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.

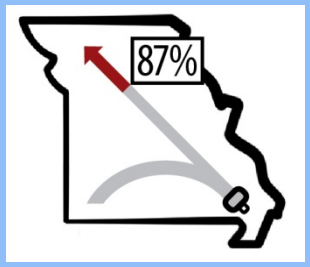
RESULT DRIVER:
Mark Shelton
District Engineer

MEASUREMENT DRIVER:
Tonya Lohman
District Maintenance and Traffic Engineer

PURPOSE OF THE MEASURE:
The fatal and serious injury number measure tracks 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.

The targets are based on a 9 percent improvement rate from the immediate prior year for fatalities and a 5 percent improvement in serious injuries from the immediate prior year.



KEEP CUSTOMERS AND OURSELVES SAFE

Number and rate of fatalities and serious injuries – 1a

The ultimate goal is for everyone to reach their destination safely. MoDOT supports *Missouri's Blueprint – A Partnership Toward Zero Deaths,* 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.

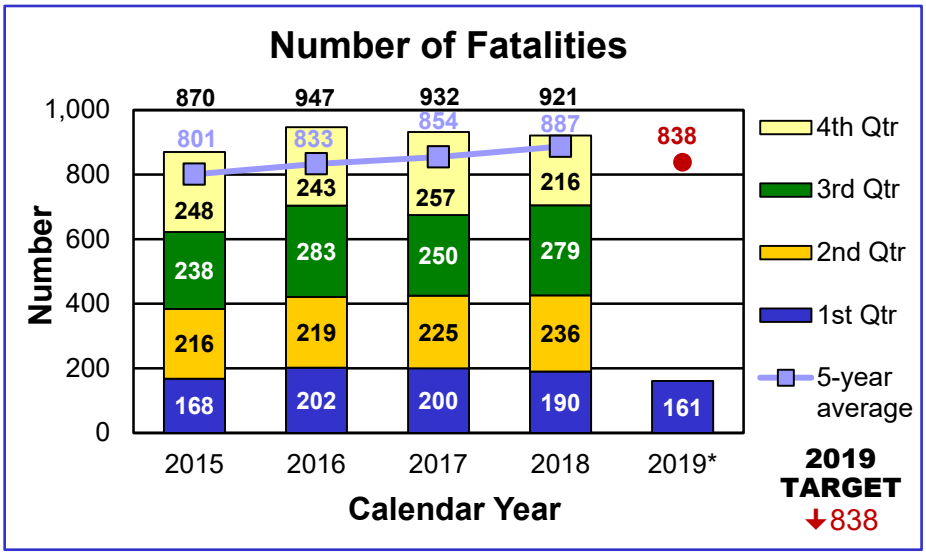
Safety culture is being improved through statewide strategic initiatives such as Buckle Up Phone Down. This is an opportunity for citizens, businesses and MoDOT employees to commit to driving without distractions by putting the phone down and having all passengers use safety belts.

In order to reach the Blueprint goal of 700 or fewer fatalities by 2020, new reduction targets were established for 2018: reduce fatalities by 9 percent and serious injuries by 5 percent.

There were 921 fatalities in 2018, down from 932 in 2017. The 921 fatalities is an increase from the original reported amount for the end of year of 894. Distracted driving is still a serious concern that MoDOT is addressing with news releases, digital message boards and the Buckle Up Phone Down Campaign.

There have been 161 fatalities in the first quarter of 2019, a significant decrease for the first quarter of the year. This amount is the least number of fatalities for a first quarter in the last five years. The new target for 2019 is 838 fatalities, following the plan to reduce fatalities by 9 percent towards the goal of reaching zero fatalities.

The total number of serious injuries was 4,672 for 2018, which was a decrease from 2017 of 4.4 percent, but more than the desired goal of 4,643.



***2019 – First quarter fatalities are from MSHP radio reports.**

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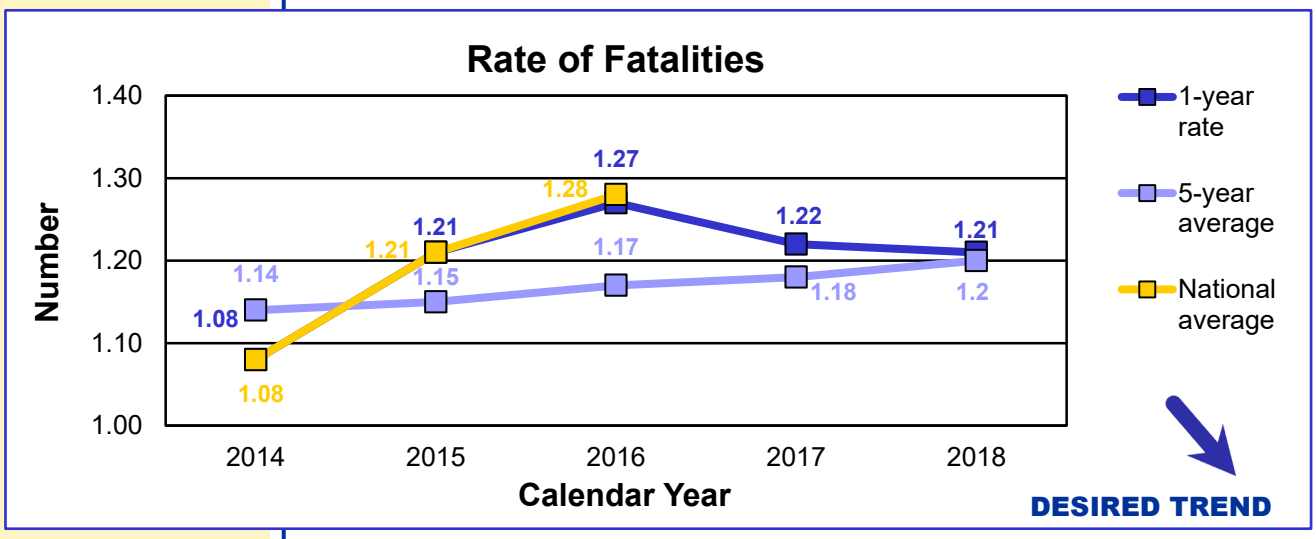
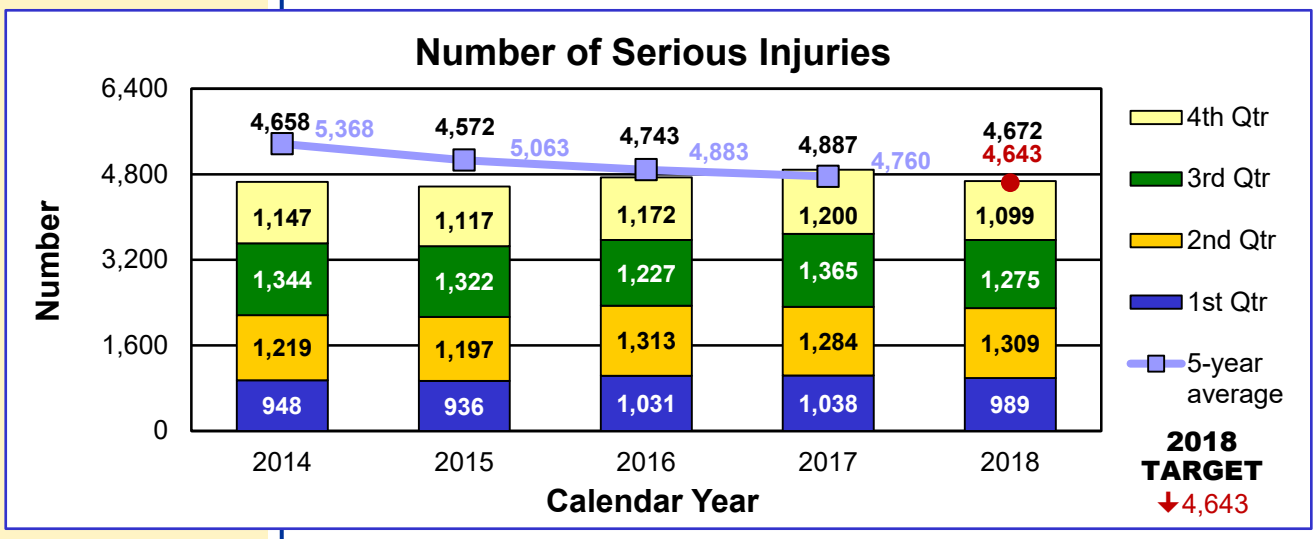
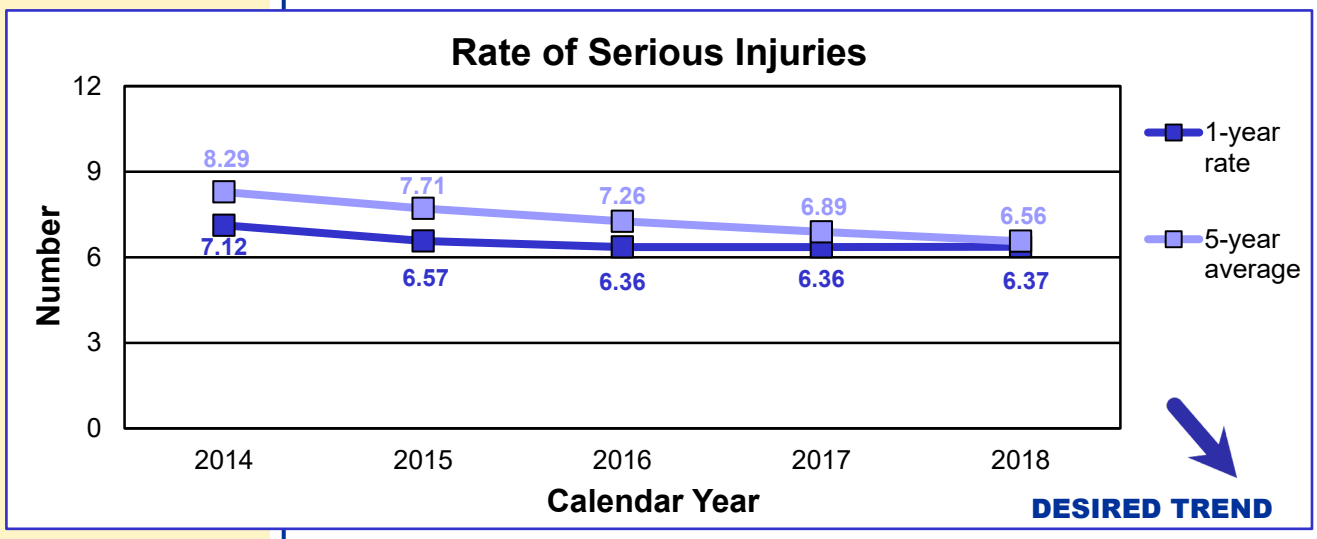




***2019 – Due to a backlog of crash reports into STARS, the serious injury measure only includes data derived from TMS. First quarter 2019 data is unavailable on the MSHP radio reports and is incomplete in TMS.**



RESULT DRIVER:
Mark Shelton
District Engineer

MEASUREMENT DRIVER:
Tonya Lohman
District Maintenance and Traffic Engineer

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.

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.

KEEP CUSTOMERS AND OURSELVES SAFE

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

In 2017, vulnerable roadway users were 24 percent of the total number of fatalities. Pedestrian fatalities remained almost unchanged from 2016 to 2017. Motorcycle and bicycle fatalities decreased, 7 percent and 1 percent, respectively.

Motorcycle serious injuries increased by 7 percent in 2017, meanwhile bicyclist injuries decreased 14 percent, and pedestrian injuries were relatively unchanged.

Walking is an essential form of transportation for many Missourians. However, not all pedestrians who die or are injured on the roadway are out walking. Frequently, people are out of their vehicles after an incident occurs and are hit in the crash zone. Others are out of their vehicles to change a tire or check a load. MoDOT is included in the state law encouraging all vehicles to get over for emergency vehicles, tow trucks, utility vehicles and maintenance equipment, to help protect MoDOT employees. However, driver behavior still needs to change so that more vehicles slow down and move over.

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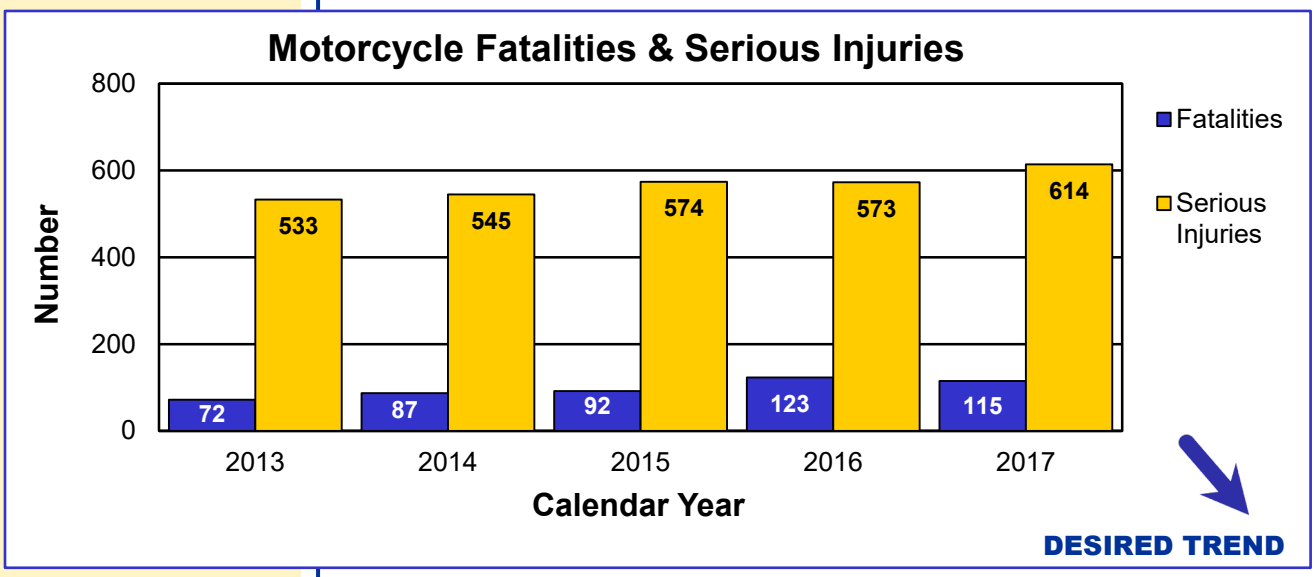

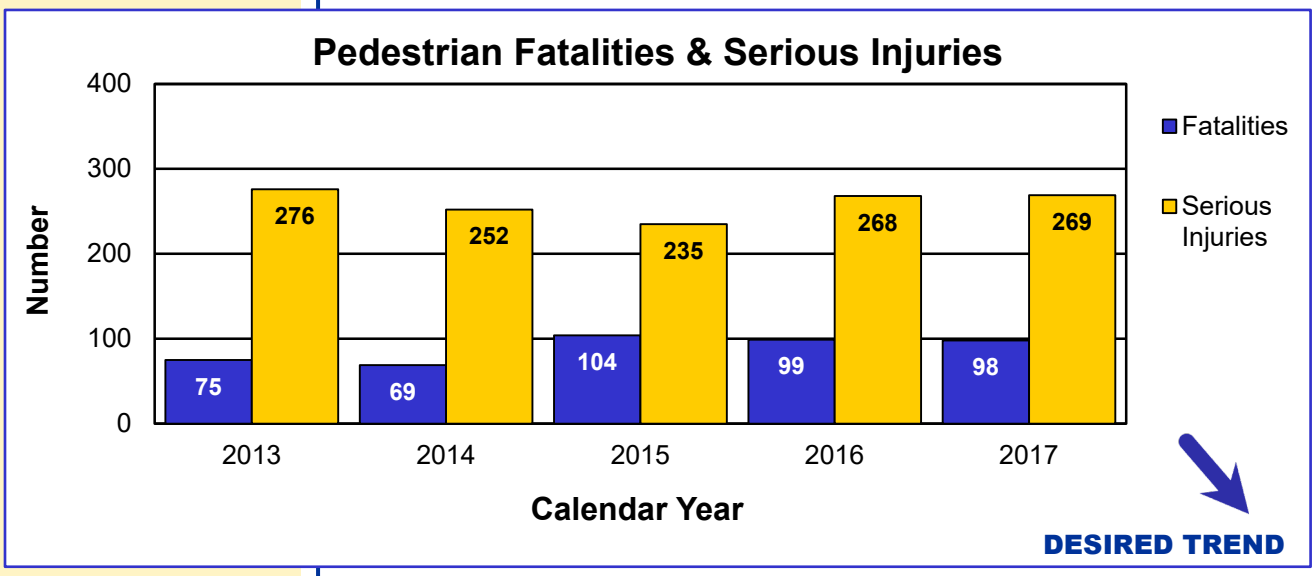

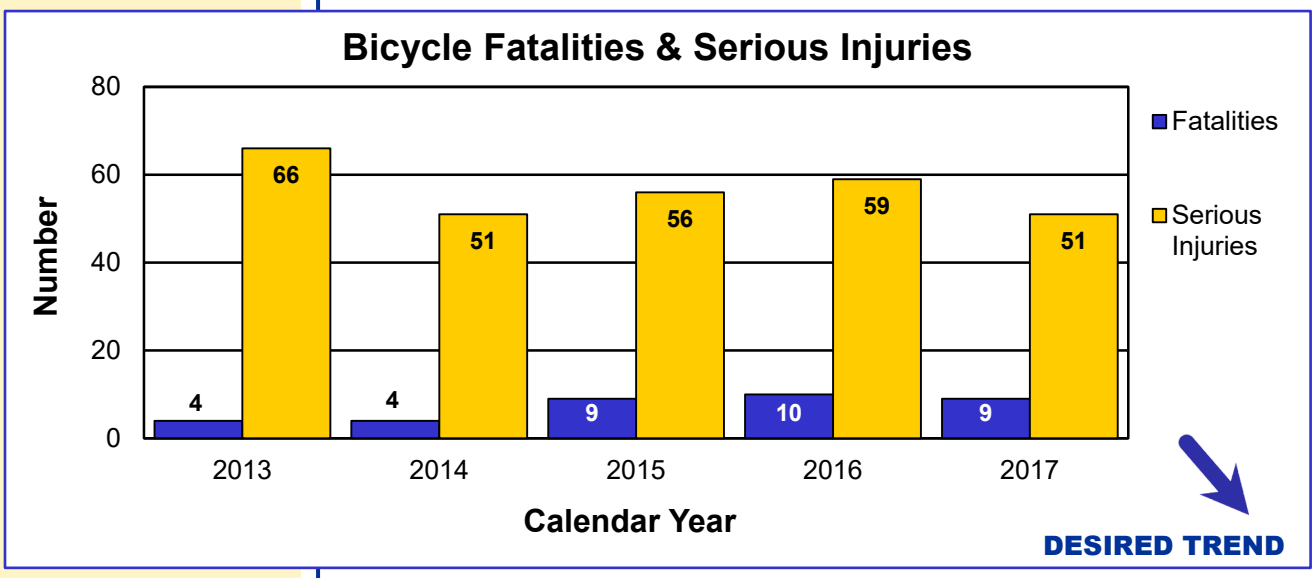

RESULT DRIVER:
Mark Shelton
District Engineer

MEASUREMENT DRIVER:
Jon Nelson
Assistant to the State Highway Safety and Traffic 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.

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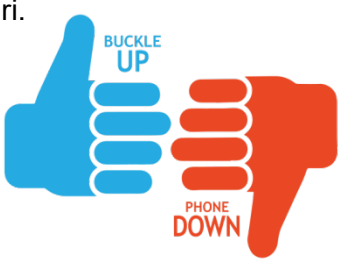
Number of fatalities and serious injuries resulting from the most frequent crash causes – 1c

MoDOT's first value and tangible result is to keep customers and ourselves safe. The greatest challenge in providing this is the recurring frequency of fatal and serious crashes on Missouri roadways. In order to combat this, MoDOT utilizes a comprehensive data-driven analysis to identify the most common contributing circumstances of severe crashes. By identifying behaviors and characteristics most closely associated with these crashes, MoDOT can make more informed decisions to address the problem. Though the most common causes are related to human behavior, MoDOT can help implement solutions through education, enforcement and engineering to minimize poor decisions or the impact of the resulting consequences.

With 932 traffic fatalities in 2017, aggressive driving and impaired driving continued to be the leading behavioral causes of severe crashes in Missouri. These poor driving behaviors have a direct impact on the occurrence of run-off road crashes, particularly in curves and intersection crashes. When coupled with the decision to not buckle up, the results are even more deadly. In 2017, only 16 percent of Missourians were unbuckled. However, they accounted for 64 percent of the state's fatalities. Another increasingly troubling behavior is distracted driving. Studies have shown distracted driving significantly increases the risk of having a crash.

Through the Statewide Transportation Improvement Program, MoDOT continues to program millions of dollars in safety improvements each year: curve improvements, high friction surface treatment, paved shoulders, rumble strips and intersection improvements including J-Turns, turn lanes, roundabouts and pedestrian accommodations. These improvements are being identified through a data-driven, benefit-cost analysis to maximize the return on investment. In addition, MoDOT continues to invest in educational and enforcement programs to reduce the occurrence of poor driving behaviors. Substance impaired crashes are trending downward over the last five years, an indication these programs are effective. In addition, the Buckle Up Phone Down campaign has more than 4,600 pledges from individuals and participation from more than 380 organizations. MoDOT will continue implementing programs to reach new audiences and improve the culture of highway safety in Missouri.



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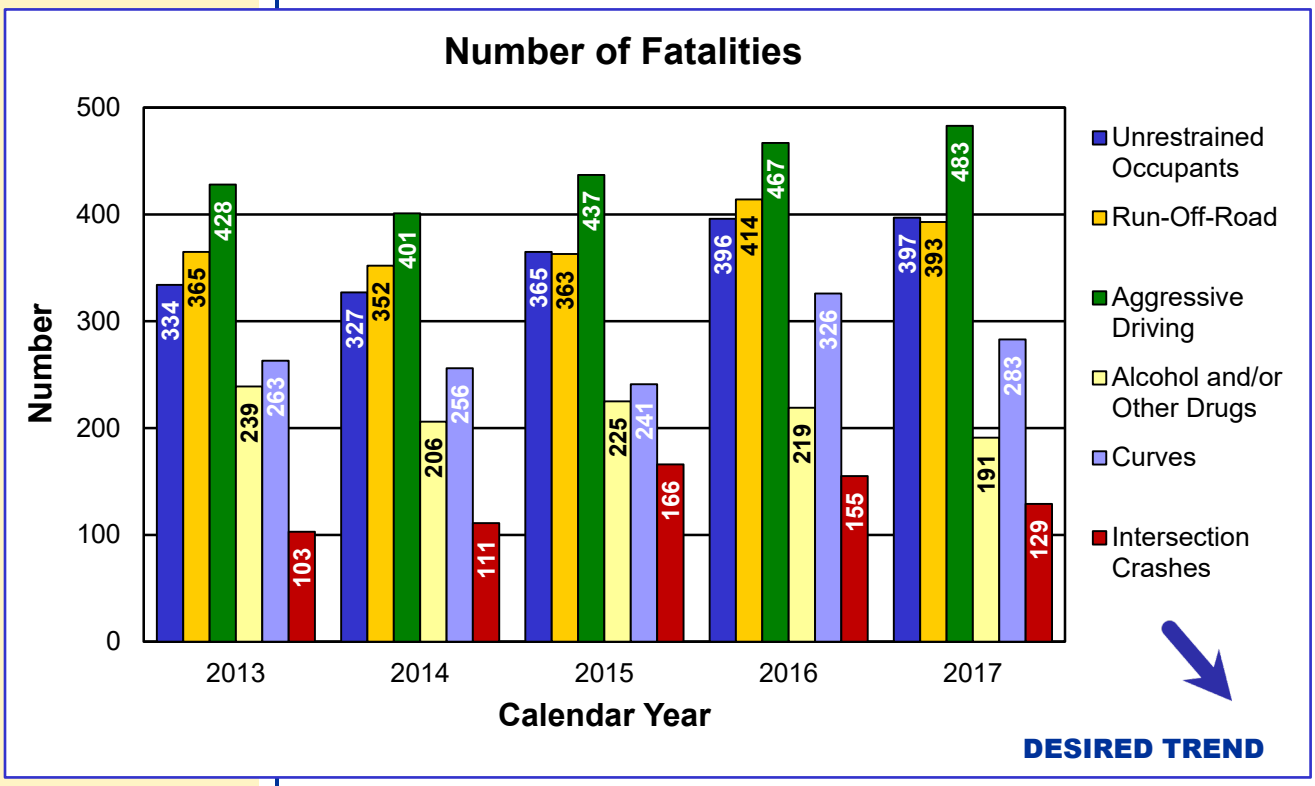
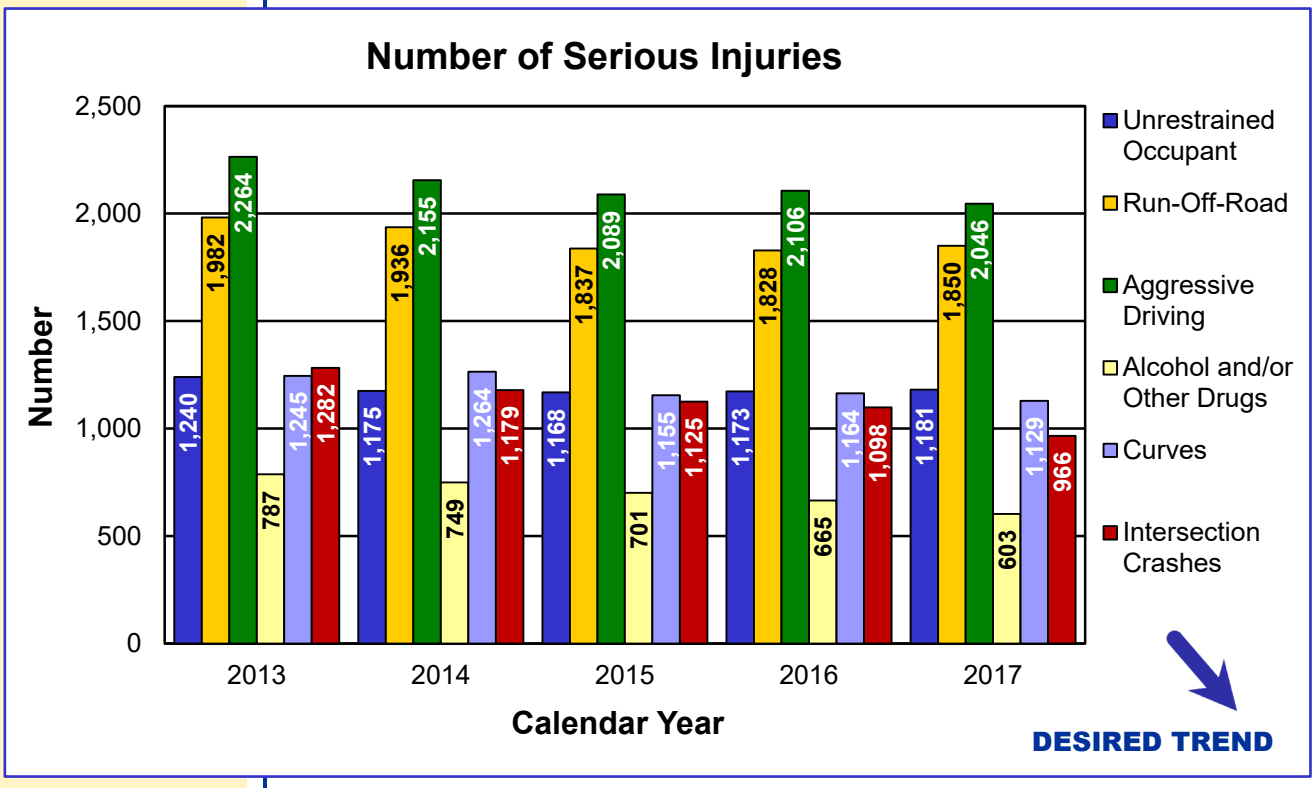




RESULT DRIVER:
Mark Shelton
District Engineer

MEASUREMENT DRIVER:
Steve Campbell
District Construction and Materials 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. Missouri State Highway Patrol prioritizes entry of the crash reports by fatality, serious injury and then property damage only.

The target for this measure is updated quarterly. This target is established by projecting a 10 percent improvement over a five-year average.

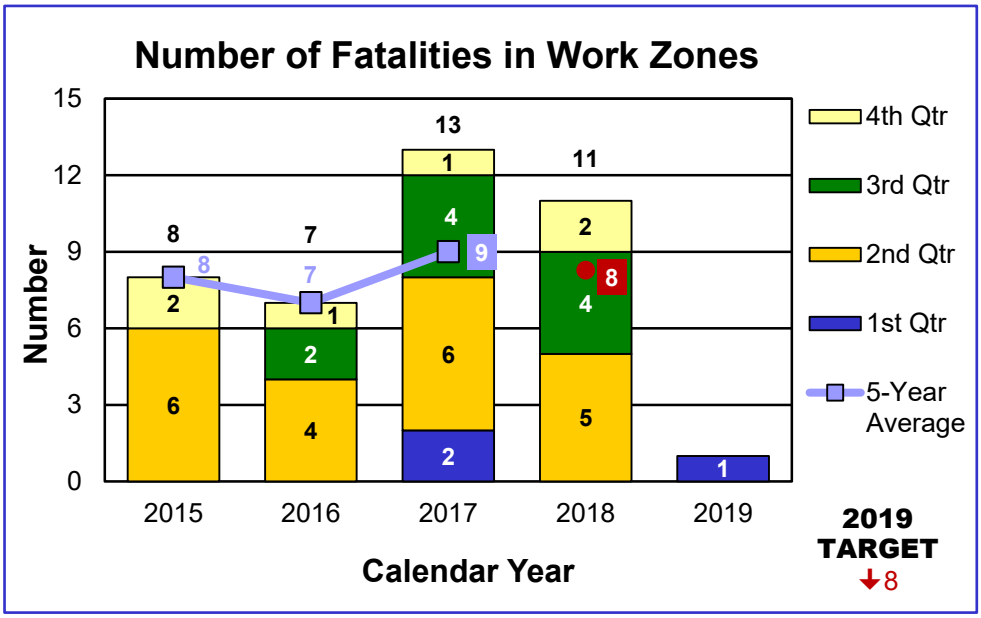
KEEP CUSTOMERS AND OURSELVES SAFE

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

Safe, efficient travel for the public through work zones is important. All crews working in work zones are expected to conduct their operations safely. MoDOT makes every effort to ensure this is the case and asks motorists to pay attention, slow down, move over, buckle up and drive without distractions.

MoDOT's goal is zero fatalities in work zones. Only through continued efforts from MoDOT, the contracting industry and the driving public can that goal be accomplished. There will be continual improvement in planning, available strategies and technologies employed. It is up to MoDOT to deploy the proper tools in each of the work zones. Based on information currently available, work zone crashes over the first quarter of calendar year 2019 accounted for one fatality.

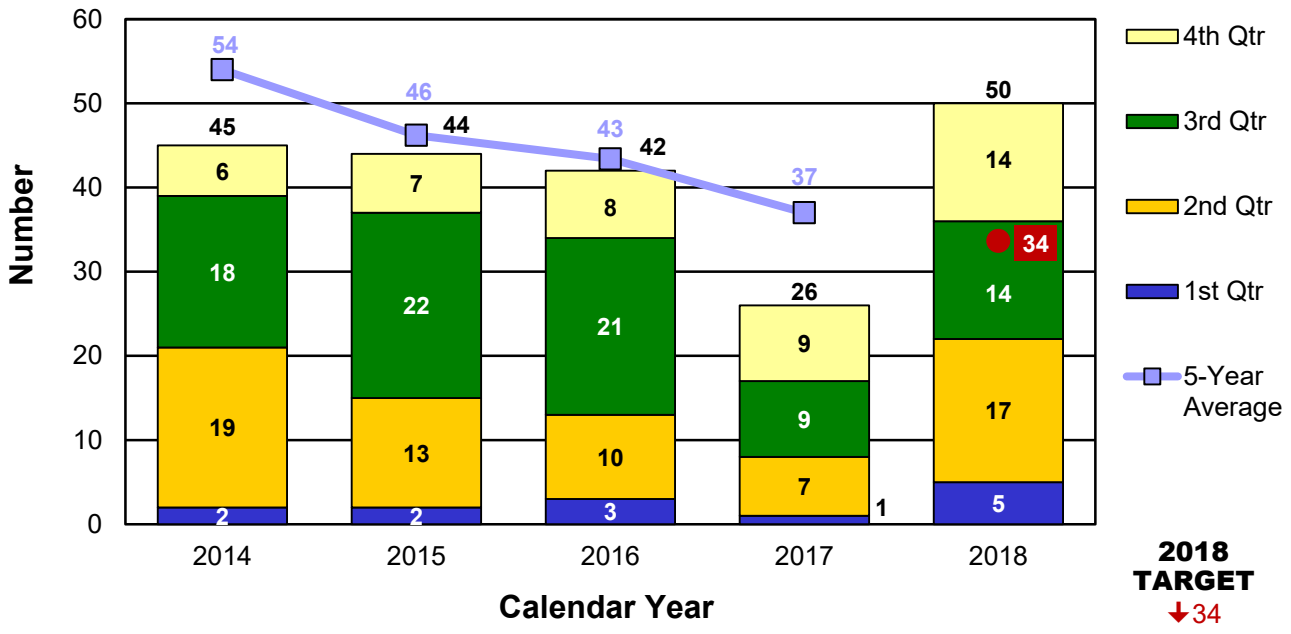
Tools are available to create high functioning work zones. Effort is placed to employ the correct tools based on the field conditions to be encountered in each work zone. The time of day and day of week is considered by MoDOT before setting up a work zone. MoDOT must remain vigilant and do the best every day with all things that are capable to be controlled. Driver behavior is a challenging story because it's not a factor that MoDOT can control. Community outreach and public awareness campaigns such as Buckle Up Phone Down are very helpful, but ultimately MoDOT is dependent upon the driving public to make good choices when driving in work zones. The challenges for MoDOT remain many, with changing driver behaviors at the top.



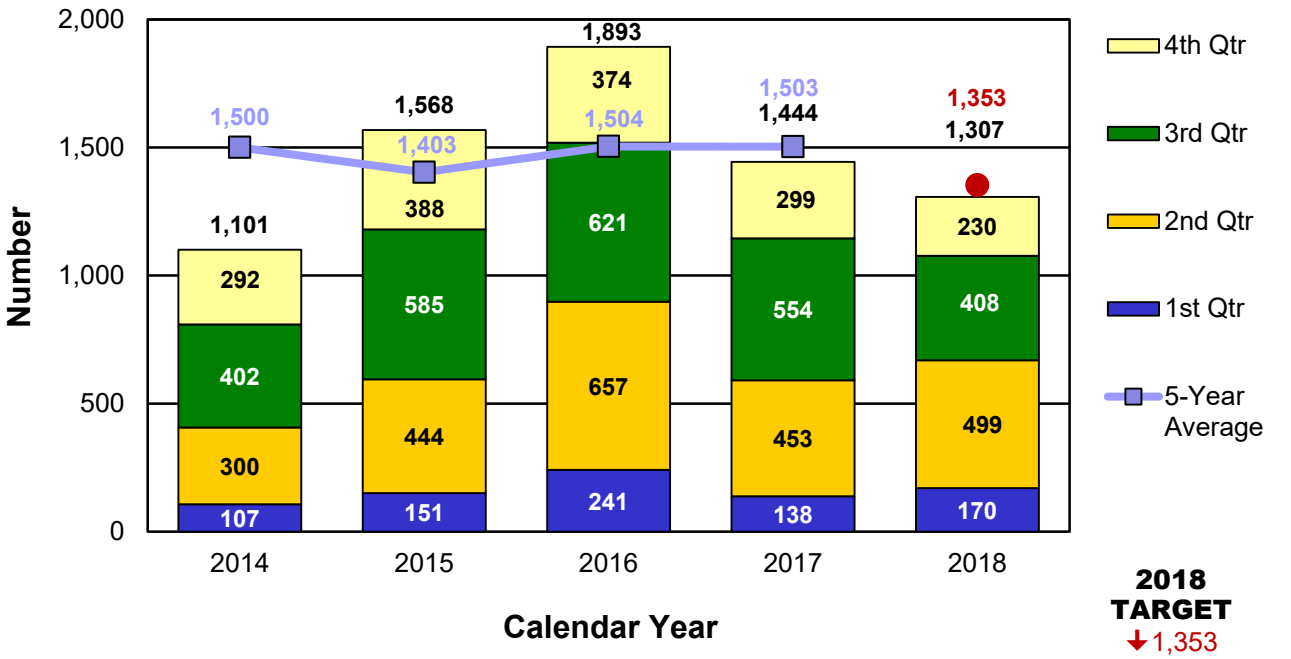
2019 – Fatalities derived from TMS.

KEEP CUSTOMERS AND OURSELVES SAFE

Number of Serious Injuries in Work Zones



Number of Crashes in Work Zones



***2019 – First quarter 2019 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 are selected from counties that represent 85 percent of the state's vehicle occupant fatalities. While the data collection plan is the same each year for consistency, NHTSA guidelines require survey sites to be re-selected every five years based on updated fatality data. The 2018 survey is the first survey using updated survey sites since Missouri's new survey methodology started in 2013. The target for this measure is updated annually in October for the next calendar year. This target is established as the current national average.

KEEP CUSTOMERS AND OURSELVES SAFE

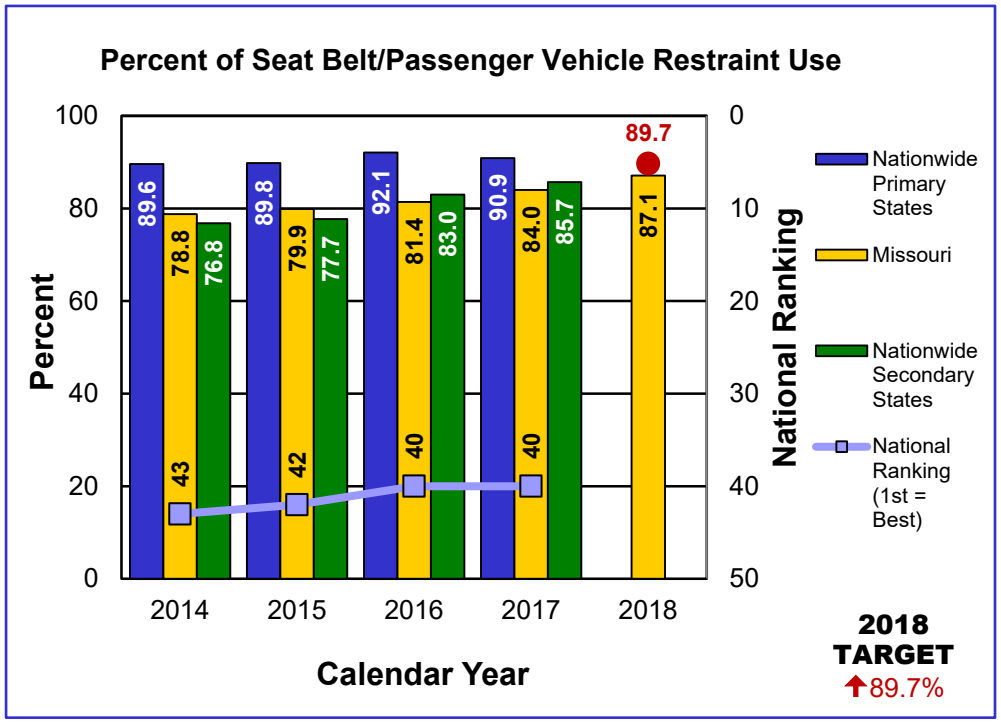
Percent of seat belt/passenger vehicle restraint use – 1e

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 58 municipalities and two counties that have adopted primary seat belt ordinances, representing almost 27 percent of the state's population.

Based on 135,646 observations, the seat belt use in Missouri for 2018 was 87.1 percent. Johnson County was the lowest at 64.4 percent and Webster County was the highest at 94.8 percent (weighted data). The national average for seat belt use in 2017 was 89.7 percent (2018 data is not yet available). Missouri's national ranking in 2017 was 40th, with 11 states ranking lower in seat belt use.

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.

MoDOT is improving safety culture through Statewide Strategic Initiatives such as Buckle Up Phone Down and coordinating the Click It or Ticket, Youth Seat Belt and Child Passenger Safety Campaigns as well as providing educational programs such as Teens Taking Action To Prevent Traffic Crashes and ThinkFirst.



RESULT DRIVER:
Mark Shelton
District Engineer

MEASUREMENT DRIVER:
Angie Hoecker
Commercial Motor Vehicle Program Manager

PURPOSE OF THE MEASURE:
This measure tracks annual trends in fatalities and serious injuries involving Commercial Motor Vehicles. This data guides the development and focus of the Commercial Vehicle Safety Plan, which is the plan required to receive Motor Carrier Safety Assistance Program funds.

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 fatal and serious injury rates on the charts display the annual fatality and injury rates per 100 million vehicle miles traveled for commercial motor vehicles for these same crashes. The targets are based on a 9 percent improvement rate from the immediate prior year fatalities and a 5 percent improvement in serious injuries from the immediate prior year.

KEEP CUSTOMERS AND OURSELVES SAFE

Number and rate of fatalities and serious injuries involving commercial motor vehicles – 1f

Commercial Motor Vehicles play a vital role in our nation's economy by transporting the products we need. By tracking the number of CMV-involved fatalities and serious injuries, MoDOT can target educational and enforcement efforts, as well as improve safety features along Missouri roadways. MoDOT partners with the Missouri State Highway Patrol, St. Louis Metropolitan Police Department, Kansas City Police Department and St. Louis County Police Department to keep people safe while traveling in and around CMVs.

While efforts from MoDOT and the partner agencies are effective in improving safety on roadways, Missouri has experienced an increase in the number and rate of fatalities and serious injuries involving CMVs. Between 2014 and 2018, fatalities involving a CMV increased by 26.5 percent and the fatality rate increased from 1.17 to 1.30 per 100 million CMV vehicle miles traveled. In 2018, Missouri experienced an increase of 16 fatalities involving a CMV as compared to 2017. This resulted in a 2018 fatality rate of 1.30 compared to 1.15 for 2017. The target for 2018 was 116 fatalities and unfortunately the goal was not met.

Between 2014 and 2018, serious injuries involving a CMV increased by 8.89 percent and the serious injury rate decreased from 3.84 to 3.66 per 100 million CMV vehicle miles traveled. The 404 serious injuries experienced in 2018 is 17 greater than reported for 2017. This resulted in a serious injury rate of 3.66 in 2018 compared to 3.50 for 2017. The target of 368 serious injuries was not achieved.

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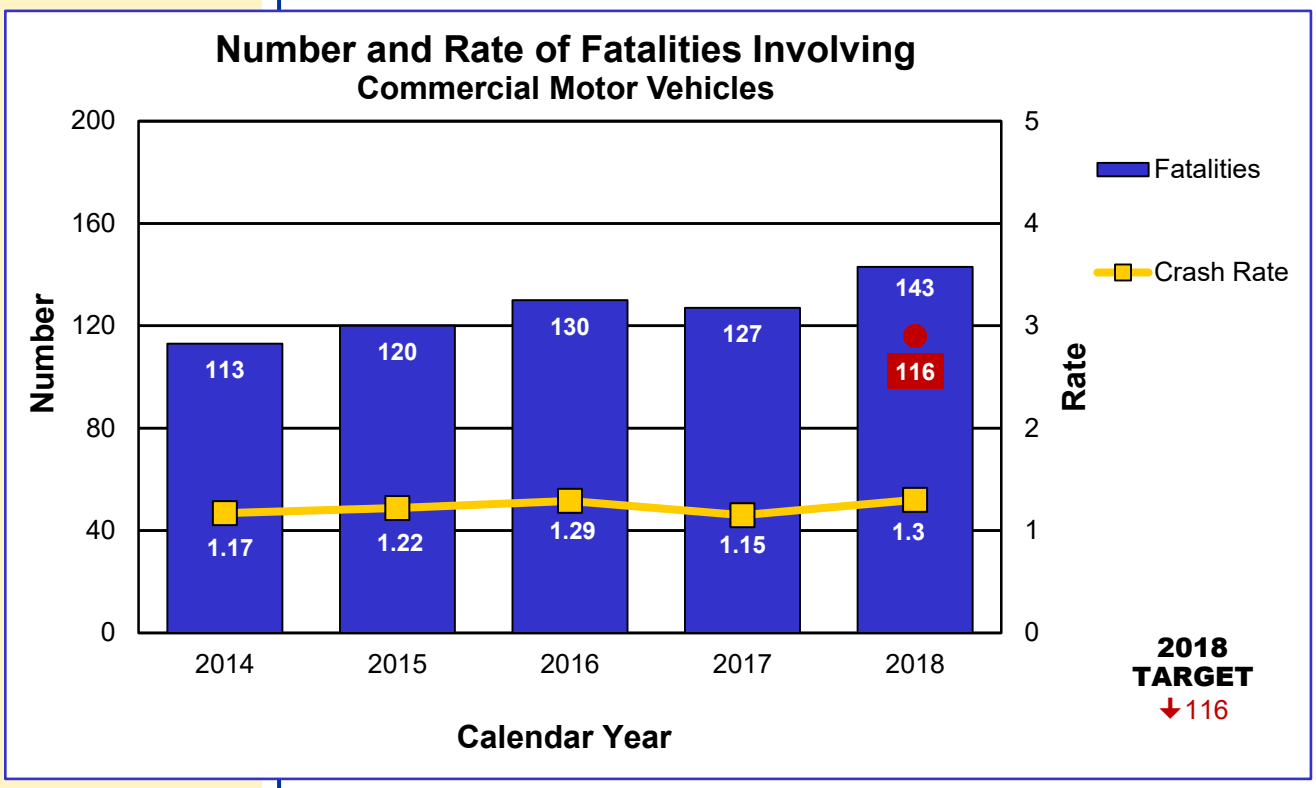

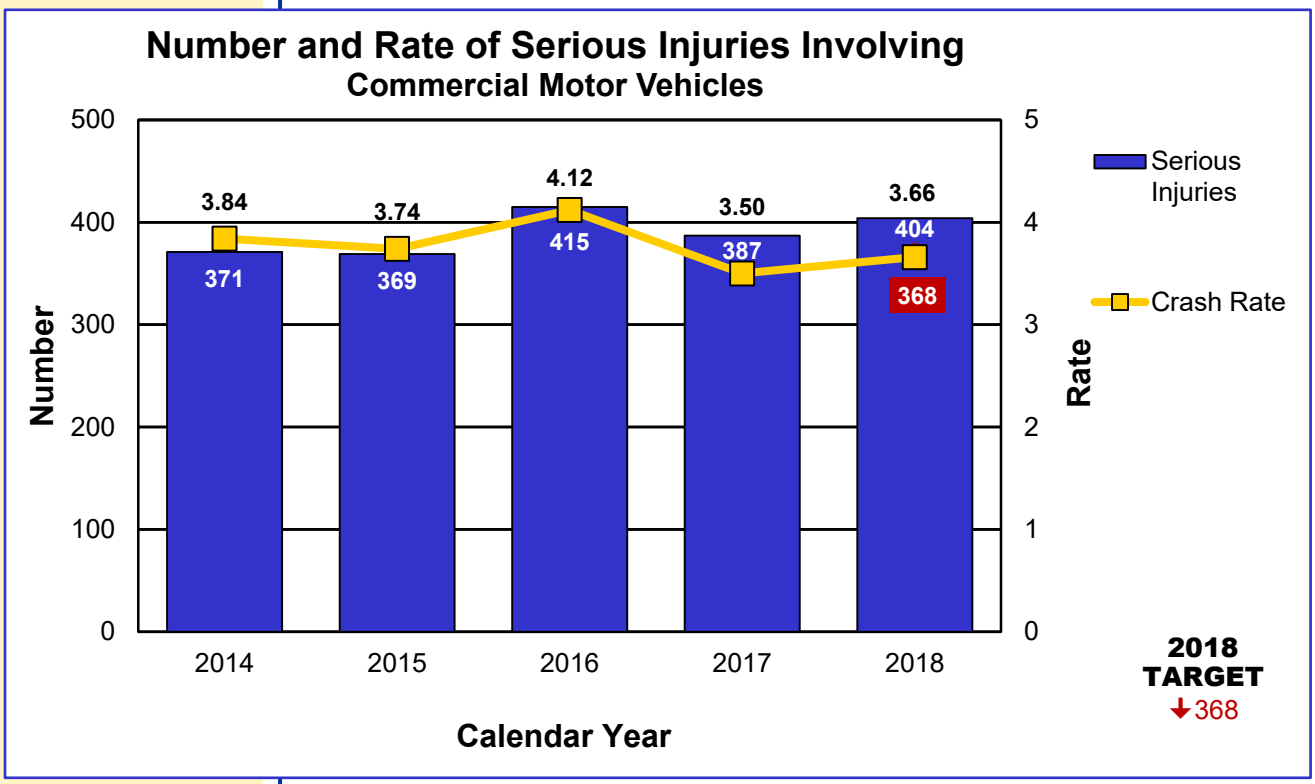

Due to a backlog of crash reports into STARS, these measures will only illustrate data derived from TMS.

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.

The target for total recordable incidents is updated quarterly. The target for rate of recordable incidents is updated annually. The target is calculated by subtracting 10 percent from the year-to-date comparison period.

KEEP CUSTOMERS AND OURSELVES SAFE

Total and rate of MoDOT recordable incidents – 1g

The total and rate of recordable incidents are tracked to measure the department's performance in improving safety. MoDOT's goal is for every employee to go home to their families every night unharmed. There was a 22 percent increase in the total number of recordables for the first quarter of 2019 compared to the first quarter of 2018. However, 14 of these incidents were at no fault of the department and the department worked over half a million more hours than the same period in 2018. Because of the additional exposure, the rate of incidents only increased by 4 percent.

Leading causes of injuries this quarter: slips, trips, and falls (24 percent), cut/punctured/scraped (18 percent) and motor vehicle (16 percent). Based on the work activity being performed at the time of the incident, 32 percent of employee injuries were equipment related, 13 percent were due to ice and snow removal and 11 percent were related to vehicle use and material handling.

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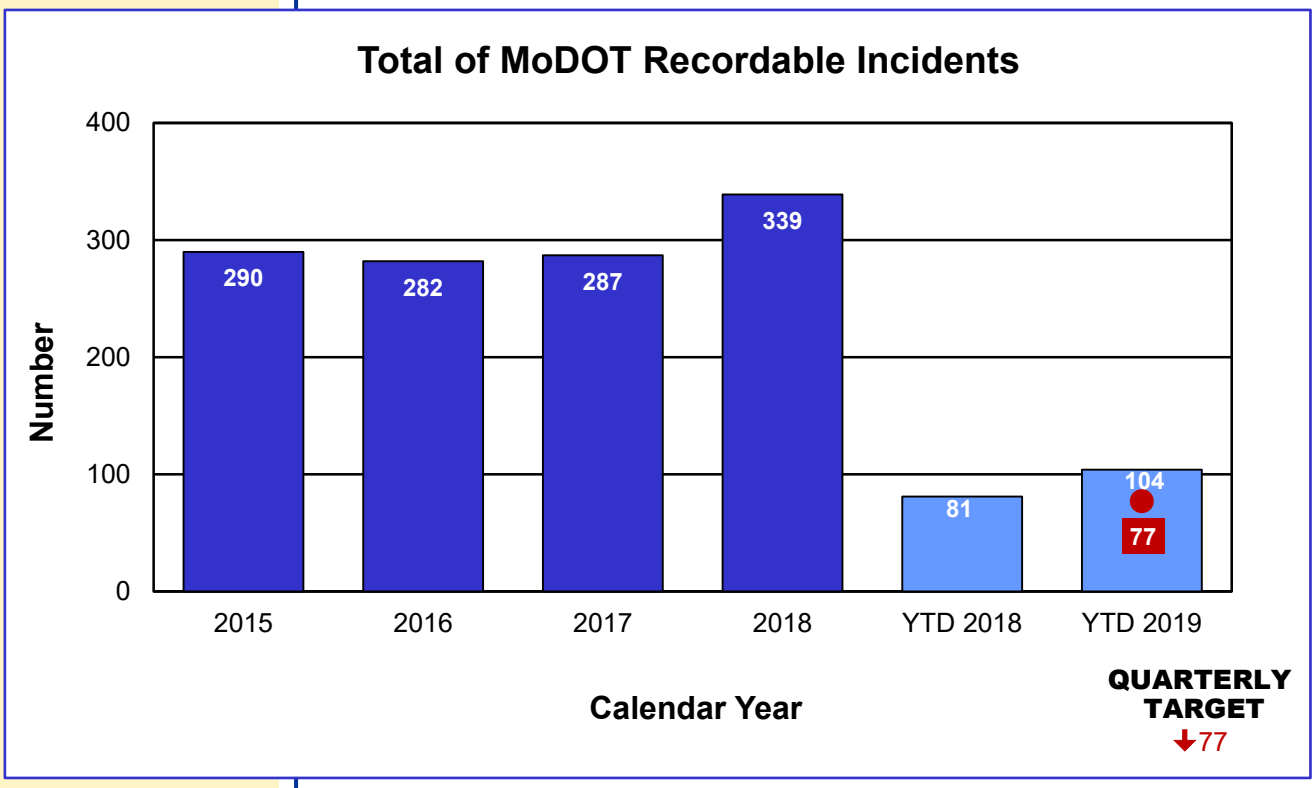

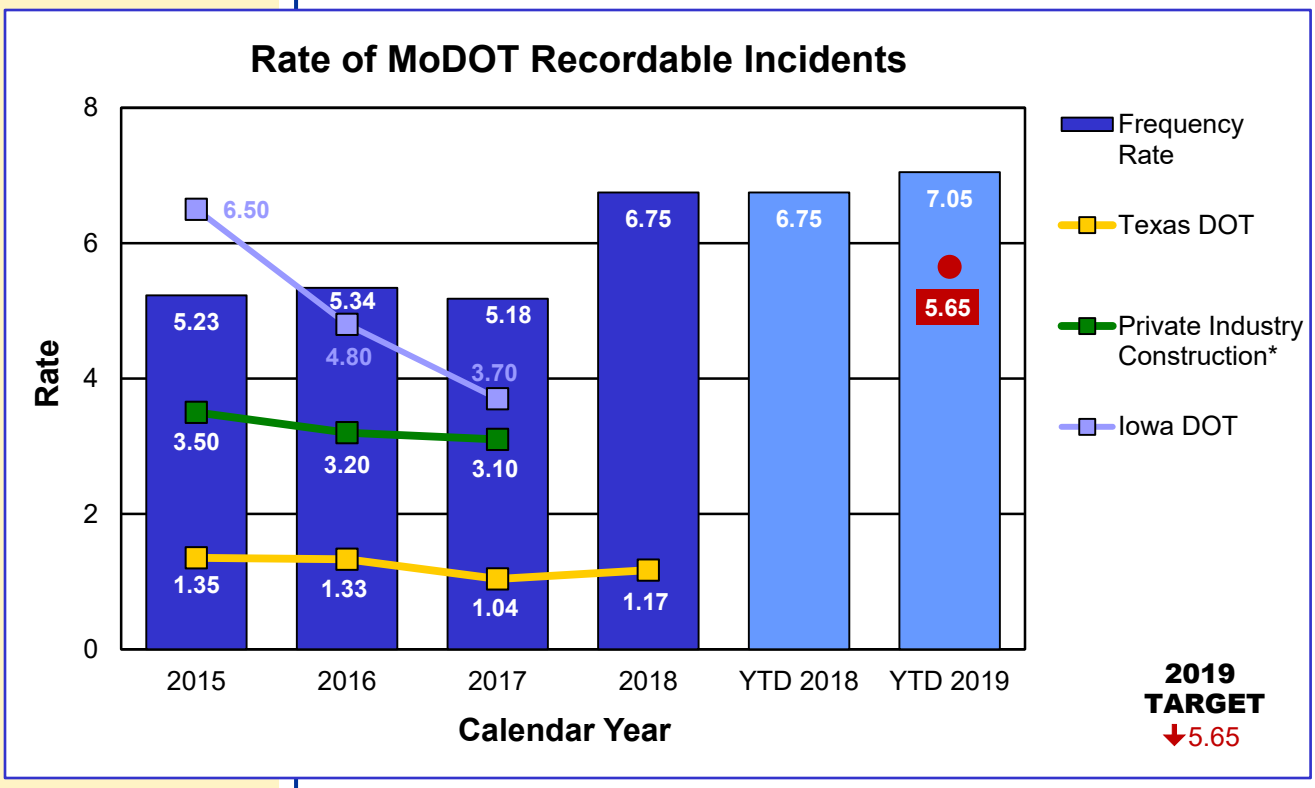

*OSHA private industry data is not yet available for 2018.

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.

The target for this measure is updated annually. This target is calculated by determining a five-year average and subtracting 10 percent. (Exceptionally high or low years are excluded from the five-year average calculation to determine a practical target).

KEEP CUSTOMERS AND OURSELVES SAFE

General liability claims and costs – 1h

Keeping employees and the public safe is MoDOT's highest value. 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 quarter of 2018, there was a 170 percent increase in the number of claims compared to first quarter 2019. The majority of claims in 2019 were attributed to pavement defects. During the same time frame, there was a 95 percent decrease in the amount paid.

This quarter, payments were made on 147 claims against the department, totaling $214,759.53. Two claim types accounted for almost 60 percent of the first quarter's payments. The department paid 93 pothole claims totaling almost $50,000. The department also paid nearly $77,000 on nine claims attributed to inadequate signing.

In an effort to achieve the number of liability claims target, the focus needs to be on MoDOT's most common claims. Historically, our top five most frequent claim types during the second and third quarters are pavement defects, chip seal operations, debris on the roadway, mowing and striping operations.

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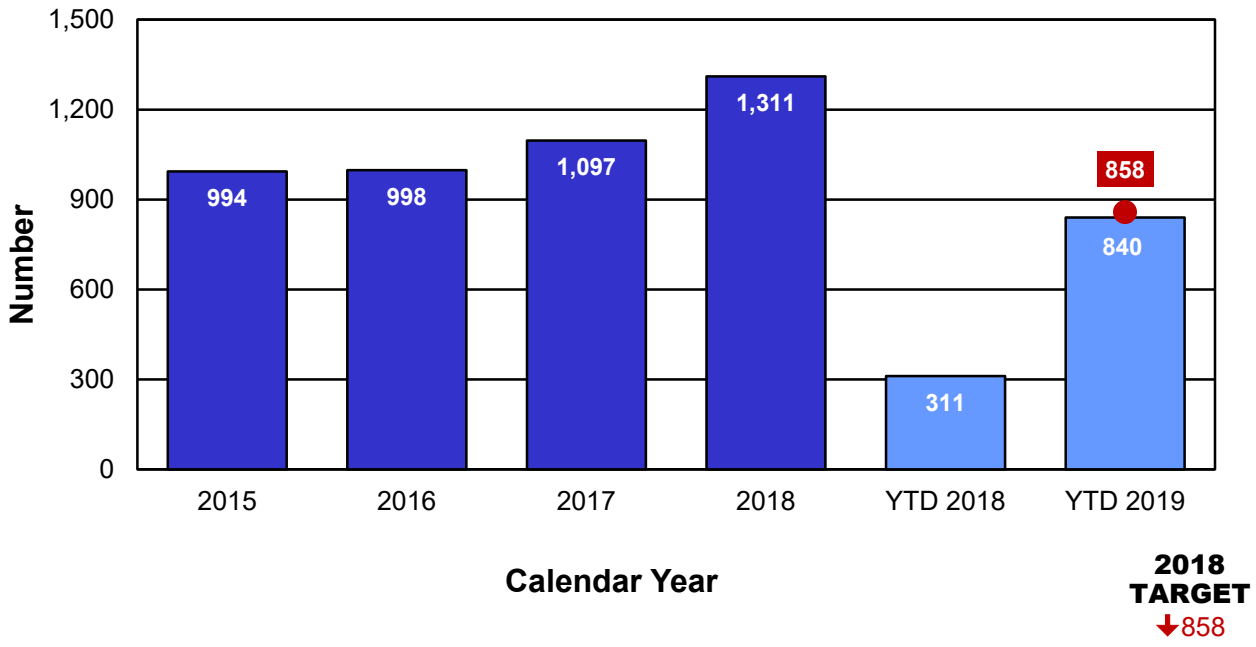
Number of General Liability Claims



Amount Paid on General Liability Claims