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.

KEEP CUSTOMERS AND OURSELVES SAFE

Number and rate of fatalities and serious injuries – 1a

RESULT DRIVER:
Mark Shelton
District Engineer

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.

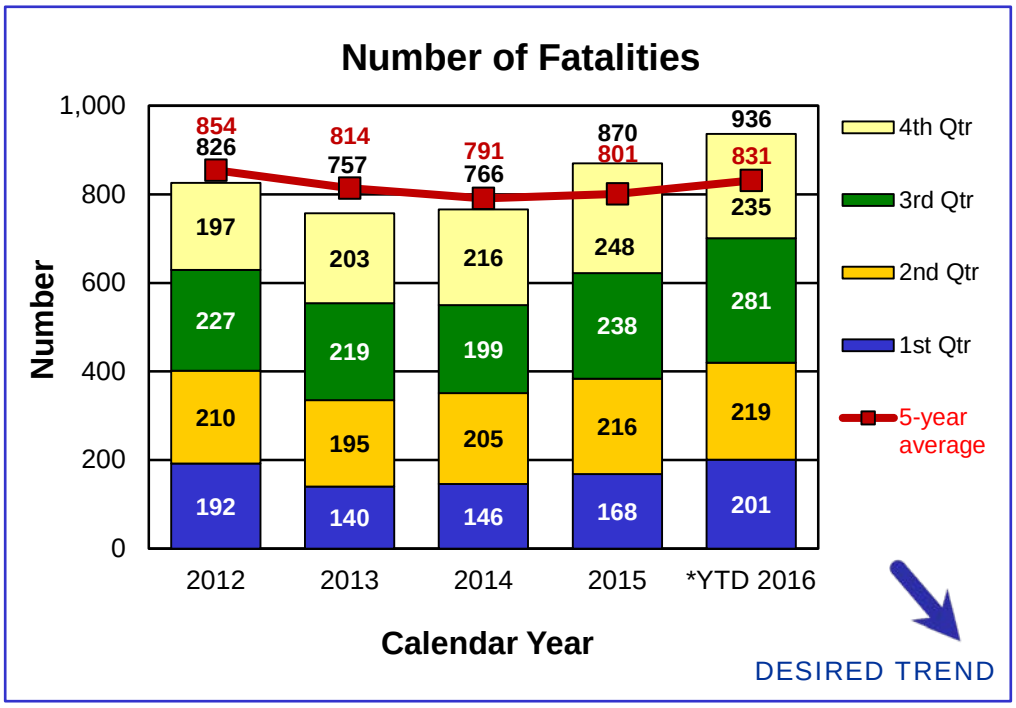
MEASUREMENT AND DATA COLLECTION:
Missouri law enforcement agencies submit a vehicle accident report form to the Missouri State Highway Patrol to be entered into a statewide traffic crash database. The database automatically updates MoDOT's crash database system, which is part of the Transportation Management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

MoDOT wants everyone to reach their destinations safely, so all can go home to their families each day. *Missouri's Blueprint – A Partnership Toward Zero Deaths* is Missouri's strategic highway safety plan designed to reduce the number and severity of traffic crashes using the four key disciplines of traffic safety: engineering, enforcement, education and emergency response.

Missouri has experienced a 24 percent increase in fatalities since 2013. In 2013, 757 lives were lost on our roadways compared to 936 in 2016. Unofficial reporting for 2016 shows 936 fatalities on Missouri roadways – a 7.6 percent increase over 2015. Of the 2016 vehicle occupant fatalities, 64 percent of were unrestrained. Driver error contributes to 94 percent of traffic crashes nationwide. Missouri's top crash types are:

- Run-off-road and curves
- Head-on collisions
- Collision with trees and poles
- Intersection collisions
- Aggressive driving
- Unrestrained occupants
- Substance impaired driving
- Distracted and inattentive driving
- Younger and older drivers
- Motorcyclists
- Pedestrians
- Commercial motor vehicles crashes

From 2012 to 2015, the number of serious injuries declined by nearly 17 percent. The rate of serious injuries, which factors in the number of miles driven, declined by nearly 29 percent. However, the serious injury reductions are leveling off and may increase once 2016 crash files are closed.



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

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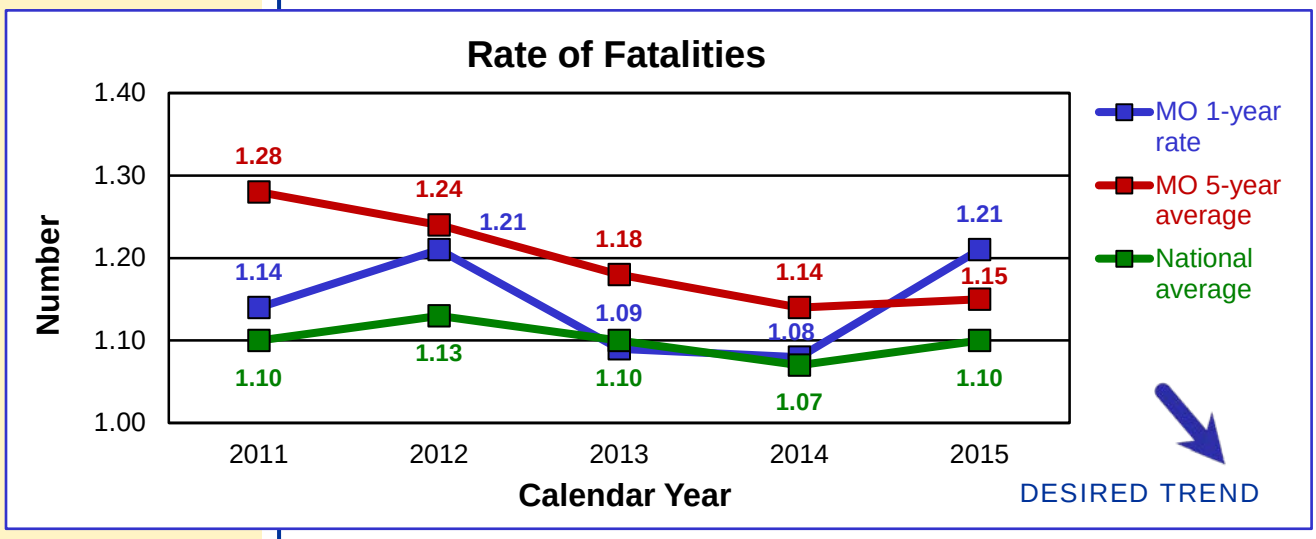
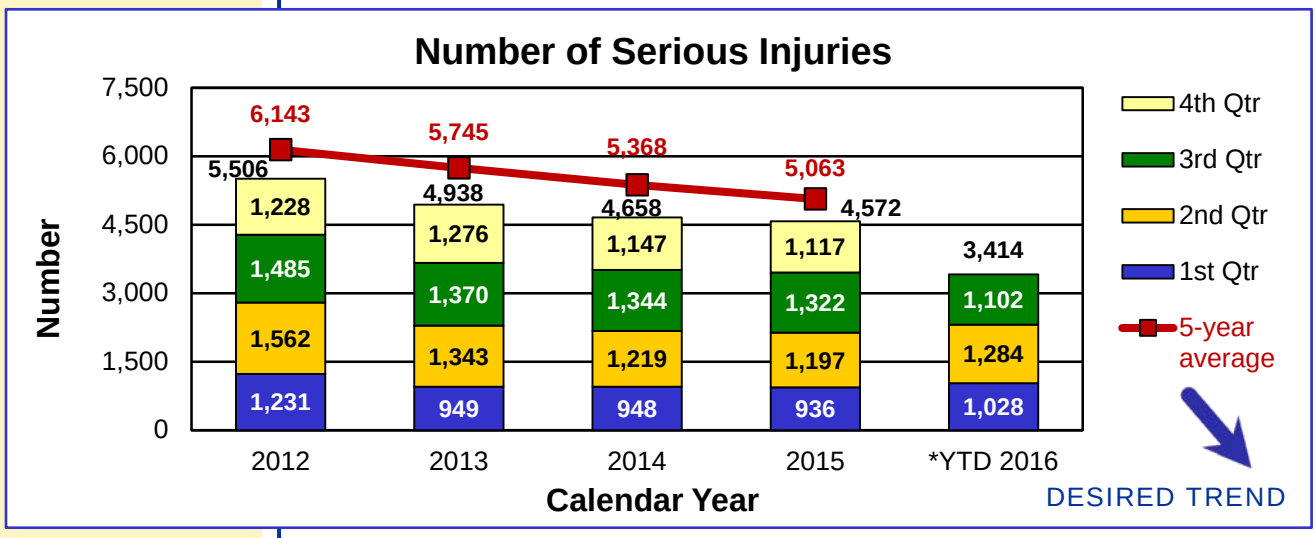
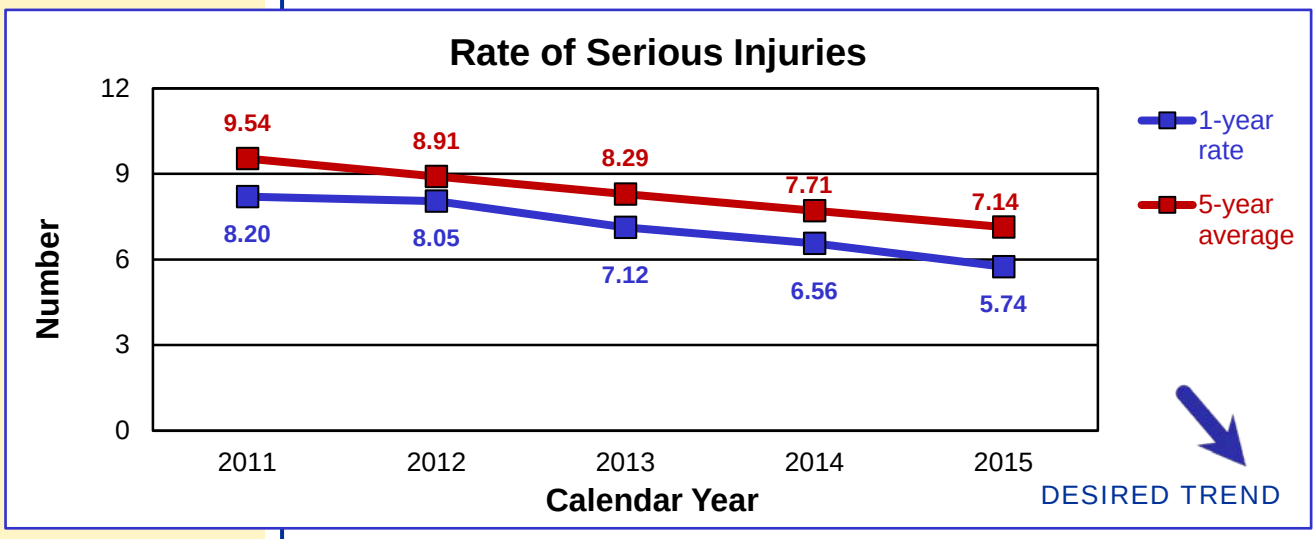




***2016 – Due to a backlog of crash reports into STARS, the serious-injury measure only includes data derived from TMS. Fourth quarter 2016 data is not available on the MSHP radio reports and is incomplete in TMS.**



KEEP CUSTOMERS AND OURSELVES SAFE

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

RESULT DRIVER:
Mark Shelton
District Engineer

MEASUREMENT DRIVER:
Bill Whitfield
Highway Safety Director

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-relate crash.

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.

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.

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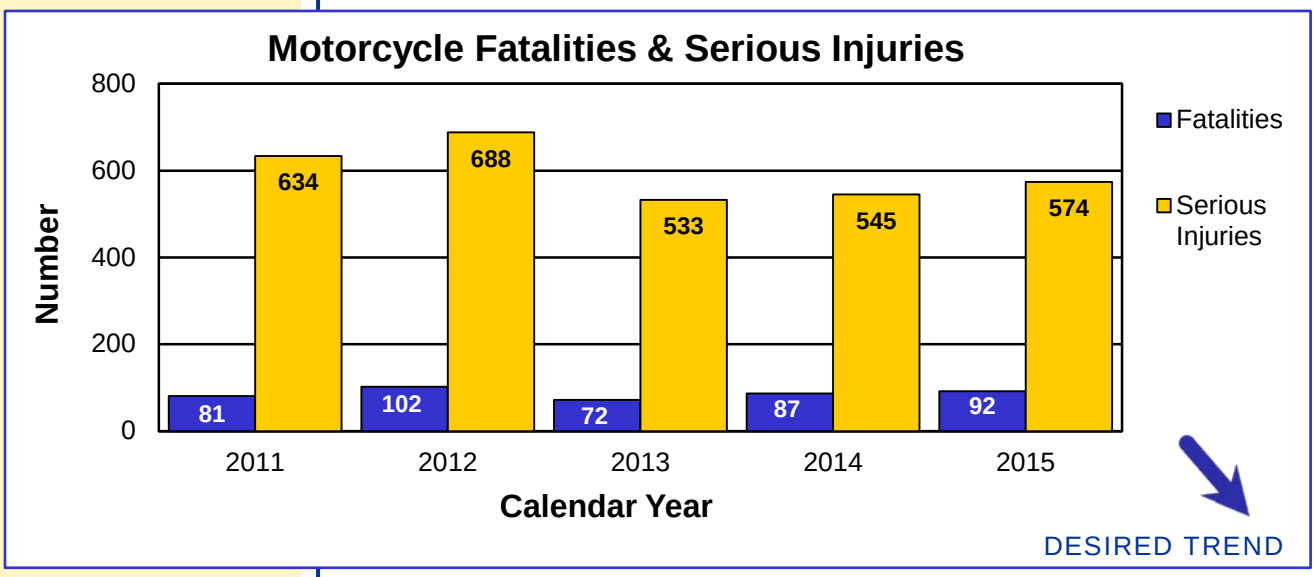

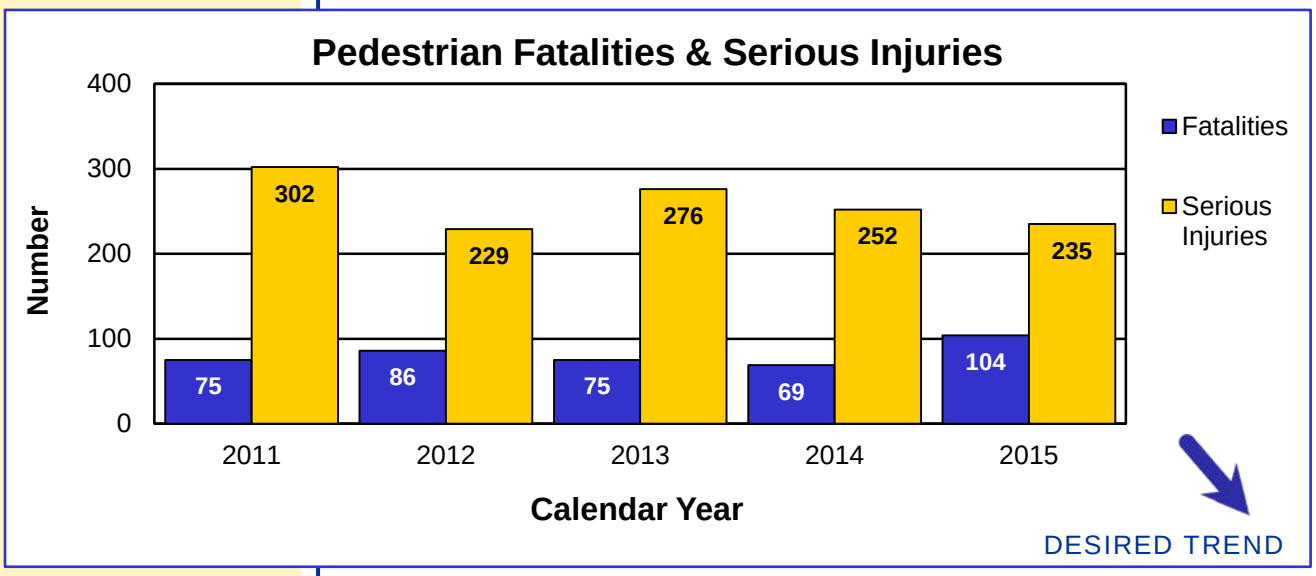

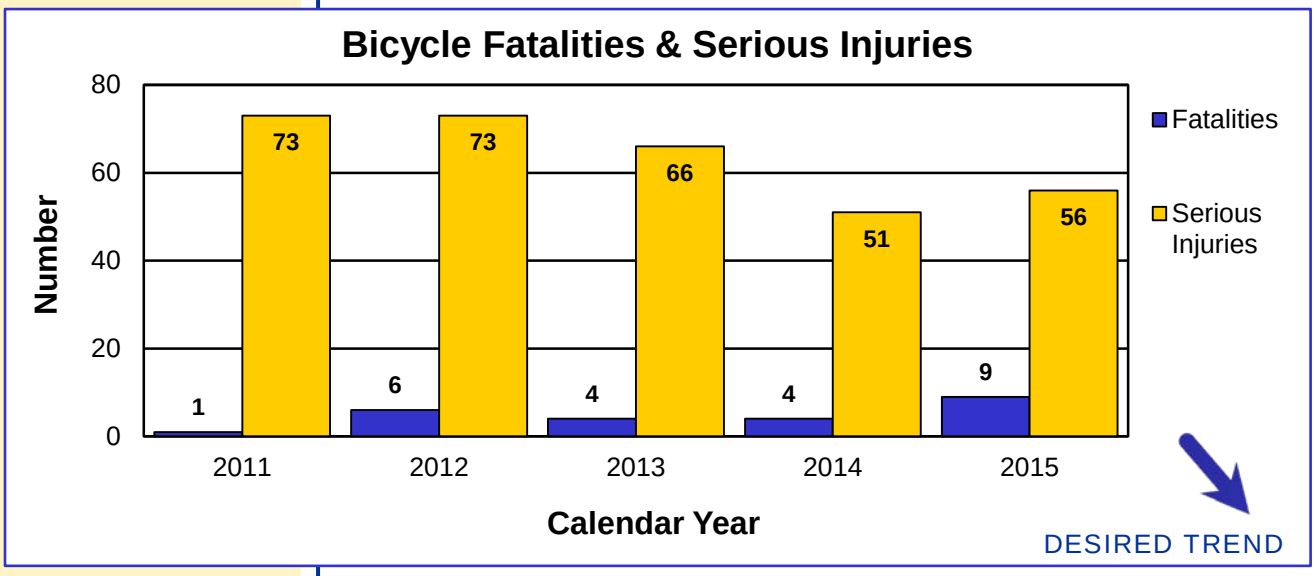

KEEP CUSTOMERS AND OURSELVES SAFE

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

RESULT DRIVER:
Mark Shelton
District Engineer

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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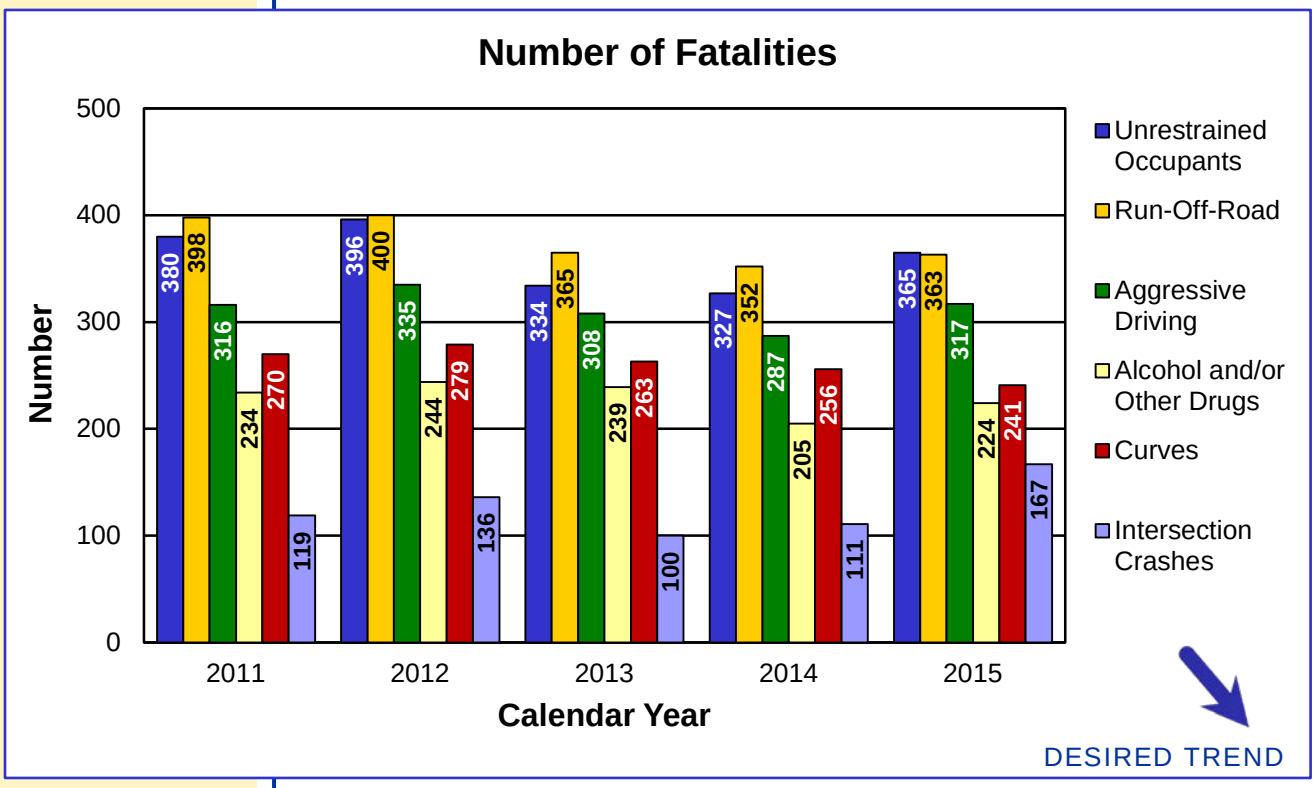
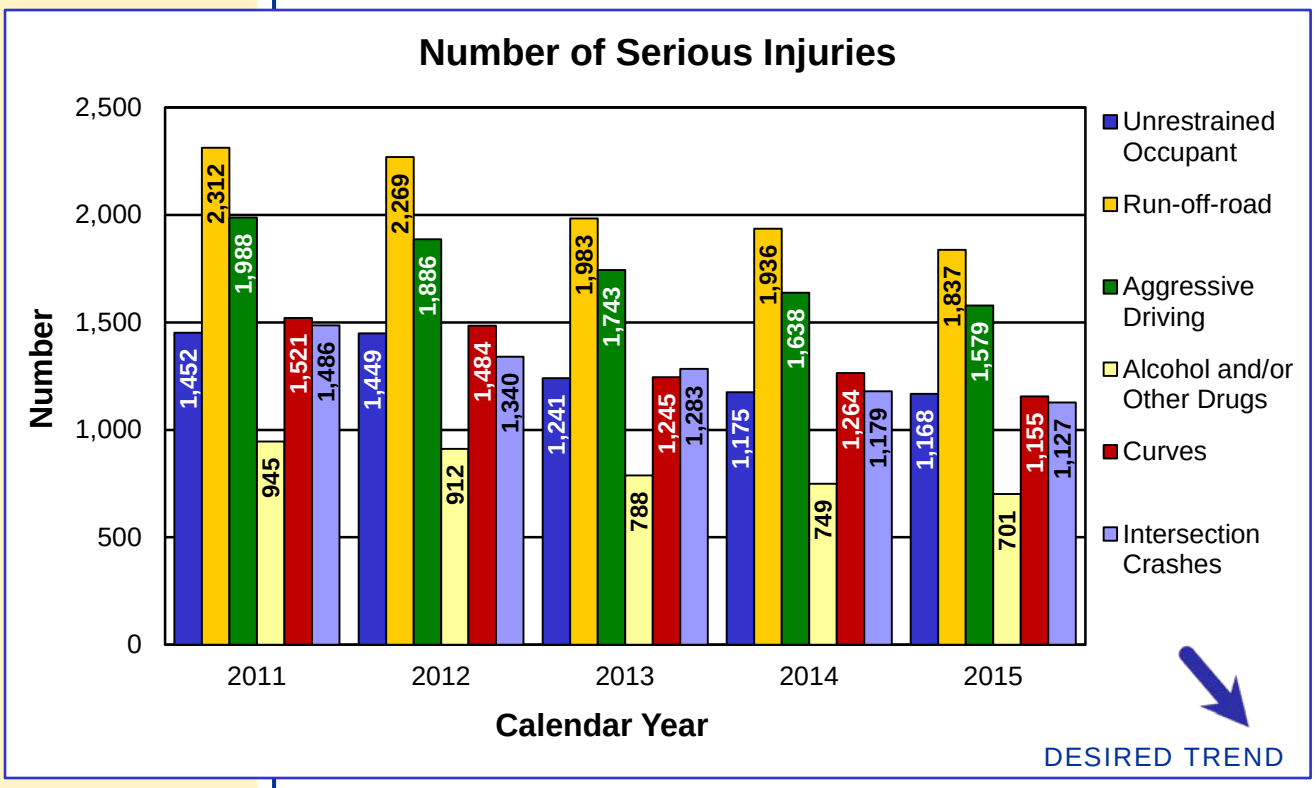




KEEP CUSTOMERS AND OURSELVES SAFE

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

RESULT DRIVER:
Mark Shelton
District Engineer

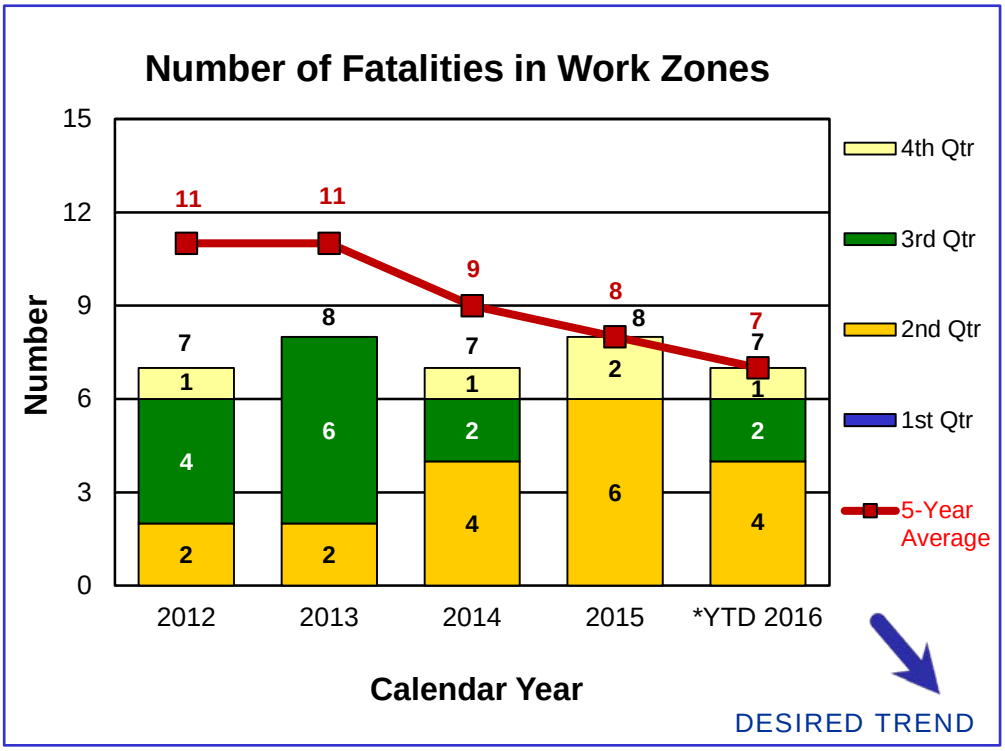
MEASUREMENT DRIVER:
Julie Stotlemeyer
Traffic Liaison Engineer

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 and the 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. Staying safe in work zones also is a partnership shared 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 seven work zone crashes that resulted in seven fatalities in 2016. Included in the total were four unbuckled vehicle occupants and one flagger. Three crashes involved large trucks, two involved motorcycles and two crashes involved MoDOT vehicles. Three were head-on crashes and two involved fixed objects, one of which was contractor equipment. Eighty-six percent of work zone crashes occurred on straight roadway segments and two-thirds during daylight hours. Fifty-eight percent were a result of aggressive driving. When working on straight roads during the day, workers should be most alert. But being alert doesn't stop the aggressive or distracted driver. That is why using devices to make a motorist look up and pay attention on straight segments of roads, such as rumble strips and cones, is so critical for everyone's safety.



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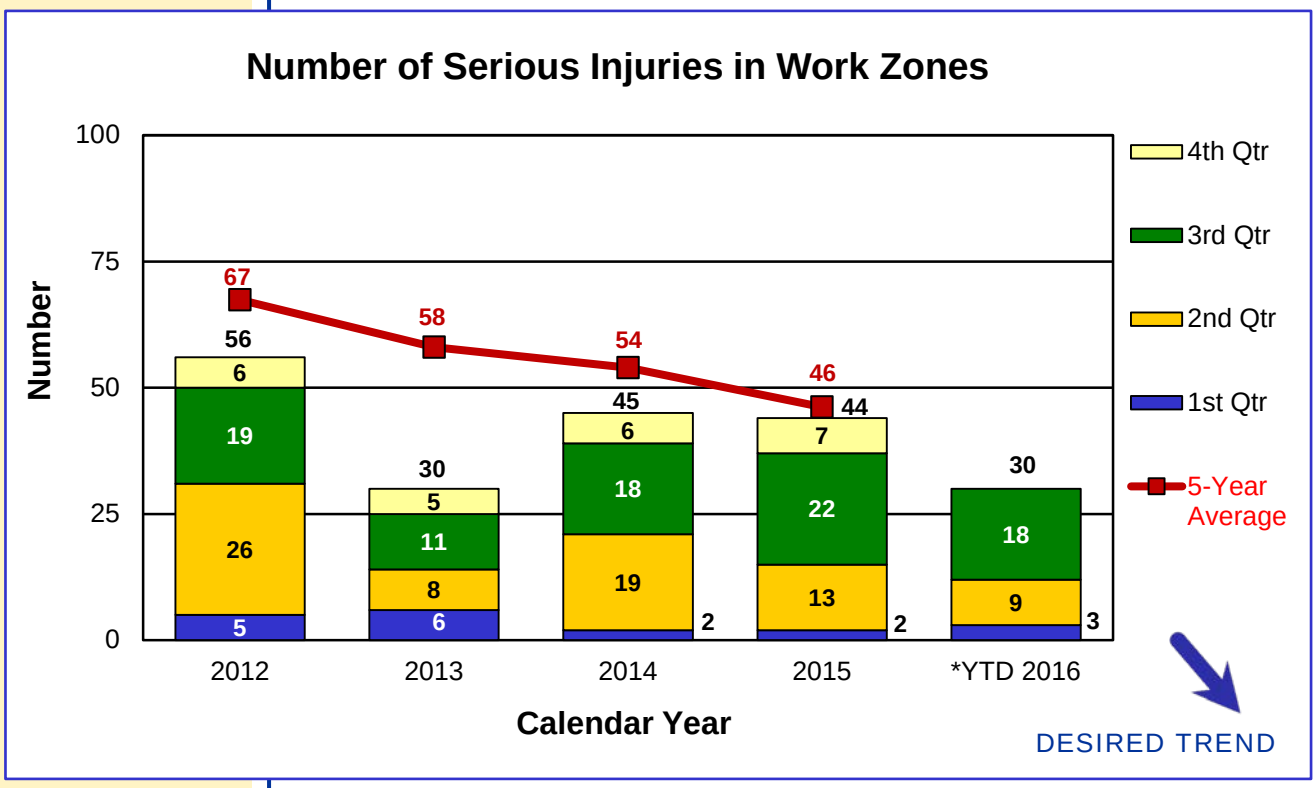

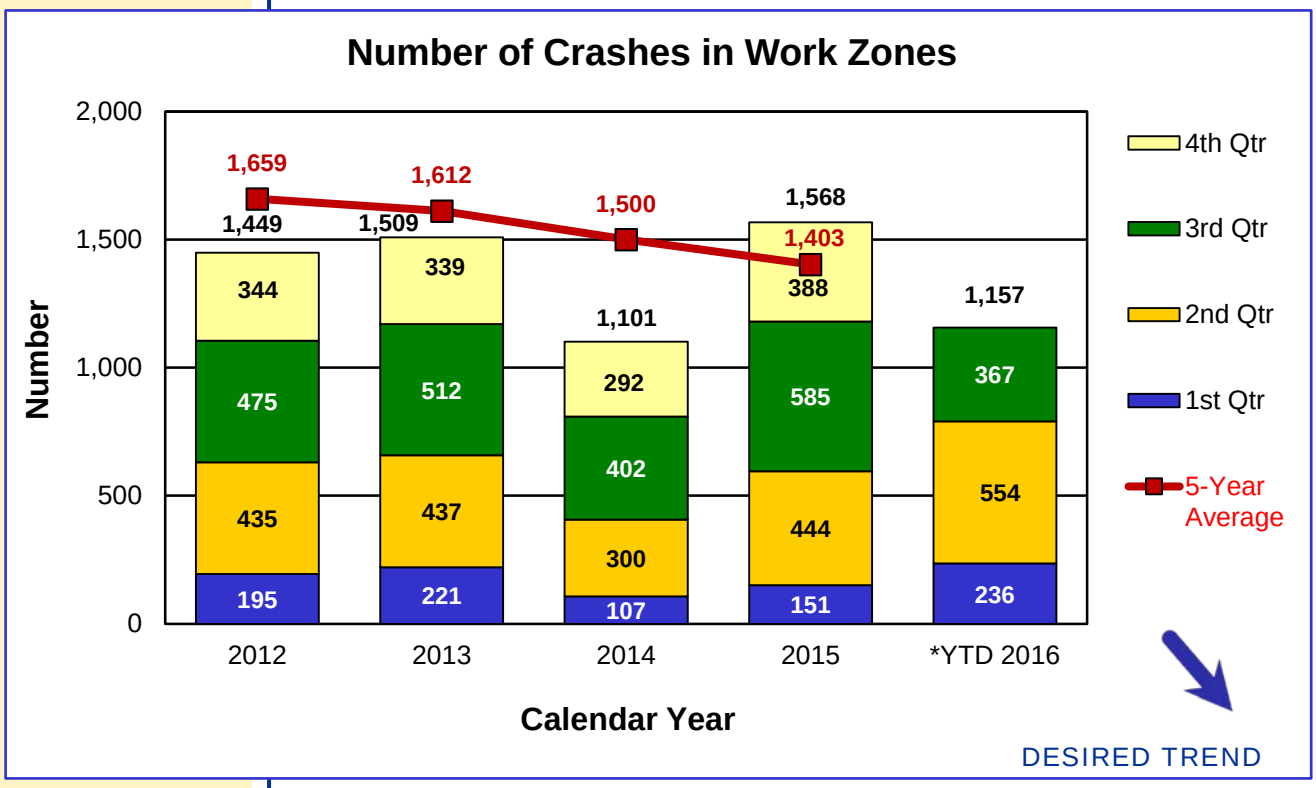

***YTD 2016 – Due to a backlog of crash reports into STARS, these measures are not final and only illustrate data derived from TMS. Fourth quarter 2016 data is unavailable through the MSHP radio reports and is incomplete in TMS.**

RESULT DRIVER:
Mark Shelton
District Engineer

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.

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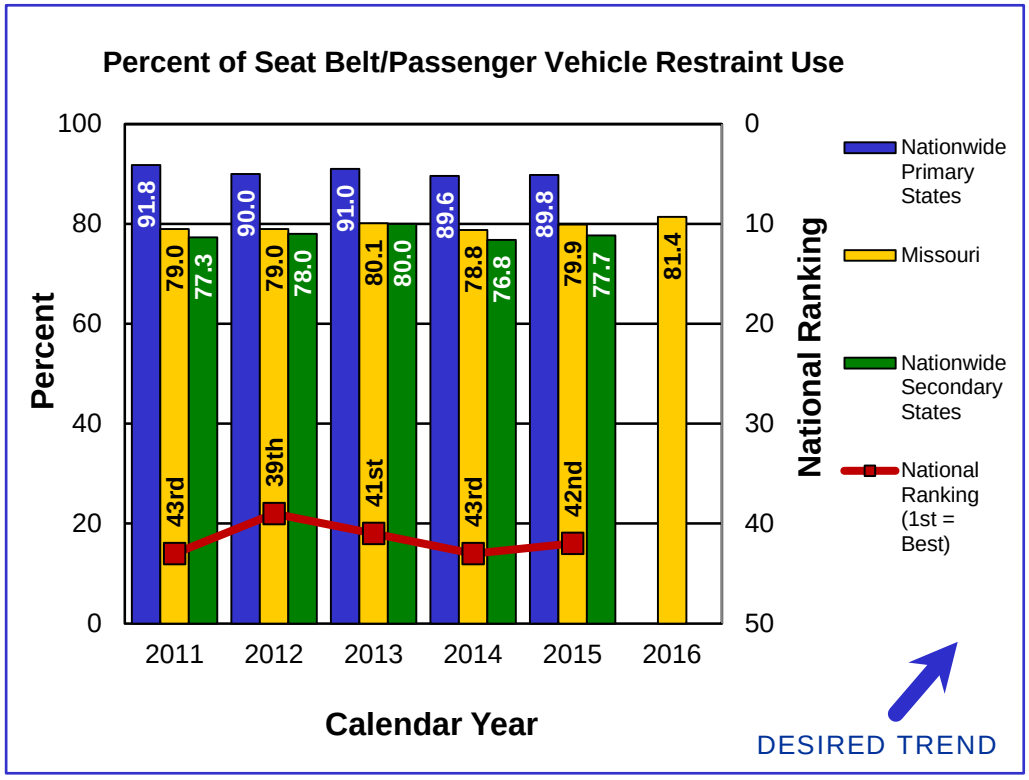
Percent of seat belt/passenger vehicle restraint use – 1e

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 42nd, with only eight 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.



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

RESULT DRIVER:
Mark Shelton
District Engineer

MEASUREMENT DRIVER:
Steff Copeland
Motor Carrier Services
Investigations Administrator

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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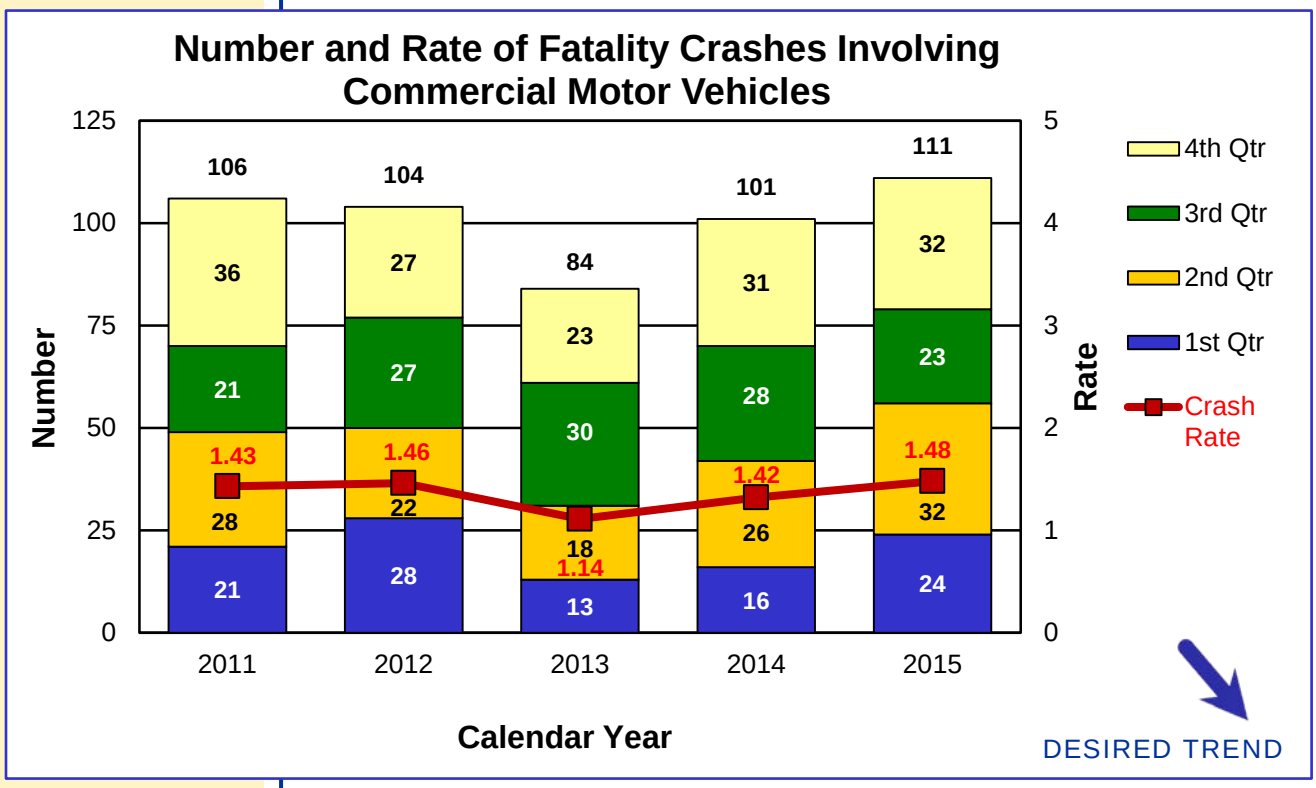

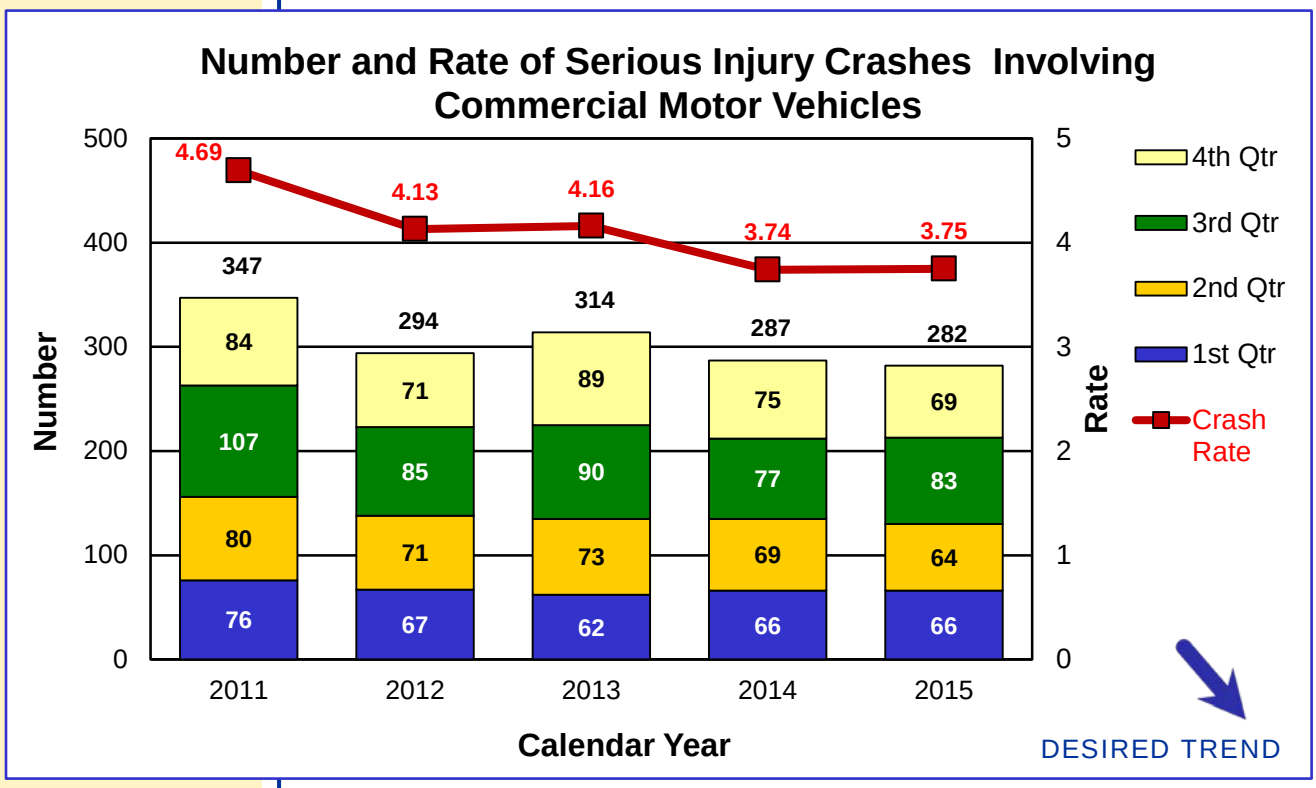

Due to a backlog of crash reports into STARS, these measures will only illustrate data derived from TMS.

KEEP CUSTOMERS AND OURSELVES SAFE

Total and rate of MoDOT recordable incidents – 1g

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.

MoDOT is committed 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 in 2016 decreased from a year ago. However, the rate of recordable incidents increased 2 percent in 2016. Leading causes of incidents during 2016 were: slips, trips and falls (14 percent); struck or injured (12 percent), cuts/punctures (11 percent) and strains (10 percent). Based on the work activity being performed at the time of the incident, 27 percent of employee injuries were equipment related, 13 percent were related to mowing/brush cutting and bridge maintenance activities accounted for 9 percent.

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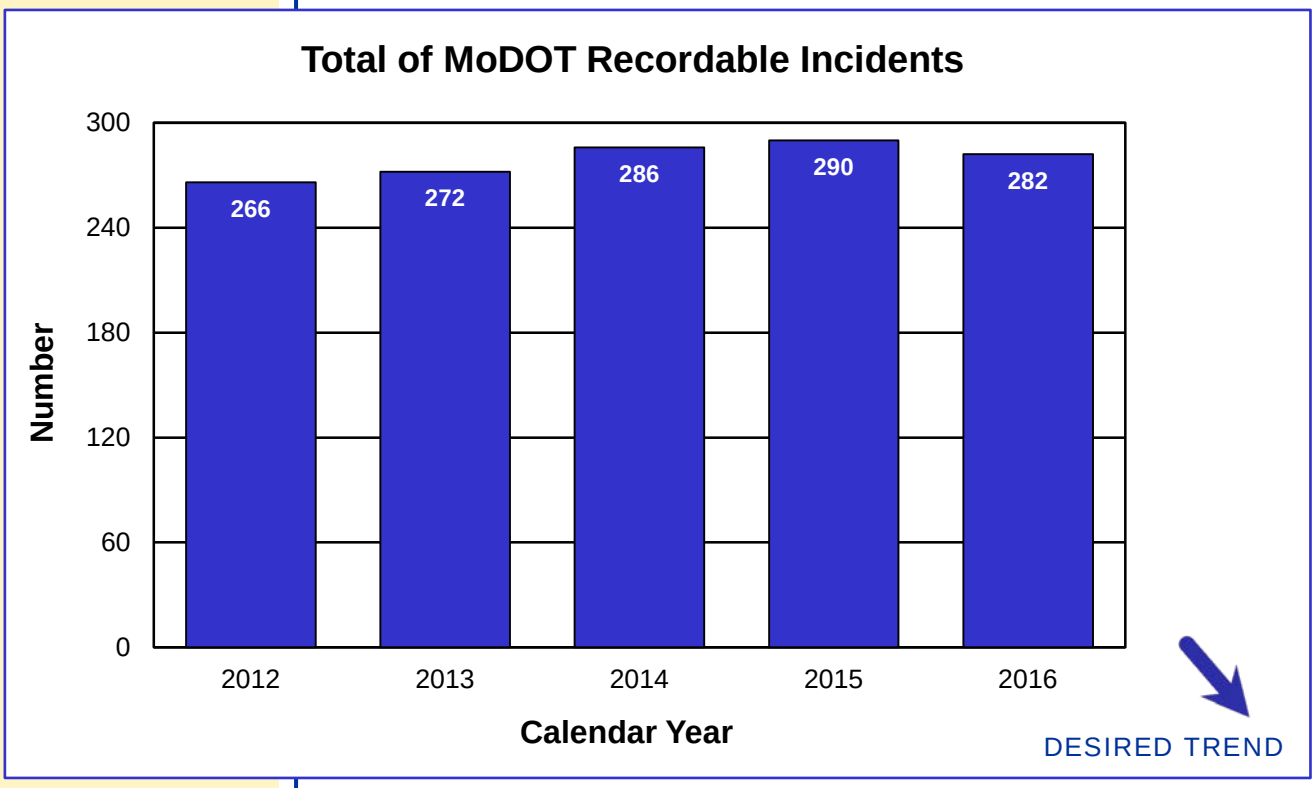
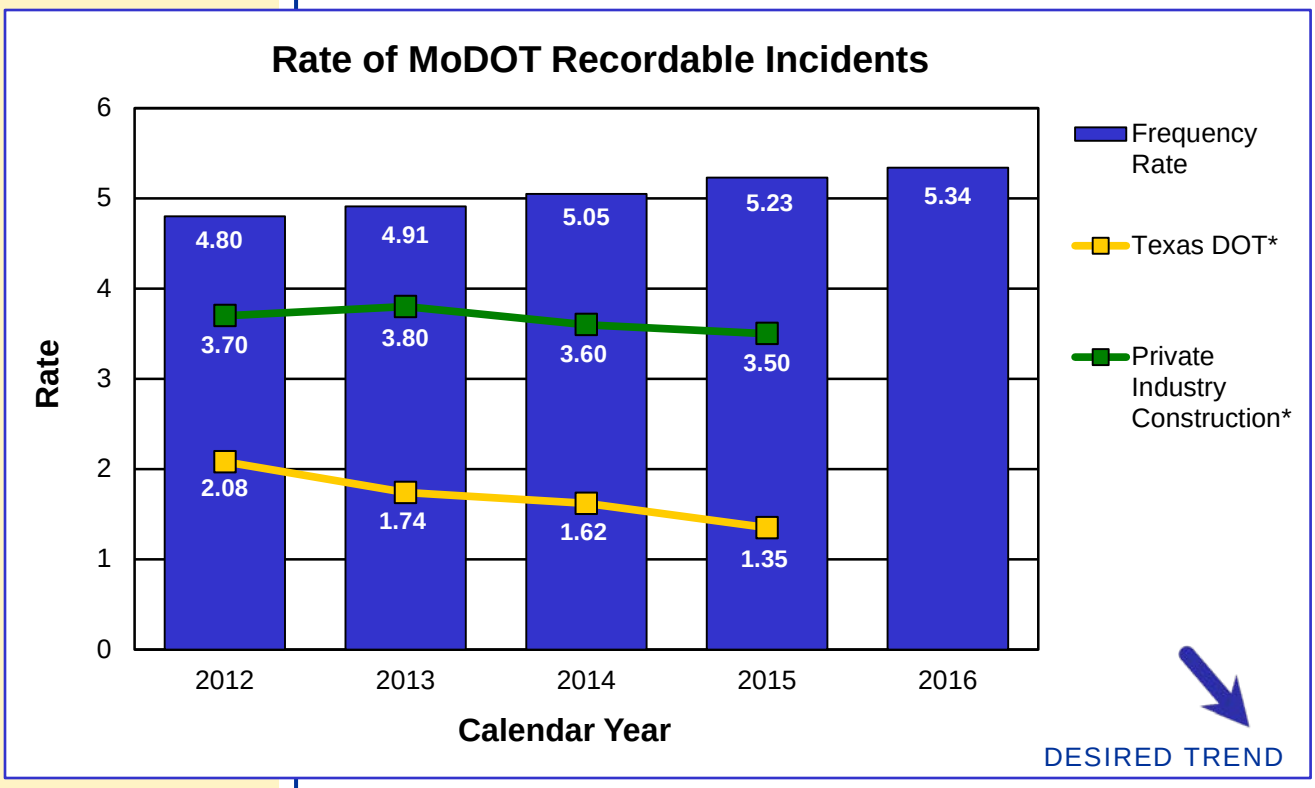




***Texas DOT and OSHA private industry data is not yet available for 2016.**

KEEP CUSTOMERS AND OURSELVES SAFE

General liability claims and costs – 1h

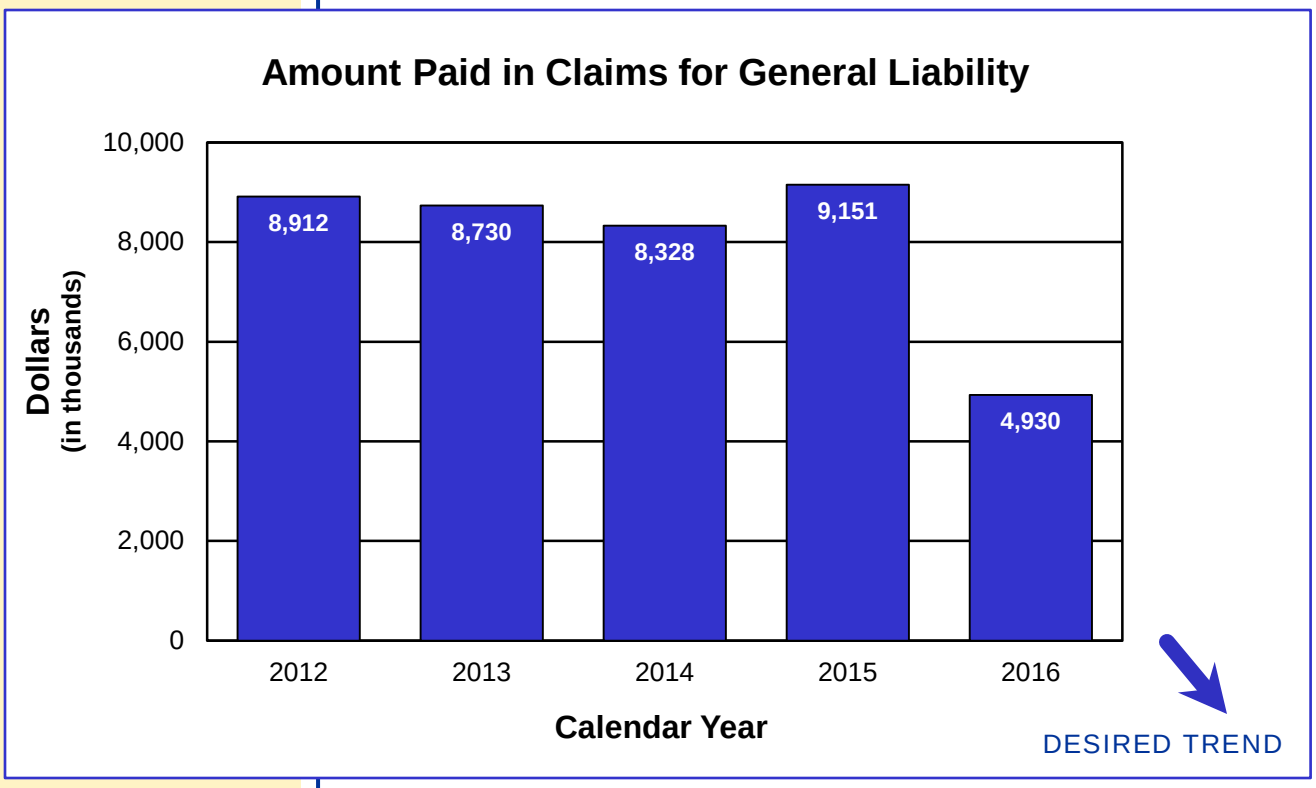
RESULT DRIVER:
Mark Shelton
District Engineer

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 employees 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 2015, there was less than a 1 percent increase in number of claims in 2016. The majority were attributed to pavement defects. However, fewer multiple large claims were settled resulting in a 46 percent decrease in the total amount paid in claims.

This quarter, payment was made on 98 claims against the department totaling $1,987,399.57. Four claims accounted for 66 percent of this quarter's payments. The department settled a 2014 claim involving a pedestrian being struck and killed in the middle of an intersection. The case was settled for $405,000 based on the allegation the timing of the traffic signals failed to allow pedestrians to safely proceed through the intersection. The department settled a 2013 claim involving a vehicle that rounded a blind curve and lost control because a MoDOT truck was stopped in the roadway to remove a tree in the road. That claim was settled for $350,000. The department settled two cases on the same claim involving a two-vehicle collision in an intersection occurring in 2013. These were settled for a combined total of $275,000 based on the allegation of obstructed vision. The last claim occurred in 2011 and was settled for $285,000. This incident occurred when a motorcycle lost control due to pavement defects.

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