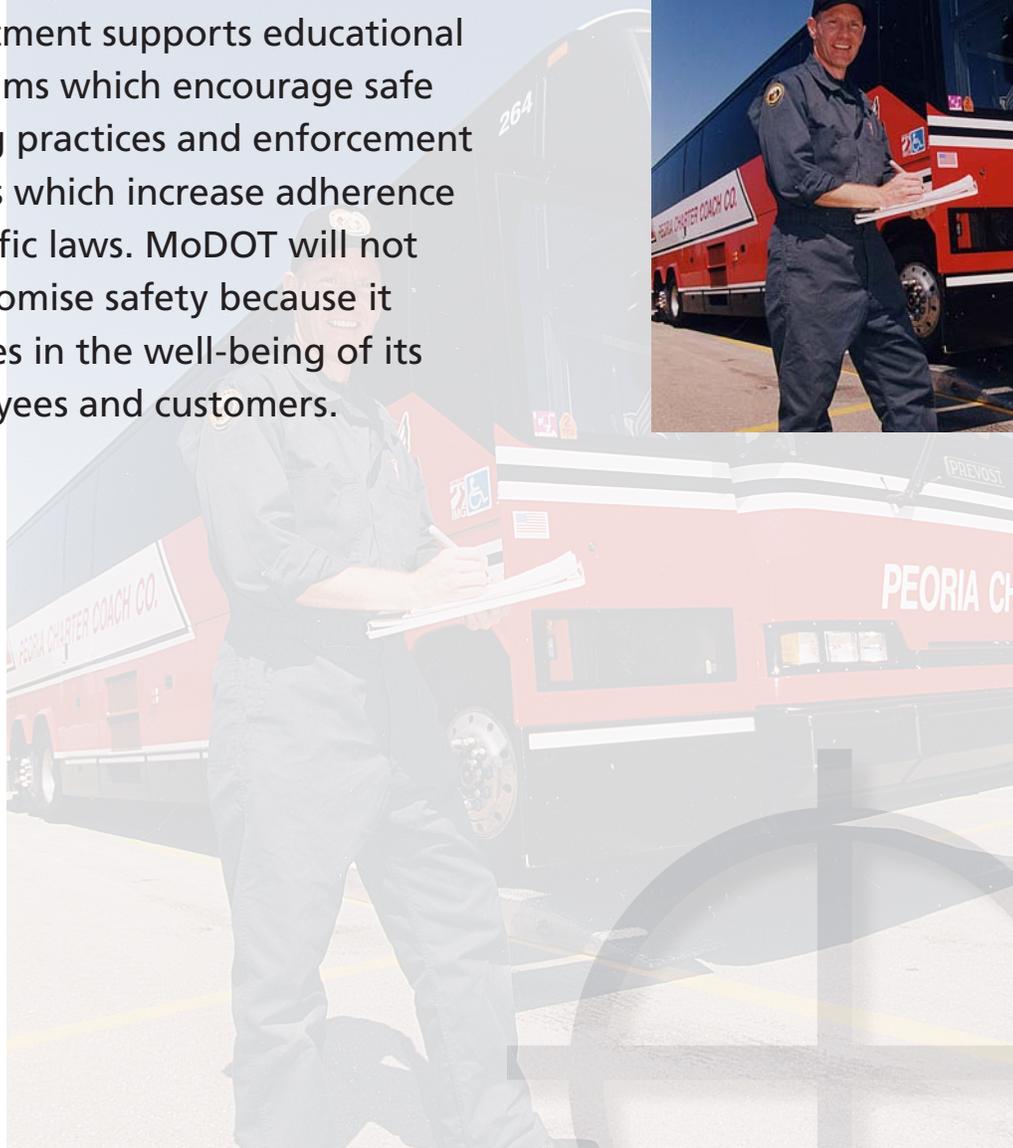


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# Safe Transportation System

*Tangible Result Driver – Don Hillis,  
Director of System Management*

MoDOT works closely with other safety advocates to make our roads and work zones safer. The department supports educational programs which encourage safe driving practices and enforcement efforts which increase adherence to traffic laws. MoDOT will not compromise safety because it believes in the well-being of its employees and customers.



# Safe Transportation System

## Number of fatalities and disabling injuries

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

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

### Purpose of the Measure:

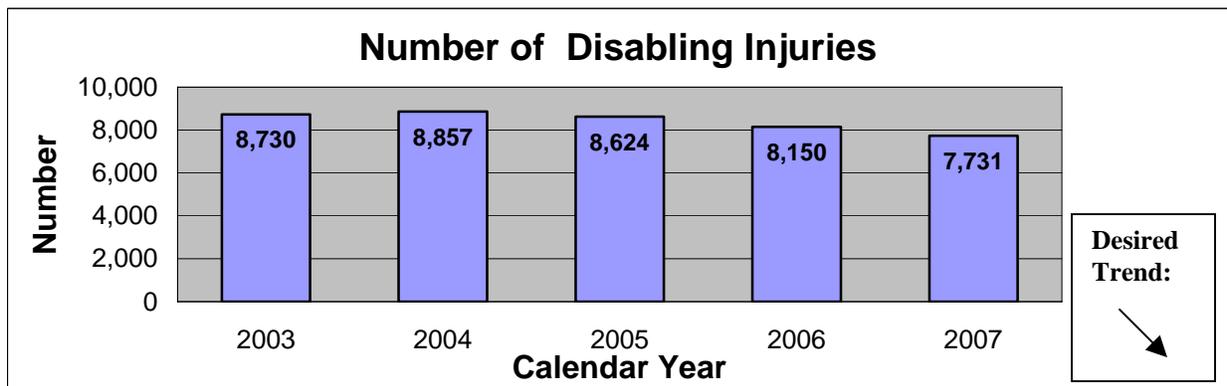
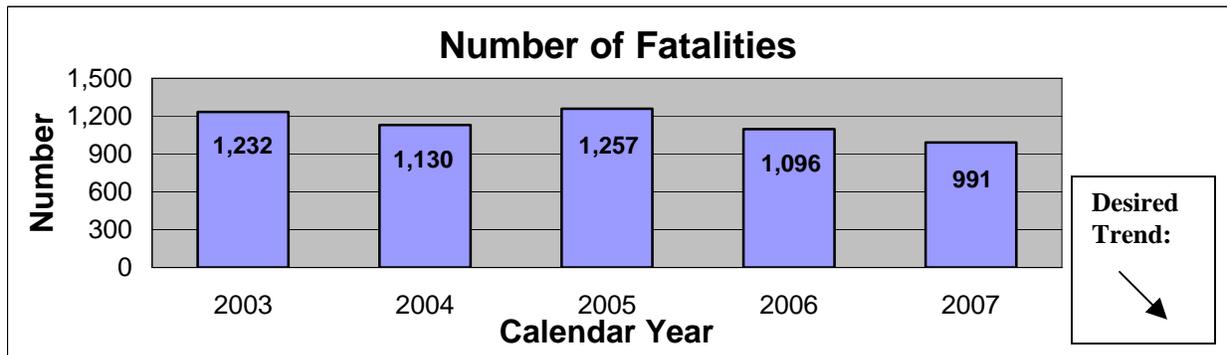
This measure tracks annual trends in fatal and disabling injuries resulting from traffic crashes on all Missouri roadways. This data drives the development and focus of the Missouri Highway Safety Plan. This plan is required annually by the National Highway Traffic Safety Administration and outlines key strategies to reduce these losses. In addition, this data supports the Missouri Blueprint for Safer Roadways. This document identifies the statewide initiatives with a goal of reducing fatalities to 1,000 or fewer by 2008.

### Measurement and Data Collection:

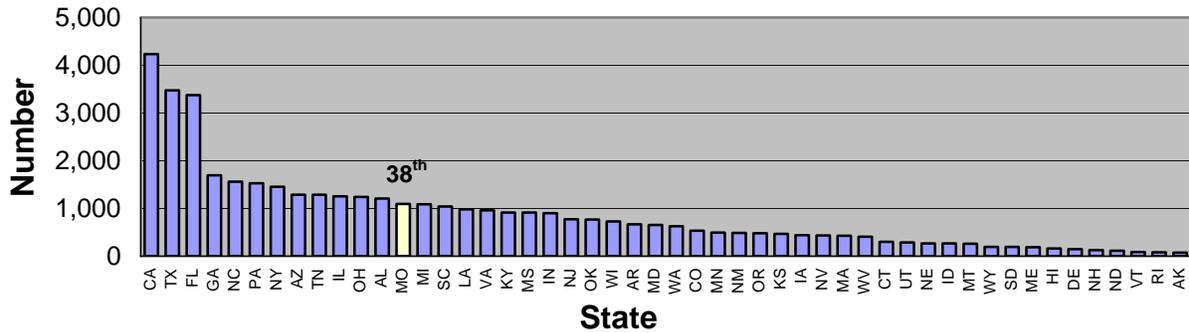
Crash data is collected by the Missouri State Highway Patrol and entered into a traffic accident record system. The record system automatically updates MoDOT's traffic management system. Crash data reports are available to law enforcement and traffic safety advocates for crash analysis through both databases.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

### Improvement Status:

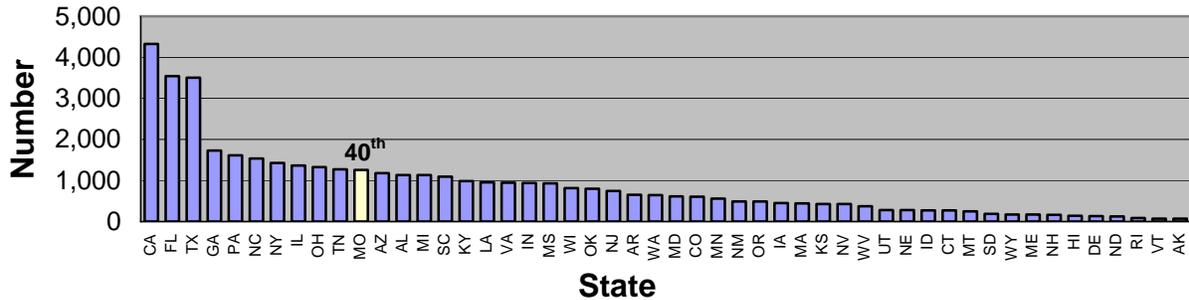
Fatalities decreased by 10 percent in 2007 in a continued downward trend since 2005. Missouri has not been under 1,000 fatalities since 1993. The 991 fatalities in 2007 means the Missouri Coalition for Roadway Safety can celebrate accomplishing their goal of 1,000 or fewer fatalities by 2008. Disabling 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 40<sup>th</sup> in 2005 to 38<sup>th</sup> in 2006 for total fatalities. The 2007 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.



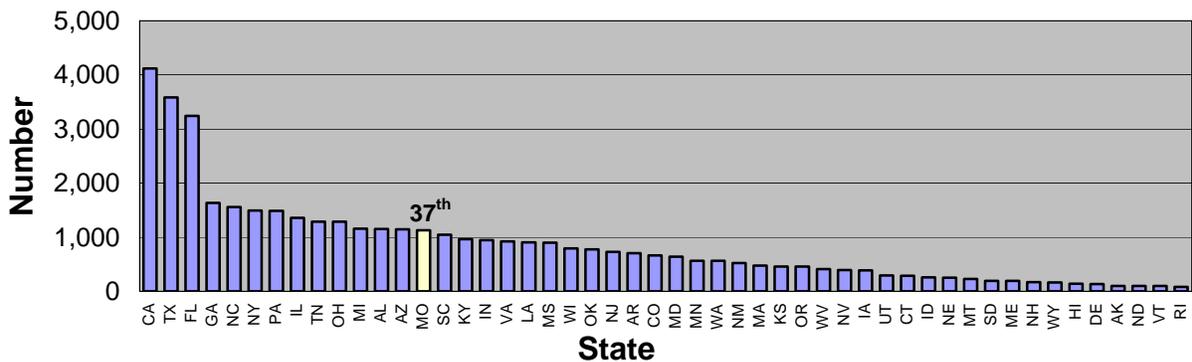
### Missouri's National Ranking by Total Number of Fatalities 2006



### Missouri's National Ranking by Total Number of Fatalities 2005



### Missouri's National Ranking by Total Number of Fatalities 2004



# Safe Transportation System

## *Number of impaired driver-related fatalities and disabling injuries*

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

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

**Purpose of the Measure:**

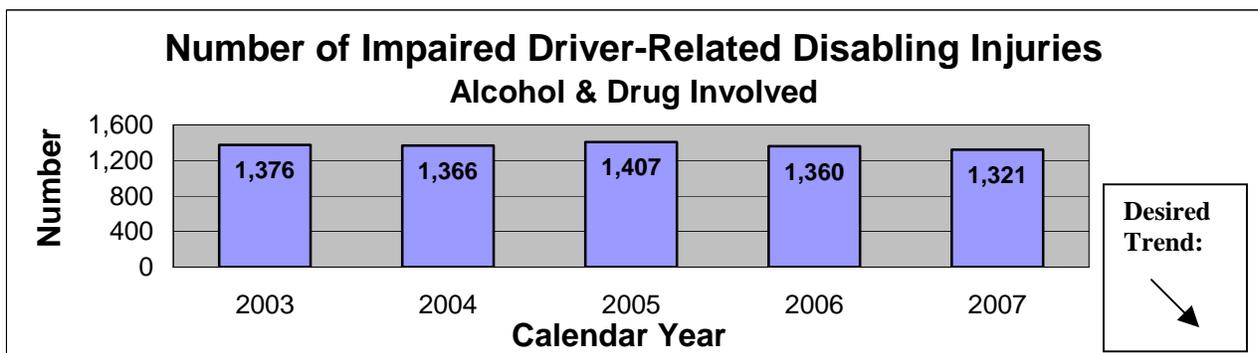
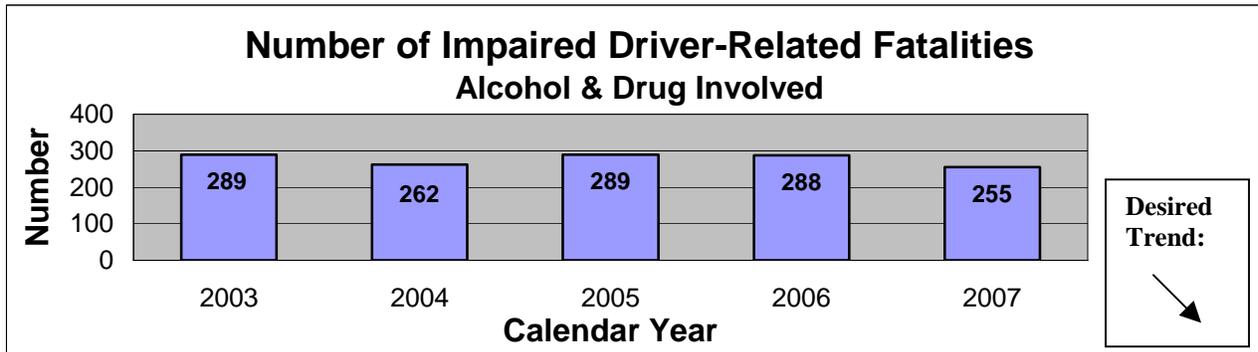
This measure tracks annual trends in fatalities and injuries resulting from traffic crashes on all Missouri roadways involving drivers who are impaired by alcohol and/or drugs. This data drives the development and focus of the Missouri Highway Safety Plan. This plan is required annually by the National Highway Traffic Safety Administration and outlines key strategies to reduce these losses. In addition, this data supports the Missouri Blueprint for Safer Roadways. This document identifies the statewide initiatives with a goal of reducing fatalities to 1,000 or fewer by 2008.

**Measurement and Data Collection:**

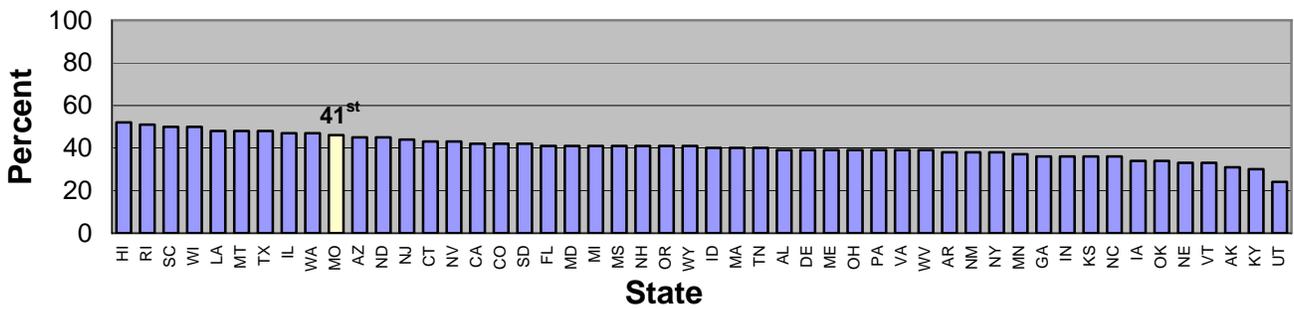
Crash data is collected by the Missouri State Highway Patrol and entered into a traffic accident record system. The record system automatically updates MoDOT’s traffic management system. Crash data reports are available to law enforcement and traffic safety advocates for crash analysis through both databases.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

**Improvement Status:**

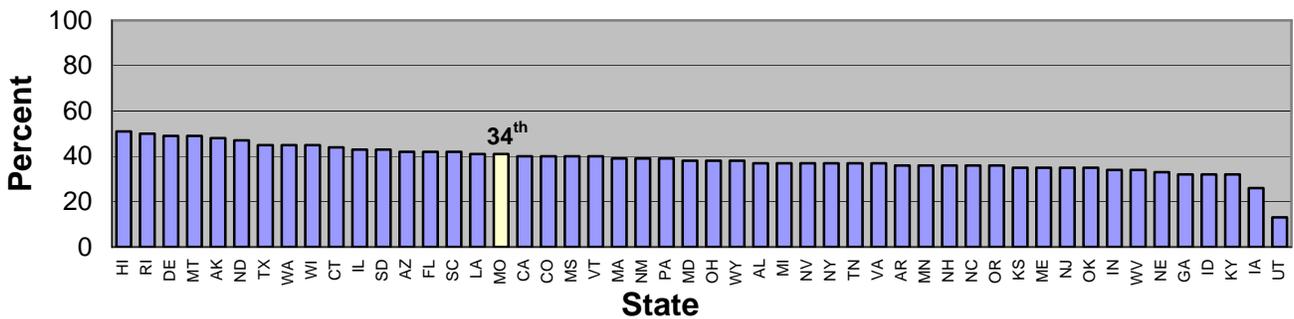
Alcohol- and drug-related fatalities and disabling injuries decreased in both 2006 and 2007. In the national comparison for 2006, Missouri moved away from the desired downward trend in percent of persons killed in alcohol-related crashes. The 2007 comparison is not yet available. In addition to Missouri 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 2008. 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 three years ago.



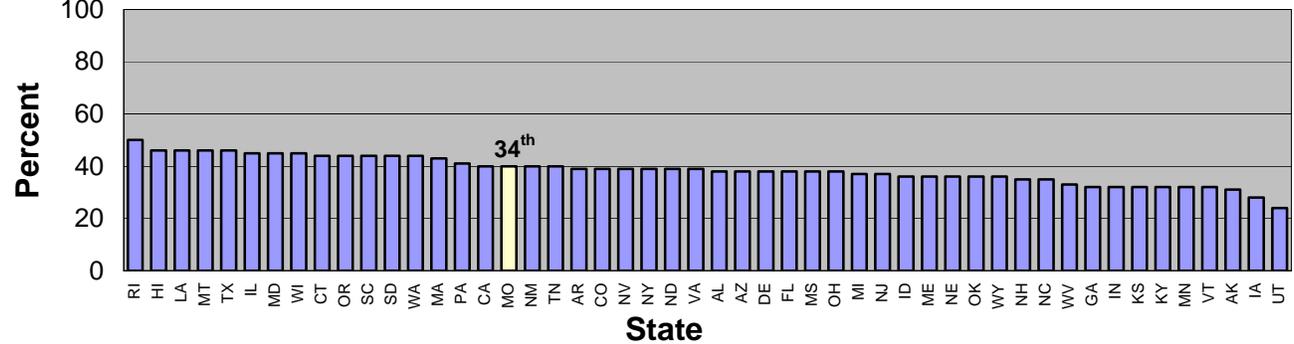
### Missouri's National Ranking by Percent Killed in Alcohol-Related Crashes 2006



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



### Missouri's National Ranking by Percent Killed in Alcohol-Related Crashes 2004



# Safe Transportation System

## *Rate of annual fatalities and disabling injuries*

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

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

**Purpose of the Measure:**

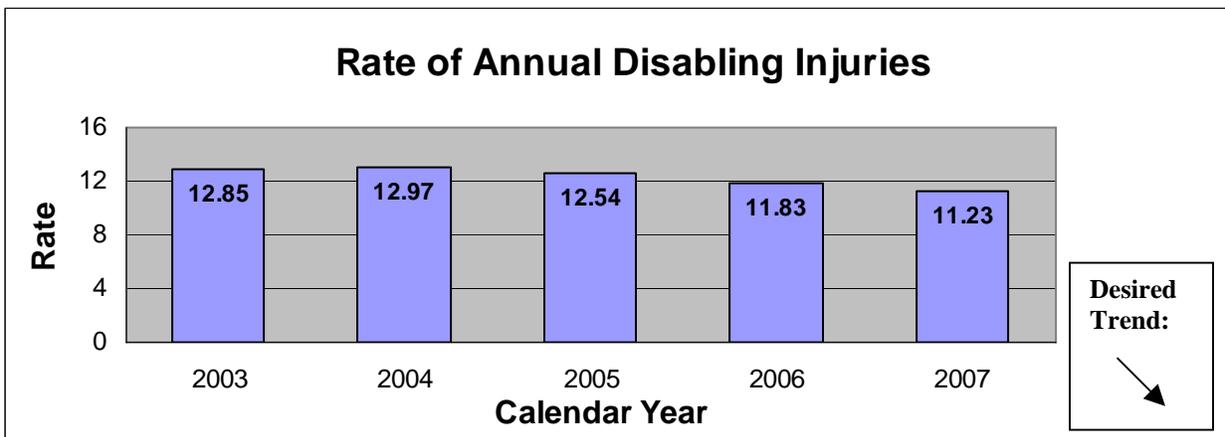
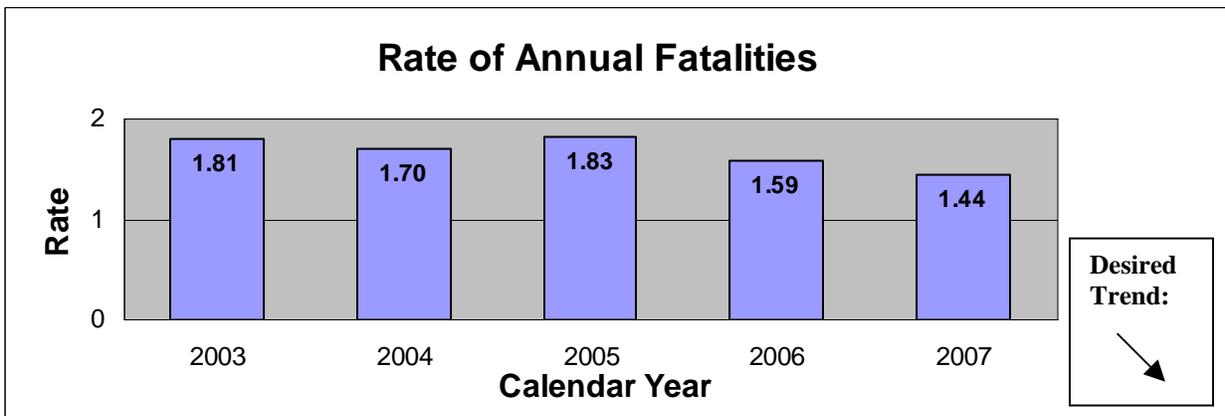
This measure tracks annual trends in fatal and disabling injury rates per 100 million vehicle miles traveled (HMVM) in Missouri. This data drives the development and focus of the Missouri Highway Safety Plan. This plan is required annually by the National Highway Traffic Safety Administration and outlines key strategies to reduce these losses. In addition, this data supports the Missouri Blueprint for Safer Roadways. This document identifies the statewide initiatives with a goal of reducing fatalities to 1,000 or fewer by 2008.

**Measurement and Data Collection:**

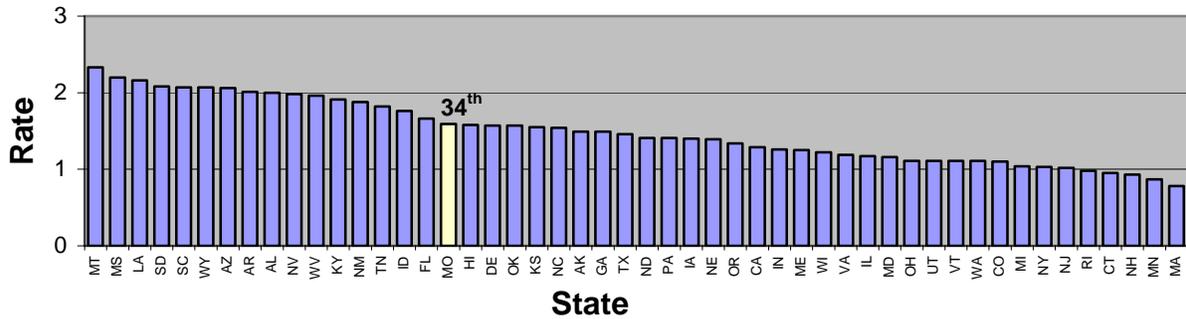
Crash data is collected by the Missouri State Highway Patrol and entered into a traffic accident record system. The record system automatically updates MoDOT's traffic management system. Crash data reports are available to law enforcement and traffic safety advocates for crash analysis through both databases.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

**Improvement Status:**

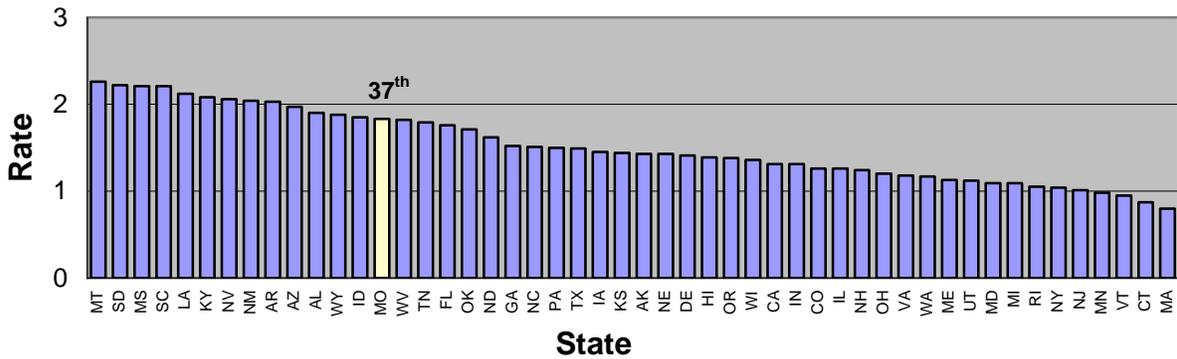
Both the fatality and disabling injury rates in Missouri are at their lowest ever recorded. Based on the national comparison, Missouri has moved from 37<sup>th</sup> in 2005 to 34<sup>th</sup> in 2006. The 2007 national comparison is not yet available. Based on the national goal of a 1.0 fatality rate, Missouri is still moving in the right direction. Focused law enforcement efforts, engineering safety enhancements and increased public awareness all contribute to the decrease.



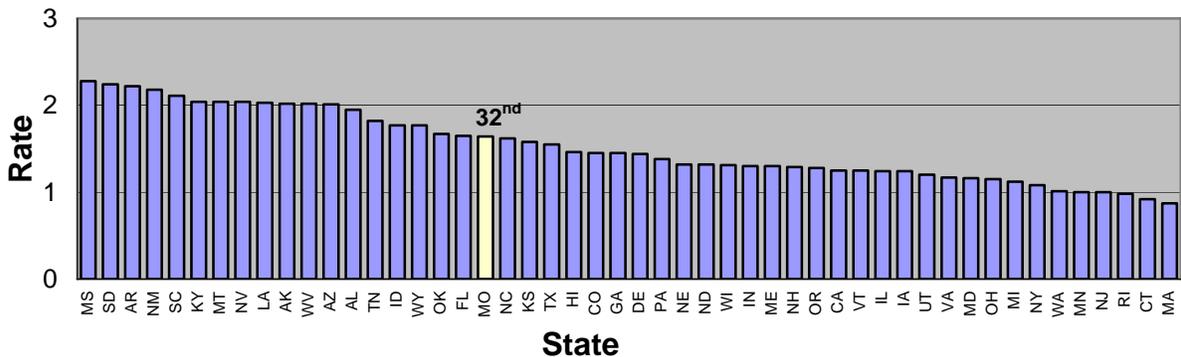
### Missouri's National Ranking in State Fatality Rates 2006



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



### Missouri's National Ranking in State Fatality Rates 2004



# Safe Transportation System

## *Percent of safety belt/passenger vehicle restraint use*

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

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

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

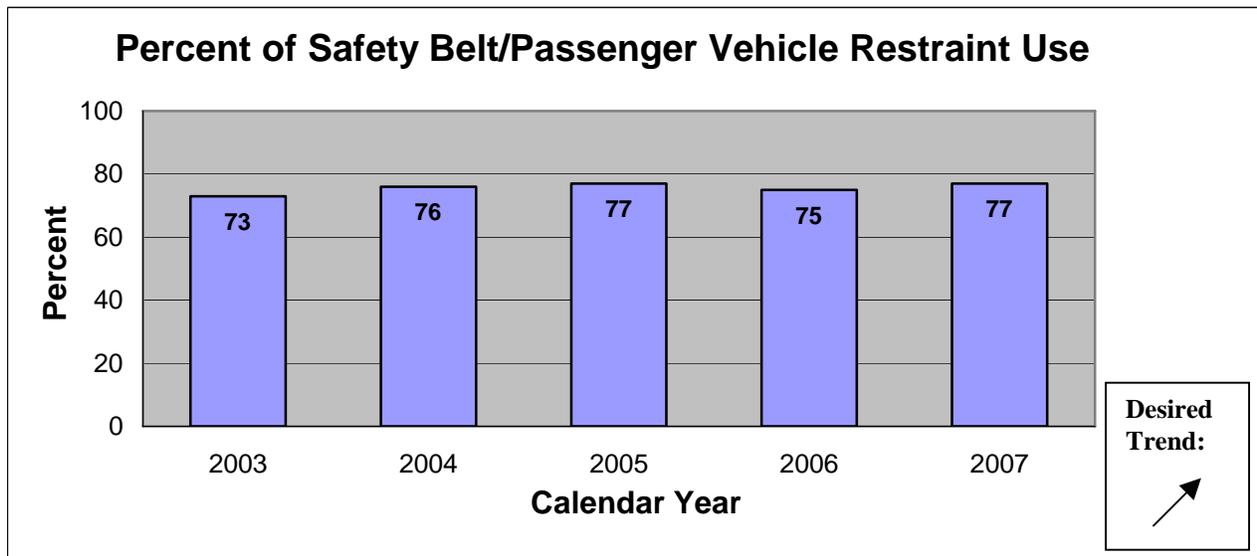
This measure tracks annual trends in safety belt usage by persons in passenger vehicles. This data drives the development and focus of the Missouri Highway Safety Plan. This plan is required annually by the National Highway Traffic Safety Administration and outlines key strategies to reduce these losses. In addition, this data supports the Missouri Blueprint for Safer Roadways. This document identifies the statewide initiatives with a goal of reducing fatalities to 1,000 or fewer by 2008.

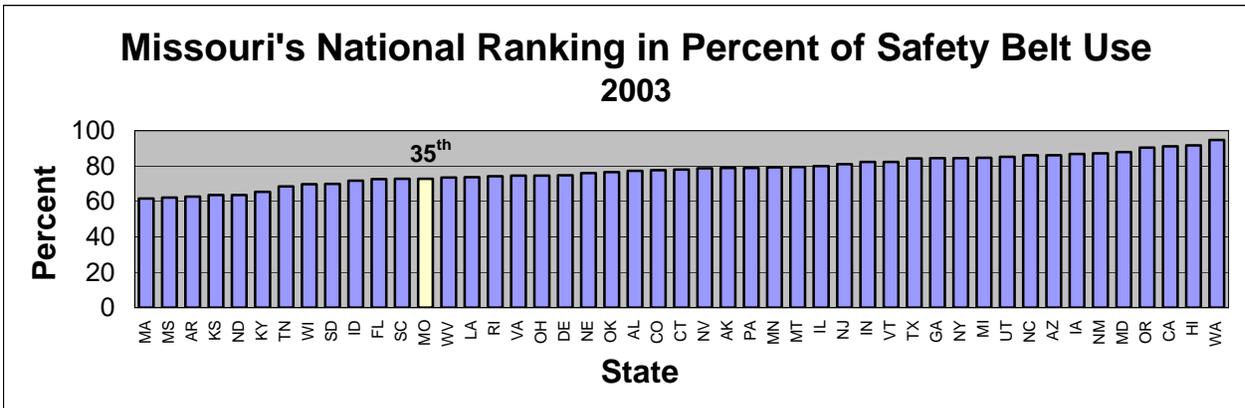
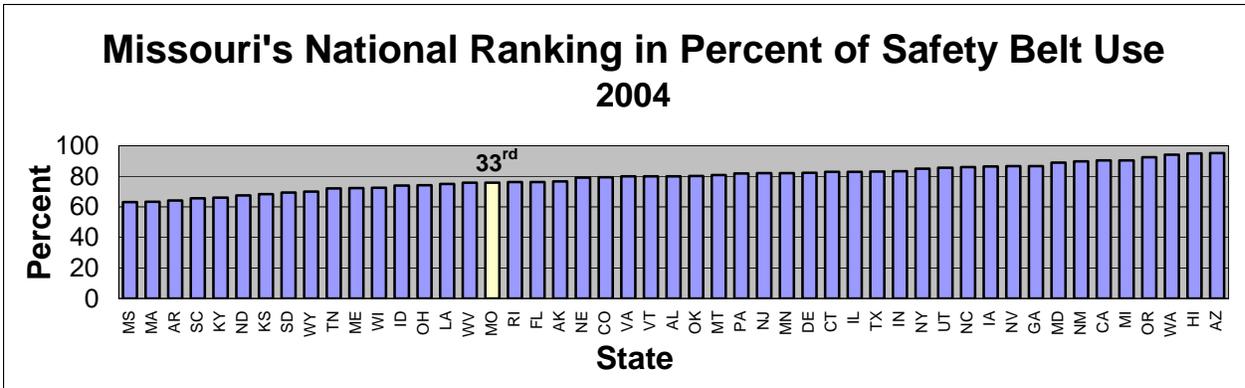
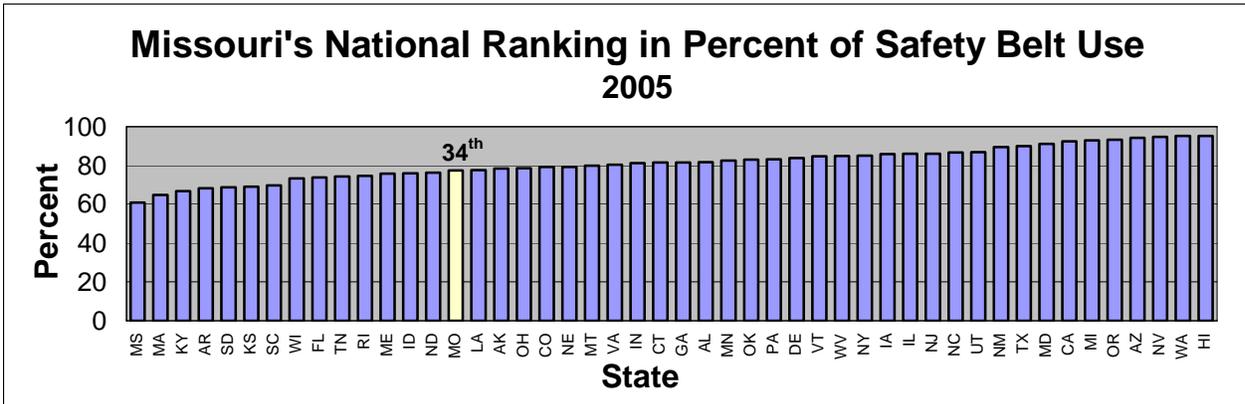
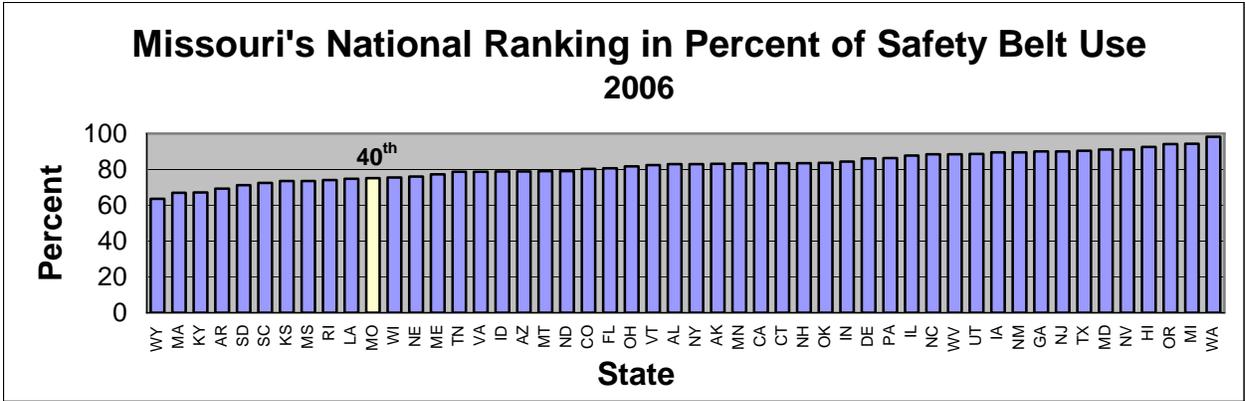
### **Measurement and Data Collection:**

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 is not available from all 50 states.

### **Improvement Status:**

Safety belt use in Missouri has remained fairly constant for the past four years. In the 2006 national comparison, Missouri ranked 40<sup>th</sup> in safety belt usage. The 2007 national comparison will not be available until June 2008. 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 2008 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.





# Safe Transportation System

## *Number of bicycle and pedestrian fatalities and disabling injuries*

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

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

**Purpose of the Measure:**

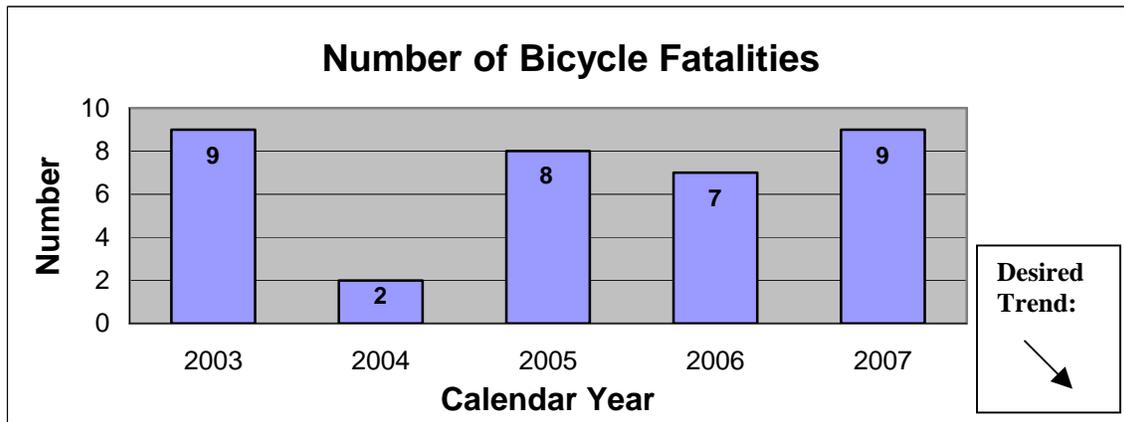
This measure tracks annual trends in fatalities and disabling injuries resulting from traffic crashes with bicycles and pedestrians on Missouri roadways. This data drives the development and focus of the Missouri Highway Safety Plan. This plan is required annually by the National Highway Traffic Safety Administration and outlines key strategies to reduce these losses. In addition, this data supports the Missouri Blueprint for Safer Roadways. This document identifies the statewide initiatives with a goal of reducing fatalities to 1,000 or fewer by 2008.

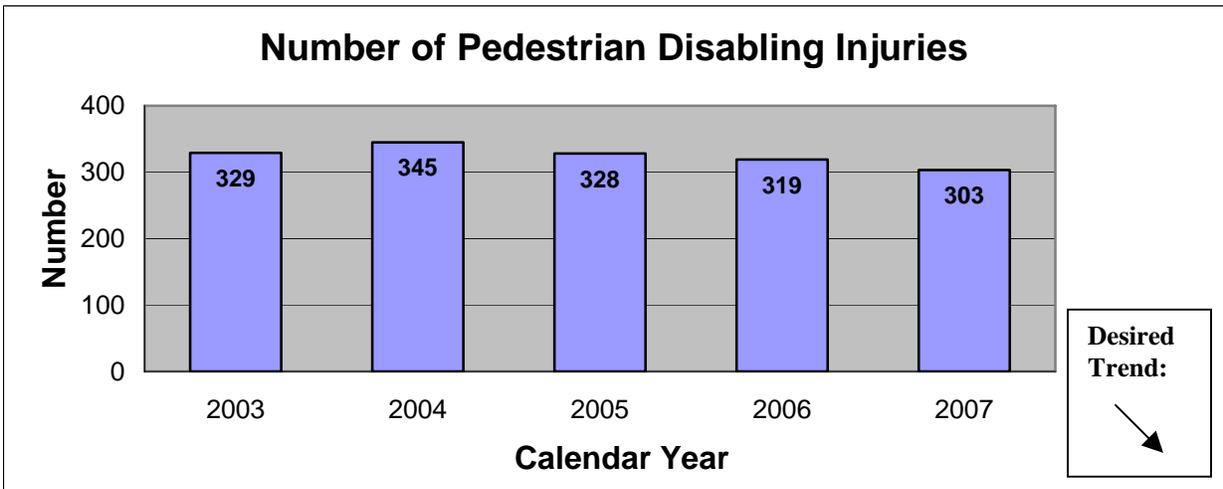
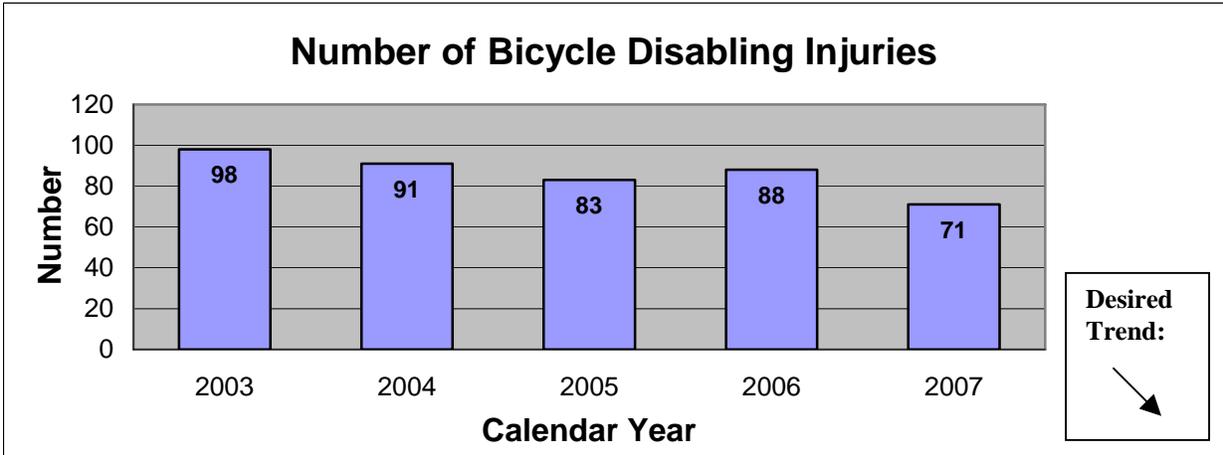
**Measurement and Data Collection:**

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 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.





# Safe Transportation System

## Number of motorcycle fatalities and disabling injuries

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

### Purpose of the Measure:

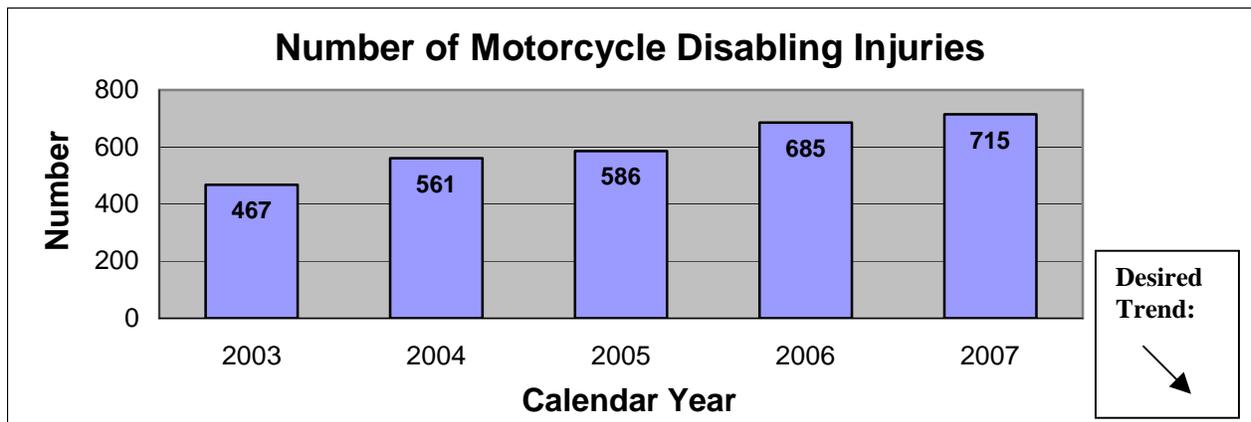
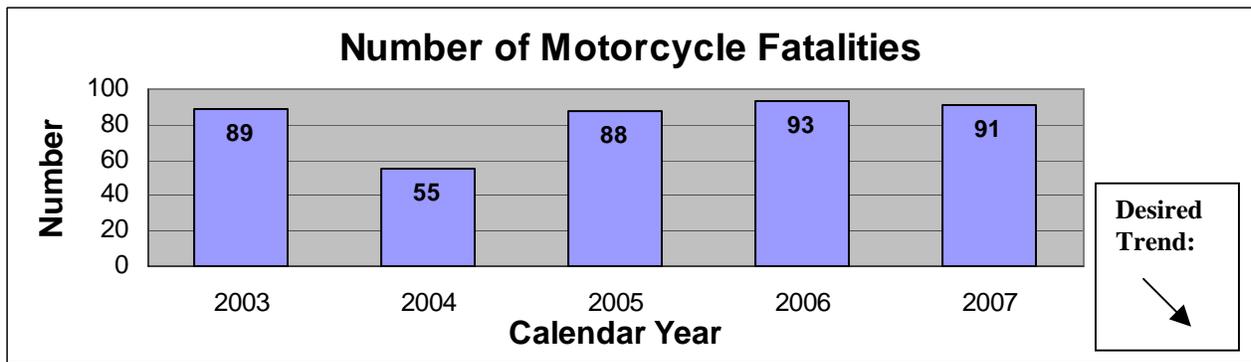
This measure tracks annual trends in fatal and disabling injuries resulting from motorcycle traffic crashes on all Missouri roadways. This data drives the development and focus of the Missouri Highway Safety Plan. This plan is required annually by the National Highway Traffic Safety Administration and outlines key strategies to reduce these losses. In addition, this data supports the Missouri Blueprint for Safer Roadways. This document identifies the statewide initiatives with a goal of reducing fatalities to 1,000 or fewer by 2008.

### 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 updated in July of the following year.

### Improvement Status:

Motorcycle fatalities and disabling injuries have shown an upward trend over the past four years. Missouri continues to experience high numbers of motorcycle fatalities. The national data comparison shows Missouri moved from 35<sup>th</sup> in 2005 to 33<sup>rd</sup> in 2006. The 2007 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 4,000 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.





# Safe Transportation System

## *Number of commercial motor vehicle crashes resulting in fatalities*

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

**Measurement Driver:** Charles Gohring, 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.

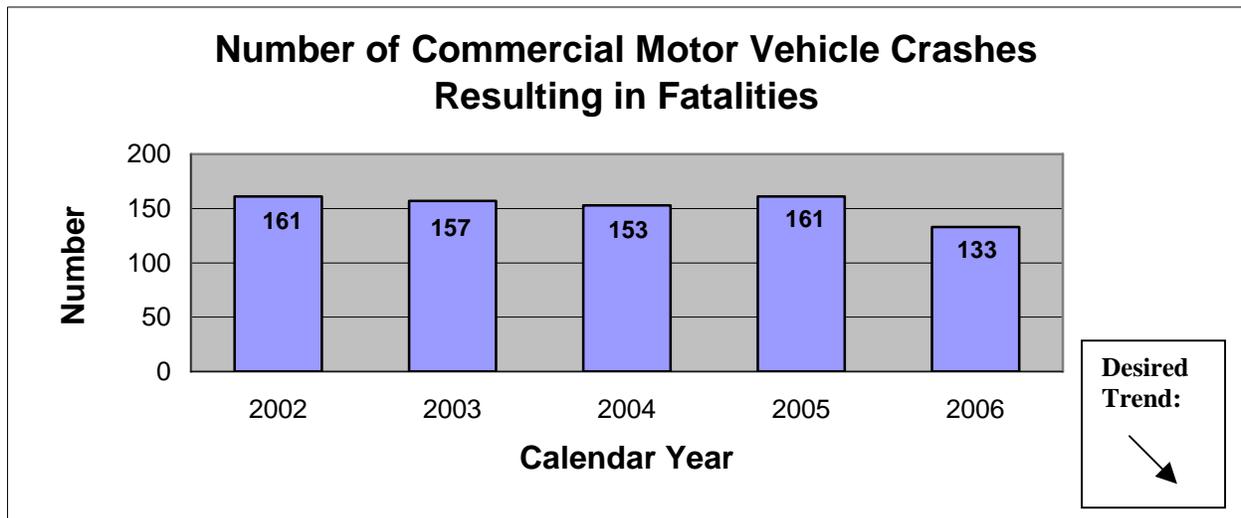
**Measurement and Data Collection:**

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.

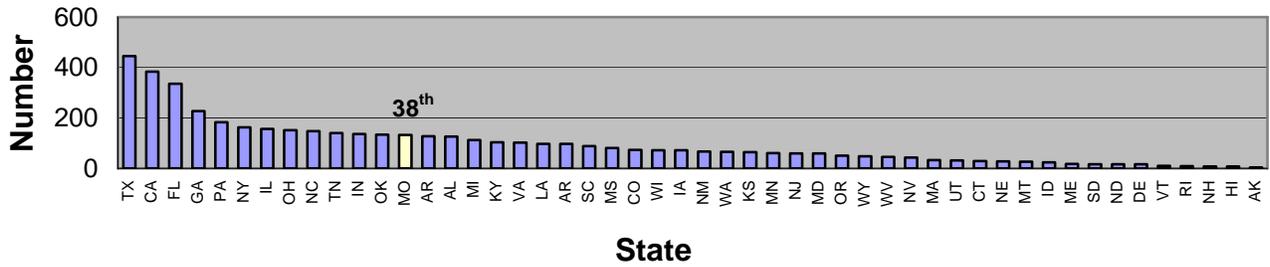
**Improvement Status:**

Data for 2007 was not available at the time of publication. Between 2002 and 2004, the number of Missouri commercial motor vehicle fatal crashes dropped from 161 to 153. The number of fatal crashes notably decreased by 13 percent between 2005 and 2006. MoDOT coordinates its efforts 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 Missouri State Highway Patrol, St. Louis and Kansas City Police Departments conduct commercial vehicle roadside inspections in order to remove unsafe drivers and vehicles from the road.

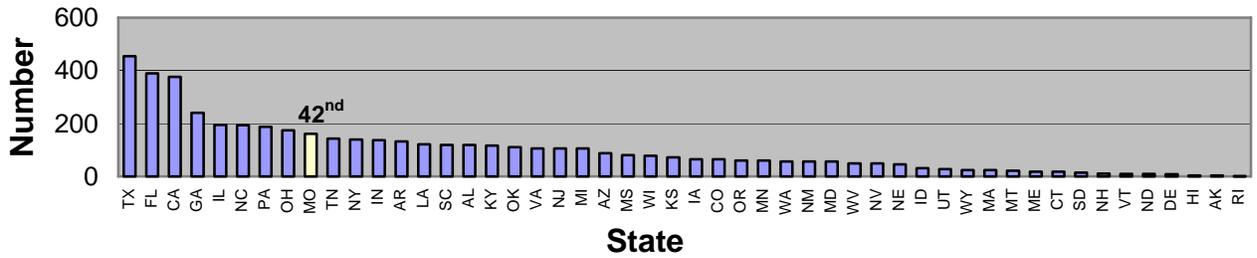
Missouri ranked 38<sup>th</sup> in the number of fatality crashes nationwide in 2006.



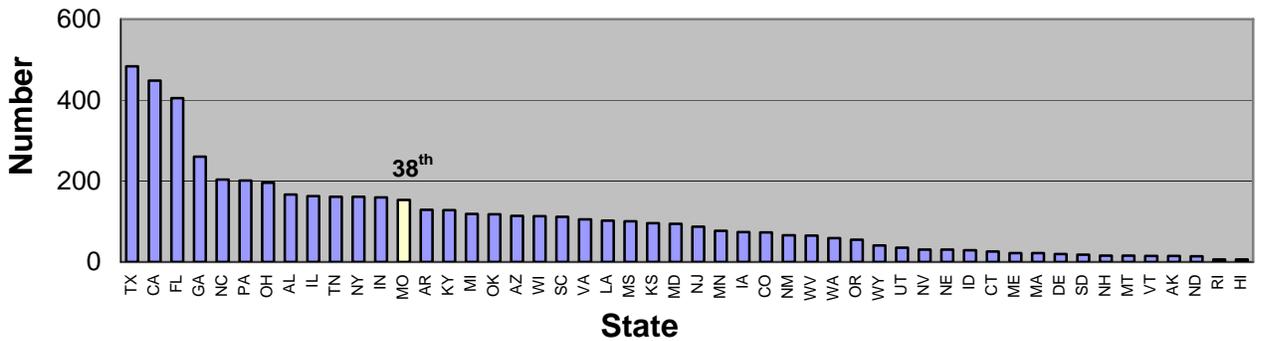
### Missouri's National Ranking in Number of Fatal Commercial Vehicle Crashes 2006



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



### Missouri's National Ranking in Number of Fatal Commercial Vehicle Crashes 2004



# Safe Transportation System

## *Number of commercial motor vehicle crashes resulting in injuries*

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

**Measurement Driver:** Charles Gohring, 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.

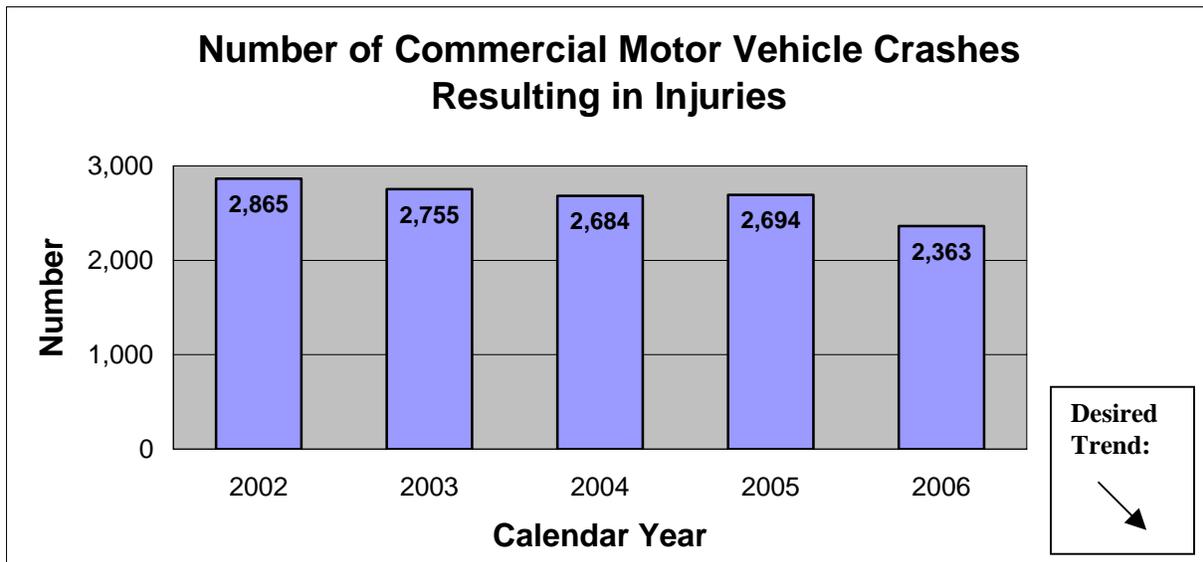
**Measurement and Data Collection:**

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 April for the previous year.

**Improvement Status:**

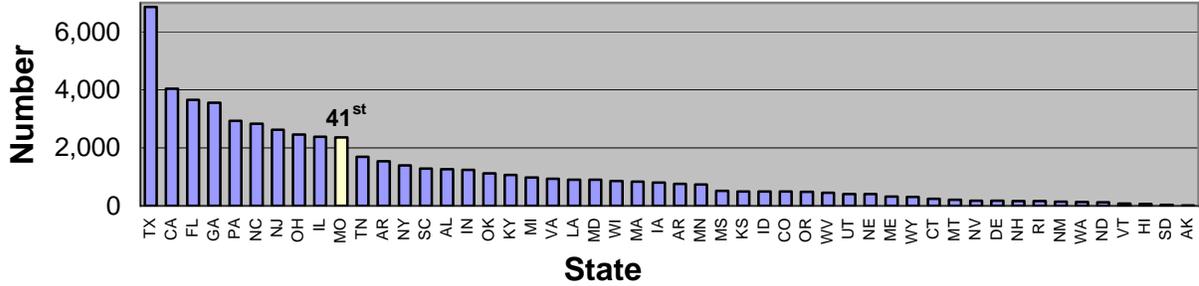
Data for 2007 was not available at the time of publication. Between 2001 and 2004, the number of commercial motor vehicle crashes resulting in injuries decreased. The number of injury crashes notably decreased by 12 percent in 2006 to 2,363. The overall downward trend is due to the coordinated safety 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 Missouri State Highway Patrol, 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 2006.



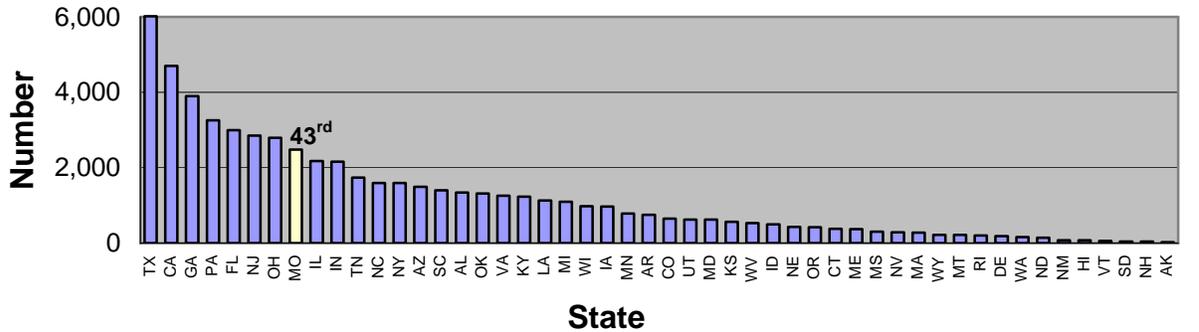
### Missouri's National Ranking in Number of Injury Commercial Vehicle Crashes

2006



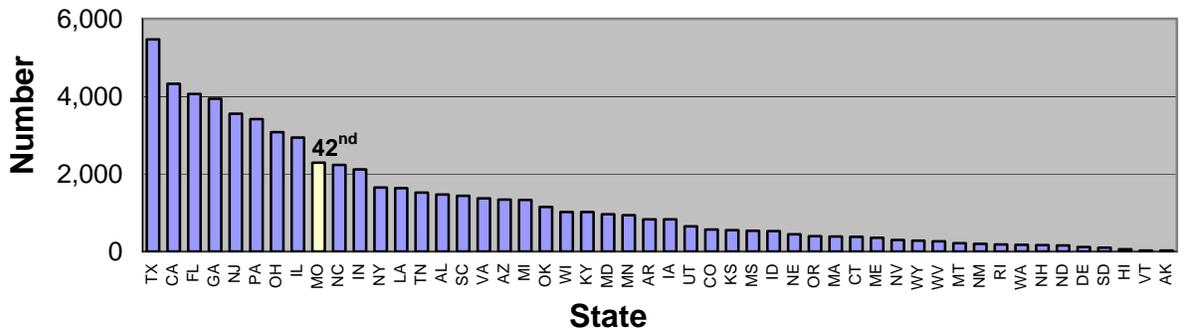
### Missouri's National Ranking in Number of Injury Commercial Vehicle Crashes

2005



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

2004



# Safe Transportation System

## *Number of fatalities and injuries in work zones*

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

**Measurement Driver:** Brian Chandler, 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:**

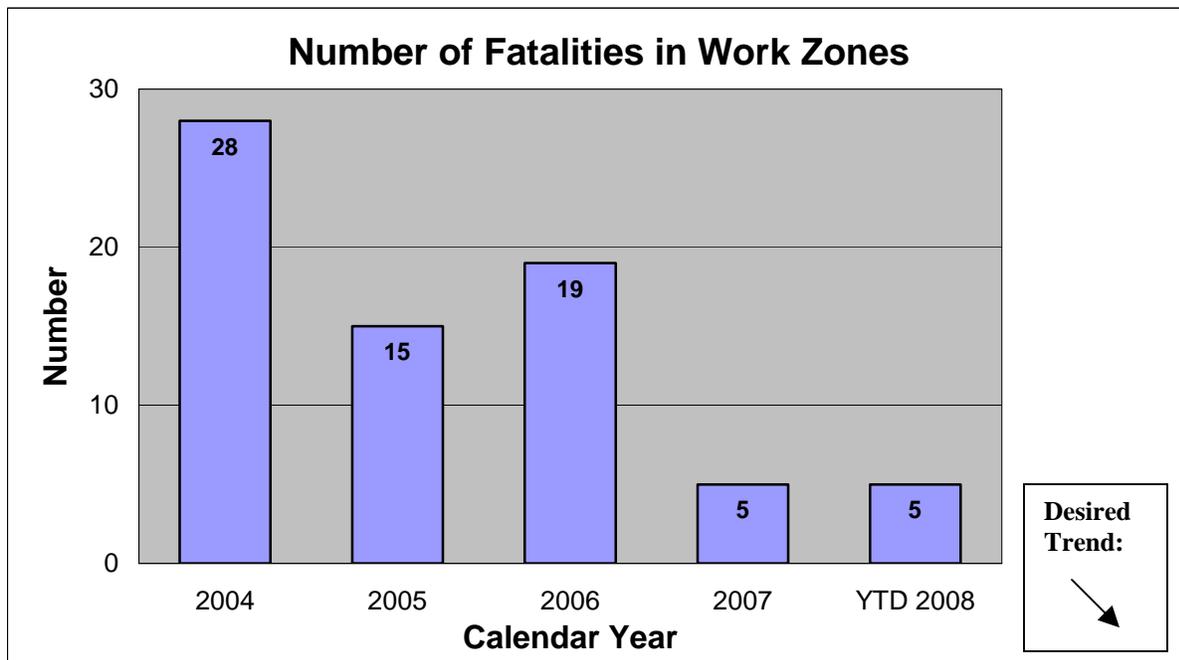
Missouri law enforcement agencies are required to report crashes by submitting a standardized vehicle accident report form to the Missouri State Highway Patrol. MSHP personnel enter these reports into a statewide traffic crash database. MoDOT staff query and analyze this data to identify work zone-related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

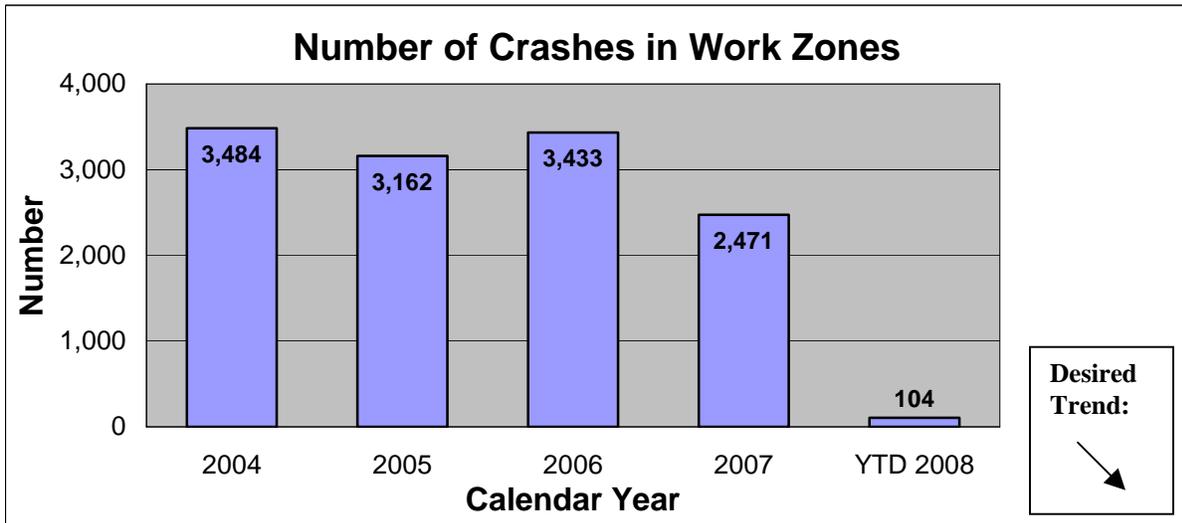
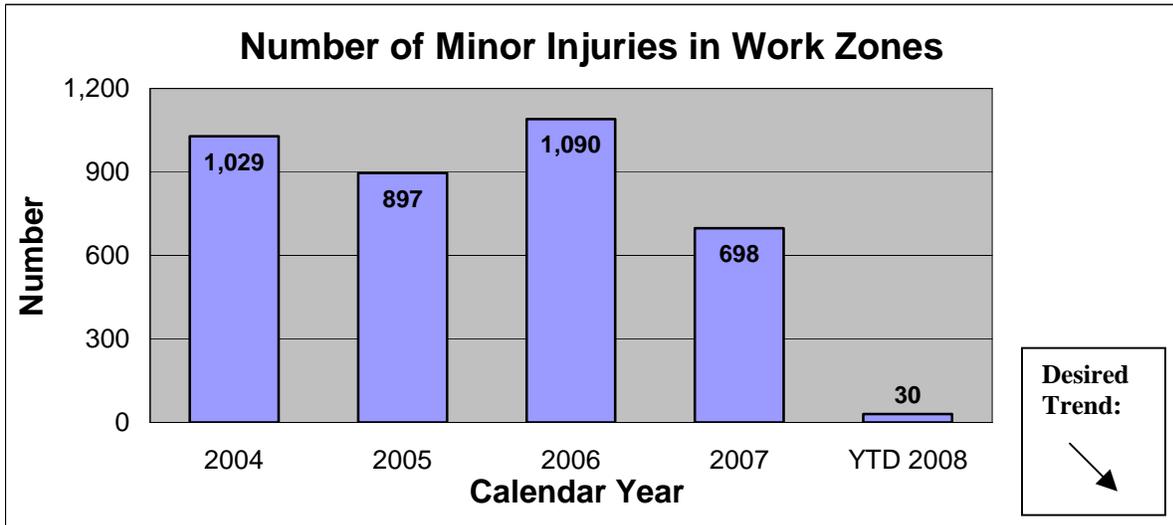
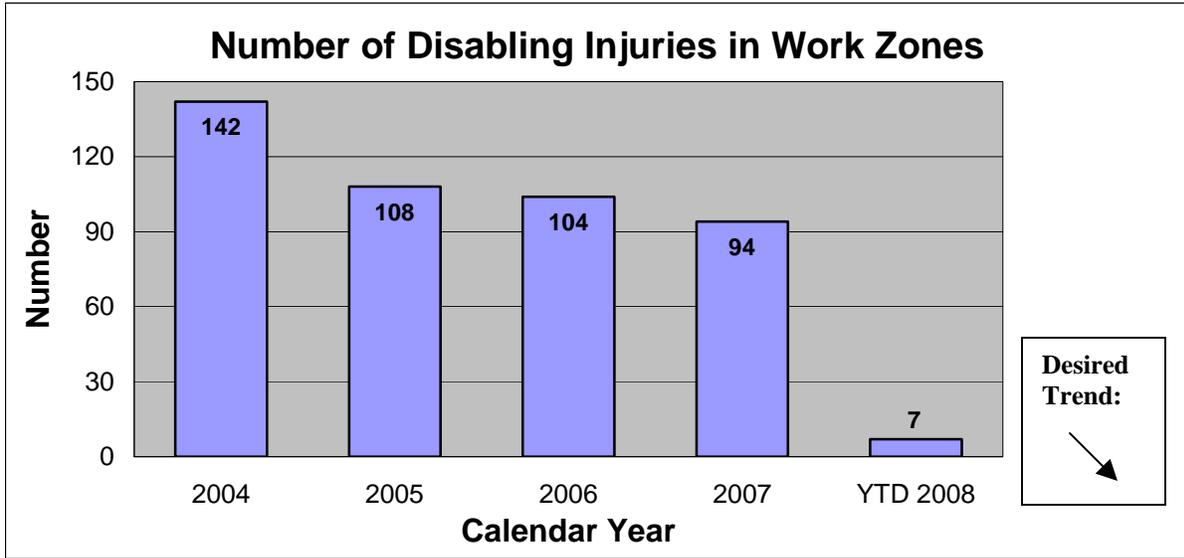
**Improvement Status:**

Fatalities have increased in early 2008 due to a triple-fatality crash in South Central Missouri. Steps have been taken to analyze that event and prevent future crashes in work zones.

Final crash statistics for calendar year 2007 indicate a 74 percent reduction in the number of fatalities, a 10 percent reduction in the number of disabling injuries, a 36 percent reduction in the number of minor injuries and a 28 percent reduction in the number of crashes occurring in Missouri’s work zones when compared to the final numbers for calendar year 2006.

Missouri generally has experienced a downward trend in work zone-related fatalities, injuries, and crashes since 2002, with a significant reduction in three of the four major severity categories in 2007. Such improvement in work zone safety is attributable partially to the department’s proactive approach to raising work zone safety awareness and minimizing impacts on the traveling public.





## Safe Transportation System

### *Number of highway-rail crossing fatalities and collisions*

**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 into 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.

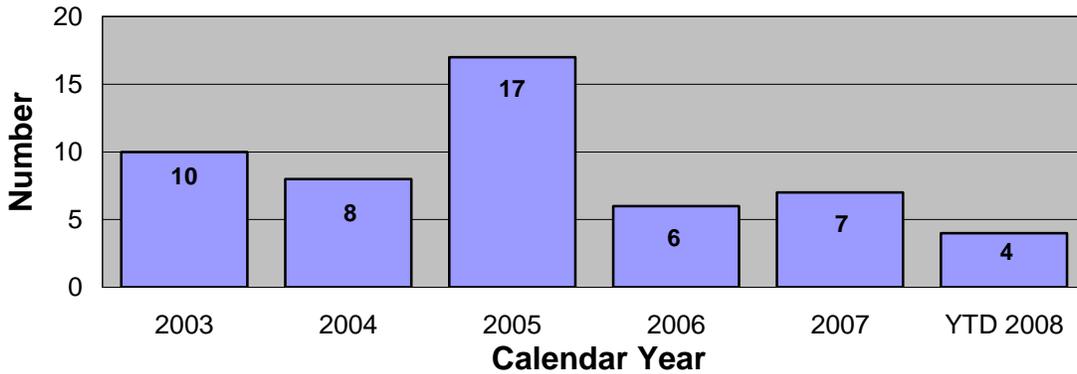
**Improvement Status:**

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. Another improvement is the exploration of 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 also a renewed emphasis on closing unsafe, redundant or unnecessary crossings.

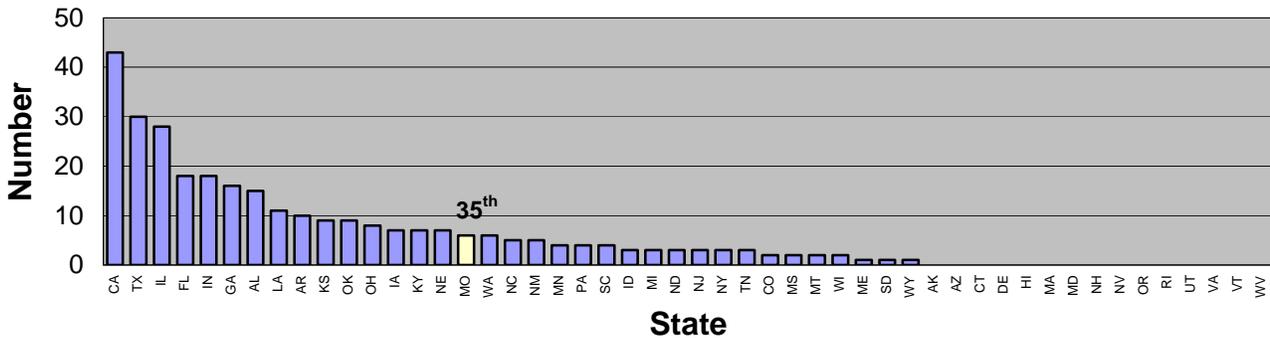
In 2007 there were seven fatalities. In 2008 there have already been four fatalities. In order to combat this, MoDOT has increased and implemented more public outreach efforts along with engineering improvements. This has included distributing an emergency responder manual for train accidents, renewed effort to present rail crossing information at driver's education classes, and having a MoDOT employee certified in Operation Lifesaver training. MoDOT also hosted Rail Safety Week from April 13 to 18, 2008. Throughout 2008, MoDOT will continue to co-sponsor "positive enforcement" efforts at crossings all across the state with the Missouri State Highway Patrol and Missouri Operation Lifesaver. The continuing focus throughout the year has been the three E's: 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.

### Number of Highway-Rail Crossing Fatalities

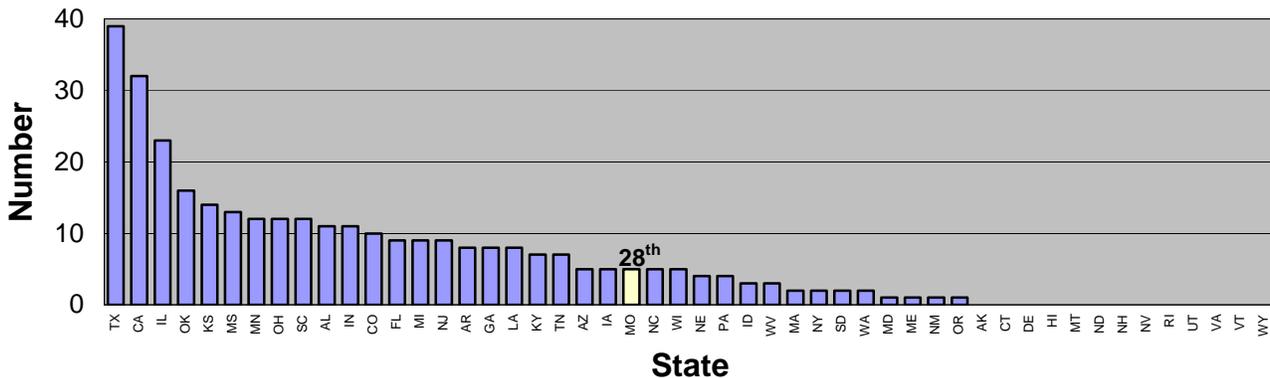


**Desired Trend:**

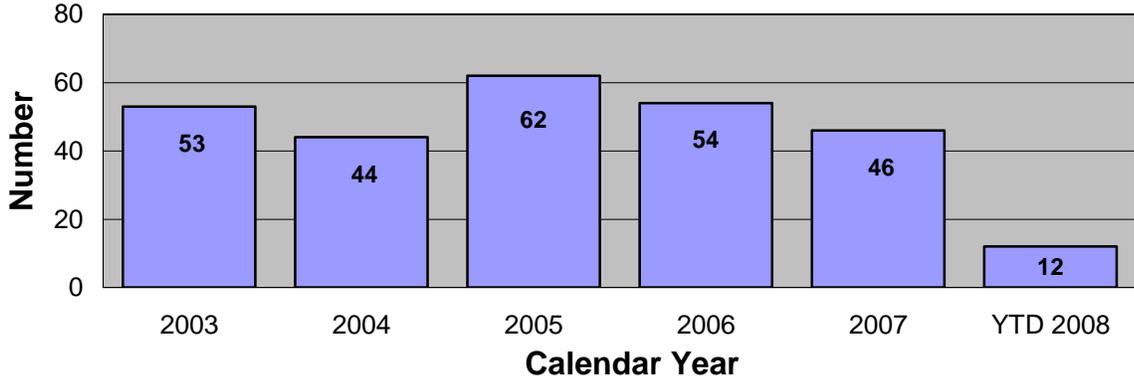
### Missouri's National Ranking in Number of Highway-Rail Crossing Fatalities January-December 2007



### Missouri's National Ranking in Number of Highway-Rail Crossing Fatalities January-December 2006

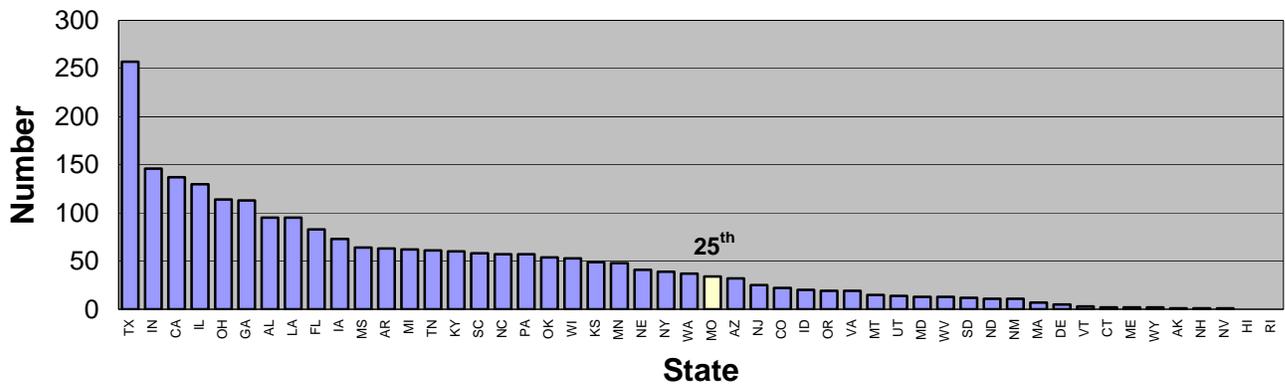


### Number of Highway-Rail Crossing Collisions



**Desired Trend:**

### Missouri's National Ranking in Number of Highway-Rail Crossing Collisions January-December 2007



### Missouri's National Ranking in Number of Highway-Rail Crossing Collisions January-December 2006

