



# Tracker

MEASURES OF DEPARTMENTAL PERFORMANCE

*Photo features: Willie Jones – Southeast District, Hayti Maintenance Worker*

## MoDOT for all seasons



First, let me say how proud I am of every member of the MoDOT team and how appreciative I am for their families. From the first snow fight way back in November to the freezing rain and ice storms of the first quarter of 2019, MoDOT employees came through for our customers with a get-the-job-done attitude that went above and beyond their required duties. I also understand how important it is to have the support of all the families who have to share their fathers, mothers, husbands and wives when duty calls. I thank you for your understanding and sacrifice.

No sooner did we finish our brutal winter than we were faced with the potential of record flooding throughout the state. At this writing, there are 78 roads that are closed due to flooding. Spring flooding along the Missouri and Mississippi Rivers prompted Gov. Mike Parson to declare a state of emergency on March 21. According to the National Weather Service, the threat of long-term flooding is the worst since 1993.

Because of additional snow up north and the saturated ground, flooding could last through June. Mother Nature may be trying to test us, but she certainly won't defeat us.

We recently held the 12<sup>th</sup> Annual Innovations Showcase in Springfield, where the creativity, ingenuity and problem-solving skills of MoDOT employees were put on display. More than 50 "imagineers" impressed us at this year's showcase. I always approach the showcase with a mixture of awe and pride.

We truly have the best of the best, both in good times and challenging times. And though the weather is improving, we have some other challenges in the road ahead as we work with the governor and the legislature to secure funding for projects vital to the state's transportation infrastructure.

Let's also remember our neighbors and friends in Nebraska and Iowa, as well as all in Missouri who have been impacted by floodwaters. We pray for their safety and strength to rebuild.

I am thankful for the great women and men of MoDOT and your families who faithfully are called to service in all seasons and conditions.

With warm regards,

A handwritten signature in black ink that reads "Patrick K. McKenna". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Patrick K. McKenna

### Mission

*Our mission is to provide a world-class transportation system that is safe, innovative, reliable and dedicated to a prosperous Missouri.*

# 2018 National Performance Report Card

RANKINGS	
1-10	= A
11-20	= B
21-30	= C
31-40	= D
41-50	= F



## Road Conditions

**Current Performance** = 90 percent major highways (5,517 miles) in good condition. 76 percent of minor highways (28,339) in good condition.  
**National Ranking** = Missouri had the 9th best pavements on the National Highway System. (FHWA Highway Statistics)



## Customer Satisfaction

**Current Performance** = 83 percent satisfied customers  
**National Ranking** = Missouri trails the highest rated company on the American Customer Satisfaction Index by only 4 percent.



## Project Management

**Current Performance** = Missouri road and bridge projects were delivered within 0.8 percent of the award amount and 93 percent were delivered on-time.  
**National Ranking** = Not available.



## Congestion (travel time index)

**Current Performance** = Kansas City - 1.13 St. Louis - 1.15  
**National Ranking** = Kansas City (9th) and St. Louis (10th) rank as some of the least congested urban areas in the U.S. (Texas Transportation Institute)



## Administrative Costs

**Current Performance** = \$2,187 cost per mile  
**National Ranking** = Missouri has the 3rd lowest administrative cost per mile. (FHWA Highway Statistics)



## Infrastructure for Business

**Current Performance** = No internal measure  
**National Ranking** = A CNBC business study ranks Missouri's infrastructure as the 11th best for business.



## Number of Fatalities

**Current Performance** = 932 fatalities  
**National Ranking** = Only 12 states experienced more motor vehicle deaths ranking Missouri 38th. (National Safety Council)



## Bridge Conditions

**Current Performance** = 8 percent of Missouri bridges in poor condition by deck area.  
**National Ranking** = Missouri ranked 38th for the percent of bridges in poor condition by deck area. (FHWA Highway Statistics-2017)



## Revenue

**Current Performance** = \$50,882 revenue per mile  
**National Ranking** = Missouri has the 48th lowest revenue per mile. (FHWA Highway Statistics)



## Employee Turnover

**Current Performance** = 11.99 percent  
**National Ranking** = Not available; However, **Stretch Target** = 6 percent. (Price Waterhouse Cooper's Saratoga Institute benchmark data)

# MODOT VALUES

## TANGIBLE RESULTS

### SAFETY

Be Safe

Keep Customers and Ourselves Safe

Be Accountable

### SERVICE

Be Respectful

Be Inclusive

Provide Outstanding Customer Service

Deliver Transportation Solutions of Great Value

Use Resources Wisely

Be Bold

Be Better

### STABILITY

Be One Team

So we can be a great organization

Keep Roads and Bridges in Good Condition

Operate a Reliable and Convenient Transportation System

Advance Economic Development

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Percent of customers who feel MoDOT provides timely, accurate and understandable information	October	Jennifer Williams	3d
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# 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.

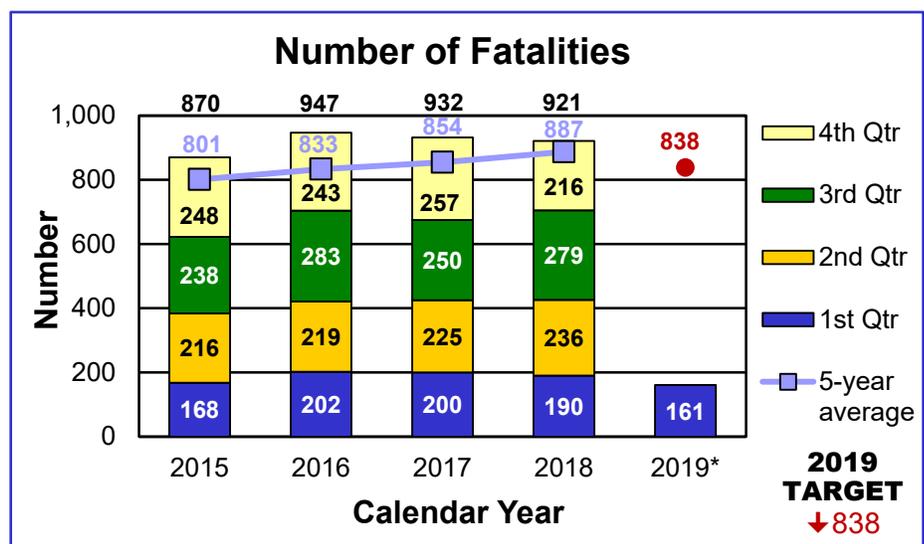
Safety culture is being improved through statewide strategic initiatives such as Buckle Up Phone Down. This is an opportunity for citizens, businesses and MoDOT employees to commit to driving without distractions by putting the phone down and having all passengers use safety belts.

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.

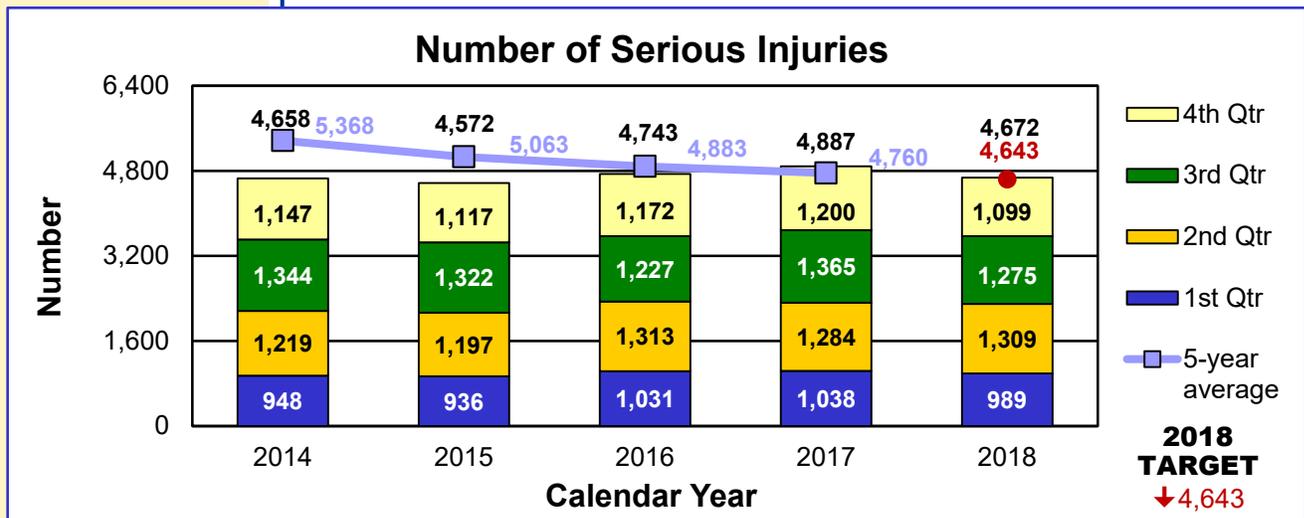
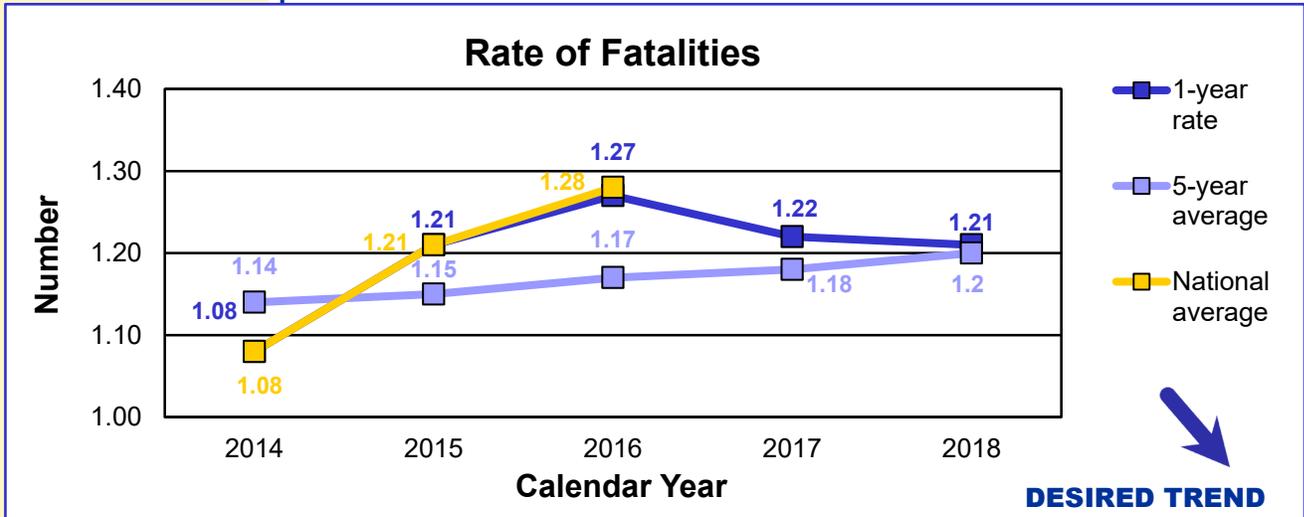
There have been 161 fatalities in the first quarter of 2019, a significant decrease for the first quarter of the year. This amount is the least number of fatalities for a first quarter in the last five years. The new target for 2019 is 838 fatalities, following the plan to reduce fatalities by 9 percent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

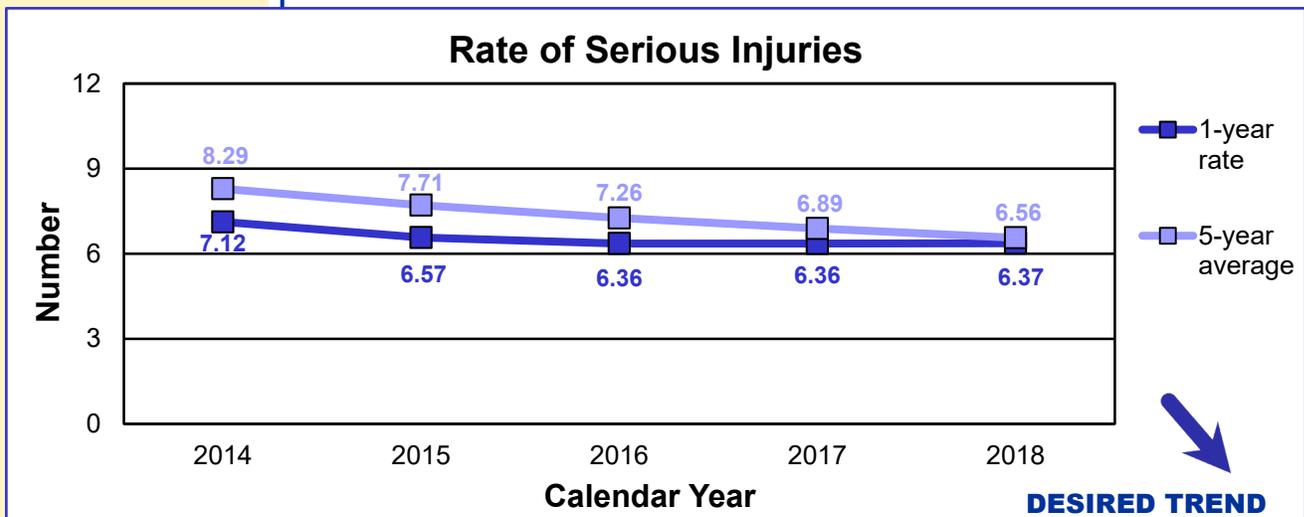


\*2019 – First quarter fatalities are from MSHP radio reports.

# KEEP CUSTOMERS AND OURSELVES SAFE



\*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*

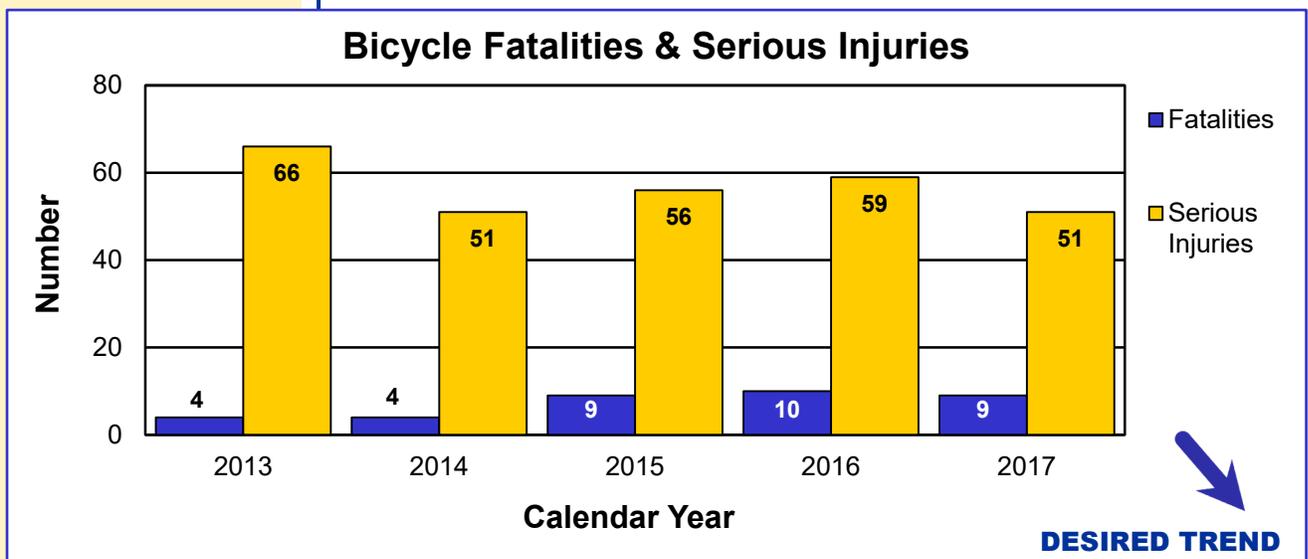
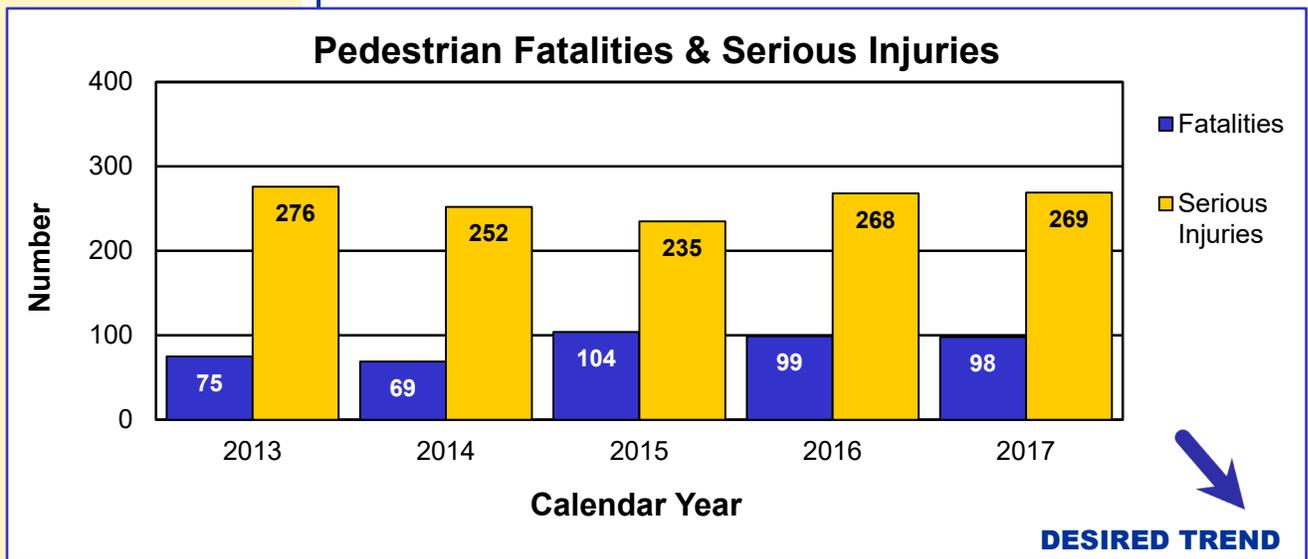
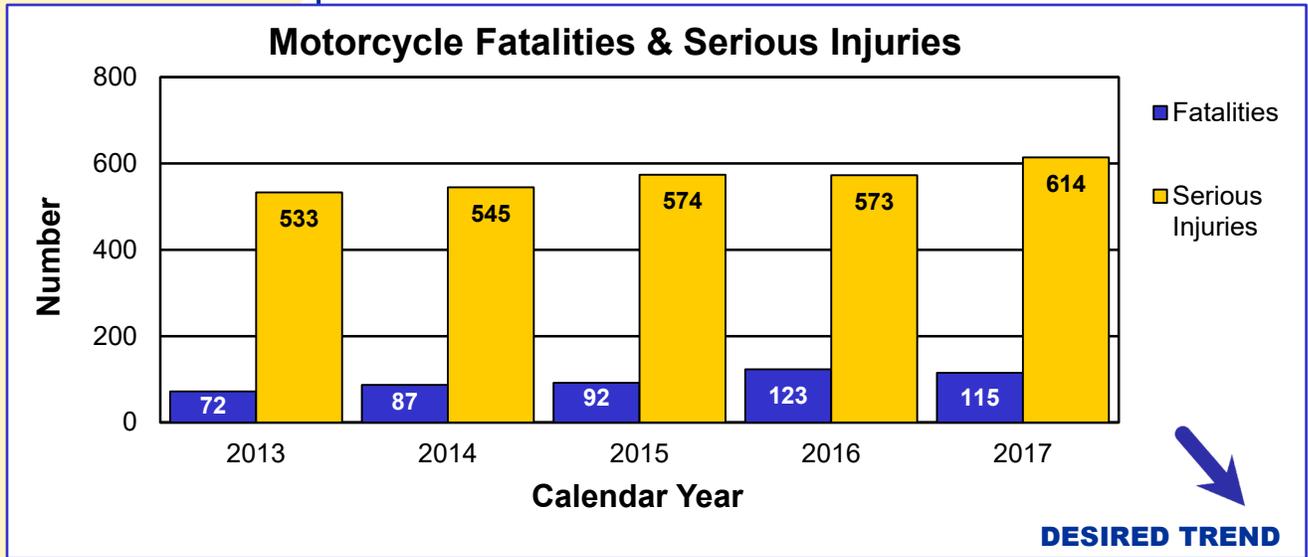
In 2017, vulnerable roadway users were 24 percent of the total number of fatalities. Pedestrian fatalities remained almost unchanged from 2016 to 2017. Motorcycle and bicycle fatalities decreased, 7 percent and 1 percent, respectively.

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.



# KEEP CUSTOMERS AND OURSELVES SAFE



## 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.

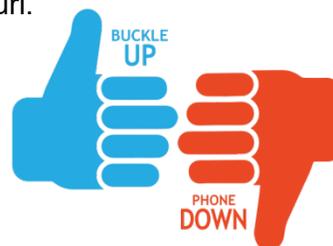
# KEEP CUSTOMERS AND OURSELVES SAFE

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

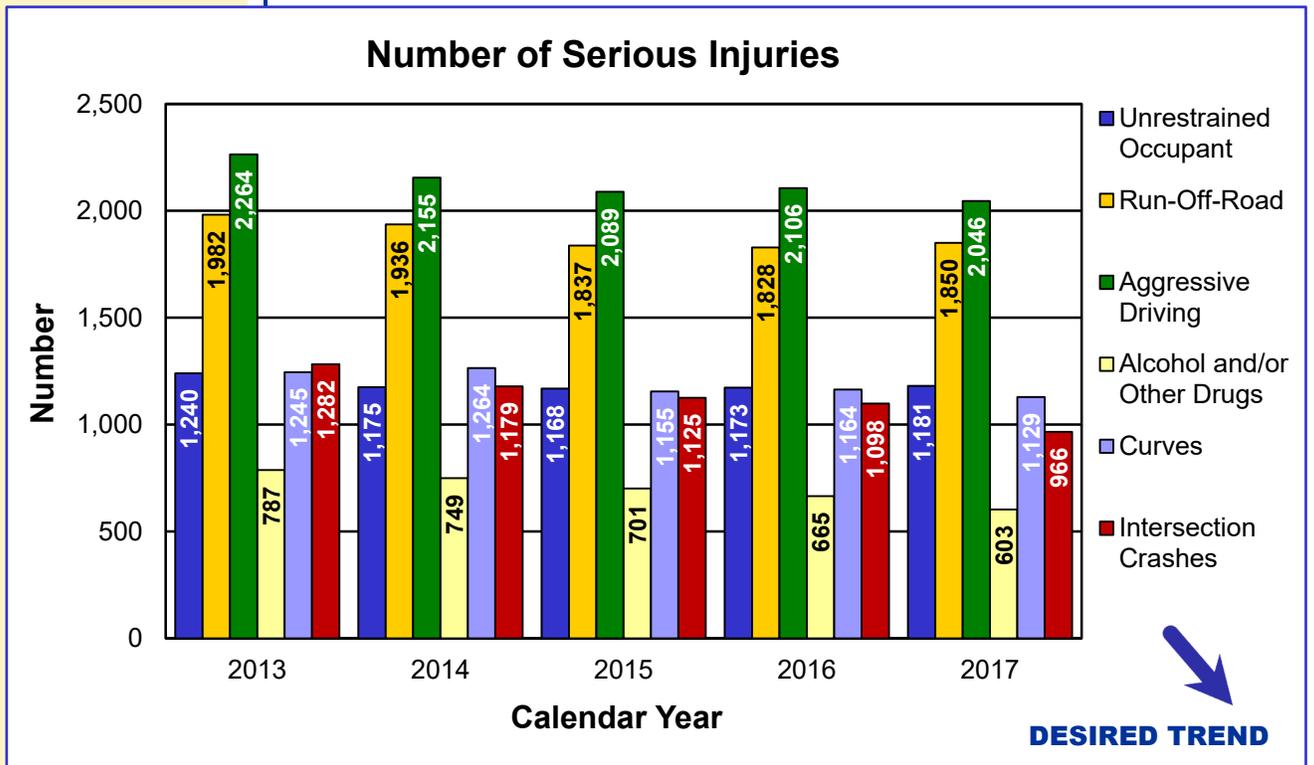
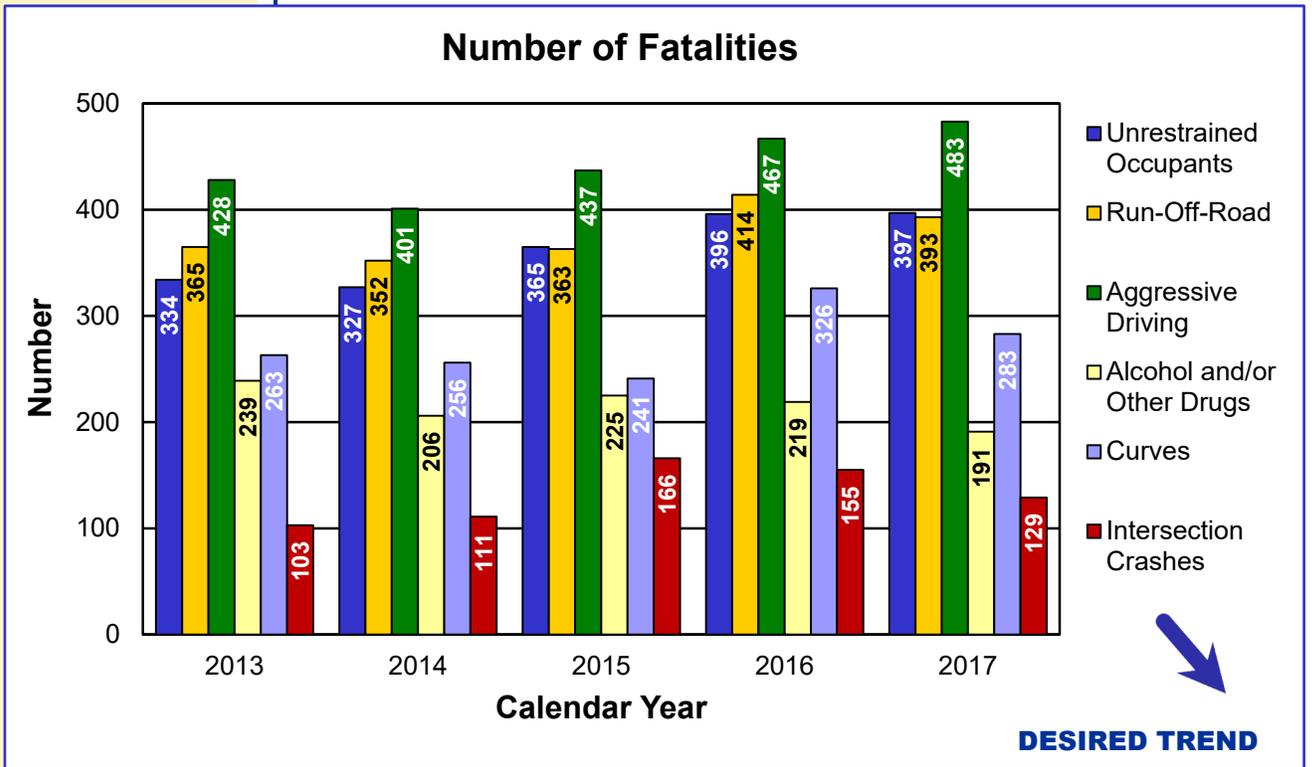
MoDOT's first value and tangible result is to keep customers and ourselves safe. The greatest challenge in providing this is the recurring frequency of fatal and serious crashes on Missouri roadways. In order to combat this, MoDOT utilizes a comprehensive data-driven analysis to identify the most common 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.



# KEEP CUSTOMERS AND OURSELVES SAFE



## 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.

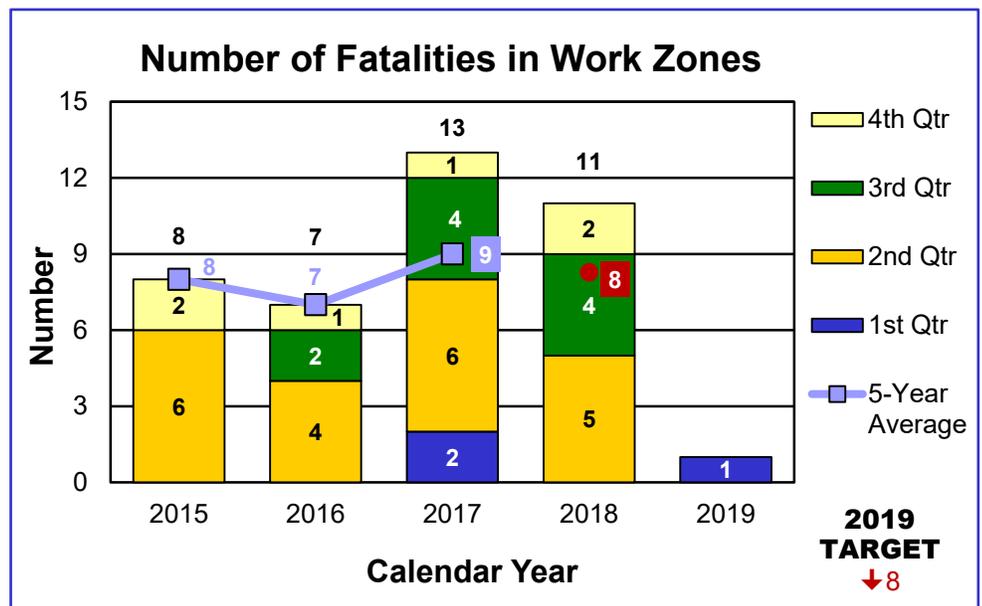
# KEEP CUSTOMERS AND OURSELVES SAFE

## 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.

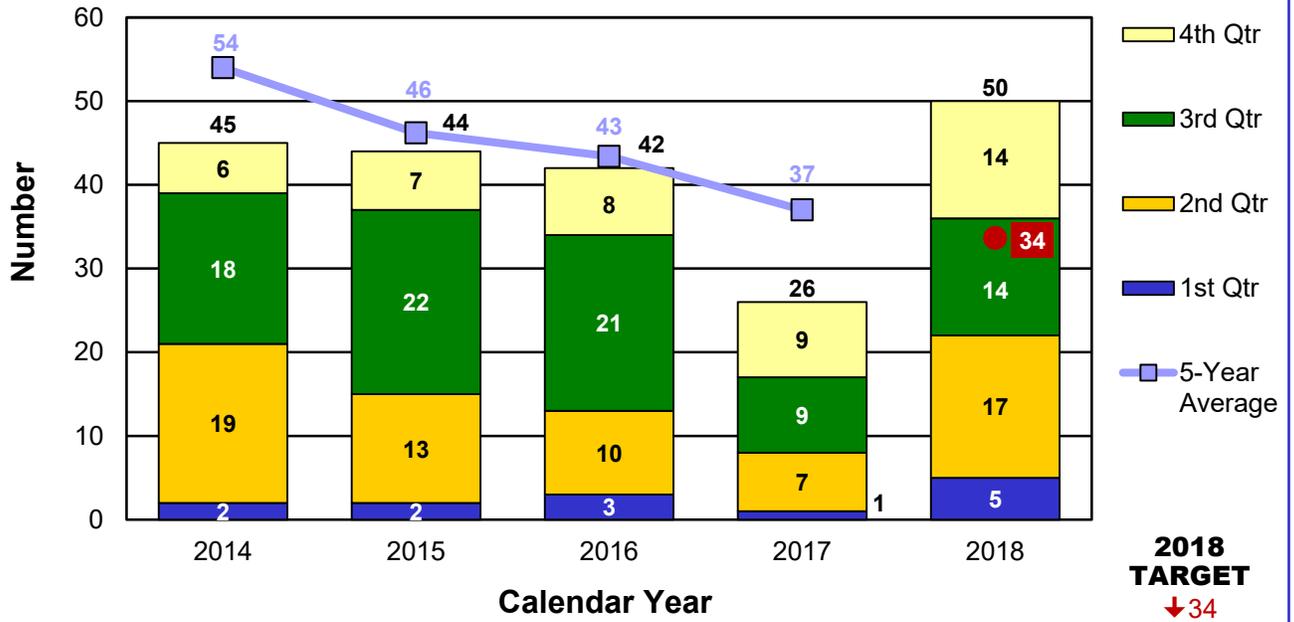
Tools are available to create high functioning work zones. Effort is placed to employ the correct tools based on the field conditions to be encountered in each work zone. The time of day and day of week is considered by MoDOT before setting up a work zone. MoDOT must remain vigilant and do the best every 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.



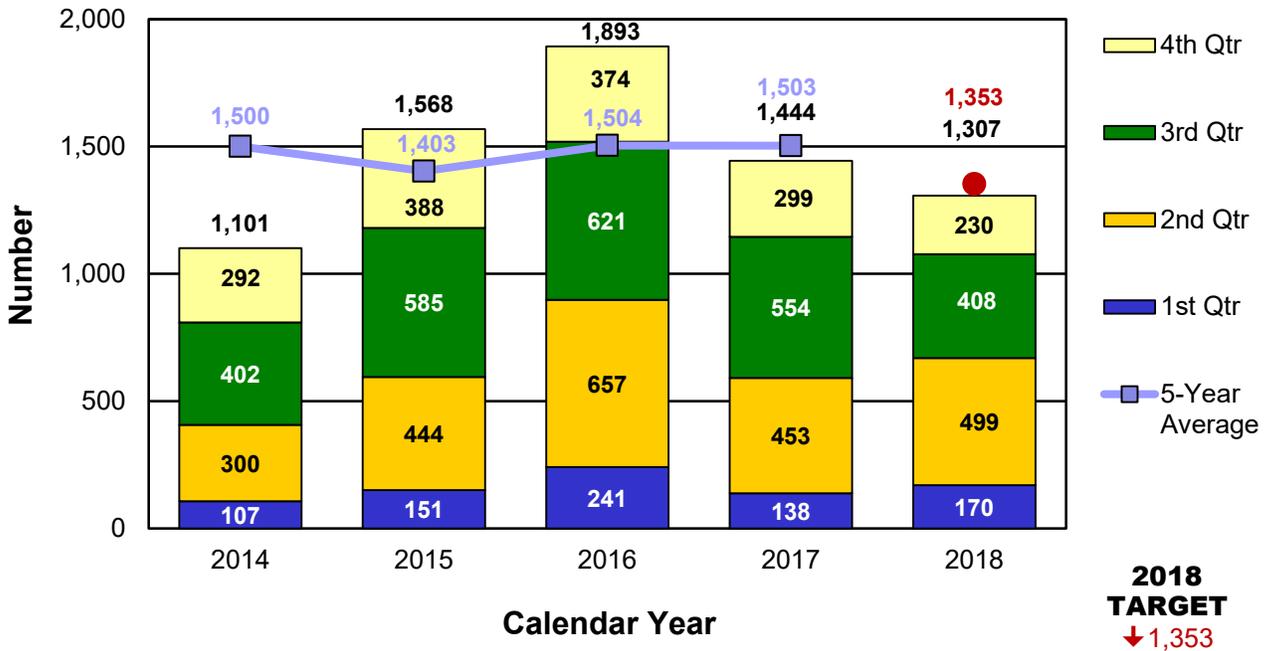
2019 – Fatalities derived from TMS.

# 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

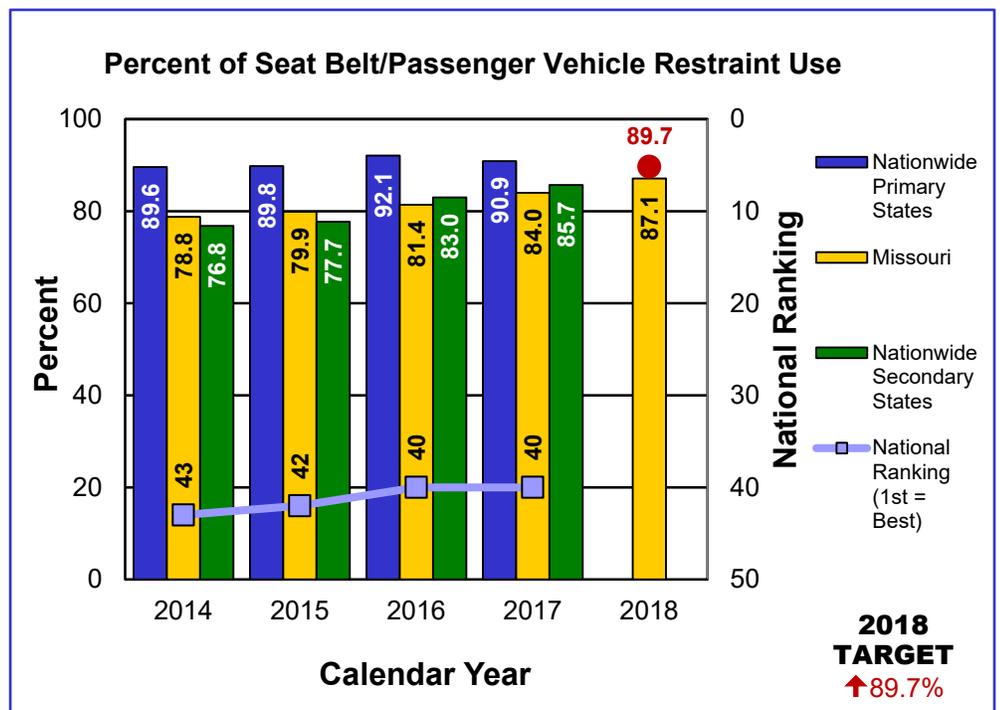
## Percent of seat belt/passenger vehicle restraint use – 1e

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

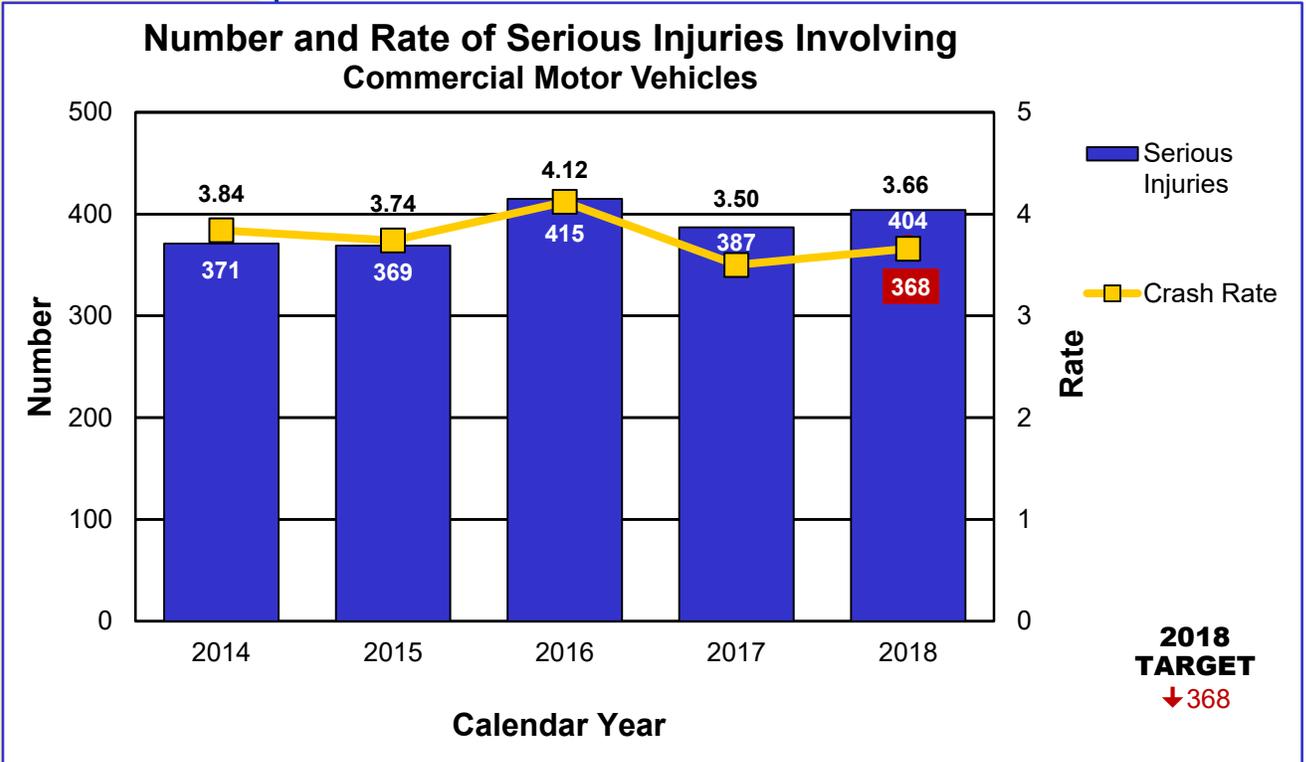
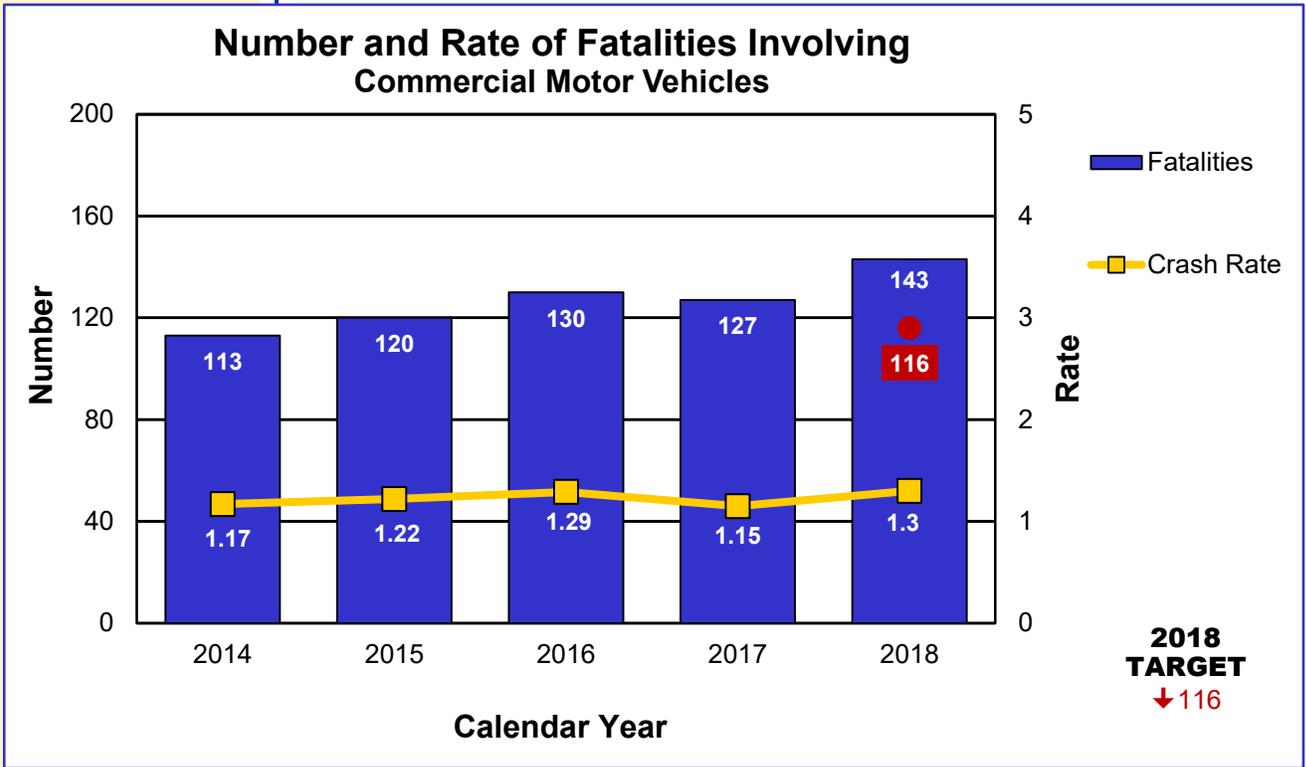
Commercial Motor Vehicles play a vital role in our nation's economy by transporting the products we need. By tracking the number of CMV-involved fatalities and serious injuries, MoDOT can target educational and enforcement efforts, as well as improve safety features along Missouri roadways. MoDOT partners 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.



# KEEP CUSTOMERS AND OURSELVES SAFE



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

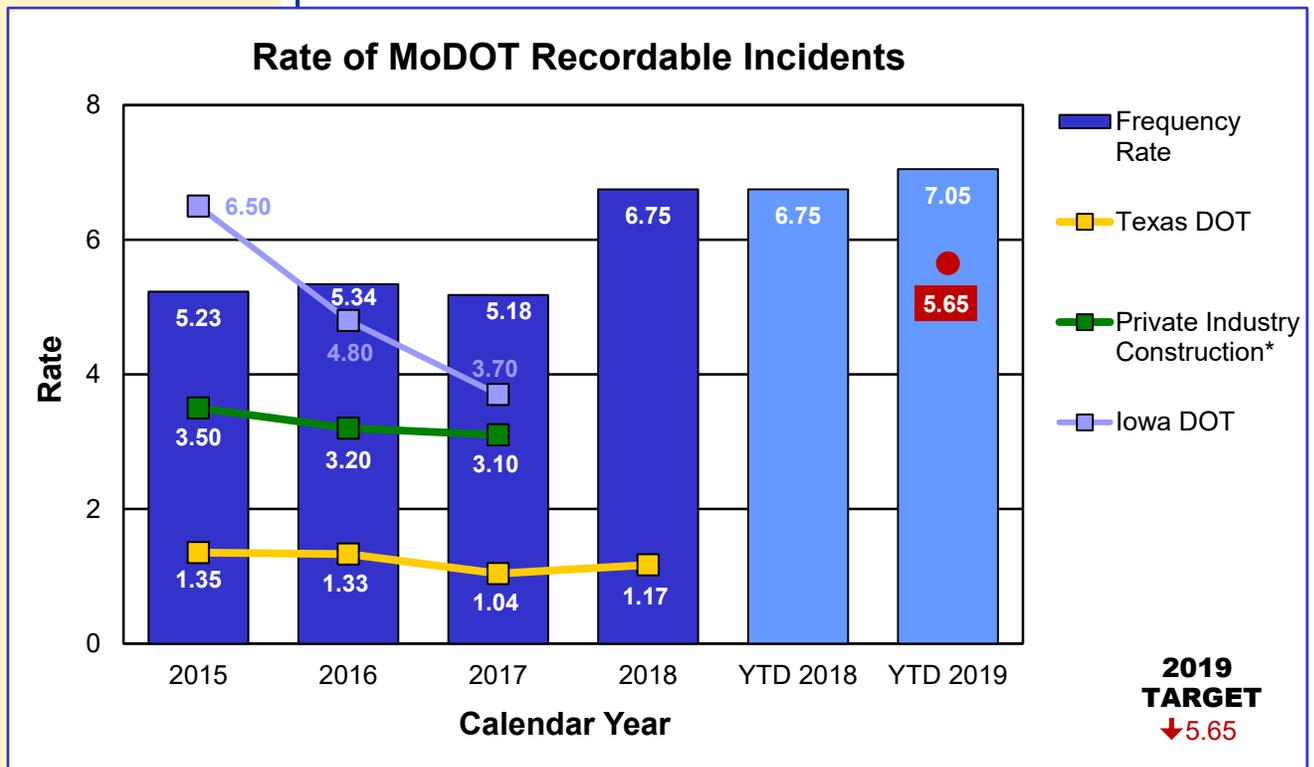
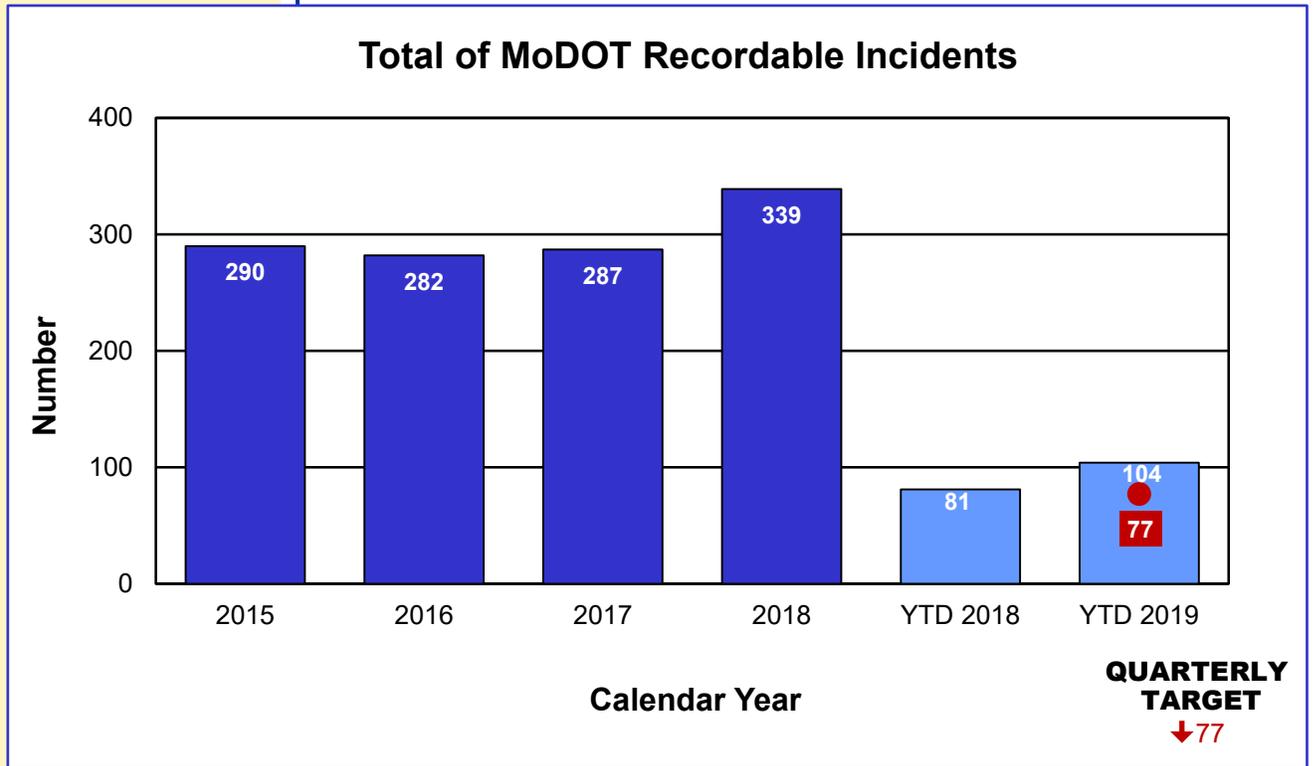
## Total and rate of MoDOT recordable incidents – 1g

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.



# KEEP CUSTOMERS AND OURSELVES SAFE



\*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.

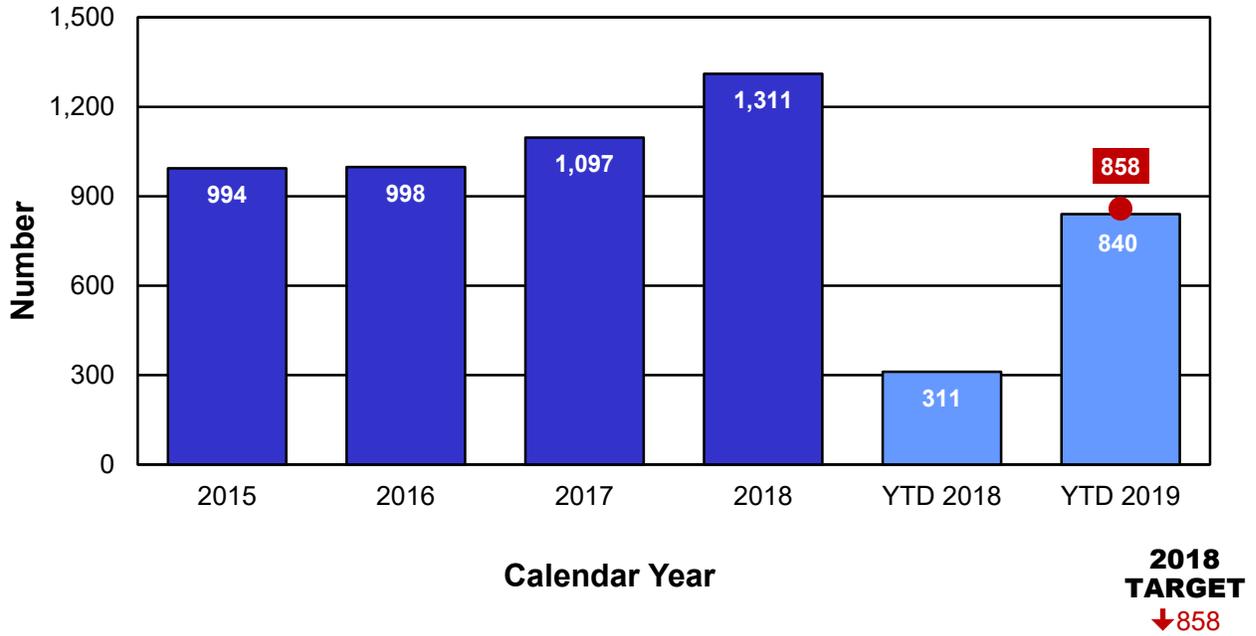
This quarter, payments were made on 147 claims against the department, totaling \$214,759.53. Two claim types accounted for almost 60 percent of the first quarter's payments. The department paid 93 pothole claims totaling almost \$50,000. The department also paid nearly \$77,000 on nine claims attributed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

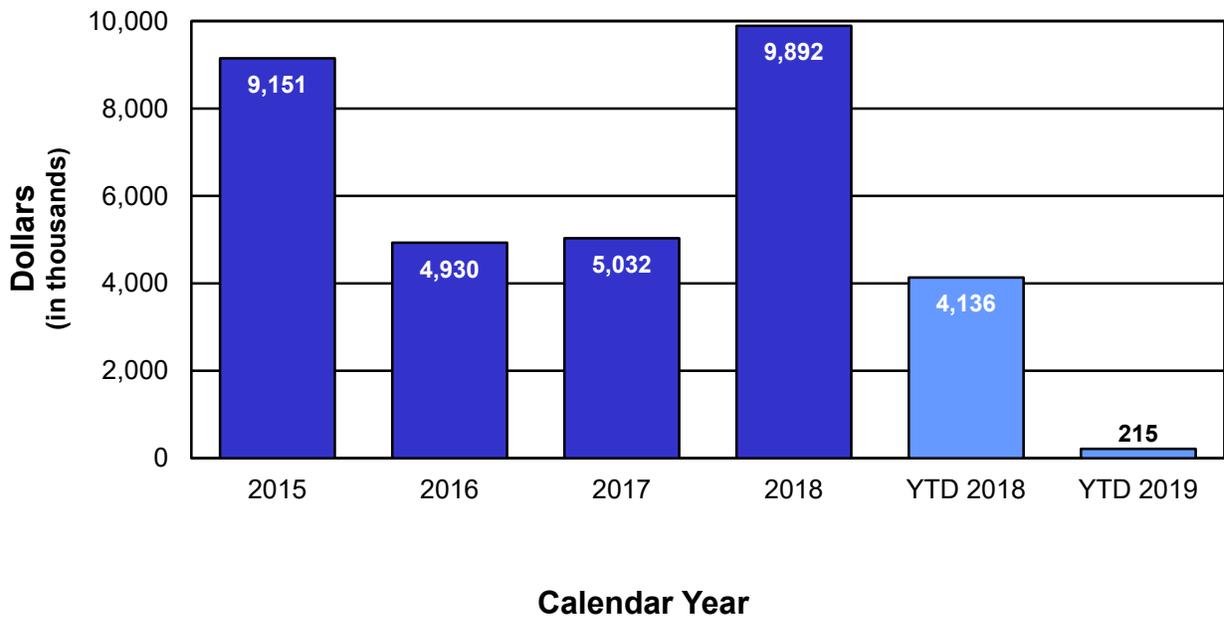


# KEEP CUSTOMERS AND OURSELVES SAFE

## Number of General Liability Claims



## Amount Paid on General Liability Claims



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# KEEP ROADS AND BRIDGES IN GOOD CONDITION

*Dennis Heckman, State Bridge Engineer*

**Tracker**

MEASURES OF DEPARTMENTAL PERFORMANCE



Missourians have said they want MoDOT to keep roads and bridges in good condition. Customers are looking for smooth pavements and bridges that can safely handle growing traffic demands. With 33,859 miles of highway and 10,385 bridges on the state system, the challenges are great; however, we are focused on using our limited resources to keep Missouri's roads and bridges in good condition.

## RESULT DRIVER:

Dennis Heckman  
State Bridge Engineer

## MEASUREMENT

### DRIVER:

Steve Engelbrecht  
District Planning Manager

## PURPOSE OF THE MEASURE:

This measure tracks the condition of Missouri's highways.

## MEASUREMENT AND DATA COLLECTION:

Missouri's major highway system contains the state's busiest highways, including interstates and most U.S. routes. There are 5,546 total miles on the major highway system.

Missouri's minor highway system consists of its less-traveled state highways, including most lettered routes and routes that mainly serve local transportation needs. There are 17,166 miles of minor highways in Missouri.

Missouri's low volume highways are those state owned roads with less than 400 cars traveling on them per day. There are 11,147 miles of low volume roads in Missouri.

Missouri measures the condition of its roadways using smoothness as one factor but also considers physical distresses, such as cracking.

The targets for this measure are set by internal policy and will not change unless policy changes, regardless of performance.

# KEEP ROADS AND BRIDGES IN GOOD CONDITION

## *Percent of highways in good condition – 2a*

Missourians have repeatedly told MoDOT that keeping roads smooth is a top priority. Over the years, MoDOT has been able to fund pavement improvement projects on thousands of miles of state highways.

MoDOT maintains 33,859 miles of highway. The percent of highways in good condition are: major--92 percent, minor-- 81 percent and low volume--73 percent. Major, minor and low volume highways have met the statewide target in the past five years. The target is based on the statewide asset management plan and represents MoDOT's goal of maintaining current condition.

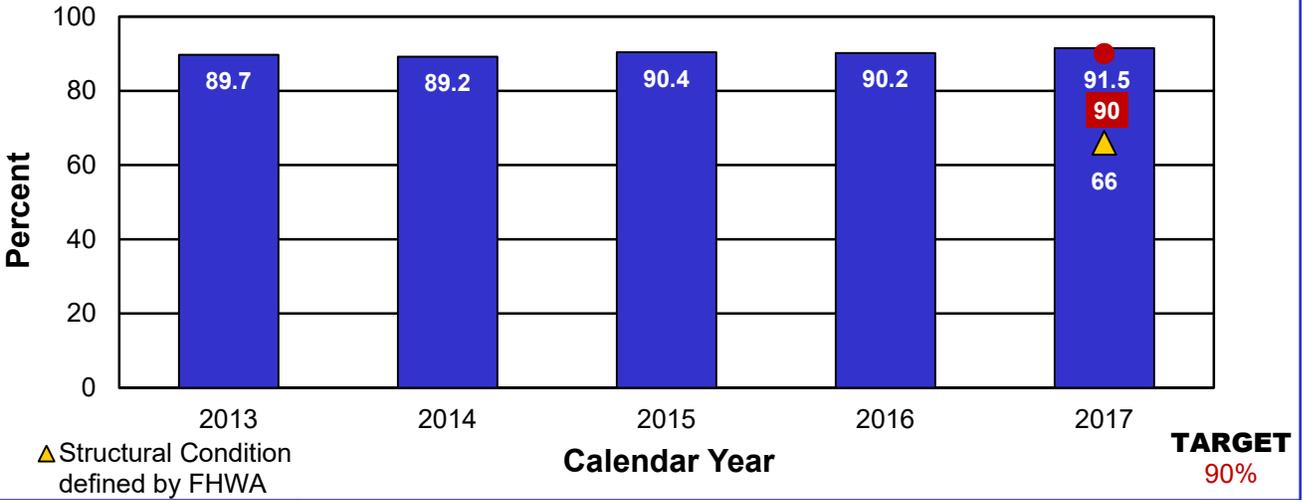
Beginning in 2018, the Federal Highway Administration required all Departments of Transportation to report pavement data related to the structural integrity of the pavement, which may not impact current pavement smoothness but may cause future pavement issues. The current percent of major highway pavements in good structural condition is 66 percent.

MoDOT has implemented asset management practices statewide to invest in transportation projects that will keep good roads in good condition.

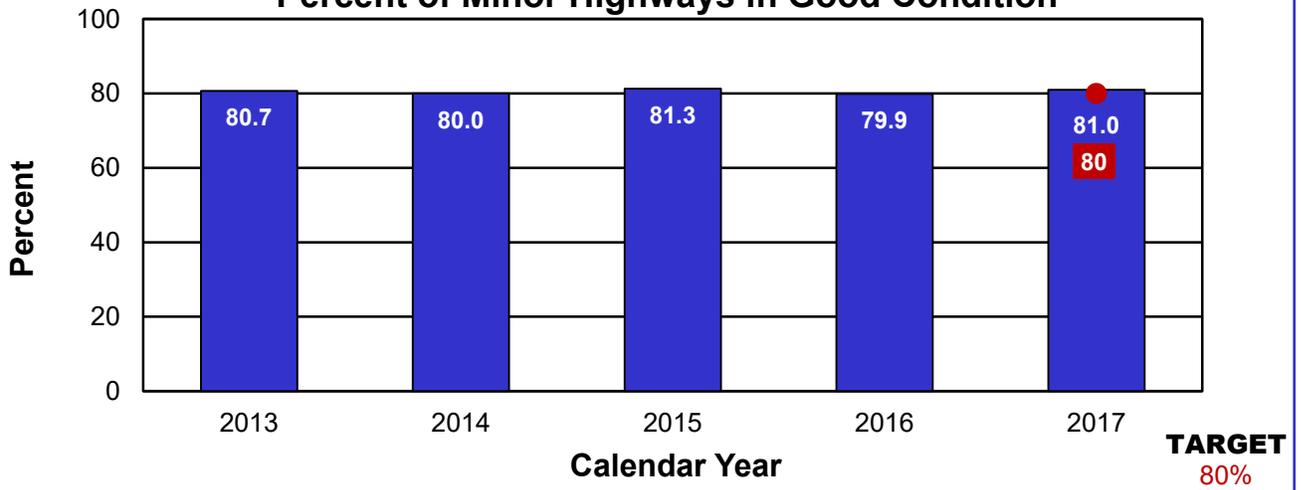


# KEEP ROADS AND BRIDGES IN GOOD CONDITION

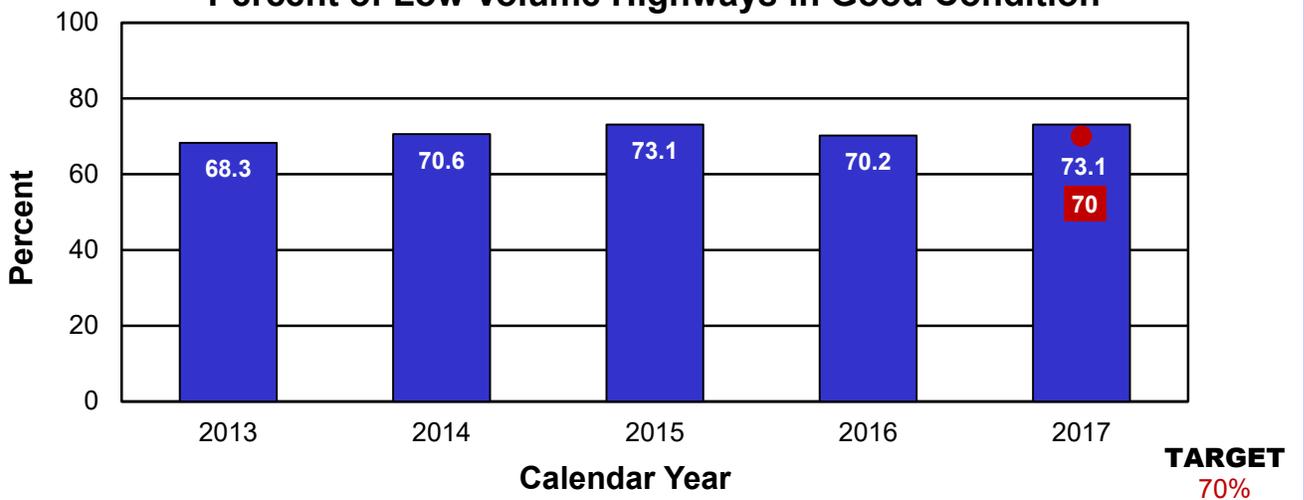
## Percent of Major Highways in Good Condition



## Percent of Minor Highways in Good Condition



## Percent of Low Volume Highways in Good Condition



## RESULT DRIVER:

Dennis Heckman  
State Bridge Engineer

# KEEP ROADS AND BRIDGES IN GOOD CONDITION

## Condition of state bridges – 2b

## MEASUREMENT DRIVER:

Jerad Noland  
District Design Engineer

## PURPOSE OF THE MEASURE:

This measure tracks progress toward improving the condition of Missouri's bridges.

## MEASUREMENT AND DATA COLLECTION:

This measure is updated in July based on MoDOT inspections conducted the prior year. Data is presented for all state bridges and major bridges. Major bridges are those that are longer than 1,000 feet and typically cross the larger rivers and major lakes within the state. Of the 10,385 bridges on state highways, 208 are considered major bridges. Bridges are categorized as being in good, fair or poor condition in accordance with criteria established by FHWA. Good means no significant condition-related problems exist. Fair indicates that moderate problems exist that may require minor rehabilitation or maintenance to return the structure to good condition. Poor indicates that more significant problems exist which will require either a major rehabilitation or replacement of the structure.

The target for this measure is set internally and reflects the department's goal of "holding its own" in terms of bridge condition.

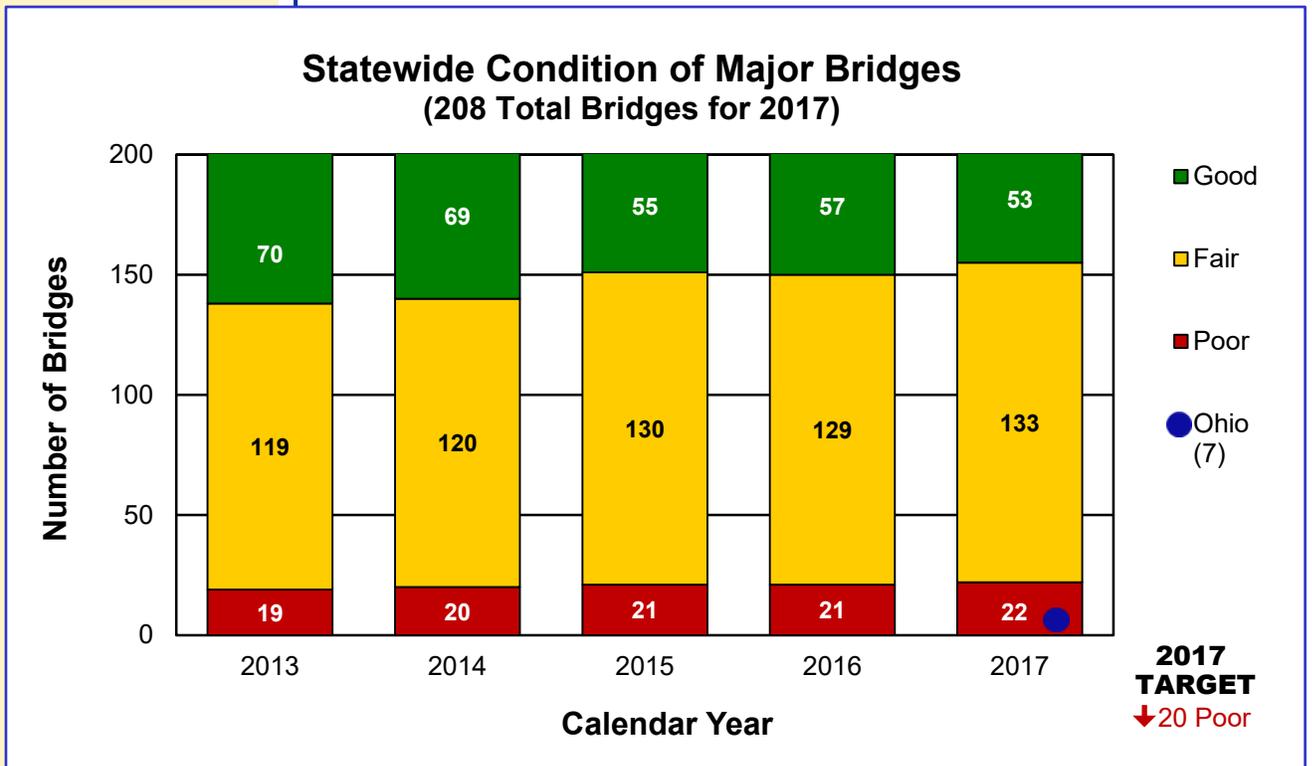
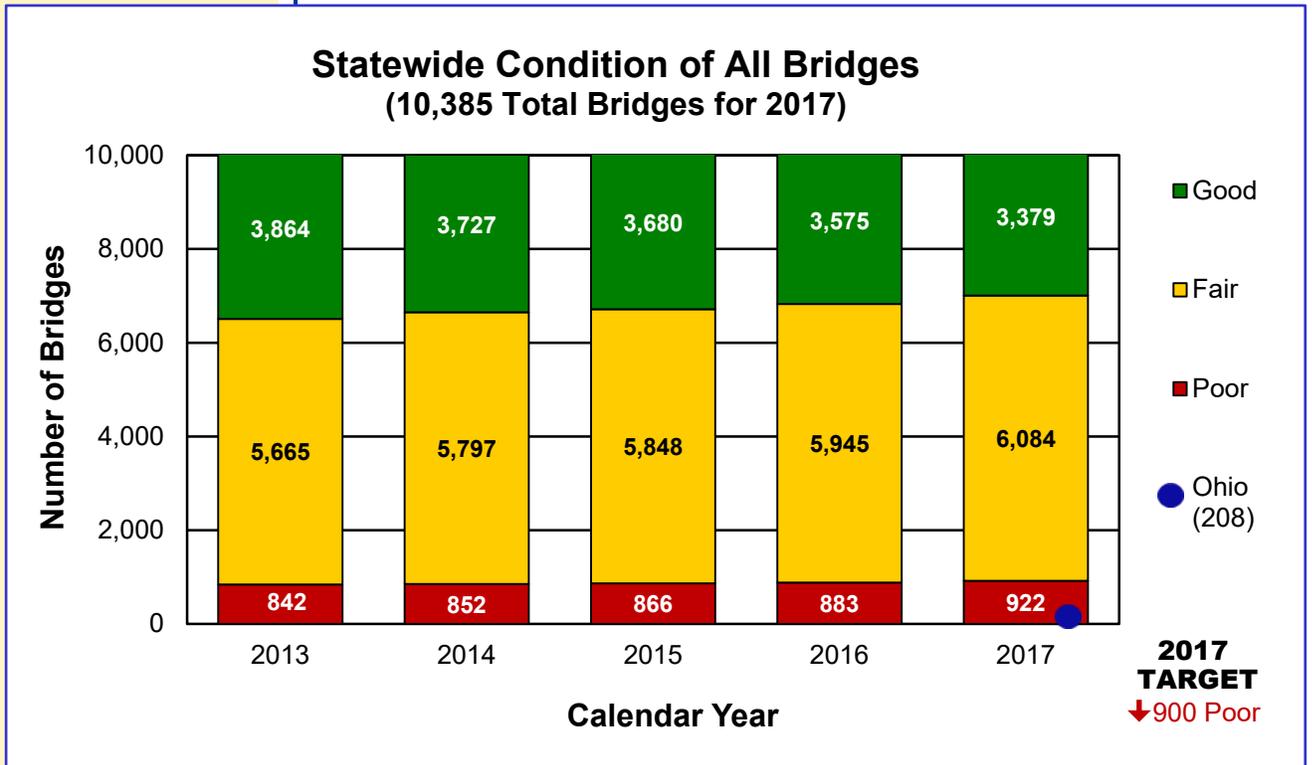
The public has indicated the condition of Missouri's existing roadway system should be one of the state's highest priorities. Currently, 922 (22 major) structures are in poor condition, 6,084 (133 major) structures are in fair condition and 3,379 (53 major) structures are in good condition.

Statewide, the number of structures in poor condition has been slowly increasing over the last five years. The number of structures in good condition peaked in 2012 and has been steadily declining since then, while the number of structures in fair condition has significantly increased. The data on poor condition structures reflects that even with the significant Statewide Transportation Improvement Program investments on bridges in recent years, the number is slowly increasing. The decline in good structures, as well as the increase in fair condition structures, is reflective of MoDOT's aging bridge inventory with many structures at the point where they need minor maintenance or rehabilitation.

For major bridges, the number of structures in the poor category has been steady over the last five years. This is reflective of the significant focus on these structures. Even with the significant investment in the STIP, the number of structures in good condition has been dropping over the five-year period while the number in fair condition has been increasing. Work on major bridges is expensive with rehabilitations costing \$10 million to \$20 million and replacements ranging from \$20 million to \$200 million. Ohio has been selected for comparison as its total of 10,402 (129 major) state highway bridges is only 17 more than Missouri, as well as having similar demographics, geography and weather conditions.



# KEEP ROADS AND BRIDGES IN GOOD CONDITION



## RESULT DRIVER:

Dennis Heckman  
State Bridge Engineer

## MEASUREMENT DRIVER:

Dave Wyman  
Area Engineer

## PURPOSE OF THE MEASURE:

This measure tracks the percent of structurally deficient deck area for bridges on the National Highway System.

## MEASUREMENT AND DATA COLLECTION:

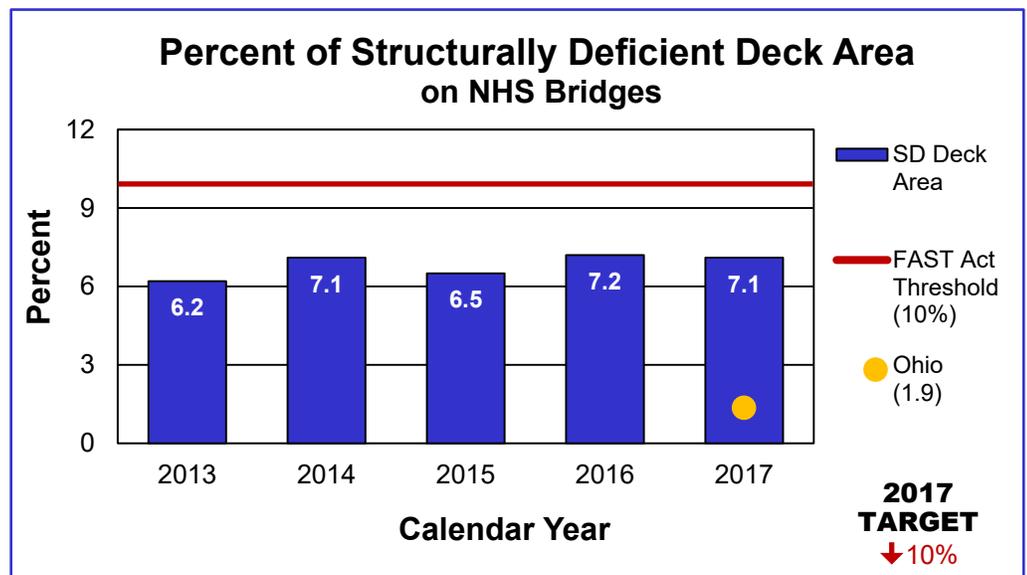
The NHS is defined by federal law and consists of all roadways functionally classified as principal arterials as well as some routes that serve as major connections to multimodal freight-type facilities and some locally owned roadways. Fixing Americas Surface Transportation Act requires states to track the structurally deficient deck area on the NHS. Historically, structurally deficient consisted of bridges that were in bad condition or had insufficient load capacity when compared to modern design standards. With the implementation of the FAST Act, this definition has changed and this measure reflects those changes. The FAST Act has a penalty threshold that requires a state to take certain actions whenever the percentage of structurally deficient deck area within a state exceeds 10 percent. The chart reflects keeping the percentage below 10 percent as the target.

# KEEP ROADS AND BRIDGES IN GOOD CONDITION

## Percent of structurally deficient deck area on National Highway System – 2c

The public has indicated that keeping Missouri's existing roads and bridges in good condition should be one of the state's highest priorities. The FAST Act established a 10 percent penalty threshold for states that, when exceeded, requires a state to focus money on bridges until they are back under 10 percent. The local system has 86 National Highway System structures (three structurally deficient) and the MoDOT system has 3,552 NHS structures (155 structurally deficient). Missouri currently falls below the penalty threshold with the statewide structurally deficient deck area at 7.1 percent. This is attributable to the continued effort to focus on major bridges when funding is available as well as the increased focus on dealing with the poor condition bridges in the STIP.

Statewide, this measure is also heavily influenced by major bridges with one structure having the ability to impact this measure +/-0.5 percent. From 2016 to 2017, there was a slight drop in the statewide percentage of structurally deficient deck area on the NHS. The number of bridges on the NHS has stabilized with very small changes from year to year. Ohio has been selected for comparison because it has similar demographics, geography and weather conditions. There are 10,402 total state highway bridges in Ohio with 5,067 structures on the NHS.



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PROVIDE OUTSTANDING CUSTOMER SERVICE

*Tom Blair, District Engineer*

**Tracker**

MEASURES OF DEPARTMENTAL PERFORMANCE



Every MoDOT employee is responsible for delivering outstanding customer service. We strive to be respectful, responsive and clear in all our communication. We want to build strong relationships with our transportation partners, our customers and each other.

## RESULT DRIVER:

Tom Blair  
District Engineer

## MEASUREMENT DRIVER:

Sally Oxenhandler  
Communications Director

## PURPOSE OF THE MEASURE:

This measure tracks the percent of overall customer service satisfaction. The role of customer service is to make sure the public's expectations are being met and that perceptions closely align with the reality of MoDOT's daily operations.

## MEASUREMENT AND DATA COLLECTION:

Data is collected through a biennial, in odd-numbered years, telephone survey of approximately 3,500 randomly selected Missourians. Benchmarking data is provided by the American Customer Satisfaction Index.

The target for this measure is updated annually in October for the next calendar year. The target for this measure was set by management directive.

# PROVIDE OUTSTANDING CUSTOMER SERVICE

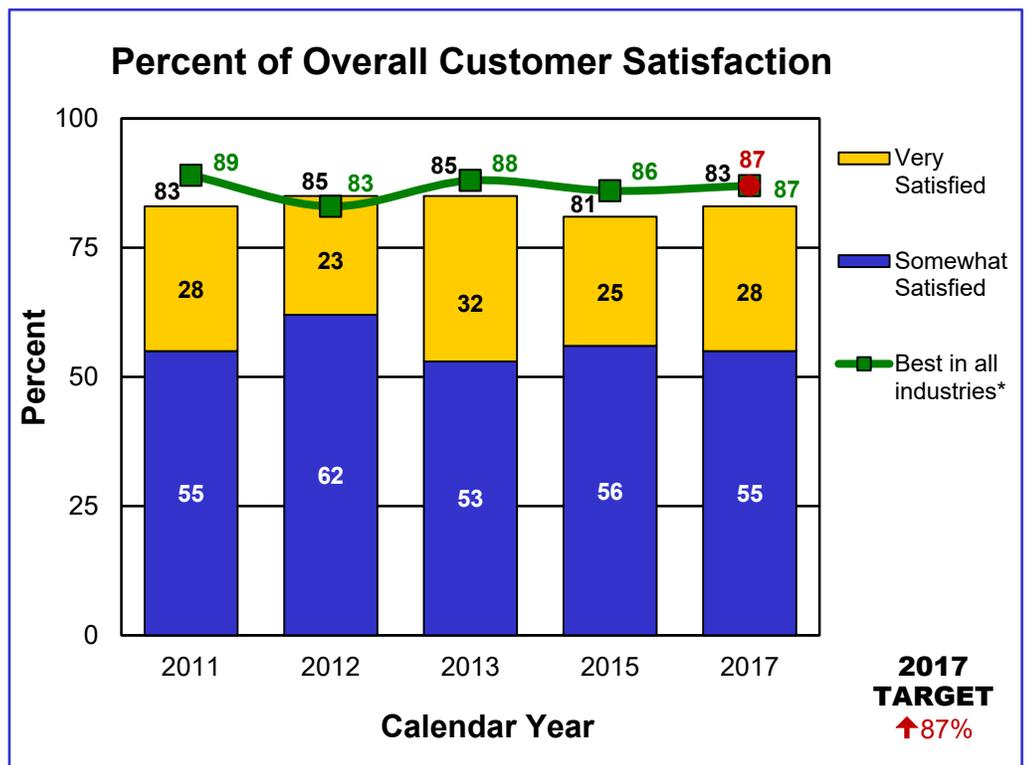
## Percent of overall customer satisfaction – 3a

Customer satisfaction with MoDOT continues to remain high. Eighty-three percent of Missourians surveyed say they are satisfied with the job MoDOT is doing, up from 81 percent in 2015. In addition, those customers reporting they are very satisfied with MoDOT increased from 25 percent to 28 percent.

Data compiled by the American Customer Satisfaction Index in 2017 shows Chick-fil-A as having the highest customer satisfaction rate – 87 percent – out of the hundreds of companies and government agencies the ACSI scores.

As in 2015, the 2017 Report Card from Missourians shows that the condition of roads and bridges remains the most important transportation service to customers. The fact that Missourians' satisfaction with MoDOT's efforts to maintain roads and bridges increased in 2017 could explain the increase in overall customer satisfaction.

This measure is linked to the Improve Communications strategy included in the Sharpening Our Strategic Vision initiative. The department has identified the Citizens Guide to Transportation Funding, the new department website and a better Traveler Information Map as strategies to improve performance.



\*2010-2011 – Lincoln Mercury, 2012 – Apple, Inc., 2013 – Mercedes Benz, 2015 – Chick-fil-A, 2017 – Chick-fil-A

## RESULT DRIVER:

Tom Blair  
District Engineer

## MEASUREMENT DRIVER:

Gregg Ochoa  
Senior Communications Specialist

## PURPOSE OF THE MEASURE:

This measure tracks the percent of customers who view MoDOT as a leader and expert in transportation issues. The measure shows how effectively MoDOT conveys its expertise to the traveling public.

## MEASUREMENT AND DATA COLLECTION:

Data is collected through a biennial, in odd-numbered years, telephone survey of approximately 3,500 randomly selected Missourians. The target for this measure is updated annually in October for the next calendar year.

The target is established by projecting a 10 percent improvement over a five-year average.

# PROVIDE OUTSTANDING CUSTOMER SERVICE

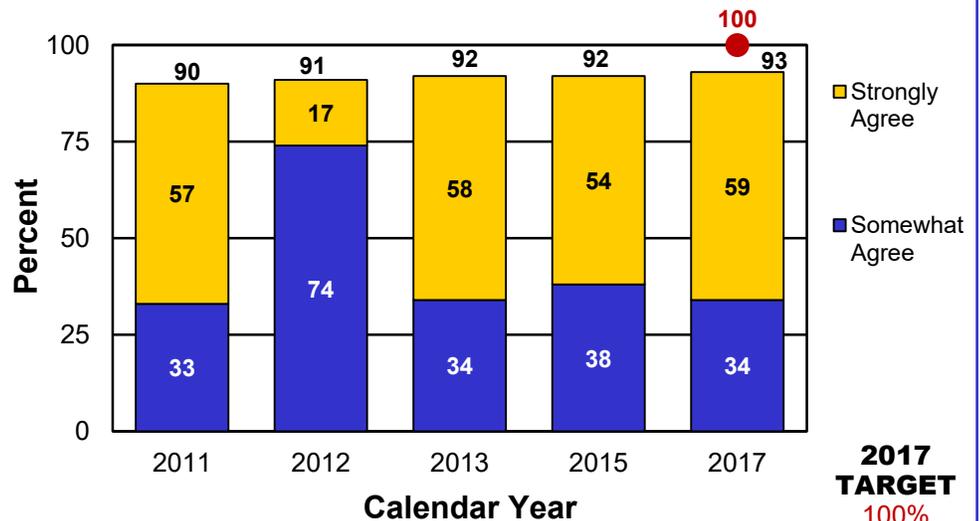
## Percent of customers who view MoDOT as Missouri's transportation expert – 3b

As the agency responsible for transportation in Missouri, MoDOT must hold its lead as an expert in the field. The department should serve as the frontrunner – representing the best transportation options for Missouri and partnering with state and national organizations and others to deliver a strong transportation system.

The 2017 survey shows an overwhelming majority of customers perceive the department as Missouri's transportation expert. Ninety-three percent of those surveyed agreed MoDOT serves this role, a percentage the department has consistently maintained since 2009. Of the 93 percent, 59 percent of respondents "strongly agreed" and 34 percent "somewhat agreed" MoDOT serves as the state's primary transportation expert.

The department continues to work on improving partnerships with all Missourians, including local government, elected officials and transportation-related groups and organizations in order to deliver the very best possible transportation system with the resources available.

**Percent of Customers Who View MoDOT as Missouri's Primary Transportation Expert**



## RESULT DRIVER:

Tom Blair  
District Engineer

# PROVIDE OUTSTANDING CUSTOMER SERVICE

## Percent of customers who trust MoDOT to keep its commitments to the public – 3c

## MEASUREMENT DRIVER:

Markl Johnson  
Senior Communications Specialist

## PURPOSE OF THE MEASURE:

This measure tracks the percent of customers who trust MoDOT to keep its commitments. Public trust is an important component in building support for transportation issues.

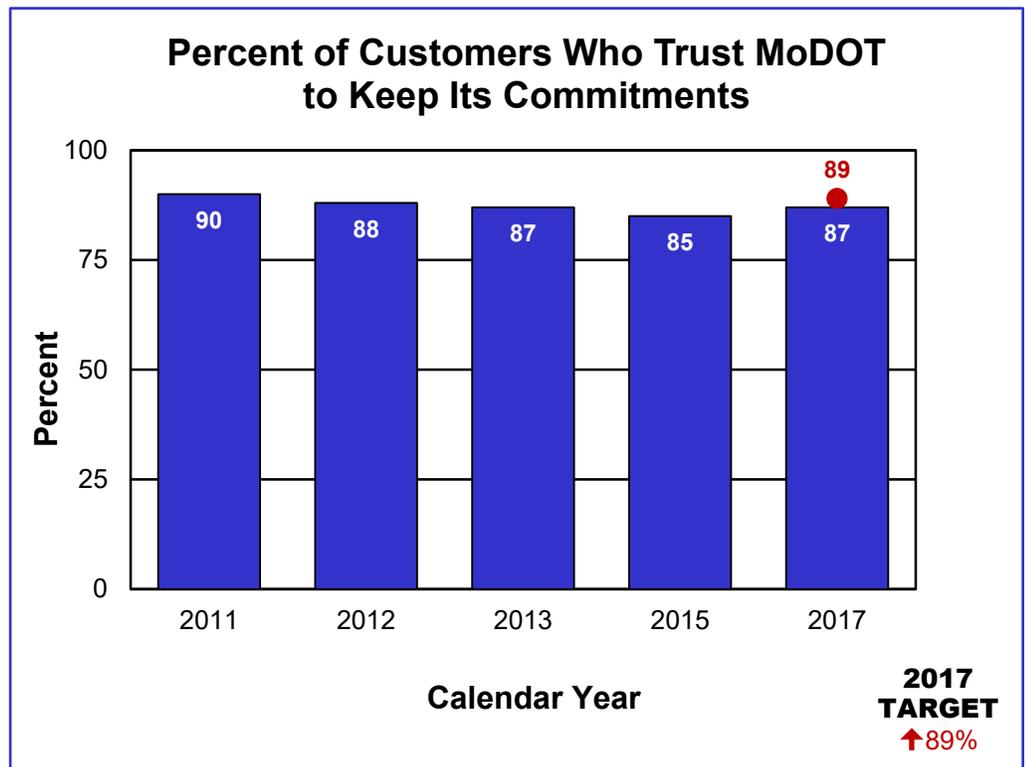
## MEASUREMENT AND DATA COLLECTION:

Data is collected through a biennial, in odd-numbered years, telephone survey of approximately 3,500 randomly selected Missourians.

The target for this measure is updated annually in October for the next calendar year. The target for this measure was set by management directive.

Gaining and keeping the public's trust is critical to MoDOT's overall success. The best way MoDOT can accomplish this is to deliver on the commitments it makes.

The 2017 survey results indicated 87 percent of the residents trust MoDOT to keep its commitments to the public compared to 85 percent in the previous survey. Although this is only a 2 percent increase, it puts us back up to where MoDOT was in 2013.



**RESULT DRIVER:**

Tom Blair  
District Engineer

# PROVIDE OUTSTANDING CUSTOMER SERVICE

*Percent of customers who feel MoDOT provides timely, accurate and understandable information – 3d*

**MEASUREMENT DRIVER:**

Jennifer Williams  
Communications Manager

**PURPOSE OF THE MEASURE:**

This measure tracks whether customers feel MoDOT provides timely, accurate and understandable information about road projects, highway conditions and work zones.

**MEASUREMENT AND DATA COLLECTION:**

Data is collected through a biennial, in odd-numbered years, telephone survey of approximately 3,500 randomly selected Missourians.

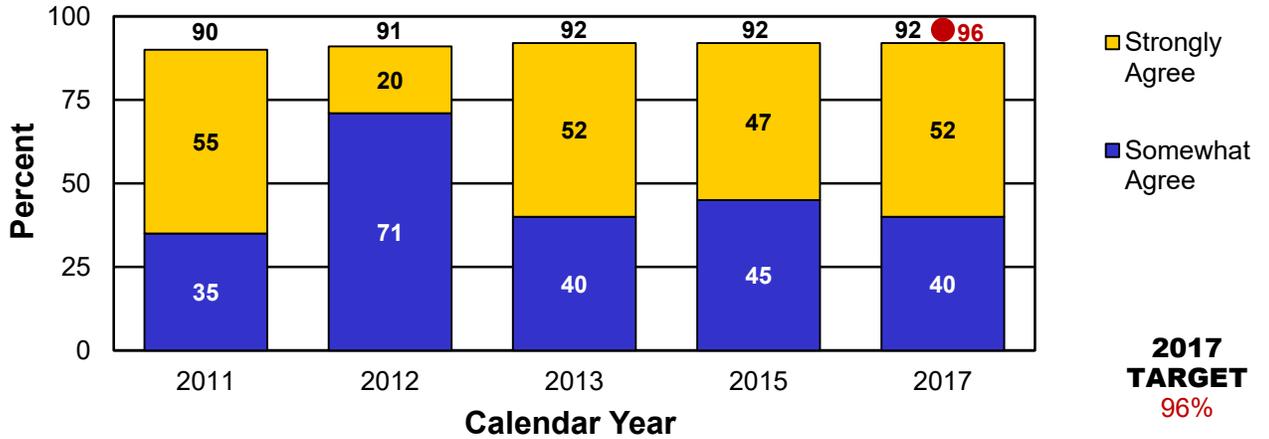
The target for this measure is updated annually in October for the next calendar year. The target for this measure was set by management directive.

Just like well-maintained roads and bridges, MoDOT delivers information. The citizens of Missouri expect timely, accurate and understandable information from their department of transportation. Whether it's a news release, e-update, text alert or a notice of a public meeting, MoDOT makes every effort to get the word out as quickly and as clearly as possible. The results of this effort are public trust and respect. With numbers consistently above 90 percent agreement for the past five years, this measure shows the department meets customers' high expectations.

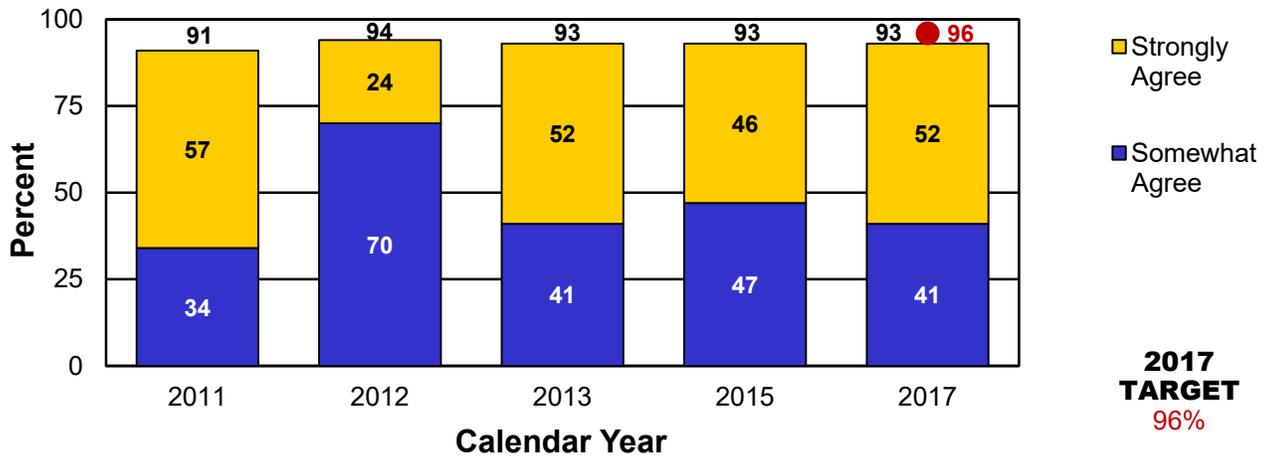


# PROVIDE OUTSTANDING CUSTOMER SERVICE

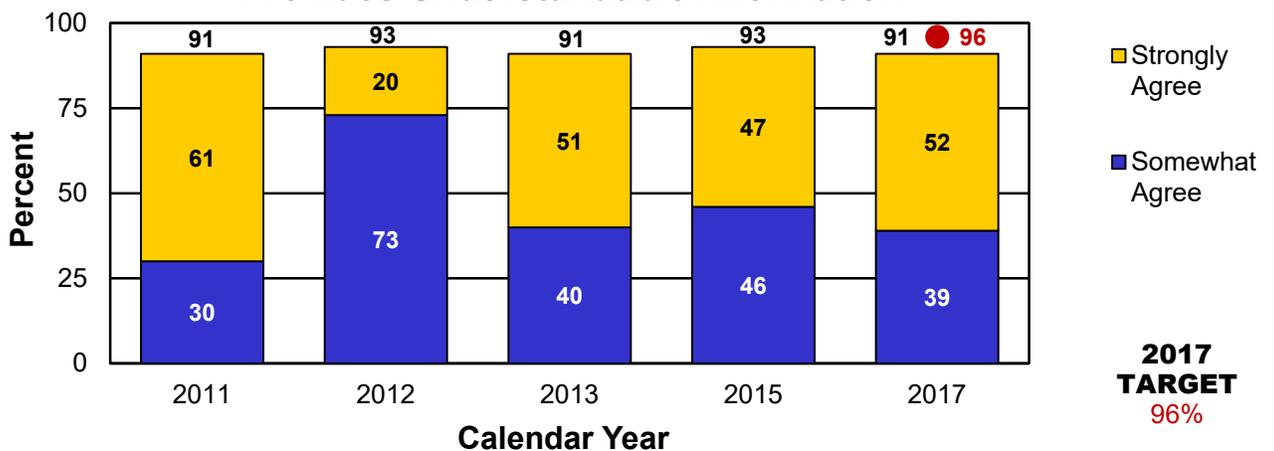
## Percent of Customers Who Feel MoDOT Provides Timely Information



## Percent of Customers Who Feel MoDOT Provides Accurate Information



## Percent of Customers Who Feel MoDOT Provides Understandable Information



## RESULT DRIVER:

Tom Blair  
District Engineer

## MEASUREMENT DRIVER:

Tammy Wallace  
Senior Communications Specialist

## PURPOSE OF THE MEASURE:

This measure shows how satisfied customers who contact MoDOT are with the politeness, clarity and responsiveness they receive.

## MEASUREMENT AND DATA COLLECTION:

Data for this measure comes from a monthly telephone and email survey of 200 customers who contacted a MoDOT customer service center in the previous month. The customer contacts come from call reports logged into the customer service database. Survey participants are asked to respond on an agreement scale regarding three qualities of their experiences. A fourth question is asked regarding their overall satisfaction. This measure also includes the time to complete requests logged into the customer service database. Requests requiring more than 30 days to complete are removed to prevent skewing the overall results.

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

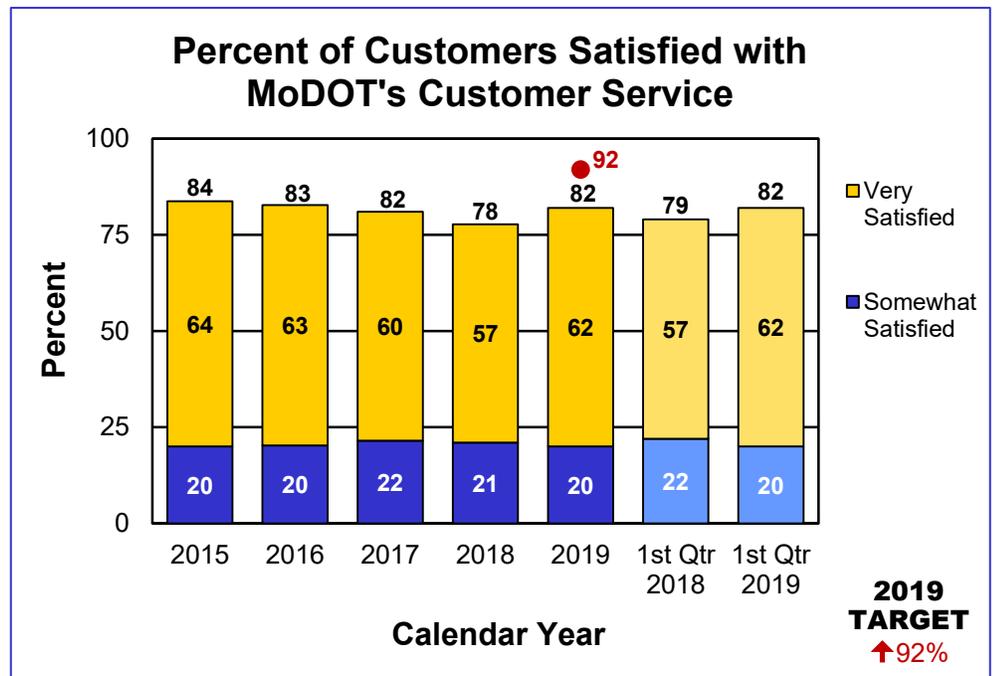
# PROVIDE OUTSTANDING CUSTOMER SERVICE

## Percent of customers satisfied with MoDOT's customer service – 3e

Providing outstanding customer service is one of MoDOT's core values and the responsibility of every employee in the organization. To actively seek feedback from our customers, MoDOT uses a statewide call system and an enhanced online call report system that enables customer service representatives to work across seven district boundaries in a one-team approach. Comparing the first quarter of 2018 to the first quarter of 2019, the data provided in the graphs below reflect how those surveyed customers rated their interaction with MoDOT.

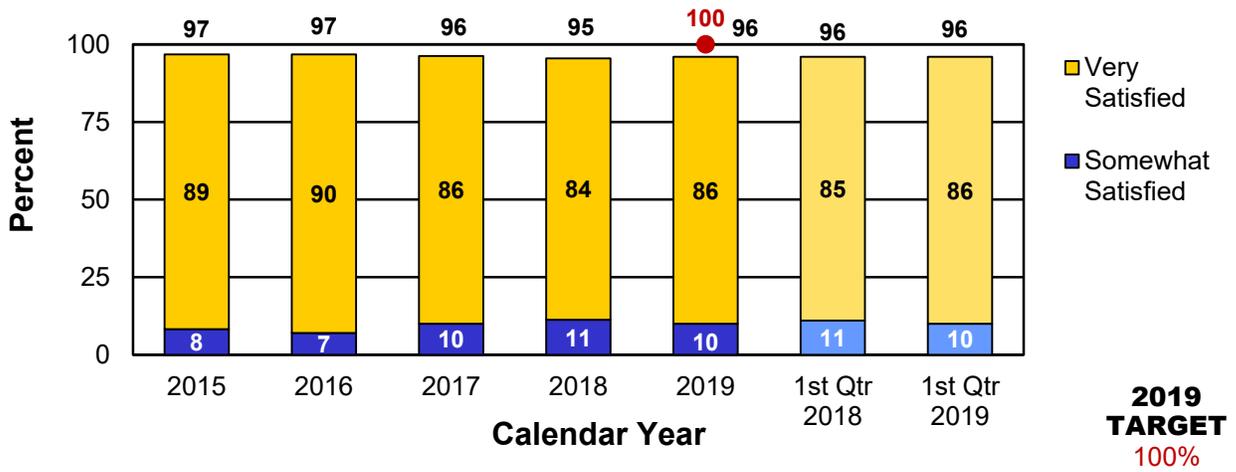
During the first quarter of 2019, overall customer satisfaction increased from 79 to 82 percent. Politeness of response remained the same at 96 percent. Customers who were satisfied with the clarity of the response they received increased from 86 to 87 percent and responsiveness remained steady at 87 percent.

The average time to complete customer requests was two days.

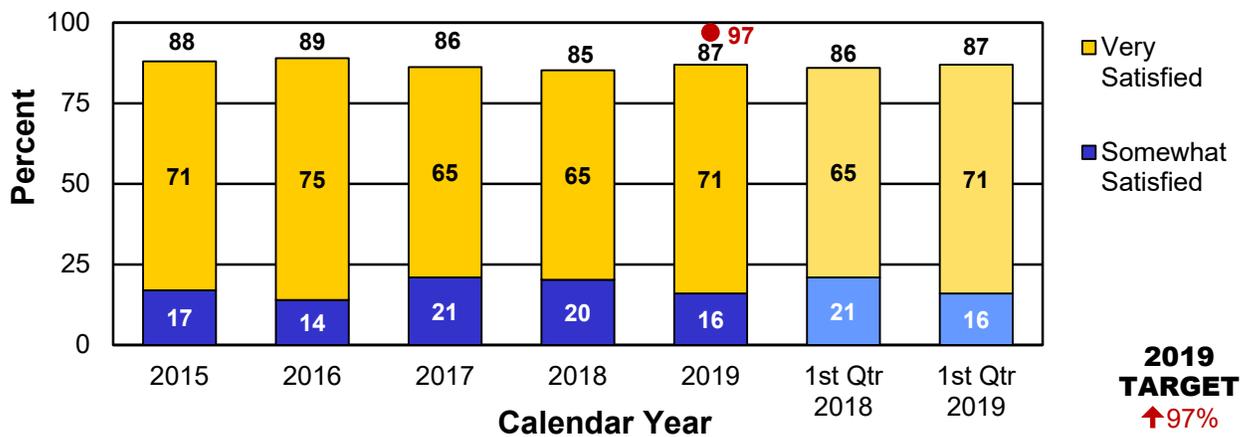


# PROVIDE OUTSTANDING CUSTOMER SERVICE

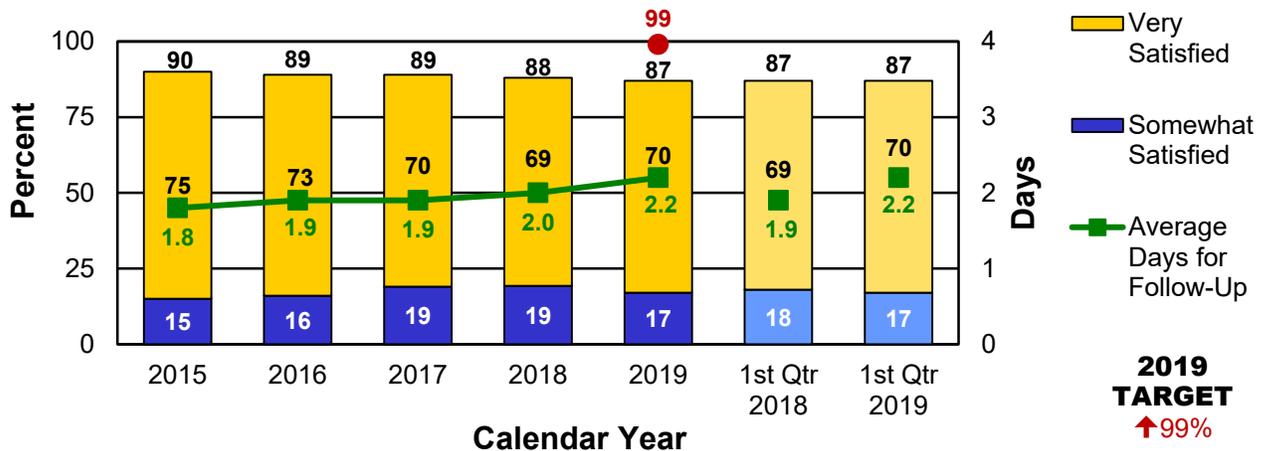
## Customer Satisfaction with Politeness of Staff



## Customer Satisfaction with Clarity of Response



## Customer Satisfaction with Responsiveness



## RESULT DRIVER:

Tom Blair  
District Engineer

# PROVIDE OUTSTANDING CUSTOMER SERVICE

## Customer communication engagement – 3f

## MEASUREMENT DRIVER:

Taylor Brune  
Communications Specialist

## PURPOSE OF THE MEASURE:

This measure tracks the number of MoDOT customers hitting the department's social media and website information.

## MEASUREMENT AND DATA COLLECTION:

MoDOT gathers information for this measure from a variety of sources including Google Analytics. Website traffic and YouTube information are cumulative totals based on visits. Facebook and Twitter information is based on account followers. The target for this measure is updated quarterly. This target is established by projecting a 7 percent improvement over the same quarter in the previous year.

This measure is linked to the Improve Communications strategy included in the Sharpening Our Strategic Vision initiative. The Citizen's Guide to Transportation Funding, the new department website and a better Traveler Information Map have been identified as strategies to improve performance.

Good organizations share information with the people they serve. The best, most-trusted organizations engage customers in conversation. MoDOT interacts with its customers through social media networking websites and applications. MoDOT's social media accounts continue to attract followers. When comparing the first quarters of 2018 and 2019, there was a growth of 52,912 followers on Facebook statewide and 21,082 on Twitter.

During the first quarter of 2019, MoDOT's most popular post on Facebook statewide urged drivers to wait out an impending weather event and avoid travel. The post reached 202,108 people with 28,417 engagements including post clicks, shares, comments and reactions.

MoDOT websites had 3,837,028 sessions during the first quarter of 2019, compared to 2,396,000 in the first quarter of 2018. This was a record quarter in terms of sessions, and this can most likely be attributed to multiple winter weather events driving traffic to the website.

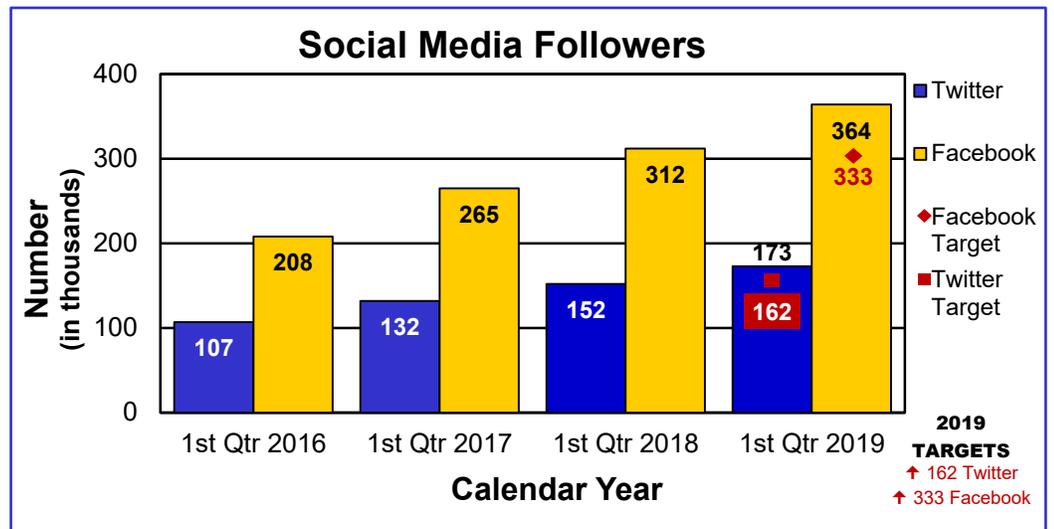
MoDOT videos on YouTube were viewed 853,015 times in the first quarter of 2019.

### Web Page Views

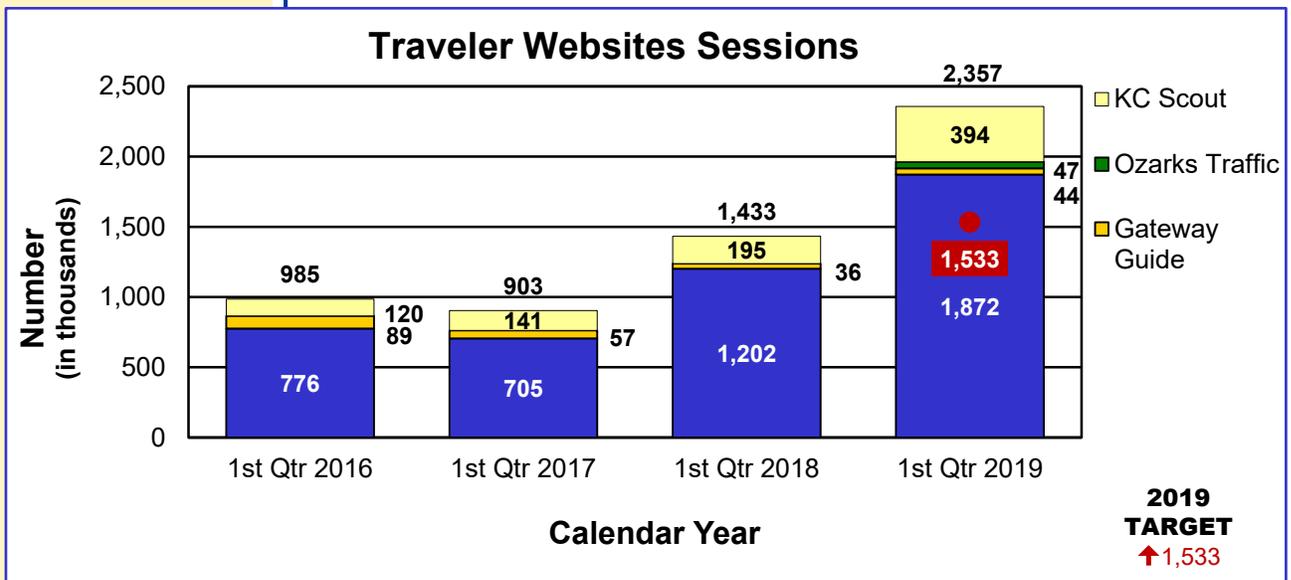
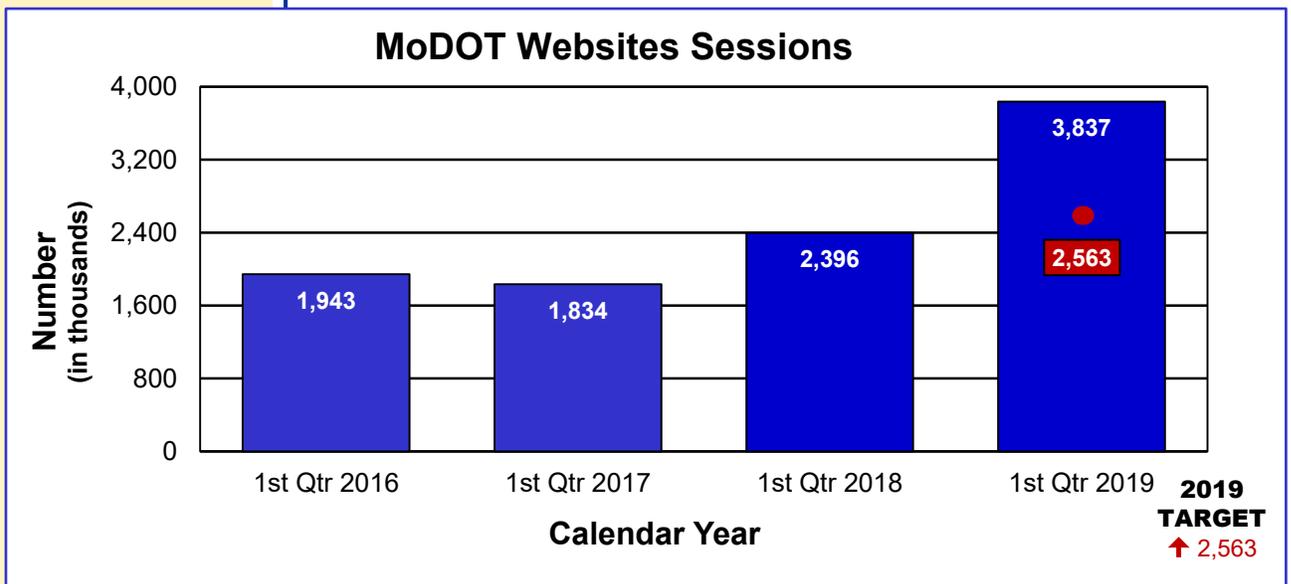
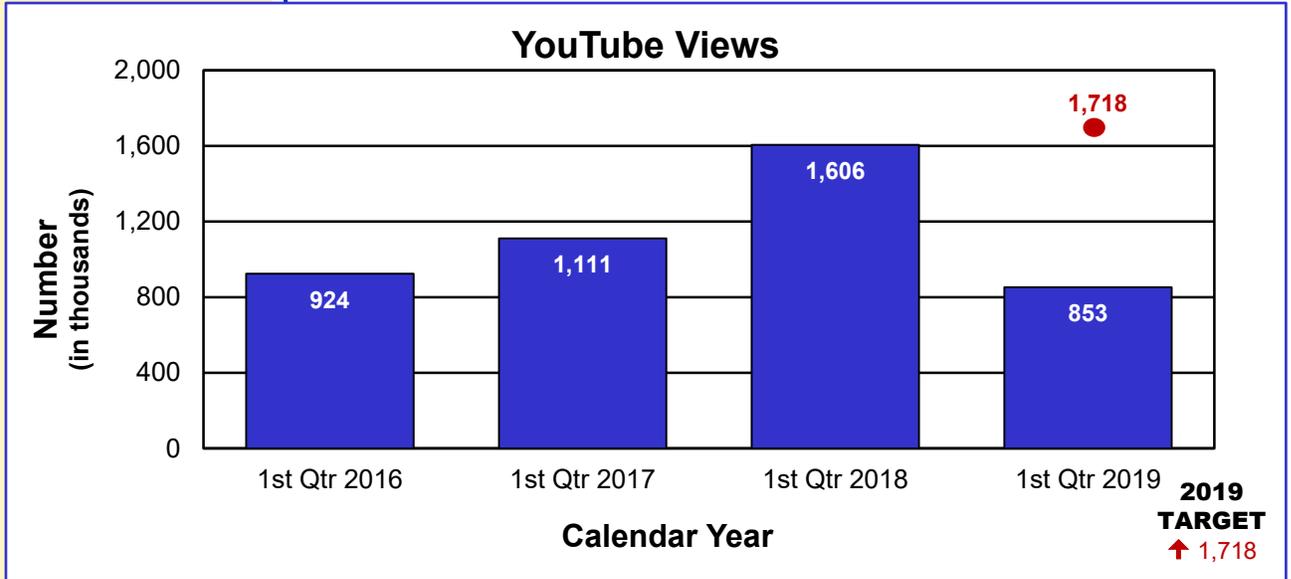
- Traveler Information Map – 1,408,685
- MoDOT Homepage – 752,859
- KC Scout Homepage – 467,070
- Winter Road Conditions – 278,228
- Ozarks Traffic – 152,675

### YouTube Video Views

- Tow Plow Action Missouri – 324,896
- MoDOT Teen Seat Belt Part 2 – 101,669
- MoDOT Teen Seat Belt Part 1 – 101,462
- Northeast Coalition Non-Signal Intersections – 64,450
- Destination Safe Holiday Impaired – 27,237



# PROVIDE OUTSTANDING CUSTOMER SERVICE



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DELIVER TRANSPORTATION  
SOLUTIONS OF GREAT VALUE

*Eric Schroeter, Assistant Chief Engineer*

**Tracker**

MEASURES OF DEPARTMENTAL PERFORMANCE



MoDOT customers expect transportation solutions delivered on time and within budget. We manage our projects to get them completed quickly and at the best possible value. We work with our transportation partners to leverage innovation in improving our products and how we work. We pledge to honor our commitments and deliver the best, most cost-effective solutions.

## RESULT DRIVER:

Eric Schroeter  
Assistant Chief Engineer

## MEASUREMENT DRIVER:

Amy Binkley  
Transportation Planning Specialist

## PURPOSE OF THE MEASURE:

The measure determines how close total project costs are to the programmed costs. The programmed cost is considered the project budget.

## MEASUREMENT AND DATA COLLECTION:

Completed project costs are reported during the fiscal year in which a project is completed. Road and bridge project costs include design, right-of-way purchases, utilities, construction, inspection and other miscellaneous costs. The programmed cost is based on the amount included in the most recently approved Statewide Transportation Improvement Program. Completed costs include actual expenditures. Multimodal and local public agency project costs typically reflect state and/or federal funds but not local funding contributed toward such projects.

The target for this measure is set by internal policy and will not change unless policy changes.

# DELIVER TRANSPORTATION SOLUTIONS OF GREAT VALUE

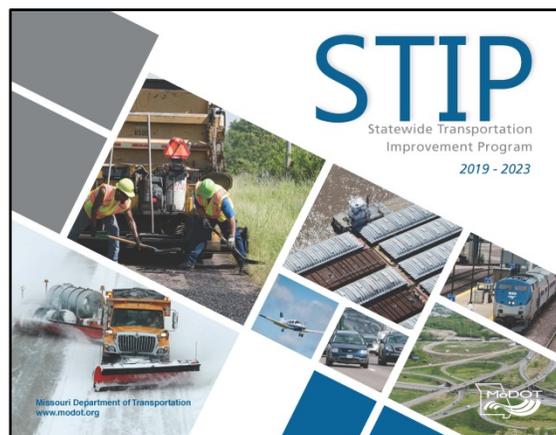
## Percent of programmed project cost as compared to final project cost – 4a

Accurate program cost estimates help MoDOT deliver more timely improvements for taxpayers. As of March 31, 2019, 271 road and bridge projects were completed in fiscal year 2019 at a cost of \$507 million. This represents a deviation of 3.1 percent (or \$16 million) less than the programmed cost of \$523 million. Of the 271 road and bridge projects completed, 56 percent were completed within or below budget. In comparison, 62 percent were completed within or below budget as of the same date a year ago. Project savings were recognized in the miscellaneous and award phases, while engineering and construction phases saw project increases. There may be projects that have adjustments pending, which could cause a slight change in the final values.

In addition, 21 multimodal projects were completed at a cost of \$10.6 million, 8.2 percent (or \$937,000) less than the programmed cost of \$11.5 million. A total of 103 local public agency projects were completed at a cost of \$96.5 million, 5.1 percent (or \$5.2 million) less than the programmed cost of \$101.7 million.

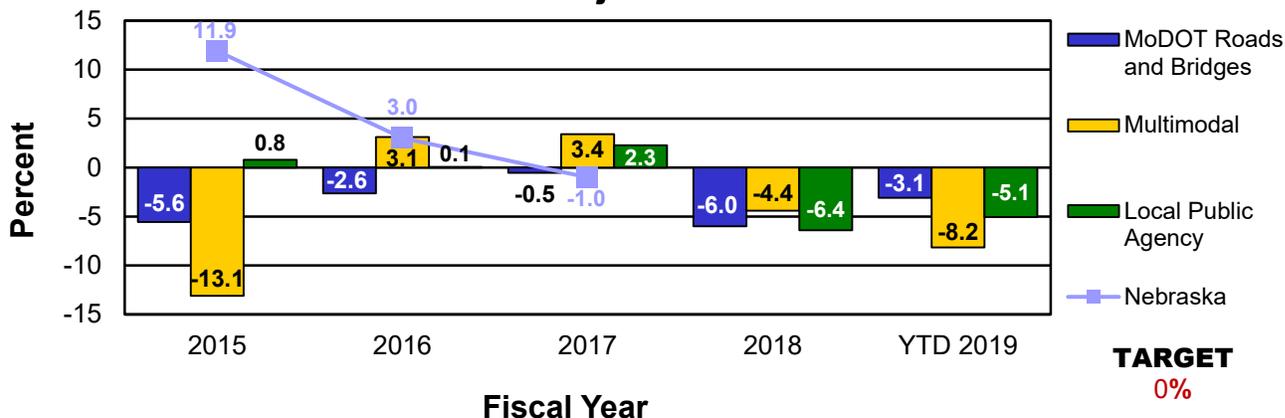
The target is a zero percent difference, indicating MoDOT is making timely use of available funds. Road and bridge, multimodal and local public agency projects were within -3.5 percent of the target in third quarter of FY 2019.

MoDOT uses this historical data as a guide for programming future projects. Projects awarded in FY 2017 and FY 2018 were about 9 percent lower than programmed values. If FY 2019 projects also reflect significant award savings, MoDOT plans to accelerate projects from FY 2020 to FY 2019.



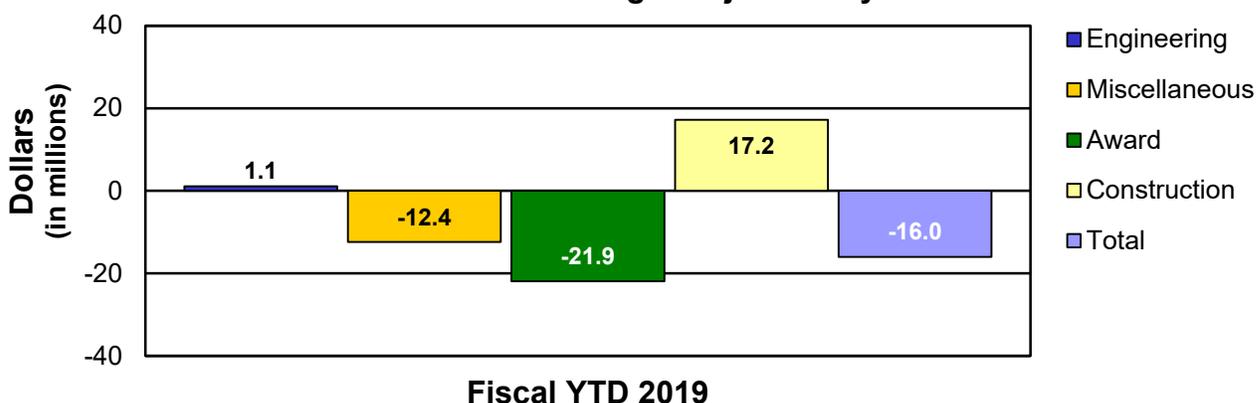
# DELIVER TRANSPORTATION SOLUTIONS OF GREAT VALUE

## Percent of Programmed Project Cost as Compared to Final Project Cost



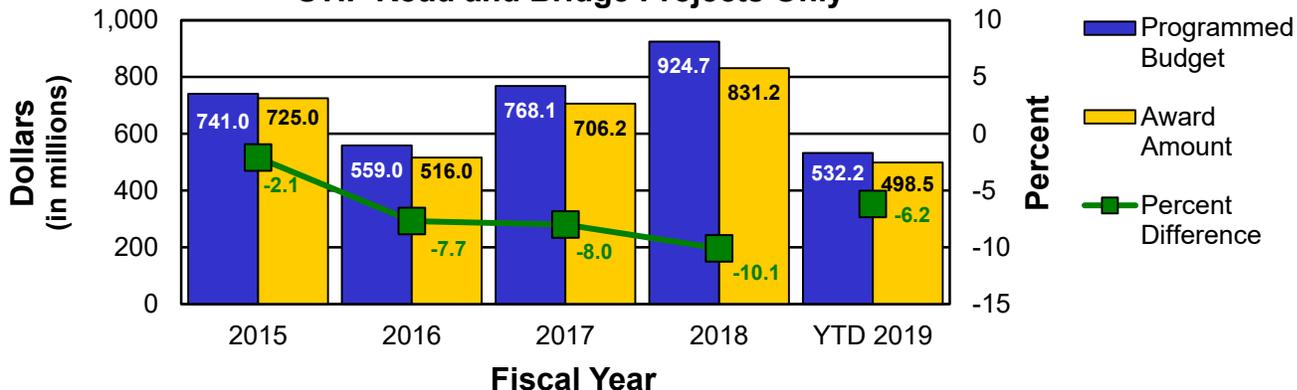
Positive numbers indicate the final (completed) cost was higher than the programmed cost.

## Final Project Cost Differences by Phase STIP Road and Bridge Projects Only



Negative numbers indicate savings. Miscellaneous includes right-of-way purchases, utilities and other costs.

## Difference in Program vs. Award STIP Road and Bridge Projects Only



Amounts include STIP road and bridge projects with 2 percent construction contingency applied.

## RESULT DRIVER:

Eric Schroeter  
Assistant Chief Engineer

# DELIVER TRANSPORTATION SOLUTIONS OF GREAT VALUE

## *Percent of projects completed on time – 4b*

## MEASUREMENT DRIVER:

Dan Oesch  
Field Materials Engineer

## PURPOSE OF THE MEASURE:

This measure tracks the percentage of road and bridge projects opened by the commitment date established in the contract. This commitment also includes local public agency projects and multimodal projects (rail, aviation, waterway and transit).

## MEASUREMENT AND DATA COLLECTION:

For road and bridge projects, the project manager collaborates with the project team to establish the project completion day which is specific to when the road or bridge project will be opened to the public so to eliminate a financial penalty. The resident engineer uses the SiteManager system to track and document the work. Local public agencies and multimodal agencies use staff or consultant resources to set contract completion dates and track performance.

The target for this measure was set by management directive.

MoDOT's customers expect transportation improvements to be completed and roadways opened quickly with minimal impact to their lives. Delivering projects by the contract completion date is the target for all projects and is considered a commitment to Missourians and drivers. Completing projects on time helps maintain credibility with Missourians, minimizes drivers' exposure to work zones and provides facilities in good condition that improve safety and reduce vehicle maintenance costs.

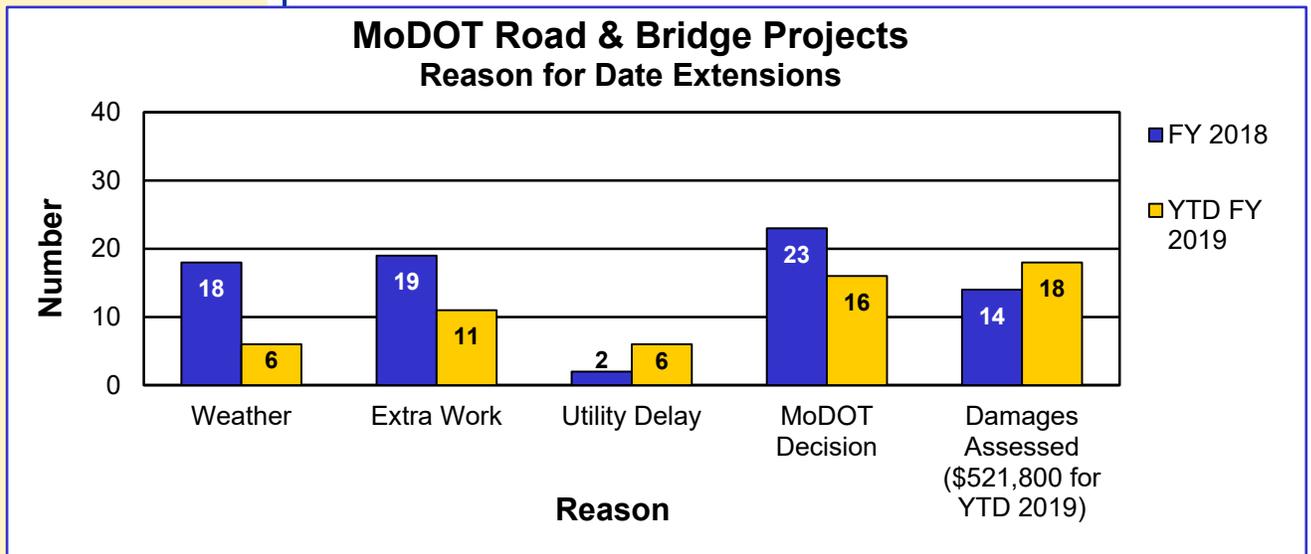
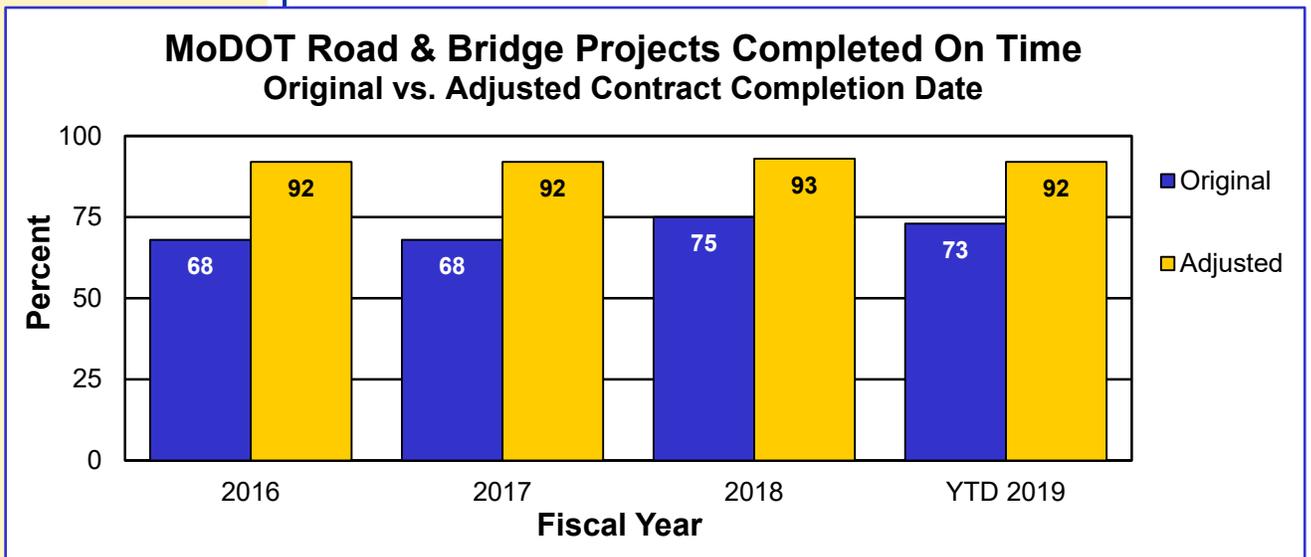
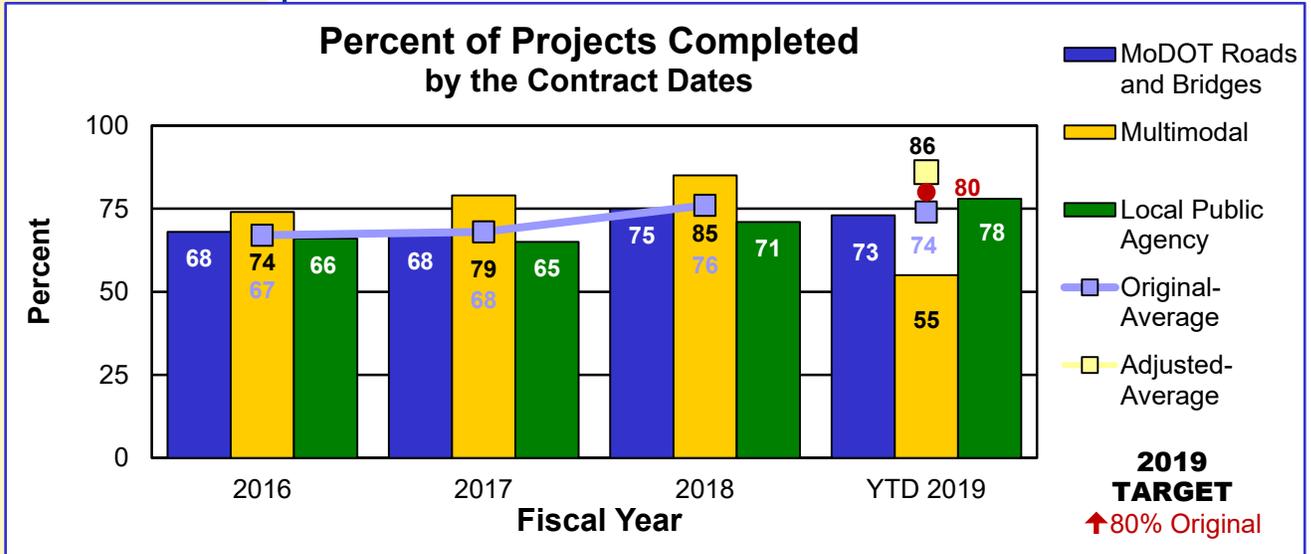
MoDOT works to meet the initial contract completion date by preparing accurate plans and quantities, setting aggressive but reasonable completion dates and setting liquidated damages to reinforce completion dates without undue bid risks. In the first three quarters of fiscal year 2019, 74 percent of all closed out projects were completed by their planned completion dates.

Weather, additional work or a MoDOT directive sometimes necessitates an authorized extension of the completion date without any financial assessment to the contractor. In the first three quarters of FY 2019, 86 percent of the closed out projects were completed by the adjusted dates.

There are times when a contractor misses the contract completion date and the contractor is assessed damages. Of the road and bridge projects completed in the first three quarters of FY 2019 that did not meet the original contract date; 11 percent were extended due to weather delays; 19 percent were extended due to extra work; 10 percent experienced utility delays; 28 percent were extended by MoDOT and 32 percent missed the completion date with damages assessed totaling \$521,800.

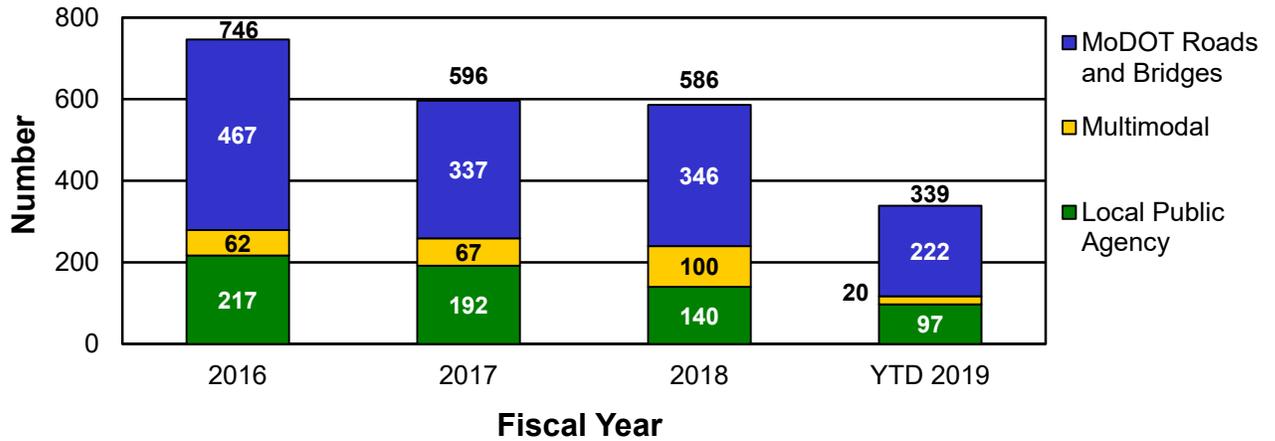
The target for this measure is to have at least 80 percent of projects completed by the original completion date. At the end of the third quarter of FY 2019, the average number of all contracts completed by the original completion date was 74 percent.

# DELIVER TRANSPORTATION SOLUTIONS OF GREAT VALUE

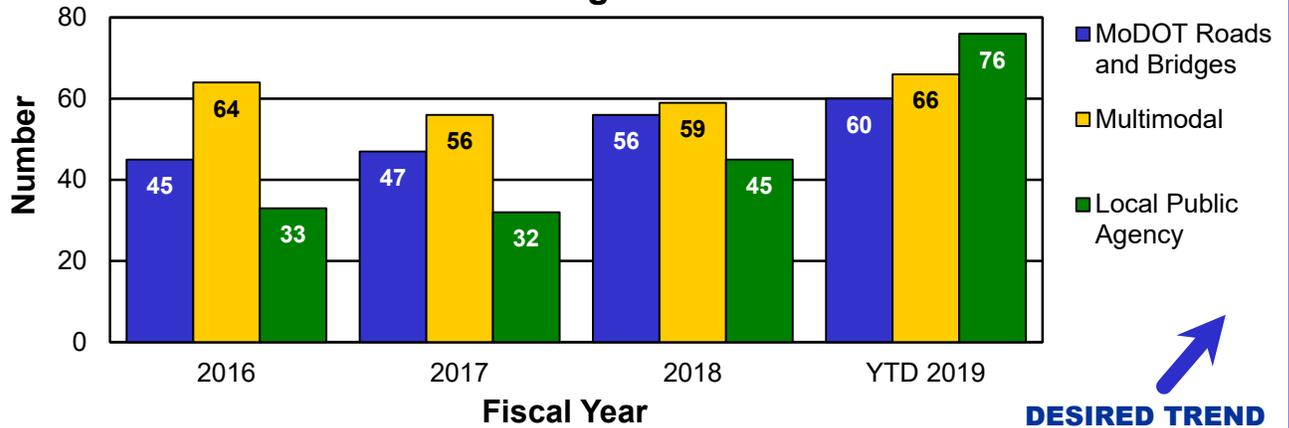


# DELIVER TRANSPORTATION SOLUTIONS OF GREAT VALUE

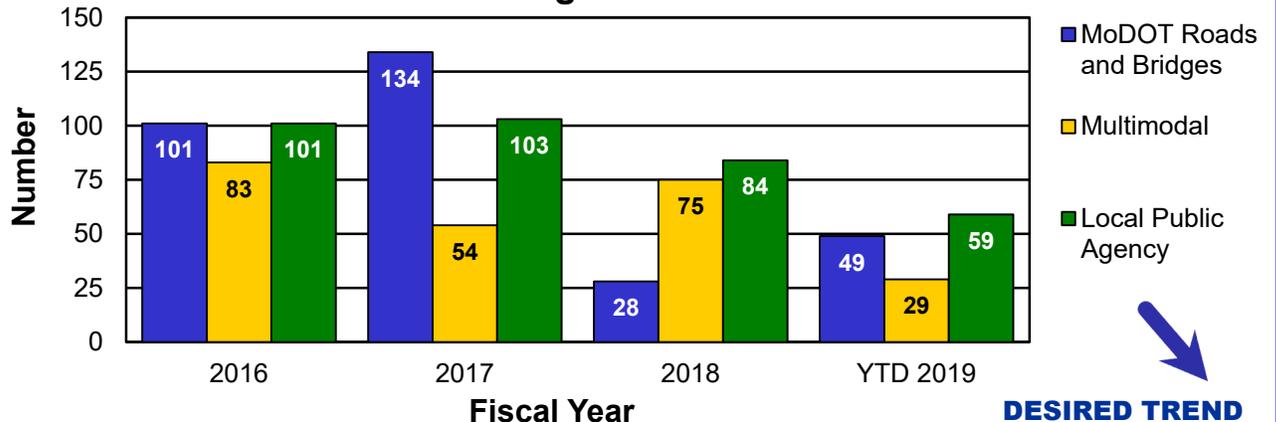
## Total Number of Projects Completed



## Average Number of Days Completed Before Original Date



## Average Number of Days Completed After Original Date



## RESULT DRIVER:

Eric Schroeter  
Assistant Chief Engineer

## MEASUREMENT DRIVER:

Lori Greer  
Field Materials Engineer

## PURPOSE OF THE MEASURE:

This measure tracks the percentage difference of total construction payouts to the original contract award amounts. This indicates how many changes are made on projects after they are awarded to the contractor for road, bridge, local public agency and multimodal projects – aviation, waterway and transit.

## MEASUREMENT AND DATA COLLECTION:

For road and bridge projects, contractor payments are generated through MoDOT's SiteManager database and processed in the financial management system for payment. Change orders document the under-run/overrun of the original contract cost. Local public agencies and multimodal agencies use staff or consultant resources to set contract completion dates and track performance.

The target for this measure is set by internal policy and will not change unless policy changes.

# DELIVER TRANSPORTATION SOLUTIONS OF GREAT VALUE

## *Percent of change for finalized contracts – 4c*

By limiting overruns on contracts, MoDOT can continue to keep its maintenance and construction commitments. This emphasis, combined with the use of practical design and value engineering, has contributed to limiting overruns on contracts. MoDOT's performance in the first three quarters of fiscal year 2019 is 1.9 percent over the award amount (\$8.5 million over the award amount of \$455 million worth of projects completed) with 44 percent of the projects being completed below the original award amount.

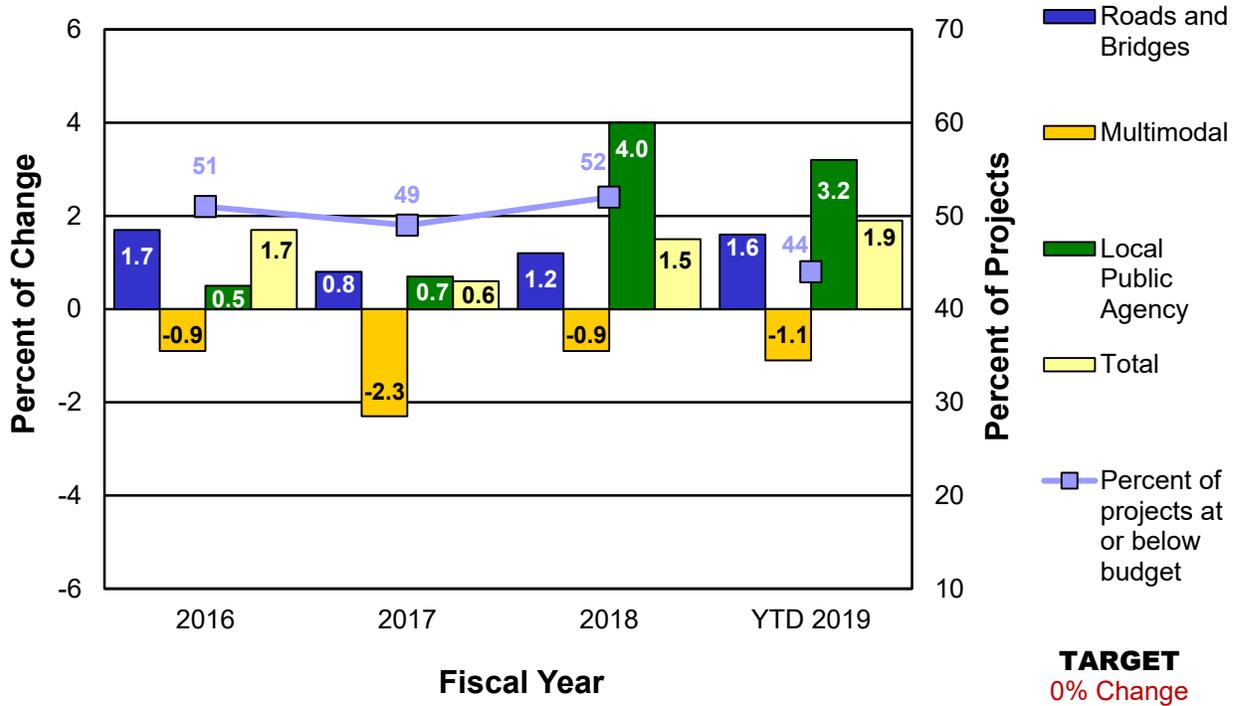
Many factors can affect the ability to complete a project within 2 percent of the award amount. These factors can include design changes, differing conditions, additional work items and administrative decisions.

For FY 2019, MoDOT road and bridge projects were completed 1.6 percent over budget, multimodal projects were completed 1.1 percent under budget, and local public agency projects were completed 3.2 percent over budget.

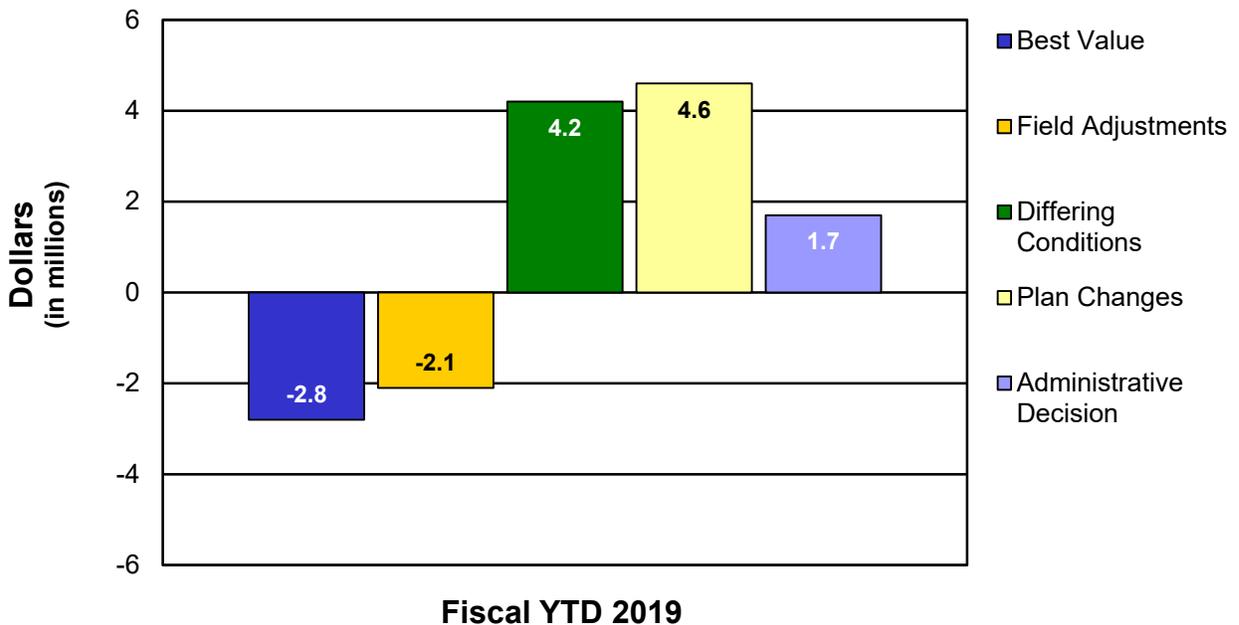


# DELIVER TRANSPORTATION SOLUTIONS OF GREAT VALUE

**Percent of Change for Finalized Contracts  
Total Contractor Payment vs. Award Amount**



**Change Order Value by Reason  
(MoDOT Road and Bridge Projects Only)**



## RESULT DRIVER:

Eric Schroeter  
Assistant Chief Engineer

## MEASUREMENT DRIVER:

David Simmons  
Design Liaison Engineer

## PURPOSE OF THE MEASURE:

This measure tracks the use of innovative contracting methods on MoDOT projects including: A+B contracts, Alternate Technical Concept contracts and Design-Build contracts.

## MEASUREMENT AND DATA COLLECTION:

MoDOT projects utilizing innovative contracting methods are reported during the fiscal year in which they are awarded. Contract award values are collected through MoDOT's bid opening summaries and project records.

A target of 10 percent of the programmed Statewide Transportation Improvement Program, or two projects per year, is an appropriate target for utilizing innovative contracting methods in Missouri.

# DELIVER TRANSPORTATION SOLUTIONS OF GREAT VALUE

## *Innovative contracting methods – 4d*

MoDOT has delivered more than \$1.6 billion in Design-Build projects that have saved taxpayers over \$277 million. When combined, these projects were completed more than 65 months ahead of schedule. MoDOT partners with the public and private sectors to deliver projects that maximize available resources into collaborative solutions that achieve goals. This effort challenges the way projects are delivered with innovation, speed and efficiency as driving forces. MoDOT pushes the boundaries to execute projects using innovative data-driven processes and a wide range of partnerships.

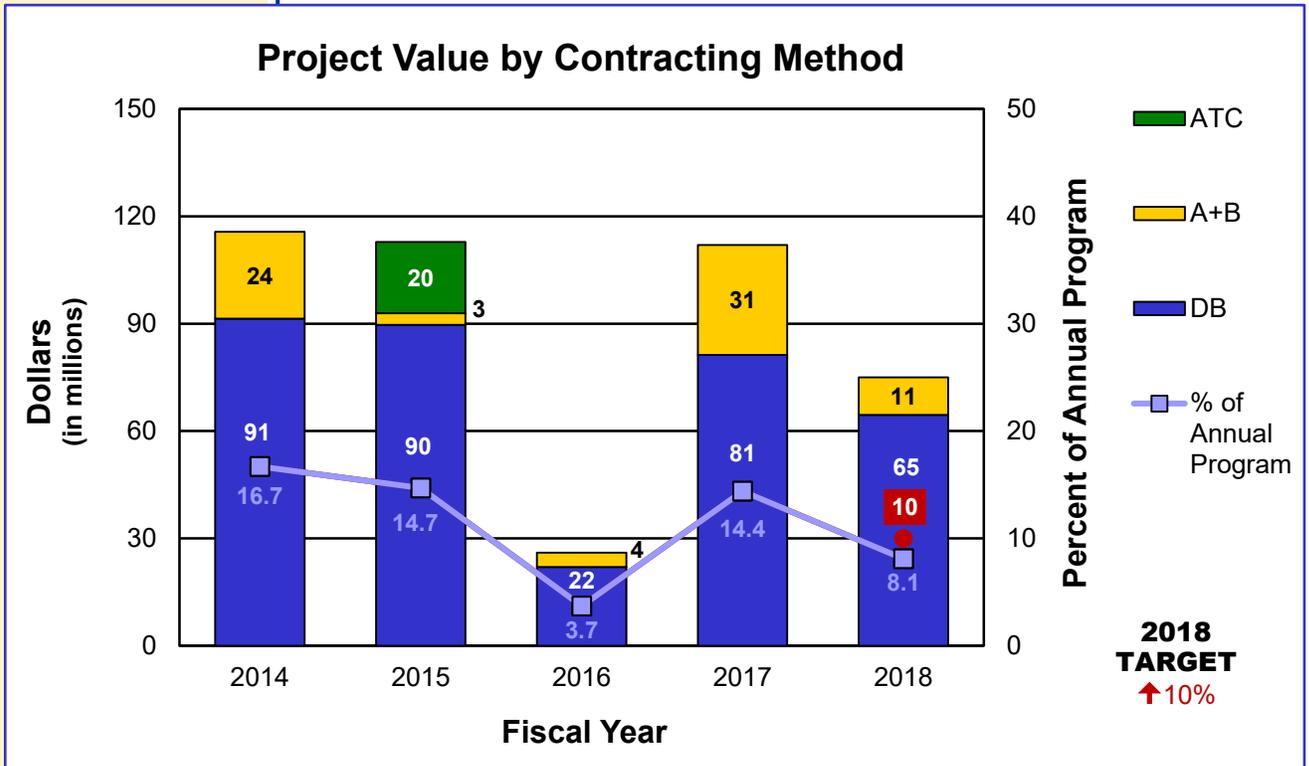
MoDOT evaluates project risks such as size (cost), type (preservation, rehabilitation or reconstruction) and complexity (opportunity for innovation and speed) when determining project delivery methods. The advantages of MoDOT's innovative contracting methods are as follows:

- DB contracts include design and construction under one contract, procured using a two-phased selection process. MoDOT scores proposals using a best-value or "build-to-budget" selection.
- Cost-plus-time bidding (A+B) aims to expedite project completion through competitive bidding on construction time (days).
- Alternate Technical Concepts give the contractor the opportunity to provide a more cost-effective alternative design prior to the bid. ATC discussions are held in a confidential environment which maximizes competitive bidding. The low bid is awarded the contract.

In fiscal year 2018, one Design-Build project was awarded in the Kansas City District. The I-435 South Loop Link project will renovate a critical link in the south side of the metropolitan area while improving mobility and safety on the corridor as well as maintaining traffic during construction.

Based on the 2018 Statewide Transportation Improvement Program, MoDOT delivered three out of 461 projects statewide using innovative contracting methods. One was delivered using Design-Build and two were delivered using the A+B process. The DB project accounted for \$64.5 million and the two A+B projects accounted for \$10.5 million of the \$929.7 million programmed budget (8.1 percent). The target of two projects per year was met, but the percentage of programmed STIP dollars awarded was below the 10 percent target. MoDOT will continue to look for opportunities to further develop the innovative project delivery program as part of the Sharpening Our Strategic Vision initiative.

# DELIVER TRANSPORTATION SOLUTIONS OF GREAT VALUE



## RESULT DRIVER:

Eric Schroeter  
Assistant Chief Engineer

# DELIVER TRANSPORTATION SOLUTIONS OF GREAT VALUE

## *Value engineering – 4e*

## MEASUREMENT DRIVER:

Sarah Kleinschmit  
Policy and Innovations  
Engineer

## PURPOSE OF THE MEASURE:

This measure tracks the use of value engineering during design and construction on traditional MoDOT projects including: value analysis during the design phase, construction value engineering proposals and implementation of best practice into standards and policies.

## MEASUREMENT AND DATA COLLECTION:

Information on value analysis during design is gathered from MoDOT's Statewide Transportation Improvement Program information management system.

Construction value engineering change proposal information is gathered from MoDOT's Value Engineering Proposal database. Implementation of best practice progress is tracked by MoDOT staff.

The target for this measure is updated annually in January for the next fiscal year. This target is established by projecting a 10 percent improvement over a five-year average.

The goal of value engineering is to build the right project at the right time, meeting the project need with the appropriate project scope. MoDOT uses the Value Engineering program to ensure the public receives great value for every tax dollar invested in Missouri's transportation system. MoDOT has been increasingly focused on smaller, maintenance-type projects that are not traditionally targeted by the VE program. Still, MoDOT must be innovative in using the VE process to search for solutions to reduce project costs and provide additional value.

MoDOT uses design-phase value analysis to remove unnecessary scope, reduce project costs and improve project flexibility. For fiscal year 2019, 42 percent of applicable projects underwent some form of value analysis during design, which is currently above the 26 percent target for design-phase value analyses. Value engineering is an important strategic initiative, and MoDOT is committed to adding value and identifying savings in every project possible.

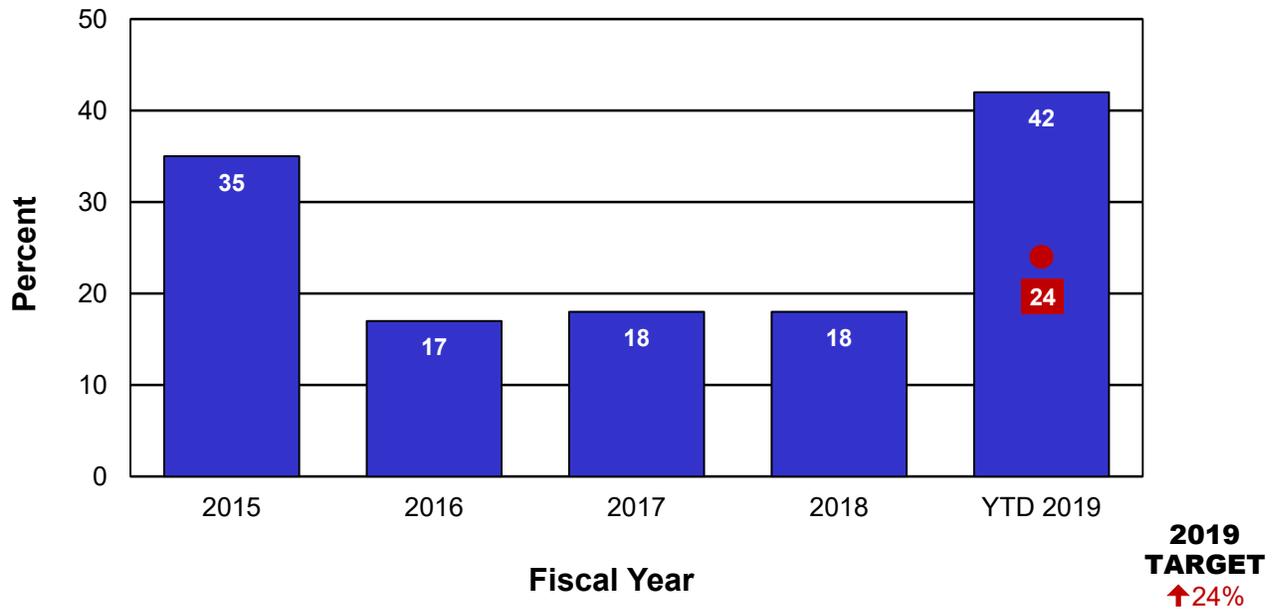
Programmatic value analysis studies associated with the level-course and seal coat programs continue to account for a large portion of this percentage. Two traditional design value engineering studies were completed in two districts this fiscal year. Districts continue to use the Practical Value Analysis tool to add value and cost savings to projects.

MoDOT partners with industry to find more cost-effective solutions during the construction phase. Value Engineering Change Proposals engage contractor ideas to deliver improved projects. For FY 2019 year to date, 11 VECs were approved resulting in a MoDOT savings of \$451,000. This represents a 100 percent approval rate. Post-Award Value Engineering workshops have been held in two districts this fiscal year.

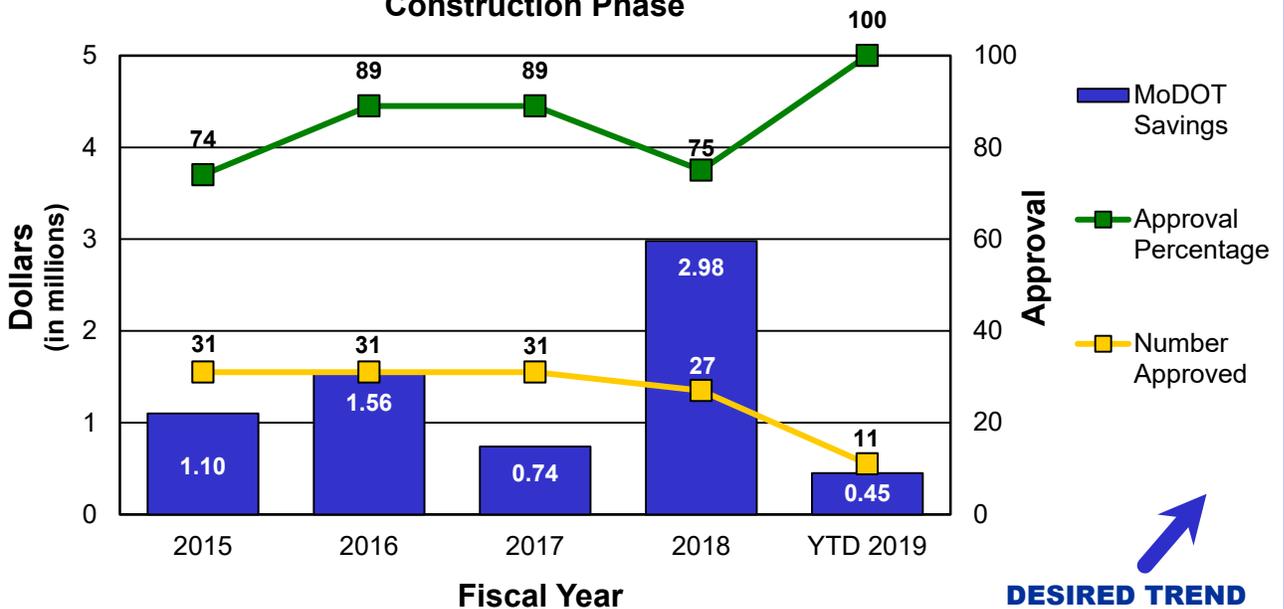
Nationally, VE studies save millions of dollars every year. In FY 2017, state DOTs saved over \$1.08 billion through value engineering.

# DELIVER TRANSPORTATION SOLUTIONS OF GREAT VALUE

## Percent of Awarded Projects with Value Analysis Design Phase



## Value Engineering Proposals by Dollar and Number Construction Phase



## RESULT DRIVER:

Eric Schroeter  
Assistant Chief Engineer

# DELIVER TRANSPORTATION SOLUTIONS OF GREAT VALUE

*Percent of customers who believe completed projects are the right transportation solutions – 4f*

## MEASUREMENT DRIVER:

Brandi Baldwin  
Design Liaison Engineer

## PURPOSE OF THE MEASURE:

This measure provides information regarding the public's perception of MoDOT's performance in providing the right transportation solutions.

## MEASUREMENT AND DATA COLLECTION:

Data for this measure was previously collected through an annual survey mailed to users of projects completed and opened to traffic within the previous year. In 2016, a pilot project was conducted to determine the value of implementing an alternative survey mechanism. These online surveys reached more people and cost 75 percent less than previously used mailed surveys. In 2017, MoDOT changed the methodology for collecting data for this measure. Data collection will utilize social media platforms to gain more immediate feedback from customers impacted by projects.

Each District identified three projects –in each of three categories: large, medium and small. Large projects were defined as those involving a major route or one that was funded through major project dollars. Medium projects were of district-wide importance. Small projects had only local significance.

One of the most prominent products MoDOT delivers to its customers is a highway construction project. While the department tries to involve local residents in planning and designing local projects, the real impact of the project isn't known until people actually use the results of the project.

In 2018, 19 projects were surveyed resulting in over 7,100 surveys submitted online showing Missourians are satisfied with the majority of local projects and believe MoDOT provides the right transportation solution. The respondents thought the projects made the roadway: safer (78 percent), more convenient (68 percent), less congested (68 percent), easier to travel (75 percent), better marked (68 percent), and they considered the projects the right transportation solution (83 percent).

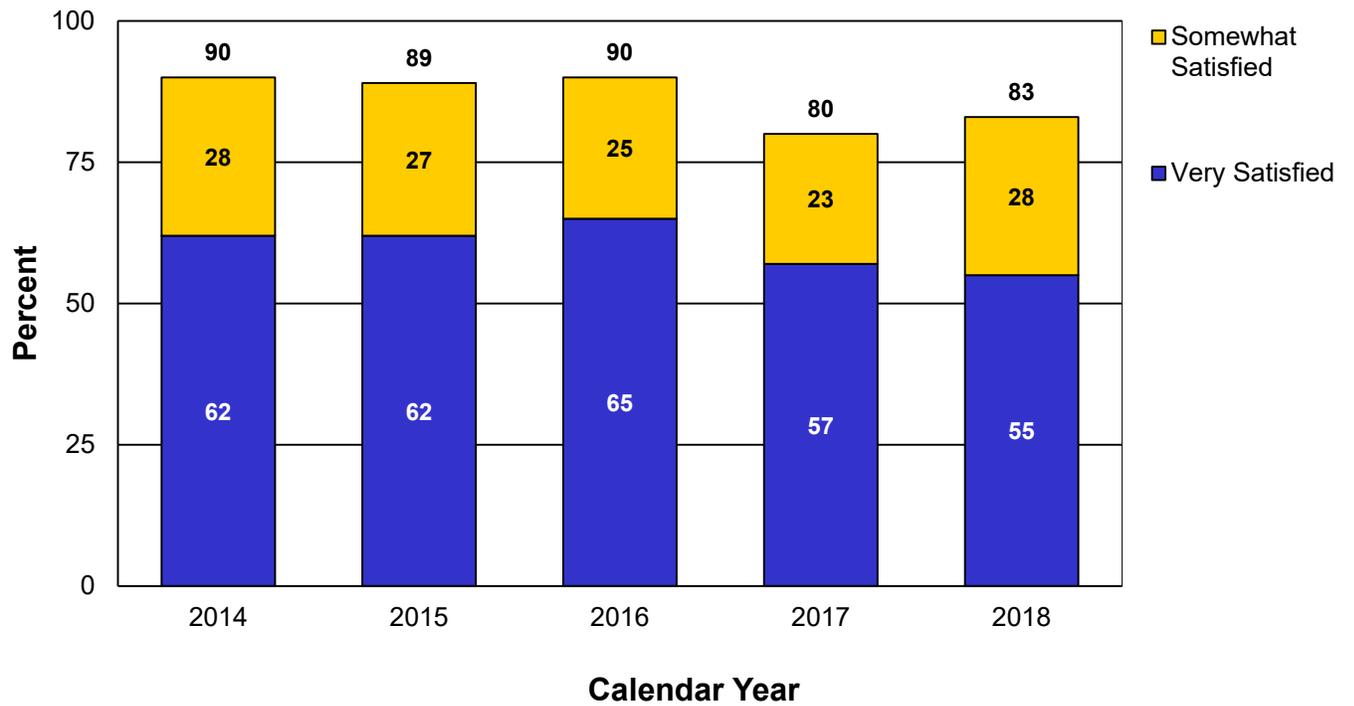
Survey responses resulted in the following percentages of customers who believe completed projects are the right transportation solutions in each district: Northwest (92), Northeast (76), Kansas City (84), Central (88), St. Louis (78), Southwest (66) and Southeast (94).

As part of the survey, each respondent has the opportunity to provide comments about why the project was – or was not – the right transportation solution. A total of 2,967 comments were received for the 19 online surveys. These comments were shared with local staff for evaluation to guide future projects.

The determination to change from postage driven mailers to online surveys has proven to be successful in reaching more customers, gaining more feedback on MoDOT's projects and is the most cost-effective solution. Mailers were last used in 2016 to reach approximately 12,600 customers at a cost of \$46,000 and receiving 3,360 completed surveys. For 2018 projects using the online surveys, MoDOT received 18,473 reactions, comments and shares on Facebook and received 7,141 completed surveys at a cost of \$5,900. MoDOT has more than doubled the response rate at an eighth of the cost.

# DELIVER TRANSPORTATION SOLUTIONS OF GREAT VALUE

**Percent of Customers Who Believe Completed Projects Are the Right Transportation Solution**



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# OPERATE A RELIABLE AND CONVENIENT TRANSPORTATION SYSTEM

*Nicole Hood, State Highway Safety and Traffic Engineer*

# Tracker

MEASURES OF DEPARTMENTAL PERFORMANCE



Missourians expect to get to their destinations on time, without delay regardless of their choice of travel mode. We coordinate and collaborate with our transportation partners throughout the state to keep people and goods moving freely and efficiently. We also maintain and operate the transportation system in a manner to minimize the impact to our customers and partners.

## RESULT DRIVER:

Nicole Hood  
State Highway Safety and  
Traffic Engineer

## MEASUREMENT DRIVER:

Alex Wassman  
Traffic Management and  
Operations Engineer

## PURPOSE OF THE MEASURE:

This measure tracks the mobility of significant state routes in St. Louis, Kansas City, Springfield and Columbia.

## MEASUREMENT AND DATA COLLECTION:

Travel time data is collected continuously via wireless technology. To assess mobility, MoDOT compares travel times during rush hour to free-flow conditions where vehicles can travel at the posted speed limit. This measure also assesses reliability, an indicator of how variable those travel times are on a daily basis.

The charts in this measure show the average travel time and the 95th percentile travel time, which is the time motorists should plan in order to reach their destinations on time 95 percent of the time.

The maps display the mobility of specific sections of roadways during rush hour.

The target for this measure is updated quarterly. This target is established by projecting a 10 percent improvement over the same quarter of the previous year. The minimum value for the target time is 10 minutes. This corresponds to the time it takes to travel 10 miles at the posted speed limit of 60 miles per hour.

# OPERATE A RELIABLE AND CONVENIENT TRANSPORTATION SYSTEM

## *Travel times and reliability on major routes – 5a*

During the first quarter of 2019, average travel times in St. Louis and Kansas City were longer by an average of 17 seconds compared to the same period last year. The average 10-mile travel time in St. Louis was 10 minutes, 44 seconds during the morning and 12 minutes, 3 seconds during the evening. For Kansas City, the average travel time was 10 minutes, 59 seconds during the morning and 11 minutes, 32 seconds during the evening. The average travel times for all rush periods were higher than the same quarter last year. Overall, average speeds ranged between 49 mph and 56 mph.

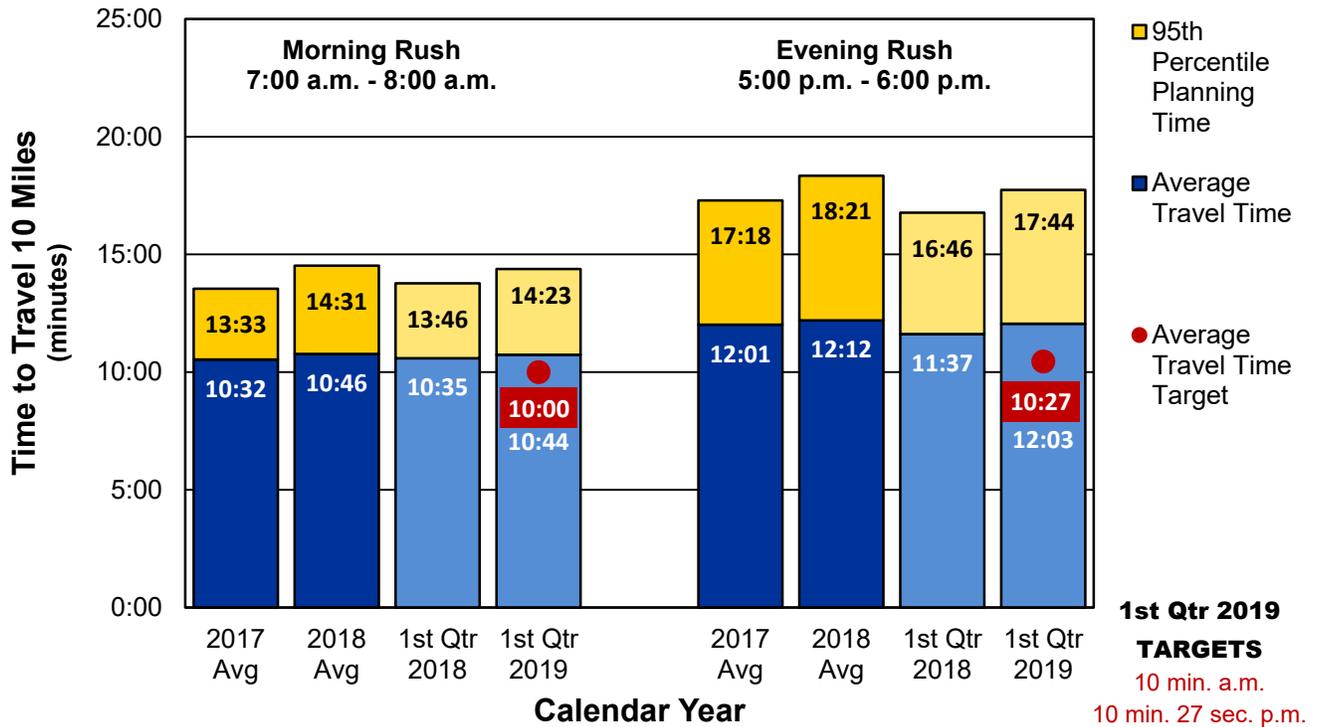
The planning times account for unexpected delays and indicate how long customers need to plan in order to arrive on time 95 percent of the time. In St. Louis, the average 10-mile planning times were 14 minutes, 23 seconds during the morning and 17 minutes, 44 seconds during the evening. This means customers in the St. Louis evening rush needed to plan 7 minutes, 44 seconds more for a 10-mile trip than they would need in free-flow conditions. In Kansas City, the average planning times were 15 minutes, 8 seconds during the morning and 16 minutes during the evening. Customers in the Kansas City evening rush needed to plan 6 minutes more for a 10-mile trip than they would need in free-flow conditions. The planning times in St. Louis and Kansas City represent average rush-hour speeds between 34 and 42 mph. The planning times for all rush periods were higher than the previous year, with an average increase of 58 seconds.

The average travel times in both regions are higher than the target for the first quarter 2019. The morning average travel times are 44 and 59 seconds greater than the target. The evening average travel times are 1 minute, 26 seconds and 1 minute, 36 seconds greater than the target.

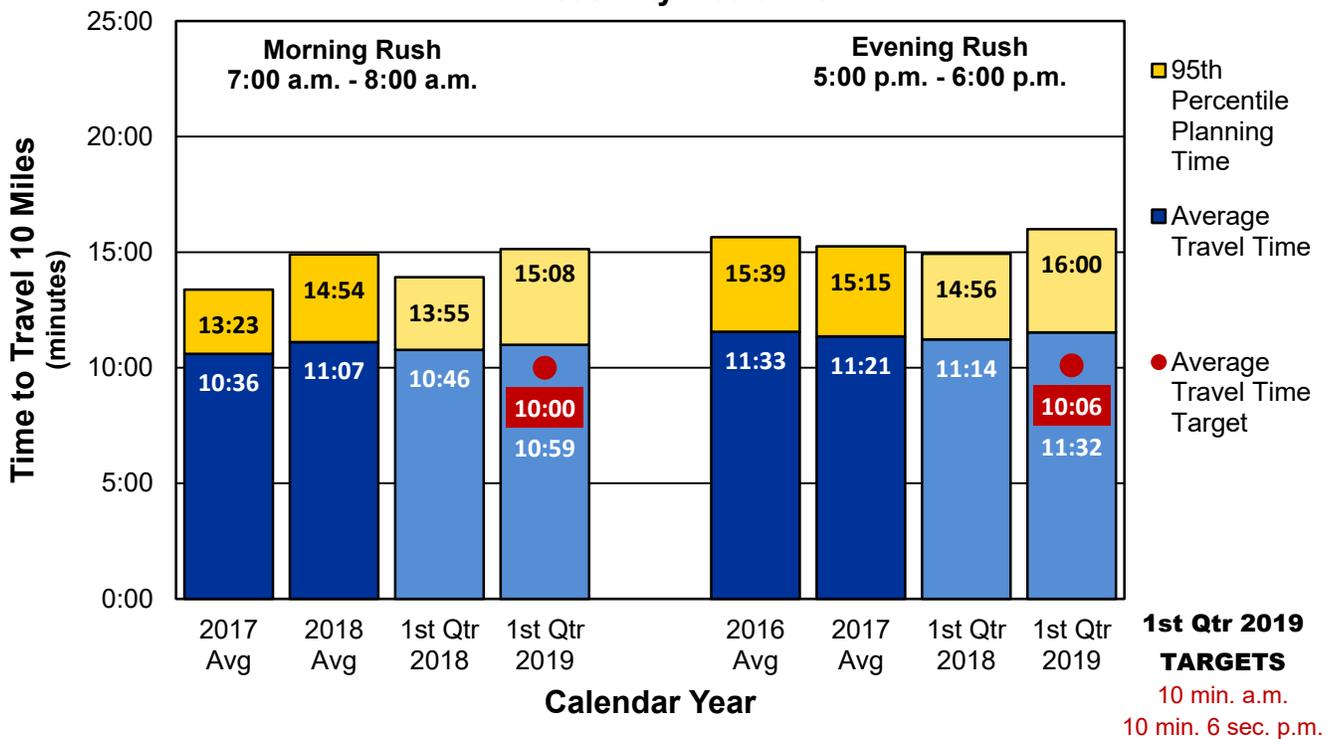
Individual freeway segments within the regions experienced longer travel times than the regional averages as depicted in the maps. The maps also depict rush-hour conditions on selected arterial routes compared to normal traffic flow during non-peak traffic conditions.

# OPERATE A RELIABLE AND CONVENIENT TRANSPORTATION SYSTEM

## Reliability of Travel Times for Freeways St. Louis Metro Area

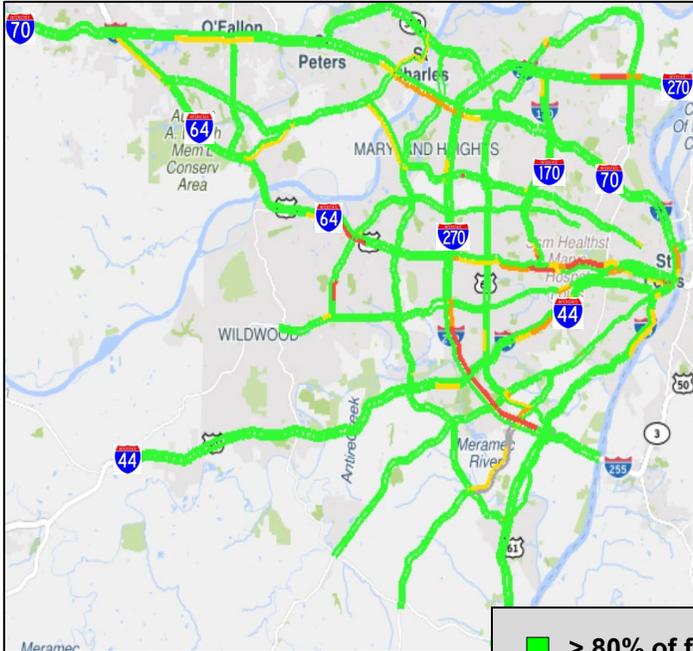


## Reliability of Travel Times for Freeways Kansas City Metro Area

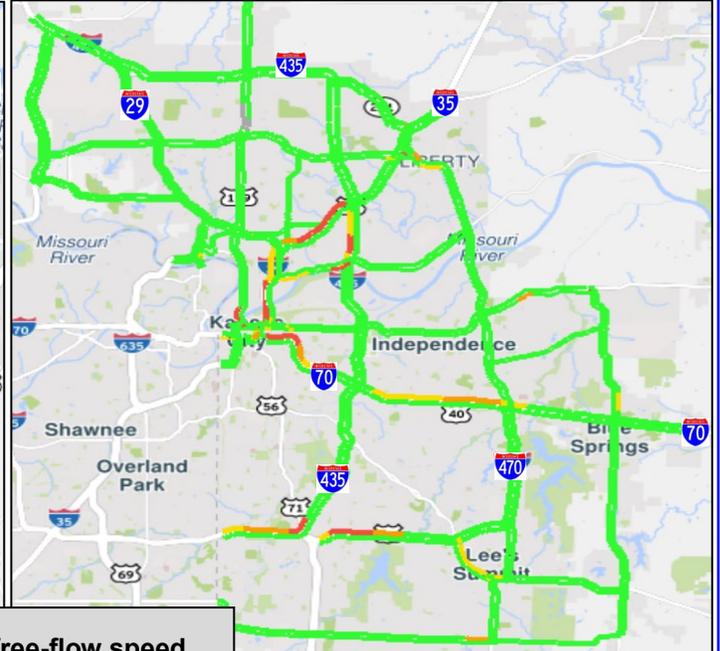


# OPERATE A RELIABLE AND CONVENIENT TRANSPORTATION SYSTEM

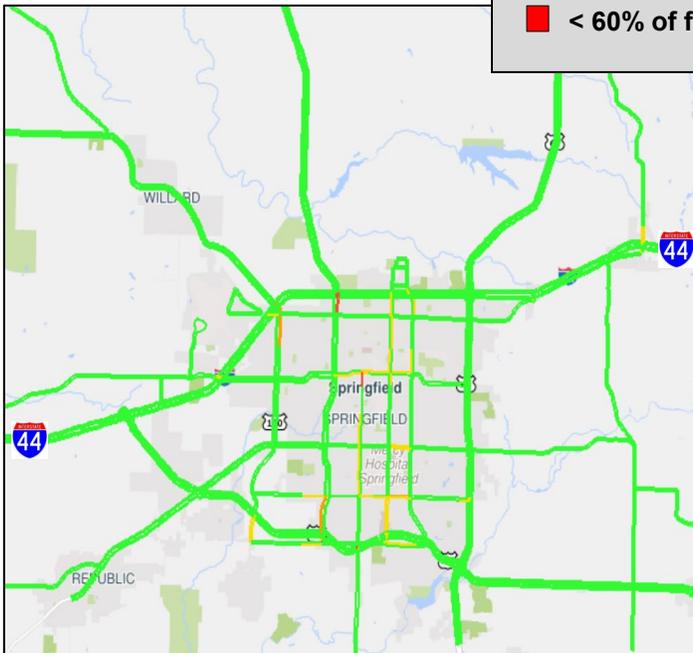
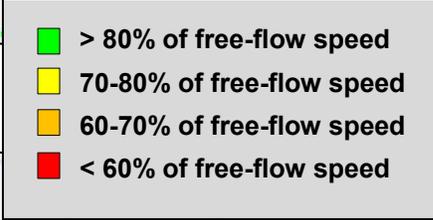
## a.m. Mobility



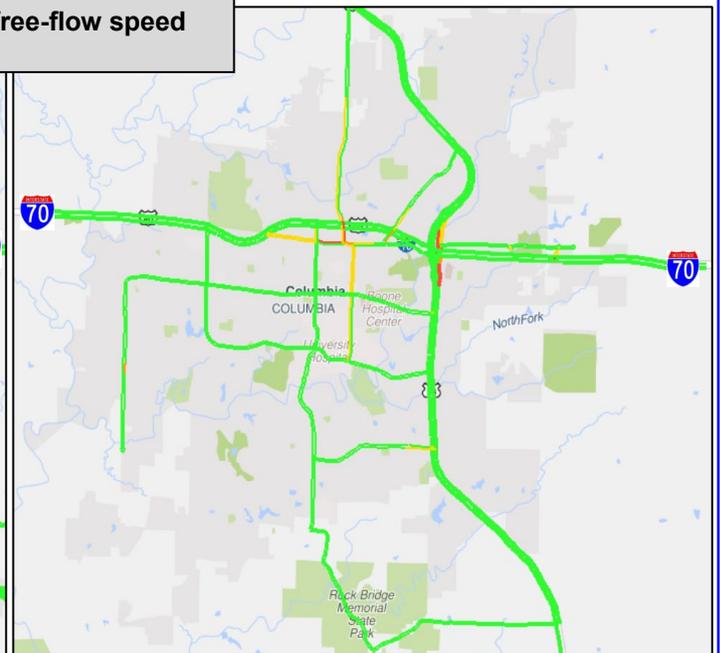
**St. Louis Area**



**Kansas City Area**



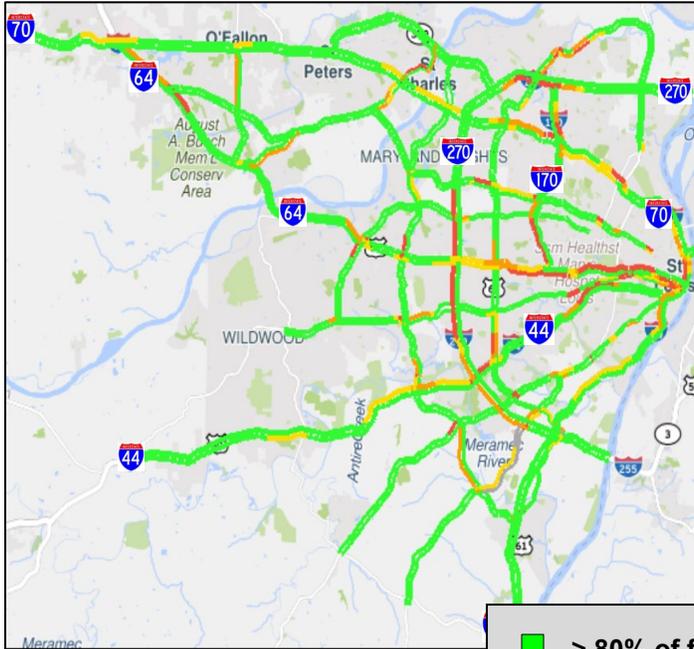
**Springfield Area**



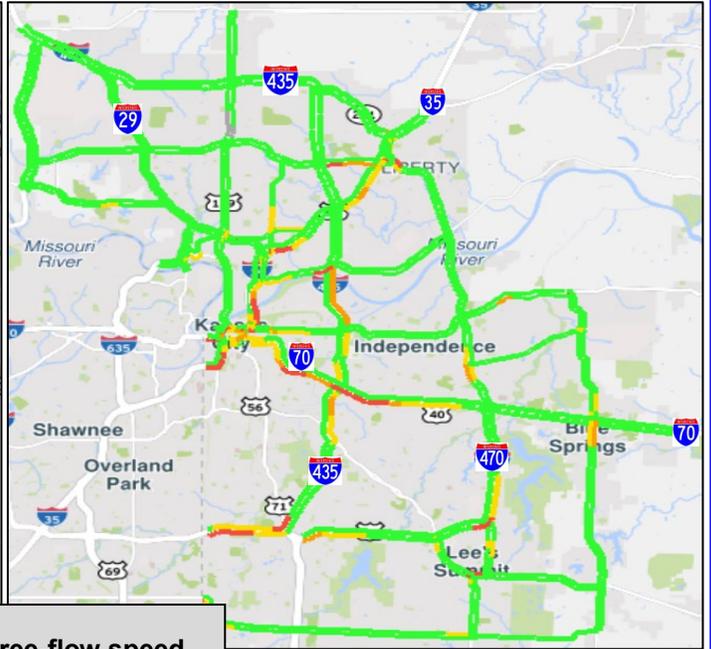
**Columbia Area**

# OPERATE A RELIABLE AND CONVENIENT TRANSPORTATION SYSTEM

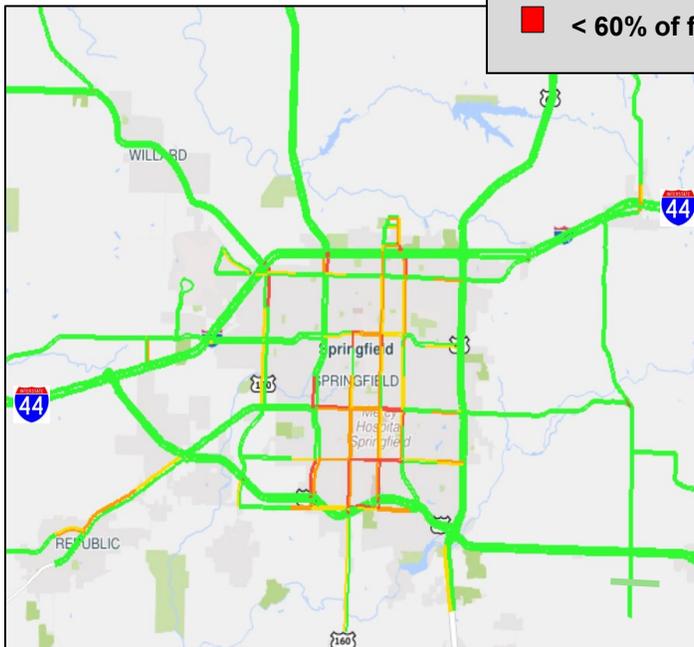
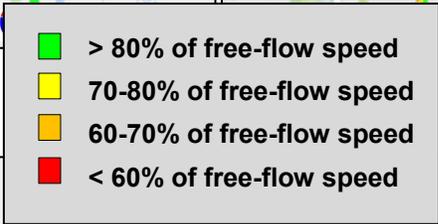
## p.m. Mobility



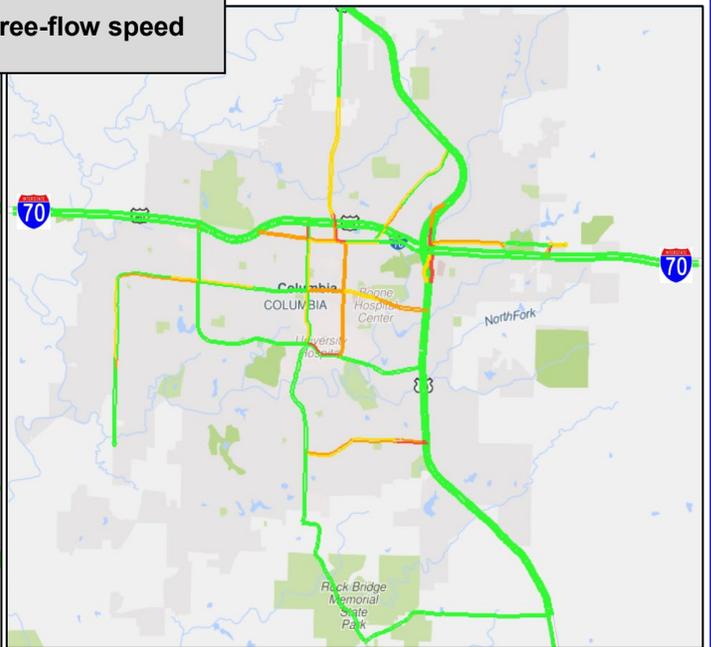
**St. Louis Area**



**Kansas City Area**



**Springfield Area**



**Columbia Area**

## RESULT DRIVER:

Nicole Hood  
State Highway Safety and  
Traffic Engineer

## MEASUREMENT DRIVER:

Brian Umfleet  
District Traffic Engineer

## PURPOSE OF THE MEASURE:

This measure tracks the annual cost and impact of traffic congestion to motorists for motorist delay, travel time, excess fuel consumed per auto commuter and congestion cost per auto commuter.

## MEASUREMENT AND DATA COLLECTION:

A reporting tool available in the Regional Integrated Transportation Information System looks at user delay costs. This data, in combination with industry standard costs for passenger cars and trucks, reflects the overall costs of congestion. RITIS also includes historic data so trend lines can be tracked and evaluated. The unit cost per passenger car is \$17.91 per hour and is obtained from the Texas A&M Transportation Institute. The unit cost per truck is \$66.65 obtained from the American Transportation Research Institute, which specializes in tracking freight mobility and provides the best source of data related to freight costs. For previous reporting, the department used data provided by the TTI, which annually produces the Urban Mobility Report. The target for this measure is updated annually in April and is established by projecting a 10 percent improvement over a four-year average.

# OPERATE A RELIABLE AND CONVENIENT TRANSPORTATION SYSTEM

## *Cost and impact of traffic congestion – 5b*

Recurring congestion occurs at regular times, although the traffic jams are not necessarily consistent day-to-day. Nonrecurring congestion is an unexpected traffic crash or natural disaster that affects traffic flow. When either occurs, the time required for a given trip becomes unpredictable. This unreliability is costly for commuters and truck drivers moving goods, which results in higher prices to consumers.

While the desired trend for both costs is downward, challenges exist in Missouri's metropolitan regions to continue toward this desired outcome. A comprehensive look at congestion is needed, looking beyond typical solutions of adding capacity. Using smarter technology to help guide motorists is a must. Still, the desired outcome is lower congestion costs and an indication that traffic is moving more efficiently.

The 2018 target was \$494 million. The actual calculation from the Regional Integrated Transportation Information System data is \$573 million. This report looks at the 2015 to 2018 cost of congestion in the urban areas of Kansas City and St. Louis, as well as rural I-44 and I-70 across the state.

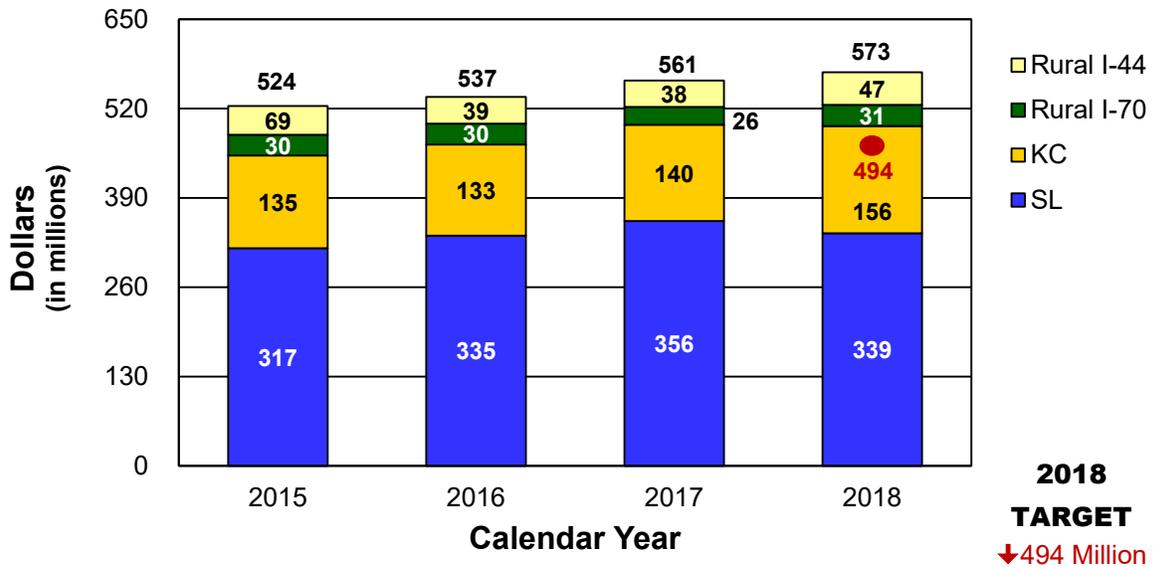
Congestion costs in Kansas City and St. Louis have steadily increased for all years except 2018. Vehicle miles travelled in St. Louis and Kansas City continue to show steady growth through this time period. Congestion costs for both rural I-44 and I-70 increased for both 2017 and 2018 while volume trends have continued steady to slightly downward.

Volume growth is often seen when gas prices remain low. The average cost of gas increased \$0.37 per gallon from 2017 to \$2.79 per gallon in 2018. Since mid-2016, while gas prices have fluctuated a bit, the price has been fairly steady.

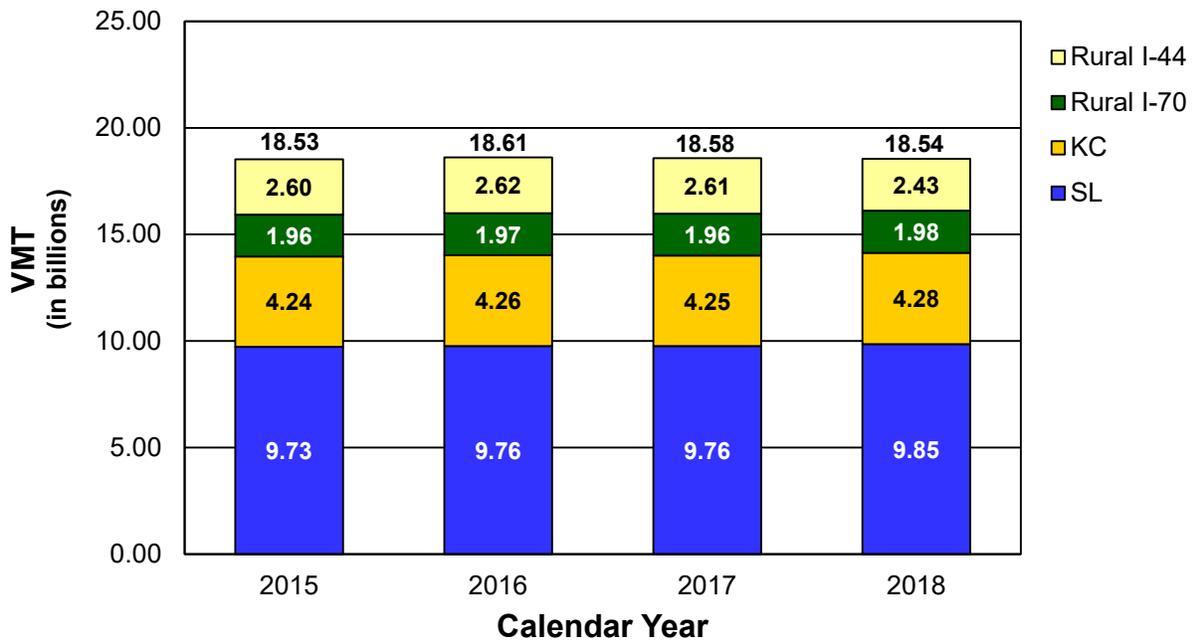
Traffic congestion is widely viewed as a growing problem in many urban areas because the overall volume of vehicular traffic in many areas (based on vehicle miles travelled) continues to grow faster than the overall capacity of the transportation system. Capacity is not merely defined by roadway expansion, but also by things such as carpool efforts, transit usage increases, flexible work hours, incident clearance practices, work zone management and several other factors. Like many other state departments of transportation, MoDOT puts forth great effort in incident clearance practices, work zone management and other factors that impact mobility.

# OPERATE A RELIABLE AND CONVENIENT TRANSPORTATION SYSTEM

## Cost of Congestion on Selected State Roads



## Vehicle Miles Travelled (VMT) on Selected State Routes



## RESULT DRIVER:

Nicole Hood  
State Highway Safety and  
Traffic Engineer

## MEASUREMENT DRIVER:

Randy Johnson  
KC Scout Manager

## PURPOSE OF THE MEASURE:

This measure is used to determine the trends in incident clearance on the state highway system.

## MEASUREMENT AND DATA COLLECTION:

Advanced transportation management systems are used by the St. Louis and Kansas City traffic management centers to record incident start time and the time when all lanes are declared cleared. Traffic incidents can be divided into three general classes of duration set forth by the Manual on Uniform Traffic Control Devices that include minor, intermediate and major. Each class has unique traffic control characteristics and needs.

This target is established by projecting a 10 percent improvement over a five-year average.

# OPERATE A RELIABLE AND CONVENIENT TRANSPORTATION SYSTEM

## Average time to clear traffic incident – 5c

A traffic incident is an unplanned event that blocks travel lanes and temporarily reduces the number of vehicles that can travel on the road. The speed of incident clearance is essential to the highway system returning back to normal conditions. Responding to and quickly addressing the incident (crashes, debris and stalled vehicles) improves system performance.

St. Louis recorded 3,209 incidents in the first quarter of 2019. The average time to clear traffic incidents was 30.4 minutes, an increase of 13.14 percent from the first quarter of 2018.

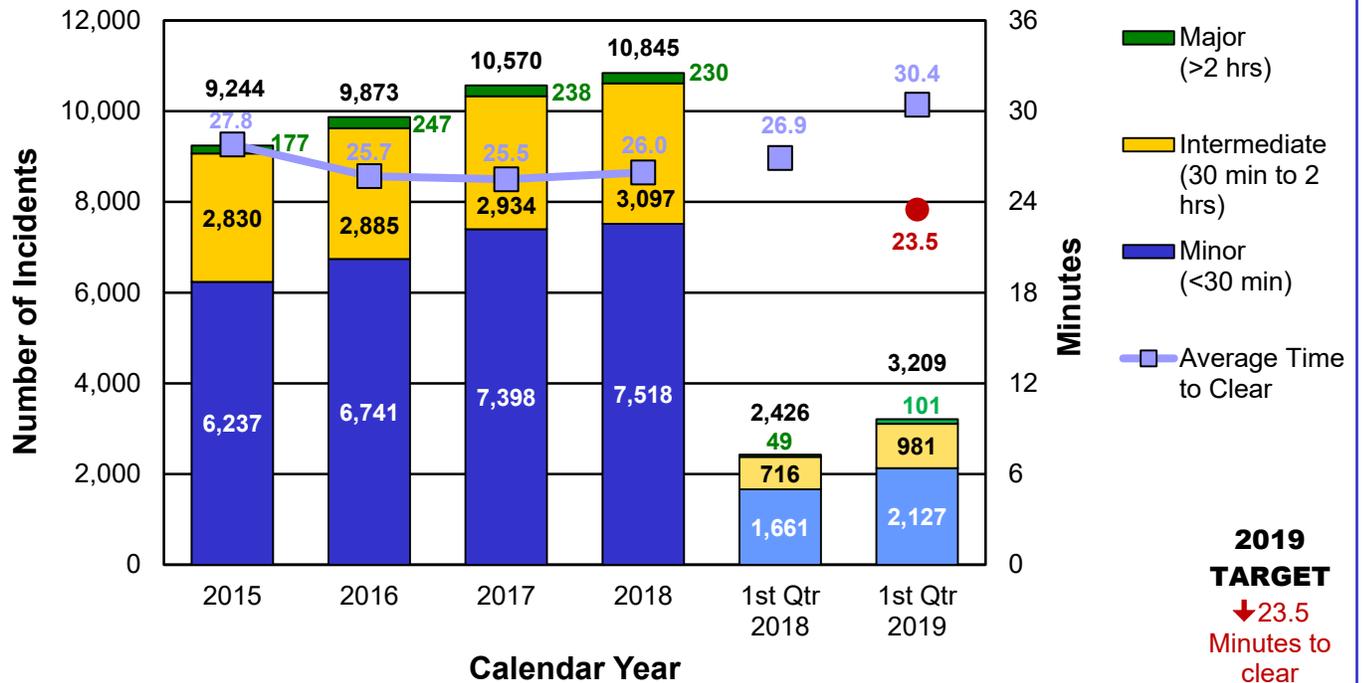
Kansas City recorded 2,612 incidents in the first quarter of 2019. The average time to clear traffic incidents was 21.7 minutes, a decrease of 0.32 percent from the first quarter of 2018.

The first quarter for Kansas City and St. Louis revealed an array of incidents that included tractor trailers, multi-vehicles and many related to the winter weather. For St. Louis, the winter weather contributed to a 40 percent increase of incidents in January and February that included a 12-hour closure. Both continue to use communication, coordination and data to help reduce the average time to clear. Both regions are establishing Traffic Incident Management committees that range from several county level teams to one large multi-state partnership. Continuous training is a necessity and the focus has ranged from internal staff to a multi-state (five states) training session.

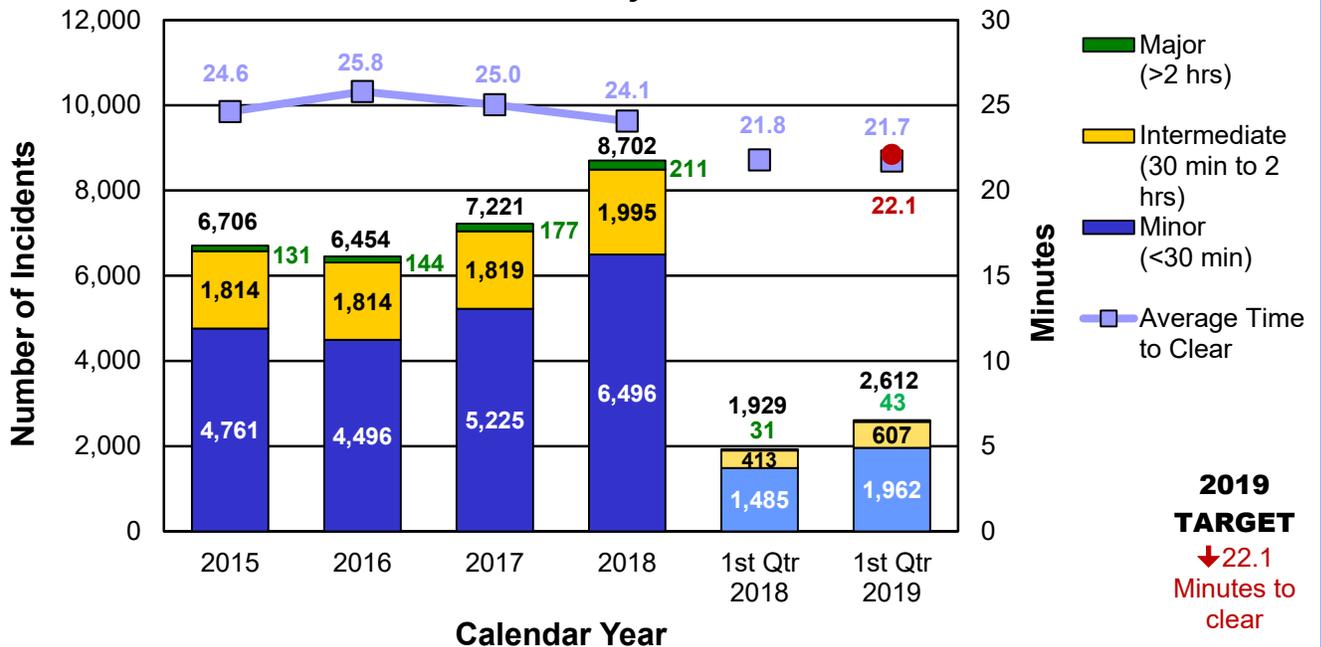


# OPERATE A RELIABLE AND CONVENIENT TRANSPORTATION SYSTEM

## Average Time to Clear Traffic Incident St. Louis



## Average Time to Clear Traffic Incident Kansas City



## RESULT DRIVER:

Nicole Hood  
State Highway Safety and  
Traffic Engineer

## MEASUREMENT DRIVER:

Laurel McKean  
Assistant District Engineer

## PURPOSE OF THE MEASURE:

This measure tracks the number of and delay caused by unplanned incidents on the divided four-lane section of Interstate 44 and Interstate 70.

## MEASUREMENT AND DATA COLLECTION:

Crash data is received from MoDOT's Transportation Management System. The total crashes are for both directions of I-70 and I-44 and include all crash severity classes.

Incidents were input by KC Scout, Gateway Guide and Ozarks Traffic Transportation Management Operators in Transuite. The incidents are uploaded into the Regional Integrated Transportation Information System where the duration of each incident is calculated.

The segment of I-70 included in this tracker measure is between MO 7 in Blue Springs, MO to Route Z in Wentzville, MO. The segment of I-44 included is between the Oklahoma State Line to Route 100 in Gray Summit, MO.

# OPERATE A RELIABLE AND CONVENIENT TRANSPORTATION SYSTEM

## Unplanned incident impacts on major interstate routes – 5d

Interstates are the arteries that connect the nation and keep people and commerce flowing. When interstates shut down in Missouri, the country is cut in half. Keeping interstates free-flowing is a top priority for MoDOT, but sometimes unplanned incidents affect the department's ability to keep the interstates moving. An unplanned incident can be weather related, emergency road and bridge repair, traffic crash and others. Traffic crashes and delays are two ways MoDOT can track incidents and develop strategies to reduce the impact to the traveling public.

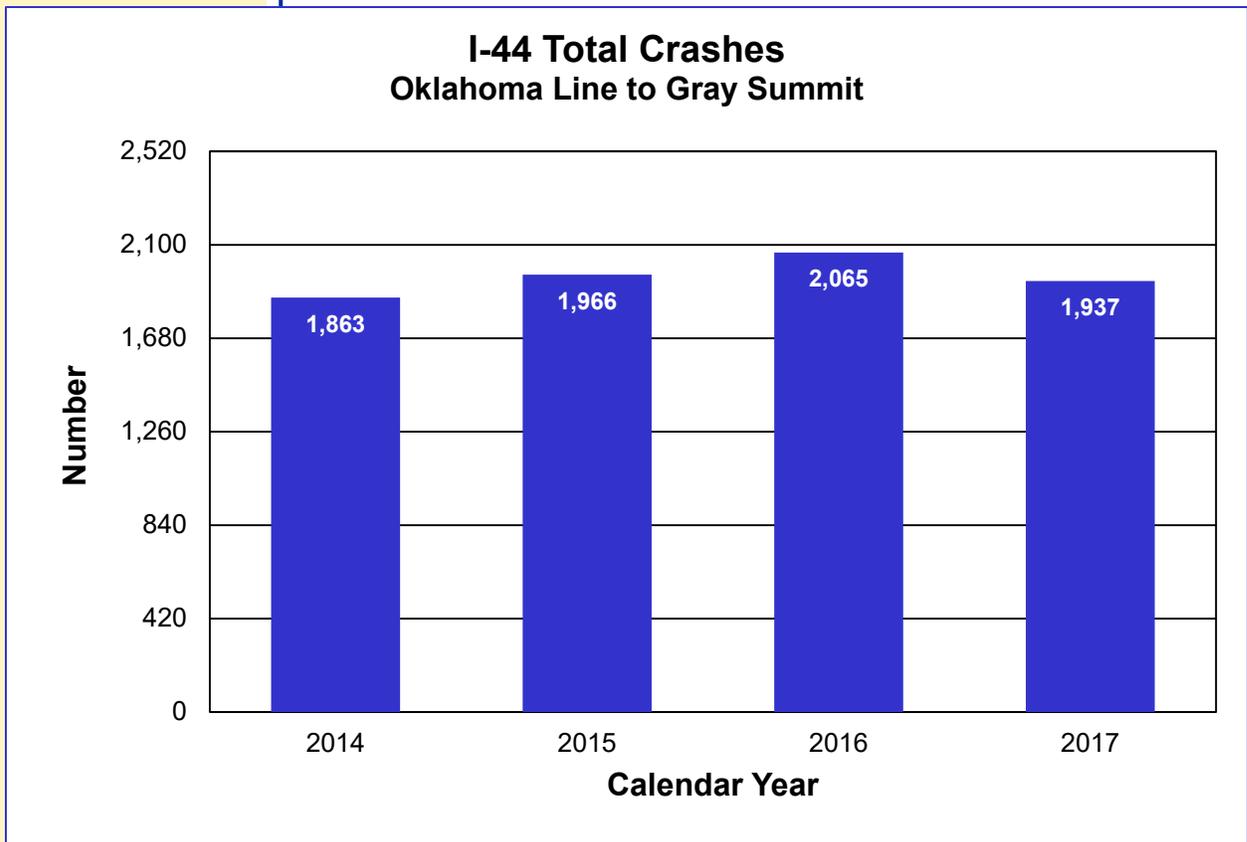
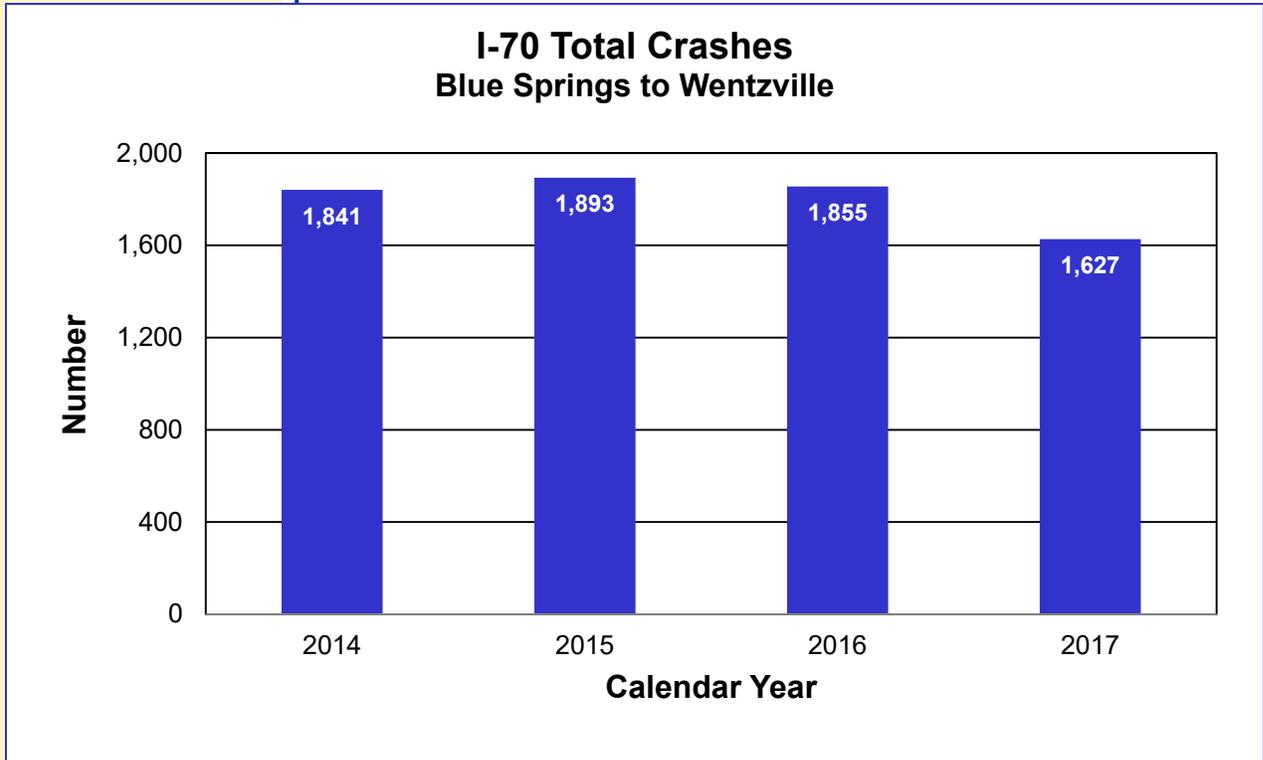
Of the types of unplanned incidents that can occur, traffic crashes create the majority of the impacts. Total crashes reduced for both I-70 and I-44 in 2017 from the previous year. The I-70 and I-44 Highway Safety Manual Analysis project is in the data collecting phase. The goal of the project is to provide expected crash rates based on roadway features. The crash portion of this measure will become a yearly review comparing actual crash history to an expected crash rate. Comparing actual to expected crash information provides a tool to determine areas along these corridors where further review and action might be needed to reduce crashes.

Third-quarter analysis of the total crashes includes a review of what percentage of crashes involved various factors. The Commercial Motor Vehicle factor demonstrates the percentage of crashes that involved a vehicle with a gross vehicle weight rating of 10,001 pounds or greater which includes vehicle body type of a pickup, single unit truck with two axles and six tires; other heavy truck or a cargo van; a small bus or large bus; single unit truck with three or more axles; truck tractor with up to three units; limousine with 9-15 including the driver; or any vehicle body type displaying a hazardous material placard.

Factor	I-70 (percent)	I-44 (percent)
Aggressive Driver	58	50
Distracted Driver	8	15
Drowsy Driver	7	7
Impaired Driver	4	3
Commercial Motor Vehicle	29	31

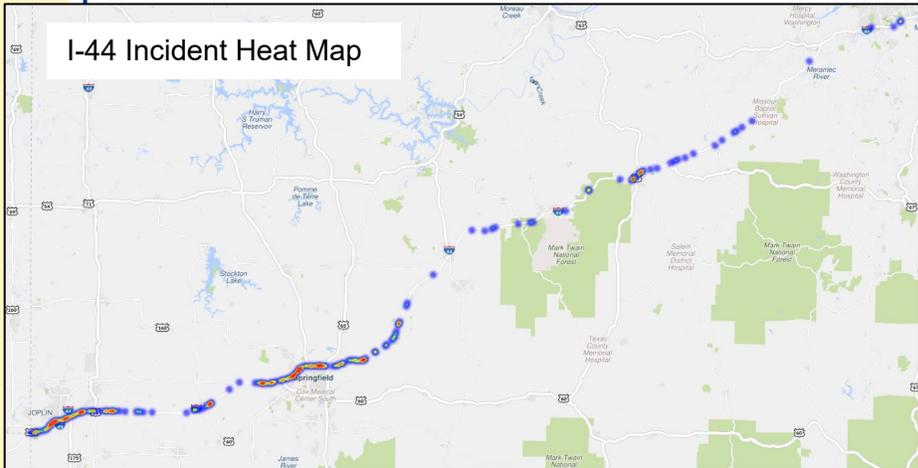
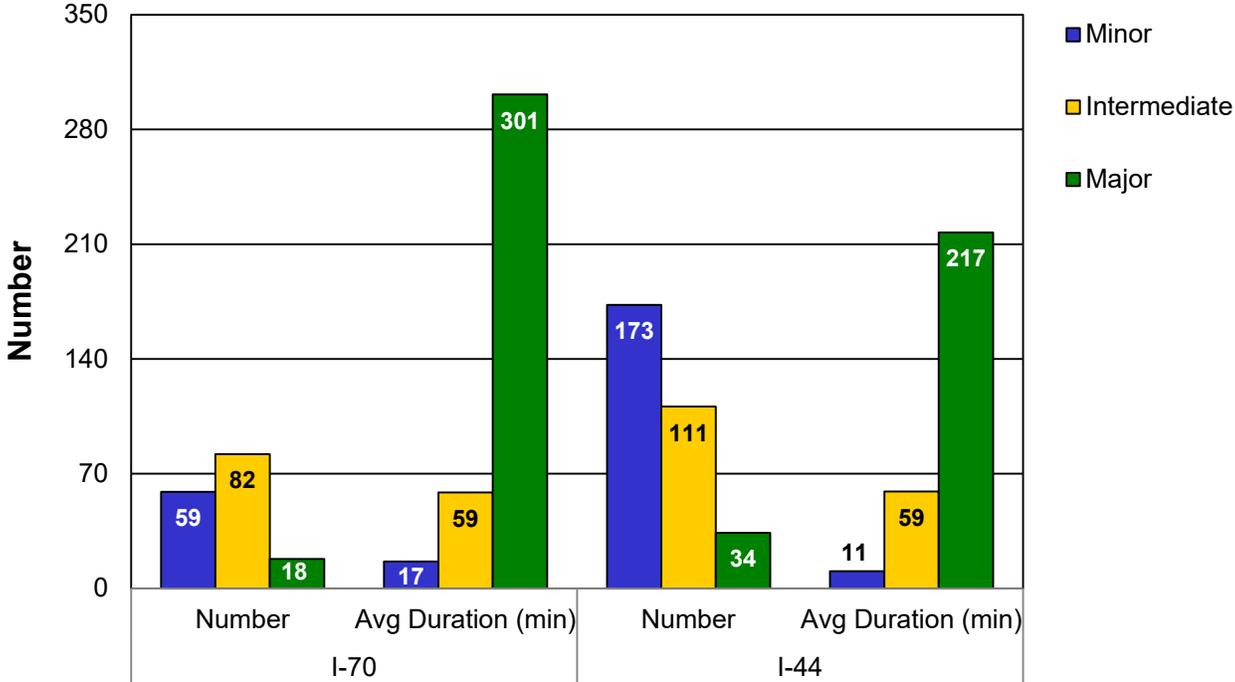
The heat maps for I-70 and I-44 indicate locations where incidents were logged. Every incident is shown regardless of duration. Incidents can be anything from a stalled car on the shoulder to a crash blocking lanes. Work with Regional Integrated Transportation Information System continues to add the delay experienced by the traveling public due to an incident. The delay information will allow us to evaluate each quarter how the Incident Response Teams along each corridor handled incidents and find areas of improvement.

# OPERATE A RELIABLE AND CONVENIENT TRANSPORTATION SYSTEM



# OPERATE A RELIABLE AND CONVENIENT TRANSPORTATION SYSTEM

## Recorded Incidents Third Quarter I-70 and I-44



## RESULT DRIVER:

Nicole Hood  
State Highway Safety and  
Traffic Engineer

## MEASUREMENT DRIVER:

Troy Hughes  
Design Liaison Engineer

## PURPOSE OF THE MEASURE:

Work zones are designed to allow the public to travel through safely and with minimal disruptions. This measure indicates how well significant work zones perform.

## MEASUREMENT AND DATA COLLECTION:

Work zone impacts are identified using automated data collection or by visual observations. An impact is defined as the additional time a work zone adds to normal travel. Impacts resulting in a delay of at least 10 minutes are included in this report.

The targeted hours of work zone congestion are based on previous years' data and an acceptable tolerance of 30 total minutes for work zone congestion statewide. The target for this measure is updated quarterly.

# OPERATE A RELIABLE AND CONVENIENT TRANSPORTATION SYSTEM

## *Work zone delays to the traveling public – 5e*

Motorists want to get through work zones with as little inconvenience as possible. MoDOT tries to minimize travel impacts by shifting work to nighttime hours or during times when there are fewer impacts to the traveling public. Other strategies include using technology in work zones, providing valuable information to customers and innovative uses of traffic control devices to promote efficient traffic flow. To measure the effectiveness of these strategies, MoDOT monitors the performance of work zones with the greatest potential to impact traffic each quarter. The goal is to minimize the number of times a work zone creates a traffic delay of 10 minutes or more.

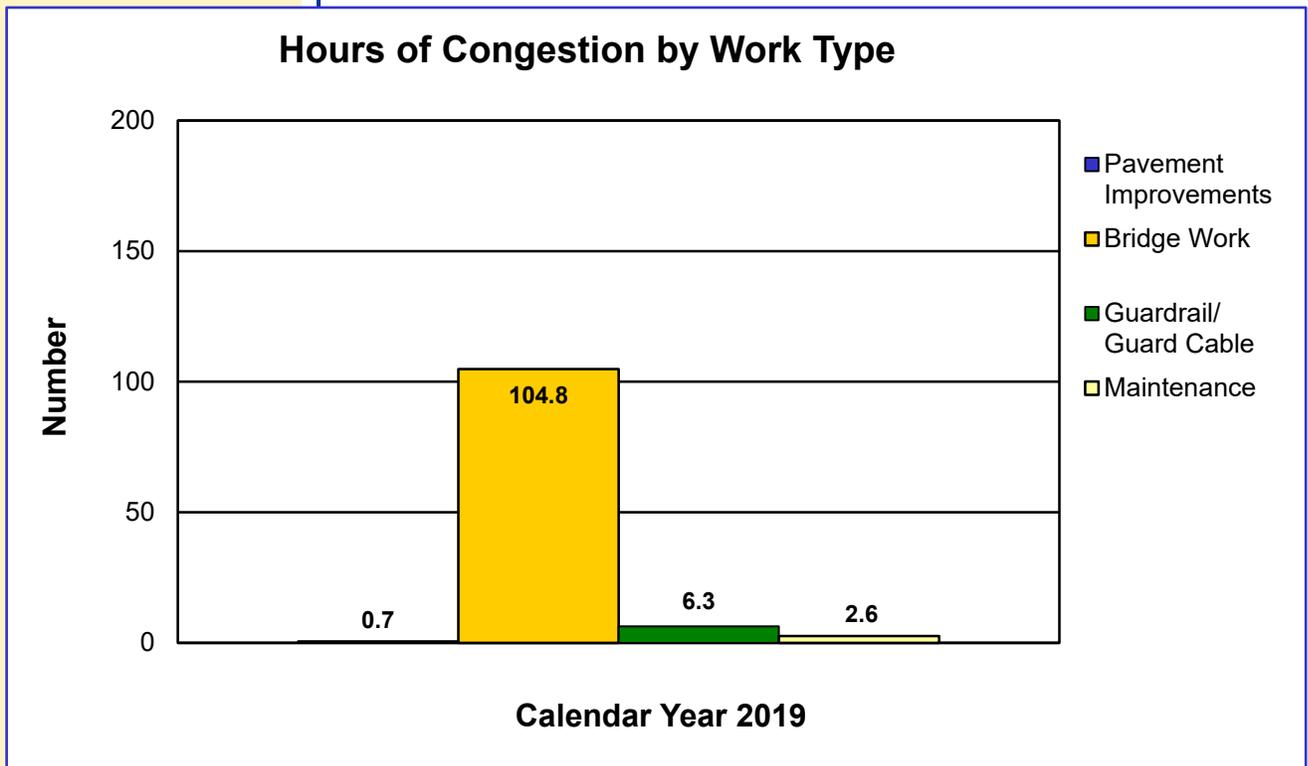
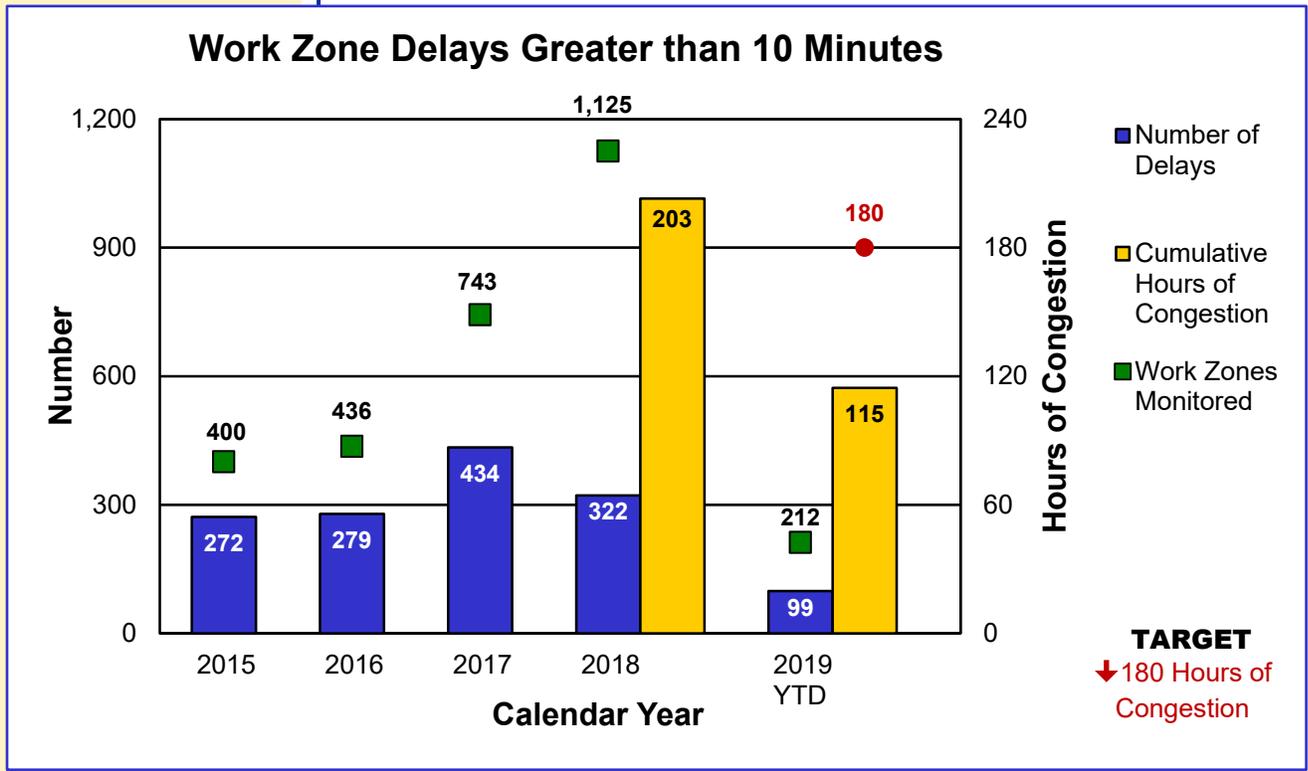
During the first quarter 2019, MoDOT monitored 212 work zones. There were 99 instances in which traffic was delayed for at least 10 minutes. These instances occurred in 12 work zones and accounted for 6,875 total minutes (114.6 hours) of congestion.

This quarter, projects along I-44 between Route 270 and Grand Blvd. in St. Louis County contributed the largest amount of delay resulting in 105 hours of the congestion. In the Kansas City District, a guard cable/guardrail Job Order Contract added 5.7 hours of delay on various routes. The other contributor to delay was a bridge inspection on the Rocheport Bridge in Central District. The bridge inspection contributed 2.6 hours of congestion.

The target for the cumulative work zone congestion statewide has been set at 180 hours for the year (45 hours per quarter). This target translates to approximately 30 minutes of work zone congestion per day statewide.



# OPERATE A RELIABLE AND CONVENIENT TRANSPORTATION SYSTEM



## RESULT DRIVER:

Nicole Hood  
State Highway Safety and  
Traffic Engineer

## MEASUREMENT DRIVER:

Arisa Prapaisilp  
Assistant District Maintenance  
Engineer

## PURPOSE OF THE MEASURE:

This measure tracks the amount of time needed to perform MoDOT's snow and ice removal efforts.

## MEASUREMENT AND DATA COLLECTION:

For major highways and regionally significant routes, the objective is to restore them to a mostly clear condition as soon as possible after the storm has ended. MoDOT calls these "continuous operations" routes. State routes with lower traffic volumes should be opened to two-way traffic and treated with salt or abrasives at critical areas such as intersections, hills and curves. These are called "non-continuous operations" routes. After each winter event, maintenance personnel submit reports indicating how much time it took to meet the objectives for both route classifications.

# OPERATE A RELIABLE AND CONVENIENT TRANSPORTATION SYSTEM

## *Time to meet winter storm event performance objectives – 5f*

Knowing the time it takes to clear roads after a winter storm can help the department better analyze the costs associated with that work. MoDOT's response rate to winter events provides good customer service for the traveling public while keeping costs as low as possible. These efforts result in reduced traffic delays due to winter events and, more importantly, safer travel during these events. In recent years, MoDOT has been more aggressive in messaging the public urging them to travel only if necessary during winter events. This messaging is in the form of social media pushes and media releases. In addition, one of MoDOT's Strategic Initiatives is working toward predictive analytics to optimize winter operations resources.

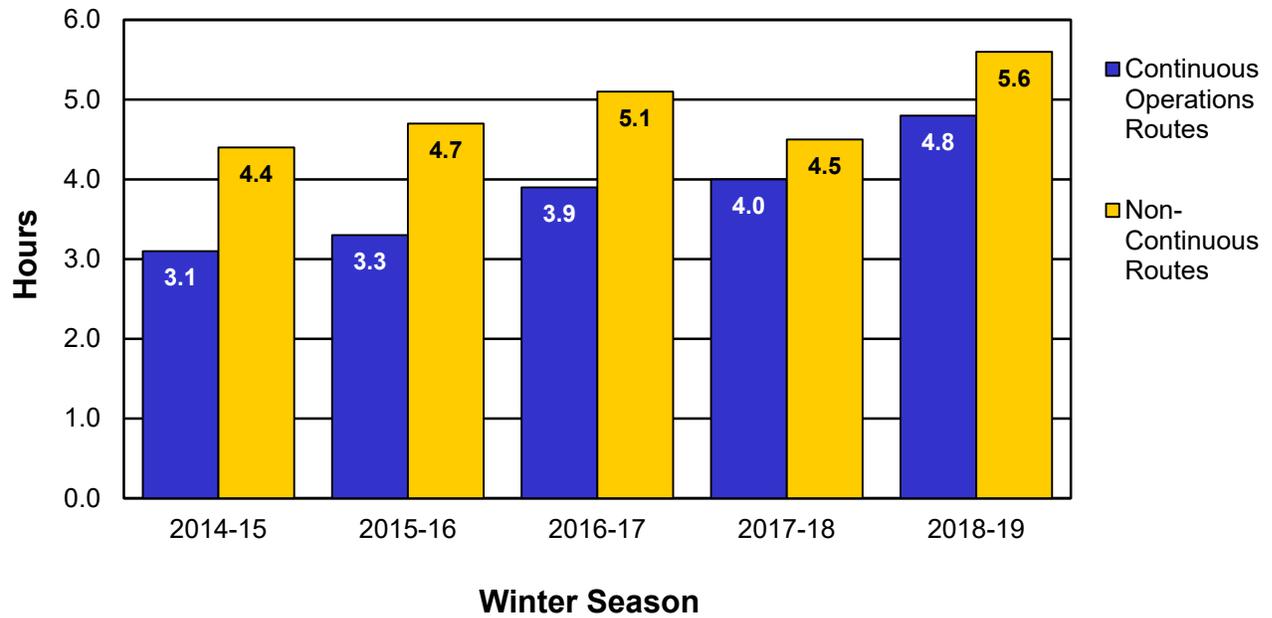
The 2018-2019 winter season began early with several winter events occurring in November including a named winter storm over the Thanksgiving weekend. Winter Storm Bruce had blizzard conditions in the northwest part of the state and caused the closure of Interstate 29. The impact from Winter Storm Bruce was measured from a vehicle delay perspective. The major routes statewide during this winter storm were measured using cell phone data. The measurement was motorist delay costs which were over \$3 million. December was relatively mild, but the new year brought a seemingly unending barrage of winter events lasting through March 3, 2019. Salt supplies became critically low, requiring the imposition of a statewide salt prioritization in February. This challenging winter resulted in an average time to meet MoDOT's objective for continuous operations routes of 4.8 hours, and 5.6 hours for non-continuous routes. These response times are higher than previous years which is due in large part to the impacts of Winter Storm Bruce, salt shortages and the overall increased challenges of this winter compared to previous winters.

On average, winter operations cost about \$43 million per year. MoDOT expended \$63.6 million this year. This is higher than our average winter over the last five years, which is expected because of the various challenges faced this season.

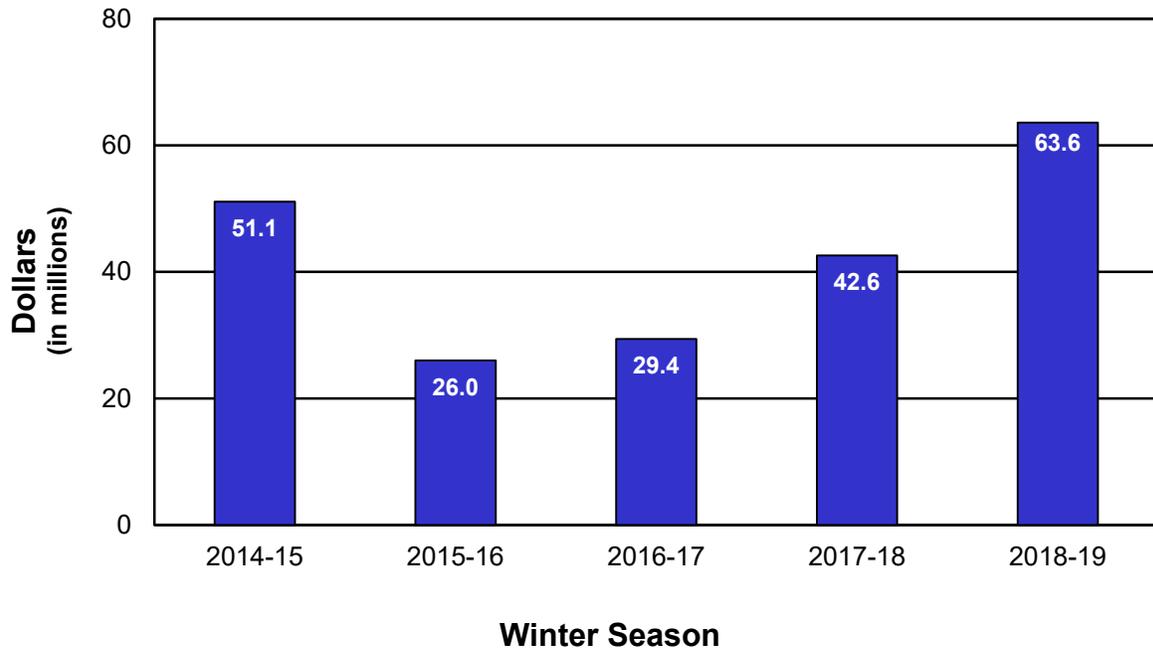


# OPERATE A RELIABLE AND CONVENIENT TRANSPORTATION SYSTEM

## Average Time to Meet Winter Storm Event Performance Objectives



## Cost of Winter Operations



## RESULT DRIVER:

Nicole Hood  
State Highway Safety and  
Traffic Engineer

## MEASUREMENT DRIVER:

Sarah Kleinschmit  
Policy and Innovations  
Engineer

## PURPOSE OF THE MEASURE:

This measure tracks MoDOT's investment in non-motorized facilities and progress toward removing barriers. Accessibility needs occur within the right of way, such as sidewalks and traffic signals. Removal of the barriers listed in MoDOT's 2010 ADA Transition Plan is required as part of the department's compliance with the Americans with Disabilities Act.

## MEASUREMENT AND DATA COLLECTION:

MoDOT's investment in non-motorized facilities is determined from the awarded contract amounts for the 20 most common construction elements used on projects each year. ADA Transition Plan progress is based upon completed work to correct defective items reported in the ADA Transition Plan inventory. The dollar amounts are based on unadjusted estimates from 2008 and do not reflect actual expenditures. This avoids impacts from inflation or changing field conditions. A progress target line is included indicating MoDOT's progress towards completing the transition plan by 2027. Annual funding levels necessary to complete the transition plan by 2027 determine the target, which is set in April of each year.

# OPERATE A RELIABLE AND CONVENIENT TRANSPORTATION SYSTEM

## *Bike/pedestrian and ADA transition plan improvements – 5g*

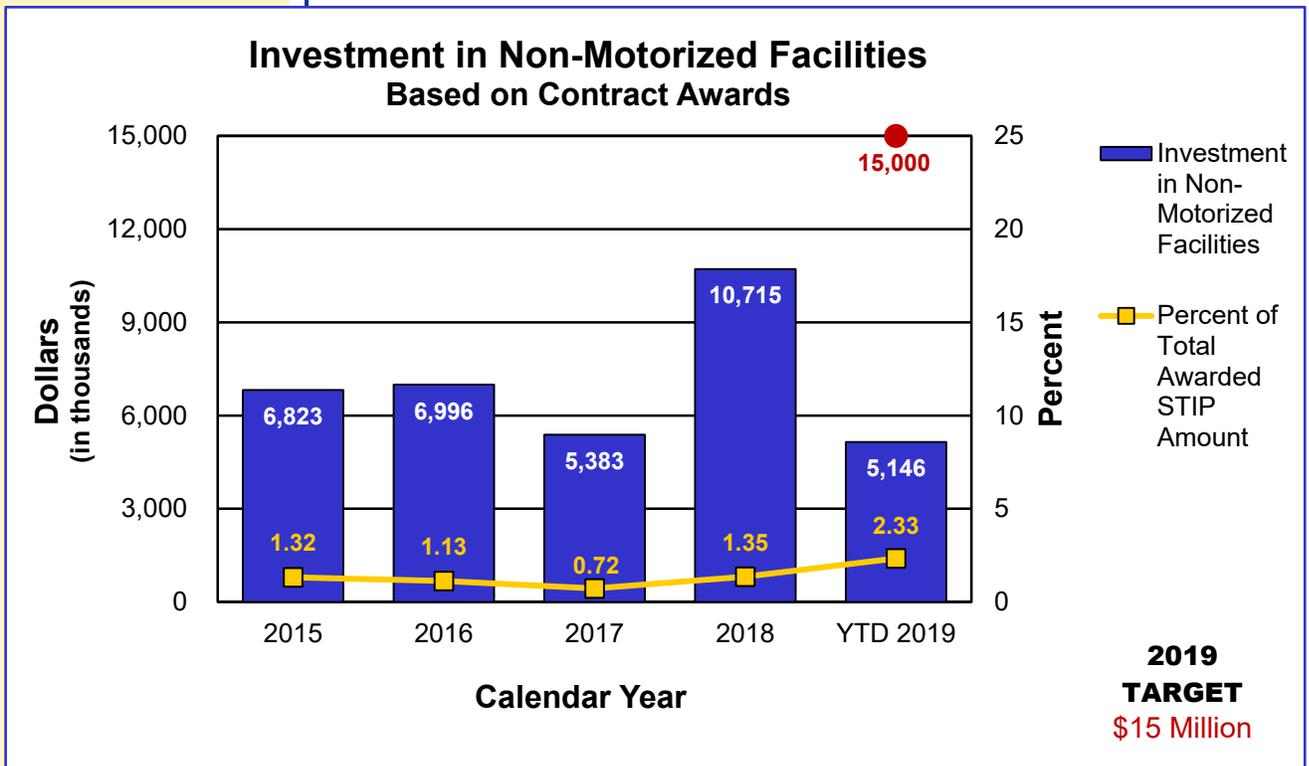
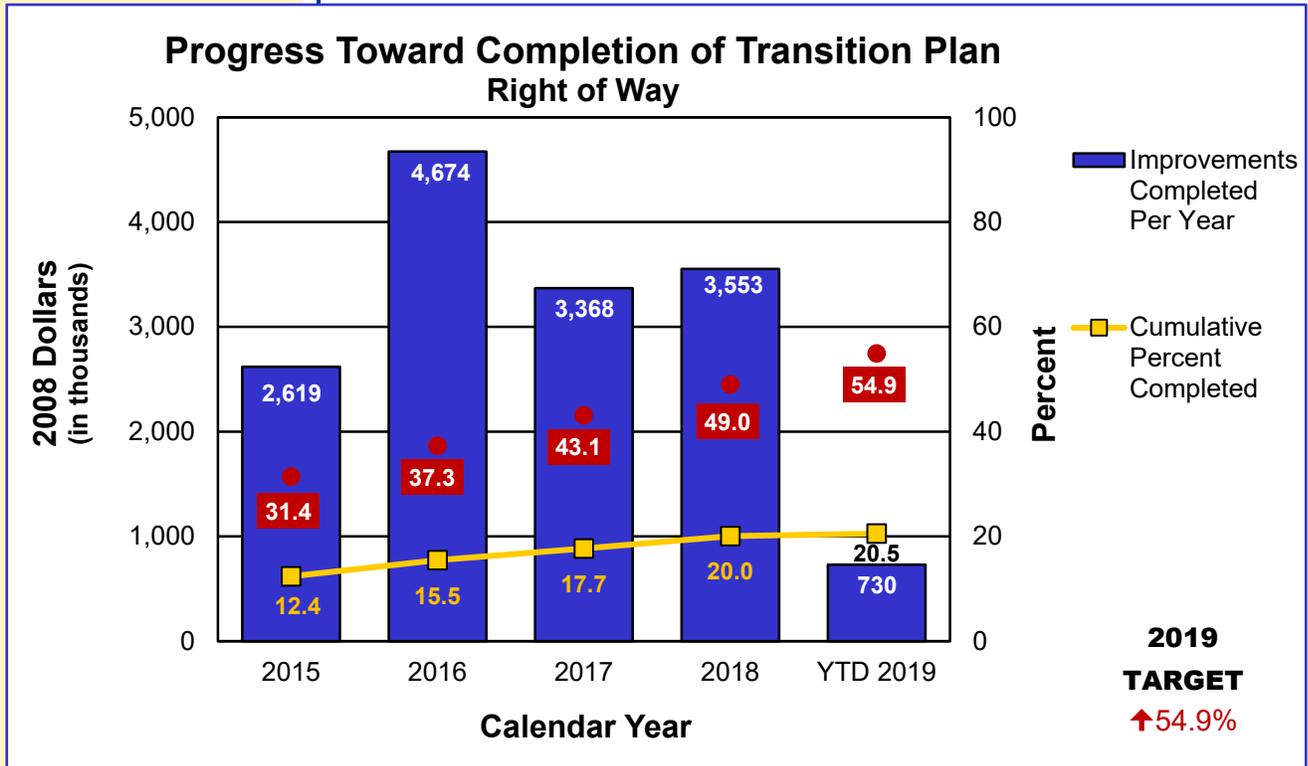
As required by the Americans with Disabilities Act, MoDOT has identified \$151 million in deficient facilities within its right of way and created a transition plan to correct these facilities by August 2027.

In order to complete the transition plan at a steady pace, an annual investment target is approximately \$15 million. Since fiscal year 2016, the MHTC has retained half of the Transportation Alternatives Program funding it receives each year. Approximately \$9 million is reserved for the completion of the transition plan.

For the first quarter of 2019, \$0.73 million in ADA improvements have been completed and \$5.1 million has been awarded. Since 2008, MoDOT has invested over \$31 million or 20.5 percent, toward the correction of the deficient facilities with approximately \$120.2 million remaining. This amount is below the 2019 target of 54.9 percent.



# OPERATE A RELIABLE AND CONVENIENT TRANSPORTATION SYSTEM



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USE RESOURCES WISELY  
*Brenda Morris, Chief Financial Officer*



**Tracker**

MEASURES OF DEPARTMENTAL PERFORMANCE



MoDOT has access to many resources including people, funding, supplies and equipment. Taxpayers trust MoDOT is a good steward of these limited resources while limiting the impact on our environment. We are accountable for everything we do.

## RESULT DRIVER:

Brenda Morris  
Chief Financial Officer

## MEASUREMENT DRIVER:

Paul Imhoff  
Special Projects Coordinator

## PURPOSE OF THE MEASURE:

This measure tracks the change in the number of full-time equivalencies (a calculation of hours) expended within the department and compares it to the number of FTEs in the legislative budget.

## MEASUREMENT AND DATA COLLECTION:

This measure converts the regular hours worked or on paid leave of temporary and salaried employees, as well as overtime worked (minus any hours that are flexed during the workweek), to Full-Time Equivalencies. In order to calculate FTEs, the total number of hours worked or on paid leave is divided by 2,080. For comparison purposes, data for salaried employment is annualized, whereas temporary employment and overtime data represent actual year-to-date calculations. This measure does not represent salaried headcount.

The target for this measure was set by management directive.

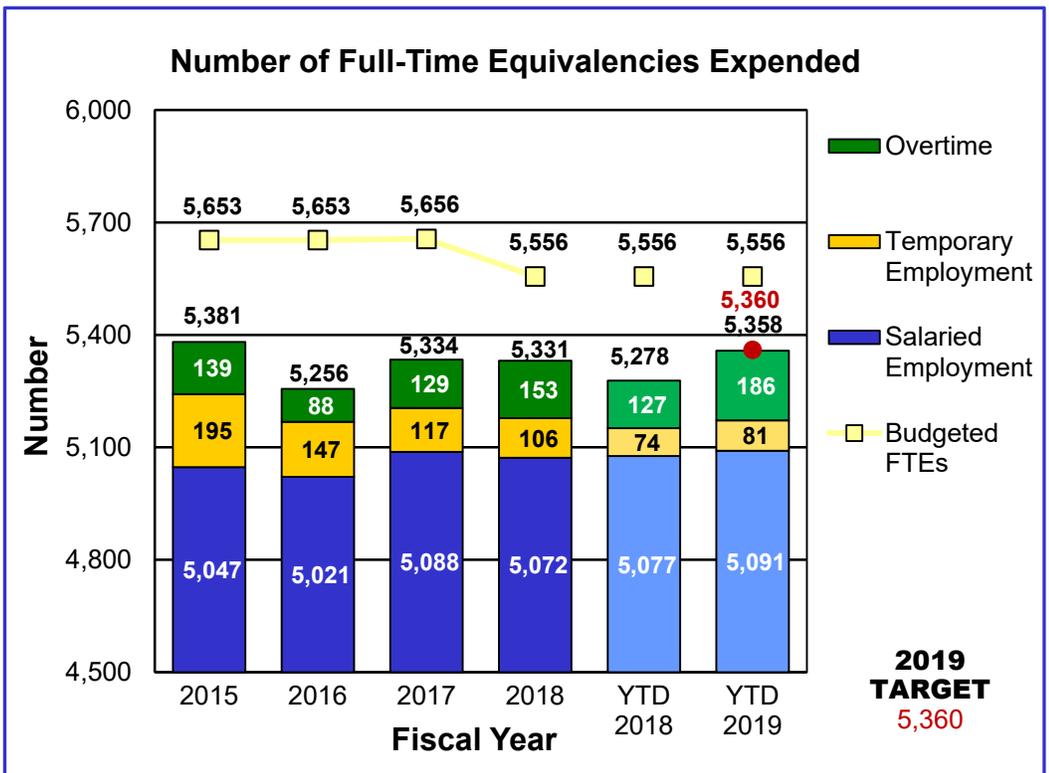
# USE RESOURCES WISELY

## Number of full-time equivalencies expended – 6a

Having the right number of employees to provide outstanding customer service and respond to the state's transportation needs, especially during emergency situations, is an important part of MoDOT's effort to use resources wisely.

During the first three quarters of fiscal year 2019, the number of Full-Time Equivalencies expended increased by 80, or 1.5 percent, compared to the same time in FY 2018. This change came from an increase in both salaried employment and overtime FTEs. Overstaffing in maintenance facilities contributed primarily to the full time FTE increase. A more typical winter season, coupled with frequent winter operations weekend shifts greatly contributed to the significant overtime FTE increase. Fluctuations in temporary employment FTEs were smaller, which is consistent with FY 2018.

Full-Time Equivalencies Expended numbers are being revised downward from those reported in the January 2019 Tracker. The earlier numbers were inflated by changes to payroll data tables following the implementation of the Winter Operations Referral Program.



**RESULT DRIVER:**

Brenda Morris  
Chief Financial Officer

**MEASUREMENT DRIVER:**

Paul Imhoff  
Special Projects Coordinator

**PURPOSE OF THE MEASURE:**

This measure tracks the percentage of employees who leave MoDOT. Turnover rates as shown in this measure include voluntary and involuntary separations.

**MEASUREMENT AND DATA COLLECTION:**

The data is collected statewide from the SAM II Advantage HR system and includes only salaried employees. Voluntary turnover includes resignations and retirements. Involuntary turnover reflects dismissals. Data is reported quarterly, with current year-to-date data included. Stretch goal is derived from Price Waterhouse Cooper's Saratoga Institute benchmark data.

The target for this measure was set by management directive.

**USE RESOURCES WISELY***Rate of employee turnover – 6b*

When employees leave MoDOT, the department loses a large investment in recruiting, hiring and training its workforce. While some turnover is appropriate, MoDOT needs to retain a great workforce that has the knowledge and specialized skills to deliver the department's commitments and provide outstanding customer service.

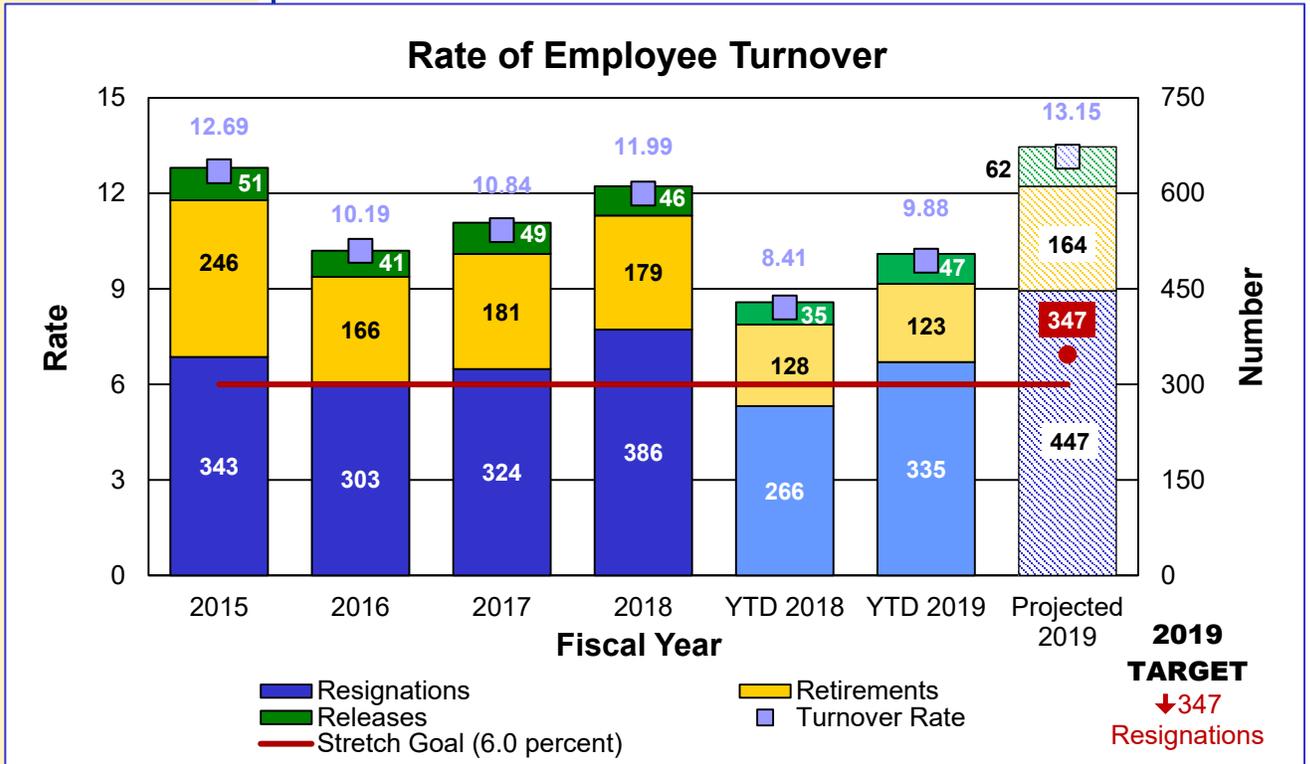
The overall turnover rate has risen from 8.41 percent in the first three quarters of fiscal year 2018 to 9.88 percent in the first three quarters of FY 2019. During the first three quarters of FY 2019, resignations showed an upward trend, and retirements decreased slightly. Releases increased from 35 during the first three quarters of FY 2018 to 47 during the first three quarters of FY 2019. The FY 2019 target is to have 347 or fewer resignations. As part of MoDOT's strategic initiatives and pay strategy, MoDOT will continue to look for opportunities to reduce the rate of employee turnover.

During the 2018-2019 winter operations season, MoDOT implemented two programs to improve recruitment and retention of winter operators. The Emergency Operations Stabilization and Market Adjustment provided an hourly increase for operators performing winter operations duties. The Winter Operations Referral Program provides current eligible employees an incentive for referring new maintenance, bridge maintenance, emergency, and seasonal employees.

Combined, these programs contributed to a 183 percent increase in full-time maintenance staffing over the previous winter season.

With increased staffing, an increase in turnover for these functions were also seen, but MoDOT was able to successfully increase overall staffing in maintenance by 60 this winter season, compared to an overall loss in staffing of 37 last winter season.

# USE RESOURCES WISELY



## RESULT DRIVER:

Brenda Morris  
Chief Financial Officer

## MEASUREMENT DRIVER:

Elizabeth Reed  
Special Projects Coordinator

## PURPOSE OF THE MEASURE:

This measure tracks the level of employee satisfaction throughout the department at specific points in time.

## MEASUREMENT AND DATA COLLECTION:

Employee satisfaction is measured with a bi-annual employee survey in even-numbered years. Employees rate items related to their satisfaction with MoDOT using a five-point scale, with one indicating low satisfaction and five indicating high satisfaction. Society for Human Resources Management best practice data was gathered from an SHRM report of an annual job satisfaction survey of 55 Fortune 500 companies. The target for this measure is updated in odd-numbered years.

The target for this measure was set by management directive.

Illinois DOT was selected as a comparative due to its similar employee demographics.

# USE RESOURCES WISELY

## *Level of job satisfaction – 6c*

MoDOT wants employees to be satisfied with their work and workplace and feel like they are a good fit for their jobs. Employee satisfaction can be a driver of overall organizational performance. The more satisfied and engaged employees are with the workplace, the more discretionary effort they are willing to put forth on the job.

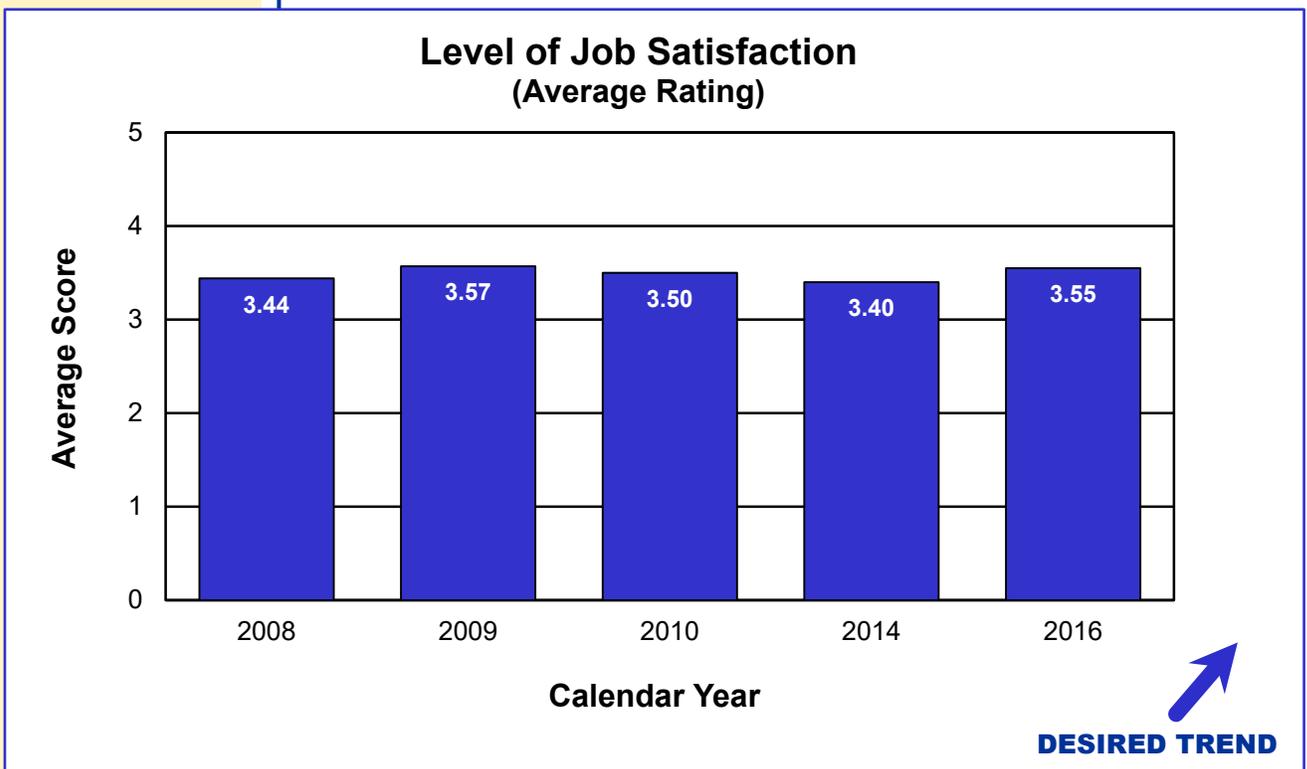
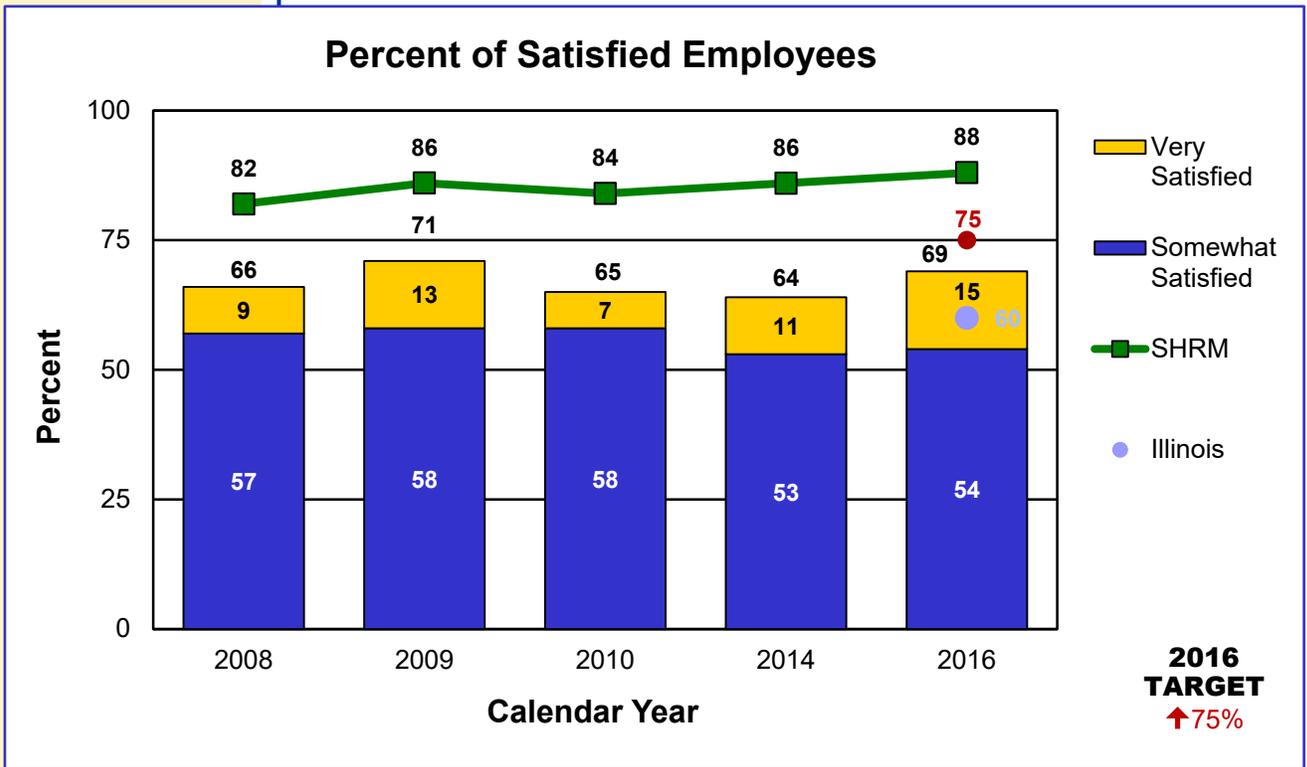
Between 2005 and 2010, the average employee satisfaction ratings and percent of satisfied employees both showed upward trends with peaks in 2009. Following a four-year break, the employee survey was conducted in the spring of 2014 and showed little change from the 2010 survey. Given the major organizational changes the department went through, the slight decline in job satisfaction from 3.5 in 2010 to 3.4 in 2014, and the slight decrease in the percentage of satisfied employees from 65 percent in 2010 to 64 percent in 2014 were seen as good. In fact, the percentage of very satisfied employees during that period increased from 7 percent in 2010 to 11 percent in 2014.

Following the 2014 survey, five employee-led teams worked to develop a series of recommendations to the concerns employees raised in the survey. The recommendations are in various stages of implementation.

The most recent employee survey was conducted in the spring of 2016. Overall job satisfaction increased from 3.40 in 2014 to 3.55 in 2016. The percentage of satisfied employees also increased from 64 percent in 2014 to 69 percent in 2016. The survey results also show the percentage of very satisfied employees increased from 11 percent in 2014 to 15 percent in 2016.

Areas of low satisfaction centered on not having acceptable opportunities for professional growth and not making MoDOT employees feel valued. The lack of salary increases scored low on most surveys and dominated written comments as well. Areas of high satisfaction revolved around having a cooperative work unit and having supervisors support needs to balance work and family. One of MoDOT's strategic initiatives is working toward predictive analytics to optimize job satisfaction.

# USE RESOURCES WISELY



## RESULT DRIVER:

Brenda Morris  
Chief Financial Officer

## MEASUREMENT DRIVER:

Janel Lueckenotte  
Financial Services  
Administrator

## PURPOSE OF THE MEASURE:

This measure shows the precision of state and federal revenue budgets.

## MEASUREMENT AND DATA COLLECTION:

State revenue for roads and bridges include motor fuel taxes, motor vehicle and driver licensing fees, and motor vehicle sales taxes paid by highway users, interest earnings and miscellaneous revenues. State revenue for other modes includes motor vehicle sales taxes, aviation fuel taxes, jet fuel sales taxes, motor vehicle licensing fees, railroad assessments and appropriations from General Revenue, and interest earnings. The measure provides the cumulative, year-to-date percent variance of actual state revenue versus budgeted state revenue by state fiscal year. Federal revenue for roads and bridges is the amount available to commit in a federal fiscal year of federal funds. Federal funds are distributed to states via federal law. Federal revenue for other modes is the amount reimbursed to MoDOT for expenses incurred in a state fiscal year.

The targets set for this measure are set by internal policy and will not change unless policy changes, regardless of performance.

# USE RESOURCES WISELY

## State and federal revenue budgets – 6d

State and federal revenue budgets help MoDOT staff do a better job of budgeting limited funds for its operations and capital program. The desired trend is for actual revenue to match budgets with no variance.

The actual state revenue for road and bridge from motor fuel taxes, motor vehicle sales taxes, motor vehicle and driver licensing fees and miscellaneous was 2.5 percent less than budgeted for the third quarter of fiscal year 2019. The majority of variance is related to the timing of miscellaneous revenue deposits from local entities for partnering projects and lower than projected revenue from motor vehicle sales taxes. The positive variance of 1.4 percent for non-highway modes is mostly attributable to higher than projected revenue from jet fuel sales taxes.

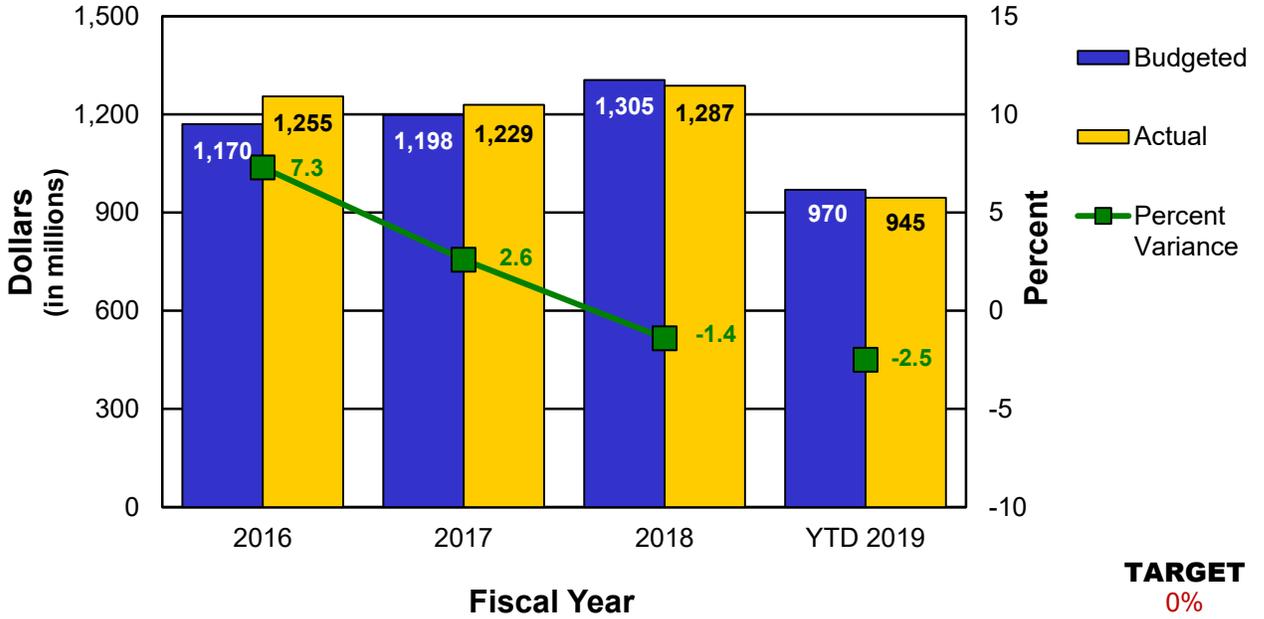
The actual federal revenue for road and bridge was 0.8 percent more than budgeted for federal FY 2018. The negative variance of 31.2 percent for non-highway modes is attributable to the timing of project expenditures.

The largest source of transportation revenue is from the federal government. Funding is received through various federal transportation agencies including Federal Highway, Transit, Aviation and Railroad administrations. In December 2015, Congress passed a five-year federal transportation reauthorization act entitled Fixing America's Surface Transportation Act. The FAST Act increases the amount of road and bridge funding for all state transportation departments. Federal revenue for other modes is reliant on the timing of project expenditures.

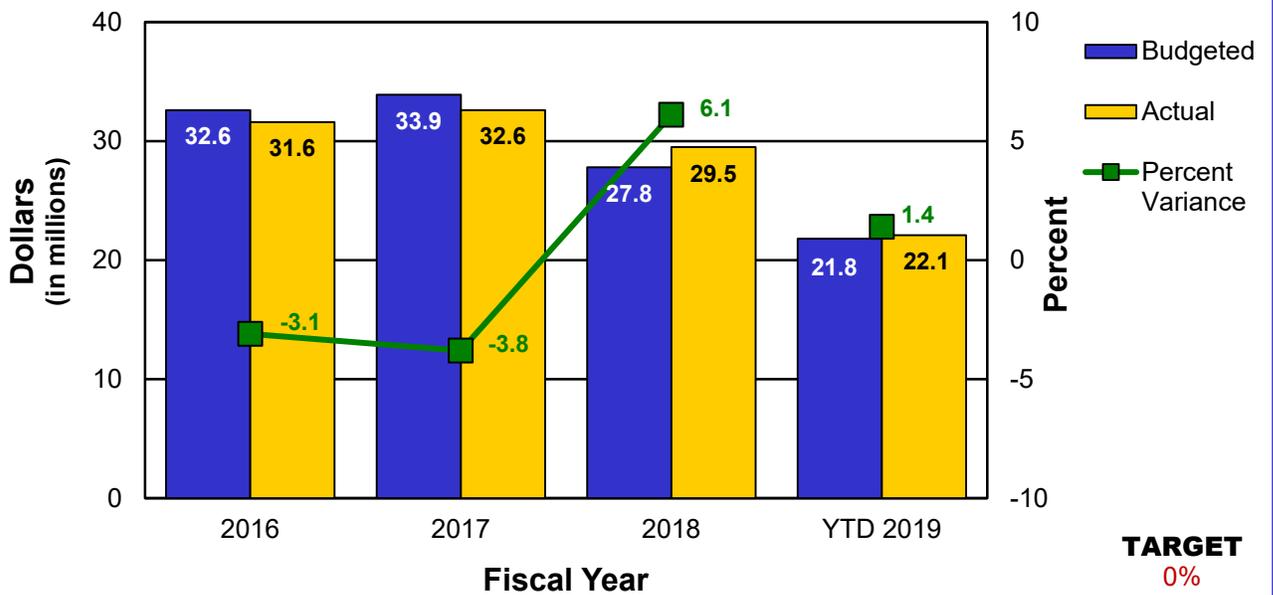
The primary source of federal and state revenue is motor fuel tax. The motor fuel tax rates have not changed in more than 20 years, while the costs for materials and labor have doubled or even tripled in the same time frame.

# USE RESOURCES WISELY

## Budgeted vs. Actual State Revenue Comparison Road and Bridge

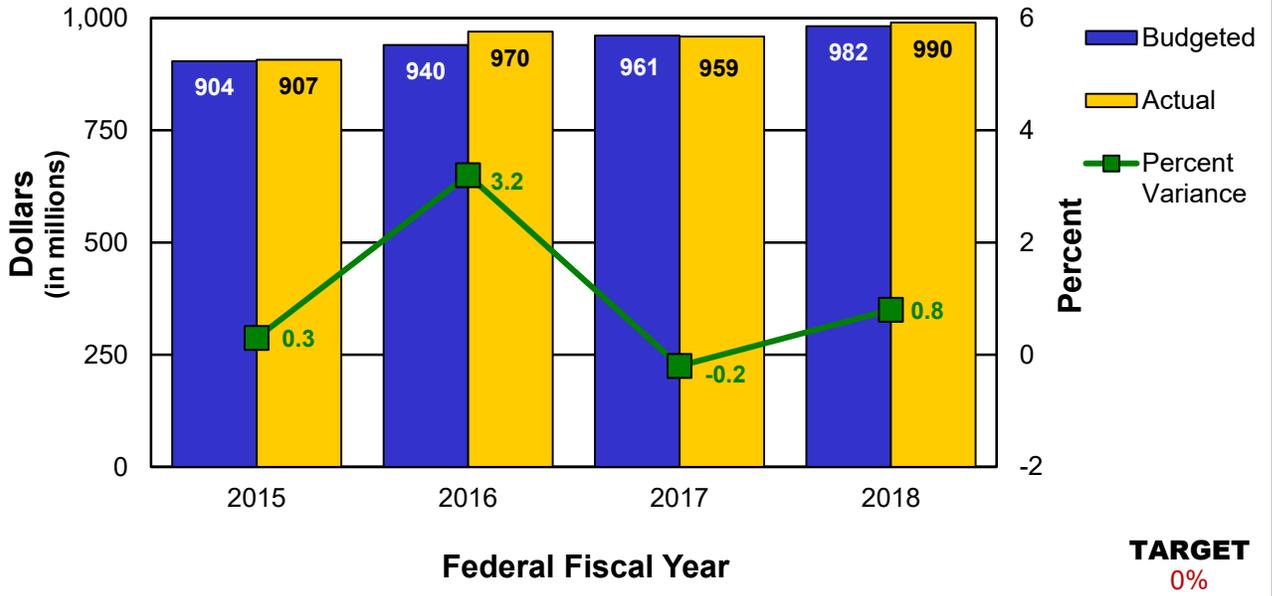


## Budgeted vs. Actual State Revenue Comparison Non-highway Modes

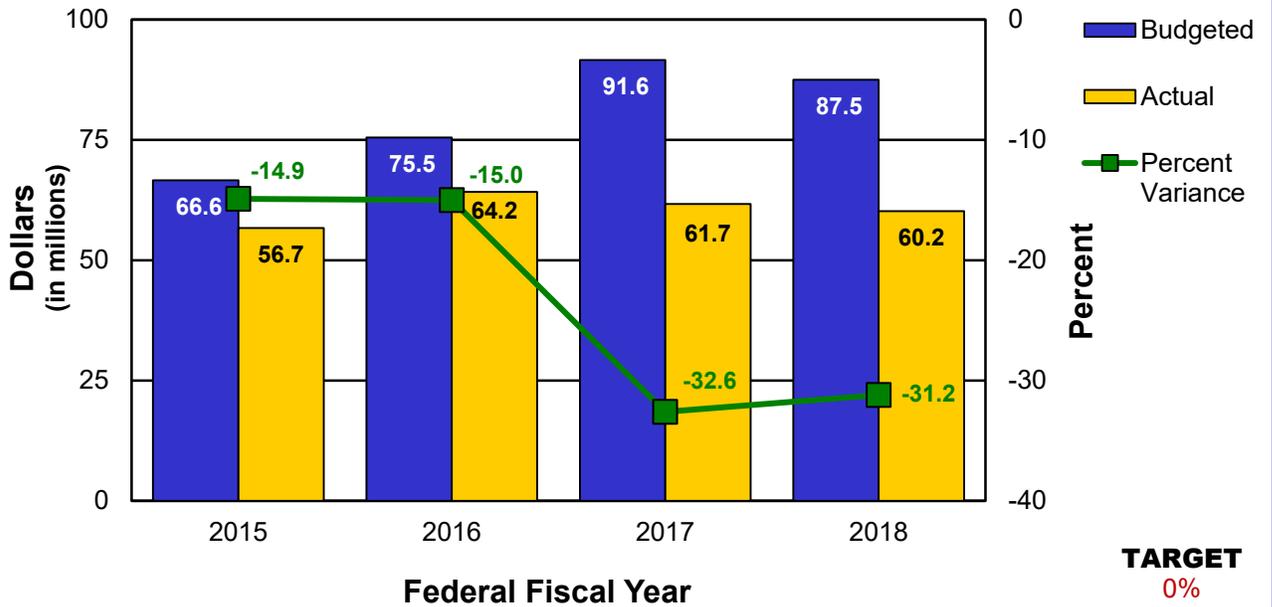


# USE RESOURCES WISELY

## Budgeted vs. Actual Federal Revenue Comparison Road and Bridge



## Budgeted vs. Actual Federal Revenue Comparison Non-highway Modes



**RESULT DRIVER:**

Brenda Morris  
Chief Financial Officer

**MEASUREMENT DRIVER:**

Frank Miller  
District Planning Manager

**PURPOSE OF THE MEASURE:**

This measurement monitors the effectiveness of MoDOT's cost-sharing and partnering programs.

**MEASUREMENT AND DATA COLLECTION:**

MoDOT collects this data from the Statewide Transportation Improvement Program and the permits database. The dollars are shown in the fiscal year in which construction contracts are awarded and permit jobs are issued. The percent is the number of cost-sharing projects divided by the total number of projects per year in the STIP.

The target for this measure is set by internal policy and will not change unless policy changes.

**USE RESOURCES WISELY***Number of dollars generated through cost-sharing and partnering agreements for transportation – 6e*

MoDOT works with public agencies to leverage its limited resources to implement projects that might not otherwise be built. Cost-share projects are transportation improvements in which costs are shared by MoDOT and other public agencies such as cities and counties. After a temporary suspension of the Cost Share Program through fiscal year 2017, the Missouri Highways and Transportation Commission reactivated the Cost Share Program with the adoption of the 2018-2022 Statewide Transportation Improvement Program, with the size of the program increasing annually from \$10 million in FY 2018 to \$45 million by FY 2024.

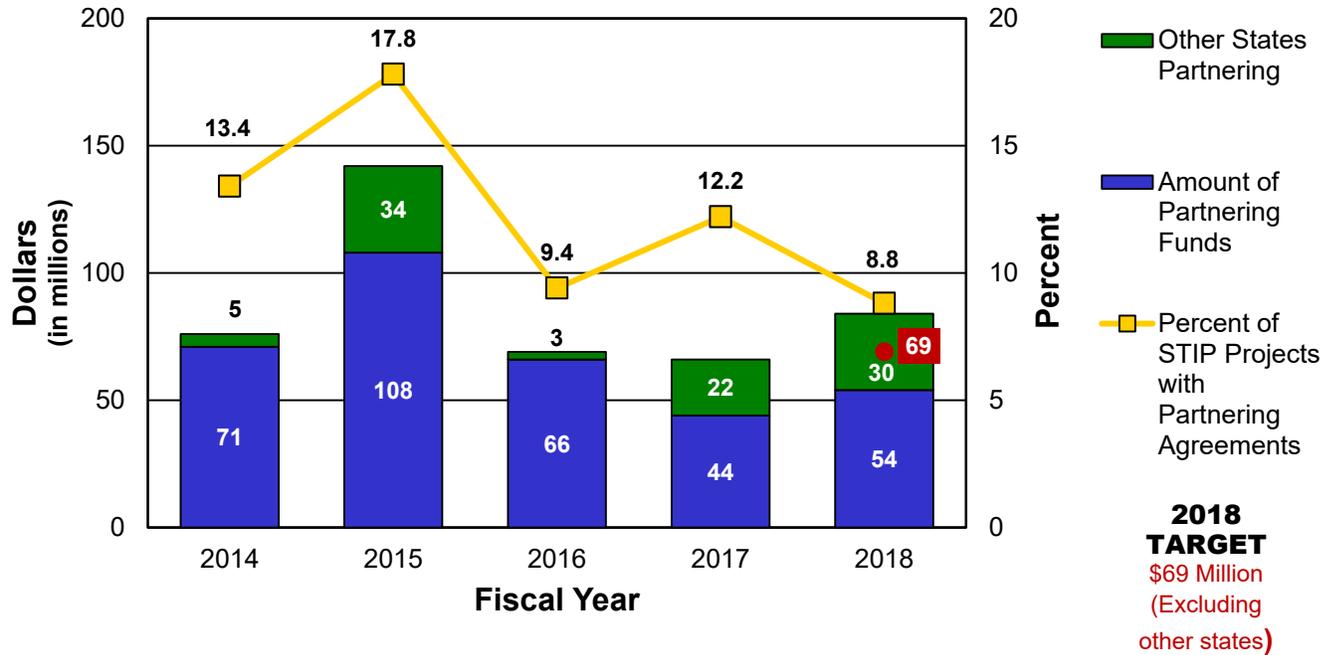
In addition, MoDOT partners with cities and counties for projects not part of the formal Cost Share Program with other states for projects of mutual interest such as border bridges and with federal agencies through competitive discretionary programs. MoDOT also partners with developers and other private entities to make improvements to the state transportation system through the permitting process. As a part of MoDOT's strategic initiatives, the department plans to research and deploy alternative funding solutions through cross-cabinet collaboration.

The number of dollars generated through cost-sharing and partnering agreements for transportation increased in FY 2018, with \$54 million in partnerships on the MoDOT system and \$30 million in partnerships with other states for jointly-owned facilities. This reflects the reinstatement of the Cost Share Program in FY 2018. Because funding allocated to the program will increase annually through 2024, more partnering opportunities will be available. MoDOT is on track to achieve the target of \$69 million in partnering funding by FY 2020.

Even though there were fewer partnership projects in FY 2018, the projects brought a higher average partner contribution. The percentage of partnering projects in the STIP for FY 2018 was only 8.8 percent, the lowest percentage since FY 2013. In FY 2018, 41 projects involved partnerships, with 53 projects in FY 2017. However, the average partner contribution was \$1.31 million, the highest average contribution in the past five years.

# USE RESOURCES WISELY

## Number of Dollars Generated Through Cost-sharing and Partnering Agreements for Transportation



**RESULT DRIVER:**

Brenda Morris  
Chief Financial Officer

**MEASUREMENT DRIVER:**

Joni Roeseler  
Administrator of Transit

**PURPOSE OF THE MEASURE:**

This measurement provides the percent of state funds invested in non-highway modes of transportation. Modes include aviation, rail, transit, waterways, freight and bike/pedestrian.

**MEASUREMENT AND DATA COLLECTION:**

Investments in non-highway modes of transportation represent the state and federal dollars spent on aviation, rail, transit, waterways, freight and bike/pedestrian. Federal investments represent the amount spent on MoDOT-administered programs only. Investments are limited to the amounts appropriated by the state legislature each year.

The target for this measure was set by management directive.

**USE RESOURCES WISELY***Percent of state funds invested in non-highway modes of transportation – 6f*

During the long-range transportation planning process, *A Citizen's Guide to Missouri Transportation – Long Range Plan Update*, Missourians chose more transportation choices as a top priority. MoDOT works closely with its multimodal partners to provide more choices within the available funding amounts. In fiscal year 2018, state and federal expenditures for non-highway modes of transportation decreased \$1 million and \$1.7 million, respectively.

Aviation – FY 2018 state expenditures of \$9.3 million represent 24 percent of funds invested. Federal Aviation Administration and State Aviation Trust funds require a minimum local match of 10 percent.

Rail – FY 2018 state expenditures of \$10.7 million represent 78 percent of funds invested.

Transit – FY 2018 state expenditures of \$7.7 million represent 22 percent of funds invested.

Waterways – FY 2018 state expenditures of \$2.2 million represent 100 percent of funds invested.

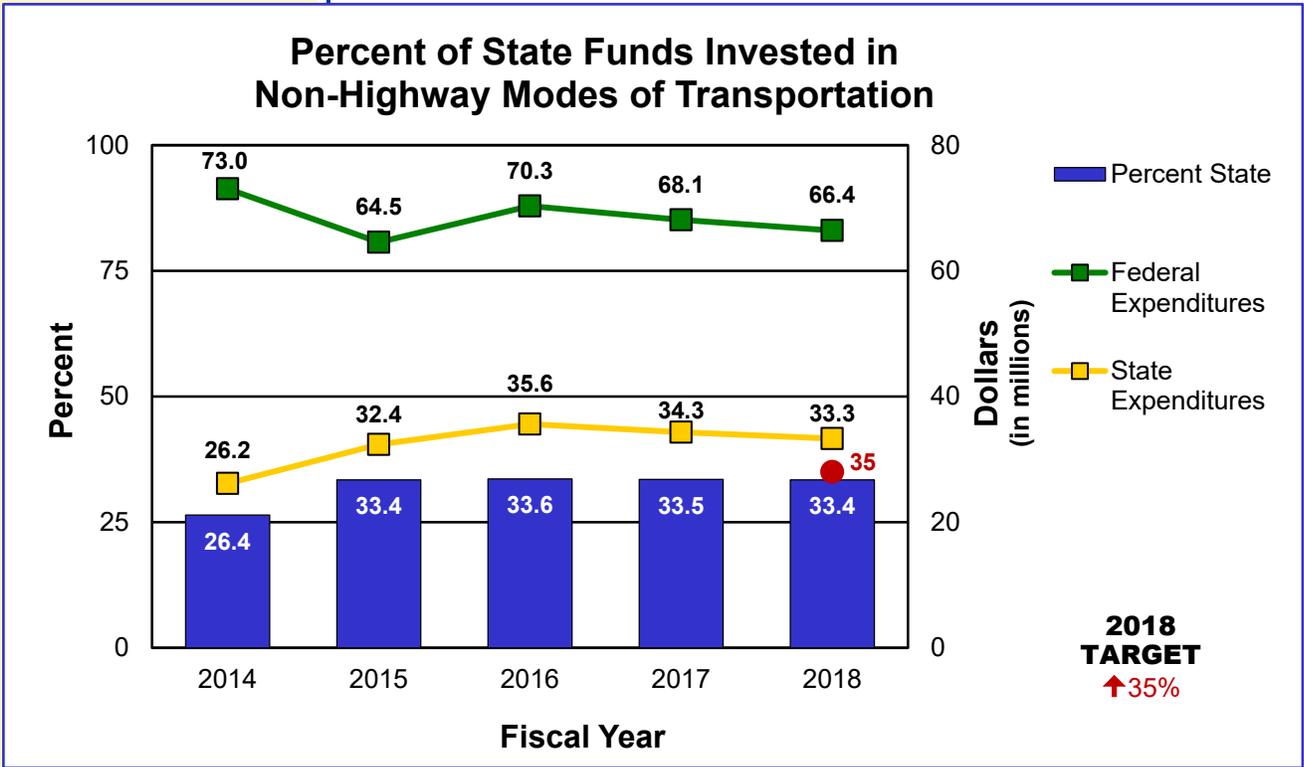
Freight – FY 2018 state expenditures of \$1 million represent 100 percent of funds invested.

Statewide Transportation Assistance Revolving Fund – FY 2018 state expenditures of \$0.8 million represent 100 percent of funds invested.

Bike/Pedestrian – FY 2018 state expenditures of \$1.6 million represent 20 percent of funds invested.



# USE RESOURCES WISELY



**RESULT DRIVER:**

Brenda Morris  
Chief Financial Officer

# USE RESOURCES WISELY

## Percent of local program funds committed to projects – 6g

**MEASUREMENT DRIVER:**

Julie Stotlemeyer  
Assistant State Design Engineer

**PURPOSE OF THE MEASURE:**

This measure tracks the percent of available local program funds committed to projects.

Some of the federal funds MoDOT receives are required to be passed through to local entities, such as cities and counties. Available funds for local entities include those that are allocated this year and those that have not been committed in prior years. When local entities use federal funds, they provide the matching funds. Matching funds provided by local entities help MoDOT use all the transportation federal funding available to Missouri.

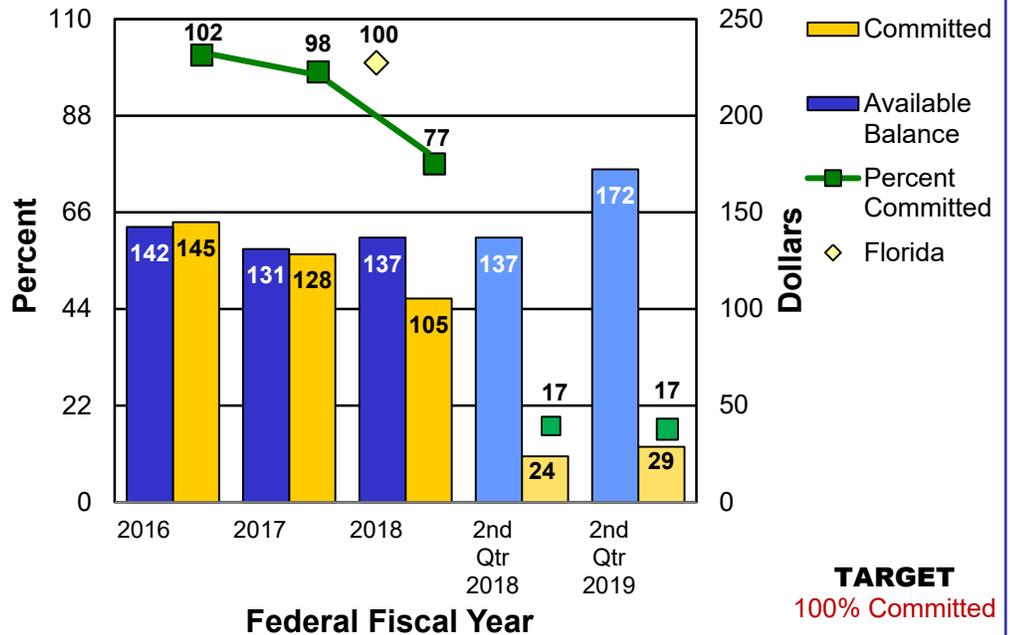
MoDOT has set a target of committing 100 percent of local program funds to projects each year. For the second quarter of federal fiscal year 2019, 17 percent (\$28.6 million) of the \$172 million in available funds has been committed to local projects. This is the same percentage of commitments compared to second quarter FFY 2018.

**MEASUREMENT AND DATA COLLECTION:**

The data is obtained from the Federal Highway Administration’s Fiscal Management Information System and based on the federal fiscal year from Oct. 1 through Sept. 30. The committed amounts represent what FHWA will reimburse for the project. The available amounts represent the federal program funds distributed to local sponsors. The goal of this measure is to commit all federal funds available to local public projects.

The target for this measure is set by internal policy and will not change unless policy changes, regardless of performance.

**Percent of Local Program Funds Committed to Projects**



## RESULT DRIVER:

Brenda Morris  
Chief Financial Officer

## MEASUREMENT DRIVER:

Kevin James  
Assistant District Engineer

## PURPOSE OF THE MEASURE:

This measure tracks progress of our fleet age for light duty, dump trucks and other fleet. The measure also tracks fuel efficiency for five vehicle classes: cars, pickups, light-duty trucks, heavy duty trucks and extra-heavy duty trucks. These classes represent the majority of fleet expenditures and miles driven.

## MEASUREMENT AND DATA COLLECTION:

Data reflects average age of units. The goal is for the average age to be half the department's age threshold. The data is obtained from MoDOT's fleet management system, FASTER. This measure also reports MoDOT's total fuel consumed and shows how fleet choices can affect fuel economy. The fuel data is collected in the statewide financial system. Mileage data is obtained from MoDOT's fleet management system, FASTER.

The fleet average age targets are set by internal policy and will not change unless policy changes. The fuel efficiency target was established by projecting a 3 percent improvement over a five-year average.

# USE RESOURCES WISELY

## *Fleet age and fuel efficiency – 6h*

MoDOT must keep a dependable fleet to meet customers' needs. Fleet age is the best indication of fleet condition. The large investment in fleet, with a replacement value over \$475 million, emphasizes the importance.

Optimization of fleet is identified as one of MoDOT's strategic initiatives. MoDOT is moving toward an asset management approach for fleet using data to plan fleet purchases over the next several years. MoDOT also strives to use resources wisely by improving fuel efficiency. This is critical since MoDOT budgeted more than \$25 million for fuel in fiscal year 2018.

For the first six months of FY 2019, the average age for Light Duty fleet, Dump Truck fleet, and Other fleet (includes equipment such as backhoes, loaders, tractors and specialty items like under bridge inspection units and stripers) showed gradual decreases. This is attributed to purchasing equipment based on the asset management approach. The goal is for the average age to be half the department's age threshold.

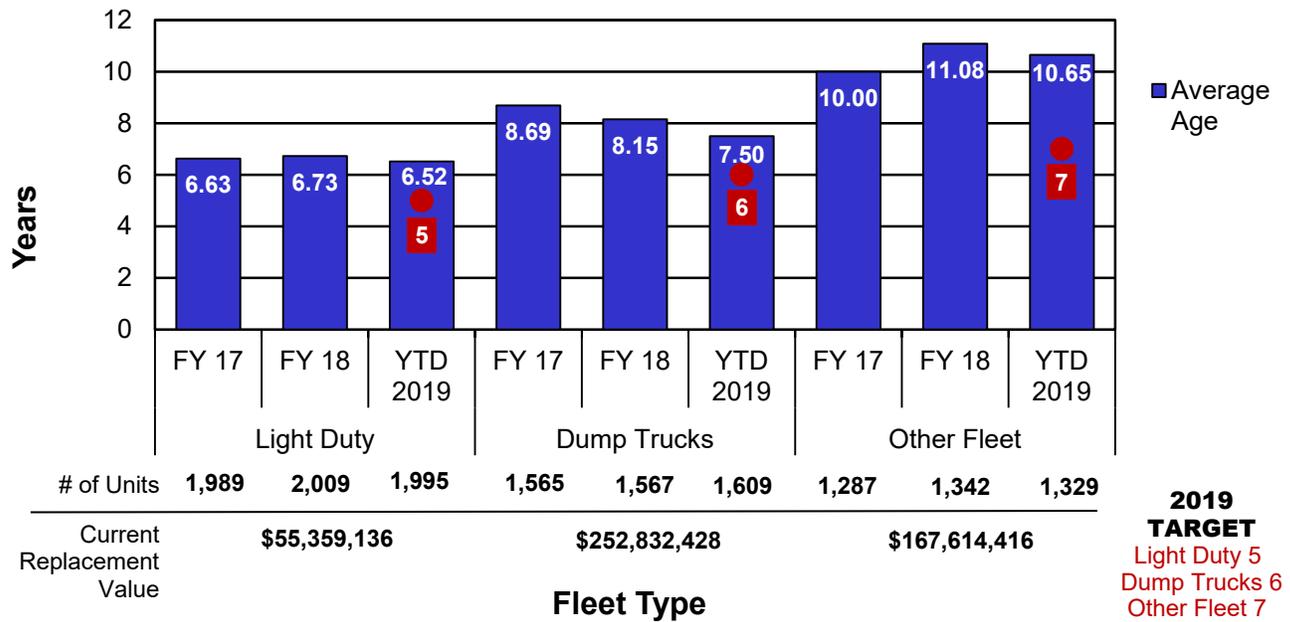
The fuel efficiency and the fuel consumption measures are updated annually at the end of each fiscal year.

MoDOT has set a target of 8.73 average miles per gallon based on the five-year average of 8.48 mpg plus 3 percent. The usage trends by activity and vehicle type (dump trucks versus pickup trucks) resulted in miles per gallon lower than the target. Strategies to maintain results at target level include encouraging more carpooling and using more fuel-efficient light-duty vehicles when able.

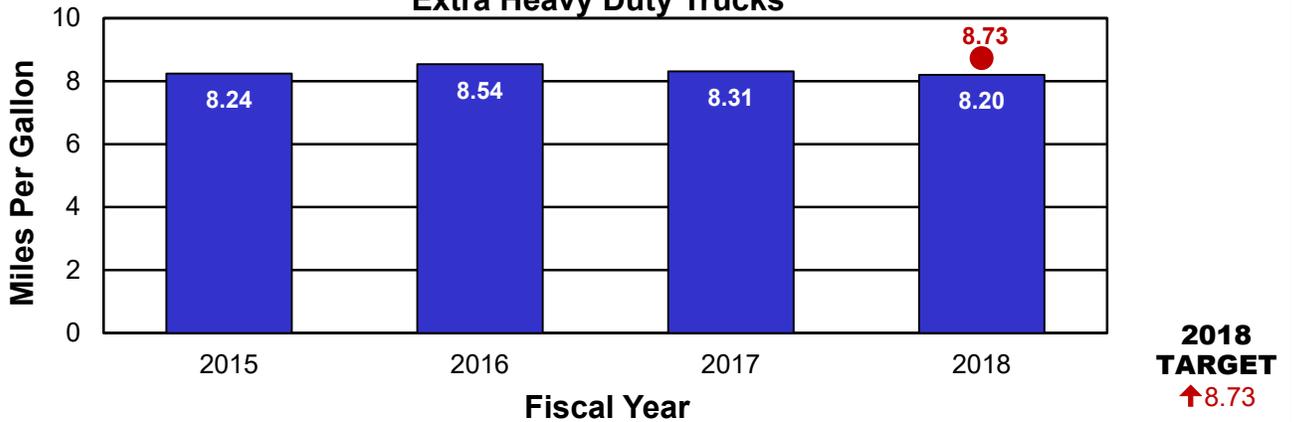


# USE RESOURCES WISELY

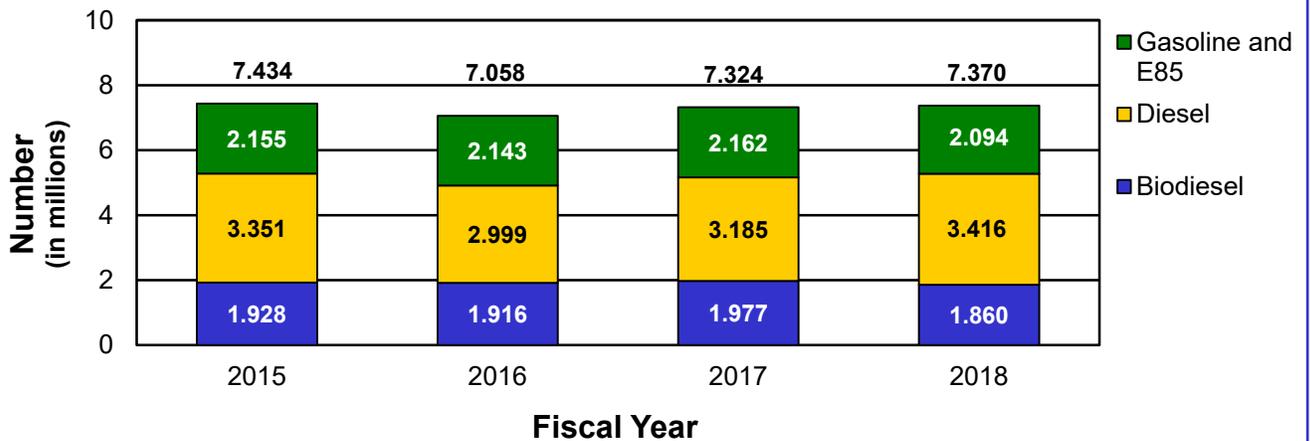
## Fleet Average Age by Fiscal Year



## Average Miles Per Gallon Cars, Pickups, Light Duty Trucks, Heavy Duty Trucks and Extra Heavy Duty Trucks



## Gallons of Fuel Consumed



## RESULT DRIVER:

Brenda Morris  
Chief Financial Officer

## MEASUREMENT DRIVER:

Jonathan Varner  
Field Materials Engineer

## PURPOSE OF THE MEASURE:

This measure tracks MoDOT's recycling efforts in construction projects and internal operations.

## MEASUREMENT AND DATA COLLECTION:

The recycled material used in construction projects is measured through MoDOT's SiteManager database, which tracks material incorporated into projects. Data is collected on an annual basis due to the seasonal nature of construction. Recycled material from internal MoDOT operations are captured from the annual Missouri State Recycling Program report and from other internal records.

# USE RESOURCES WISELY

## Number of tons of recycled material – 6i

For more than a decade, MoDOT has incorporated recycled asphalt pavements and roof shingles into new asphalt pavements to help offset increasing costs. While the cost of rock, sand, liquid asphalt, labor, fuel and equipment have increased, recycling efforts have helped offset the cost increases. In 2018, 30 percent of the 3.2 million tons of new asphalt pavement constructed came from recycled components. Based on tonnage bids in 2018, this saved taxpayers about \$5.17 per ton, or \$16.4 million overall. The \$16.4 million savings is equivalent to improving more than 331 miles of a two-lane roadway with a thin overlay.

By comparison, 18 percent of new asphalt pavement constructed by the Illinois DOT in 2017 came from slag, recycled pavement and shingles. In 2017, 20 percent of new asphalt pavement constructed by MoDOT came from slag, recycled pavement and shingles.

MoDOT also engages in internal recycling efforts. In 2018, the amount of recycled material increased by 230 tons. The majority of the recycled tonnage comes from scrap metal and scrap rubber/tires. More than 2,161 tons of scrap metal and 176 tons of scrap rubber/tires (equivalent to about 15,600 passenger car tires) were recycled. The cost to recycle some items, such as scrap rubber/tires and oil, was just over \$297,000. Other recycling efforts returned more than \$576,000. The net revenue was slightly more than \$279,000.

Recycling is good for the environment and helps continue to stretch available funds.

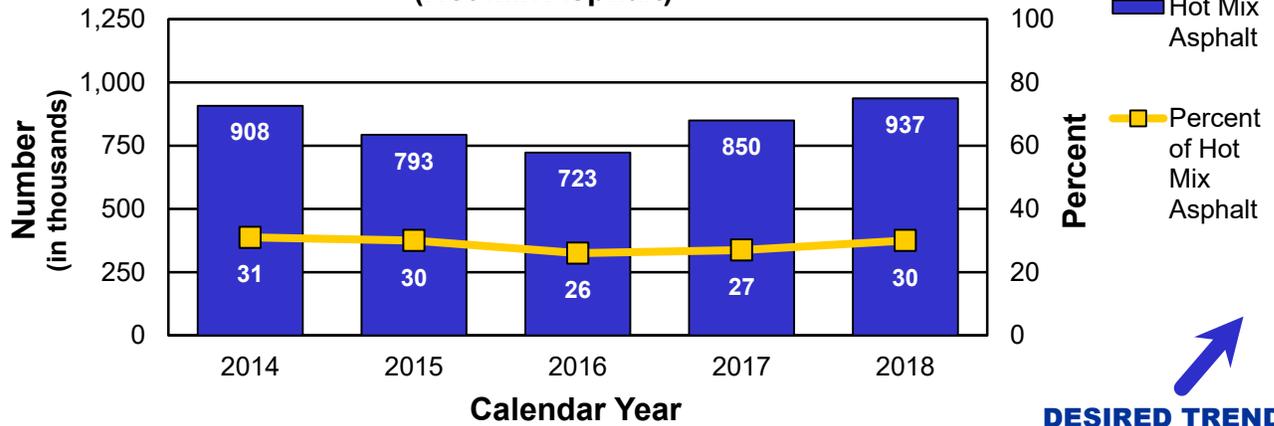


## Roofs to Roads

MoDOT is among the first state agencies in the nation to recycle shingles to resurface or rebuild highways.

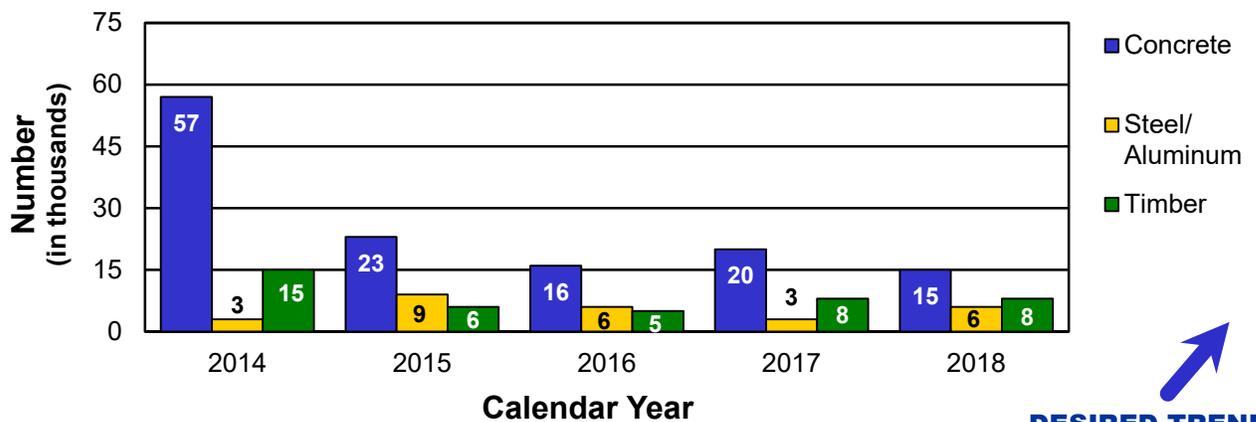
# USE RESOURCES WISELY

## Tons of Recycled Materials Used in Roadway Projects (Hot Mix Asphalt)



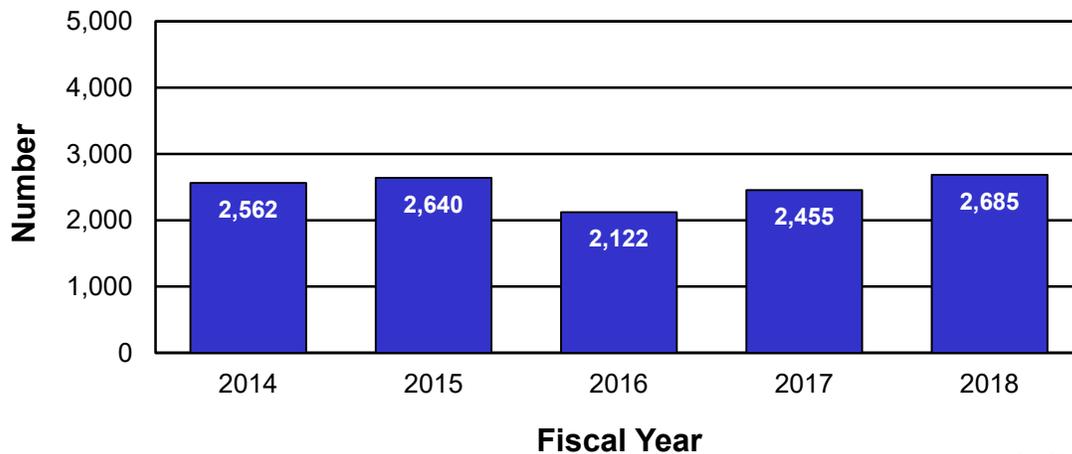
 **DESIRED TREND**

## Tons of Recycled Materials Used in Roadway Projects (Materials other than Hot Mix Asphalt)



 **DESIRED TREND**

## Tons of Recycled Material by MoDOT



 **DESIRED TREND**

## RESULT DRIVER:

Brenda Morris  
Chief Financial Officer

## MEASUREMENT DRIVER:

Melissa Schepeler  
Environmental Compliance  
Manager

## PURPOSE OF THE MEASURE:

This measure tracks the annual trend of compliance with environmental laws and regulations, which includes obtaining and abiding by specific requirements contained in various permits.

## MEASUREMENT AND DATA COLLECTION:

Notices of Violation are similar to a traffic ticket as they are written to indicate you are operating outside of legal limits. A Letter of Warning indicates that there are problems and, if not corrected, could lead to a notice of violation. Issued by environmental regulatory agencies, NOV, LOWs and letters of satisfactory inspections are collected and tracked by location and/or project. The measure reports by calendar year the number of NOV, LOWs and satisfactory inspections received by the department for any activity.

The target for this measure is set by internal policy and will not change unless policy changes, regardless of performance.

# USE RESOURCES WISELY

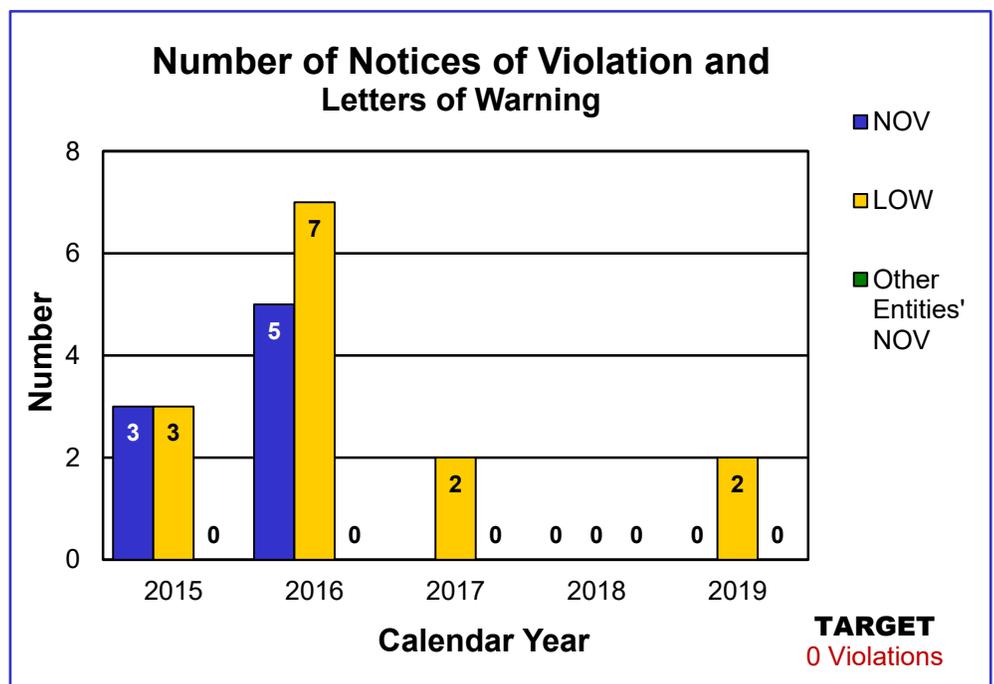
## Number of environmental warnings and violations – 6j

MoDOT seeks to reduce its impact on Missouri's natural resources by complying with environmental laws and regulations. The department is serious about protecting human health, air, water, wildlife and ecosystems. Compliance with environmental laws and regulations helps to prevent and counteract possible damage from MoDOT activities.

MoDOT has a zero-tolerance policy toward any Notices of Violation from regulating agencies, such as the Missouri Department of Natural Resources or the Environmental Protection Agency. Department employees study situations that lead to NOV and Letters of Warning then take action to prevent future occurrences.

For calendar year 2019 to date, MoDOT received no NOV and two LOWs.

MoDOT received one LOW from DNR regarding the I-44 Conway Welcome Center for effluent limit violations of E. coli and ammonia. Future issues with E. coli have been addressed with purchase of extra UV light bulbs to have on hand that were backordered at the time. Ammonia issues were attributed to colder weather and will be monitored closely. MoDOT received a second LOW as a permit noncompliance from the US Army Corps of Engineers regarding temporary fills and bank stabilization materials in Clay County Route 291 over Shoal Creek.



## RESULT DRIVER:

Brenda Morris  
Chief Financial Officer

## MEASUREMENT DRIVER:

Amy Wilson  
Assistant Information Systems  
Director

## PURPOSE OF THE MEASURE:

This measure reports how MoDOT ranks in cybersecurity incidents per employee compared to other state agencies. An incident is defined as any threat that standard anti-virus protection software can't detect.

## MEASUREMENT AND DATA COLLECTION:

Data for this measure is captured from the Office of Administration reporting and individual agency websites.

A target for this measure is in the process of being determined.

The reporting period for this measure is a rolling 12 months.

# USE RESOURCES WISELY

## MoDOT state ranking in cybersecurity incidents per employee – 6k

MoDOT uses thousands of computer devices to get work completed from thousands of locations around the state. Keeping those computers safe from outside computer threats is a 24-hour job using the latest security measures. Still, it's a responsibility all department computer users must share.

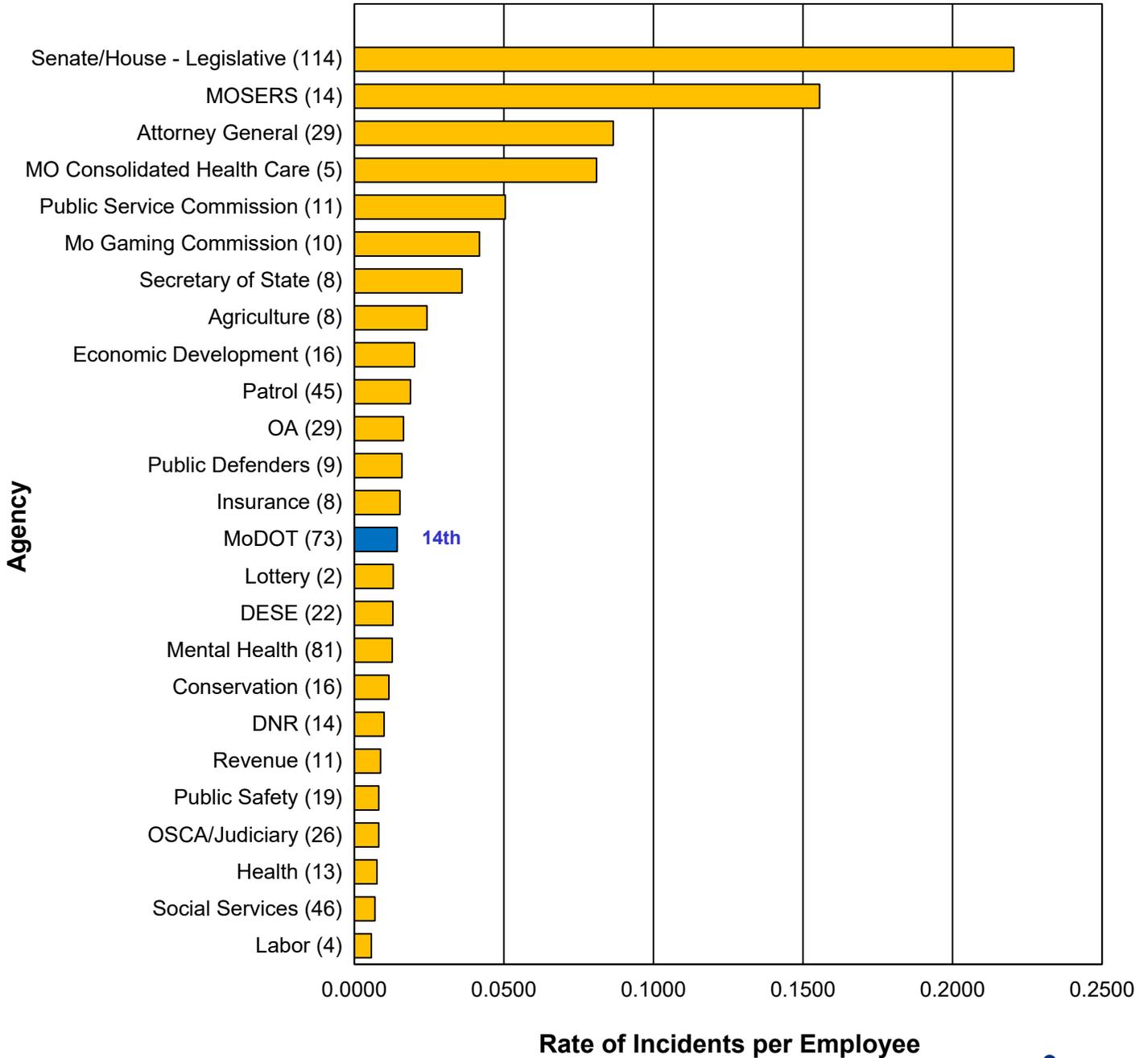
During this past reporting period, MoDOT continues to rank 14th compared to all other state agencies in terms of cybersecurity incidents per employee. MoDOT's total of 73 cybersecurity incidents equated to a rate of 0.0144 incidents per employee. While there was a decrease this quarter compared to the previous quarter, the 12-month reporting period increased by 10. Incidents included a statewide infected email phishing campaign, fake anti-virus exploits and other targeted technology exploits.

MoDOT continues to emphasize cybersecurity with users and provides cybersecurity training for all department computer users. The department's cybersecurity oversight team works to define areas of vulnerability and deploy solutions to address those risks. In addition, MoDOT utilizes the Office of Administration's network firewall service, as well as OA's endpoint cybersecurity detection and remediation services to provide increased cyber protection.



# USE RESOURCES WISELY

**MoDOT State Ranking in Cybersecurity Incidents per Employee  
(April 1, 2018 - March 31, 2019)**



\*Number inside the parentheses indicates the number of incidents



**DESIRED TREND**

**RESULT DRIVER:**

Brenda Morris  
Chief Financial Officer

# USE RESOURCES WISELY

## Local entity cash leveraged for cost share program – 6l

**MEASUREMENT**

**DRIVER:**

Sunny Wilde  
Financial Services  
Administrator

**PURPOSE OF THE MEASURE:**

This measure tracks local entity cash leveraged from the Cost Share Program.

**MEASUREMENT AND DATA COLLECTION:**

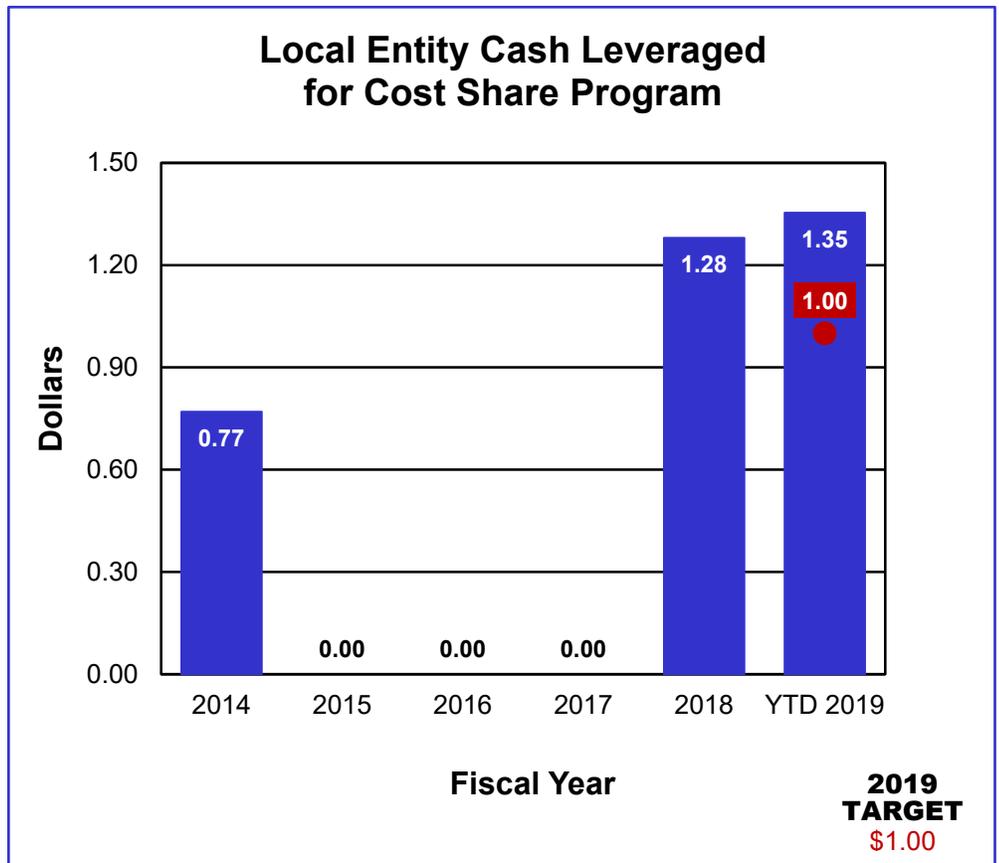
Data for this measure is collected from a partnership database. This measure is based on the state fiscal year.

The target for this measure was set by management directive.

The Cost Share Program builds partnerships with local entities to pool efforts and resources to deliver state highway and bridge projects. When local entities are willing to partner with MoDOT, MoDOT matches their investment up to 50 percent of the project cost. MoDOT works in cooperation with the Missouri Department of Economic Development with local entities to determine when targeted investments can be made to create jobs and may provide up to 100 percent of the project cost.

On Jan. 8, 2014, the Missouri Highways and Transportation Commission suspended the Cost Share Program due to declining transportation funding. On Jan. 4, 2017, the Missouri Highways and Transportation Commission reactivated the Cost Share Program for fiscal year 2018.

During the second quarter of FY 2019, Cost Share Program funds of \$3.3 million were approved for three additional projects for a fiscal year total of nine projects totaling at \$12.4 million. For every \$1 of Cost Share Program funds, local entities provided \$1.35 of cash, which is \$0.35 above the target.



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# ADVANCE ECONOMIC DEVELOPMENT

*Lester Woods, External Civil Rights Director*

# Tracker

MEASURES OF DEPARTMENTAL PERFORMANCE



Missouri's transportation system has a direct impact on the state's economy. Missouri businesses depend on our roadways, rail, waterways and airports to move their products and services both nationally and globally. An efficient, well-connected transportation system helps attract new businesses to our communities and helps existing businesses maintain a competitive edge with easy customer access, minimal shipping costs and strong links to a diverse workforce. We believe investments in transportation should create jobs and provide opportunities for advancement to all Missouri citizens. An investment in transportation should provide a positive economic impact on both the citizens we serve and the communities in which they live.

## RESULT DRIVER:

Lester Woods  
External Civil Rights Director

## MEASUREMENT DRIVER:

Eva Voss  
Transportation Planning Specialist

## PURPOSE OF THE MEASURE:

This measure tracks the economic impact resulting from the state's transportation investments.

## MEASUREMENT AND DATA COLLECTION:

MoDOT works with the Economic Development Research Group to perform economic impact analyses for the state's transportation investments. The analyses are performed using a model called the Transportation Economic Development Impact System. The TREDIS model results demonstrate a strong link between transportation investment and economic development.

This target was set by analyzing historical performance. MoDOT would like to reach the performance level of \$3.62 which is consistent with what was achieved in the 2014-2018 Statewide Transportation Improvement Program cycle.

# ADVANCE ECONOMIC DEVELOPMENT

## *Economic return from transportation investment – 7a*

Investment in transportation improvements has long been held as a major economic engine that drives growth in job creation, personal income and new value added to Missouri's economy.

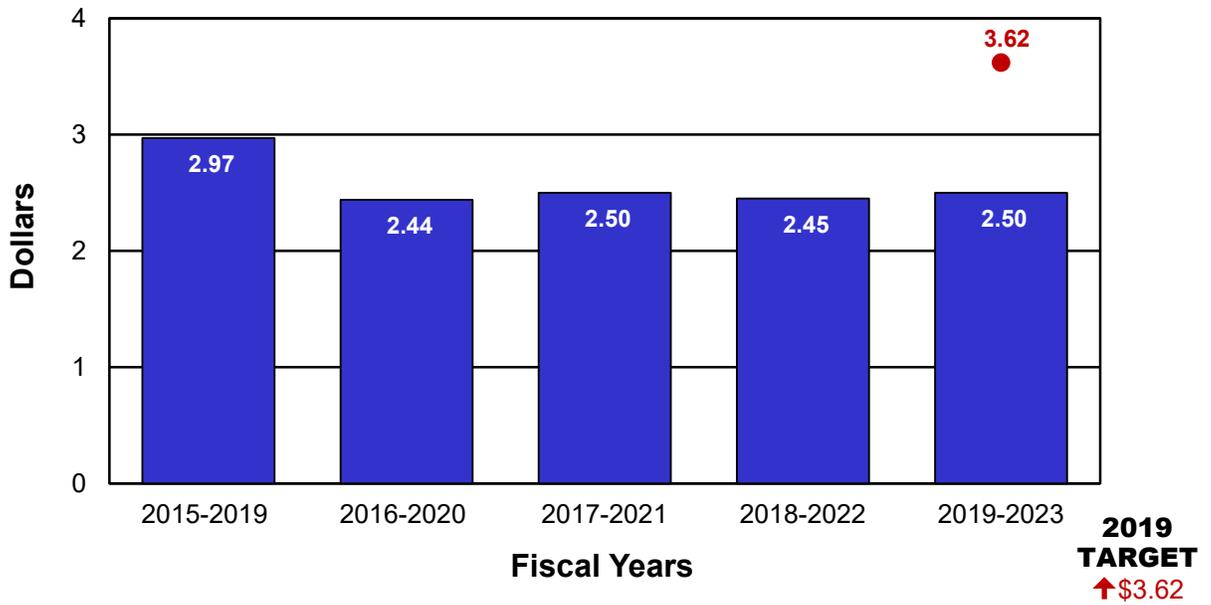
Based on MoDOT's 2019-2023 Statewide Transportation Improvement Program investment of \$5.9 billion, the program is estimated to create 4,746 jobs – a 4 percent increase when compared to MoDOT's 2018-2022 STIP. Transportation investments are expected to contribute \$15 billion of economic output during the next 20 years, resulting in a \$2.50 return on every \$1 invested in transportation which is fairly consistent with the last four years of STIP analyses.

The increase in economic return is due to the increasing construction investment of highway and bridge improvements. Though these figures tell a powerful economic story, they are also a sign of missed opportunity. Current investments must focus on maintaining the current transportation system rather than new major projects that offer a larger economic return.



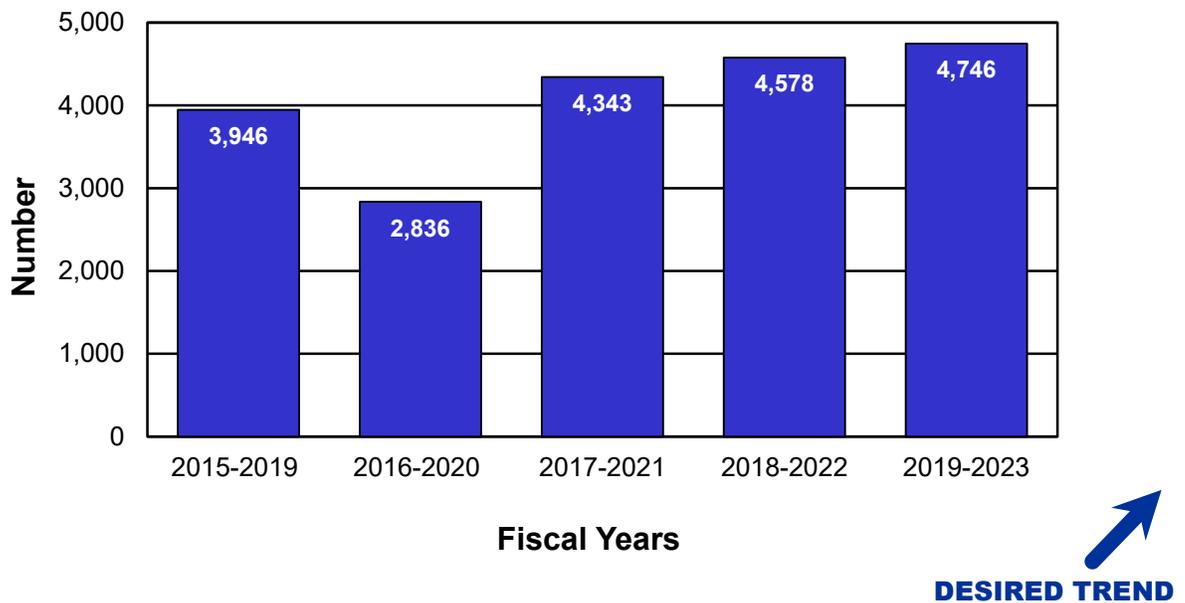
# ADVANCE ECONOMIC DEVELOPMENT

### Economic Return from Transportation Investments 20-Year Benefit Ratio for Every Dollar Invested



Note: STIP 2018-2022 rate of return has been revised from \$2.52 to \$2.45.

### Economic Return from Transportation Investments Jobs Created Annually



Note: STIP 2018-2022 annual number of jobs has been revised from 4,577 to 4,578.

**RESULT DRIVER:**

Lester Woods  
External Civil Rights Director

# ADVANCE ECONOMIC DEVELOPMENT

## Freight investment effectiveness – 7b

**MEASUREMENT DRIVER:**

Cheryl Ball  
Administrator of Freight and Waterways

**PURPOSE OF THE MEASURE:**

**MEASUREMENT AND DATA COLLECTION:**


**DATA COMING IN 2019**

## RESULT DRIVER:

Lester Woods  
External Civil Rights Director

## MEASUREMENT DRIVER:

Bryan Ross  
Railroad Operations Manager

## PURPOSE OF THE MEASURE:

This measure tracks the amount of freight moved by Missouri's largest transportation modes.

## MEASUREMENT AND DATA COLLECTION:

Twice a year, a freight tonnage estimator is used to calculate the amount of freight moved by railroads and highways. The estimator provides timely information for Missouri's primary freight movers. Freight data for aviation and waterways is a combination of direct surveys and trend analysis. This measure's data is estimated yet provides an indication of current trends and movements.

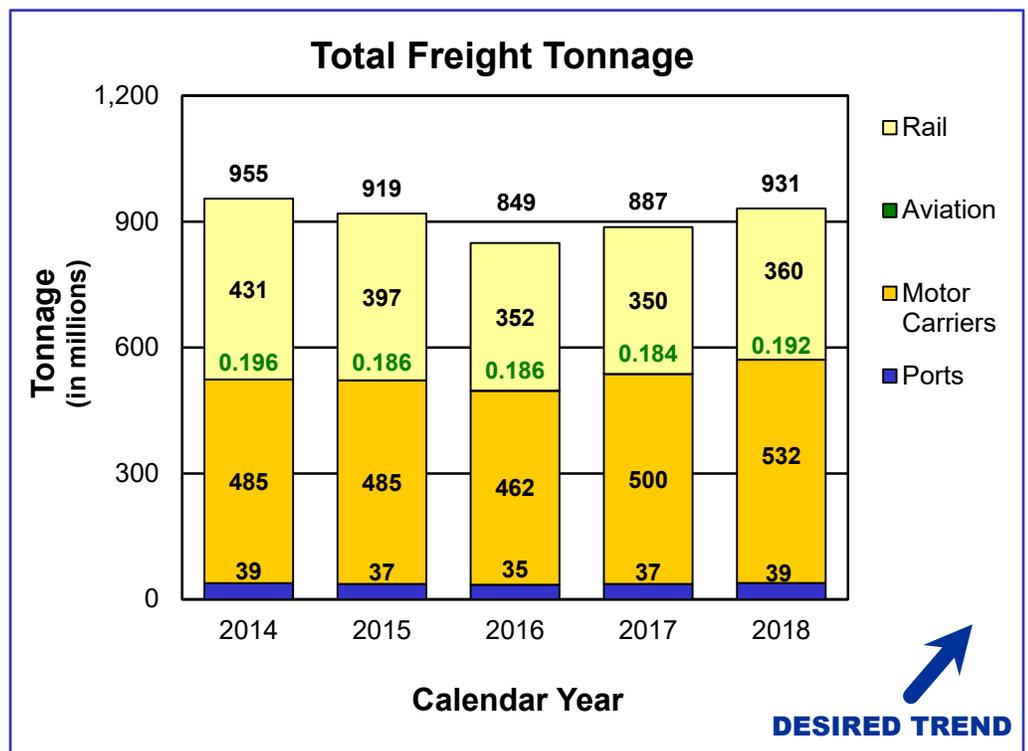
# ADVANCE ECONOMIC DEVELOPMENT

## Freight tonnage by mode – 7c

Everything comes from somewhere. How it gets from place to place depends on a number of factors. The different transportation modes experience volume shifts from year to year often based on the health of the national economy and shifts in consumer preferences. A key element to a healthy economy is a robust transportation system.

State road funding cannot address transportation needs other than highways and bridges. Moving hundreds of million tons of freight a year requires careful improvements of other transportation facilities such as ports, railroads and airports. Yet many of these needs remain underfunded.

In 2018, Missouri experienced a 5 percent increase in freight movements as compared to 2017, and all modes experienced year-to-year increases in freight movements. These numbers can be attributed to the continued national trend of increasing employment, exports and gross domestic product.



**RESULT DRIVER:**

Lester Woods  
External Civil Rights Director

# ADVANCE ECONOMIC DEVELOPMENT

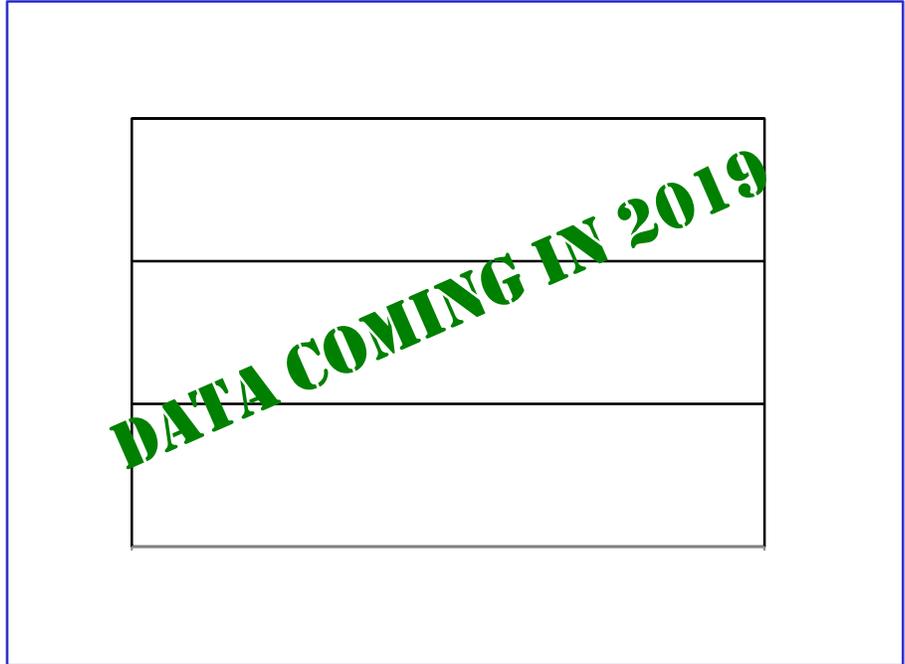
*Truck travel time reliability index – 7d*

**MEASUREMENT DRIVER:**

Brian Reagan  
Transportation System  
Analysis Engineer

**PURPOSE OF THE MEASURE:**

**MEASUREMENT AND DATA COLLECTION:**



## RESULT DRIVER:

Lester Woods  
External Civil Rights Director

## MEASUREMENT DRIVER:

Beckie Brietzke  
Senior Diversity and Inclusion Specialist

## PURPOSE OF THE MEASURE:

This measure tracks minority and women employment in MoDOT's workforce and compares it with availability data from the Missouri 2010 Census report.

## MEASUREMENT AND DATA COLLECTION:

The SAM II database is used to collect data. The Missouri 2010 Census data is used as the benchmark for this measurement. The availability number is derived from two different sets of data; the 2010 census and the current pool of MoDOT employees who are trainable, transferable or promotable. The two statistics are factored together and weighted based on the hiring practices from the previous year. The weighted number allows for a more accurate reflection of the hiring process. This number ultimately conveys the number of minorities and women who currently possess the skills necessary to work for the department.

The target for this measure is based on Missouri's availability and is set each October.

# ADVANCE ECONOMIC DEVELOPMENT

## Percent of minorities and women employed – 7e

By placing the right people in the right positions, MoDOT can better serve its customers and help fulfill its responsibilities to taxpayers.

The number of minority employees decreased about 1 percent from third quarter fiscal year 2018 to third quarter FY 2019 (518 to 513).

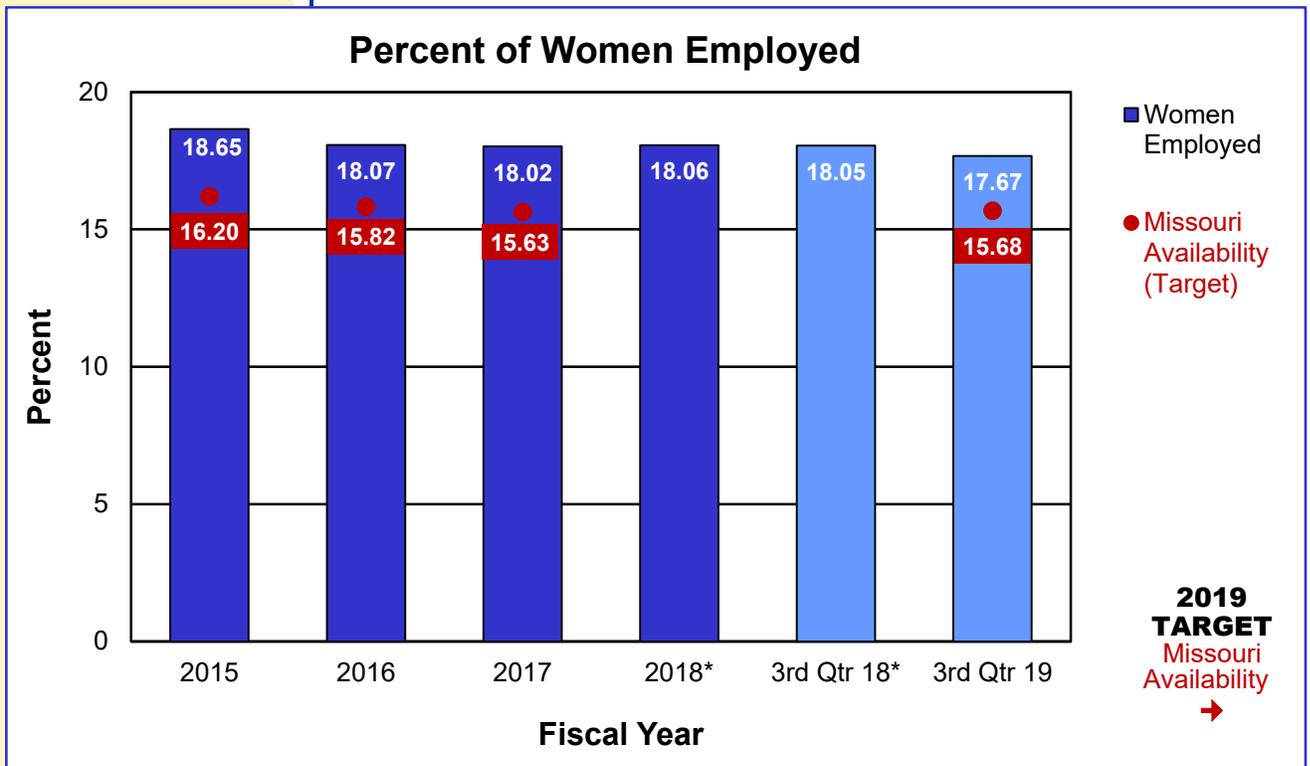
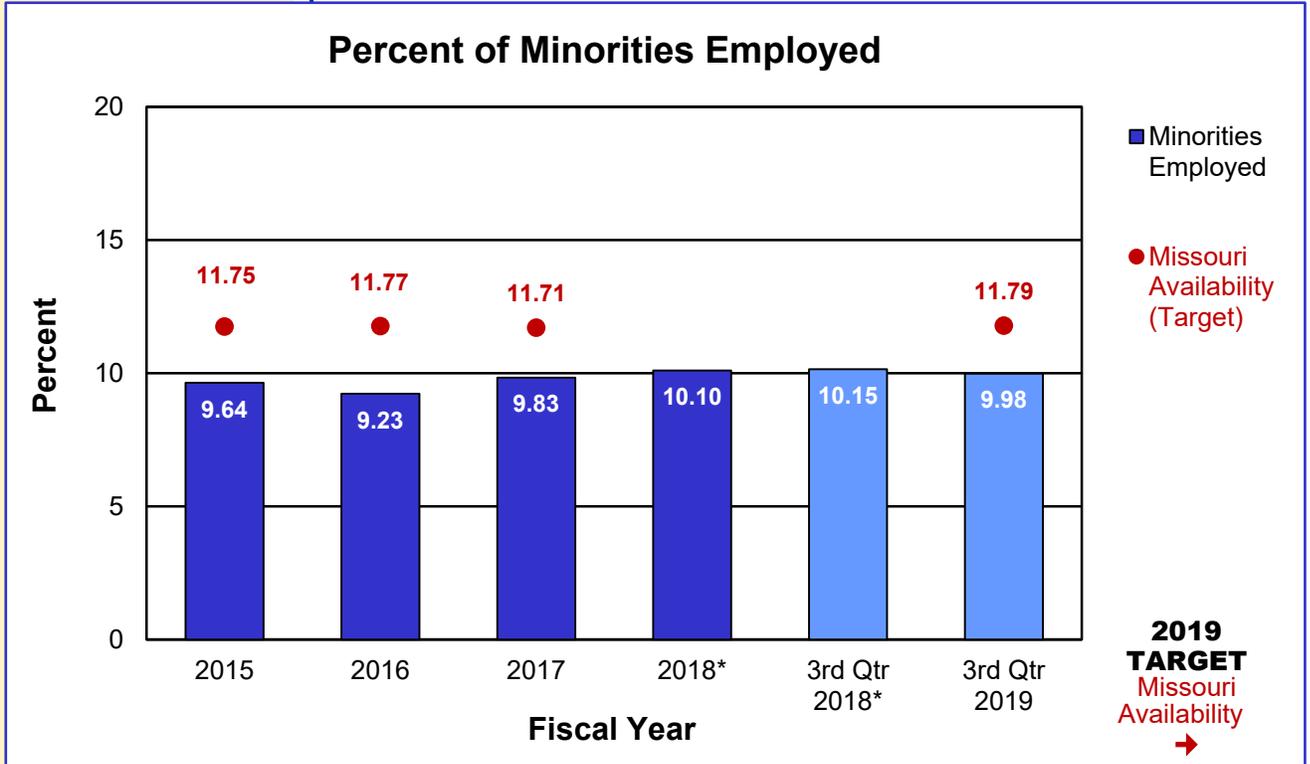
The number of women employees decreased about 1.2 percent from third quarter FY 2018 to third quarter FY 2019 (919 to 908).

Total full-time employment between third quarter FY 2018 and third quarter FY 2019 increased from 5,101 to 5,140 employees.

Recently, MoDOT has developed new relationships with organizations and universities that are geared toward minorities and women. MoDOT has expanded its partnership with Lincoln University to include employment preparedness training opportunities and increased presence in discipline specific classrooms. New retention efforts have been put in place including new employee resource groups and diversity trainings. These good-faith efforts aid in increasing an applicant pool of qualified minorities and women, which ultimately helps narrow the gap between actual employment and target employment of minorities and women.



# ADVANCE ECONOMIC DEVELOPMENT



\*Data for Missouri Availability is not available for fiscal year of 2018

## RESULT DRIVER:

Lester Woods  
External Civil Rights Director

## MEASUREMENT DRIVER:

Missy Stuedle  
External Civil Rights Manager

## PURPOSE OF THE MEASURE:

This measure tracks the percent of Disadvantaged Business Enterprise use on construction and engineering projects.

## MEASUREMENT AND DATA COLLECTION:

Data is collected through Site Manager for each construction project. The overall DBE goal is a yearly target established by MoDOT and the Federal Highway Administration regarding the expected total DBE participation on all federally-funded construction projects. Individual DBE project goals are determined by subcontract opportunity, project location and available DBE firms that can perform the scope of work. DBE utilization is tracked for each construction project identifying the prime contractor, contract amount, the established goal and how the prime contractor fulfilled the goal. This measure is based on the federal fiscal year. Collection of data began in federal fiscal year 2012.

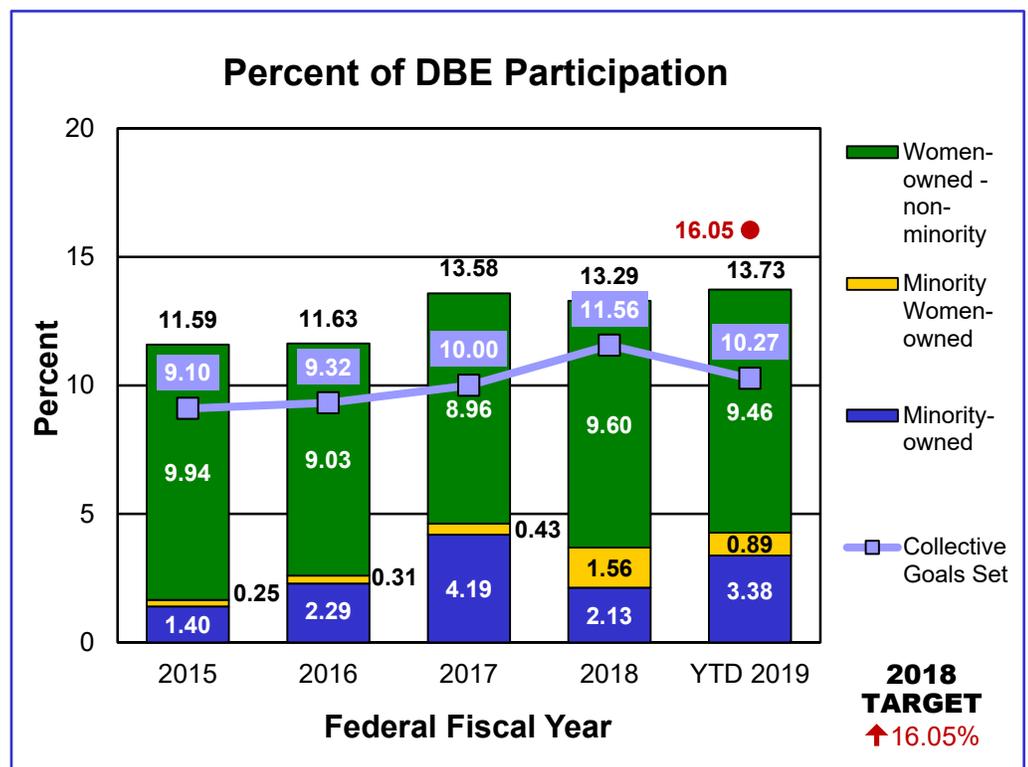
The target for this measure is set by FHWA policy and is updated every three years.

# ADVANCE ECONOMIC DEVELOPMENT

## Percent of disadvantaged business enterprise participation on construction and engineering projects – 7f

MoDOT believes it is good business to support diversity among its contractors, subcontractors and suppliers. Contractors, subcontractors and suppliers working on construction projects that receive federal aid or federal financial participation are required to take reasonable steps to ensure disadvantaged business enterprises have an opportunity to compete for and participate in project contracts and subcontracts.

The overall DBE target for federal fiscal year 2019 is 16.05 percent. The year-to-date DBE participation for FFY 2019 is 13.73 percent. This is a 0.44 percent increase from FFY 2018. Of the 13.73 percent utilization, 3.38 percent was participation from minority-owned DBE firms, 0.89 percent was participation from minority women-owned DBE firms and 9.46 percent was participation from women-owned DBE firms. The collective goals set for projects closed during this period amounted to 10.27 percent. To narrow the gap between the target and performance, MoDOT is conducting outreach meetings to encourage new firms to apply for DBE certification and using DBE supportive services funding to expand the capacity of certified DBE firms.



## RESULT DRIVER:

Lester Woods  
External Civil Rights Director

## MEASUREMENT DRIVER:

Jeff Ball  
General Services Manager

## PURPOSE OF THE MEASURE:

This measure tracks the department's non-program spending with certified minority, women and disadvantaged business enterprises.

## MEASUREMENT AND DATA COLLECTION:

Data is obtained from the statewide financial accounting system expenditure reports and United Missouri Bank purchasing card reports. Certified vendors are maintained in a statewide procurement vendor database. Vendors may be certified through the Office of Administration as well as the Missouri Regional Certification Committee. Included in these expenditures are items such as materials, equipment, tools and supplies. Program spending, including construction, design consultants, local agencies, highway safety and multimodal programs and exempted activities such as utilities, postage, organizational memberships, conferences and travel, is excluded from total dollars spent.

The target for this measure is an average of the availability percentage of minority-owned and women-owned businesses and MoDOT's most recent five-year average utilization. This target will be updated annually in October.

# ADVANCE ECONOMIC DEVELOPMENT

## Expenditures made to certified minority, women and disadvantaged business enterprises – 7g

Ensuring MoDOT spending is reflected in all Missouri communities advances economic development for all business enterprises. Historical data helps identify opportunities for improvement. Improvement efforts include training staff who have procurement authority, outreach to minority and women and disadvantaged business enterprises vendors in order to encourage them to become certified and focused inclusion efforts.

The third quarter of fiscal year 2019 third quarter results show a decrease of \$500,000 in MWDBE disbursements compared to the third quarter of FY 2018. Compared to third quarter FY 2018, the FY 2019 percentage of MWDBE expenditures decreased by 0.4 percent of total expenditures.

This measure will continue to track the department's efforts to ensure the vendor pool is representative of the business community as a whole, including MWDBE firms.

