



KEEP CUSTOMERS AND OURSELVES SAFE

Mark Shelton, District Engineer



Tracker

MEASURES OF DEPARTMENTAL PERFORMANCE



Safety is a daily commitment for all MoDOT employees. From design and construction to operations and maintenance of the state transportation system, the safety of our customers, partners, and employees is our top priority. We work with our safety partners to promote safe behavior for all users and modes of transportation so everyone goes home safe every day.

RESULT DRIVER:

Mark Shelton
District Engineer

KEEP CUSTOMERS AND OURSELVES SAFE

Number and rate of fatalities and serious injuries – 1a

MEASUREMENT DRIVER:

Bill Whitfield
Highway Safety Director

PURPOSE OF THE MEASURE:

The fatal and serious injury number measures track quarterly, annual and five-year average trends resulting from traffic crashes on all Missouri roadways.

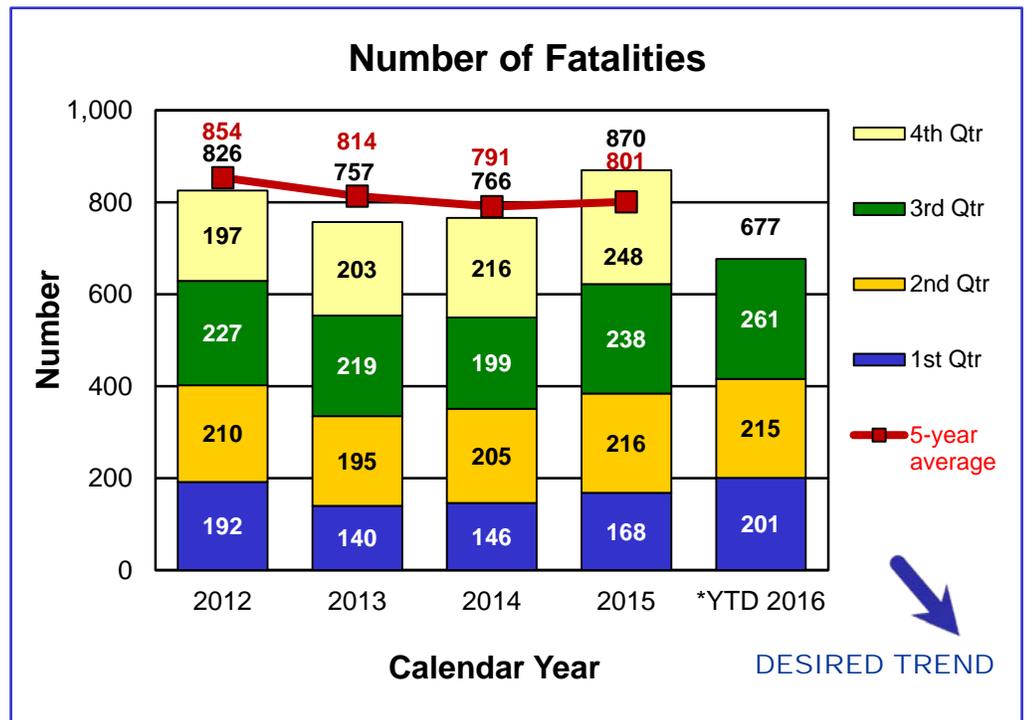
Traffic crash prevention is one of MoDOT’s highest priorities. In 2015, Missouri experienced 870 fatalities, resulting in a 14 percent increase over 2014. Of those fatalities, 63 percent were unbuckled when the crash occurred. This unbuckled trend has fluctuated from a high of 71 percent in 2013 to current levels.

Crash data from 2010 to 2014 showed the leading contributing circumstances that can be attributed to driver behavior were substance impaired driving, driving too fast for conditions, distraction/inattention, exceeding the speed limit, following too closely and fatigue. Crash statistics also showed impaired drivers had an unbuckled fatality rate of 87 percent. This group of drivers makes two deadly decisions: to drive impaired and unbelted. Once 2015 MSHP crash files are closed, more extensive analysis will be completed.

Unofficial reporting for the first three quarters of 2016 shows 677 fatalities on Missouri roadways, which is a 9 percent increase from the same time last year.

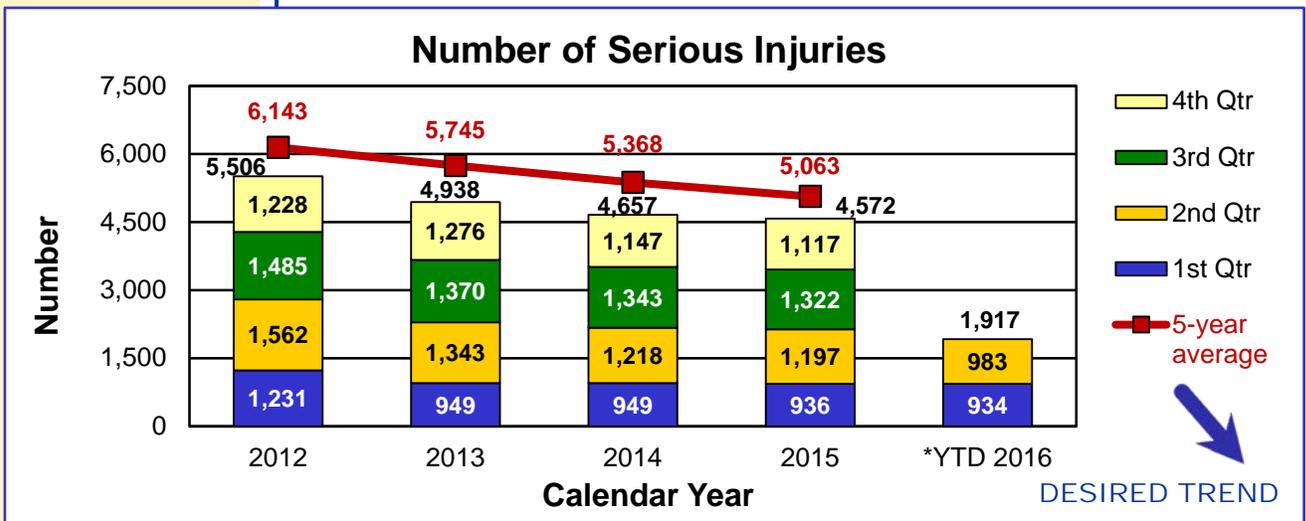
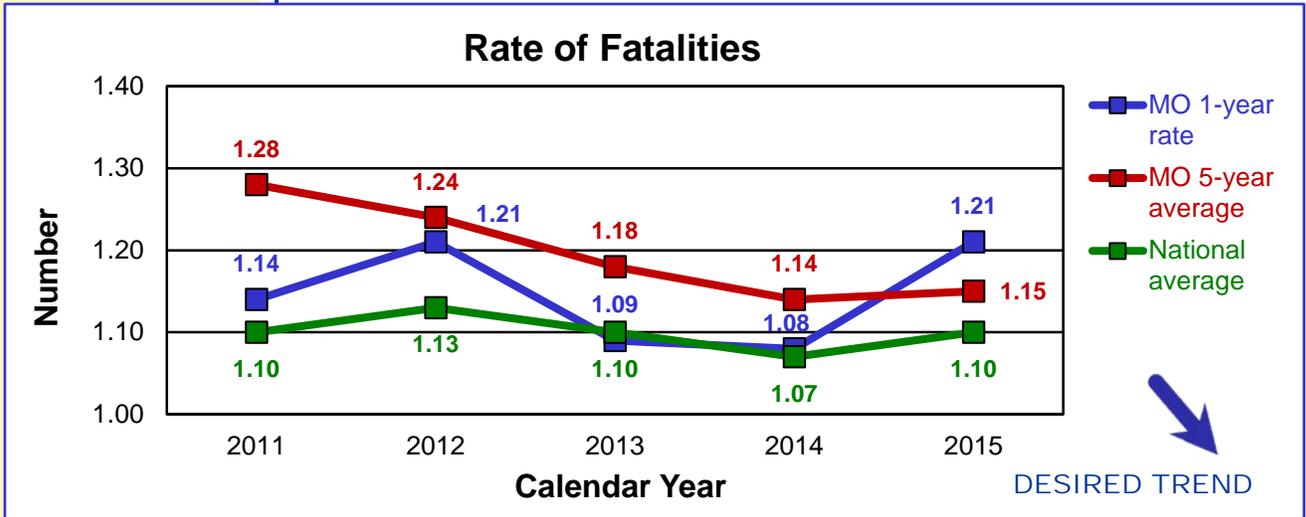
MEASUREMENT AND DATA COLLECTION:

Missouri law enforcement agencies submit a vehicle accident report form to the Missouri State Highway Patrol to be entered into a statewide traffic crash database. The database automatically updates MoDOT’s crash database system, which is part of the Transportation Management System. The rate of fatal and serious injury charts display annual and five-year average fatality and injury rates per 100 million vehicle miles traveled for these same crashes. In addition, the fatality rate chart includes the national average.

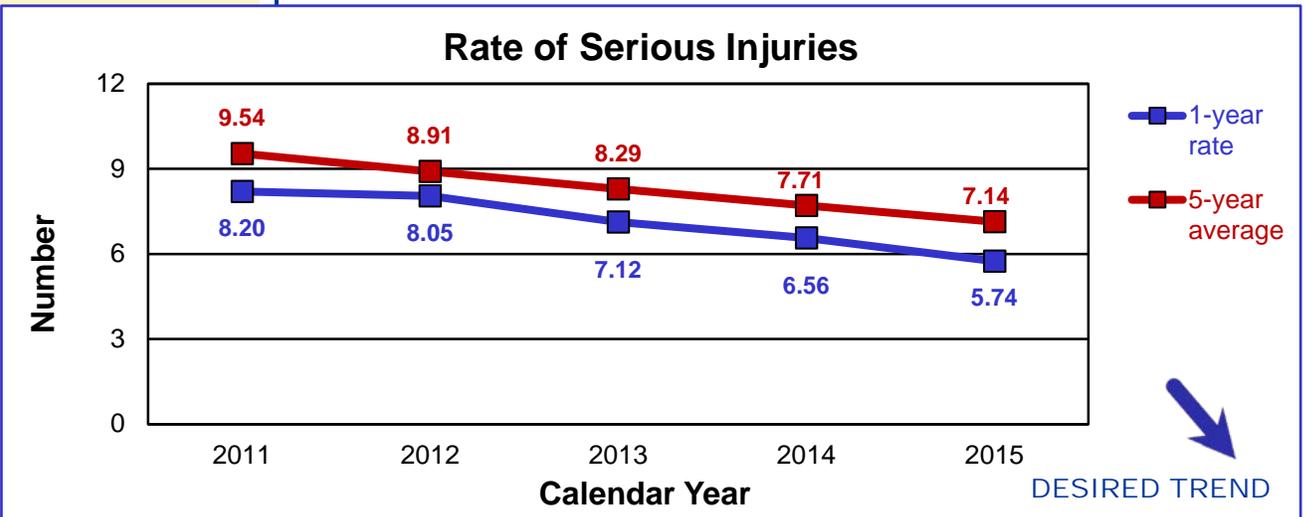


*YTD 2016 – Third quarter fatalities were derived from MSHP radio reports.

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*2016 – Due to a backlog of crash reports into STARS, the serious-injury measure only includes data derived from TMS. Third quarter 2016 data is not available on the MSHP radio reports and is incomplete in TMS.



RESULT DRIVER:

Mark Shelton
District Engineer

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MEASUREMENT

DRIVER:

Bill Whitfield
Highway Safety Director

Number of vulnerable roadway user fatalities and serious injuries – 1b

PURPOSE OF THE MEASURE:

The vulnerable roadway user measure tracks annual trends in fatalities and serious injuries of motorcyclists, pedestrians and bicyclists. These roadway users are at risk for death or serious injury when involved in a motor-vehicle-related crash.

In 2015, vulnerable roadway users were 24 percent of the total number of fatalities. Pedestrian fatalities increased in 2015 by 51 percent. Motorcycle fatalities increased by 6 percent and bicycle fatalities increased by 125 percent.

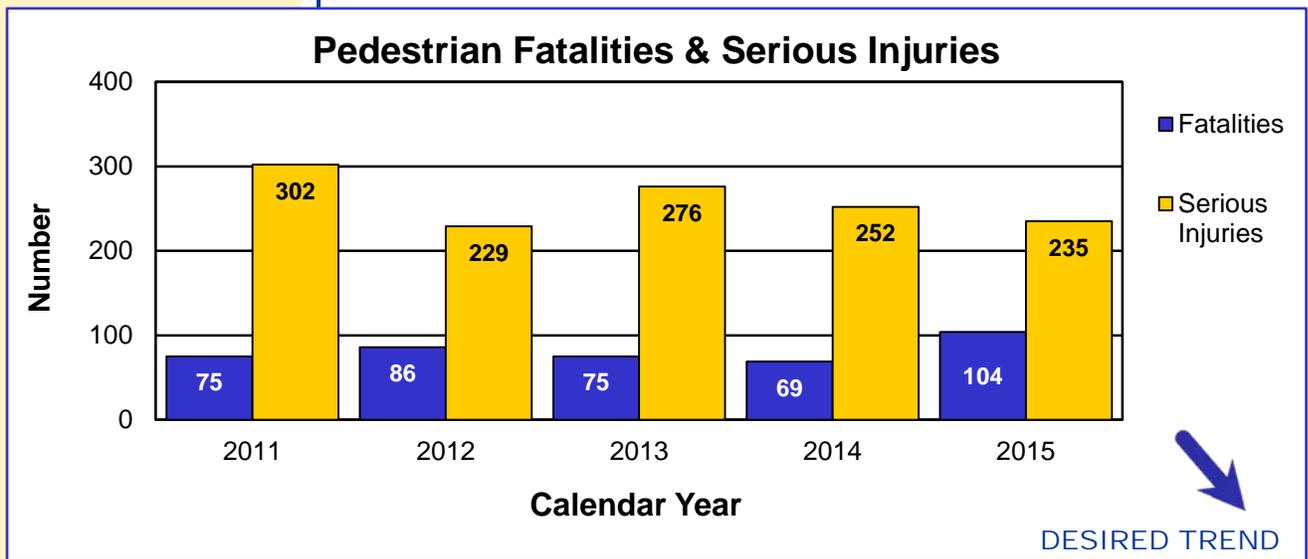
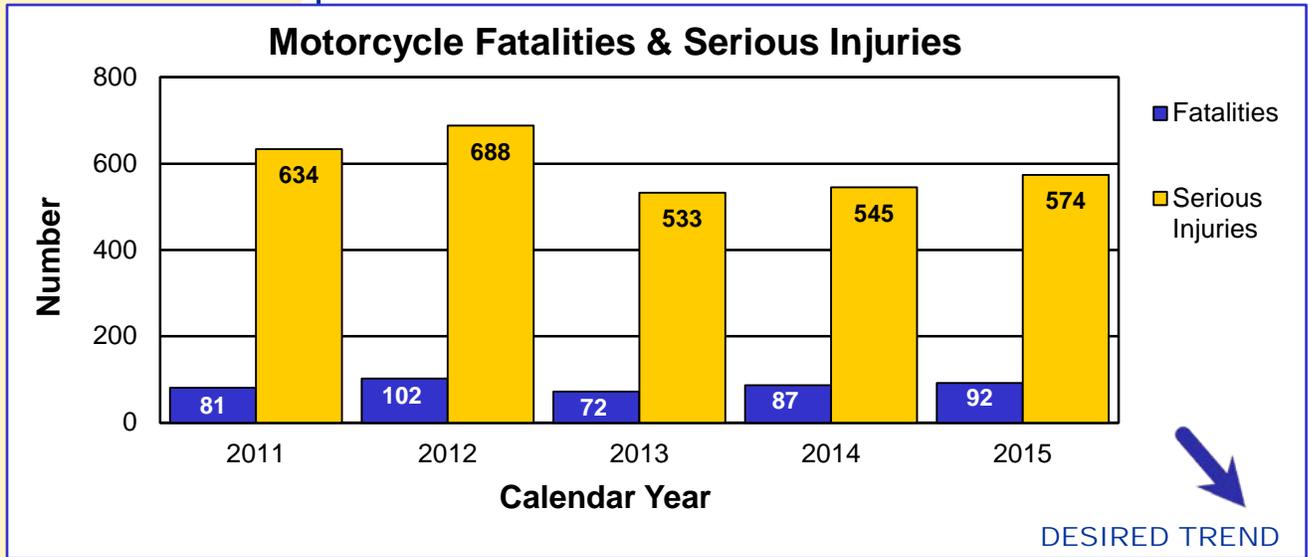
Motorcycle and bicycle serious injuries increased in 2015, meanwhile pedestrians decreased. Serious injury data for 2015 is incomplete.

MEASUREMENT AND DATA COLLECTION:

Missouri law enforcement agencies submit a vehicle accident report form to the Missouri State Highway Patrol to be entered into a statewide traffic crash database. The database automatically updates MoDOT's crash database system, which is part of the Transportation Management System.



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RESULT DRIVER:

Mark Shelton
District Engineer

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Number of fatalities and serious injuries resulting from the most frequent crash causes – 1c

MEASUREMENT

DRIVER:

John Miller
Traffic Liaison Engineer

PURPOSE OF THE MEASURE:

The measure tracks annual trends in motor-vehicle-related fatal and serious injuries resulting from the most common contributing factors or highway features. This data represents six of the top focus areas presented in Missouri's Blueprint to Save More Lives.

MEASUREMENT AND DATA COLLECTION:

Missouri law enforcement agencies submit a vehicle accident report form to the Missouri State Highway Patrol to be entered into a statewide traffic crash database, which is part of the Transportation Management System. MoDOT staff query and analyze this data to determine the number of unrestrained occupants in crashes, how often aggressive driving, alcohol and other drugs contribute to crashes, and whether or not the vehicles ran off the road, the crash occurred in a curve, or the crash occurred at an intersection.

The Highway Patrol experiences a lag in data entry each year which prohibits MoDOT from using current complete crash data. This lag is being reduced through a combination of efforts involving not only manual data entry, but also an increased emphasis in electronic data entry.

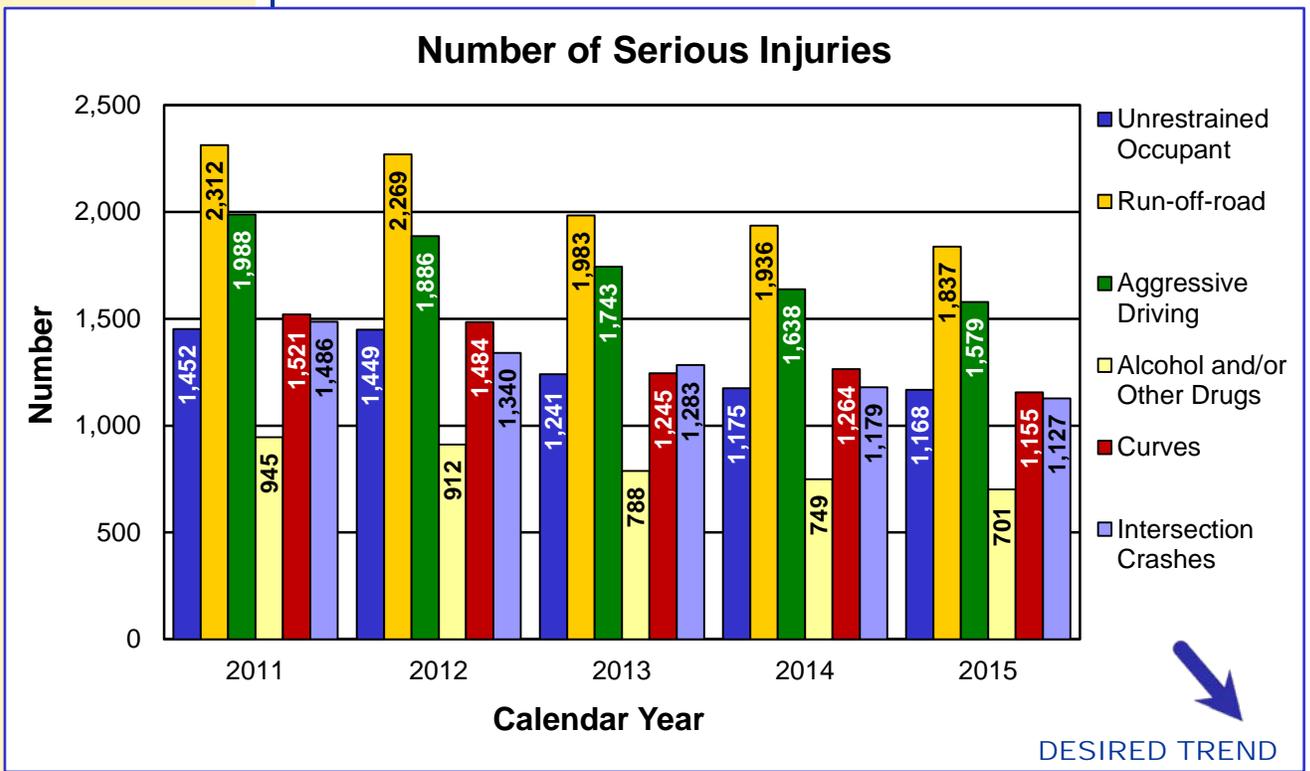
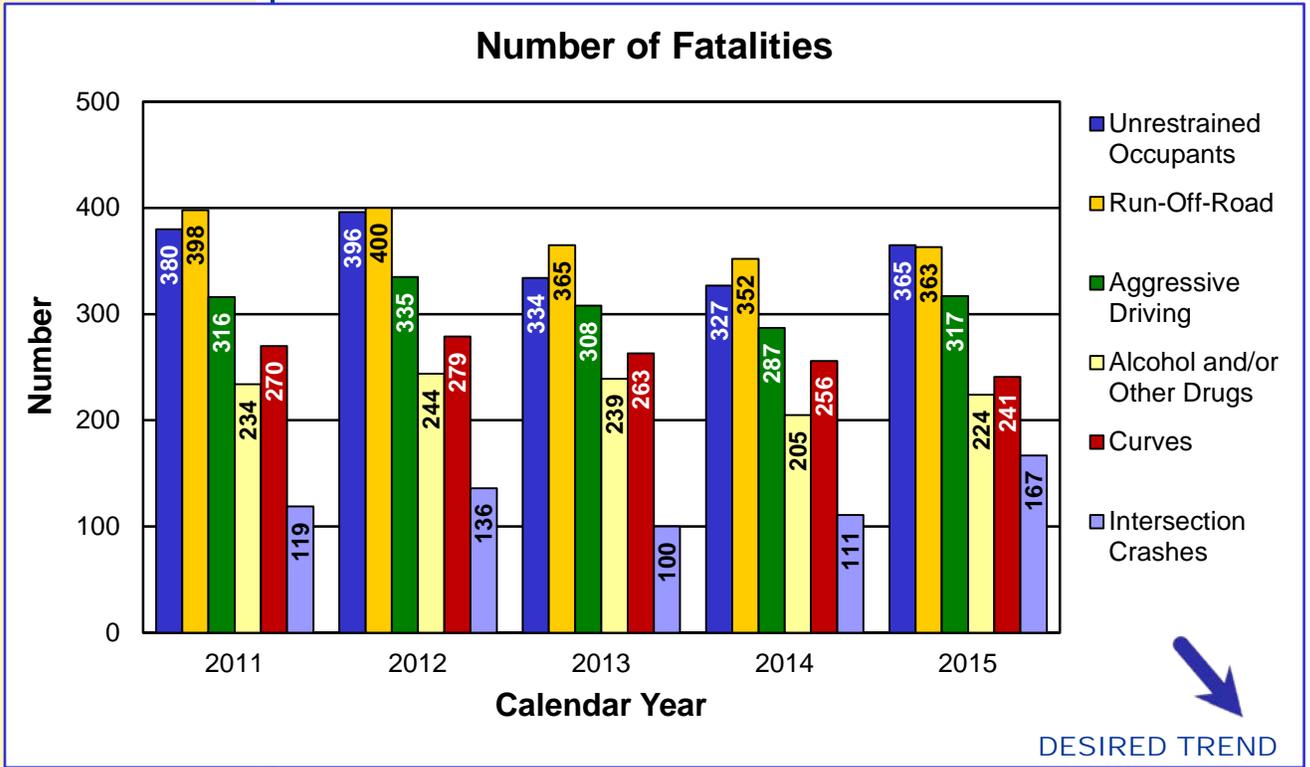
Recording and monitoring crash data is an important part of improving safety for Missouri drivers. But without looking at the causes of these incidents, the data is nothing but numbers. Looking for the reasons why an incident occurs is MoDOT's best approach to address the problem. With that approach, the department finds the most frequent causes continue to be a mix of engineering and behavioral issues.

The general trend for fatalities is no longer declining in Missouri, but instead beginning to increase. The serious injuries trend is beginning to level off. Comparing the number of fatalities in 2014 to 2015 shows large increases in unrestrained occupants (12 percent), aggressive driving (10 percent), alcohol and/or other drugs (10 percent), and intersection related (50 percent), moderate increases in run-off-road (3 percent) and an actual decrease in curve related (6 percent reduction). Comparing the number of serious injuries in 2014 to 2015 shows moderate decreases in unrestrained occupants (1 percent), run-off-road (5 percent), aggressive driving (4 percent), alcohol and/or other drugs (6 percent), curve related (9 percent) and intersection related (4 percent).

With increased traffic on Missouri roadways, it will be difficult to change the current trends for each of these causes. The primary current initiatives include adding shoulders and rumble strips to minor roads, installing high-friction surface treatments and improving intersection safety. While driver behavior is difficult to correct, MoDOT continues to focus on using funds to target locations and behaviors based on crash data analysis.



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RESULT DRIVER:

Mark Shelton
District Engineer

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Number of fatalities and serious injuries in work zones – 1d

**MEASUREMENT
DRIVER:**

Julie Stotlemeyer
Traffic Liaison Engineer

**PURPOSE OF
THE MEASURE:**

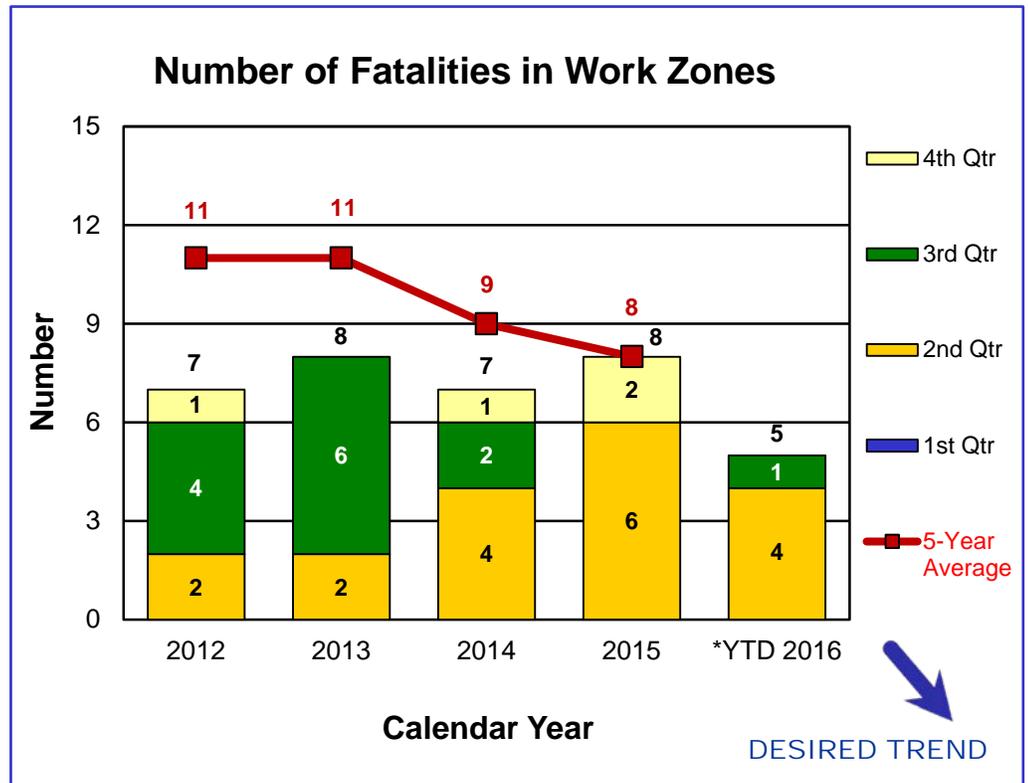
This measure tracks the number of traffic-related and non-traffic-related fatalities, injuries and overall crashes occurring in work zones on state-owned roadways.

**MEASUREMENT AND
DATA COLLECTION:**

Missouri law enforcement agencies submit a vehicle accident report form to the Missouri State Highway Patrol to be entered into a statewide traffic crash database. The database automatically updates MoDOT's crash database system, which is part of the Transportation Management System. MoDOT staff query and analyze this data to identify work zone related crash statistics. MSHP prioritizes entry of the crash reports by fatality, serious injury and then property damage only.

Work zone safety is at the center of MoDOT's safety culture. It is a driving force in all maintenance and construction work. Just as MoDOT expects its crews to be safe and visible, it also expects contractors and utility companies to provide safe work zones and visible workers. This is demonstrated by the partnership MoDOT has with contractors and utility companies using the same personal protection equipment it uses. Staying safe in work zones also is a partnership the department shares with the driving public. MoDOT wants everyone to get home safely. While MoDOT makes every effort to work safely, motorists need to pay attention, slow down, move over, buckle up and drive without distractions.

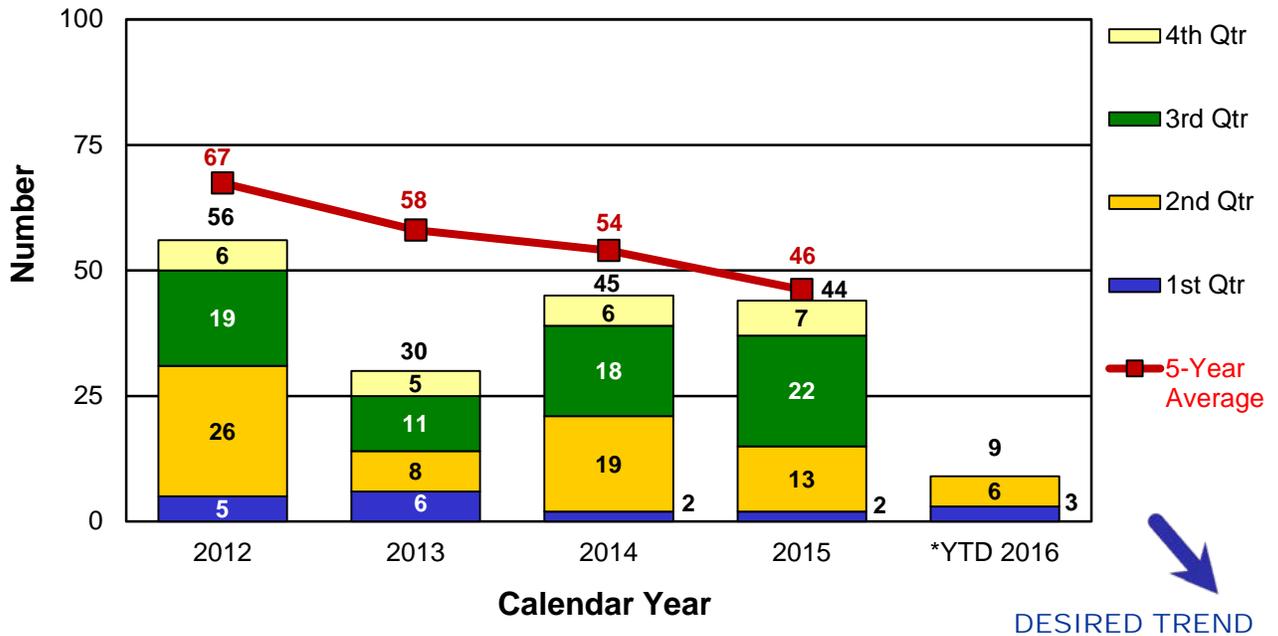
Based on information currently available, there have been five work zone crashes that resulted in five fatalities in Missouri in 2016. Of these fatalities, three were unbuckled and one was a flagger. Two crashes involved large trucks and three crashes occurred on divided highways. One was a rear-end crash and two were head-on crashes.



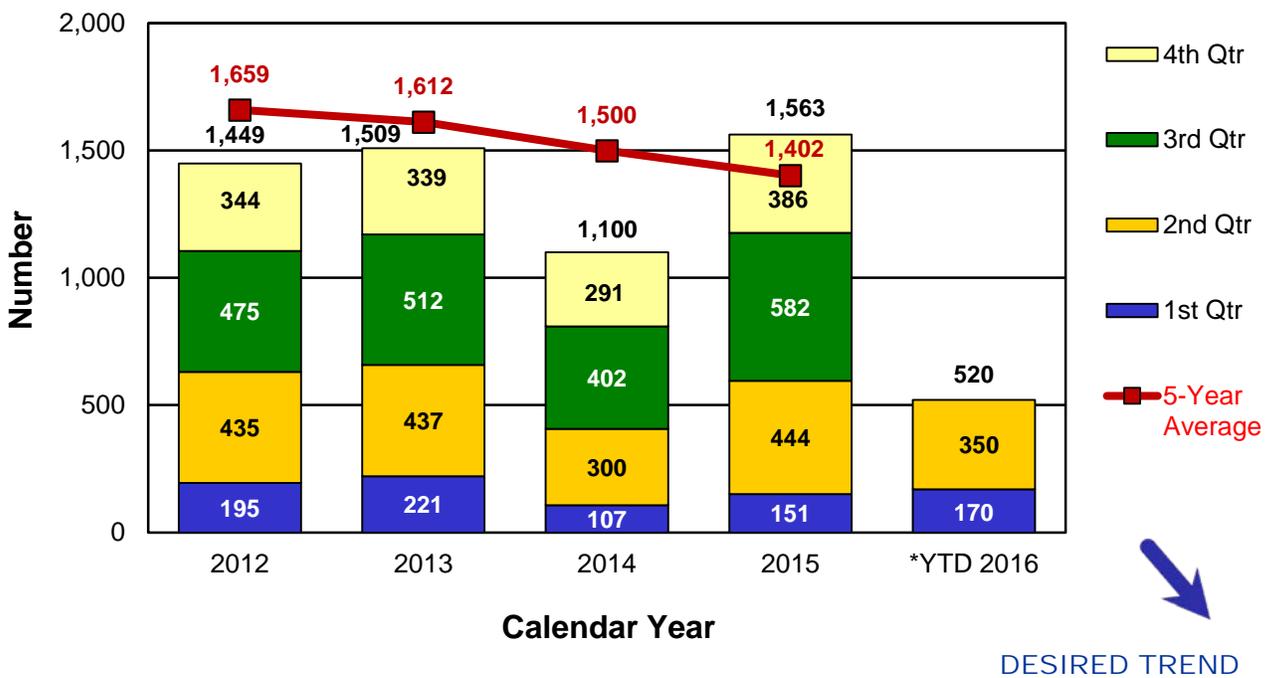
*YTD 2016 – Fatalities derived from TMS.

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Number of Serious Injuries in Work Zones



Number of Crashes in Work Zones



*YTD 2016 – Due to a backlog of crash reports into STARS, these measures are not final and only illustrate data derived from TMS. Third quarter 2016 data is unavailable through the MSHR radio reports and is incomplete in TMS.

RESULT DRIVER:

Mark Shelton
District Engineer

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Percent of seat belt/passenger vehicle restraint use – 1e

MEASUREMENT DRIVER:

Scott Jones
Highway Safety Program
Administrator

PURPOSE OF THE MEASURE:

This measure tracks annual trends in seat belt use in passenger vehicles. This data drives the development and focus of the Missouri Highway Safety Plan and supports Missouri's Blueprint to Save More Lives.

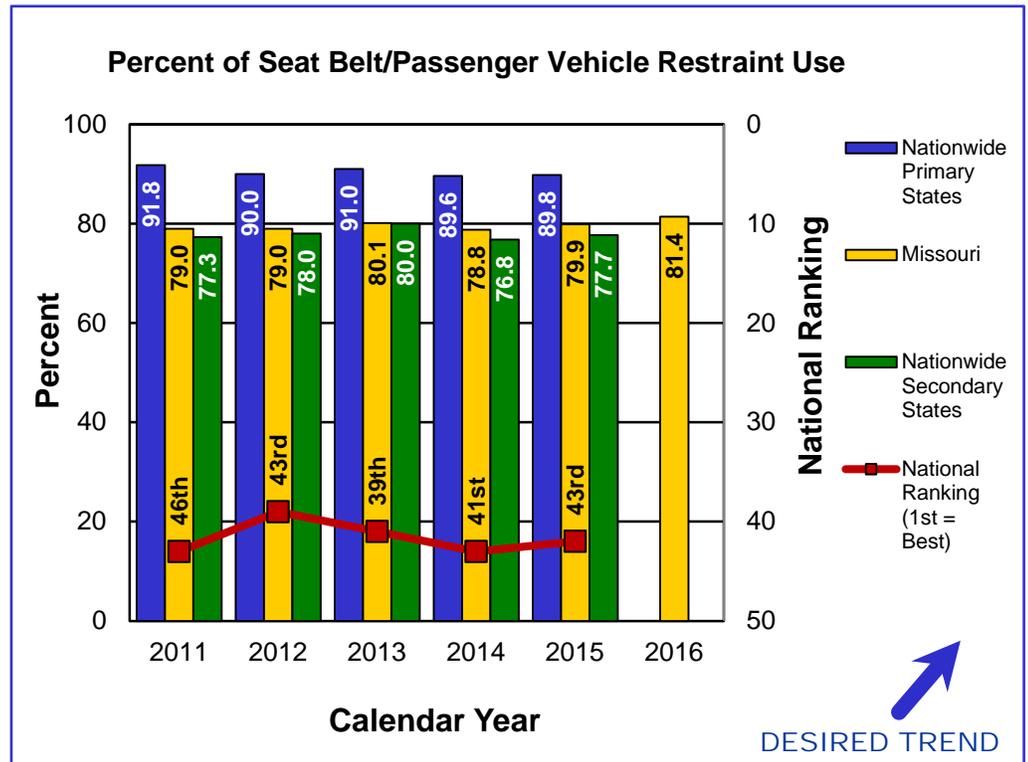
MEASUREMENT AND DATA COLLECTION:

Each June, a statewide survey is conducted at 560 preselected locations in 28 counties. The data collected is calculated into a seat belt usage rate using a formula approved by the National Highway Traffic Safety Administration. Data collection locations represent 85 percent of the state's vehicle occupant fatalities. The data collection plan is the same each year for consistency and compliance with NHTSA guidelines.

Seat belts save lives, but getting people to use them – even to protect their own lives – is a challenge. Public education is one way to keep the issue in front of motorists. Legislation is another. MoDOT supports each approach, attacking the problem with focused marketing campaigns and reinforcing it with hard facts to back legislative efforts. Several municipalities across the state are taking matters into their own hands enacting primary ordinances within city limits. Missouri currently has 53 municipalities and two counties that have adopted primary seat belt ordinances, representing 23.6 percent of the state's population.

Based on 123,678 observations, the seat belt use in Missouri for 2016 was 81.4 percent. Jackson County was the lowest at 63 percent, and Montgomery County was the highest at 95.4 percent. The national average for seat belt use in 2015 was 88 percent. The 2016 data is not yet available. Missouri's national ranking in 2015 was 43rd, with only seven states ranking lower in seat belt usage.

States with a primary seat belt law rank highest on seat belt use nationwide. States that have a secondary law continue to rate lowest in national rankings.



RESULT DRIVER:

Mark Shelton
District Engineer

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Number and rate of fatalities and serious injuries for commercial motor vehicle crashes – 1f

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 and serious-injury crashes and compares those annual totals to the number of vehicle miles traveled annually by commercial motor vehicles. MoDOT uses the information to target education, enforcement and improvement of safety features.

MEASUREMENT AND DATA COLLECTION:

Missouri law enforcement agencies submit a vehicle accident report form to the Missouri State Highway Patrol to be entered into a statewide traffic crash database. The database automatically updates MoDOT's crash database system, which is a part of the Transportation Management System. The rate of fatal and serious-injury charts display the annual fatality and injury rates per 100 million vehicle miles traveled for commercial motor vehicles for these same crashes. Crash rate data is reported annually.

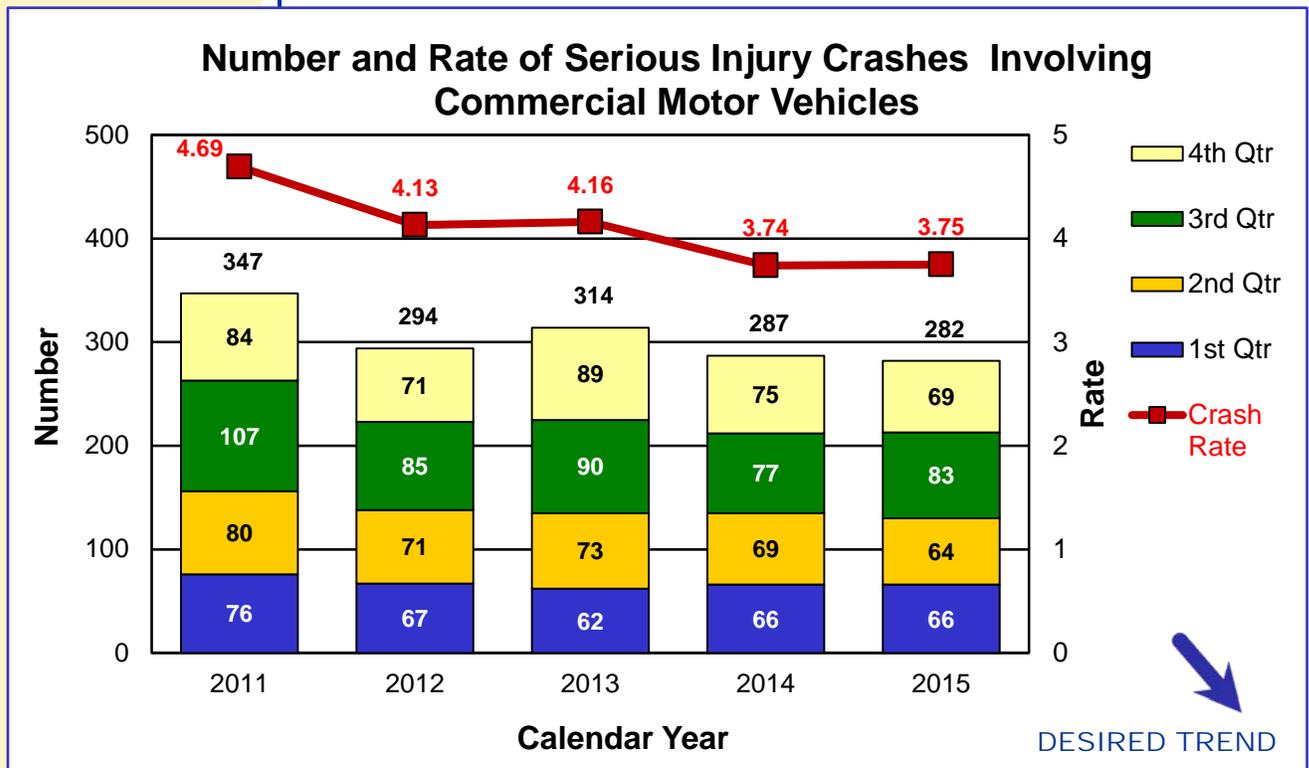
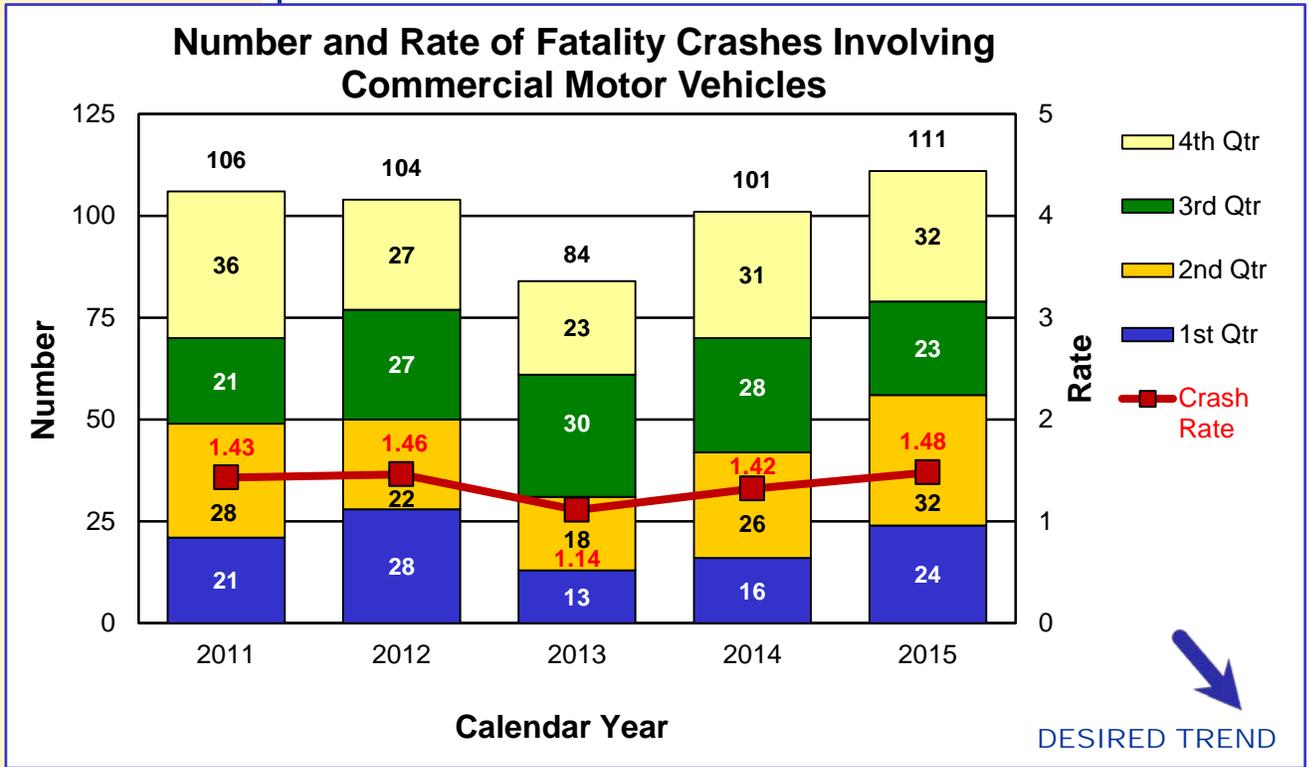
Commercial motor vehicles are the lifeblood of Missouri's economy. They transport the goods and materials that keep the nation moving. Partnering with the Missouri State Highway Patrol and St. Louis and Kansas City police departments, MoDOT does everything in its power to keep CMV drivers safe and their vehicles on the road. By tracking the number of CMV crashes resulting in fatalities and serious injuries, MoDOT can target education and enforcement efforts, and also improve safety features such as highway signs, reflective pavement markings, guard cables, rumble strips and incident management alert signs.

Between 2011 and 2015, fatal crashes involving a CMV increased by 4.7 percent, and the fatality crash rate increased from 1.43 to 1.48 per 100 million CMV vehicle miles traveled. In 2015 the 111 fatality crashes Missouri experienced is 10 more than 2014 or a 9.9 percent increase. This resulted in a 2015 crash rate of 1.48 as compared to the 1.42 rate for 2014.

Serious-injury crashes involving a CMV decreased by 18.7 percent and the serious-injury crash rate dropped from 4.69 to 3.75 per 100 million CMV vehicle miles traveled between 2011 and 2015. The 282 serious-injury crashes Missouri experienced in 2015 is five fewer than reported for 2014 or a 1.7 percent decrease. This resulted in a 2015 crash rate of 3.75 as compared to the 3.74 rate for 2014.



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Due to a backlog of crash reports into STARS, these measures will only illustrate data derived from TMS.

RESULT DRIVER:

Mark Shelton
District Engineer

MEASUREMENT

DRIVER:

Evan Adrian
Senior Safety Officer

PURPOSE OF THE MEASURE:

This measure tracks the number of recordable injuries, in total and as a rate of injuries per 100 workers.

MEASUREMENT AND DATA COLLECTION:

The calculation for incidence rate is the number of recordables times 200,000 divided by the number of hours worked. The 200,000 used in the calculation is the base for 100 full-time workers (working 40 hours per week, 50 weeks per year). MoDOT defines a recordable incident as a work-related injury or illness that results in death, days away from work or medical treatment resulting in cost to the department. The injury data is collected from Riskmaster, the department's risk management claims administration software. The number of hours worked is taken from MoDOT's payroll data.

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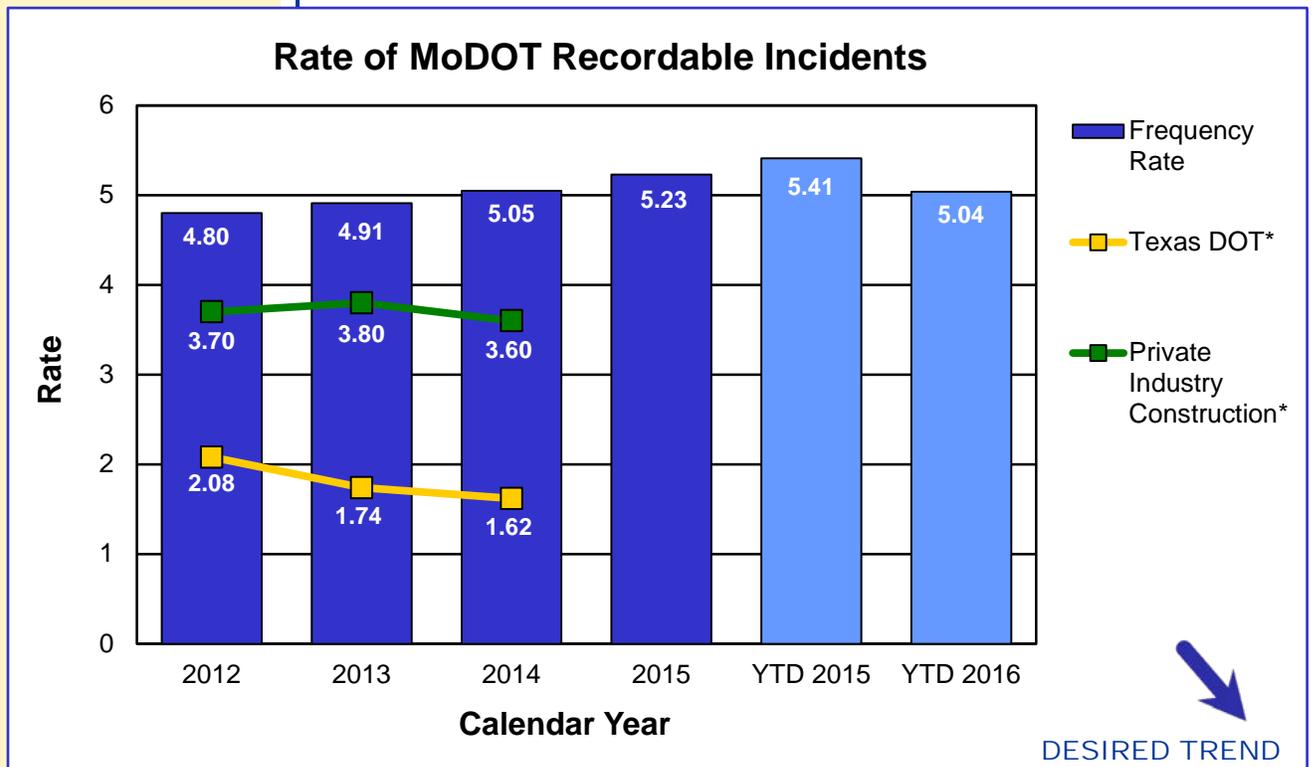
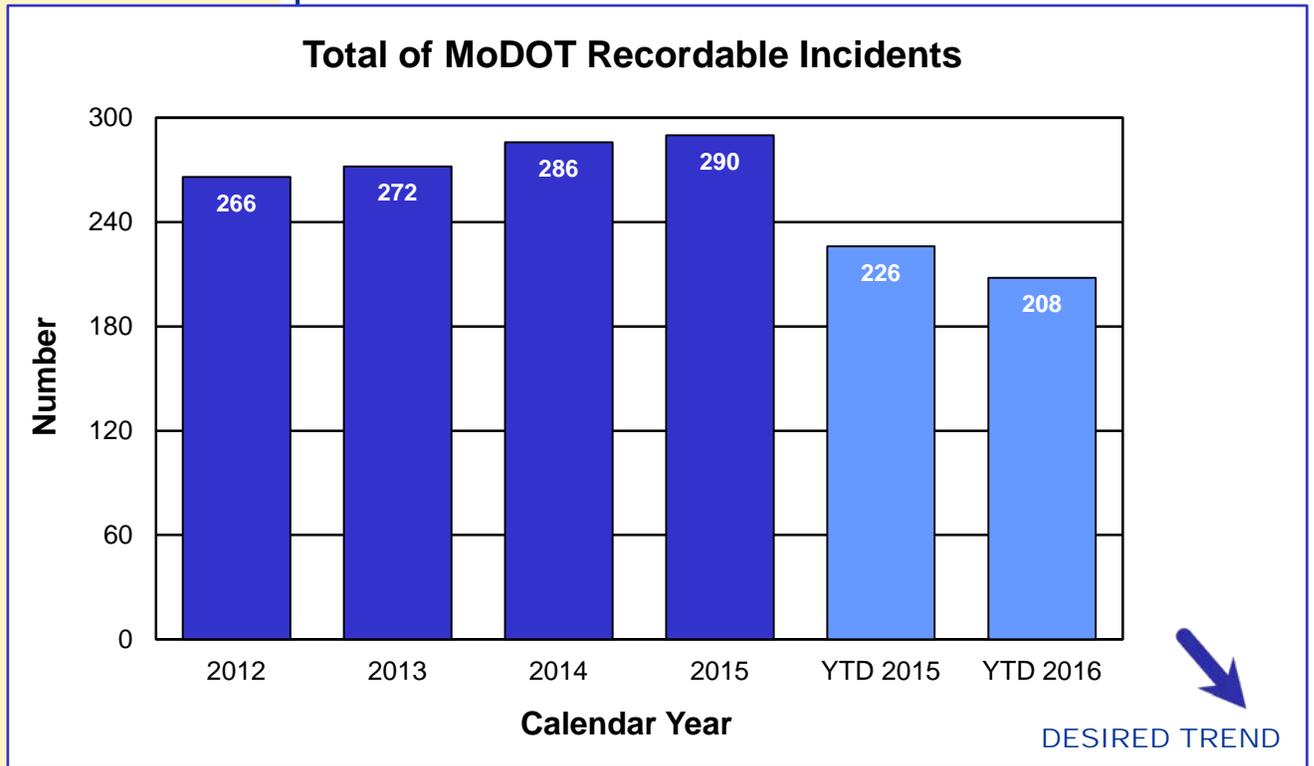
Total and rate of MoDOT recordable incidents – 1g

MoDOT is dedicated to employee safety. Getting home safely is the responsibility of every employee. To reinforce this value, the "Safety Begins with Me" program reminds all employees that safety is a personal responsibility. Additionally, an agreement is now in place to provide training on "behavior based safety" to employees. It is expected that implementation and practice of behavior based safety will result in fewer recordable incidents.

The number of recordable incidents and the rate of recordable incidents decreased for the first three quarters of 2016 compared to the same period in 2015. Leading causes of incidents during this reporting period were: slips, trips and falls at 19 percent; struck or injured by at 17 percent; cuts/punctures at 15 percent and strains or injuries at 13 percent. Based on the work activity the employee was doing at the time of the incident, 29 percent of these injuries were equipment related. Another 12 percent were related to mowing/brush cutting. Bridge maintenance activities had 10 percent.



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* Texas DOT and OSHA private industry data is not yet available for 2015.

RESULT DRIVER:

Mark Shelton
District Engineer

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General liability claims and costs – 1h

MEASUREMENT

DRIVER:

Steve Patterson
Safety and Claims Manager

PURPOSE OF THE MEASURE:

This measure tracks the number of general liability claims and the amount paid.

MEASUREMENT AND DATA COLLECTION:

General liability claims arise from allegations of injuries/damages caused by the dangerous condition on MoDOT property and the injury/damage that directly resulted from the dangerous condition. In addition, an employee must be negligent and create the dangerous condition or MoDOT must have actual or constructive notice of the dangerous condition in sufficient time prior to the injury/damage to have taken measures to protect the public against the dangerous condition. Claims data is collected from Riskmaster, the department's risk management claims administration software.

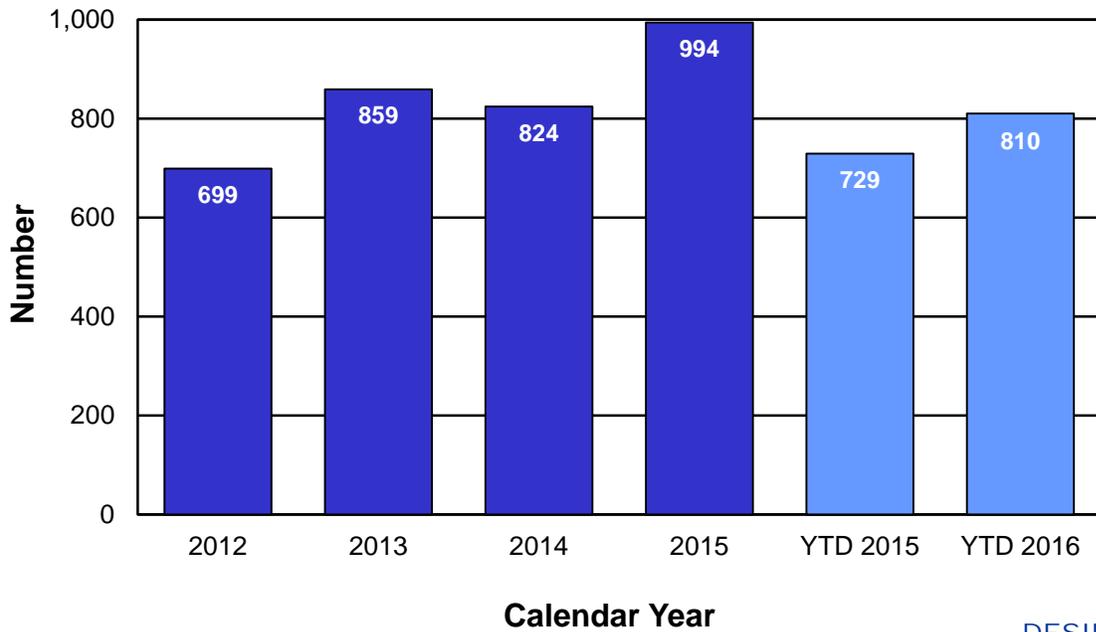
Keeping ourselves and the public safe is MoDOT's top priority. Controlling damage to vehicles and reducing personal injury in work zones, on right of way and other areas under department control helps MoDOT accomplish this goal. Compared to the first three quarters of 2015, there was an 11 percent increase in the number of claims. The majority of claims for the first three quarters of 2016 are attributed to pavement defects. During the same timeframe, there was a 61 percent decrease in the amount paid. The decrease is attributed to fewer multiple large claims being settled the past three quarters. This quarter, payment was made on 151 claims against the department totaling \$746,235.36.

Three claims accounted for 60 percent of this quarter's payments. The department settled a claim occurring in 2009 where a vehicle encountered an icy patch, lost control and struck a bridge abutment causing severe injuries. This case was settled for \$245,000 based on the allegation the bridge abutment should have been protected and the speed limit should have been reduced. The second claim occurred in 2014 when a tractor trailer ran off the road where there was a steep edge drop off. The driver overcorrected, returned to the road and crossed the centerline causing a second tractor trailer to skid in an effort to avoid the first tractor trailer. The second vehicle struck the first one, ran off the road and down an embankment resulting in disabling injuries to the driver. The first vehicle overturned resulting in a fatality. This case was settled for \$100,000 based on the allegation of an edge drop off, narrow shoulder and a non-recoverable slope. The third claim occurred in 2014, when a vehicle ran off the roadway and struck a large rock pile that had been placed there by MoDOT crews. The vehicle overturned and the passenger was thrown from the vehicle and killed. The claimants alleged the lack of level shoulders, eroding culvert and placement of the rock pile contributed to the accident. The case was settled for \$100,000.



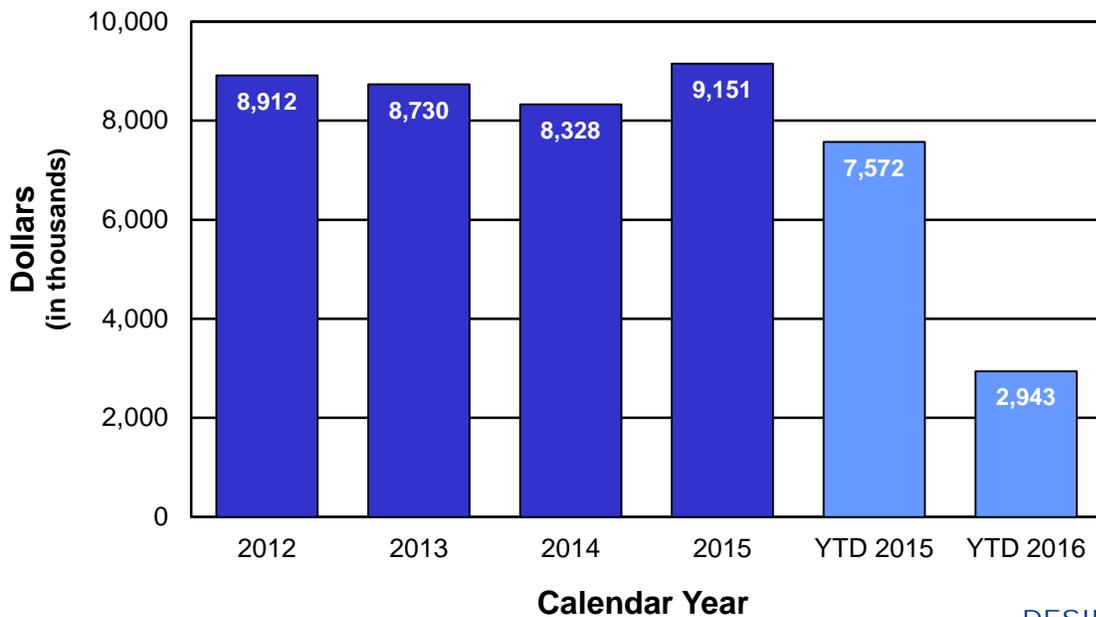
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Number of Claims for General Liability



DESIRED TREND

Amount Paid in Claims for General Liability



DESIRED TREND