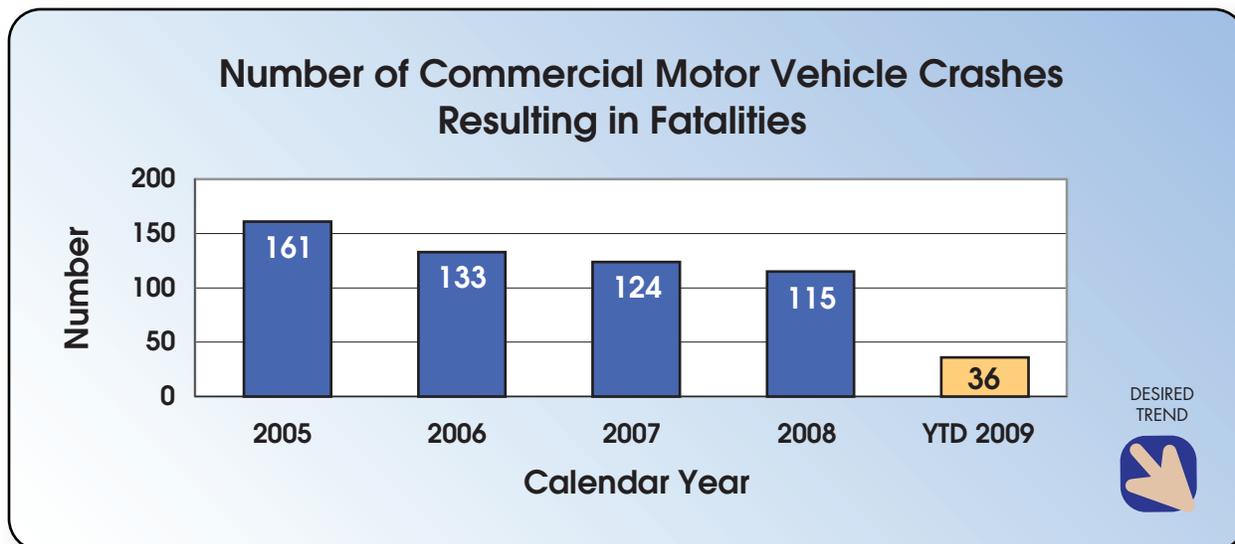
The Missouri State Highway Patrol collects and records the crash statistics used in this measure. The data used in this measure reports the number of commercial motor vehicles involved in a crash where one or more people die within 30 days as a result of the crash. This is an annual measure and will be updated each April for the previous year.

### Improvement Status:

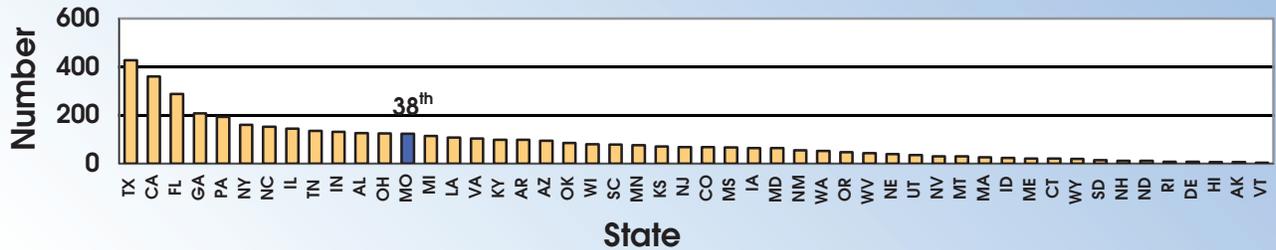
The preliminary number of fatal crashes reported in 2008 is 113, which is 11 fewer than those reported in 2007. This is a 8.9 percent reduction in one year. Between 2004 and 2008, the number of Missouri commercial motor vehicle fatal crashes dropped from 153 to 113, a 26.1 percent decrease. MoDOT coordinates its efforts to reduce fatal CMV crashes

with the Missouri State Highway Patrol, the Federal Motor Carrier Safety Administration Missouri Division and the Kansas City and St. Louis police departments. MoDOT efforts include the installation of larger highway signs, highly reflective pavement markings, cable guardrails, roundabout intersections, incident management alert signs, roadside rumble strips, and intelligent transportation systems at scales. MoDOT conducts carrier safety training, regulation compliance reviews, safety audits of new motor carrier firms and truck inspections at terminals and destinations. The MSHP, St. Louis and Kansas City Police Departments conduct commercial vehicle roadside inspections in order to remove unsafe drivers and vehicles from the road.

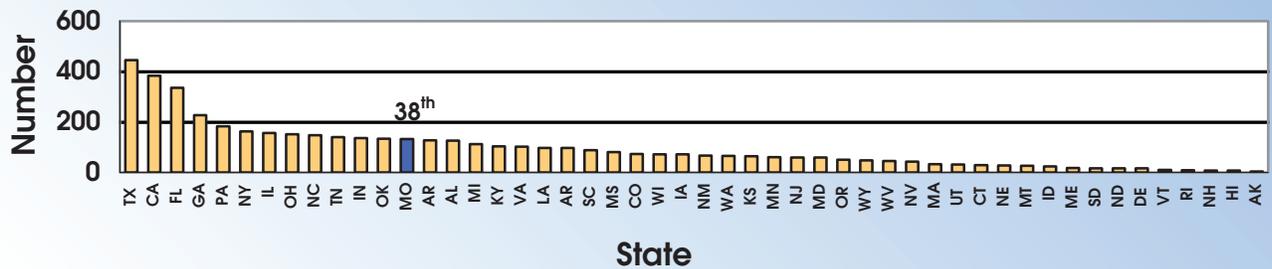
Missouri ranked 38<sup>th</sup> in the number of fatality crashes nationwide in 2007. Rankings of 2008 are not yet available.



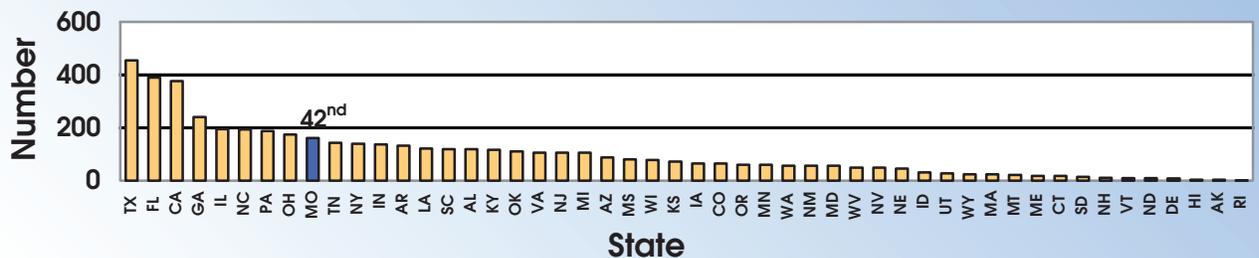
### Missouri's National Ranking in Number of Fatal Commercial Vehicle Crashes 2007



### Missouri's National Ranking in Number of Fatal Commercial Vehicle Crashes 2006



### Missouri's National Ranking in Number of Fatal Commercial Vehicle Crashes 2005



## Number of commercial motor vehicle crashes resulting in injuries-3h

**Result Driver:** Don Hillis, Director of Systems Management

**Measurement Driver:** Mark Biesemeyer, Motor Carrier Services Program Manager

### Purpose of the Measure:

This measure tracks number of commercial motor vehicles involved in injury crashes each year. MoDOT uses the information to target educational and enforcement efforts.

### Measurement and Data Collection:

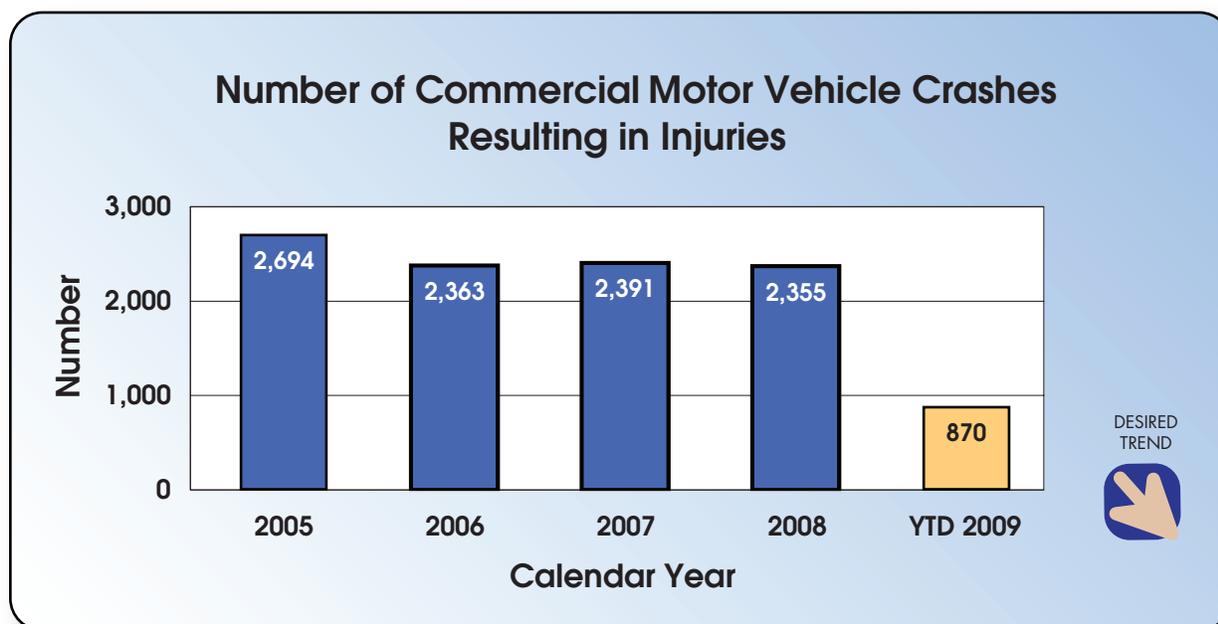
The Missouri State Highway Patrol collects and records crash statistics. The data for this measure reflects the number of commercial motor vehicles involved in crashes where one or more people are injured. This is an annual measure and will be updated each July for the previous year.

### Improvement Status:

The final number of injury crashes reported in 2008 is 2,355, which is 36 fewer than those reported in 2007. This is a 1.5 percent reduction in one year. Between 2005 and 2008, the number of commercial motor vehicle crashes resulting in injuries dropped from 2,694 to 2,355, a decrease of 12.6 percent.

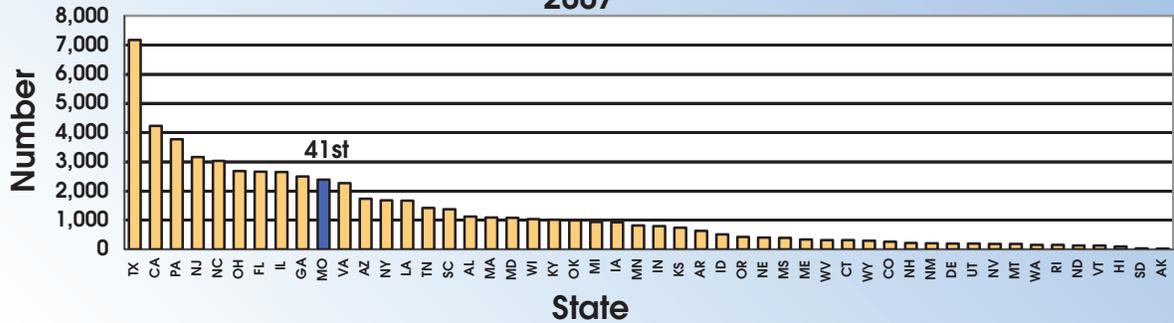
The overall downward trend is due to the coordinated safety efforts of MoDOT, the Missouri State Highway Patrol, the Federal Motor Carrier Safety Administration Missouri Division, and the Kansas City and St. Louis police departments. MoDOT efforts include the installation of larger highway signs, highly reflective pavement markings, cable guardrails, roundabout intersections, incident management alert signs, rumble stripes, and intelligent transportation systems at scales. MoDOT conducts carrier safety training, regulation compliance reviews, safety audits of new motor carrier firms and truck inspections at terminals and destinations. The MSHP, St. Louis and Kansas City police departments conduct commercial vehicle roadside inspections in order to remove unsafe drivers and vehicles from the road.

Missouri ranked 41<sup>st</sup> in the number of injury crashes nationwide in 2007. Rankings for 2008 are not yet available as they are updated each September.



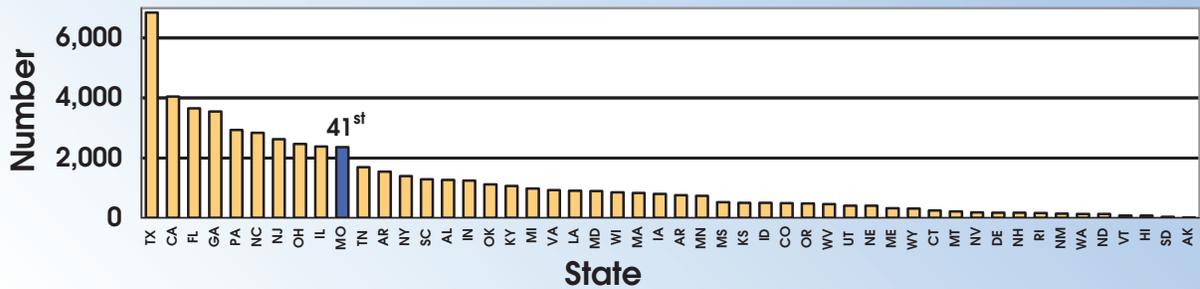
### Missouri's National Ranking in Number of Injury Commercial Vehicle Crashes

2007



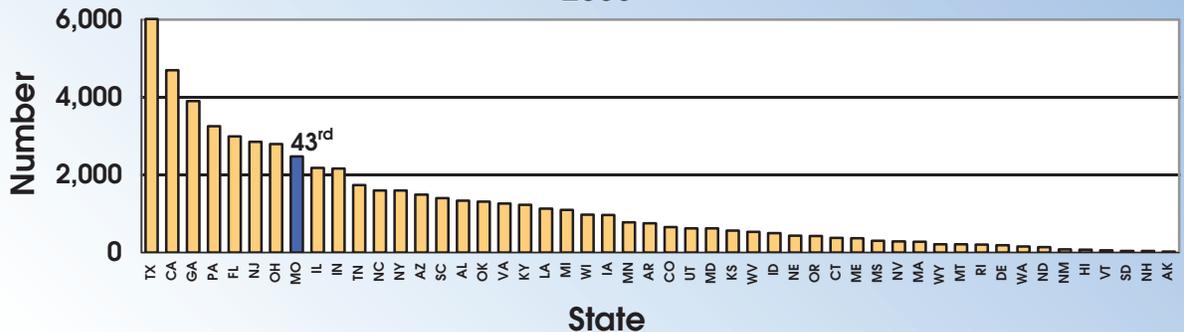
### Missouri's National Ranking in Number of Injury Commercial Vehicle Crashes

2006



### Missouri's National Ranking in Number of Injury Commercial Vehicle Crashes

2005



## Number of fatalities and injuries in work zones-3i

**Result Driver:** Don Hillis, Director of System Management

**Measurement Driver:** Troy Pinkerton, Traffic Liaison Engineer

### Purpose of the Measure:

An important factor in evaluating the safety of Missouri's transportation system is determining the safety of work zones on the state's roads. This measure tracks the number of traffic-related fatalities, injuries, and overall crashes occurring in work zones on any Missouri public road.

### Measurement and Data Collection:

Missouri law enforcement agencies are required to report crashes by submitting a standardized vehicle accident report form to the Missouri State Highway Patrol. MSHP personnel enter these reports into a statewide traffic crash database. MoDOT staff query and analyze this data to identify work zone-related

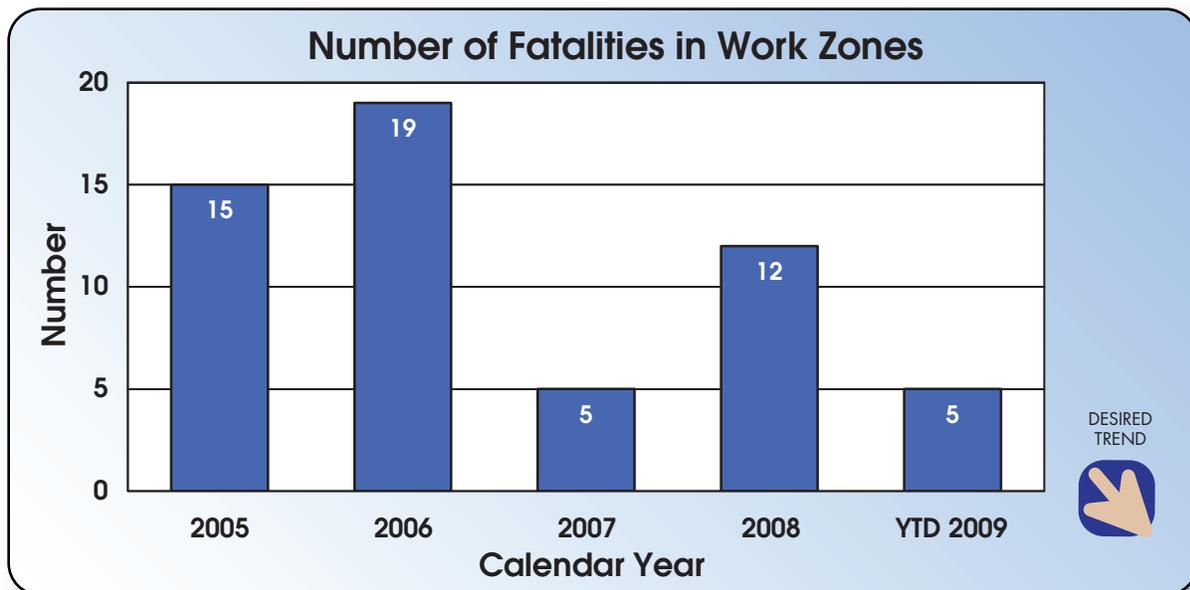
crash statistics quarterly and report the results via this measurement.

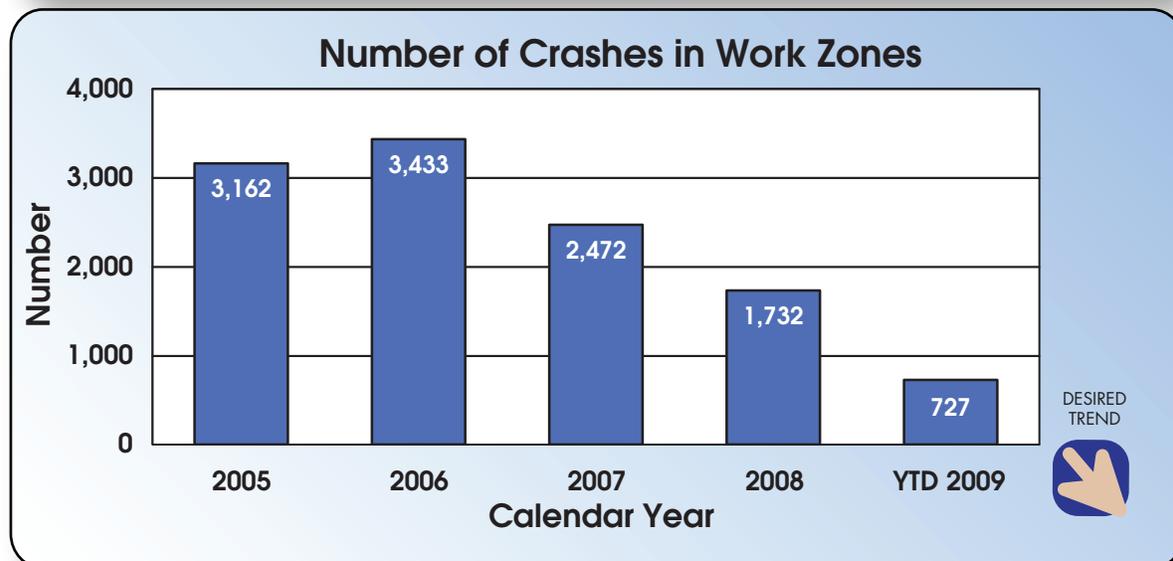
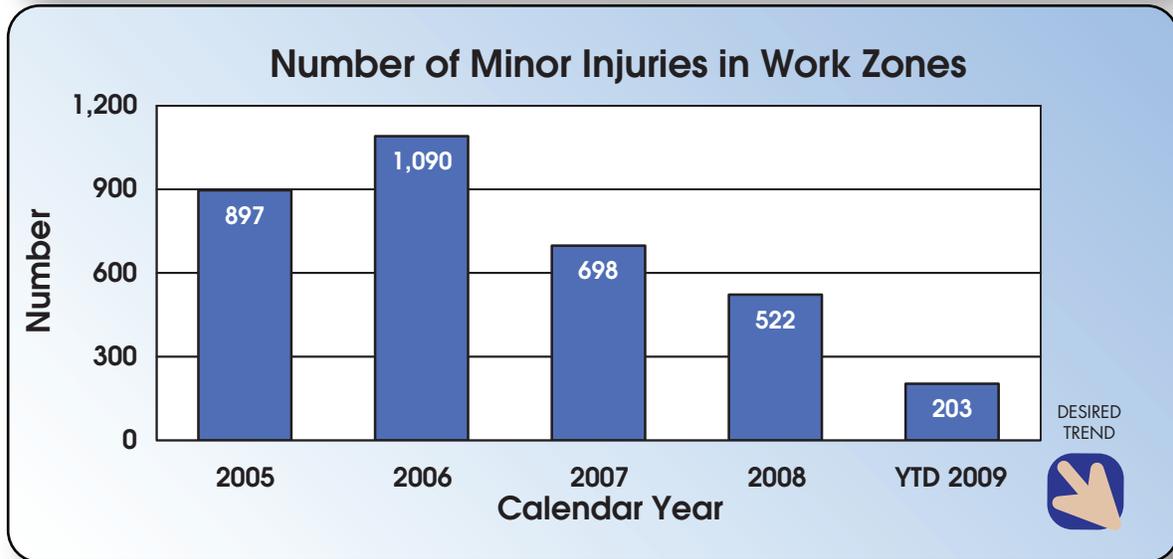
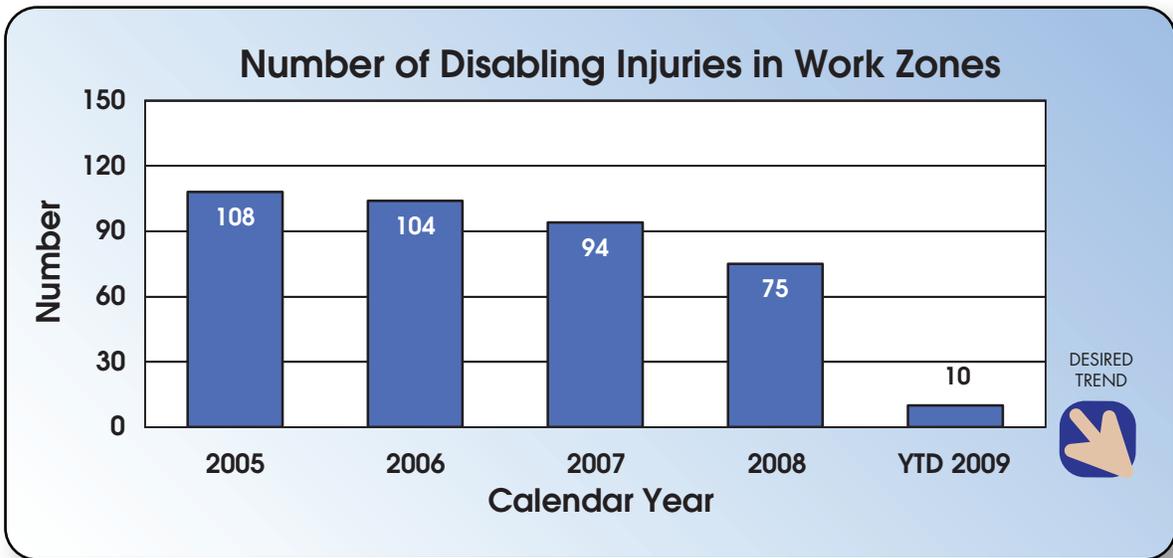
### Improvement Status:

For this quarter, there were four fatal accidents resulting in five fatalities. The number of crashes and injuries continues on a downward trend. Efforts to enhance work zone advanced warning signs on many projects have been implemented for this construction season.

In order to continue to make our work zones safer, a new Work Zone Survey is available to the public that can be filled out and submitted online at:

<http://www.modot.mo.gov/workzones/Comments.htm>





### Number of highway-rail crossing fatalities and collisions-3j

**Results Driver:** Don Hillis, Director of System Management

**Measurement Driver:** Rod Massman, Administrator of Railroads

#### **Purpose of the Measure:**

This measure tracks annual trends in fatalities and collisions resulting from train-vehicle crashes at public railroad crossings in Missouri. This data drives the development and focus of the Missouri Highway Safety Plan. This plan is required annually by the National Highway Traffic Safety Administration and outlines key strategies to reduce these losses. In addition, this data supports the Missouri Blueprint for Safer Roadways. This document identifies the statewide initiatives with a goal of reducing fatalities in all areas of highway safety, including highway-rail crossing safety.

#### **Measurement and Data Collection:**

MoDOT collects crash data and enters it in a railroad safety information system used to update MoDOT's traffic management system. This does not include fatalities or collisions from those on railroad property at areas other than at public railroad crossings, which are tabulated separately. Missouri is then ranked with all other states using data from the Federal Railroad Administration that consists of the numbers of collisions and fatalities in each state. Data is updated quarterly.

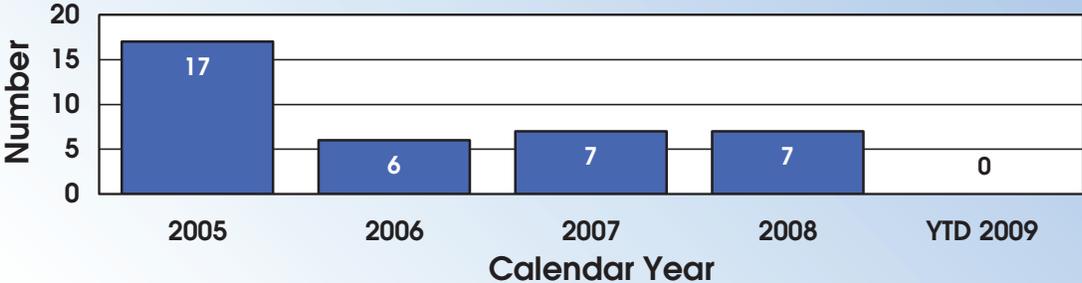
#### **Improvement Status:**

MoDOT continues to coordinate its railroad crossing projects in the areas of greatest need using a safety exposure index in addition to focusing on crossings with a history of accidents or limited sight distance. By agreeing with the railroads to look at a defined area, called a corridor, and sharing financial responsibilities for improvements, limited funds can be spread over a wider area. This increases the number of overall projects completed in specific areas of the state.

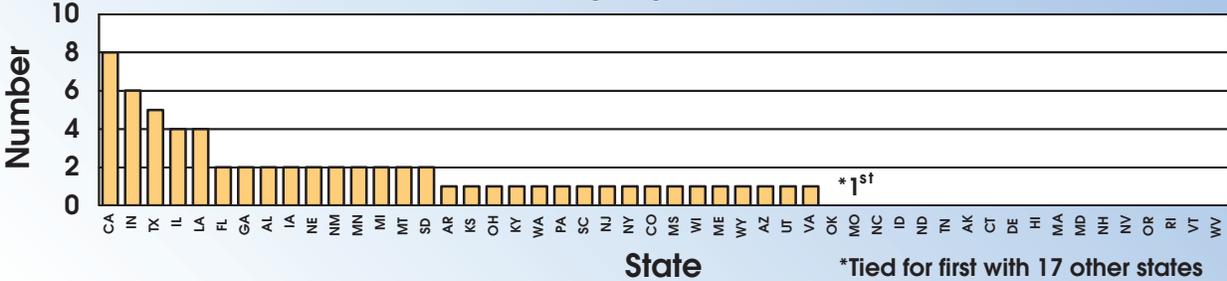
Other improvements include an increased emphasis on and MoDOT employee participation in public outreach opportunities on rail safety in conjunction with Operation Lifesaver, Inc. MoDOT is exploring partnerships with other government agencies, cities and school districts to upgrade flasher-only crossings to crossings with both lights and gates, to install gates and lights at crossings, and to replace outdated lighting with LED systems. There is a renewed emphasis on closing unsafe, redundant or unnecessary crossings.

In the first four months of 2009, there were zero crossing fatalities. The goal, however, is to push the number of fatalities lower each year. In order to accomplish this, MoDOT has increased and implemented more public outreach efforts along with engineering improvements. This has included participating in various kinds of safety fairs, which includes presenting rail issues alongside other safety-related topics, renewing efforts to present rail crossing information at driver's education and other high school and grade school classes, and certifying additional MoDOT employees in giving Operation Lifesaver presentations. MoDOT also sponsored Rail Safety Week in April 2009 and conducted "positive enforcement" efforts at crossings in Independence, Jefferson City, and Kirkwood, which received extensive public and media attention. The continuing focus is the three Es: engineering, education and enforcement. This effort is designed to increase public awareness and discussion of the need for increased safety and heightened awareness at railroad crossings and the dangers of walking on tracks or other railroad property.

Number of Highway-Rail Crossing Fatalities

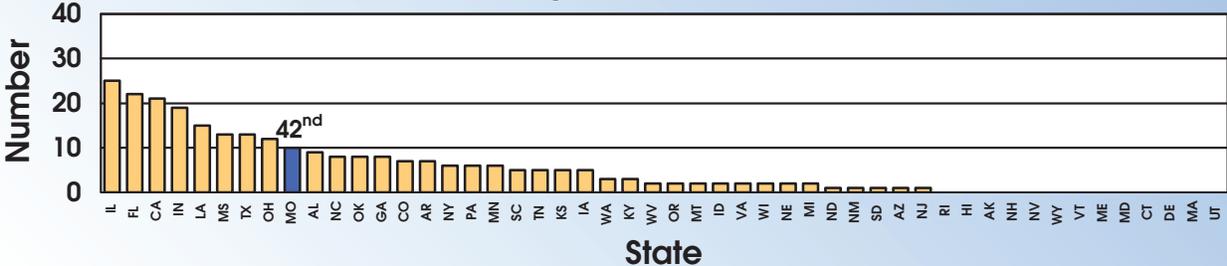


Missouri's National Ranking in Number of Highway-Rail Crossing Fatalities  
January- April 2009

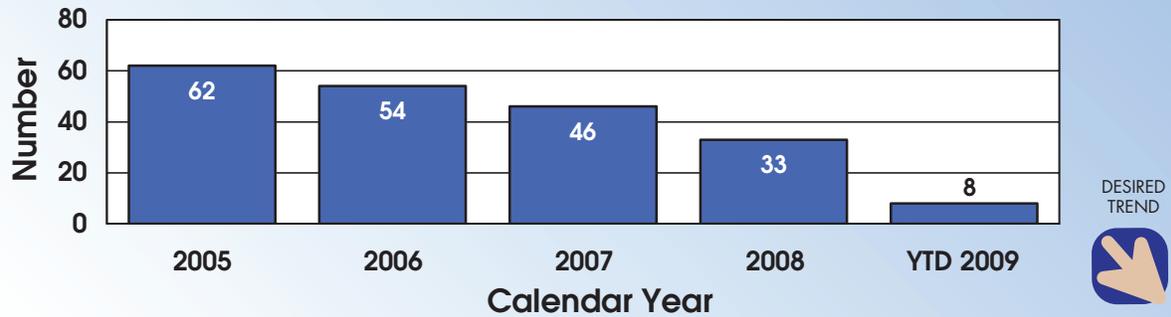


\*Tied for first with 17 other states

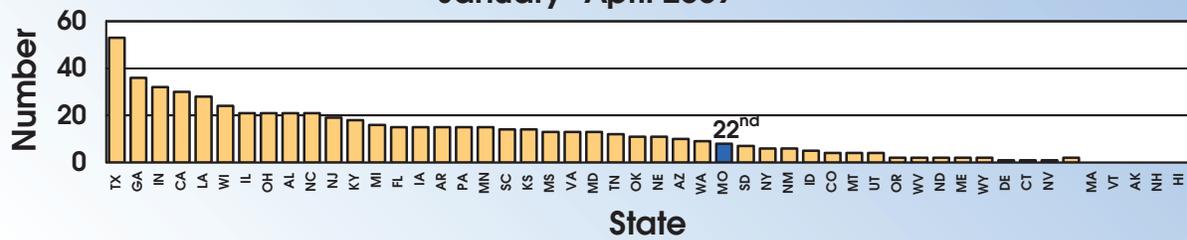
Missouri's National Ranking in Number of Highway-Rail Crossing Fatalities  
January-December 2008



### Number of Highway-Rail Crossing Collisions



### Missouri's National Ranking in Number of Highway-Rail Crossing Collisions January- April 2009



### Missouri's National Ranking in Number of Highway-Rail Crossing Collisions January-December 2008

