



# Tracker

MEASURES OF DEPARTMENTAL PERFORMANCE



## Greetings from MoDOT



Where did the year go? It seems like just last week I was reviewing the last collection of Tracker measures. Since that time, I have wrapped up my service as the president of MAASTO and have just begin my role as vice president of AASHTO. I take these leadership positions very seriously. They afford MoDOT the ability not only to learn what other DOTs are doing to better serve their citizens, but also because I think MoDOT has a lot to share in terms of ideas and innovations that have made Missourians safer and more prosperous.

I'm very happy that our partnership with public agencies has been resurrected in the 2018-2022 STIP. Partnering provides benefits that we simply would not have been able to realize in separate efforts. When transportation infrastructure is built, it has a positive effect on the local economy. By pooling our efforts and resources, we can accomplish what may have previously seemed impossible.

By the time this Tracker meeting is held, we will know the results of the Nov. 6 elections. At this point in time, Proposition D is polling well but it will be a nail-biter right up to the last vote counted. I remain optimistic about the outcome.

Regardless, our values will not change. The performance measures documented on the following pages have been built around seven tangible results. These results are outcomes that you expect to see and they guide us in making decisions every day. As stewards of the taxpayers' trust, we must never forget our dedication to safety, innovation and convenience that make traveling in the Show-Me State a pleasure for residents and visitors alike.

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 bridge decks in poor condition (24,487 total bridges)  
**National Ranking** = Missouri ranked 38th for the most bridge deck area in poor condition. (FHWA Highway Statistics)



## Revenue

**Current Performance** = \$50,766 revenue per mile  
**National Ranking** = Missouri has the 46th 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

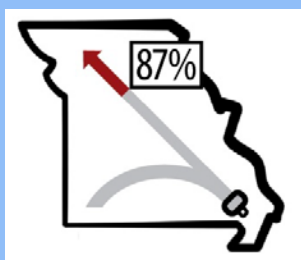
## PURPOSE OF THE MEASURE:

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 from the fatal and serious injury rates per 100 million vehicle miles traveled for these same crashes. In addition, the fatality rate chart includes the national average.



# KEEP CUSTOMERS AND OURSELVES SAFE

## Number and rate of fatalities and serious injuries – 1a

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

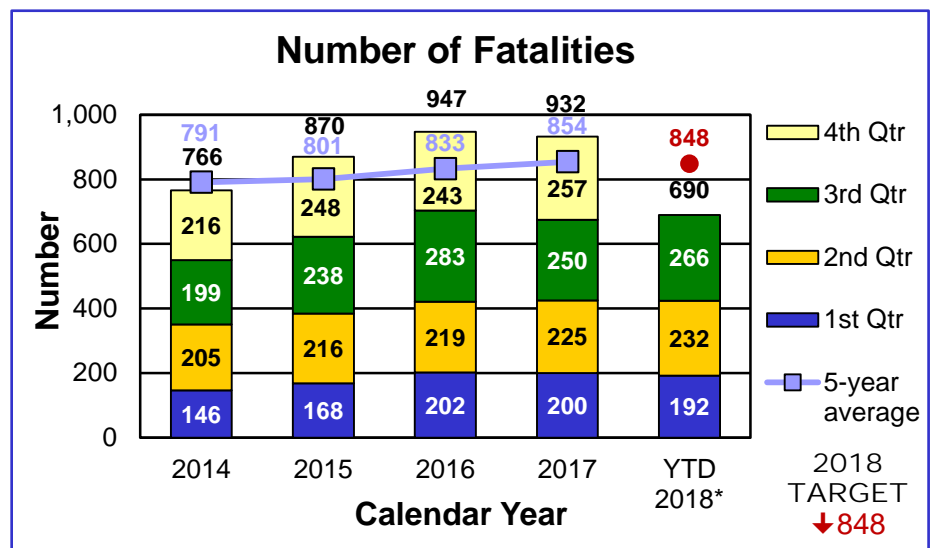
MoDOT is improving safety culture through statewide strategic initiatives such as Buckle Up Phone Down. This is an opportunity for citizens and businesses to commit to driving without distractions by putting the phone down and having all passengers use safety belts.

Additionally, MoDOT is using innovation to improve system-wide safety with a prioritized project list based on techniques offered in the Highway Safety Manual, analyzed with benefit cost ratios and implemented via a Design-Build program.

MoDOT is partnering with other agencies and the private sector through predictive analytics to optimize development of enforcement and winter operations resources.

In order to reach our Blueprint goal of 700 or fewer fatalities by 2020, new reduction targets have been established for 2018: reduce fatalities by 9 percent and serious injuries by 5 percent. These targets may seem aggressive but are needed to work toward the ultimate goal of zero fatalities.

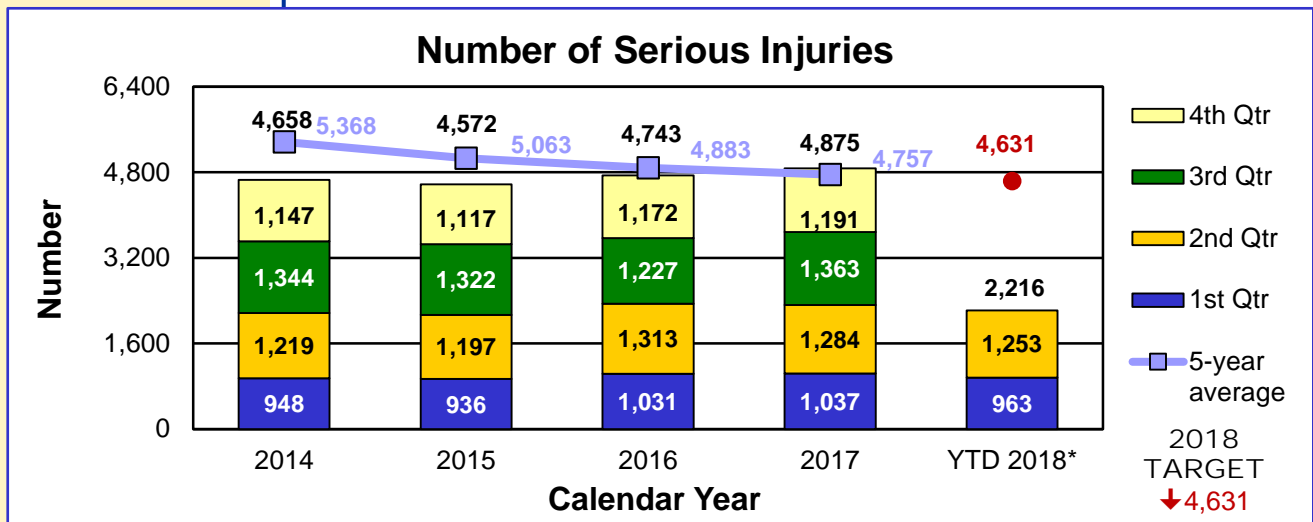
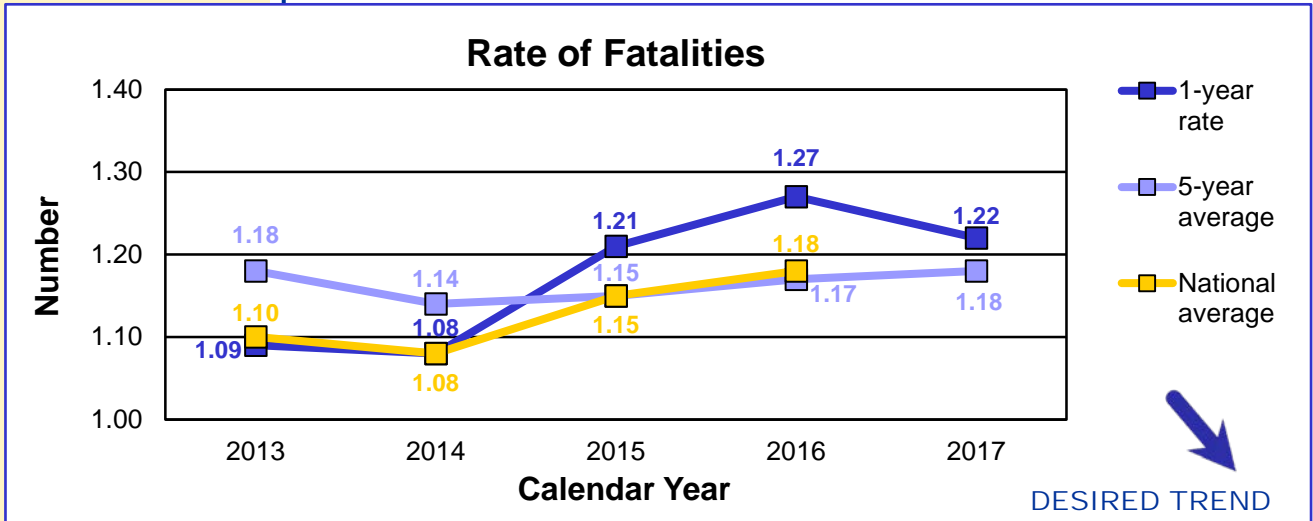
The 690 fatalities that have occurred this year put our state up 2 percent from the year-to-date 2017 numbers. On a more positive note, 2,216 serious injuries have occurred, but this is a decrease of 4.5 percent from last year.



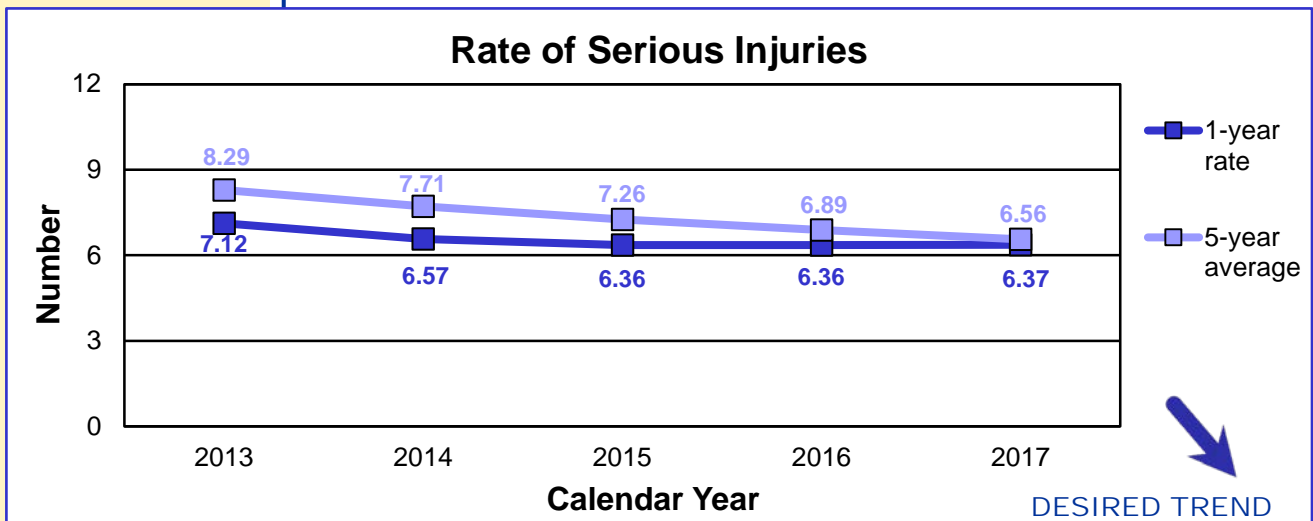
\*YTD 2018 – Due to the backlog of data, first and second quarter fatalities were derived from TMS and third quarter fatalities are from MSHP radio reports.



# KEEP CUSTOMERS AND OURSELVES SAFE



\*YTD 2018 – Due to a backlog of crash reports into STARS, the serious injury measure only includes data derived from TMS. Third quarter 2018 data is not available 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*

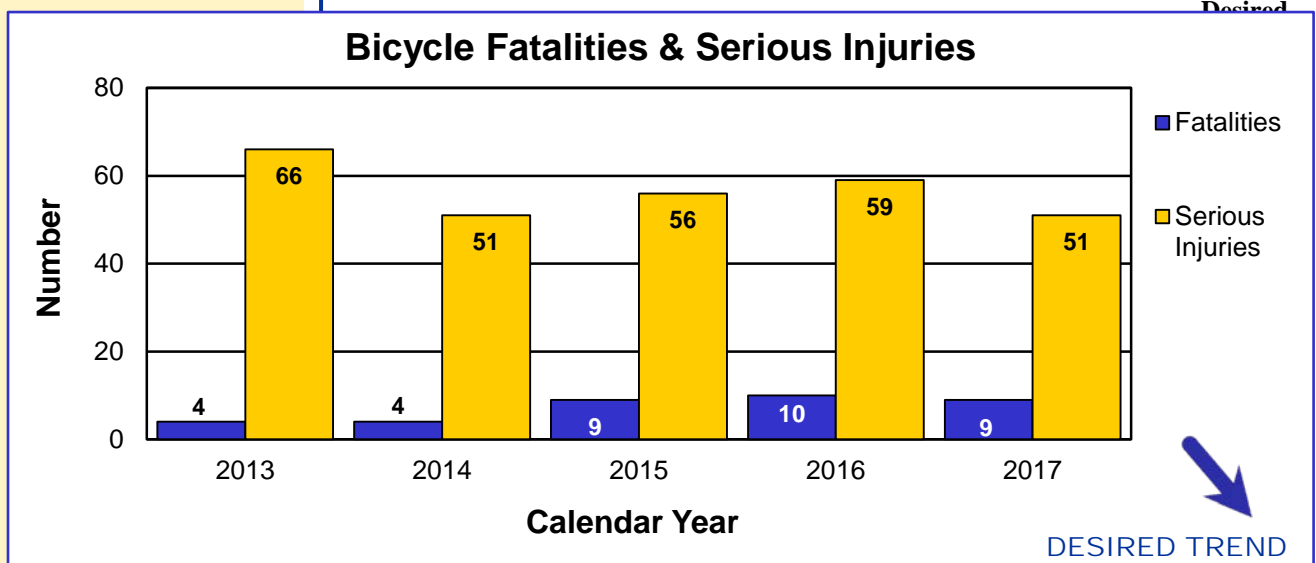
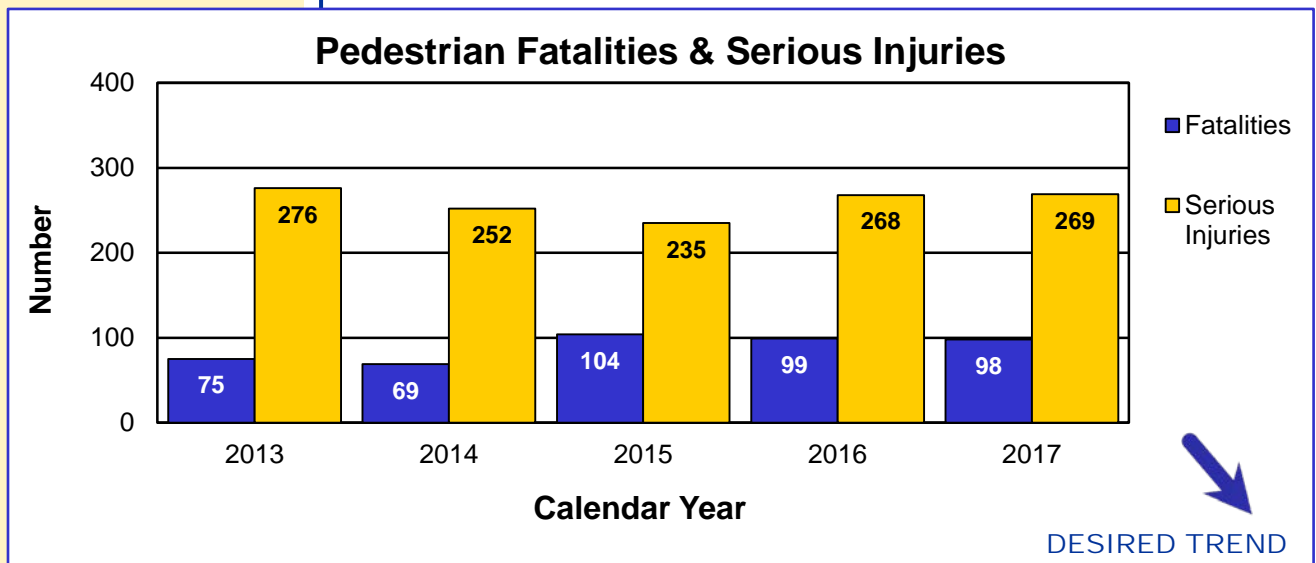
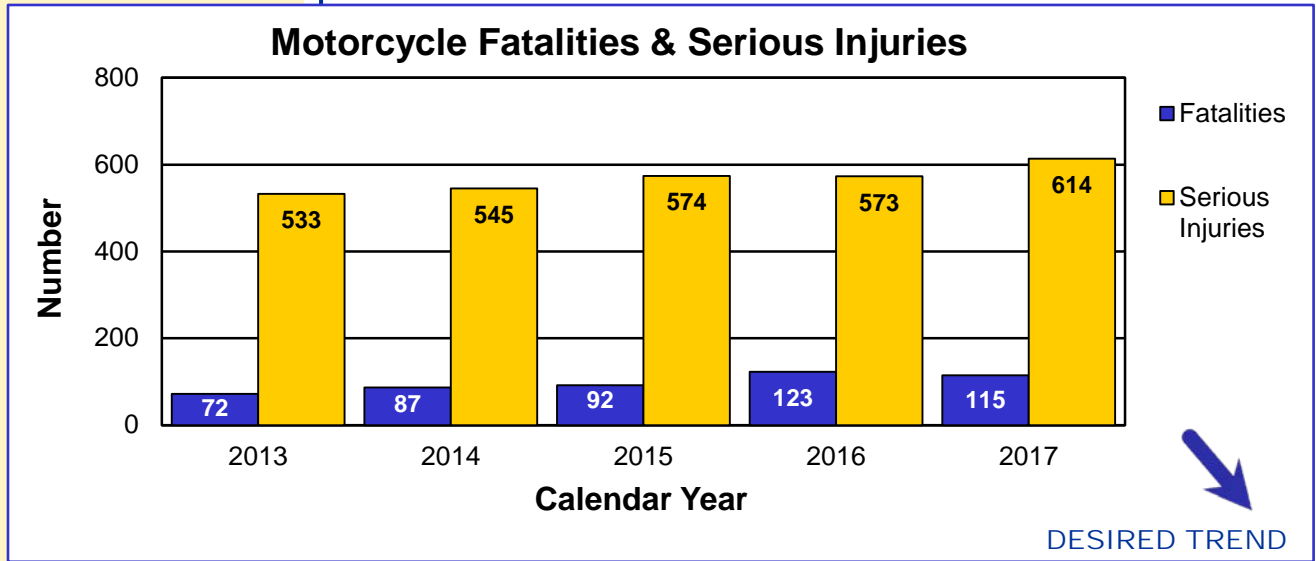
In 2017, vulnerable roadway users were 24 percent of the total number of fatalities. Pedestrian fatalities remained almost unchanged from 2016 to 2017. Motorcycle and bicycle fatalities decreased, 7 percent and 1 percent, respectively.

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

# KEEP CUSTOMERS AND OURSELVES SAFE

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

## 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:

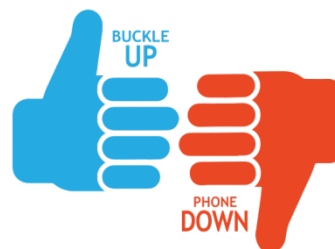
Missouri law enforcement agencies submit a vehicle accident report form to the Missouri State Highway Patrol to be entered into a statewide traffic crash database, which is part of the Transportation Management System. MoDOT staff query and analyze this data to determine the number of unrestrained occupants 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.

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.

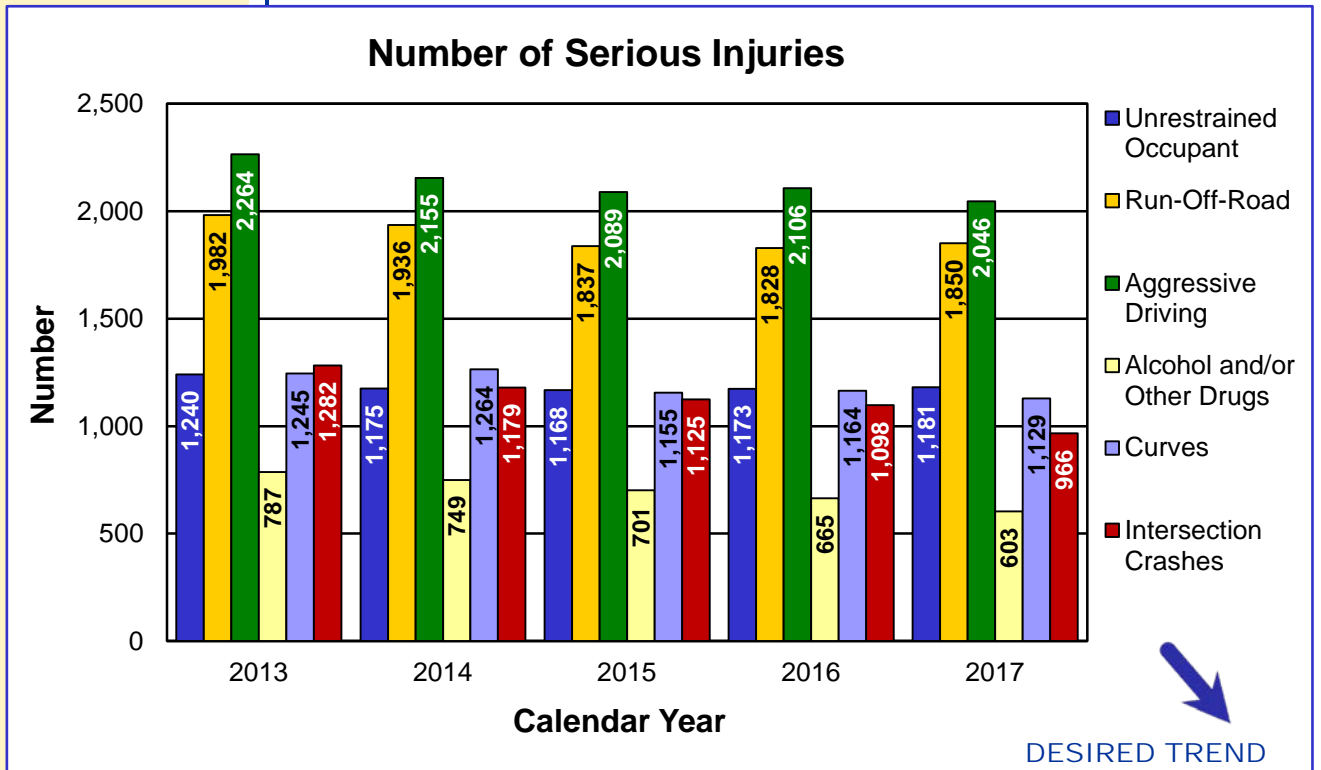
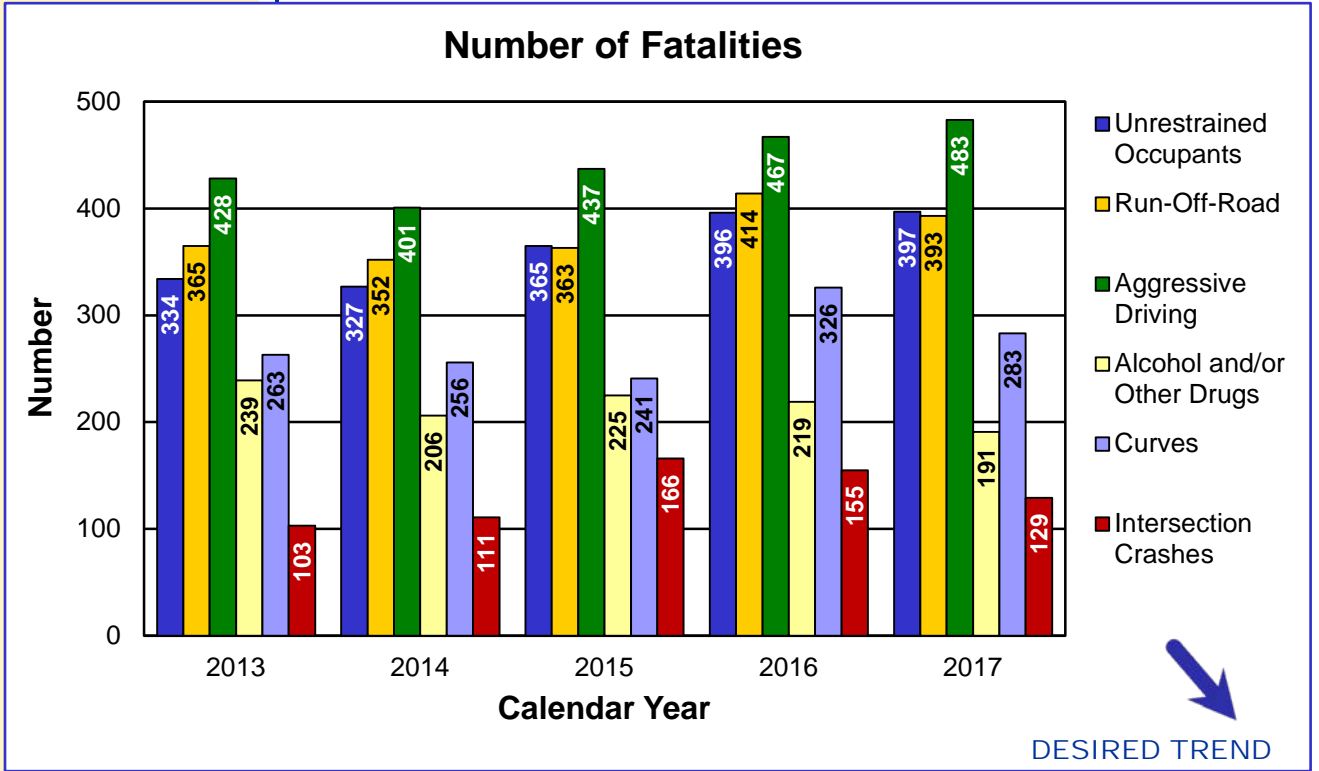
With 932 traffic fatalities in 2017, aggressive driving and impaired driving continued to be the leading behavioral causes of severe crashes in Missouri. These poor driving behaviors have a direct impact on the occurrence of run-off road crashes, particularly in curves and intersection crashes. When 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 STIP, 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

# KEEP CUSTOMERS AND OURSELVES SAFE

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

**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. MSHP prioritizes entry of the crash reports by fatality, serious injury and then property damage only.

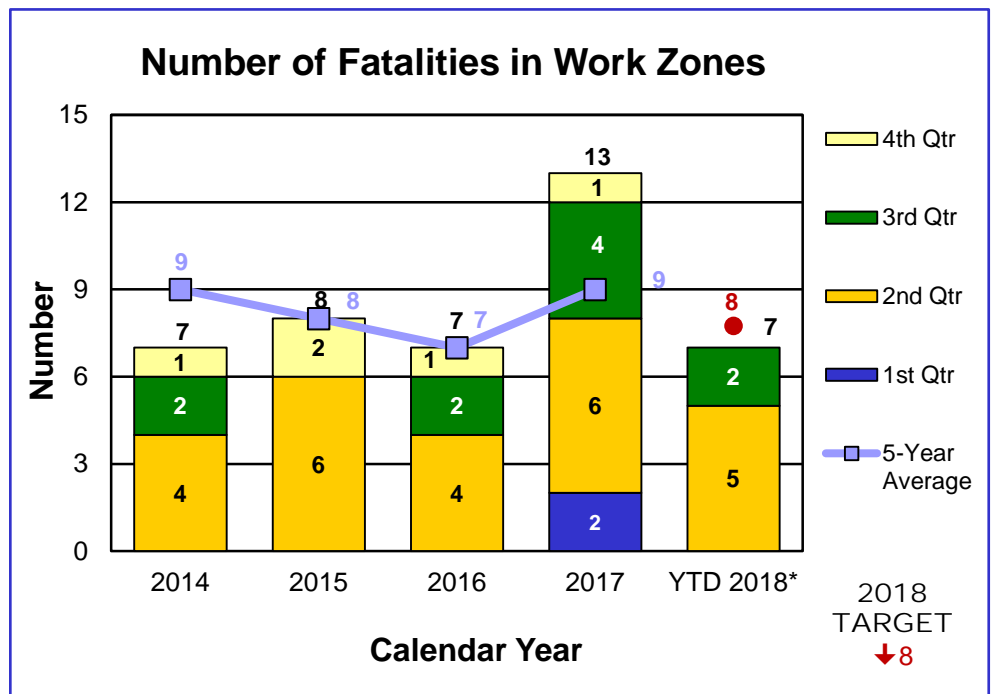
The target for this measure is updated quarterly. This target is established by projecting a 10 percent improvement over a five-year average.

Work zone safety is crucial to MoDOT. Crews are expected to be safe and visible and expect contractors and utility companies to do the same. Staying safe in work zones also is a partnership shared with the driving public.

MoDOT wants everyone to get home safely. While MoDOT makes every effort to work safely, motorists need to pay attention, slow down, move over, buckle up and drive without distractions.

MoDOT's goal is zero fatalities in work zones. Only through continued efforts from MoDOT, industry and the driving public will that happen. There must be continual improvement in planning, strategies and technologies employed. Based on information currently available, work zone crashes have accounted for seven fatalities through the third quarter of 2018 and 22 serious injuries through the second quarter.

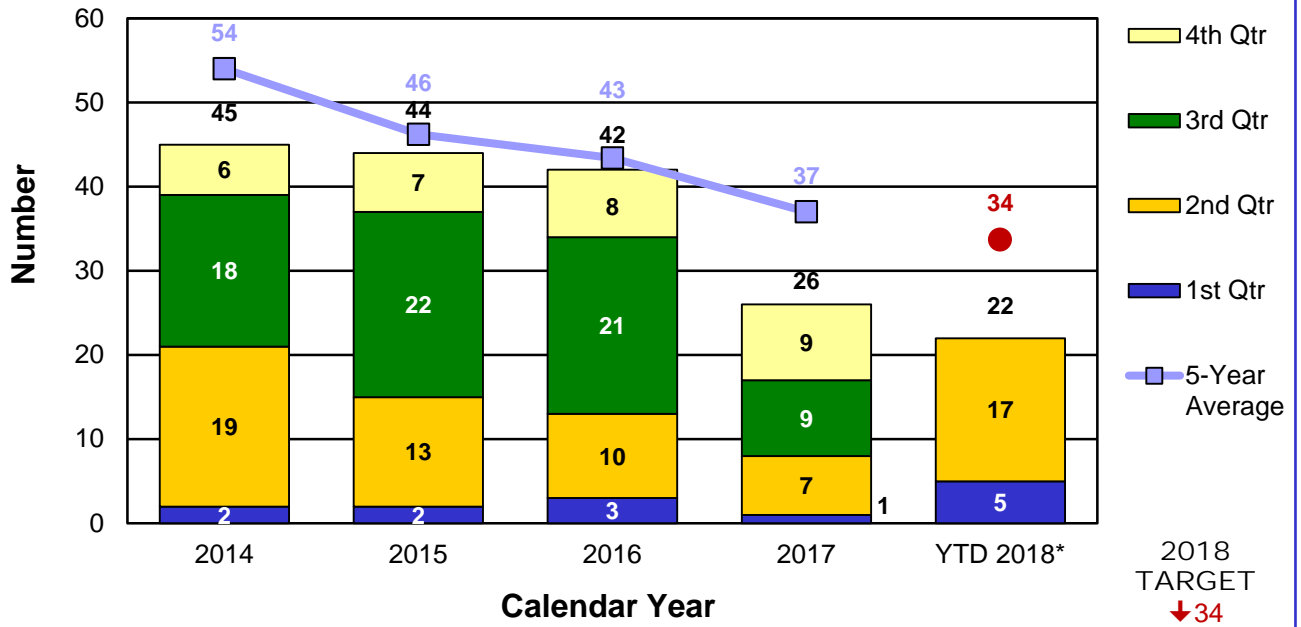
The challenges for MoDOT remain many. Strategic initiatives, such as the use of autonomous Truck Mounted Attenuators and TMA flagger vehicles, will help overcome some of the challenges. Continual monitoring of work zones and deployment of sound queue management strategies are imperative. The time of day and day of week should always be considered before working.



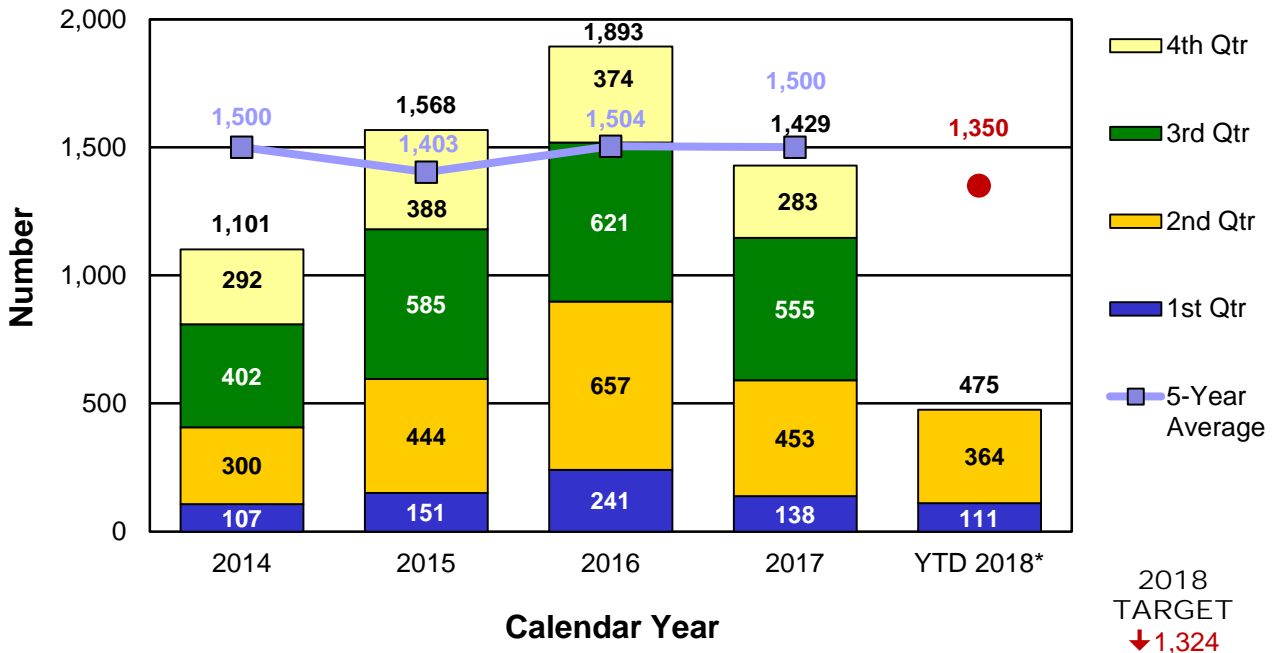
\*YTD 2018 – Fatalities derived from TMS.

# KEEP CUSTOMERS AND OURSELVES SAFE

## Number of Serious Injuries in Work Zones



## Number of Crashes in Work Zones



\*YTD 2018 – Due to a backlog of crash reports into STARS, serious injury and crash measures are not final and only illustrate data derived from TMS. Third quarter 2018 data is unavailable through the MSHRP 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 5 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

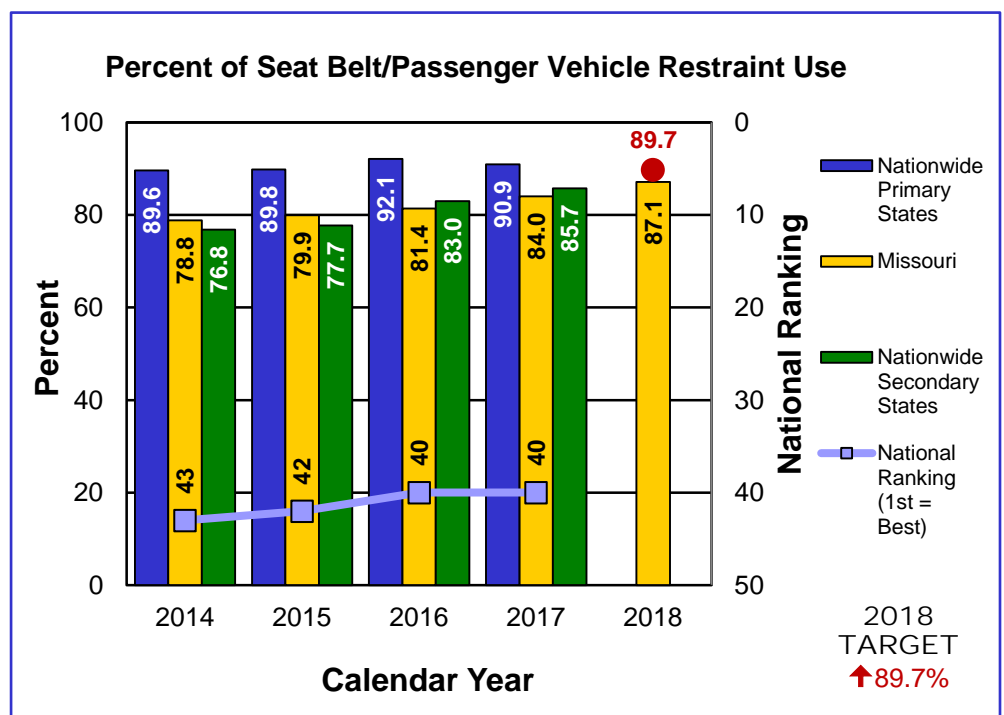
## Percent of seat belt/passenger vehicle restraint use – 1e

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 TRACTION and ThinkFirst.



## RESULT DRIVER:

Mark Shelton  
District Engineer

# KEEP CUSTOMERS AND OURSELVES SAFE

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

## MEASUREMENT DRIVER:

Angie Hoecker  
Highway Safety and Traffic  
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 (CVSP), which is the plan required to receive Motor Carrier Safety Assistance Program (MCSAP) 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.

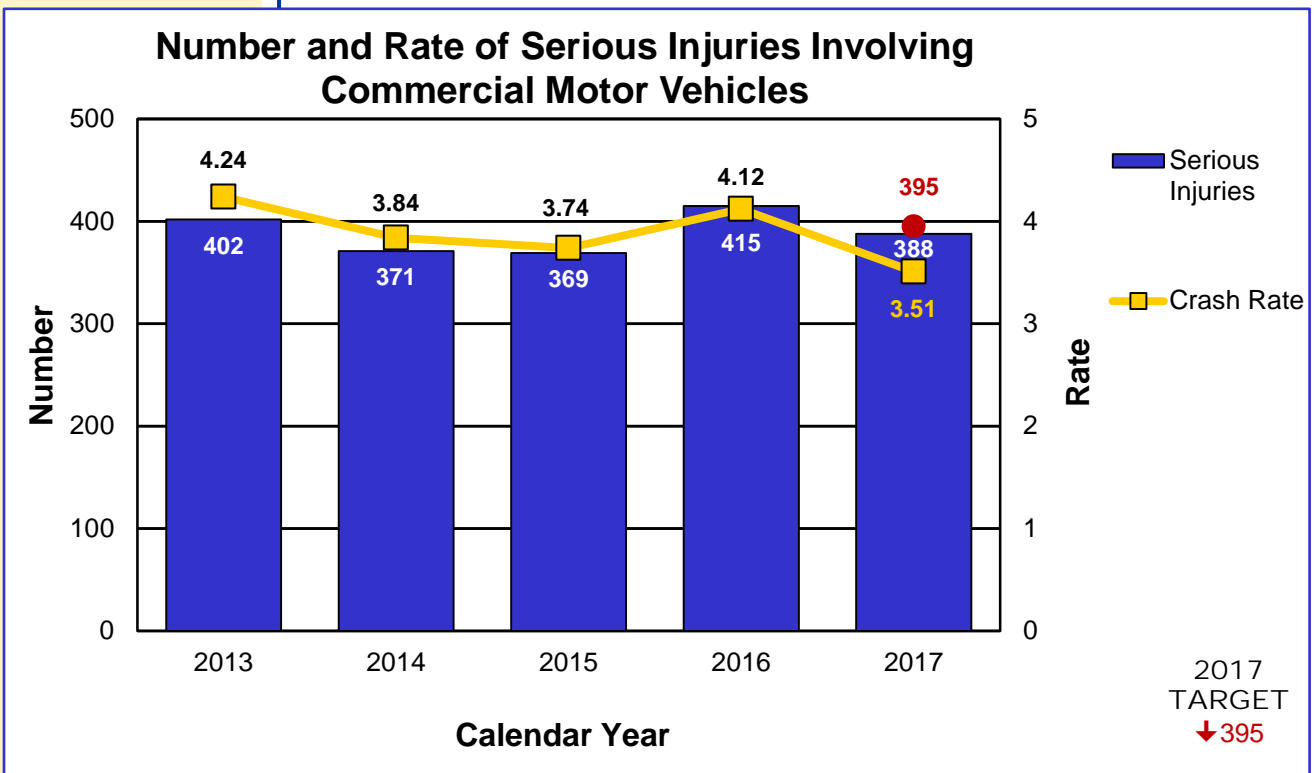
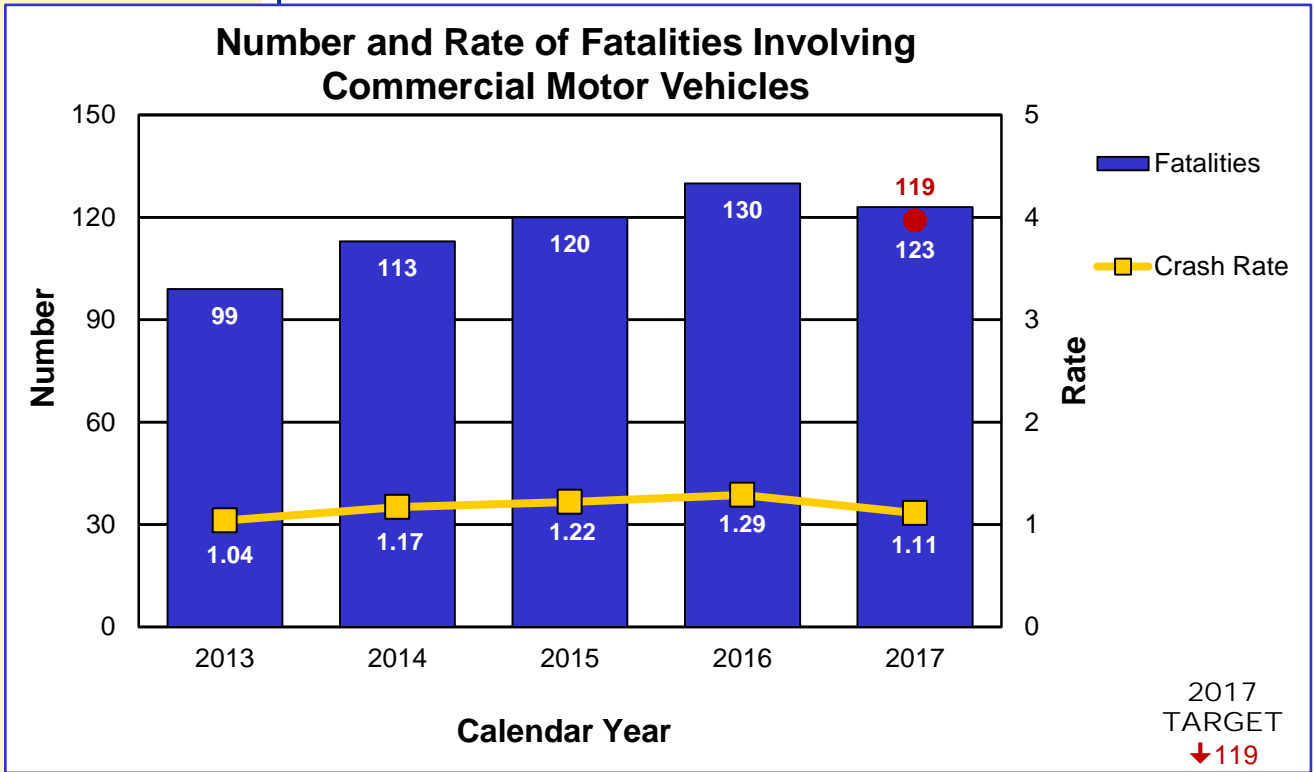
Commercial Motor Vehicles are essential to Missouri's economy. They transport goods and products to keep the nation moving. MoDOT partners with the Missouri State Highway Patrol, St. Louis Metropolitan Police Department, Kansas City Police Department, St. Louis County Police Department and Franklin County's Sheriff's Office to keep people traveling safely in and around CMVs. By tracking the number of CMV involved fatalities and serious injuries, MoDOT can target educational and enforcement efforts, as well as improve safety features such as highway signs, reflective pavement markings, guard cables, rumble strips and incident management alert signs. Deploying a suite of these demonstrably impactful safety techniques through a design-build program structure is one of the Strategic Vision Initiatives that will help MoDOT use Innovation to improve work zone and system-side safety.

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 2013 and 2017, fatalities involving a CMV increased by 24.2 percent and the fatality rate increased from 1.04 to 1.11 per 100 million CMV vehicle miles traveled. In 2017, Missouri had seven fewer fatalities involving a CMV. This resulted in a 2017 fatality rate of 1.11 compared to 1.29 for 2016.

Between 2013 and 2017, serious injuries involving a CMV decreased by 3.5 percent and the serious injury rate decreased from 4.24 to 3.51 per 100 million CMV vehicle miles traveled. The 388 serious injuries experienced in 2017 is 27 less than reported for 2016. This resulted in a serious injury rate of 3.51 in 2017 compared to 4.12 for 2016.



# 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

# KEEP CUSTOMERS AND OURSELVES SAFE

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

## 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.

The total and rate of recordable incidents are tracked to measure the department's performance in improving safety. Employee safety is expected to be a value to each employee. Continuing Behavioral Based Safety integration, the development of Statewide Safety Standard Procedures and District Training Academies are strategic initiatives that are being employed to continue the growth of the department's safety culture. In addition, these initiatives will improve this measure and make MoDOT a model for workplace safety. It is recognized that a change in safety culture will take time. The transition from intentional caring to actively caring is a difficult hurdle but is essential to success. With winter on its way, it is imperative to actively care for employees and co-workers. Observing and correcting at-risk behavior will pay dividends in preventing injuries and incidents.

## MEASUREMENT AND DATA COLLECTION:

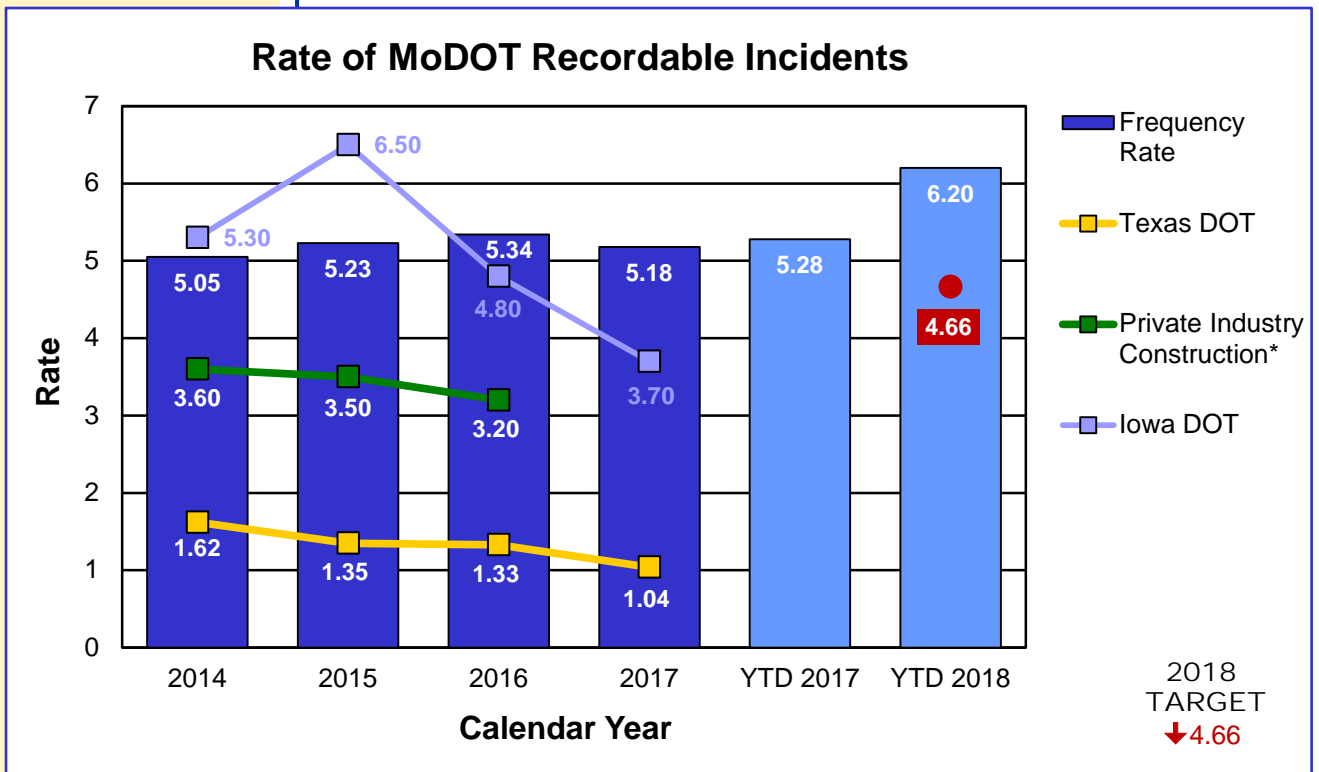
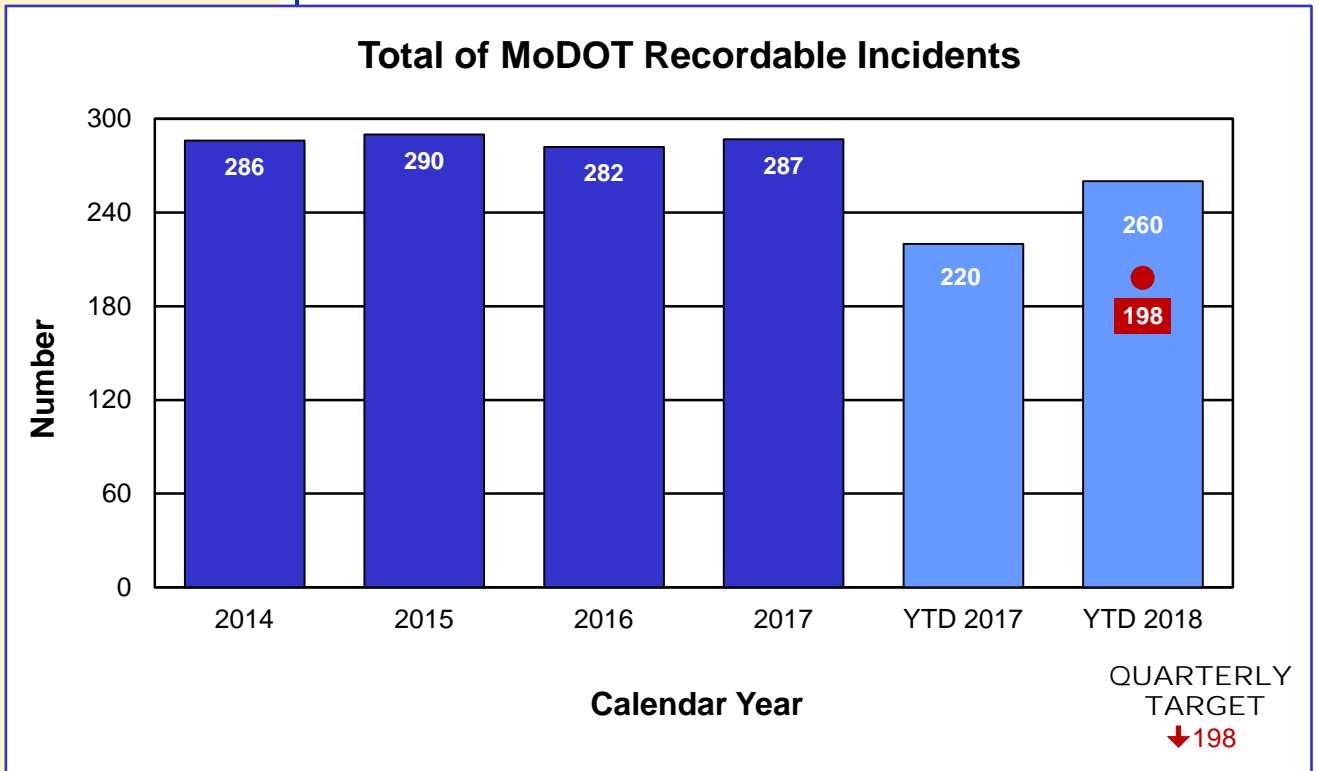
The calculation for incidence rate is the number of recordables times 200,000 divided by the number of hours worked. The 200,000 used in the calculation is the base for 100 full-time workers (working 40 hours per week, 50 weeks per year). MoDOT defines a recordable incident as a work-related injury or 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.

There was an increase in the total number of recordables for the first three quarters of 2018 compared to the same period last year. There was also an increase in the rate of incidents. Leading causes of injuries this year were: slips, trips and falls (19 percent), strain or injury (13 percent), struck or injured by cut/punctured/scraped and motor vehicle (12 percent each). Based on the work activity being performed at the time of the incident, 28 percent of employee injuries were equipment related, 11 percent were bridge, 11 percent were work and vehicle use and 10 percent were related to mowing.



# KEEP CUSTOMERS AND OURSELVES SAFE



\*OSHA private industry data is not yet available for 2017.

## RESULT DRIVER:

Mark Shelton  
District Engineer

# KEEP CUSTOMERS AND OURSELVES SAFE

## General liability claims and costs – 1h

## MEASUREMENT

### DRIVER:

Steve Patterson  
Safety and Claims Manager

## PURPOSE OF THE MEASURE:

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

## MEASUREMENT AND DATA COLLECTION:

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

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).

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 three quarters of 2017, there was an 8 percent increase in the number of claims in 2018. The majority of claims in the first three quarters of 2018 were attributed to pavement defects. During the same timeframe, there was a 185 percent increase in the amount paid.

This quarter, payments were made on 102 claims against the department, totaling \$2,201,337. Four claims accounted for 74 percent of the third quarter's payments. The department settled a 2015 claim where a vehicle lost control in icy conditions and crashed into a previously damaged guardrail end that impaled the vehicle causing serious injuries to the driver. This claim was settled for \$420,606, based on the lack of timely repair of the guardrail end. The second claim occurred in 2016. A vehicle was slowing to turn when he was rearended causing injuries. This claim was settled for \$420,606 based on the design of the intersection being dangerous. The third claim occurred in 2016, where there was a fatal crash on a bridge. The claimant's vehicle became disabled after hitting a wheel in the road. The driver was standing outside of her vehicle when she was struck. This claim was settled for \$395,000 based on the lack of a shoulder on the bridge. The last claim also occurred in 2016 where a collision in an intersection resulted in serious injuries to a passenger. This claim was settled for \$350,000 based on poor sight distance and inadequate signaling.

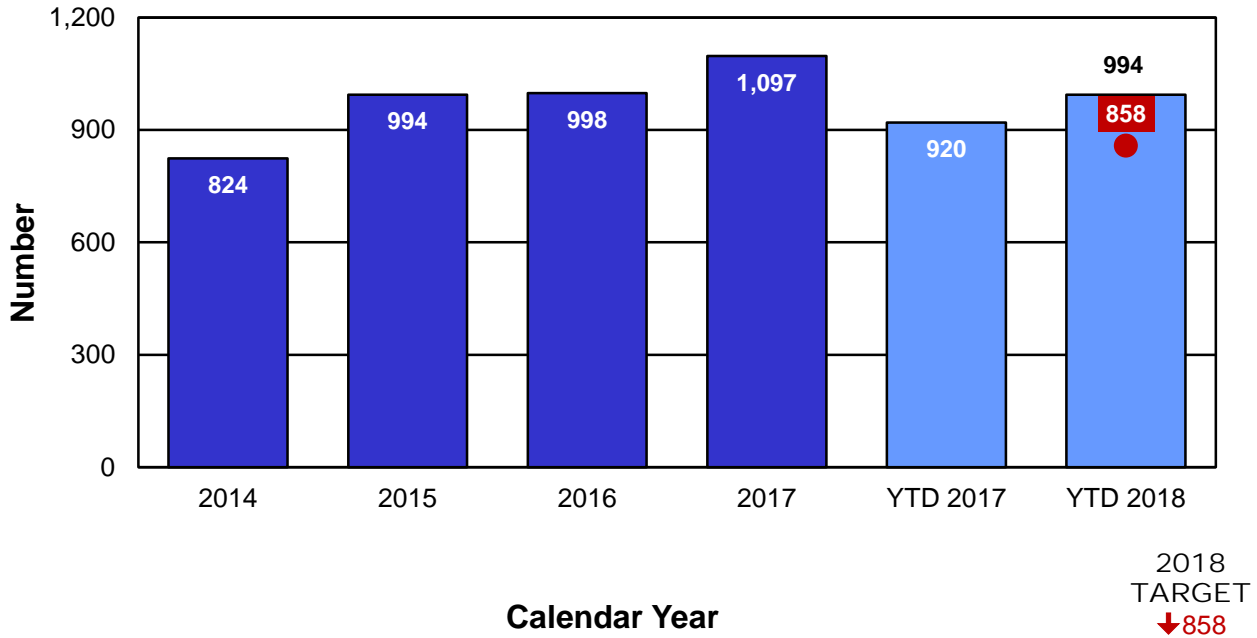
The target for the number of general liability claims is a 10 percent reduction from a five-year average. In an effort to achieve this target, the focus needs to be on MoDOT's most common claims. For 2018, the top three claims types are attributed to potholes, chip seal operations and debris on roadway.



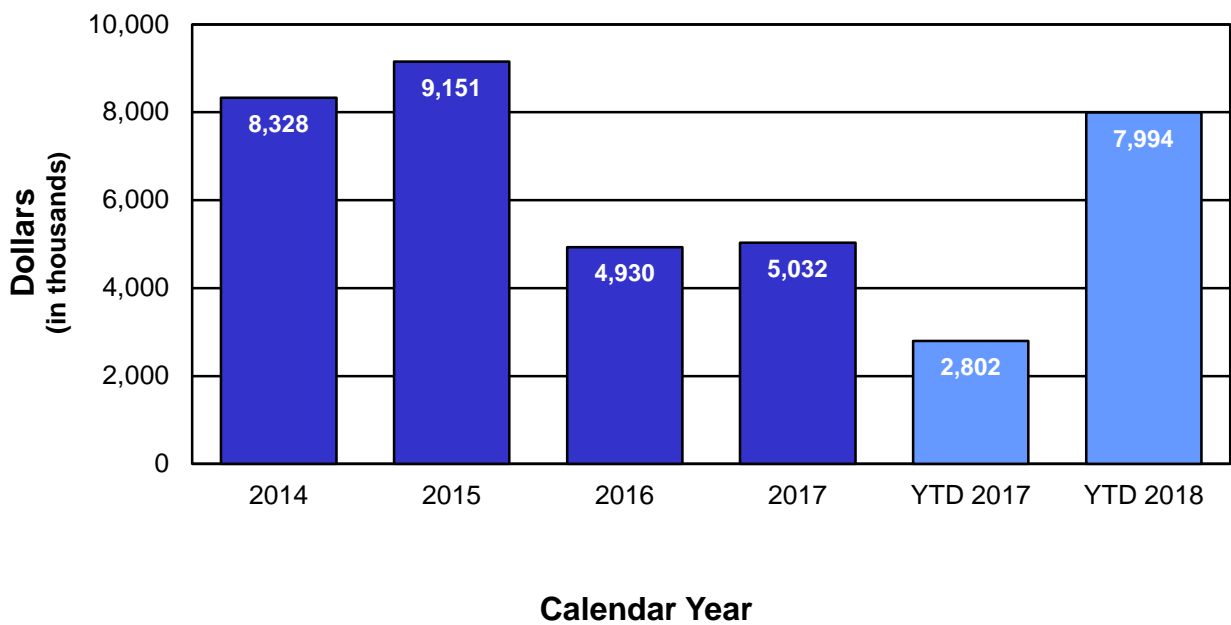


# KEEP CUSTOMERS AND OURSELVES SAFE

## 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*

The logo for Tracker, featuring a stylized green circle with a crosshair design on the left side.

# 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 33,856 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

# KEEP ROADS AND BRIDGES IN GOOD CONDITION

**MEASUREMENT  
DRIVER:**  
Steve Engelbrecht  
District Planning Manager

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

**PURPOSE OF  
THE MEASURE:**  
This measure tracks the  
condition of Missouri's  
highways.

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.

**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.

Currently, more than 91 percent of Missouri major highways are rated in good condition. The target for Missouri major highways is 90 percent. The target is based on the statewide asset management plan and represent MoDOT's goal of maintaining current conditions.

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.

Currently, 81 percent of Missouri's minor highways are in good condition, which is slightly above the percentage for 2016. A target of 80 percent of minor highways has been established. The target is based on the statewide asset management plan and represents MoDOT's goal of maintaining current condition.

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.

Currently, just over 73 percent of Missouri's low volume highways are in good condition which is almost 3 percent higher than 2016. A target of 70 percent of low volume roads has been established. The target is based on the statewide asset management plan and represents MoDOT's goal of maintaining current condition.

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

Beginning in 2018, the Federal Highway Administration required all DOTs 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.

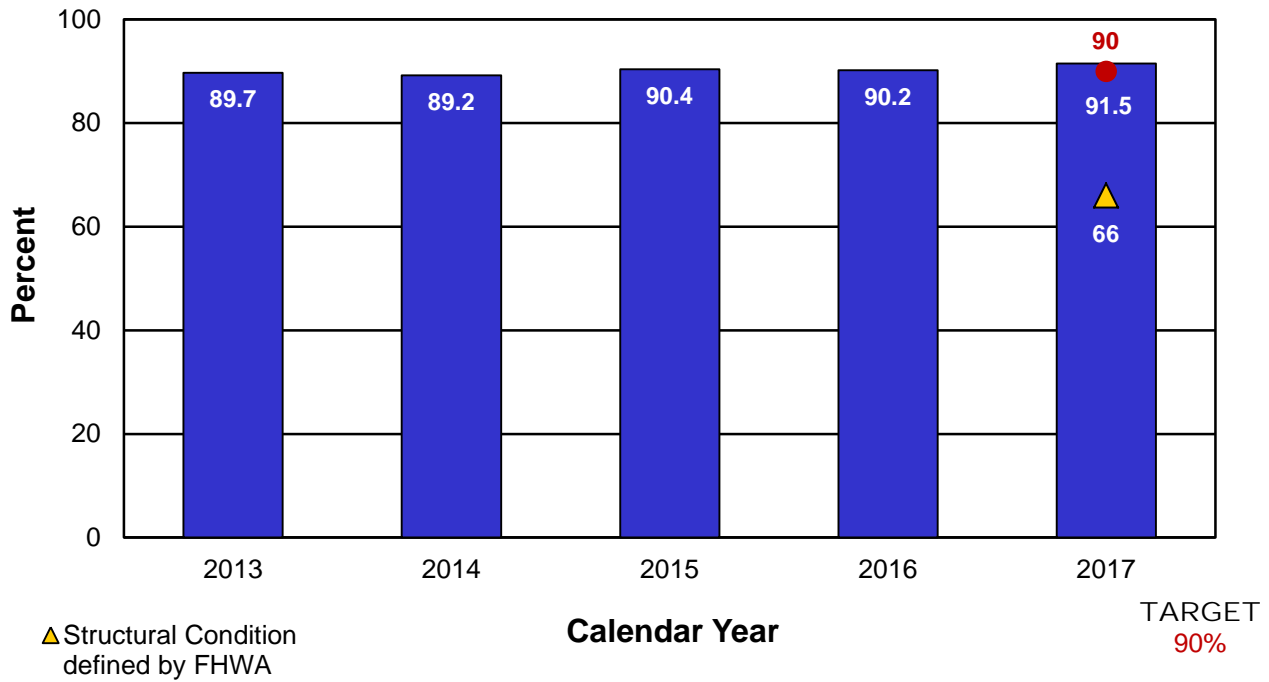
The targets for this measure  
are set by internal policy and  
will not change unless policy  
changes, regardless of  
performance.

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

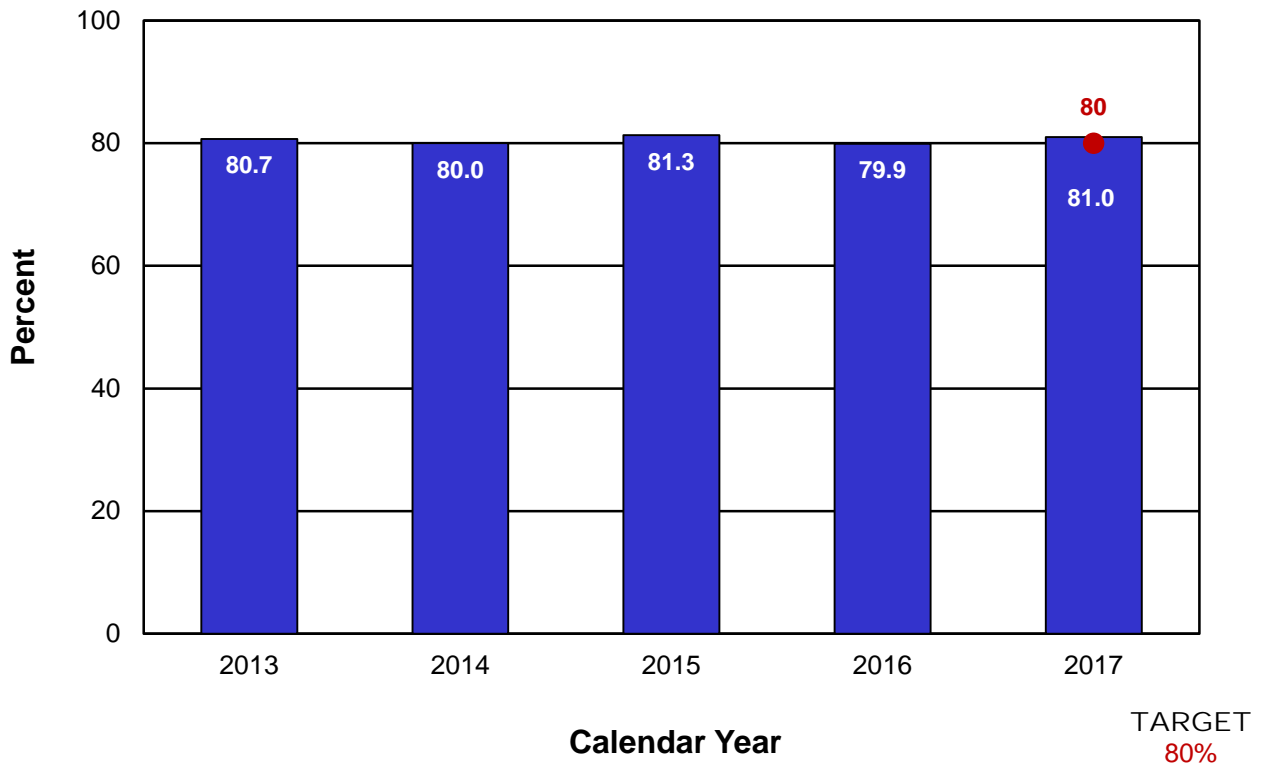


# KEEP ROADS AND BRIDGES IN GOOD CONDITION

## Percent of Major Highways in Good Condition



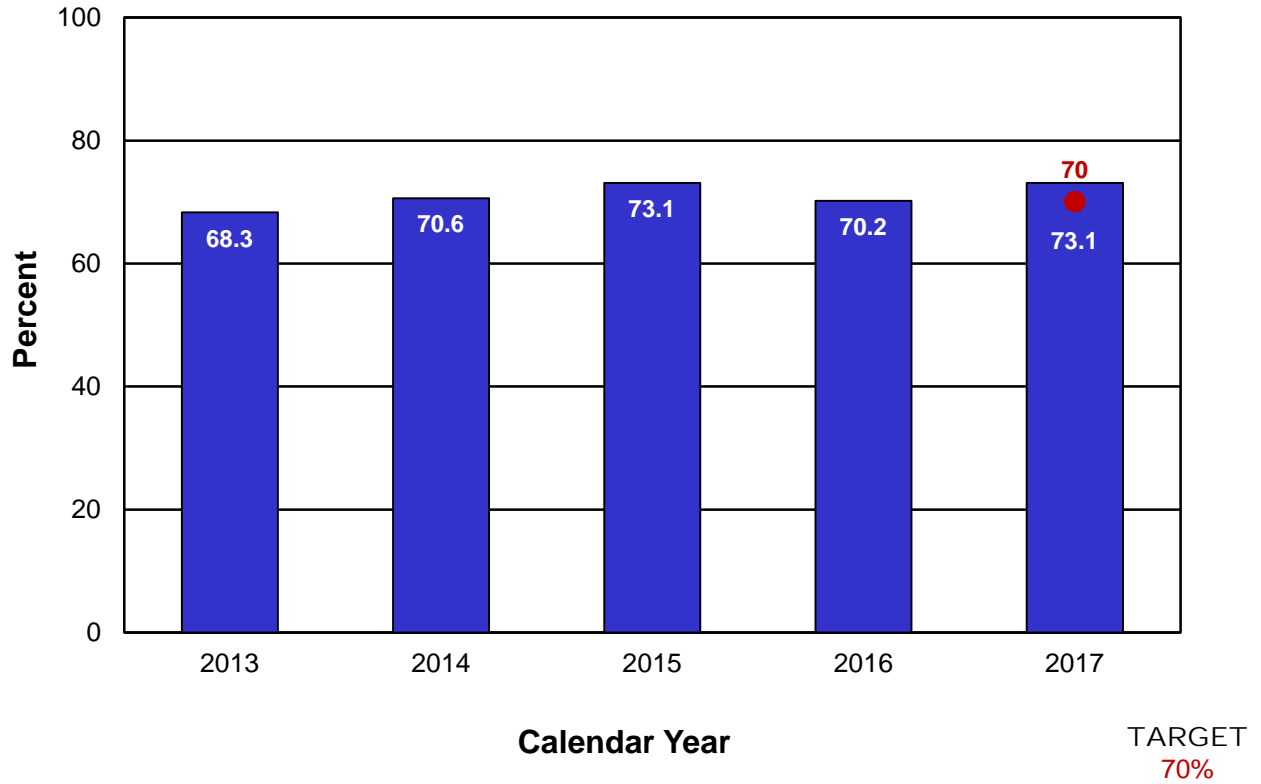
## Percent of Minor Highways in Good Condition





# KEEP ROADS AND BRIDGES 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:

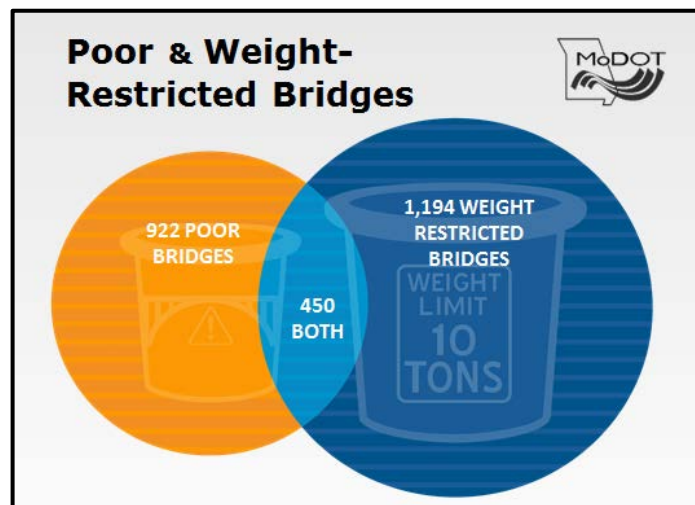
This measure is updated in July based on MoDOT inspections conducted the prior year. Data is presented for all state bridges and major bridges. Major bridges are those that are longer than 1,000 feet and typically cross the larger rivers and major lakes within the state. Of the 10,385 bridges on state 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.

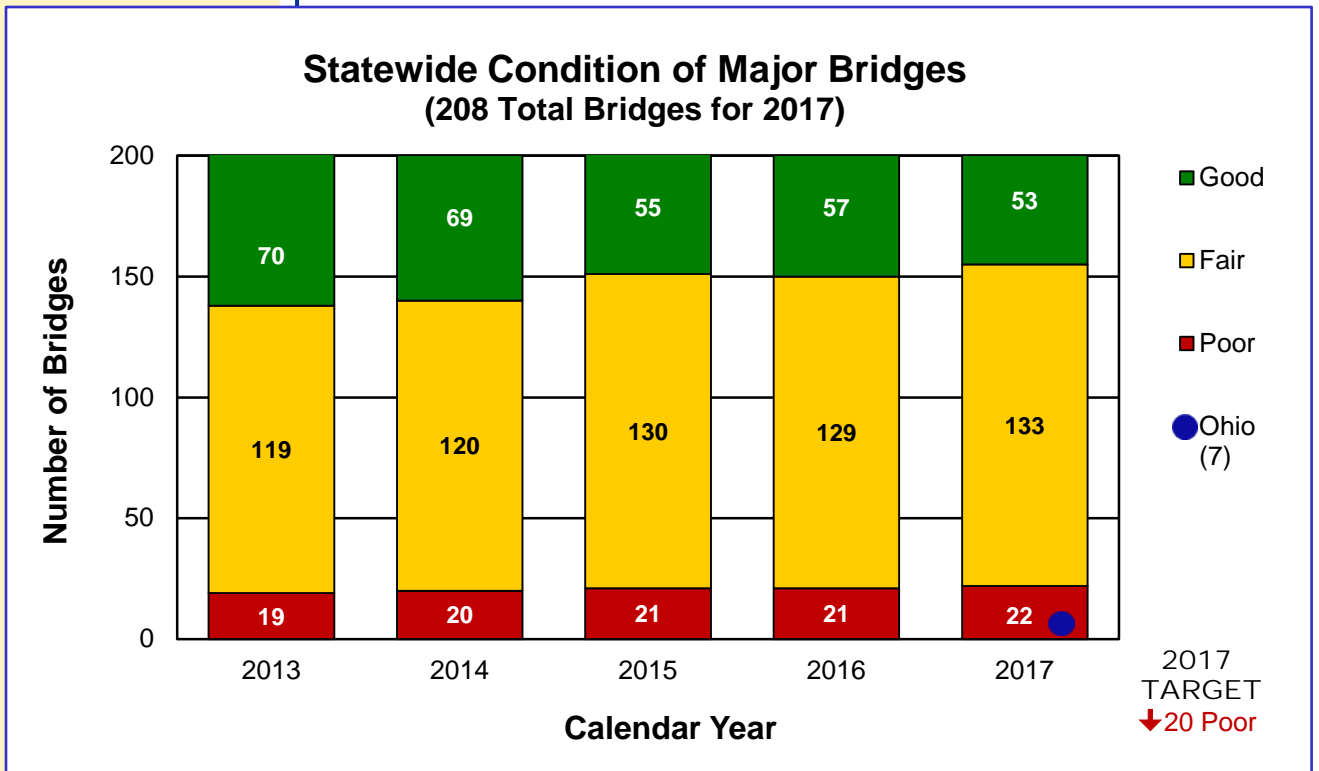
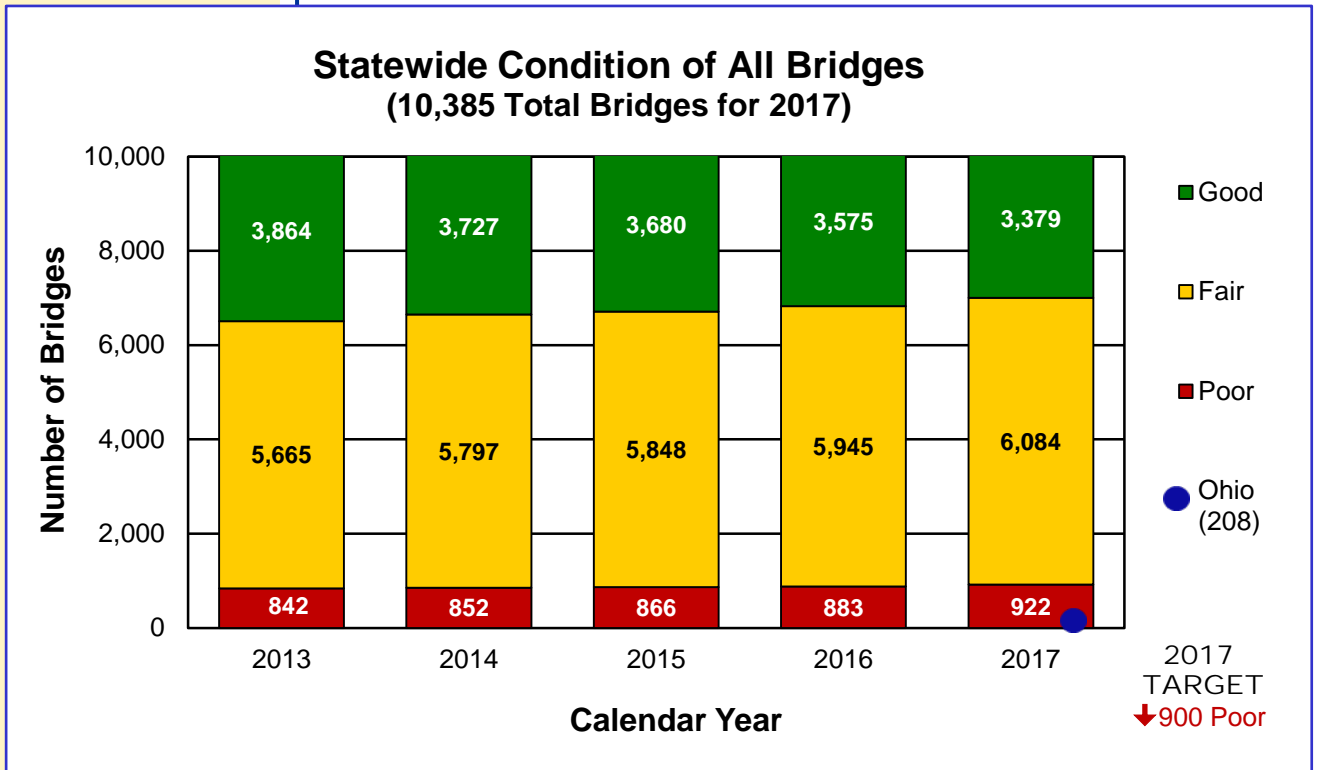
The public has indicated the condition of Missouri's existing roadway system should be one of the state's highest priorities. Currently, 922 (22 major) structures are in poor condition, 6,084 (133 major) structures are in fair condition and 3,379 (53 major) structures are in good condition.

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 STIP 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 generally been steady over the last five years. This is reflective of the significant focus on these structures in the STIP. Even with the significant investment in the STIP, the number of structures in good condition has been generally dropping over the five-year period while the number in fair condition has generally been increasing. Work on major bridges is expensive with rehabilitations costing \$10 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

# KEEP ROADS AND BRIDGES IN GOOD CONDITION

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

## MEASUREMENT

### DRIVER:

Dave Wyman  
Area Engineer

## PURPOSE OF THE MEASURE:

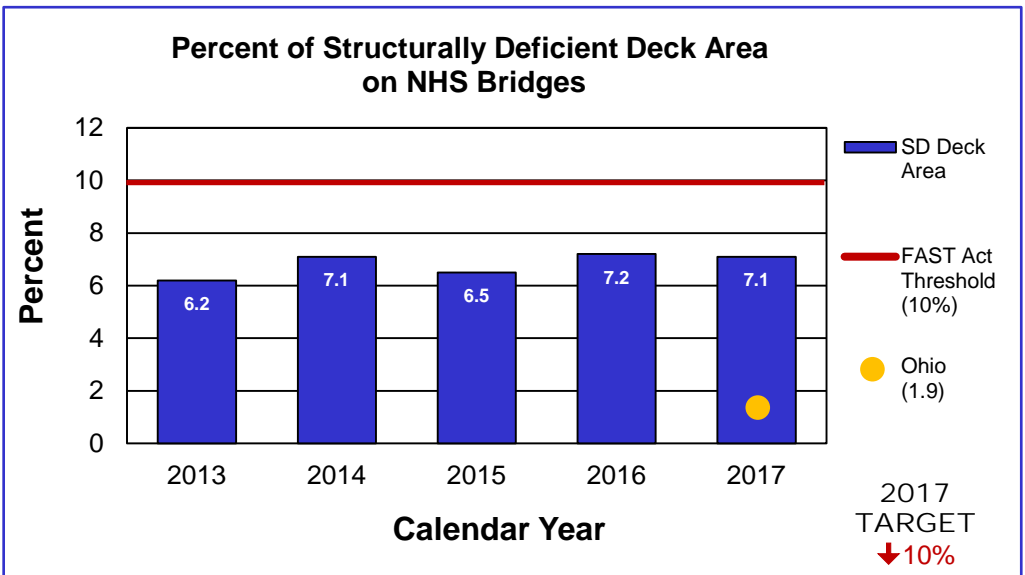
This measure tracks the percent of structurally deficient deck area for bridges on the National Highway System.

## 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.

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 SD). Missouri currently falls below the penalty threshold with the statewide SD 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.







# PROVIDE OUTSTANDING CUSTOMER SERVICE

*Tom Blair, St. Louis 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  
Interim 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

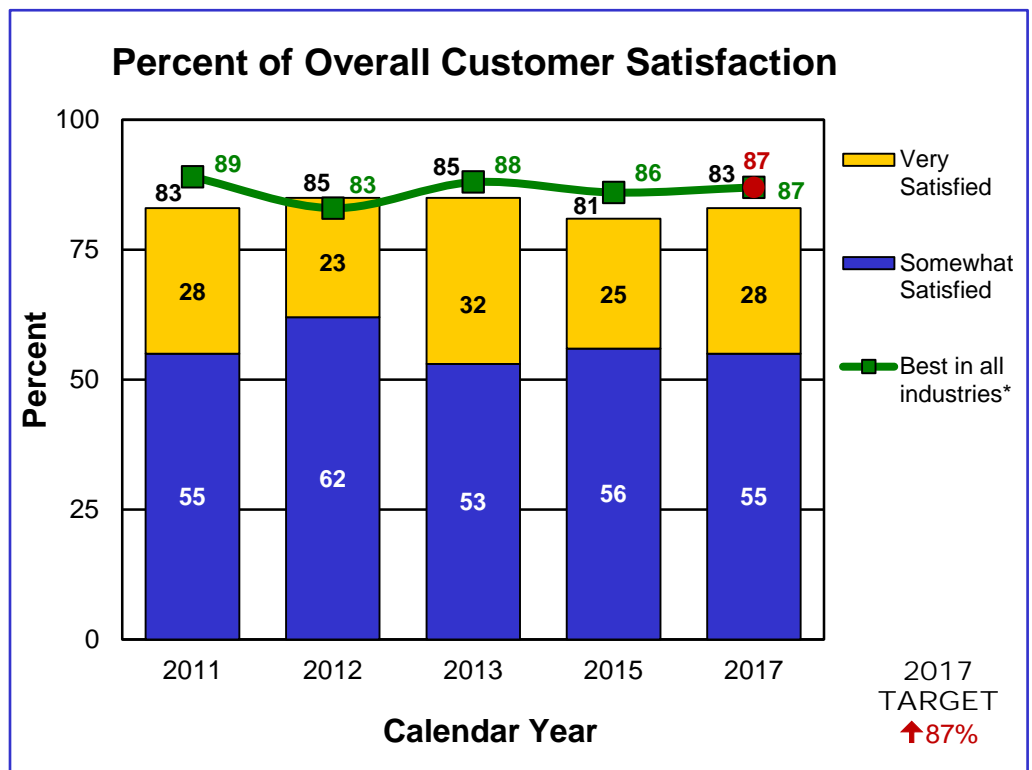
## Percent of overall customer satisfaction – 3a

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

# PROVIDE OUTSTANDING CUSTOMER SERVICE

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

**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:**

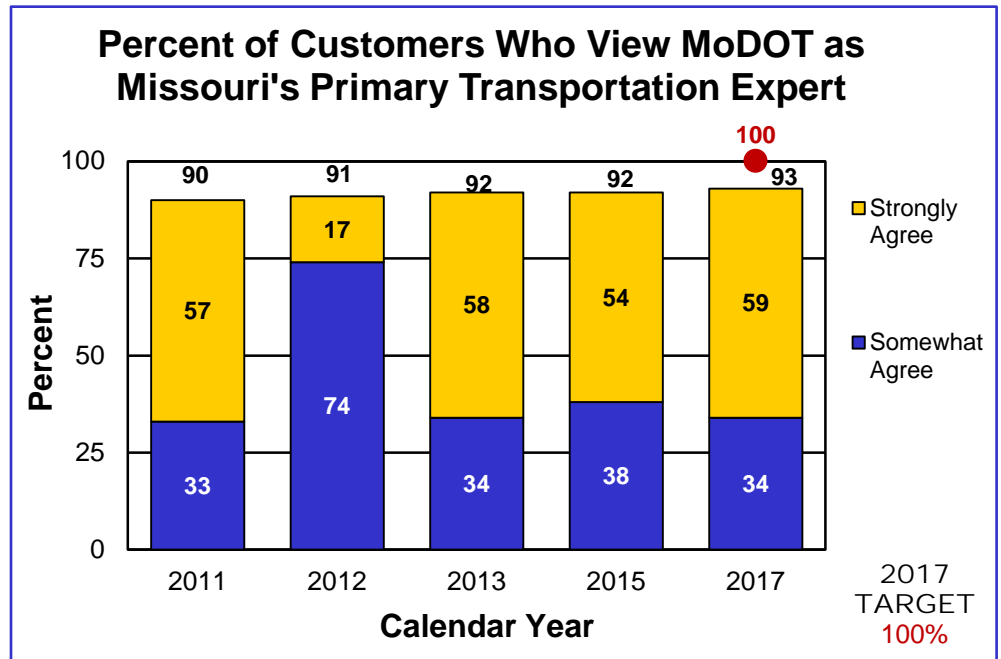
Data is collected through a biennial, in odd-numbered years, telephone survey of approximately 3,500 randomly selected Missourians. The target for this measure is updated annually in October for the next calendar year.

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

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.





**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.

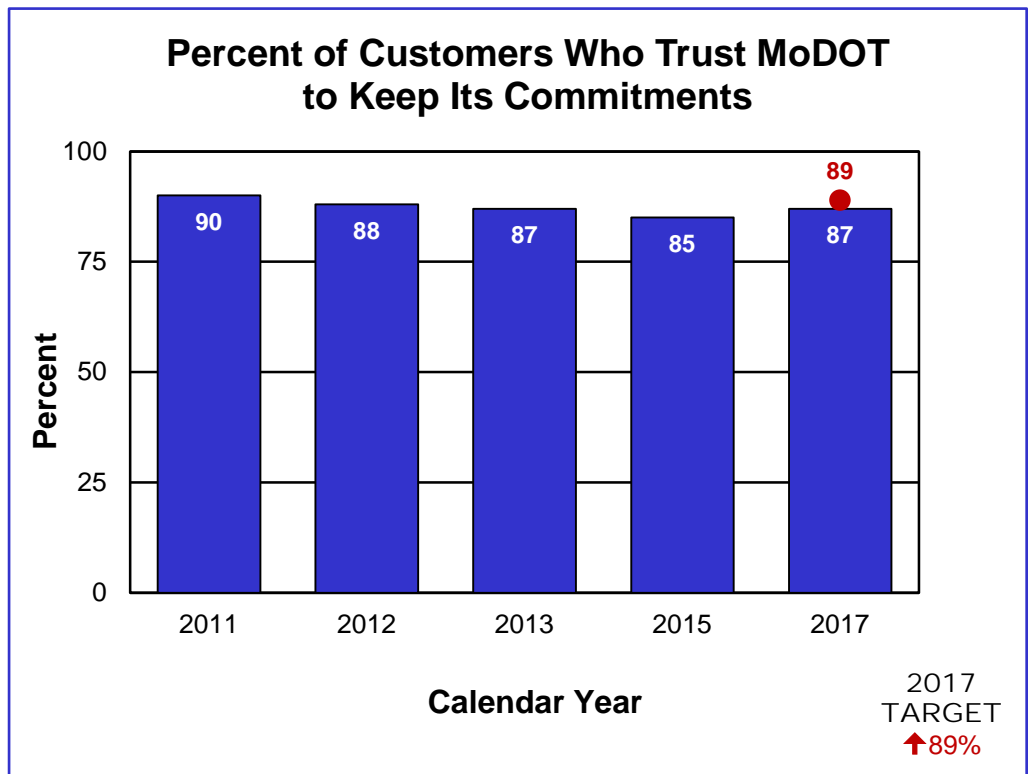
**MEASUREMENT AND DATA COLLECTION:**

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.

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.

## MEASUREMENT AND DATA COLLECTION:

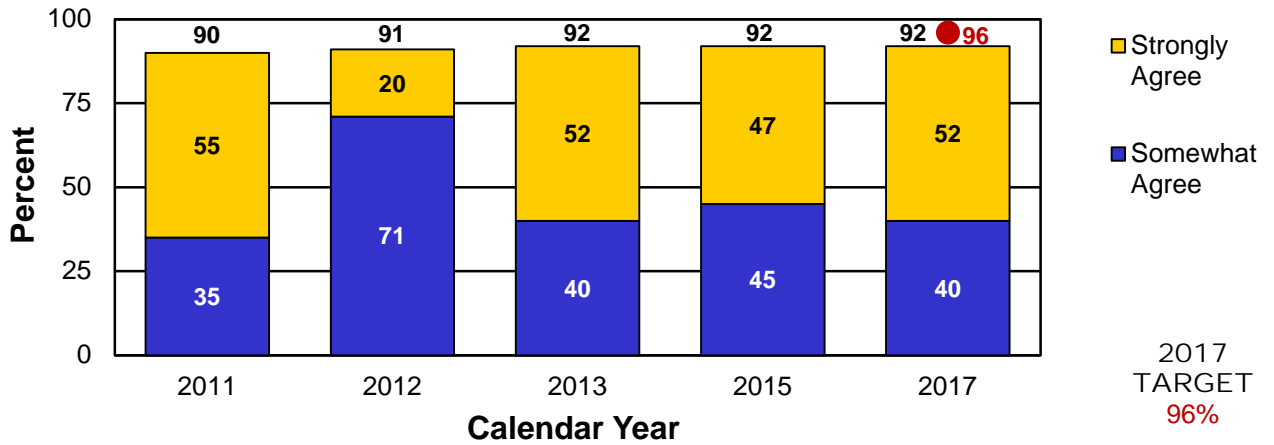
Data is collected through a biennial, in odd-numbered years, telephone survey of approximately 3,500 randomly selected Missourians.

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.

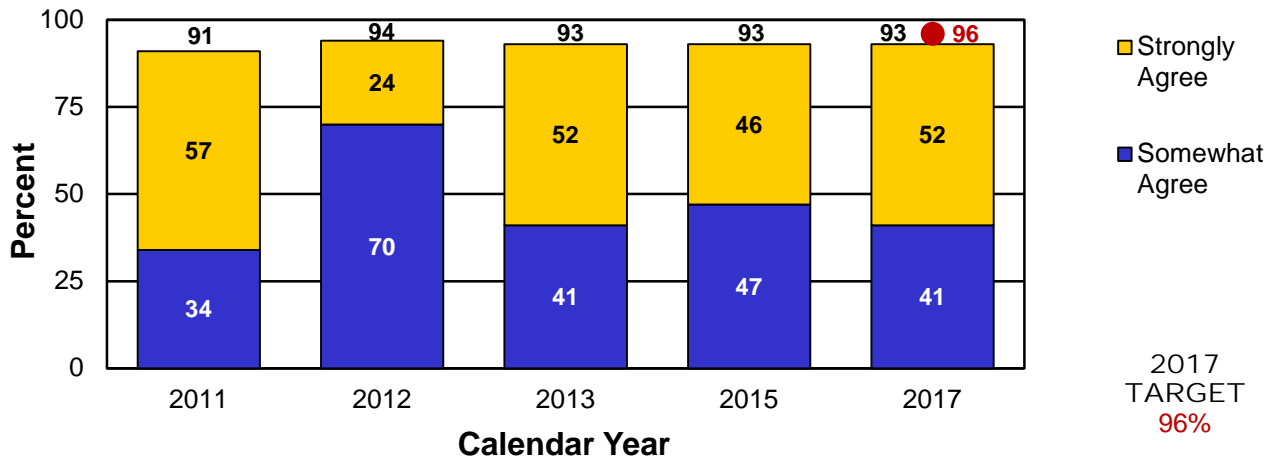


# PROVIDE OUTSTANDING CUSTOMER SERVICE

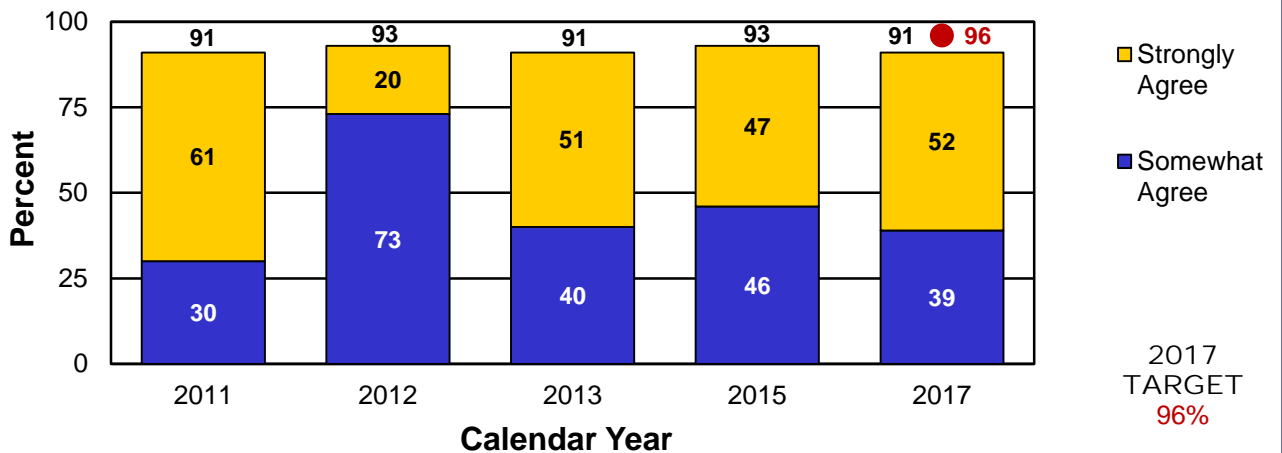
## Percent of Customers Who Feel MoDOT Provides Timely Information



## 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.

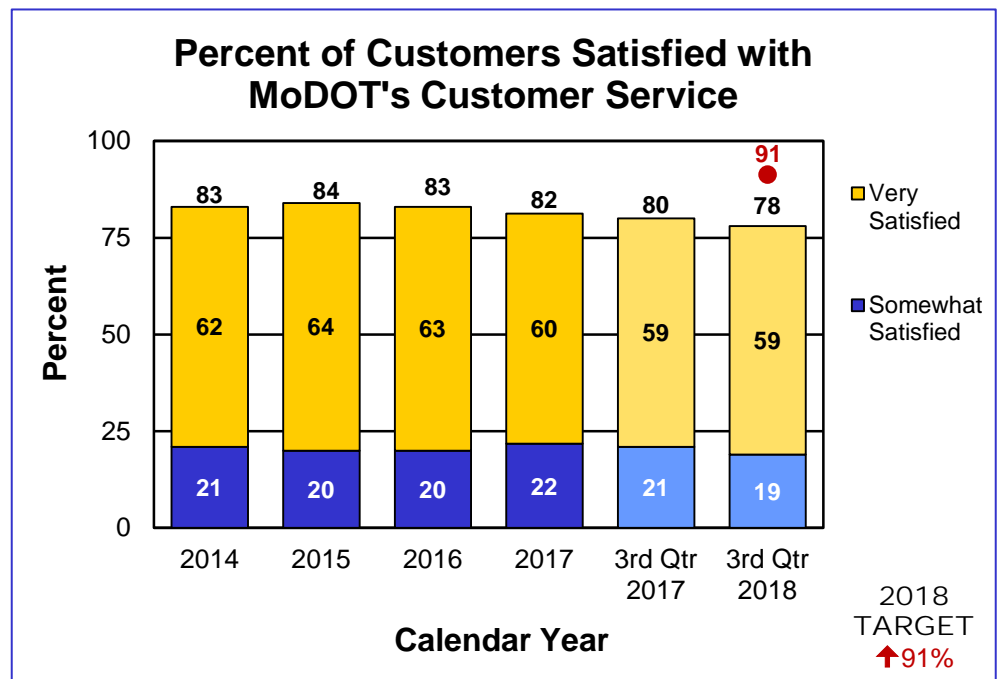
# PROVIDE OUTSTANDING CUSTOMER SERVICE

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

MoDOT actively seeks feedback from its 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. Since its implementation, customer perceptions of MoDOT's politeness, responsiveness and clarity increased, resulting in improved customer satisfaction.

There was slight movement in the numbers comparing third quarter 2017 to third quarter 2018. Overall customer satisfaction decreased slightly from 80 percent to 78 percent. Politeness of response decreased from 97 percent to 95 percent. Customers who were satisfied with the clarity of the response they received increased from 85 percent to 88 percent and responsiveness increased slightly from 87 percent to 88 percent.

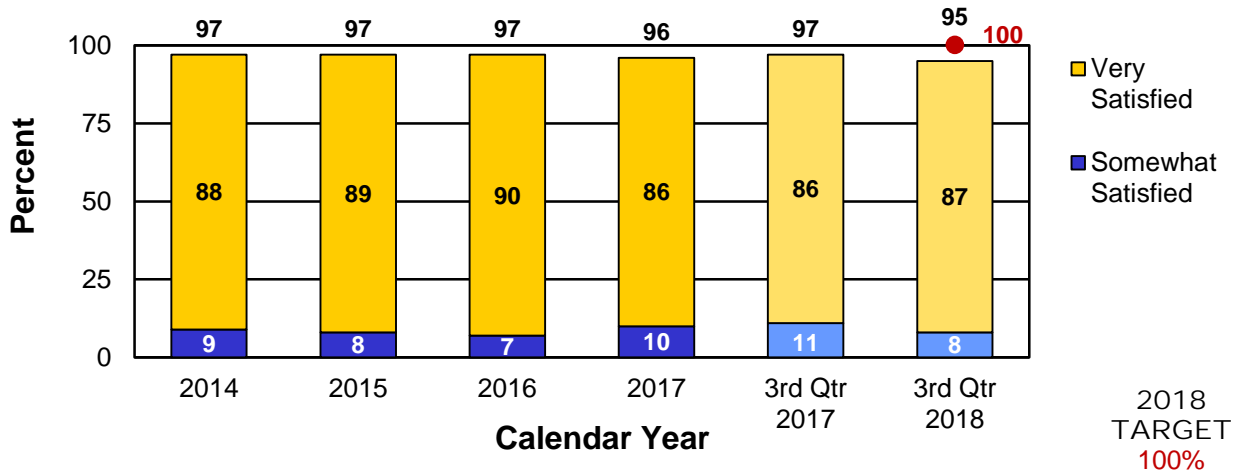
The average time to complete customer requests was two days.



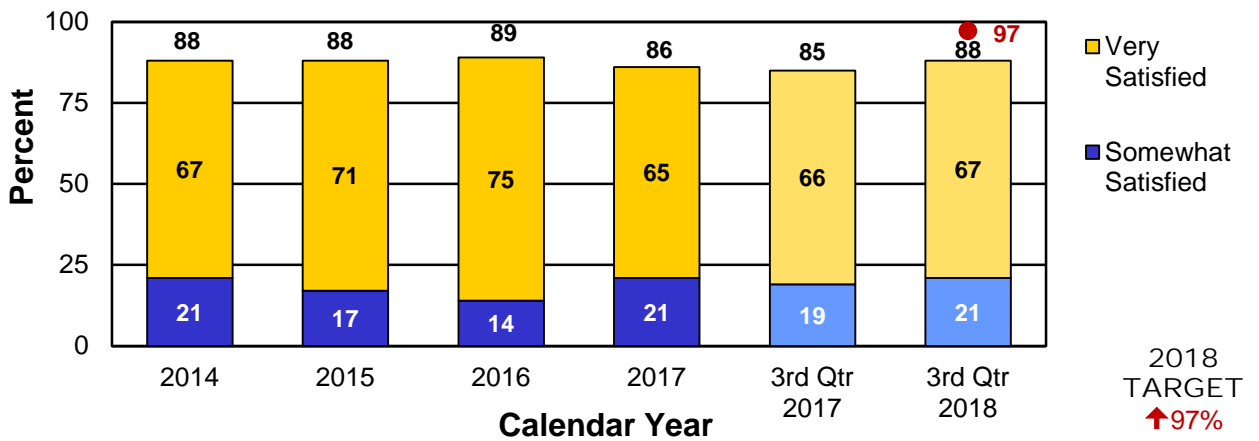


# PROVIDE OUTSTANDING CUSTOMER SERVICE

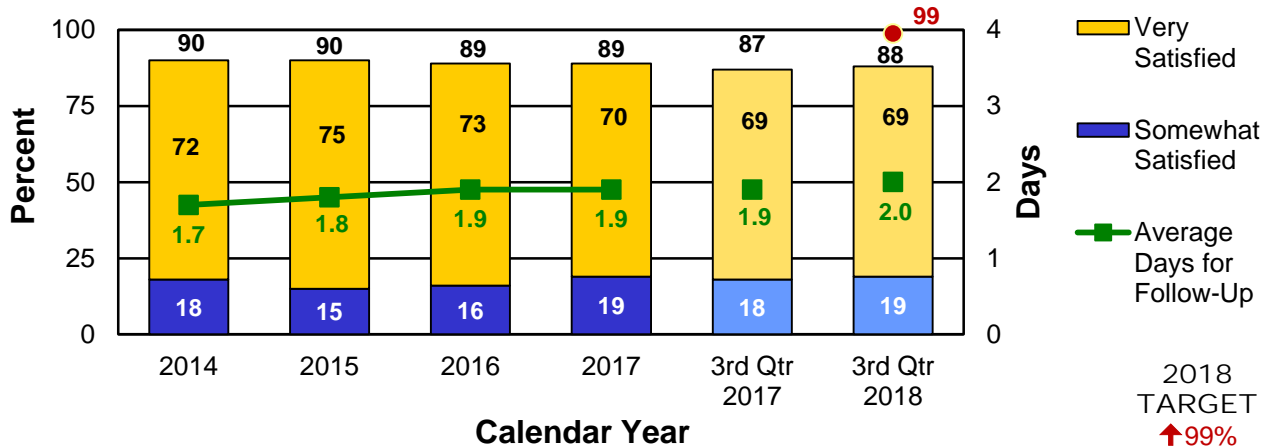
## Customer Satisfaction with Politeness of Staff



## 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.

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 fiscal years 2018 and 2019, there was a growth of 32,347 followers on Facebook statewide and 10,670 on Twitter.

During the first quarter of FY 2019, MoDOT's most popular post on Facebook statewide alerted drivers of the complete closure of I-44 in the Springfield area on July 14. The post reached 190,330 people with 4,201 engagements including post clicks, shares, comments and reactions.

MoDOT websites had 1,022,474 sessions during the first quarter of FY 2019, compared to 1,251,239 in the first quarter of FY 2018. This quarter lacked any significant weather events that would typically draw users to MoDOT's websites.

The top five pages on MoDOT's website for this quarter were:

- KC Scout Homepage – 179,756
- Traveler Information Map – 161,679
- MoDOT Homepage – 155,715
- Job Listings – 55,370
- Gateway Guide Homepage – 41,151

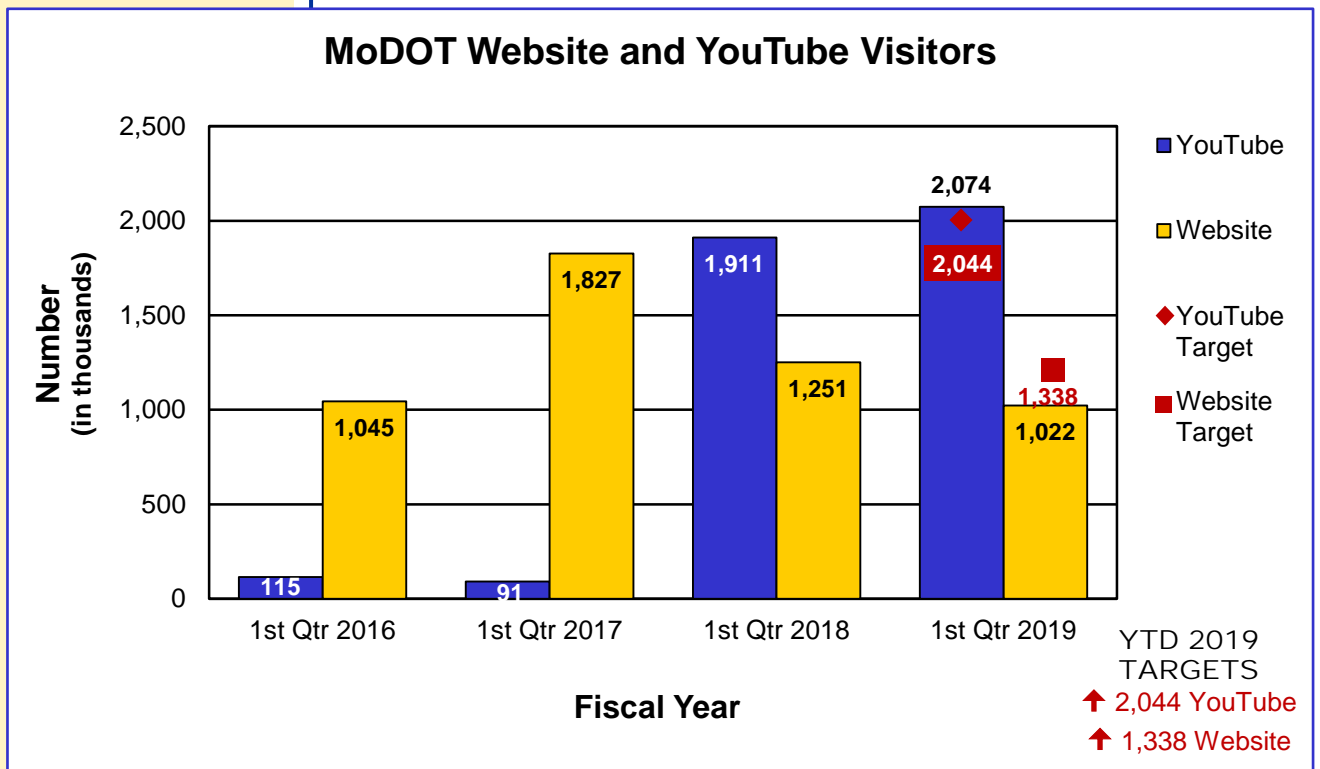
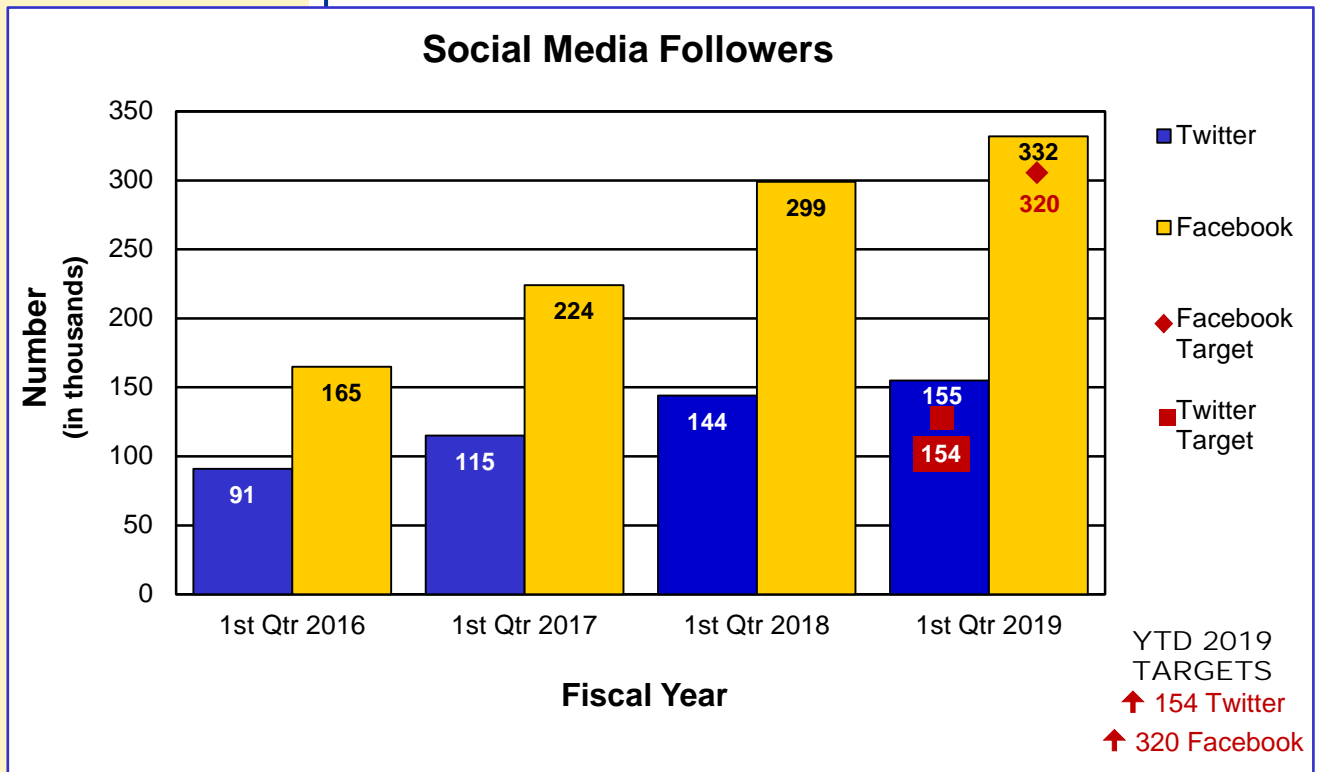
MoDOT videos on YouTube were viewed 2,074,023 times in the first quarter of FY 2019.

The top five videos viewed in the last quarter were:

- Commercial Motor Vehicle 2018 – 296,100 views
- Drive Sober 2018 – 239,400 views
- Work Zone Awareness 2018 – 161,100 views
- Child Passenger Safety 2017 – 108,500 views
- July Impaired Driving 2018 – 104,200 views

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

# PROVIDE OUTSTANDING CUSTOMER SERVICE



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# DELIVER TRANSPORTATION SOLUTIONS OF GREAT VALUE

*Eric Schroeter, State Design 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  
State Design Engineer

## MEASUREMENT

### DRIVER:

Doug Hood  
Planning and Programming  
Coordinator

## 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 Sept. 30, 2018, 91 road and bridge projects were completed in fiscal year 2019 at a cost of \$212 million. This represents a deviation of .3 percent (or \$600,000) less than the programmed cost of \$212.6 million. Fifty-two percent were completed within or below budget. In comparison, 55 percent were completed within or below budget as of the same date a year ago. Project savings were recognized in the miscellaneous and awards 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, nine multimodal projects were completed at a cost of \$2.1 million, 20.8 percent (or \$500,000) less than the programmed cost of \$2.6 million. A total of 36 local public agency projects were completed at a cost of \$28 million, 9.6 percent (or \$3 million) less than the programmed cost of \$31 million.

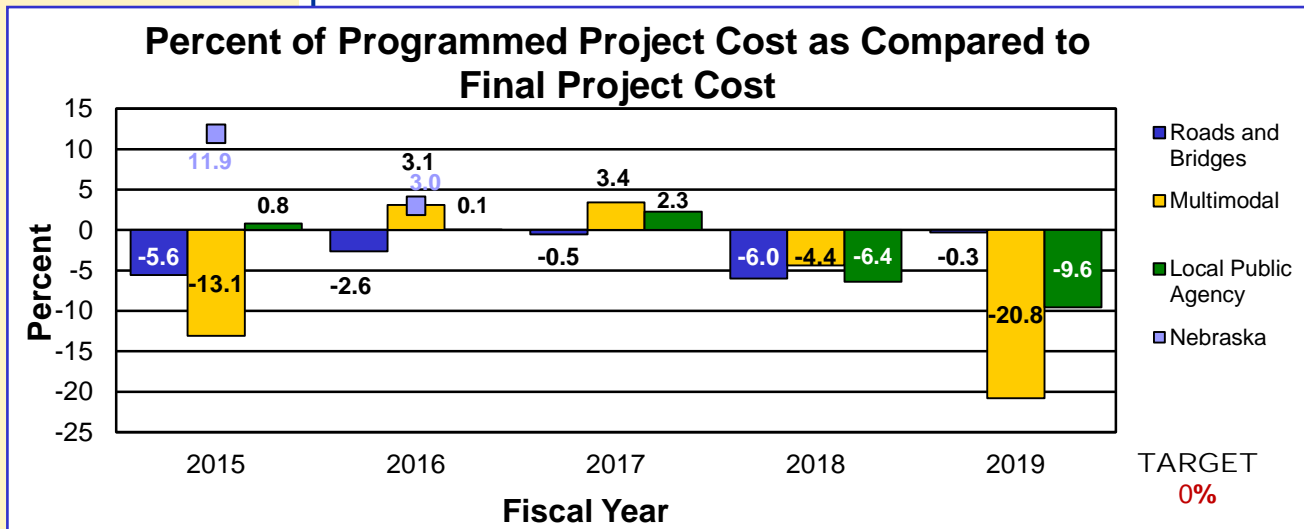
The target is zero percent difference, indicating MoDOT is making timely use of available funds. Road and bridge, multimodal and local public agency projects were within 10.4 percent of the target in first quarter of FY 2019.

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.

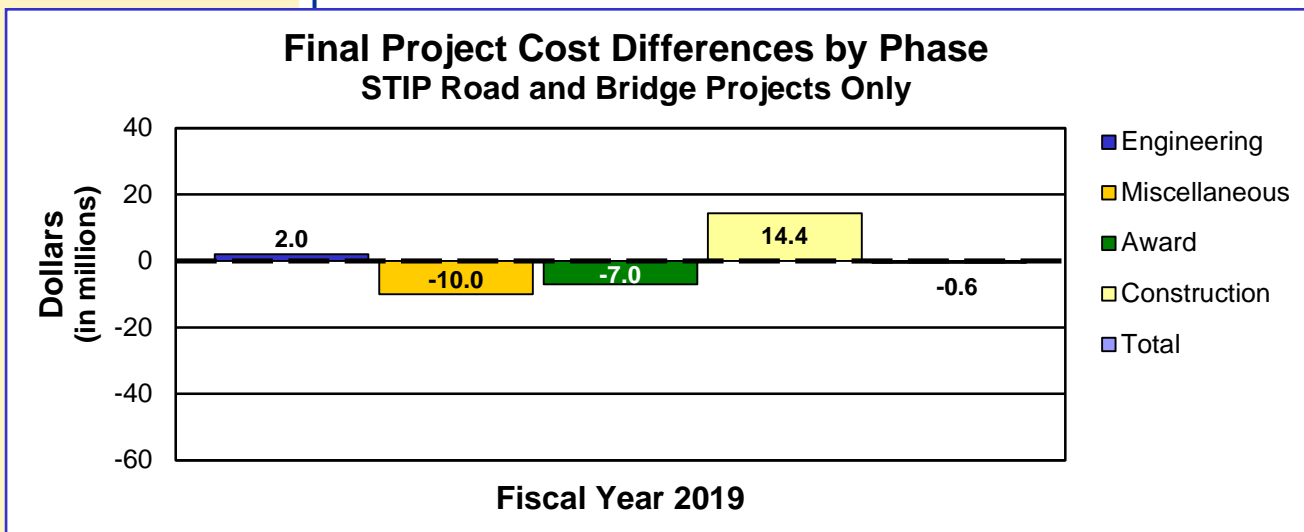




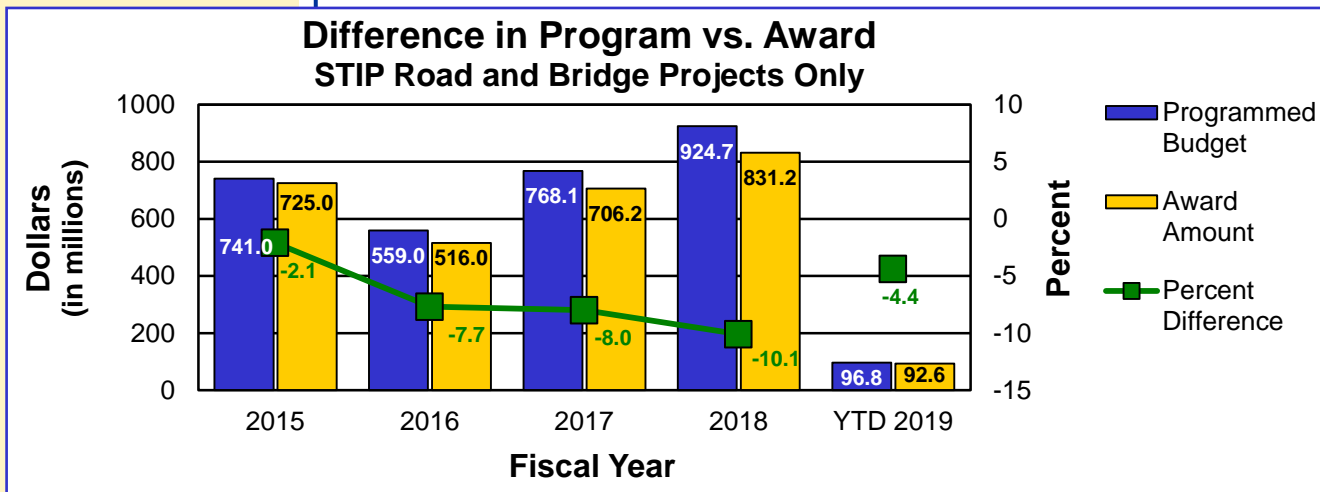
# DELIVER TRANSPORTATION SOLUTIONS OF GREAT VALUE



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



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



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



**RESULT DRIVER:**  
Eric Schroeter  
State Design Engineer

# DELIVER TRANSPORTATION SOLUTIONS OF GREAT VALUE

**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.

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

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.

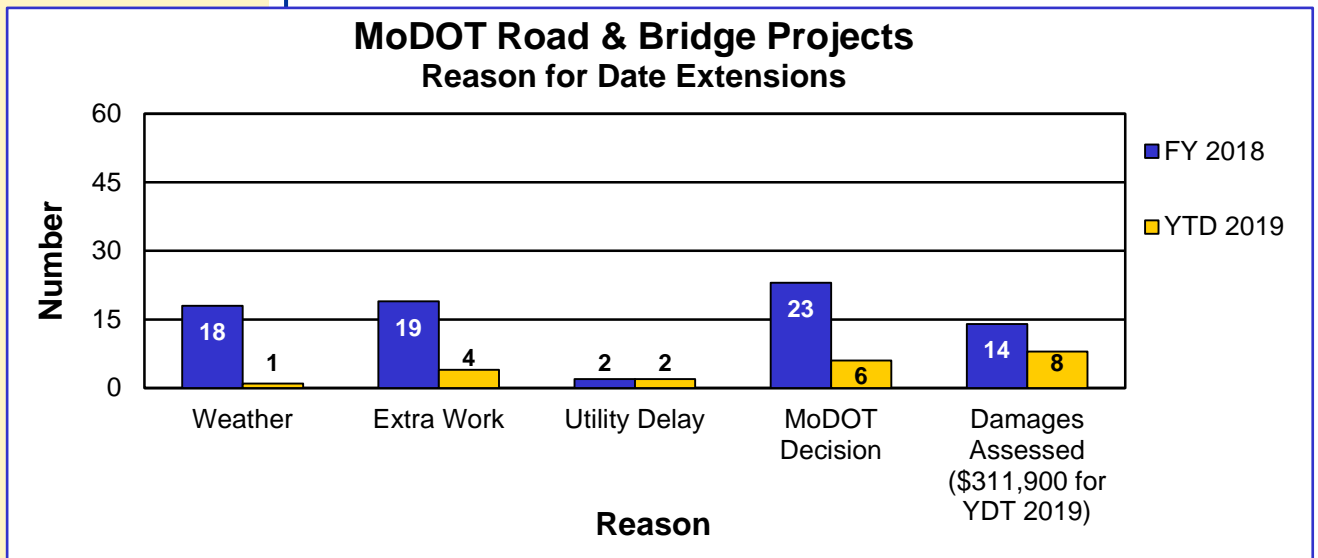
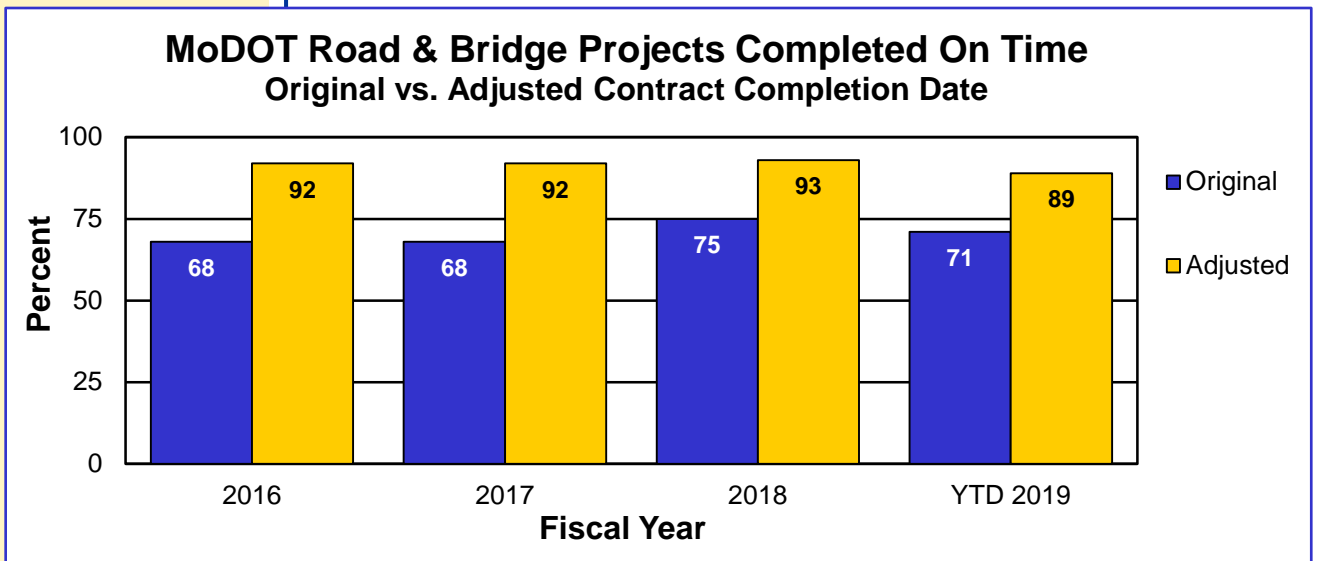
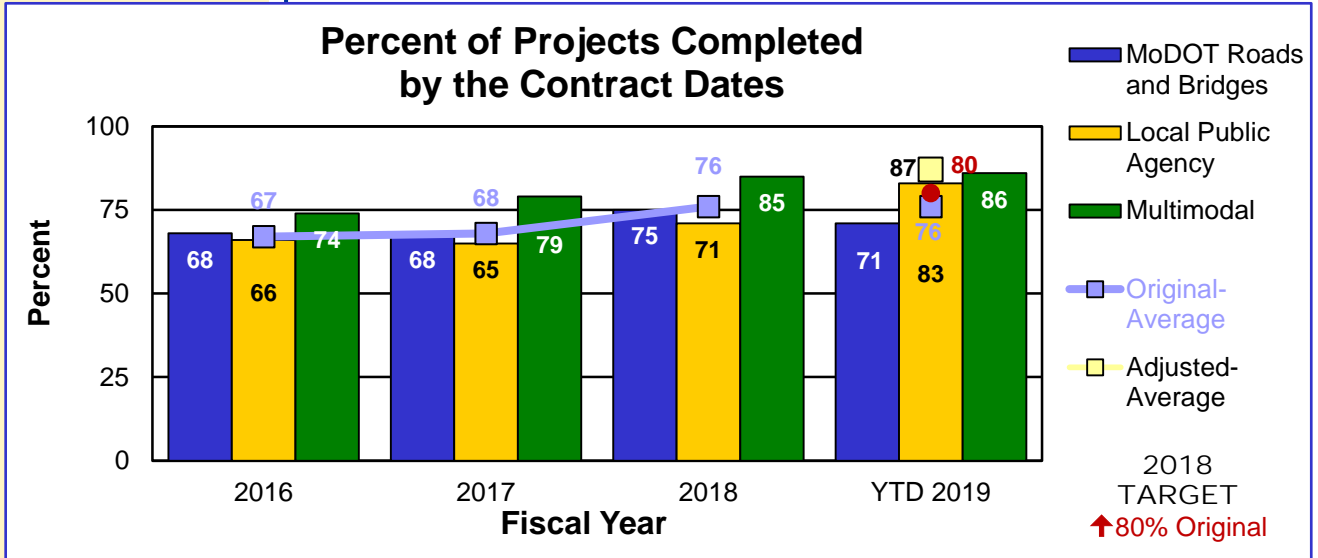
MoDOT works to meet the initial contract completion date by preparing accurate plans and quantities, setting aggressive but reasonable completion dates and setting liquidated damages to reinforce completion dates without undue bid risks. In the first quarter of fiscal year 2019, 76 percent of all closed-out 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 quarter FY 2019, 87 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 quarter of FY 2019 that did not meet the original contract date, 5 percent were extended due to weather delays, 19 percent were extended due to extra work, 9 percent experienced utility delays, 29 percent were extended by MoDOT and 38 percent missed the completion date with damages assessed totaling \$311,900.

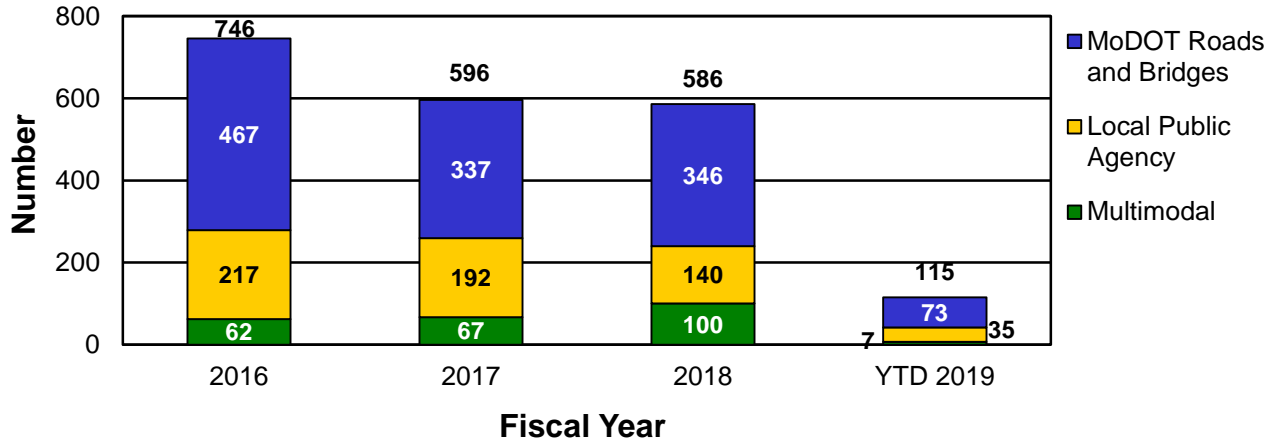
The target for this measure is to have at least 80 percent of projects completed by the original completion date. At the end of the first quarter of FY 2019, the average number of all contracts completed by the original completion date was 76 percent which is the same as the previous year.

# DELIVER TRANSPORTATION SOLUTIONS OF GREAT VALUE

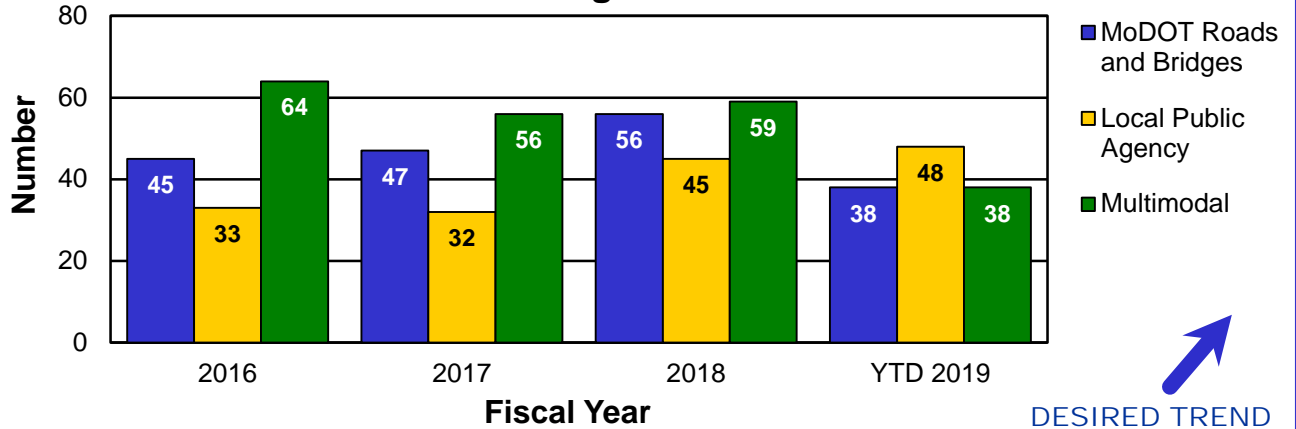


# DELIVER TRANSPORTATION SOLUTIONS OF GREAT VALUE

## Total Number of Projects Completed

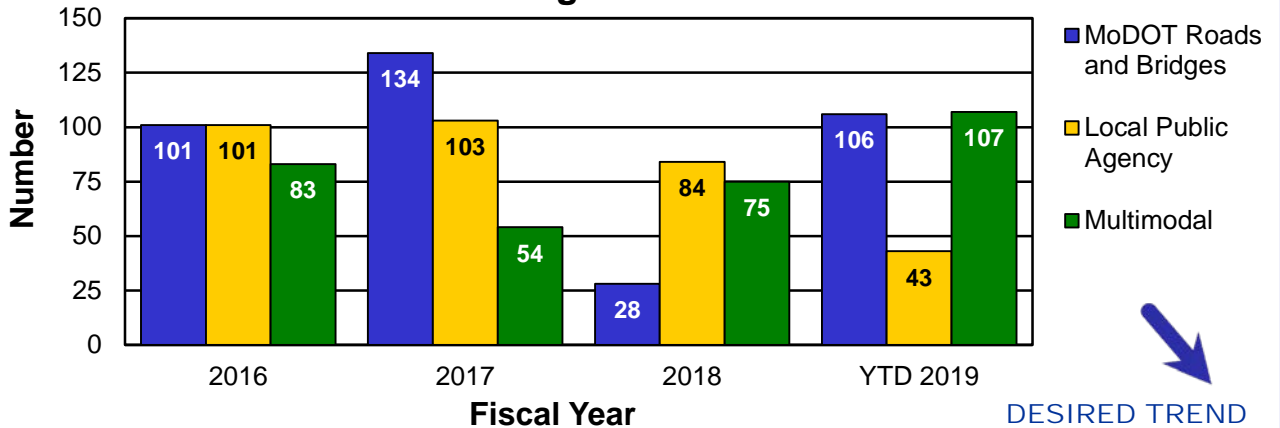


## Average Number of Days Completed Before Original Date



DESIRED TREND

## Average Number of Days Completed After Original Date



DESIRED TREND

**RESULT DRIVER:**  
Eric Schroeter  
State Design Engineer

# DELIVER TRANSPORTATION SOLUTIONS OF GREAT VALUE

**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.

## *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 quarter of fiscal year 2019 is 1.8 percent over the award amount (\$2.9 million over the award amount of \$155 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.

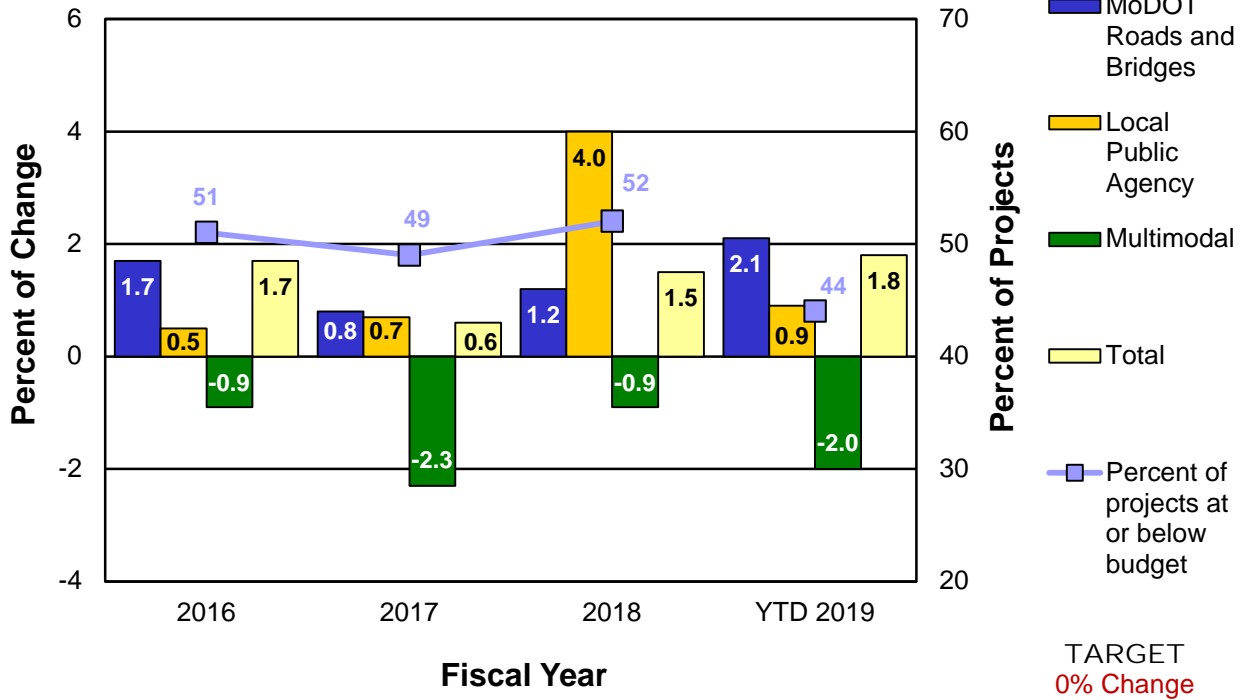
For FY 2019, MoDOT road and bridge projects were completed 2.1 percent over budget; local public agency projects were completed 0.9 percent over budget and multimodal projects were completed 2.0 percent under budget.



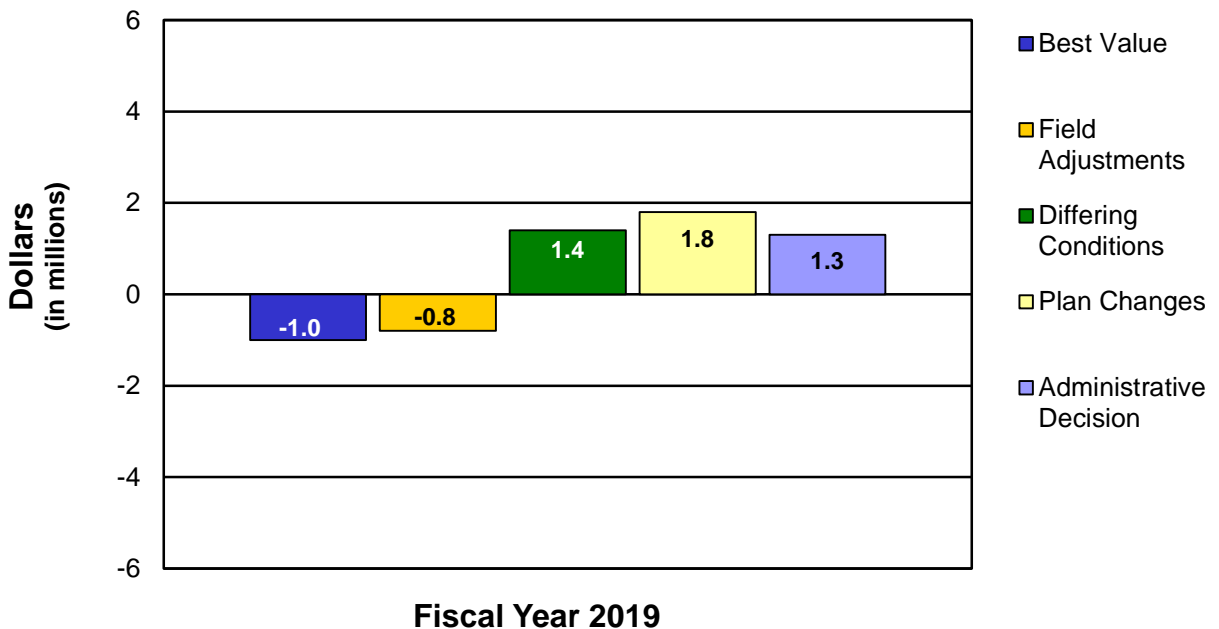


# DELIVER TRANSPORTATION SOLUTIONS OF GREAT VALUE

**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  
State Design Engineer

# DELIVER TRANSPORTATION SOLUTIONS OF GREAT VALUE

## *Innovative contracting methods – 4d*

## 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 STIP, or two projects per year, is an appropriate target for utilizing innovative contracting methods in Missouri.

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.

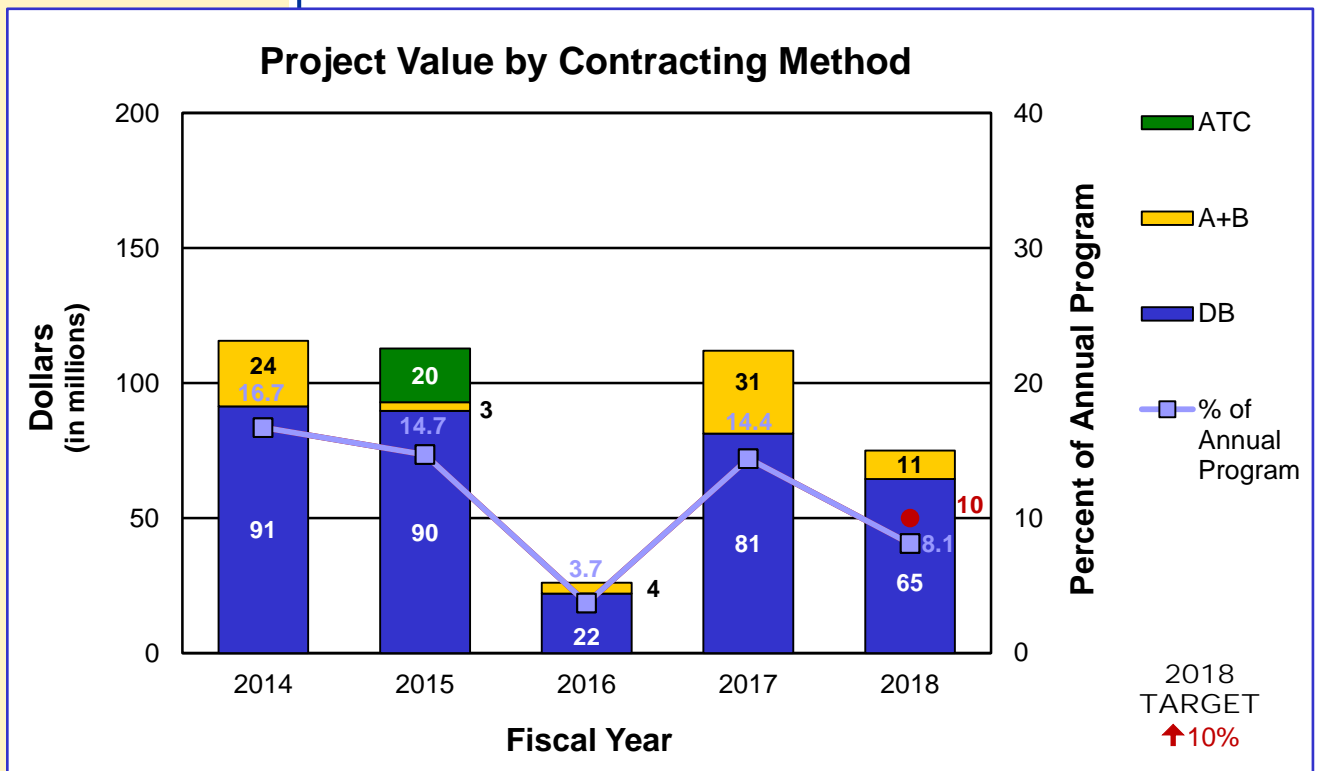
MoDOT evaluates project risks such as size (cost), type (preservation, rehabilitation or reconstruction) and complexity (opportunity for innovation and speed) when determining project delivery methods. The advantages of MoDOT's innovative contracting methods are as follows:

- 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 STIP, 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  
State Design 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 VE 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 2018, 18 percent of applicable projects underwent some form of value analysis during design, which is below target for design-phase value analyses. The percentage of projects with value analysis will improve with increased engagement with district design personnel. 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. Three traditional value engineering studies were completed in two districts this fiscal year. Two of those three will potentially save \$3.1 million. The third study has not been finalized as of this printing. Districts continue to use the Practical Review Tool to add value and cost savings to projects.

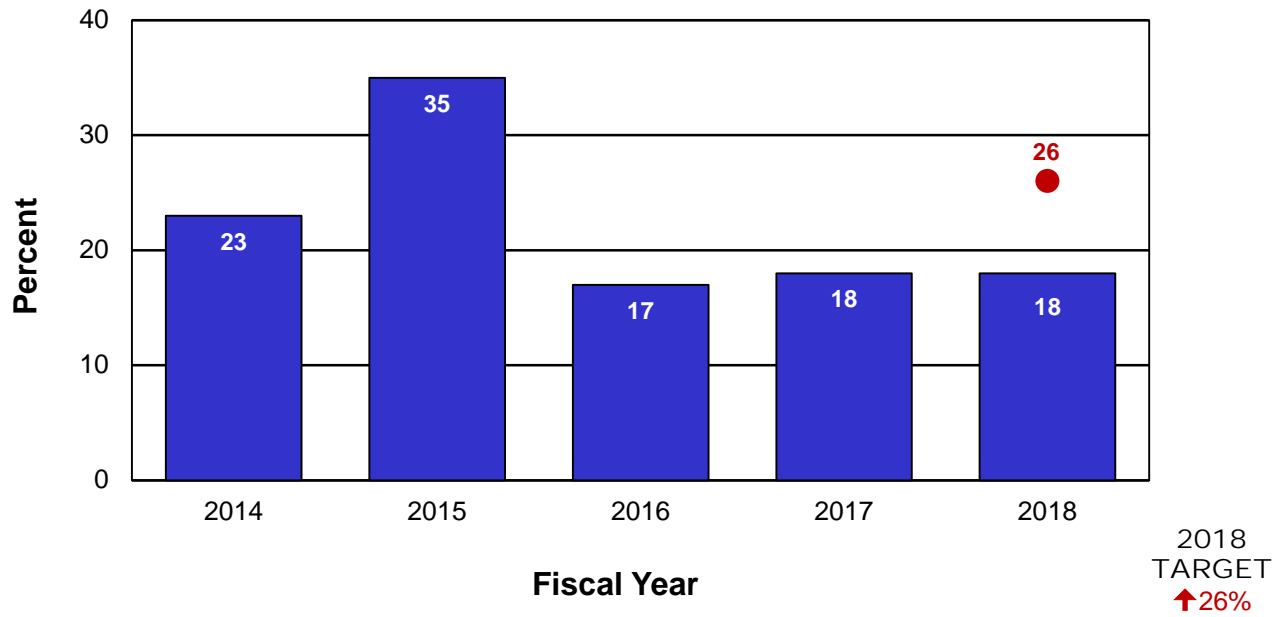
MoDOT partners with industry to find more cost-effective solutions during the construction phase. Value Engineering Change Proposals engage contractor ideas to deliver improved projects. For FY 2018, 27 VECPs were approved resulting in a MoDOT savings of \$2.98 million. This represents a 75 percent approval rate. One Post-Award Value Engineering change proposal has resulted in a MoDOT cost savings of \$20,220.

Nationally, VE studies save millions of dollars every year. In FY 2016, MoDOT saved more than \$11.2 million and ranked 12<sup>th</sup> out of 52 state departments of transportation, which includes District of Columbia and Puerto Rico. The Texas and Florida DOTs ranked highest with \$263 million and \$175 million, respectively.

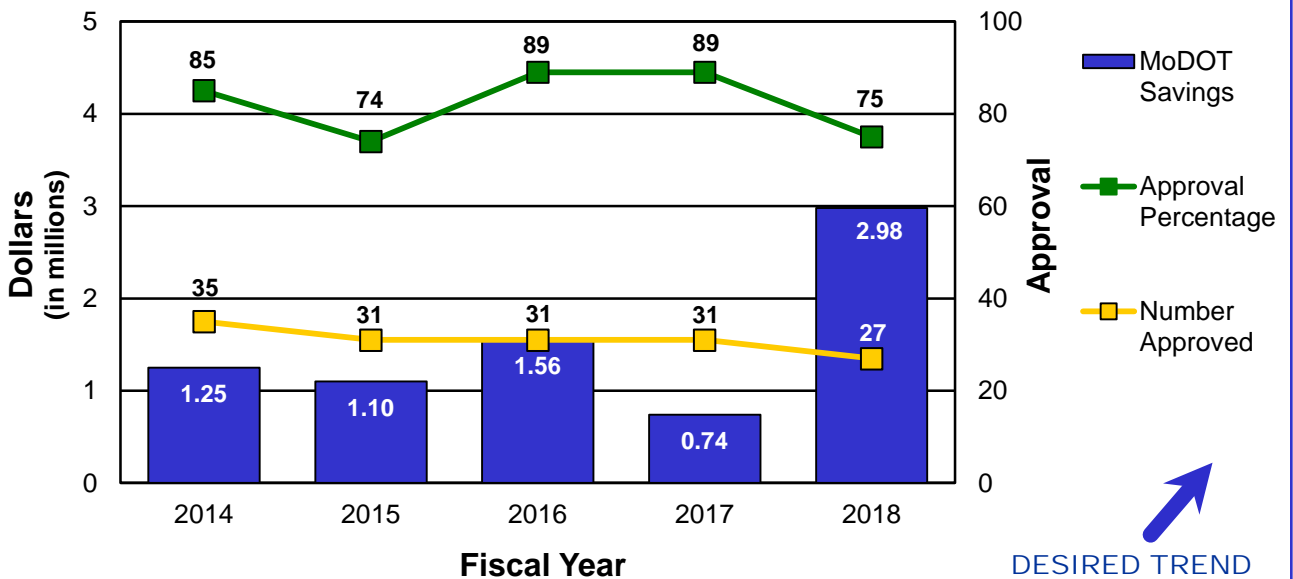


# DELIVER TRANSPORTATION SOLUTIONS OF GREAT VALUE

## Percent of Awarded Projects with Value Analysis Design Phase



## Value Engineering Proposals by Dollar and Number Construction Phase



## RESULT DRIVER:

Eric Schroeter  
State Design Engineer

# DELIVER TRANSPORTATION SOLUTIONS OF GREAT VALUE

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

## MEASUREMENT DRIVER:

Missy Wilbers  
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. The districts identified 21 projects – three per district – in 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. A sample of residents was drawn from zip code areas adjoining the recently completed project.

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.

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 2016, a pilot project was conducted to determine the value of implementing an alternative survey mechanism. Two projects – one large and one small – were surveyed online. These online surveys yielded similar results, but cost 75 percent less than previously used mailed surveys.

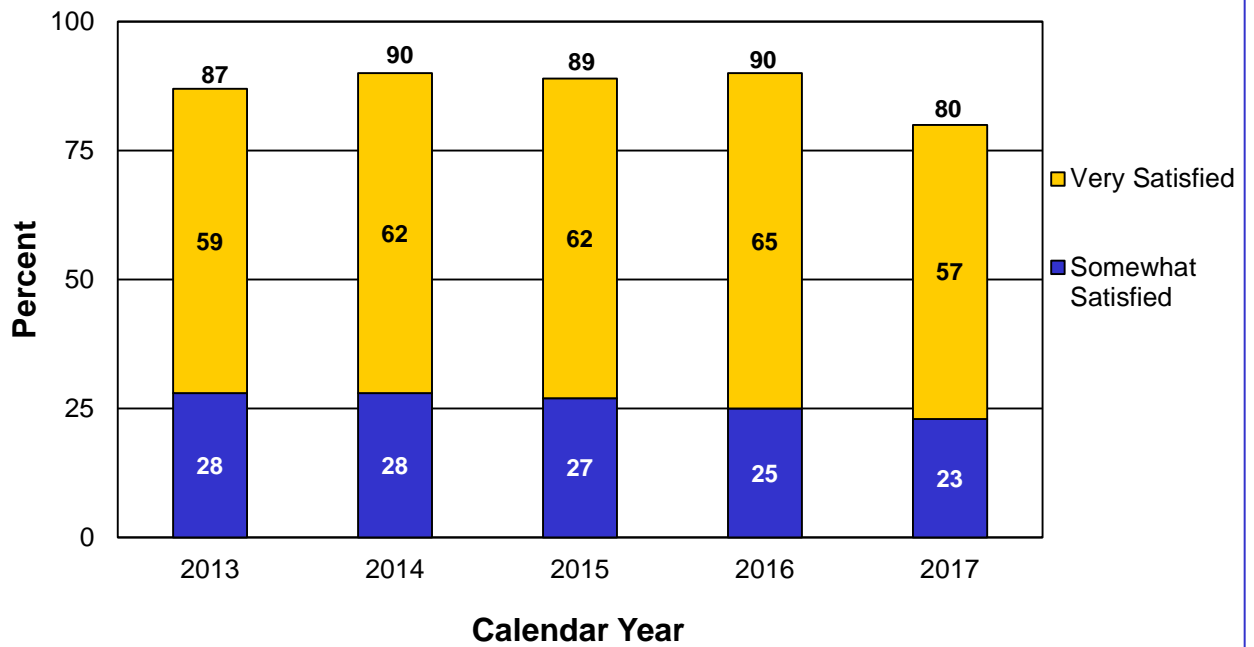
In 2017, nearly 4,900 surveys were submitted online showing Missourians are satisfied with the majority of local projects and believe MoDOT provides the right transportation solution. The respondents thought the projects made the roadway: safer (75 percent), more convenient (72 percent), less congested (66 percent), easier to travel (69 percent), better marked (77 percent), and they considered the projects the right transportation solution (80 percent).

Survey responses resulted in the following percentages of customers who believe completed projects are the right transportation solutions in each district: Northwest (84), Northeast (94), Kansas City (71), Central (92), St. Louis (54), Southwest (87) and Southeast (78).

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. More than 2,350 comments were received for the 21 online surveys. These comments were shared with local staff for evaluation to guide future projects.

# DELIVER TRANSPORTATION SOLUTIONS OF GREAT VALUE

## Percent of Customers Who Believe Completed Projects Are the Right Transportation Solutions



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# OPERATE A RELIABLE AND CONVENIENT TRANSPORTATION SYSTEM

*Becky Allmeroth, State Maintenance 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:**  
Becky Allmeroth  
State Maintenance Engineer

# OPERATE A RELIABLE AND CONVENIENT TRANSPORTATION SYSTEM

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

**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.

During the third quarter of 2018, average travel times in St. Louis and Kansas City were mostly longer compared to the same period last year. The average 10-mile travel time in St. Louis was 10 minutes, 47 seconds during the morning and 12 minutes, 11 seconds during the evening. For Kansas City, the average travel time was 11 minutes, 12 seconds during the morning and 11 minutes, 33 seconds during the evening. The average travel time for the morning rush period were both over 20 seconds higher than the same quarter last year. Both evening rush periods experienced similar average travel times as the previous year. Overall, average speeds ranged between 50 mph and 56 mph.

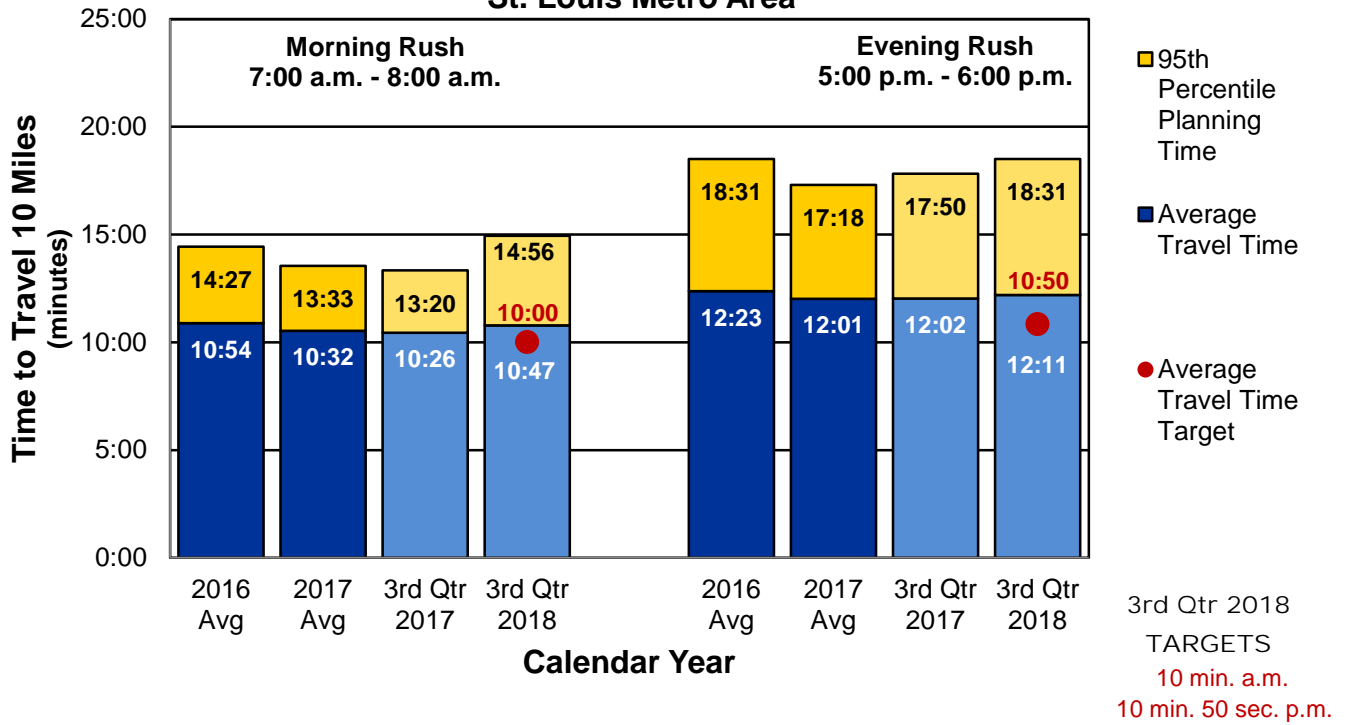
The planning times account for unexpected delays and indicate how long customers need to plan in order to arrive on time 95 percent of the time. In St. Louis, the average 10-mile planning times were 14 minutes, 56 seconds during the morning and 18 minutes, 31 seconds during the evening. This means customers in the St. Louis evening rush needed to plan 8 minutes, 31 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, 15 seconds during the morning and 16 minutes, 20 seconds during the evening. Customers in the Kansas City evening rush needed to plan 6 minutes and 20 seconds 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 32 and 40 mph. The planning times for all rush periods in both regions were higher than the previous year, with most of these times increasing considerably.

The average travel times in both regions are higher than the target for the second quarter of 2018. The morning average travel times are 47 seconds to 1 minute, 12 seconds greater than the target, while the evening travel times are 21 seconds to 1 minute, 4 seconds greater than the target.

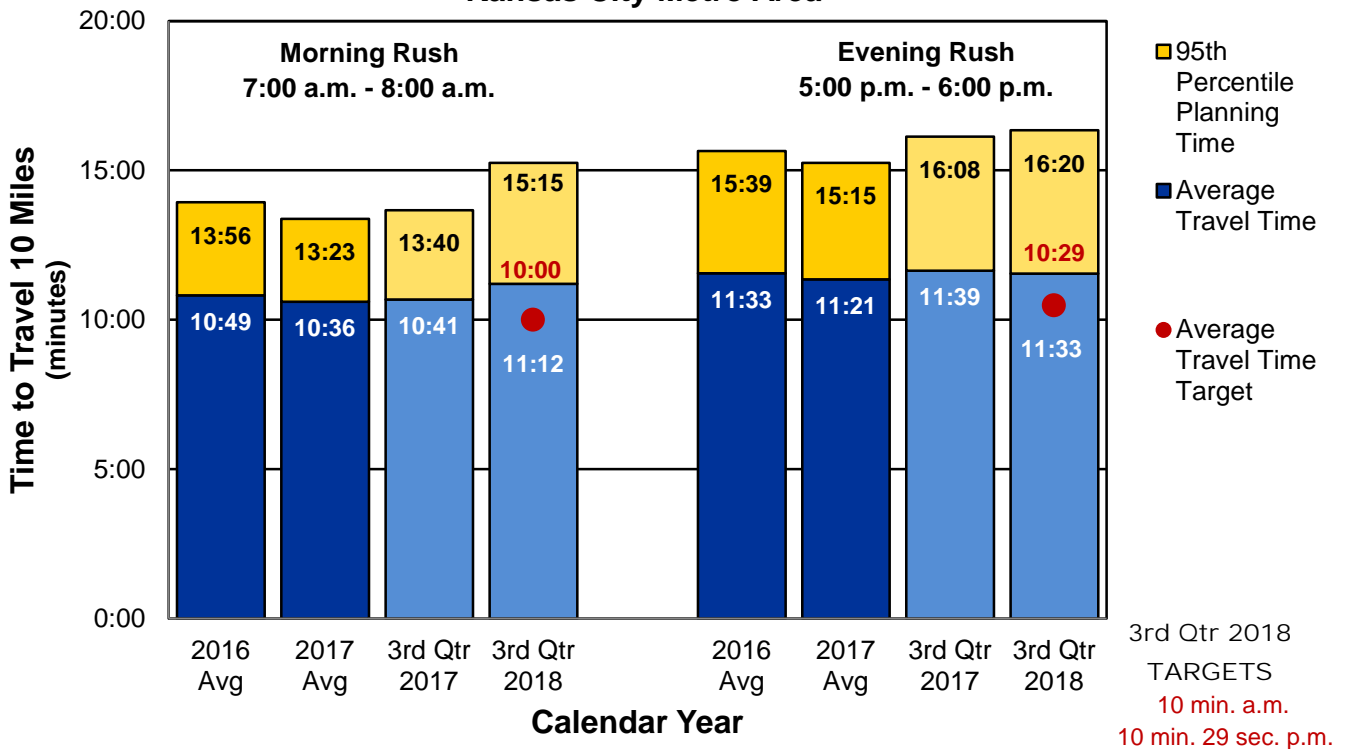
Individual freeway segments within the regions experienced longer travel times than the regional averages as depicted in the maps. The maps also depict rush-hour conditions on selected arterial routes compared to normal traffic flow during non-peak traffic conditions.

# OPERATE A RELIABLE AND CONVENIENT TRANSPORTATION SYSTEM

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



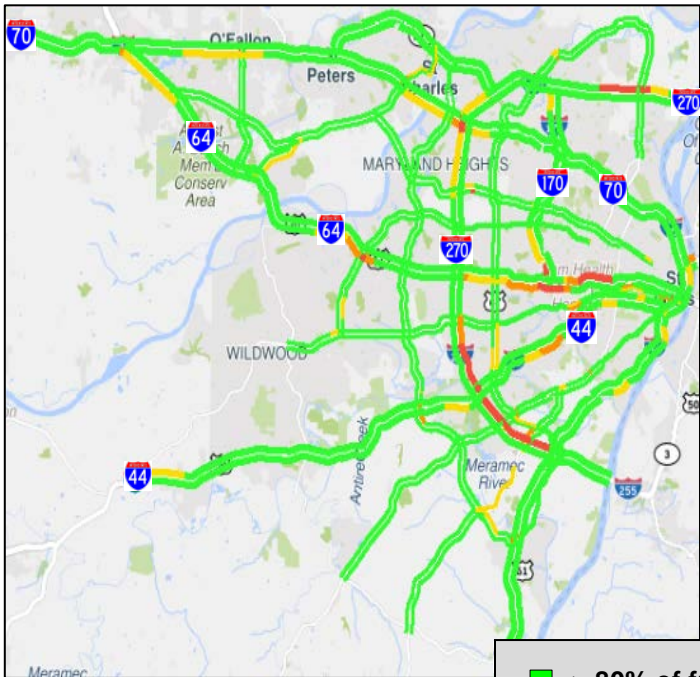
## Reliability of Travel Times for Freeways Kansas City Metro Area



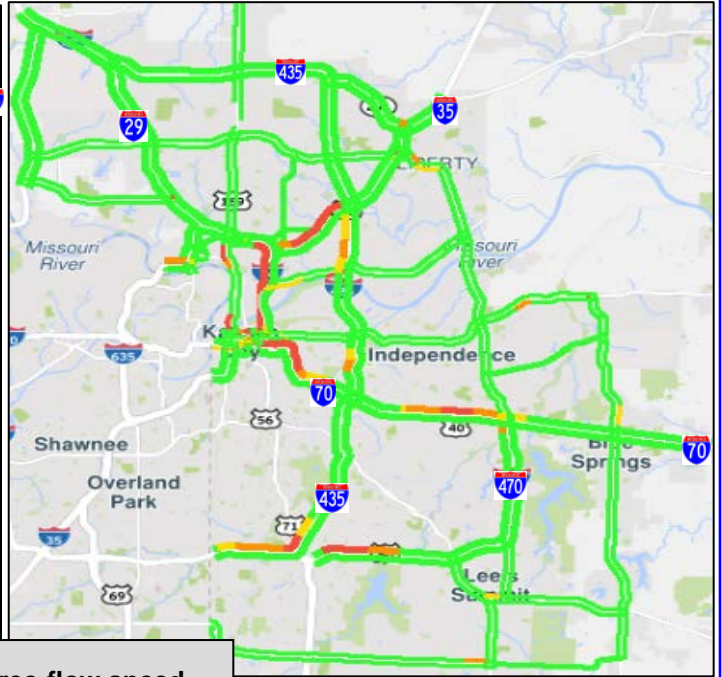


# OPERATE A RELIABLE AND CONVENIENT TRANSPORTATION SYSTEM

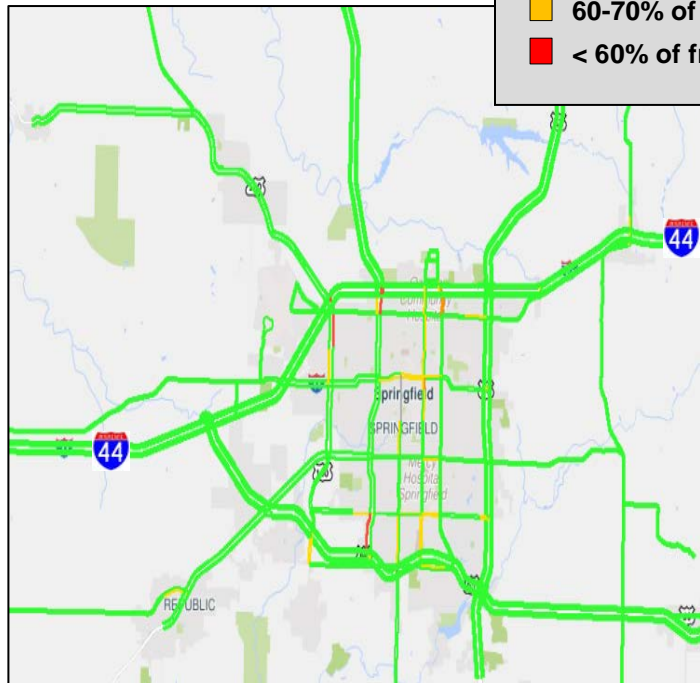
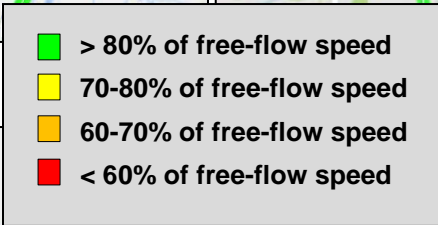
## a.m. Mobility



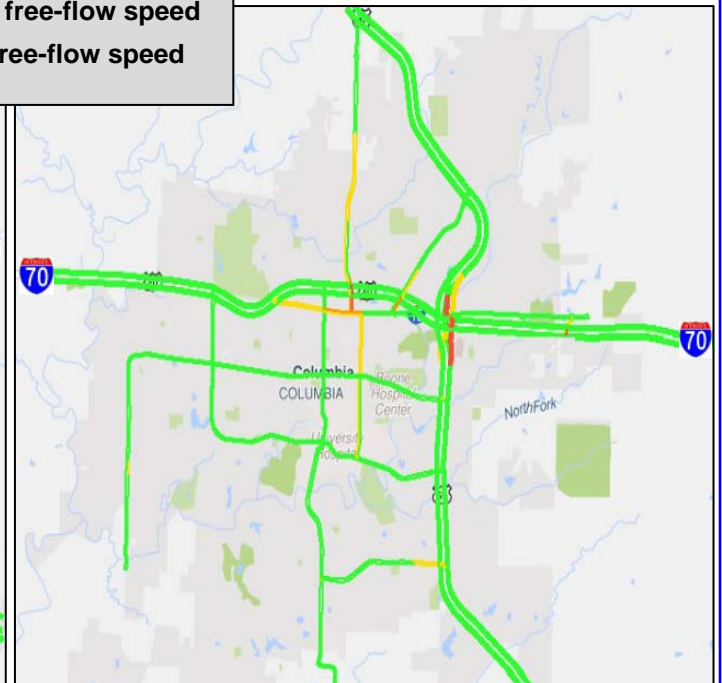
**St. Louis Area**



**Kansas City Area**



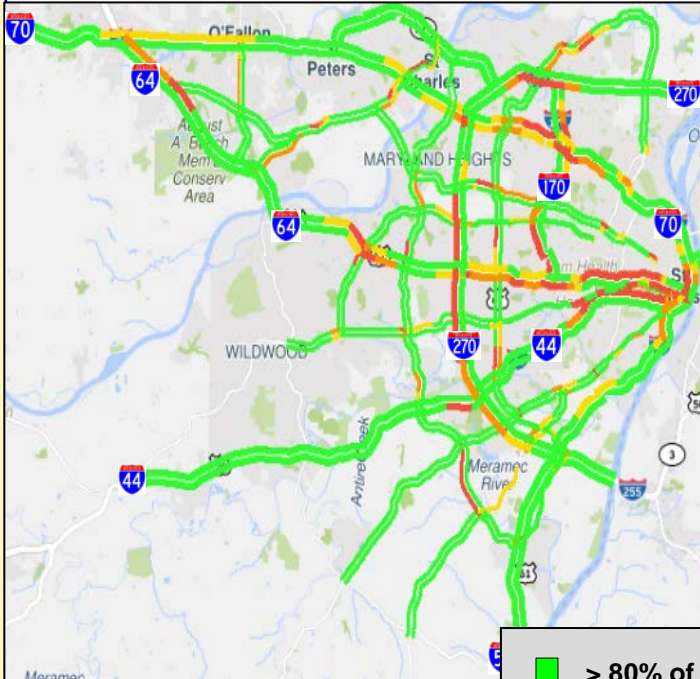
**Springfield Area**



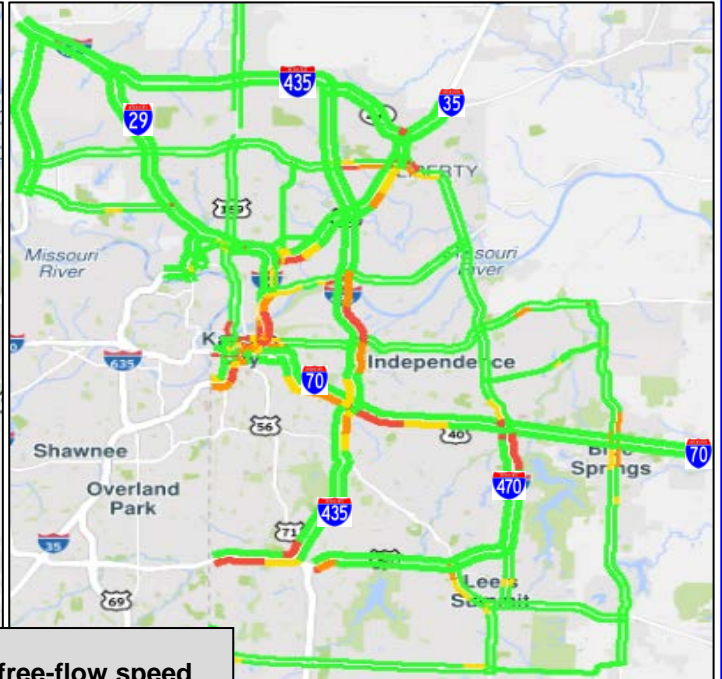
**Columbia Area**

# OPERATE A RELIABLE AND CONVENIENT TRANSPORTATION SYSTEM

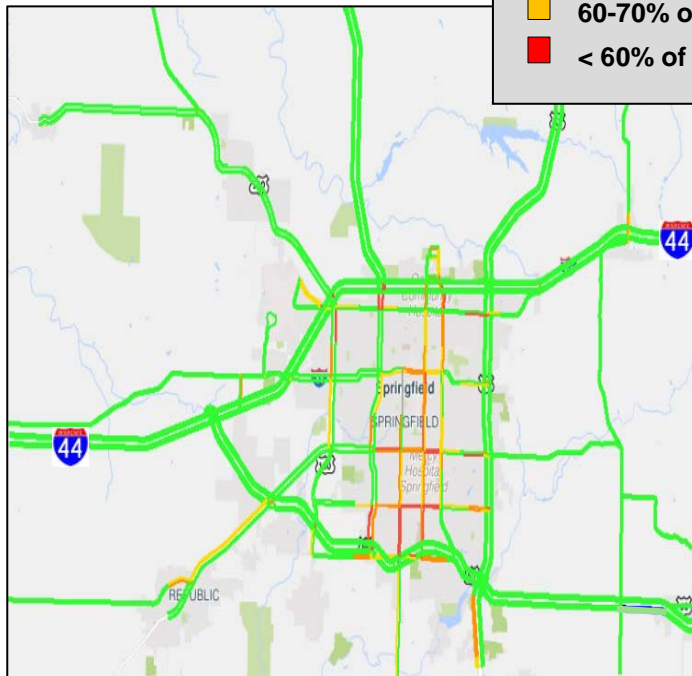
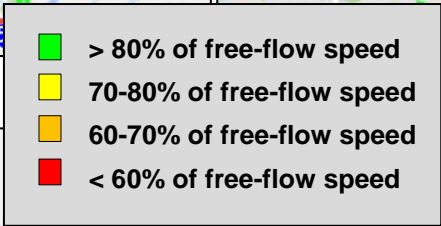
## p.m. Mobility



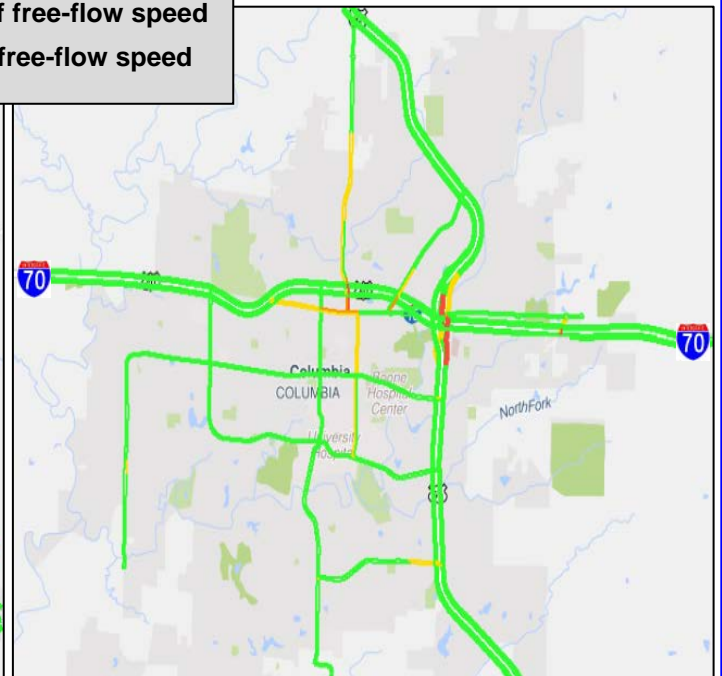
**St. Louis Area**



**Kansas City Area**



**Springfield Area**



**Columbia Area**



**RESULT DRIVER:**  
Becky Allmeroth  
State Maintenance Engineer

**MEASUREMENT DRIVER:**  
Jeanne Olubogun  
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 \$17.67 per hour and is obtained from the Texas A&M Transportation Institute. The unit cost per truck is \$68.09 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 2017 target was \$486 million. The actual calculation from the Regional Integrated Transportation Information System data is \$568 million. This report looks at the 2014 to 2017 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 during this period and the volume trends have slightly decreased. Interestingly, the costs on rural I-44 and I-70 have decreased, as well as volume trends being down slightly.

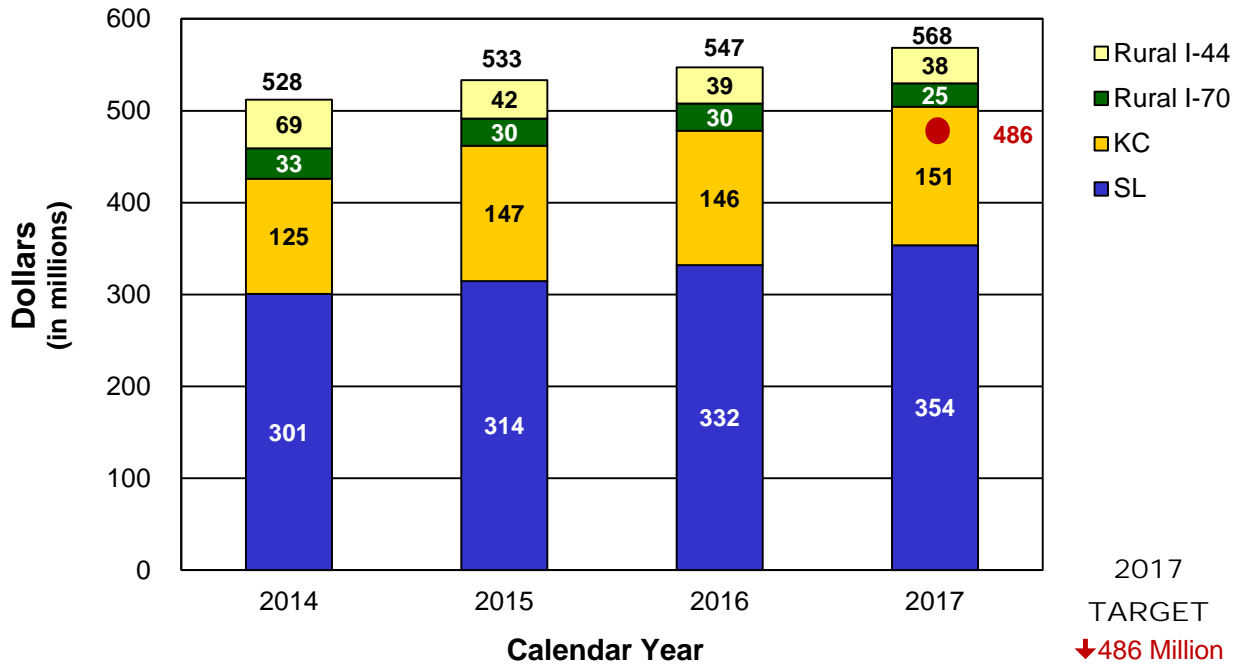
Volume growth is often seen when gas prices remain low. The average cost of gasoline in April 2014 was \$3.52 per gallon, while in April 2018 it was about \$2.45 per gallon. Since mid-2016, while gas prices have fluctuated a bit, the price has been fairly steady.

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 many other factors. Like many other state DOTs, MoDOT puts forth great effort in incident clearance practices, work zone management and other factors that impact mobility.

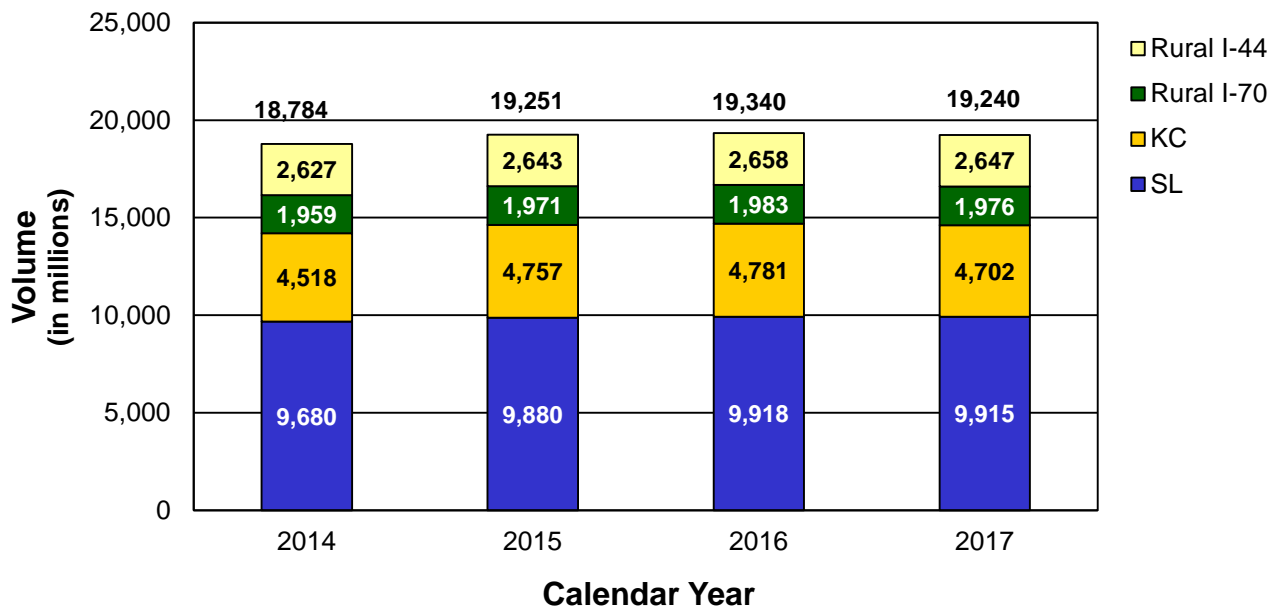
As a state and individual regions, a comprehensive look at all available means to reduce the cost of congestion is necessary.

# OPERATE A RELIABLE AND CONVENIENT TRANSPORTATION SYSTEM

## Cost of Congestion on Selected State Roads



## Traffic Volume on Selected State Routes





**RESULT DRIVER:**  
Becky Allmeroth  
State Maintenance Engineer

## OPERATE A RELIABLE AND CONVENIENT TRANSPORTATION SYSTEM

### *Average time to clear traffic incident – 5c*

**MEASUREMENT DRIVER:**  
Randy Johnson  
Traffic Center 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.

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 2,760 incidents in the third quarter of 2018. The average time to clear traffic incidents was 24.6 minutes, a decrease of 7.2 percent from the third quarter of 2017.

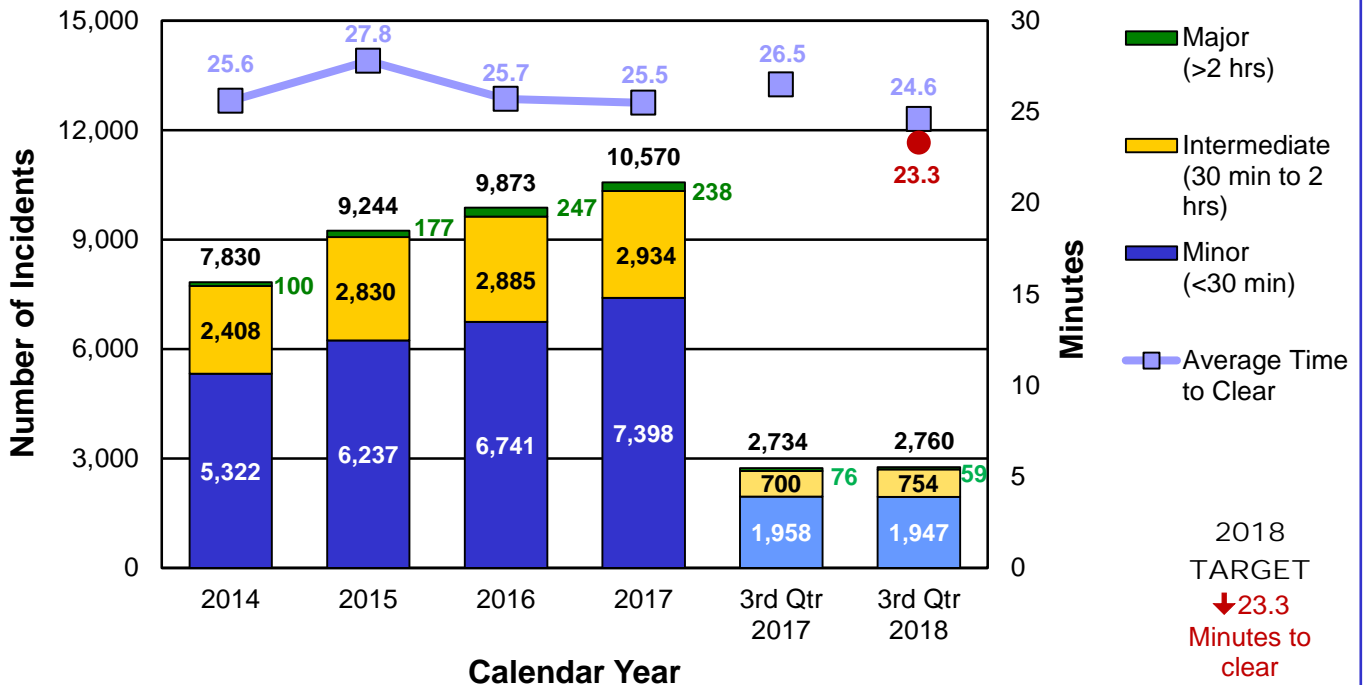
Kansas City recorded 2,235 incidents in the third quarter of 2018. The average time to clear traffic incidents was 25.5 minutes, an increase of 0.6 percent from the third quarter of 2017.

The third quarter for Kansas City and St. Louis revealed an array of incidents that included overturned tractor trailers, pedestrians, multi-vehicles and MoDOT fleet. Kansas City saw a large increase in the number of incidents when compared to third quarter of 2017, while St. Louis saw a minimal increase. Both continue to use communication, coordination and data to reduce the average time to clear. Continuous traffic incident management training has helped with quick clearance of incidents. St. Louis had a decrease of 7.2 percent and contributes the improvement to a fully staffed Emergency Response to be on scene of the major incidents. Kansas City had a slight increase of 0.6 percent due to an increase of tractor trailer incidents along with multiple fatalities from motorcycle crashes.

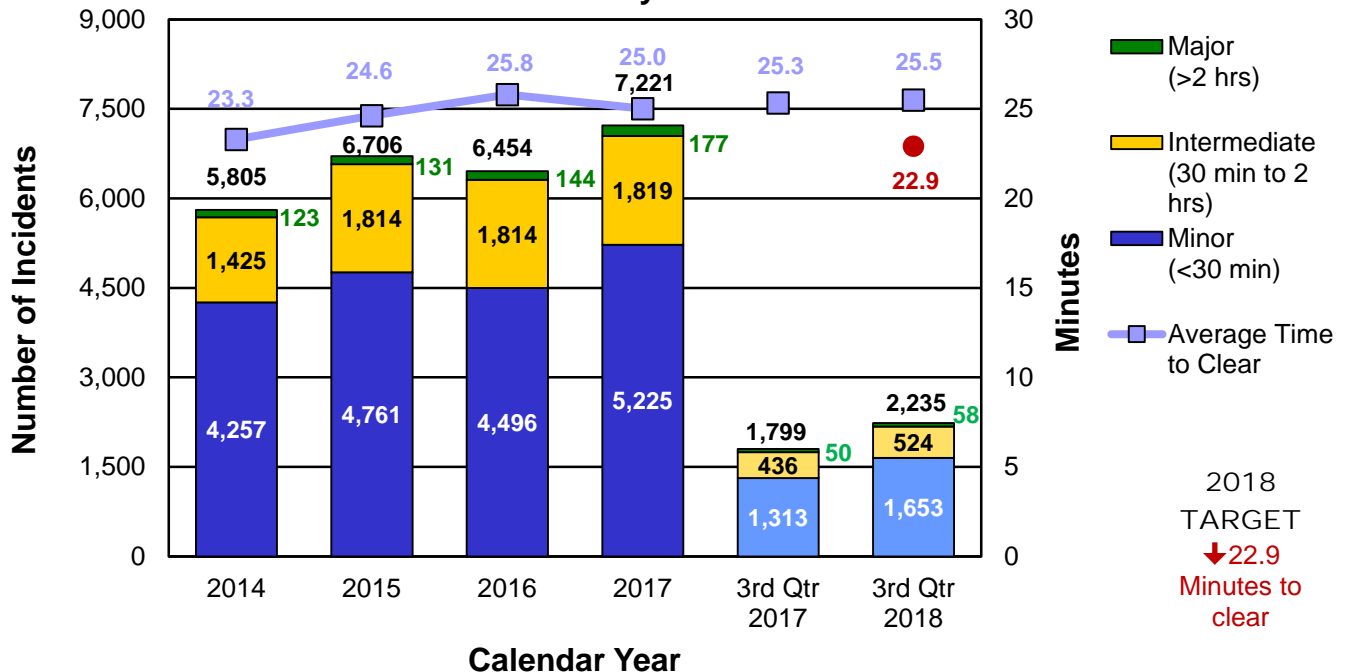


# OPERATE A RELIABLE AND CONVENIENT TRANSPORTATION SYSTEM

## Average Time to Clear Traffic Incident St. Louis



## Average Time to Clear Traffic Incident Kansas City



**RESULT DRIVER:**  
Becky Allmeroth  
State Maintenance Engineer

## OPERATE A RELIABLE AND CONVENIENT TRANSPORTATION SYSTEM

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

**MEASUREMENT DRIVER:**  
Laurel McKean  
Assistant District Engineer

**PURPOSE OF THE MEASURE:**  
This measure tracks the number of and delay caused by unplanned incidents on Interstate 44 in the Southwest District.

**MEASUREMENT AND DATA COLLECTION:**  
Crash data is received from MoDOT's Transportation Management System. The Total crashes are for both directions of I-44 and include all crash severity classes.

Incidents were input by the St. Louis and Springfield Transportation Management Operators in Transuite and then collected in Regional Integrated Transportation Information System.

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 delay are two ways that MoDOT can track incidents and develop strategies to reduce the impact to the travelling public.

On Sept. 7, 2018, Regional Integrated Transportation Information System, (a third party vendor) began collecting incident data from MoDOT's St. Louis and Springfield Transportation Management Centers. The information from Kansas City is in development. Since there is no data being received from Kansas City, which covers most of I-70, this quarter's information will be focused on I-44.

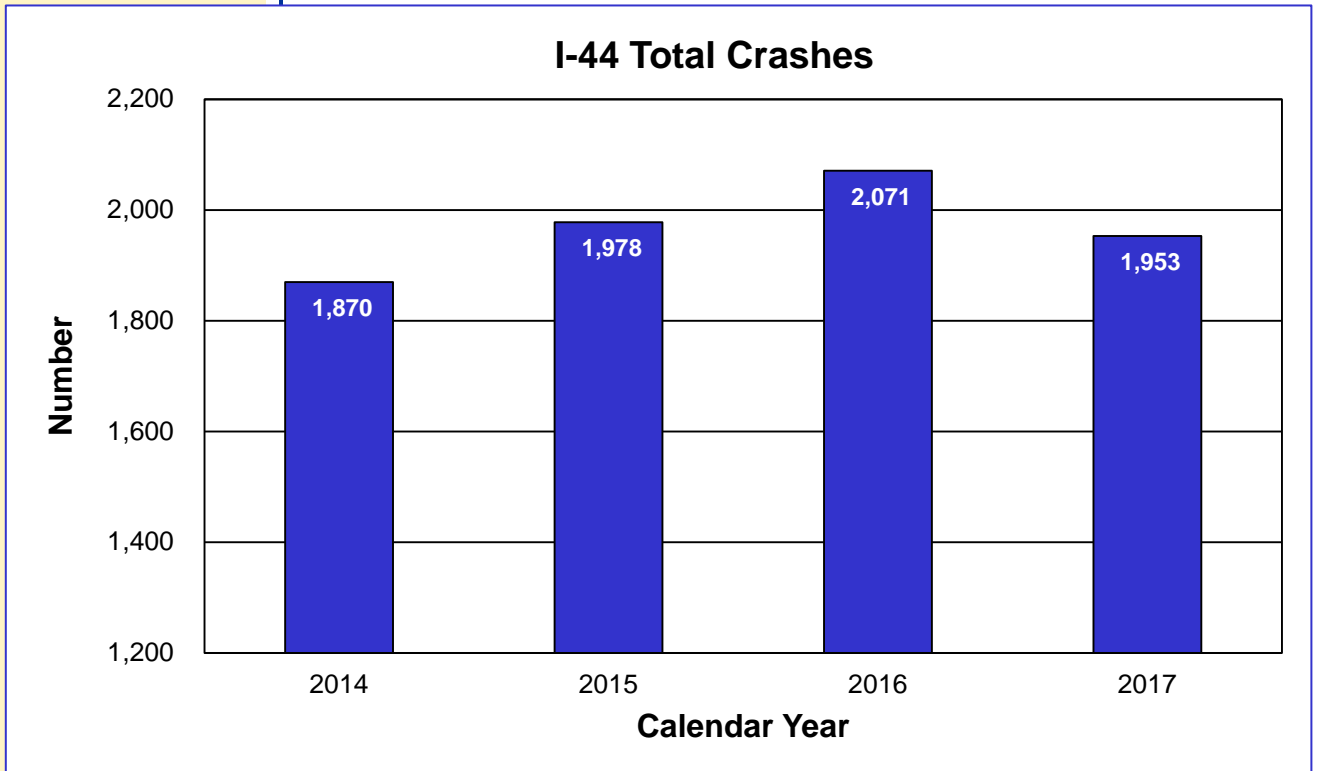
Of the types of unplanned incidents that can occur, traffic crashes create the majority of the impacts. Utilizing data from MoDOT's Transportation Management System, shows calendar year 2017 trended downward in total crashes along the four-lane divide portion of I-44 (Oklahoma state line to Gray Summit). A STIP project was approved in August to work with Jacobs Engineering to analyze I-44 and I-70 to provide an expected crash rate that can be used to locate areas of potential improvement.

The heat map included in this measure indicates where incidents were logged along I-44 from September 7 to September 30, 2018. Every incident is shown regardless of duration. Incidents can be anything from a stalled car on the shoulder to a crash blocking lanes. The next step in the development of the measure is to display the delay to the travelling public due to incidents.

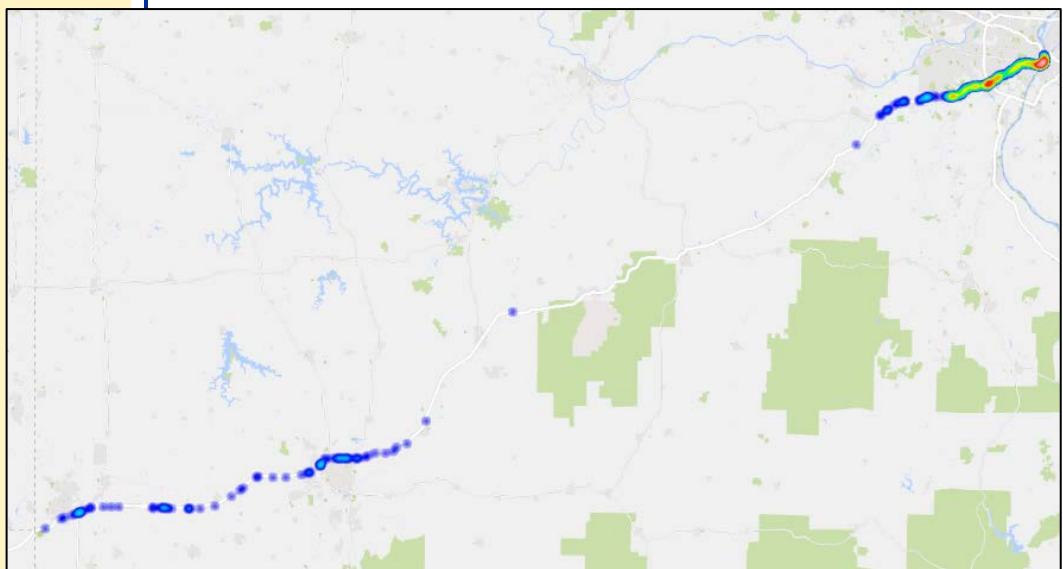
#### **I-44 Incidents Sept. 7 – 30, 2018**

<b>Incident Category</b>	<b>Number</b>	<b>Average Duration (minutes)</b>
Minor (<= 30 Minutes)	279	10
Intermediate (>30 and <=120 minutes)	92	55
Major (>120 minutes)	4	325

# OPERATE A RELIABLE AND CONVENIENT TRANSPORTATION SYSTEM



### I-44 Incidents



3<sup>rd</sup> Quarter 2018



**RESULT DRIVER:**  
Becky Allmeroth  
State Maintenance Engineer

## OPERATE A RELIABLE AND CONVENIENT TRANSPORTATION SYSTEM

**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.

### *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 third quarter 2018, MoDOT monitored 230 work zones, which brings the year-to-date 2018 total to 778. There were 67 instances in which traffic was delayed for at least 10 minutes. These instances occurred in 26 work zones and accounted for 2,967 total minutes (49.5 hours) of congestion. This quarter, the Clay County Route 210 Bridge Construction project contributed 17 hours of congestion to this total. There were also three other bridge projects across the state that added five hours each. Bridge construction has contributed 87 percent of the total congestion year to date.

An initial 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. Since this is a new measure, MoDOT will evaluate the identified target in January 2019 and adjust accordingly.





**RESULT DRIVER:**  
Becky Allmeroth  
State Maintenance Engineer

## OPERATE A RELIABLE AND CONVENIENT TRANSPORTATION SYSTEM

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

**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.

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. In addition, one of MoDOT's strategic initiatives is working toward predictive analytics to optimize winter operations resources.

The 2017-2018 winter season was relatively light in accumulation of snow and ice but was still challenging. Most of the winter events were freezing rain and ice events requiring significant treatment which was costly. Responding to the high number of freezing rain and ice events resulted in an average time of 3.9 hours to meet MoDOT's objective for continuous operations routes and 4.5 hours for non-continuous routes. These response times are consistent with times from previous winters, and this winter should result in typical expenditure levels.

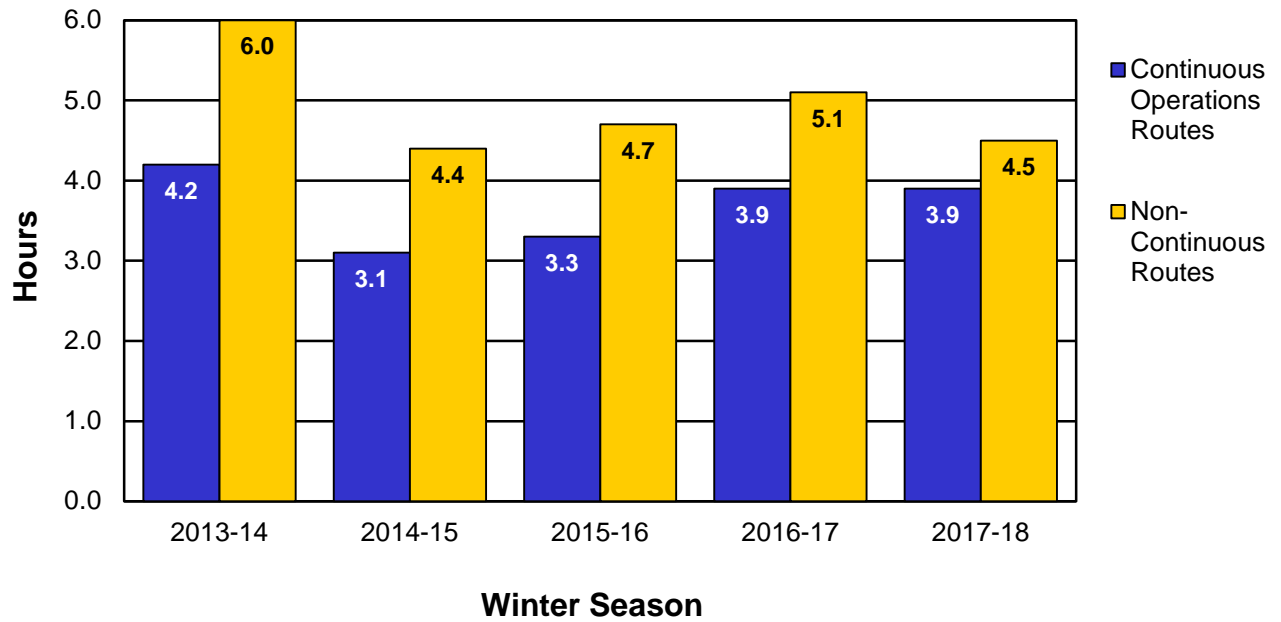
On average, winter operations cost about \$45 million per year. MoDOT expended \$42.6 million for the 2017-2018 winter season. This was slightly less than average due to the lighter accumulating, although still challenging, winter events.

Division and district maintenance leadership have held meetings on regional and statewide levels to investigate the development of possibly two new performance measures for winter operations. One is based on direct MoDOT costs associated with the winter events, and the other is based on indirect costs or impacts from congestion during winter events using the Regional Integrated Transportation Information System. Proposals for these new measures are currently under development.

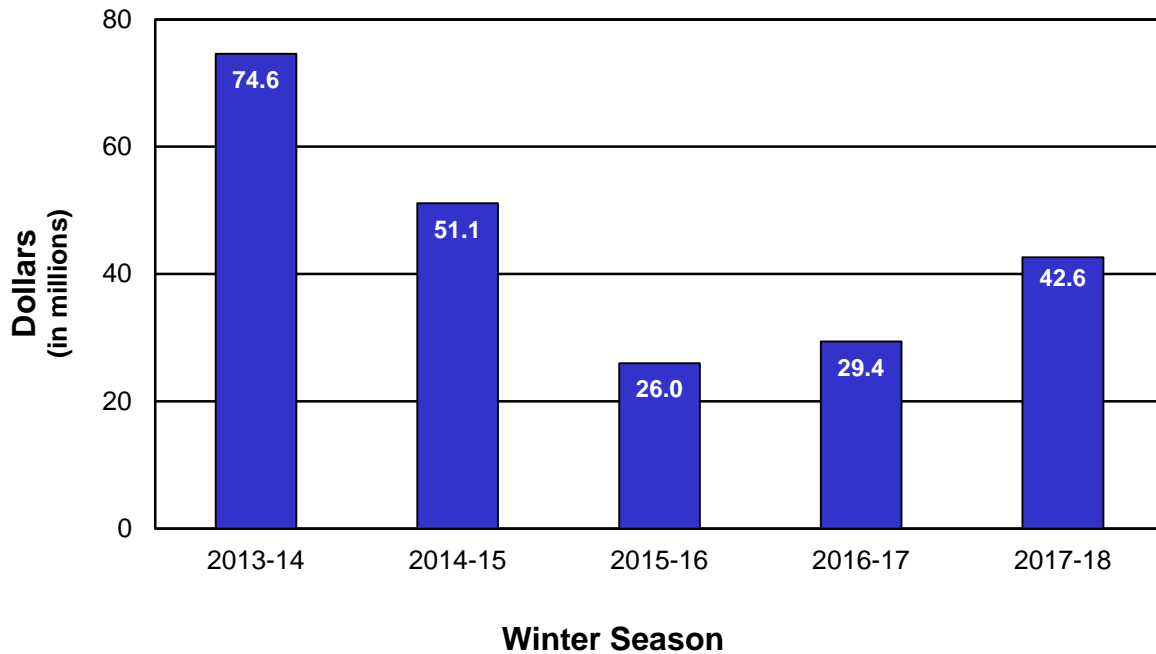


# OPERATE A RELIABLE AND CONVENIENT TRANSPORTATION SYSTEM

## Average Time to Meet Winter Storm Event Performance Objectives



## Average Cost of Winter Operations





**RESULT DRIVER:**  
Becky Allmeroth  
State Maintenance Engineer

## OPERATE A RELIABLE AND CONVENIENT TRANSPORTATION SYSTEM

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

**MEASUREMENT DRIVER:**  
Ron Effland  
Non-Motorized Transportation Engineer

**PURPOSE OF THE MEASURE:**  
This measure tracks MoDOT's investment in pedestrian 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 pedestrian facilities is determined from the awarded contract amounts for the 20 most common construction elements used on pedestrian projects each year. ADA Transition Plan progress is based upon completed work that has corrected defective items reported in the ADA Transition Plan inventory. The dollar amounts are based on unadjusted estimates from 2008 and will not reflect actual expenditures. This avoids impacts from inflation or changing field conditions. A progress target line is included to show where MoDOT's progress should be in order to fully complete the ADA Transition Plan by 2027. Annual funding levels necessary to complete the ADA Transition Plan by 2027 determine the target, which is set in April of each year.

MoDOT has improved more than \$30.3 million of deficient Americans with Disabilities Act facilities in the right of way since 2008. However, additional work totaling more than \$121 million of the 2010 ADA Transition Plan inventory needs to be completed before August 2027. To meet the commitment of the Missouri Highways and Transportation Commission, MoDOT needs to complete more than \$13.5 million in improvements each year from now through 2027.

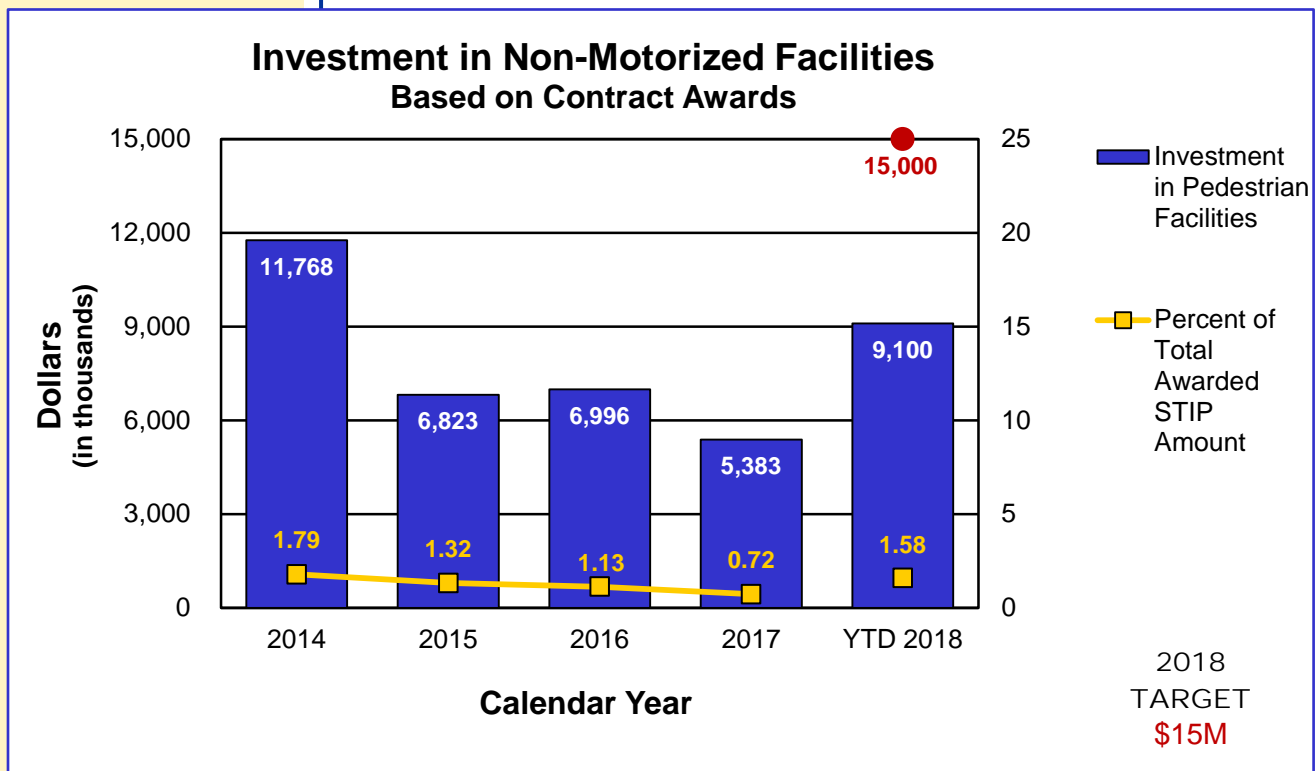
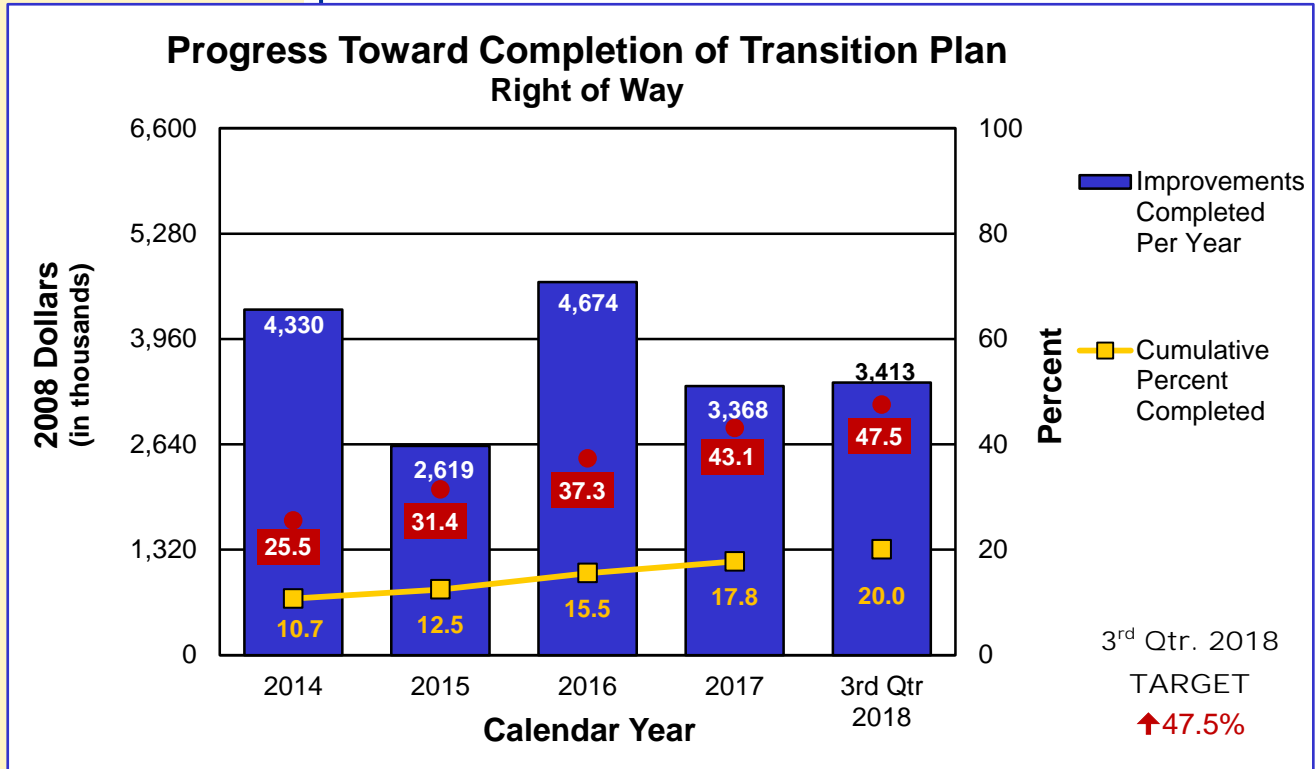
Since fiscal year 2016, the MHTC has retained half of the Transportation Alternatives Program funding it receives to be used toward MoDOT's ADA Transition Plan activities. The 2018 STIP estimates the annual TAP funds retained for MoDOT ADA projects at approximately \$8.6 million per year. Additional investments by the districts are required to complete the ADA Transition Plan by August 2027.

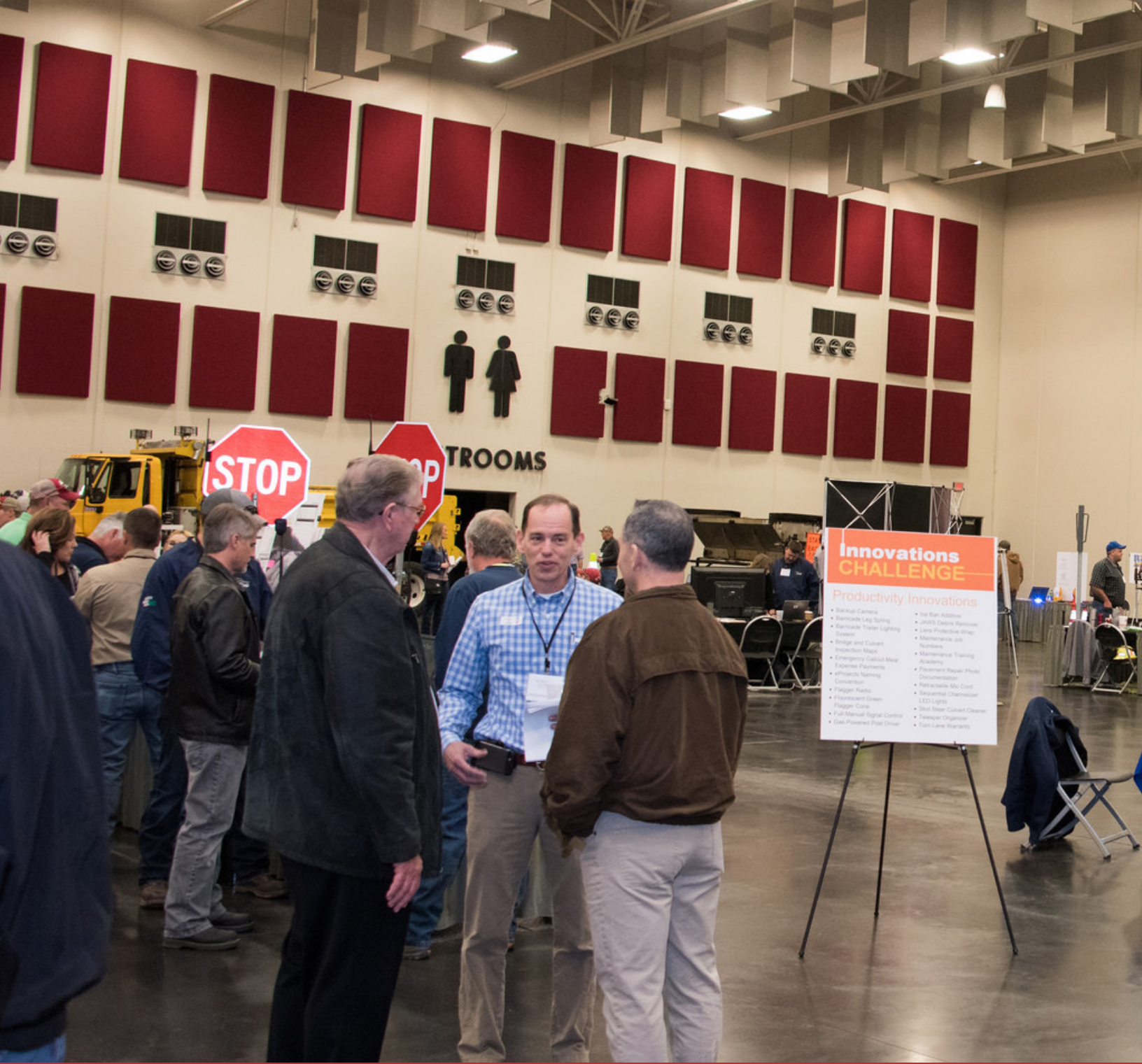
So far in 2018, MoDOT has completed only \$3.4 million in ADA improvements. In 2017, MoDOT completed a total of \$3.37 million in ADA improvements. These amounts are well below the \$13.5 million annual pace needed to complete the required ADA improvements by 2027. Current reporting of Transition Plan Completion at 20 percent complete is significantly behind the 47.5 percent target for the third quarter of 2018. Only five of the seven districts reported ADA Transition Plan progress this quarter. Two districts, Northeast and Central, have not reported any completed ADA improvements in 2018. Northeast was also the only district that failed to report any completed ADA improvements in 2017.

In 2018, MoDOT has invested \$9.1 million toward improvements in pedestrian facilities. In the first three quarters of 2018, MoDOT utilized 1.58 percent of the total 2018 STIP awards toward pedestrian facilities – a substantial increase over the record low rate of 0.72 percent in 2017. In 2017, MoDOT invested a total of \$5.38 million in pedestrian facility improvements.

The annual investment target for this measure has been set at \$15 million. A significant increase in ADA Transition Plan progress is necessary for MoDOT to be able to complete the ADA Transition Plan by August 2027.

# OPERATE A RELIABLE AND CONVENIENT TRANSPORTATION SYSTEM





- Innovations CHALLENGE**
- Productivity Innovations**
- Backup Camera
  - Barnacle Leg Spring
  - Barnacle Trailer Lighting System
  - Bridge and Culvert Inspection Maps
  - Emergency Callout Map
  - Expense Payments Convenience
  - Flipper Platts
  - Fluorescent Green Flipper Cone
  - Full-Manual Signal Control
  - Gas-Powered Pallet Driver
  - Ice Bar Address
  - JAWS Chain Hammer
  - Lane Protective Wrap Numbers
  - Management Training Academy
  - Permanent Repair Photo Documentation
  - Reflective Mic Cone
  - Sequential Chamber LED Lights
  - Steel Steel Culvert Cleaner
  - Stacker Organiser
  - Turn Lane Hardware

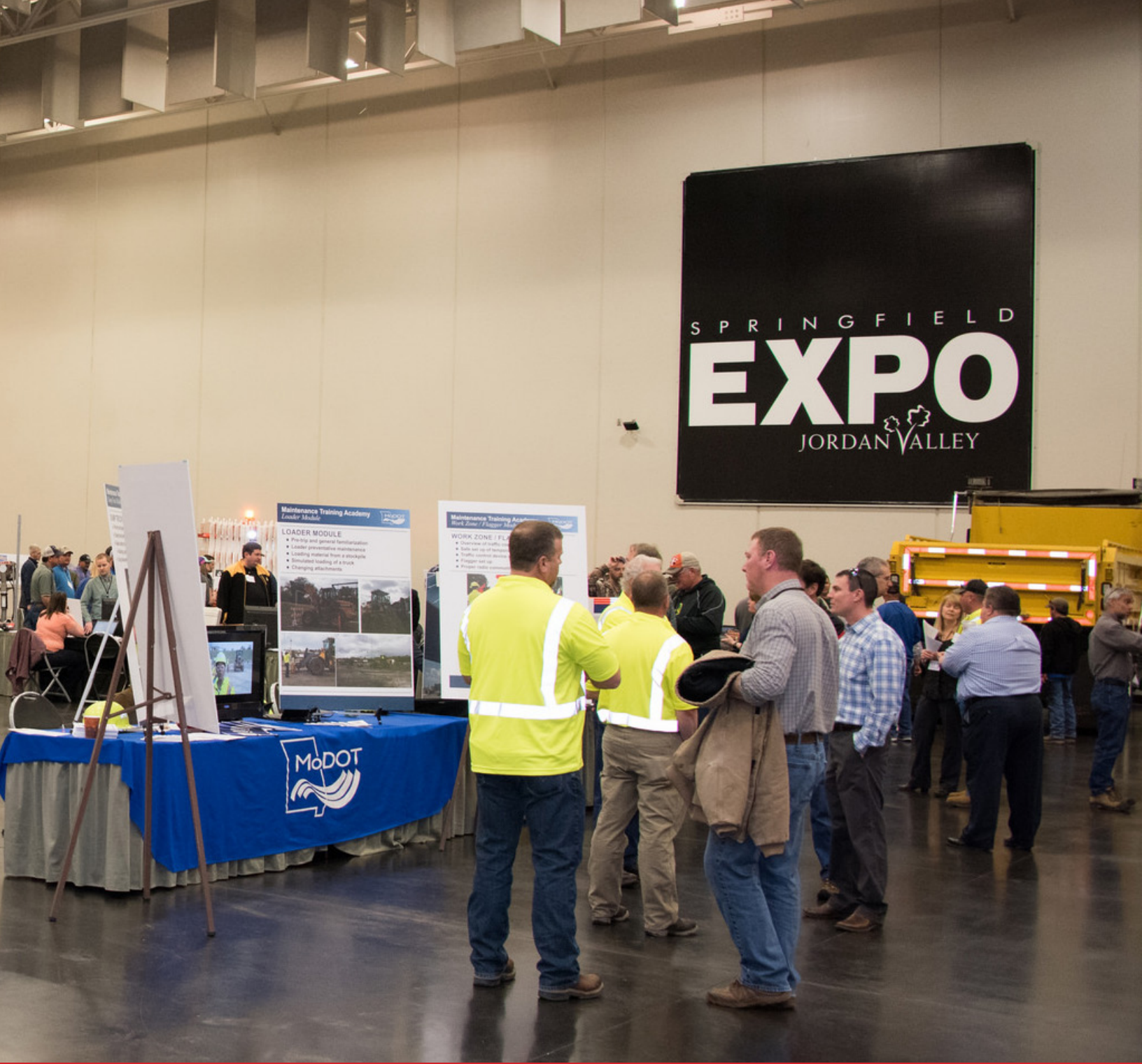
# USE RESOURCES WISELY

*Brenda Morris, Financial Services Director*



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  
 Financial Services Director

# USE RESOURCES WISELY

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

**MEASUREMENT DRIVER:**  
 Paul Imhoff  
 Special Projects Coordinator

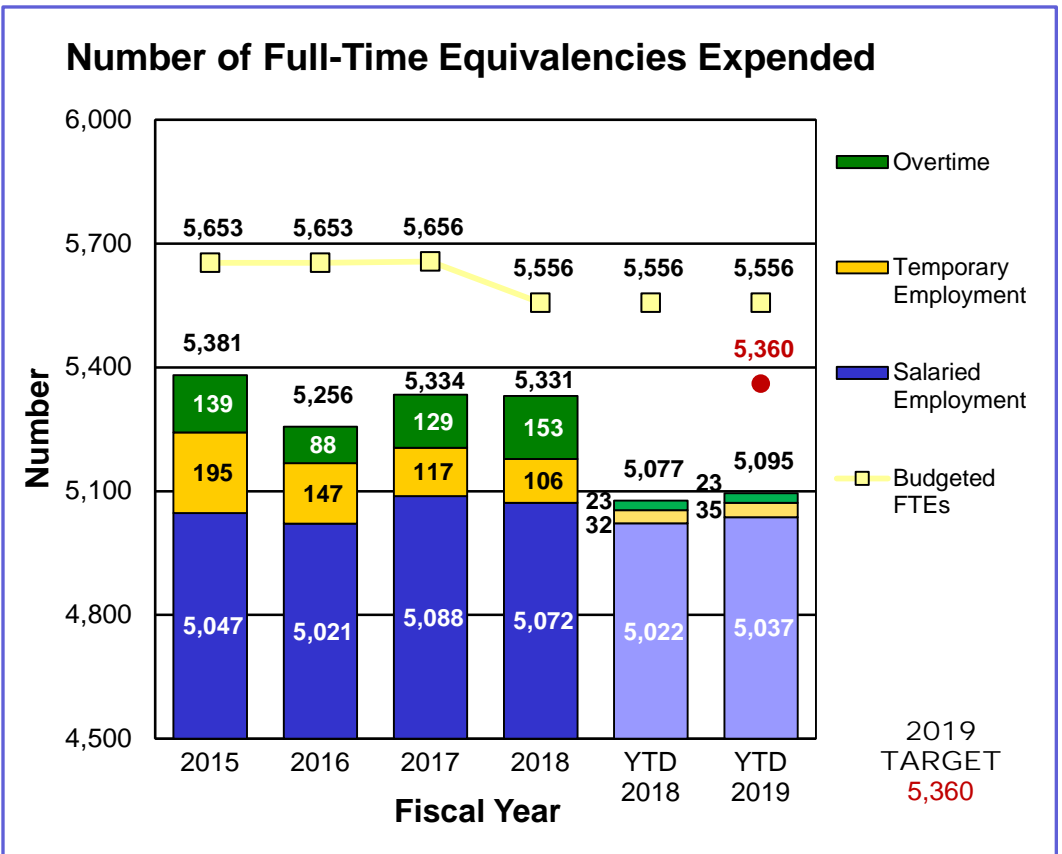
**PURPOSE OF THE MEASURE:**  
 This measure tracks the change in the number of full-time equivalencies (a calculation of hours) expended within the department and compares it to the number of FTEs in the legislative budget.

**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 FTEs. 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.

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 quarter of fiscal year 2019, the number of Full Time Equivalencies expended increased by 18, or 0.3 percent, compared to the same time in FY 2018. This minimal increase came primarily from an increase in salaried employment FTEs. Fluctuations in overtime and temporary employment FTEs are smaller and will have clearer trends presented in later quarters of FY 2019.



RESULT DRIVER:  
Brenda Morris  
Financial Services Director

## USE RESOURCES WISELY

### Rate of employee turnover – 6b

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.

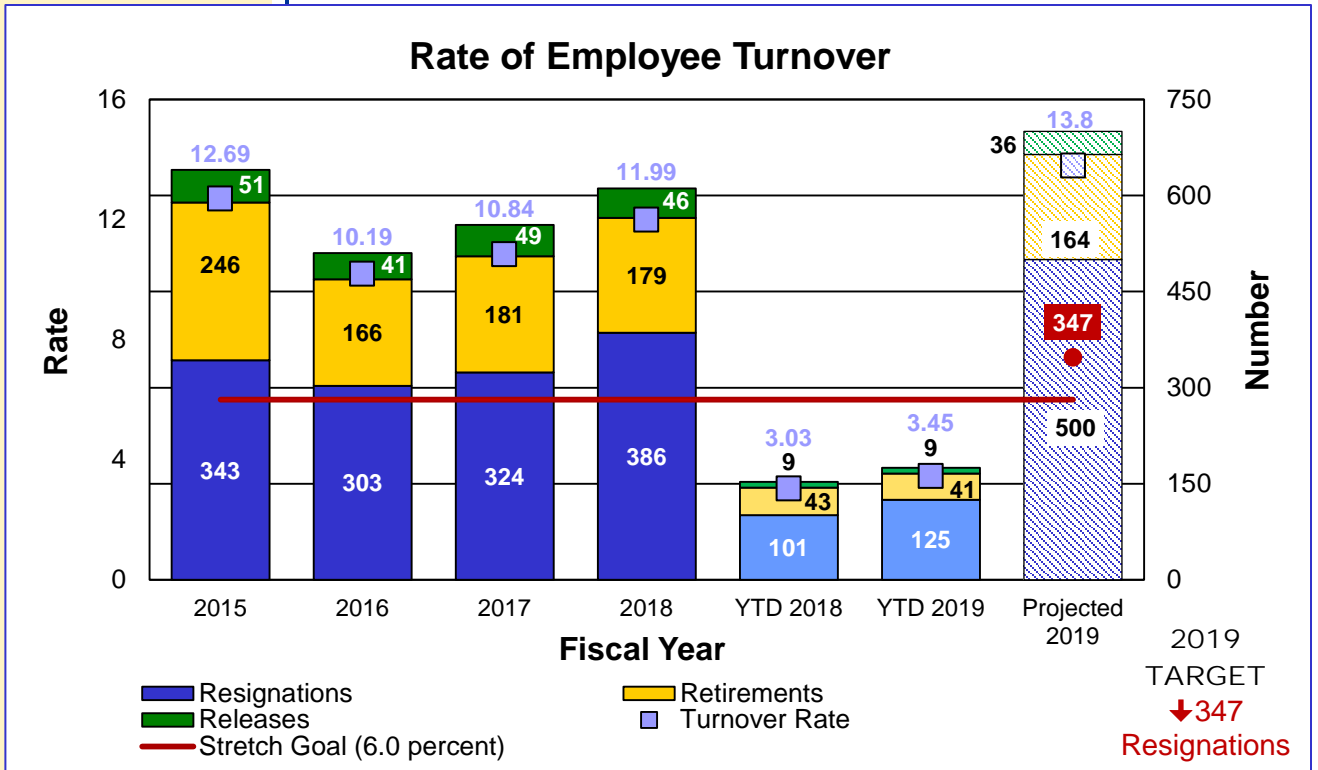
When employees leave MoDOT, the department loses a large investment in recruiting, hiring and training its workforce. While some turnover is appropriate, MoDOT needs to retain a great workforce that has the knowledge and specialized skills to deliver the department's commitments and provide outstanding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

The overall turnover rate has risen from 3.03 percent in the first quarter of fiscal year 2018 to 3.45 percent in the first quarter of FY 2019. During the first quarter of FY 2019, resignations showed an upward trend and retirements decreased. Releases remained steady at nine during the first quarter of FY 2018 compared to the first quarter of FY 2019. The FY 2019 target is to have 347 or fewer resignations. As part of MoDOT's strategic initiatives, MoDOT will continue to look for opportunities to control the rate of employee turnover.

Efforts to improve turnover rates are planned for FY 2019, and have been underway since FY 2018, but they have not been in effect long enough to determine impact.

- The five-year pay strategy will be partially implemented on January 1, 2019, in the form of a Cost of Living Adjustment. The pay increase will be \$700 annually for full-time and permanent part-time employees earning less than \$70,000 per year, and 1 percent increase for employees earning \$70,000 or more.
- Performance development training has occurred statewide, and Situational Leadership training is currently available to supervisors.
- A Registered Apprenticeship Program will be made available to maintenance career ladder employees in January 2019. This program provides an opportunity for eligible veteran employees to use Government Issued benefits to receive an additional monthly stipend. In the future, the program will provide non-veteran, maintenance career ladder employees the potential to earn college credit through on-the-job training.
- The *Leadership in Action* recognition coin passing program has been in effect since September 2017. There are 159 coins in circulation that have been passed more than 430 times.
- The draft results of the external organizational assessment and succession planning study are being reviewed for information that could aid MoDOT in making improvements to help sustain its current high performance well into the future.

# USE RESOURCES WISELY



RESULT DRIVER:  
Brenda Morris  
Financial Services Director

## USE RESOURCES WISELY

### *Level of job satisfaction – 6c*

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.

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.

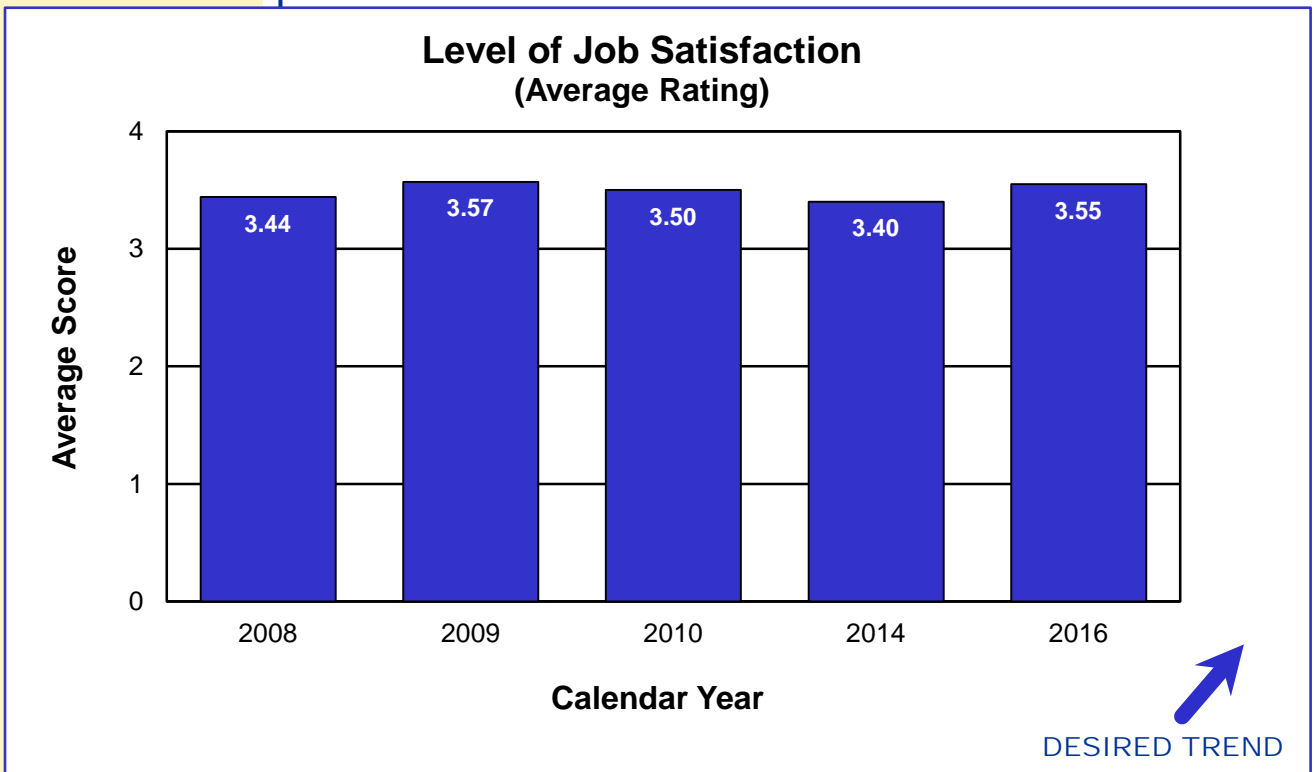
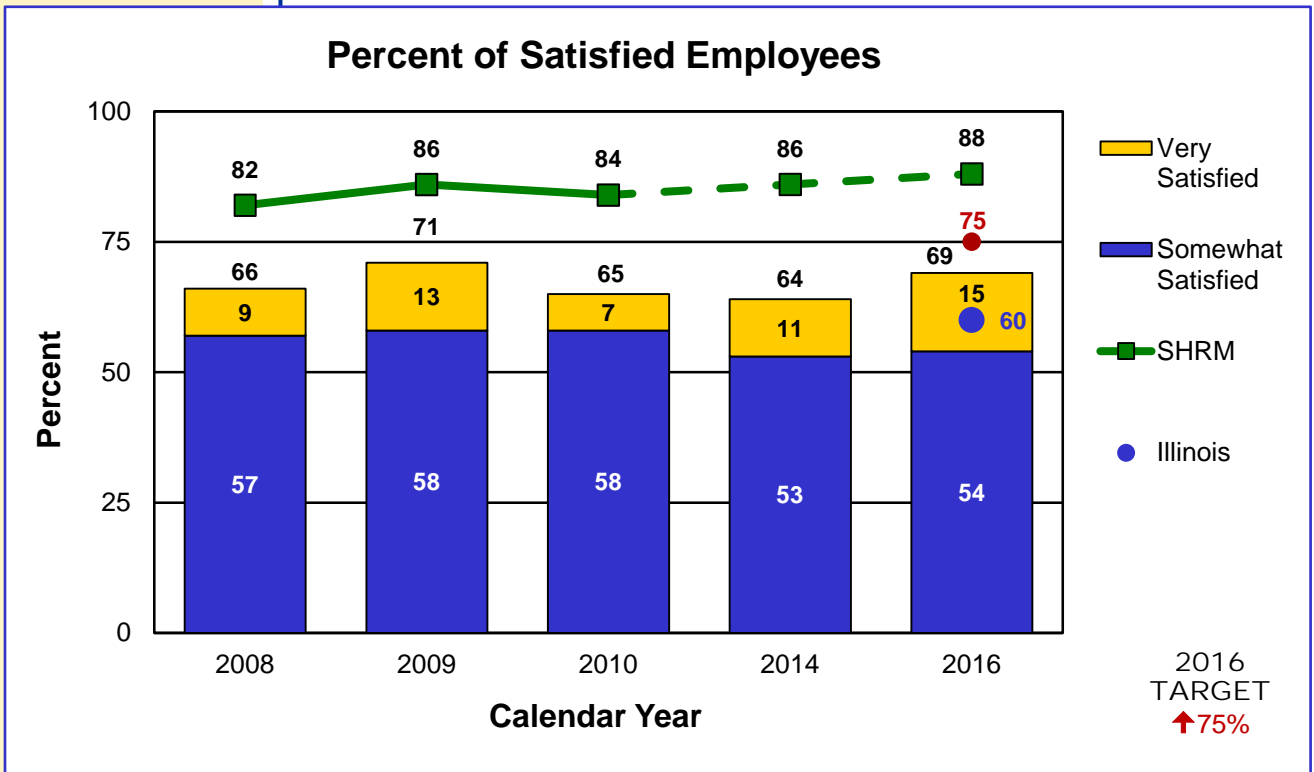
Following the 2014 survey, five employee-led teams worked to develop a series of recommendations to the concerns employees raised in the survey. The recommendations are in various stages of implementation.

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 was 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  
Financial Services Director

## USE RESOURCES WISELY

### State and federal revenue budgets – 6d

#### 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.

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 4.3 percent less than budgeted for the first quarter of fiscal year 2019. The majority of the variance is related to the timing of deposits of miscellaneous revenue from locals for partnering projects. The negative variance of 2.7 percent for non-highway modes is mostly attributable to the jet fuel sales tax being lower than projected.

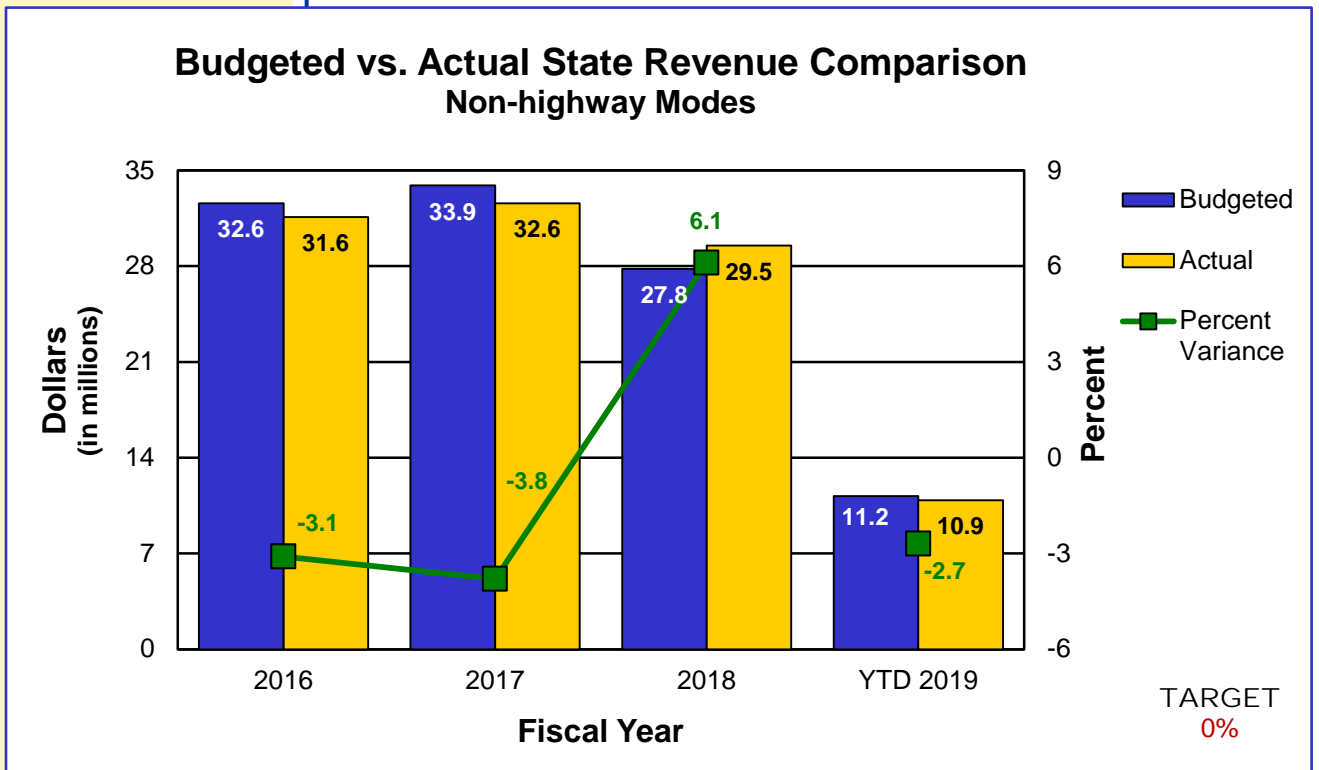
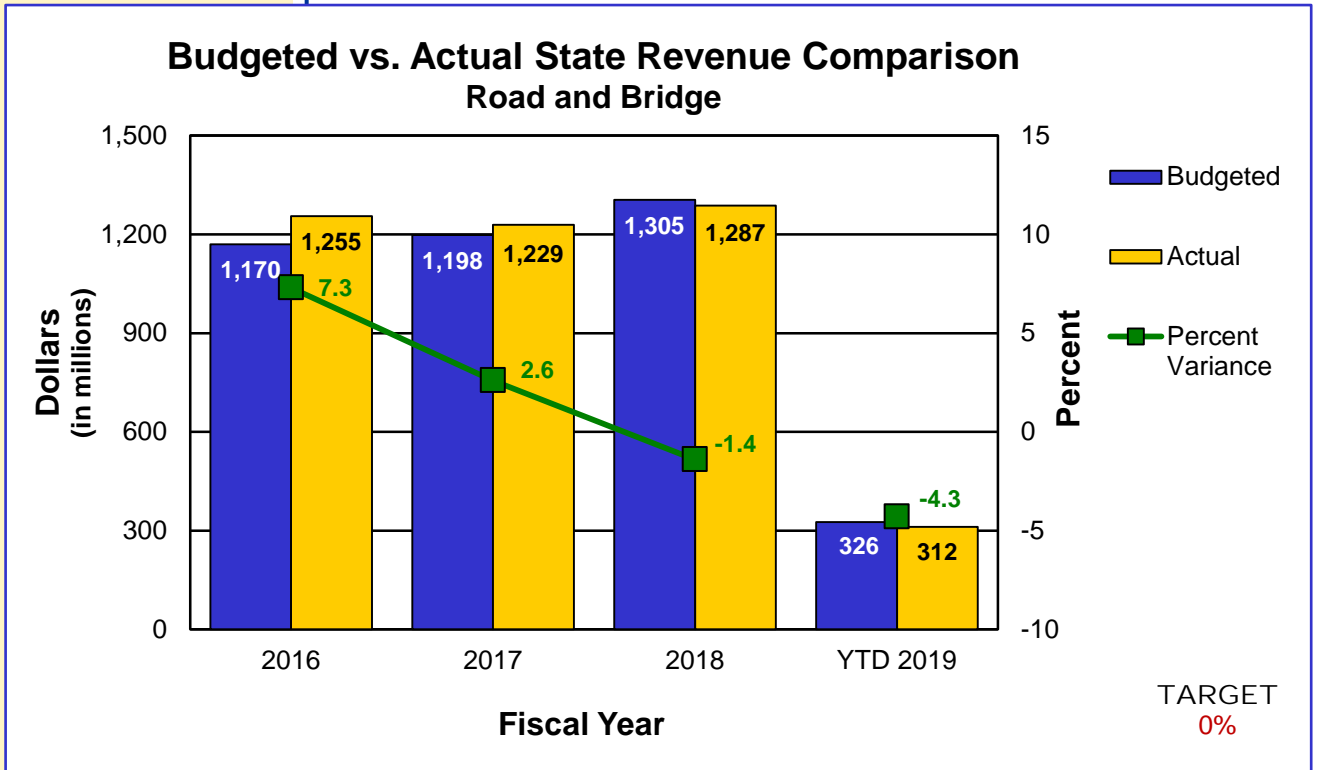
The actual federal revenue for road and bridge was 0.8 percent more than budgeted for federal FY 2018. The negative variance of 31.2 percent for non-highway modes is attributable to the timing of project expenditures.

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 timeframe.

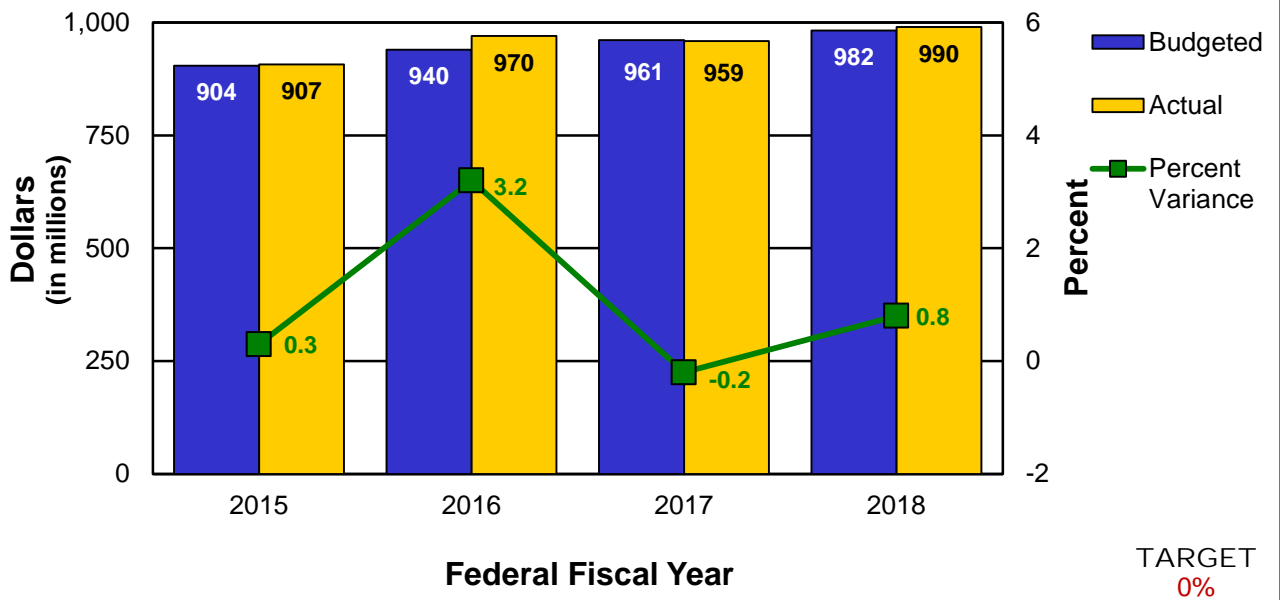


# USE RESOURCES WISELY

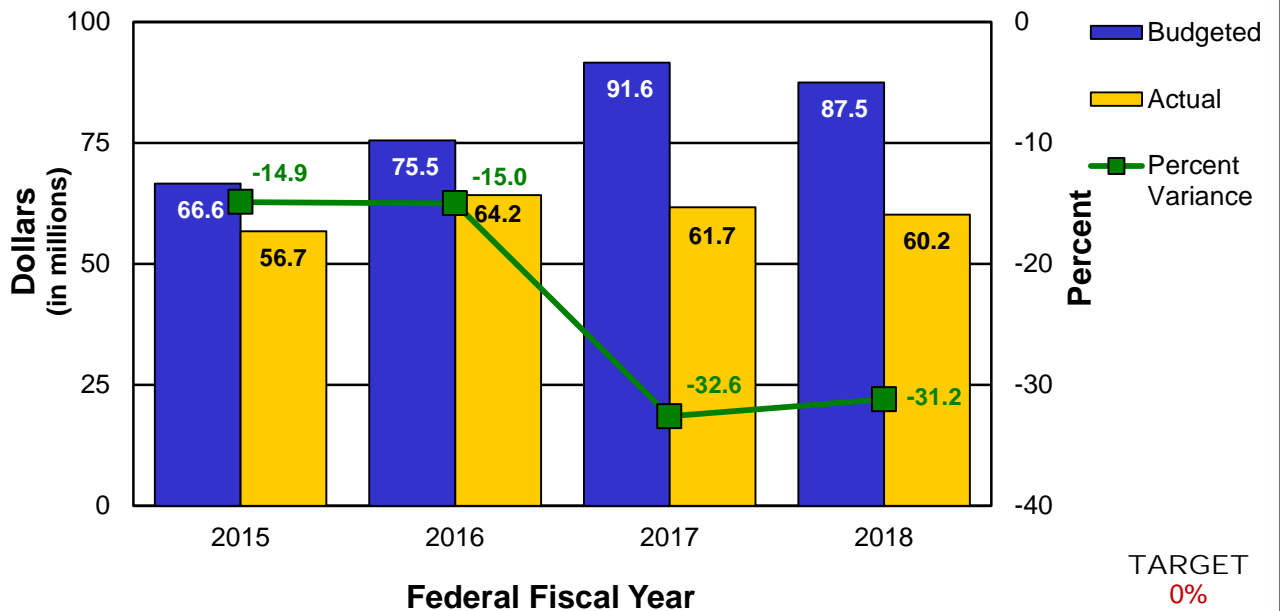


# USE RESOURCES WISELY

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



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





RESULT DRIVER:  
Brenda Morris  
Financial Services Director

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.

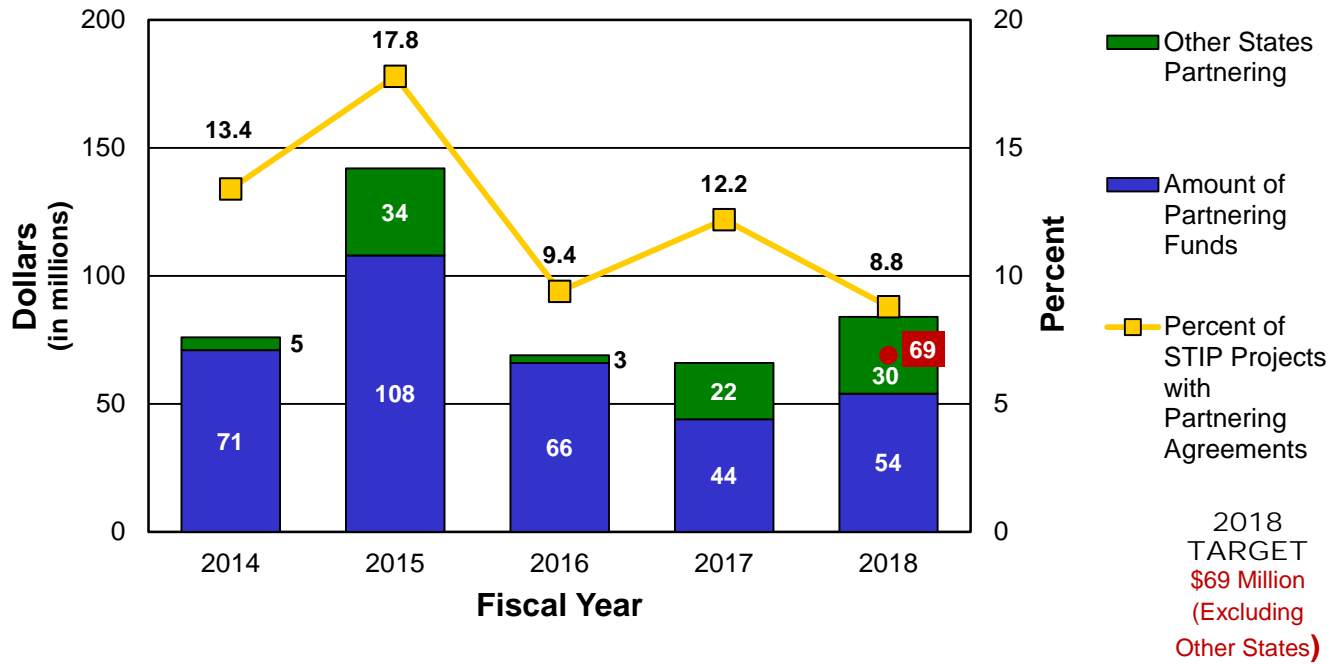
In addition, MoDOT partners with cities and counties for projects not part of the formal Cost Share Program, with other states for projects of mutual interest such as border bridges and with federal agencies through competitive discretionary programs. MoDOT also partners with developers and other private 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 \$1.48 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  
Financial Services Director

## USE RESOURCES WISELY

### *Percent of state funds invested in non-highway modes of transportation – 6f*

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.

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.

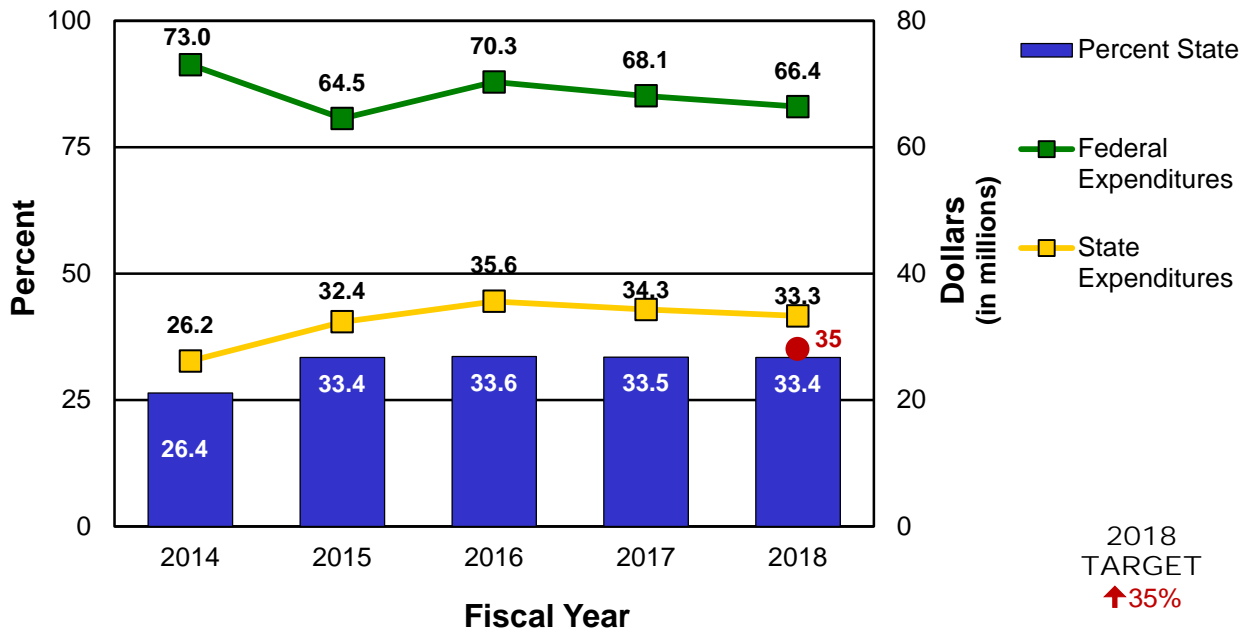
Statewide Transportation Assistance Revolving Fund – FY 2018 state expenditures of \$0.8 million represent 100 percent of funds invested.

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

# USE RESOURCES WISELY



### Percent of State Funds Invested in Non-Highway Modes of Transportation





**RESULT DRIVER:**  
Brenda Morris  
Financial Services Director

## USE RESOURCES WISELY

**MEASUREMENT DRIVER:**  
Julie Stotlemeyer  
Assistant State Design Engineer

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

**PURPOSE OF THE MEASURE:**  
This measure tracks the percent of available local program funds committed to projects.

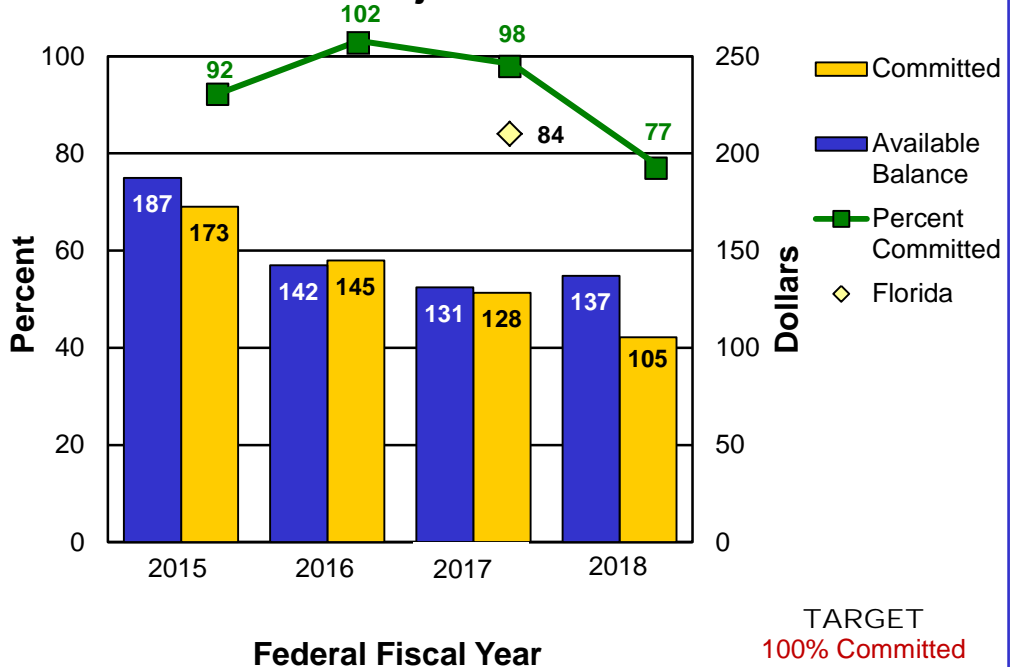
Some of the federal funds MoDOT receives are required to be passed through to local entities, such as cities and counties. Available funds for local entities include those that are allocated this year and those that have not been committed in prior years. When local entities use federal funds, they provide 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 federal fiscal year 2018, 77 percent (\$105.4 million) of the \$137 million in available funds has been committed to local projects. This represents a 21 percent decrease in commitments compared to FFY 2017 and a 15 percent decrease from FFY 2015.

**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  
Financial Services Director

## USE RESOURCES WISELY

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

**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 target for this measure is updated annually. This target is established by projecting a 3 percent improvement over a five-year average.

MoDOT must keep a dependable fleet to meet customer's needs. Fleet age is the best indication of fleet condition. The large investment in fleet, with a replacement value over \$450 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 over \$25 million for fuel in fiscal year 2018.

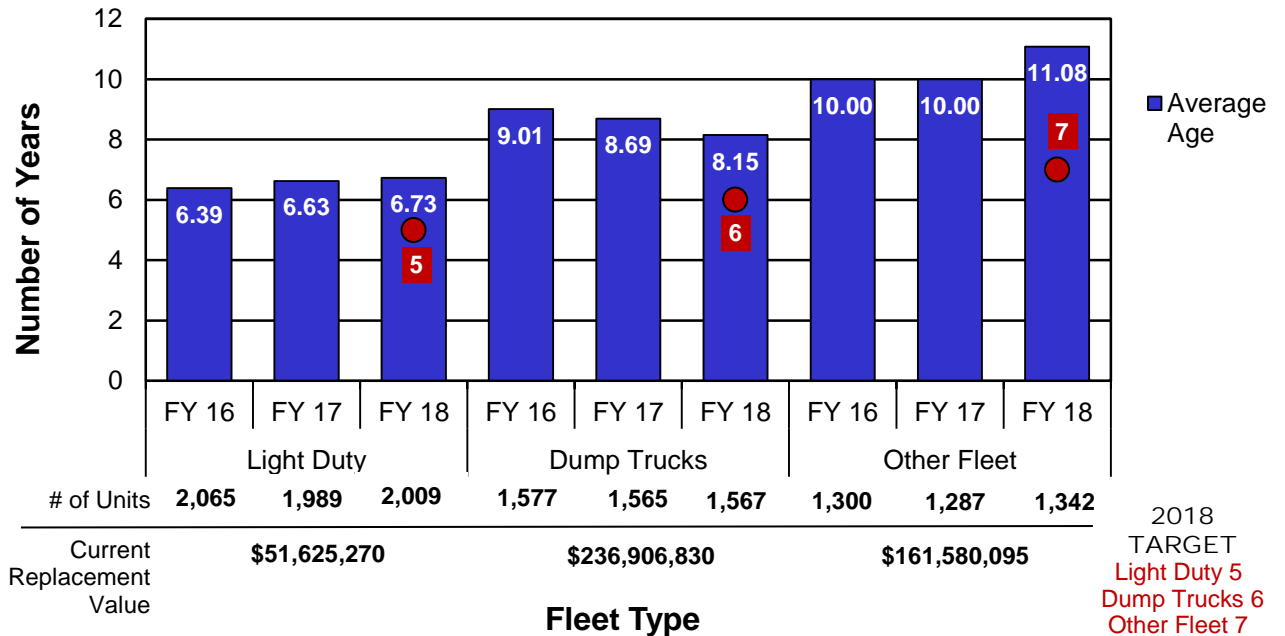
In FY 2018, the average age for Light Duty fleet and Other fleet (includes equipment such as backhoes, loaders, tractors and specialty items like under bridge inspection units and stripers) shows gradual increase each year. The Dump Truck fleet units show gradual decreases in the average age which has been attributed to purchasing more dump trucks versus other fleet in recent years. The goal is for the average age to be half the department's age threshold.

The fuel efficiency measure shows a decrease for the fourth quarter of FY 2018, compared to the fourth quarter of FY 2017, while the fuel consumption shows a slight increase for FY 2018 compared to FY 2017. Fuel consumption in FY 2018 has increased by 0.62 percent (45,992 gallons) compared to FY 2017. During the fourth quarter of FY 2018, fewer gallons were used for flood response and restoration compared to the fourth quarter of FY 2017. For the same period, increases in gallons used for snow and ice prevention/removal and asphalt pavement repairs were recorded. Changes in fuel use by activity resulted in a decrease in fuel efficiency of 0.25 miles per gallon compared to the same period last year.

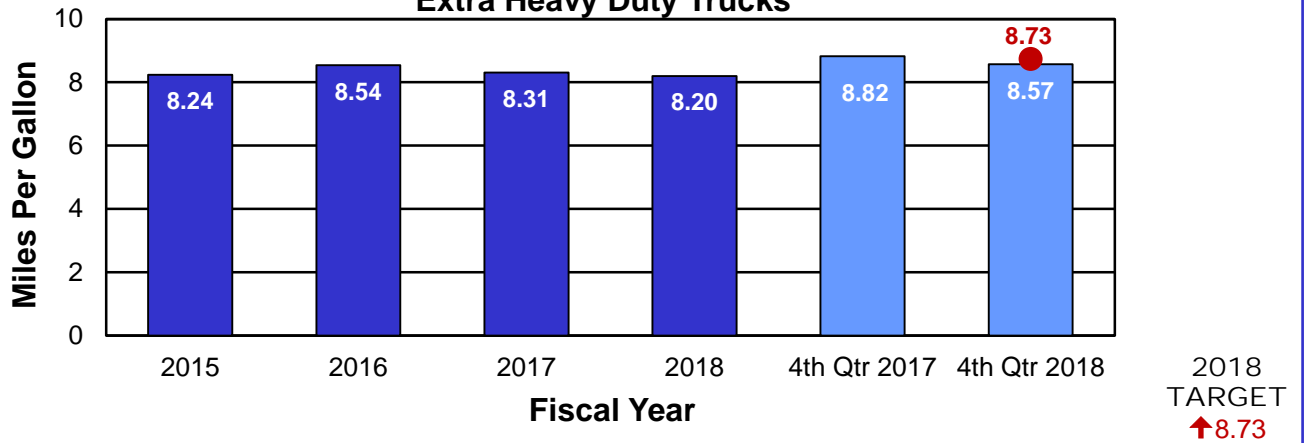
MoDOT has set a target of 8.73 average miles per gallon based on the five-year average of 8.48 mpg plus 3 percent. The usage trends by activity and vehicle type (dump trucks versus pickup trucks) resulted in miles per gallon lower than the target. Strategies to maintain results at target level include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

# USE RESOURCES WISELY

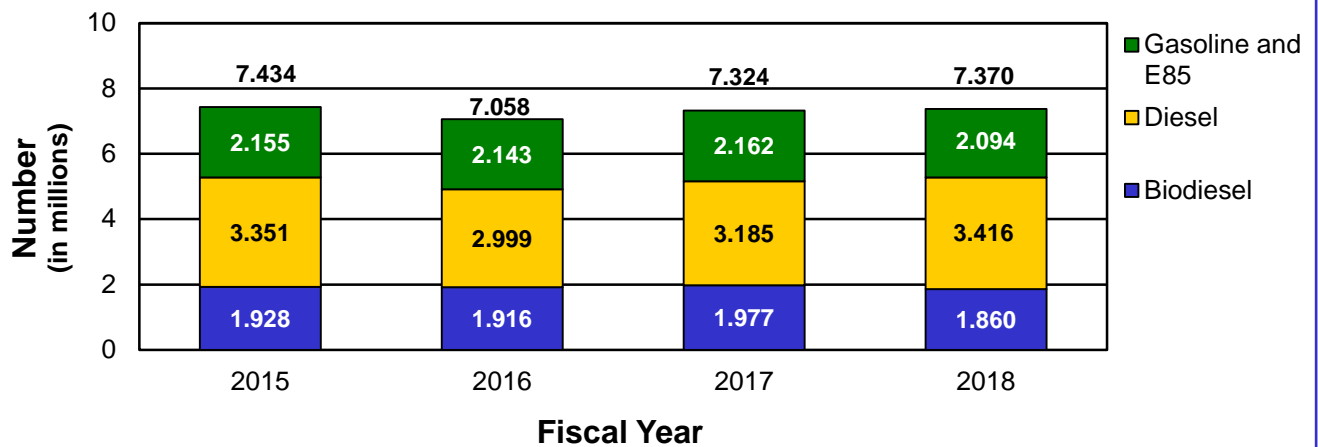
## Fleet Average Age by Fiscal Year



## 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  
Financial Services Director

## USE RESOURCES WISELY

### *Number of tons of recycled material – 6i*

**MEASUREMENT DRIVER:**  
Jonathan Varner  
Intermediate Materials Specialist

**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.

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 2017, 27 percent of the 3.2 million tons of new asphalt pavement constructed came from recycled components. Based on tonnage bids in 2017, this saved taxpayers about \$5.46 per ton, or \$17.5 million overall. The \$17.5 million savings is equivalent to improving more than 384 miles of a two-lane roadway with a thin overlay.

By comparison, 18 percent of new asphalt pavement constructed by the Illinois DOT in 2016 came from slag, recycled pavement and shingles. In 2016, 20 percent of new asphalt pavement constructed by MoDOT came from slag.

MoDOT also engages in internal recycling efforts. In 2017, the amount of recycled material increased by 333 tons. The majority of the recycled tonnage comes from scrap metal and scrap rubber/tires. More than 2,090 tons of scrap metal and 127 tons of scrap rubber/tires (equivalent to about 11,300 passenger car tires) were recycled. The cost to recycle some items, such as scrap rubber/tires and oil, was just under \$267,000. Other recycling efforts returned more than \$549,000. The net revenue was slightly more than \$282,000.

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

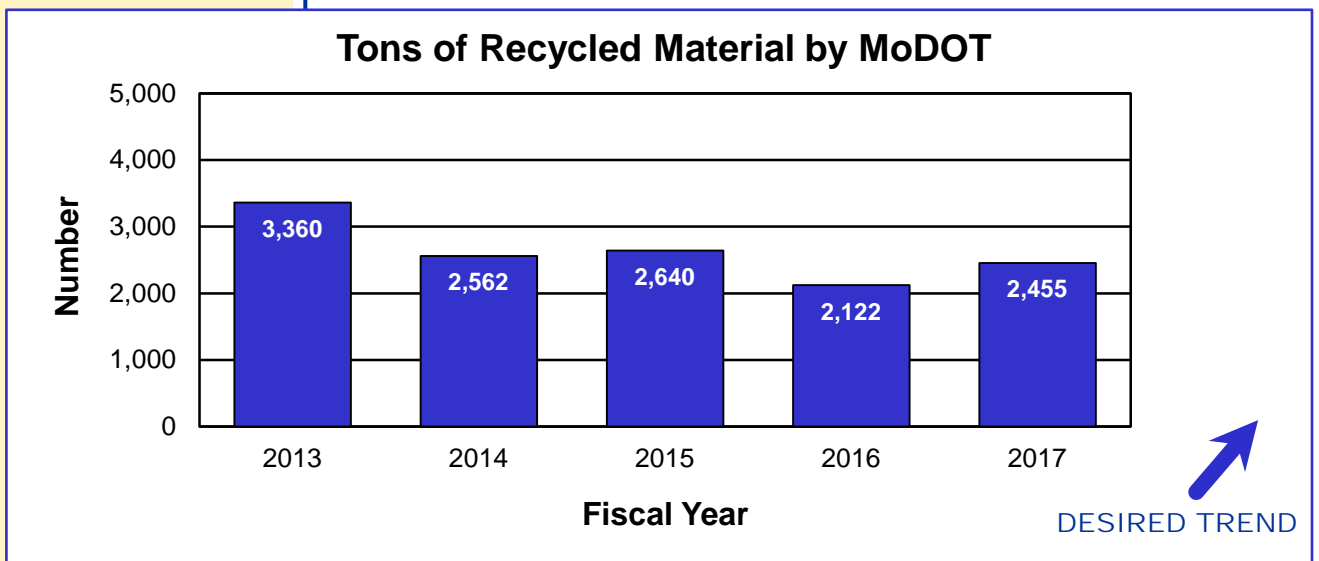
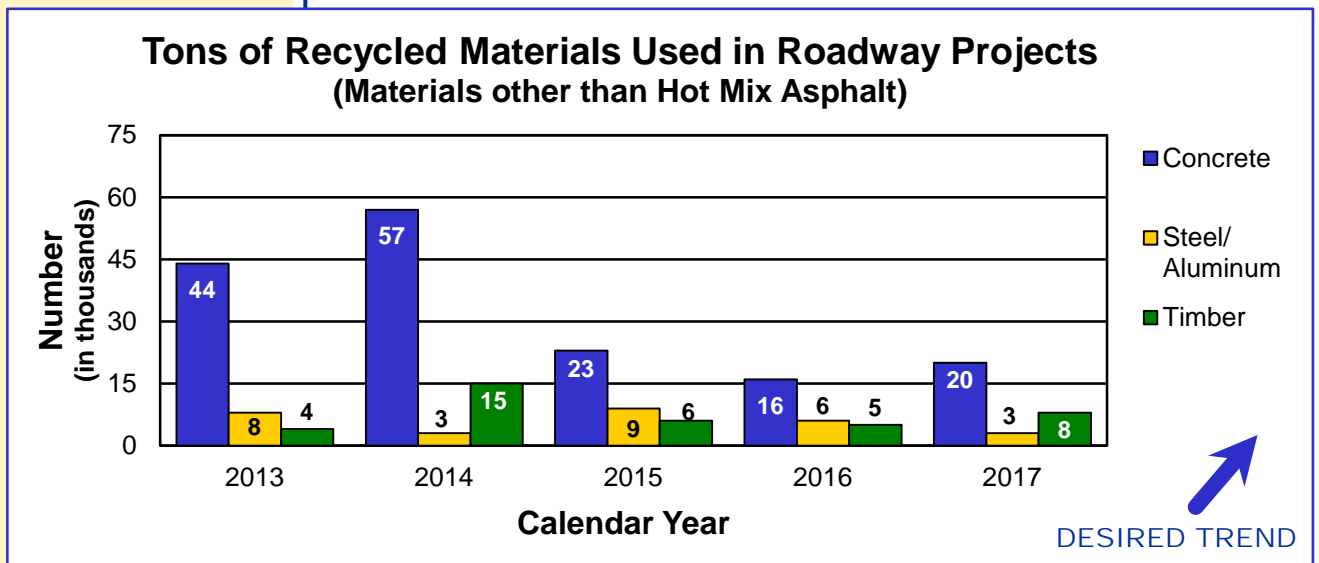
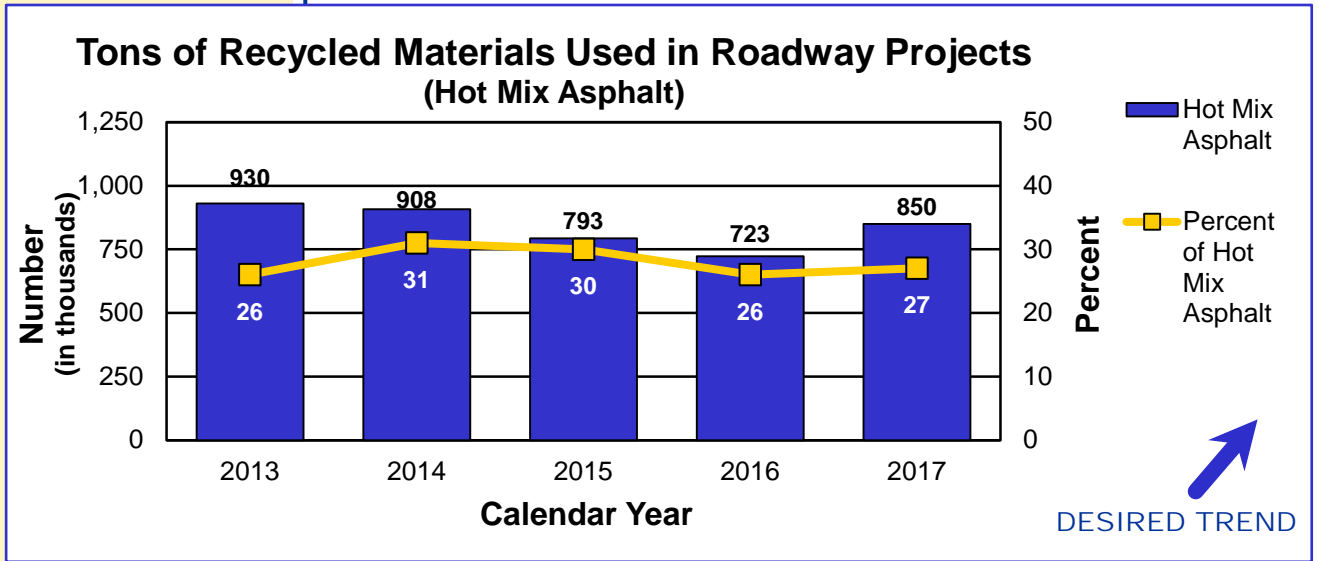


### **Roofs to Roads**

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



# USE RESOURCES WISELY



**RESULT DRIVER:**  
Brenda Morris  
Financial Services Director

**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

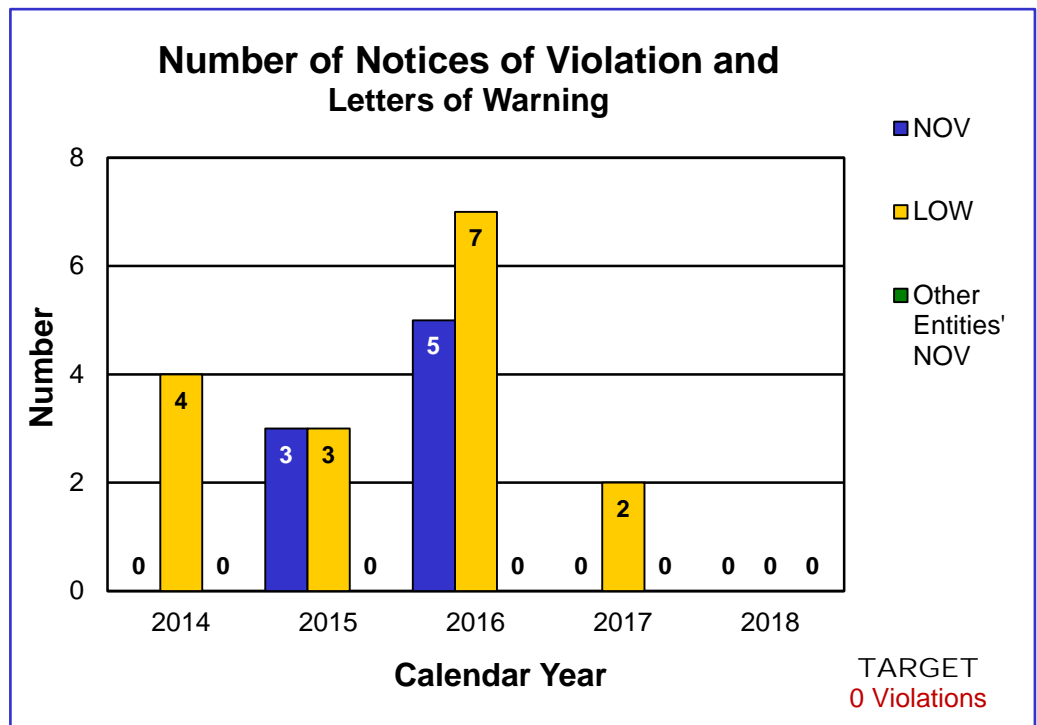
### *Number of environmental warnings and violations – 6j*

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 the first three quarters of calendar year 2018, MoDOT received no NOV or LOWs.

MoDOT did receive findings of compliance on three projects, one in Greene County, one in Franklin County and one in Warren County. The land disturbance projects were found to be in compliance with the clean water act and the Missouri state operating permit.



RESULT DRIVER:  
Brenda Morris  
Financial Services Director

## USE RESOURCES WISELY

### *Number of stormwater violations – 6k*

MEASUREMENT  
DRIVER:  
Brian Williams  
Stormwater Compliance  
Coordinator

PURPOSE OF  
THE MEASURE:  
This measure tracks  
compliance with MoDOT's  
stormwater permit and court  
ordered consent decree. The  
consent decree established  
requirements for MoDOT  
projects from 2015-2018 where  
greater than one acre of land is  
disturbed.

MEASUREMENT AND  
DATA COLLECTION:  
A database is used to record  
the compliance of MoDOT and  
construction contractors with  
requirements to:

- maintain personnel in  
stormwater oversight  
positions;
- obtain the required  
stormwater training;
- ensure timely stormwater  
inspections, and
- ensure the resulting  
stormwater control repairs  
are completed within the  
required time.

The database also tracks fines  
resulting from not meeting the  
decree requirements. The  
target for this measure is set  
by internal policy and will not  
change unless policy changes.  
MoDOT's benchmark is  
Kansas DOT because it  
monitors similar elements of  
the Clean Water Act. Kansas'  
consent decree was a four  
year decree beginning in 2013.  
There also are significant  
differences in how their  
consent decree computes  
violations compared to  
MoDOT's.

MoDOT is committed to ensuring all land disturbance projects are in compliance with environmental laws through the use of adequate erosion and sediment control practices.

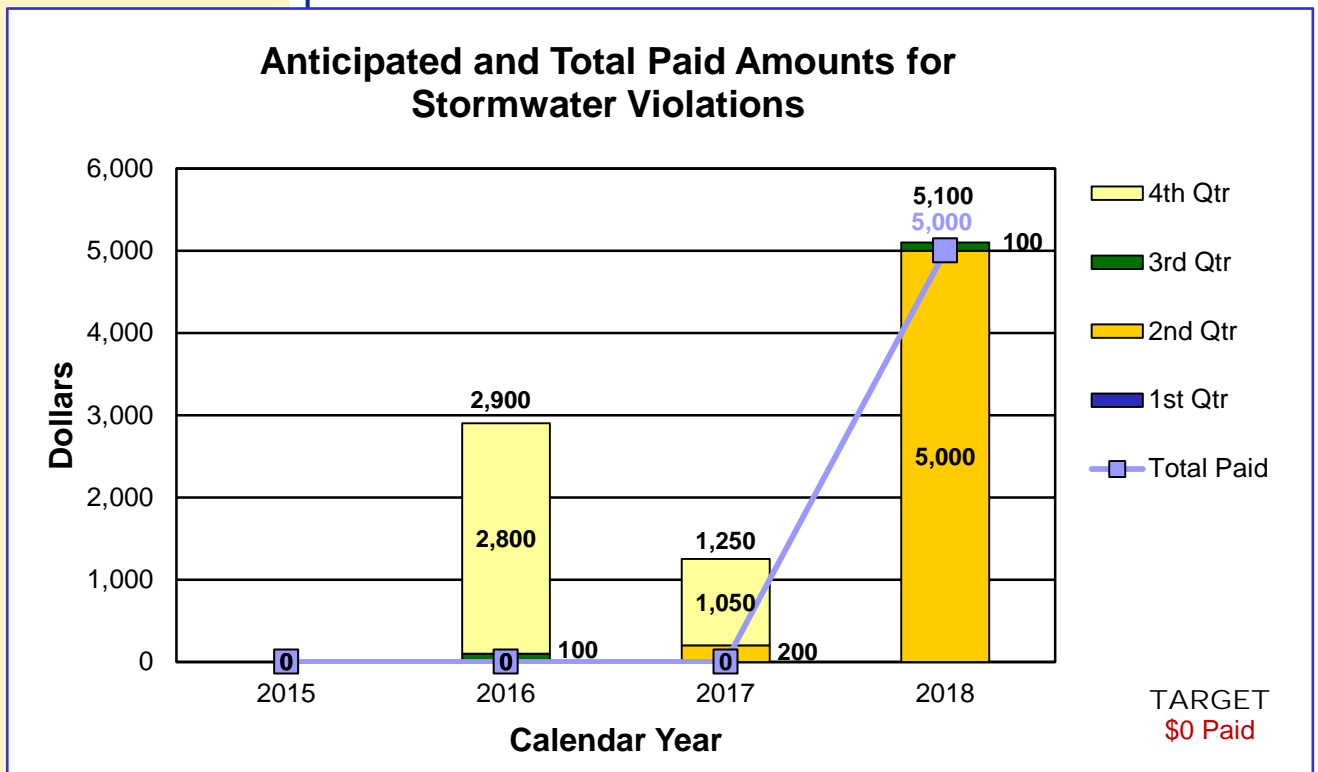
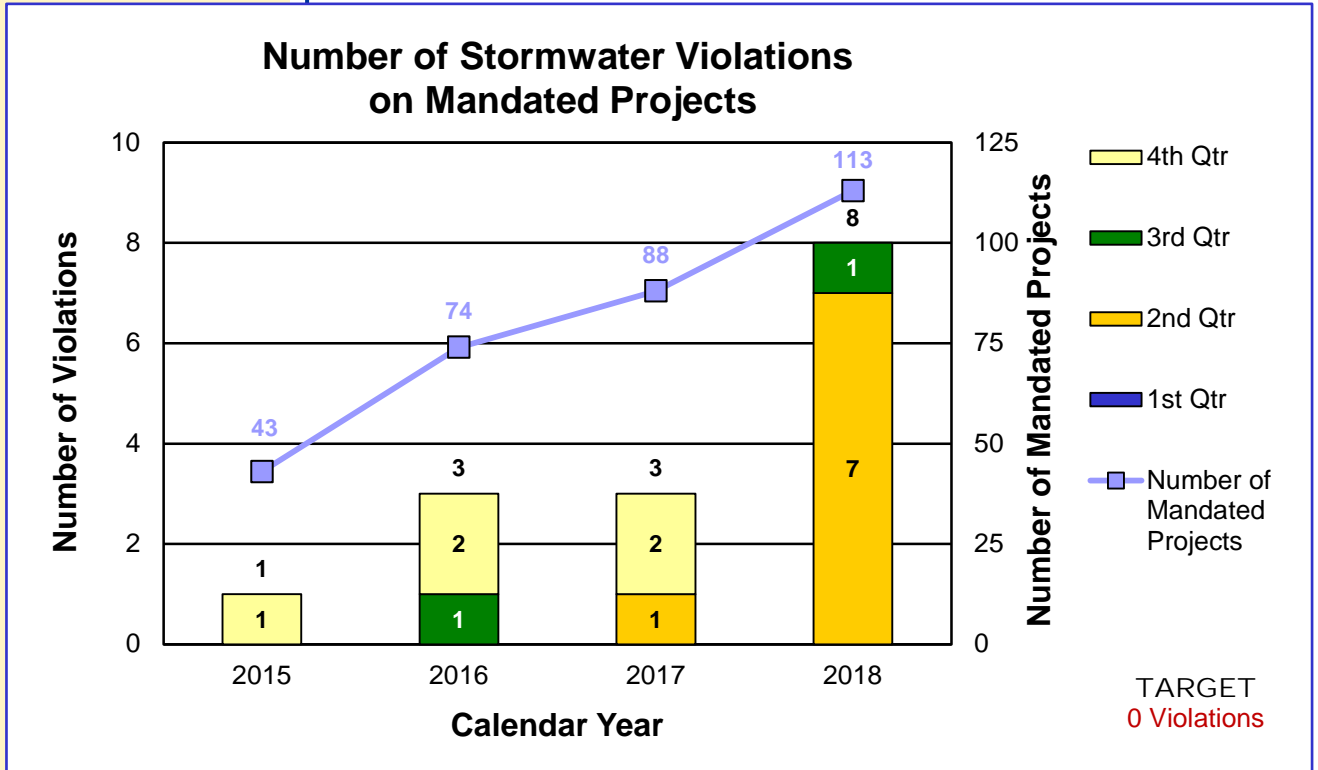
In the third quarter of 2018, MoDOT was able to successfully negotiate the termination of the Consent Decree with the Environmental Protection Agency and Department of Justice. The official termination date was September 13, 2018. One violation was recorded between the request to terminate and the official Consent Decree termination notification. The violation was a failure to enter an inspection in the database within the required time. The penalty amount was \$100. The violation was shared with the EPA but no response has been received regarding their desire to collect payment for the penalty amount.

The target for this measure is no violations and no penalties paid. The total consent decree violations for the four-year period were 15 and a total of \$5,000 was paid to satisfy MoDOT's penalty balance.

In Kansas's four years under a consent decree with the EPA, a total of 360 violations valued at \$1.15 million were reported. Taking these same 360 violations compared to how MoDOT's consent decree computes violation amounts, the total violation amount would be \$458,250. This amount could be broken down to an average of 90 violations per year at an average value of \$114,563 per year.

Continued communication with the field staff and district contacts to keep everyone engaged and focused assisted MoDOT in keeping on track and meeting the target.

# USE RESOURCES WISELY





**RESULT DRIVER:**  
Brenda Morris  
Financial Services Director

**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 – 61*

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.

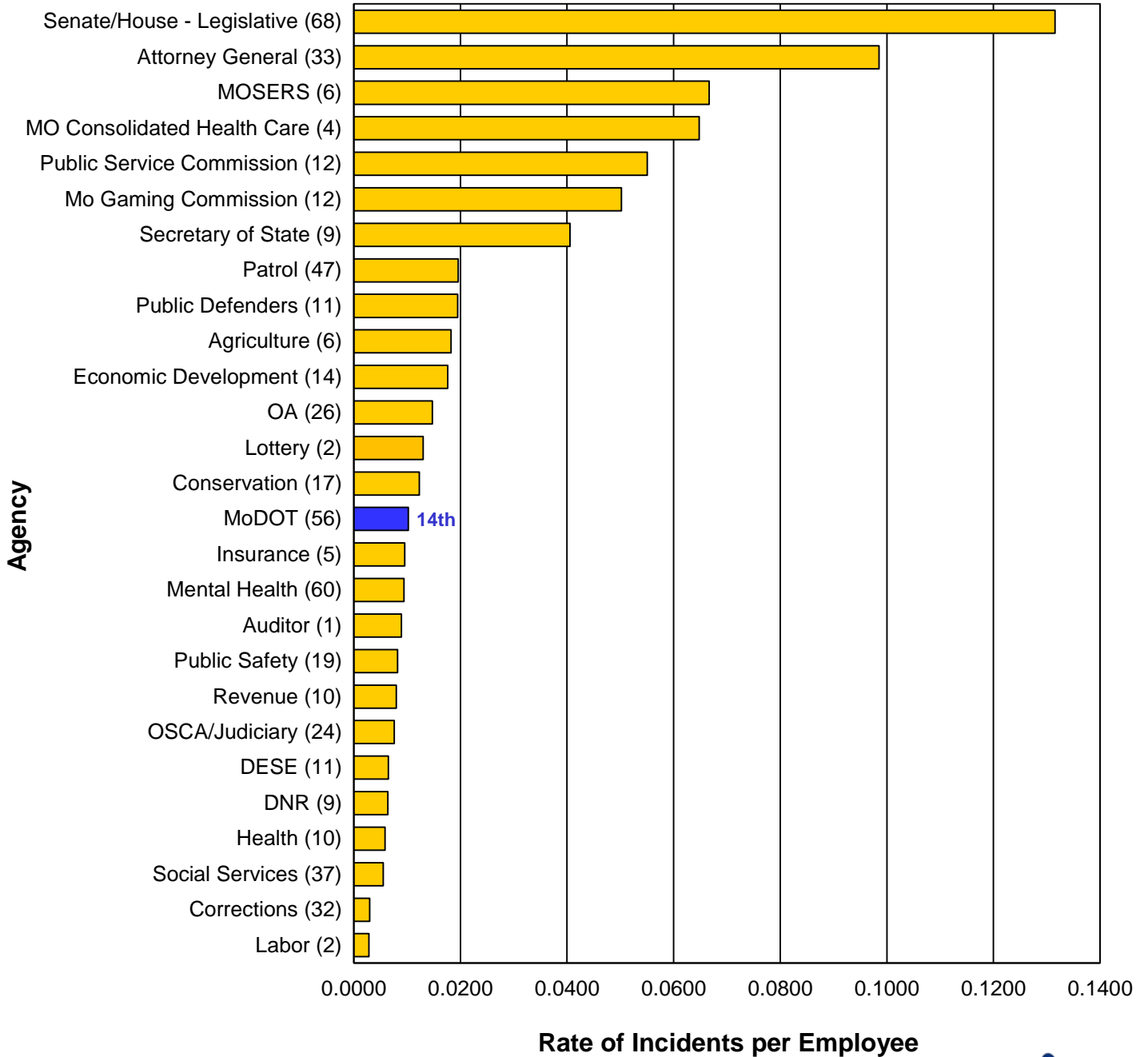
During this past reporting period, MoDOT ranked 14th compared to all other state agencies in terms of cybersecurity incidents per employee. MoDOT's total of 56 cybersecurity incidents equated to a rate of .0102 incidents per employee. This is an increase from the last reporting period. Incidents included infected phishing emails, 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.



# USE RESOURCES WISELY

## MoDOT State Ranking in Cybersecurity Incidents per Employee (October 1, 2017 - September 30, 2018)



\*Number inside the parentheses indicates the number of incidents

DESIRED TREND

**RESULT DRIVER:**  
Brenda Morris  
Financial Services Director

## USE RESOURCES WISELY

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

**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.

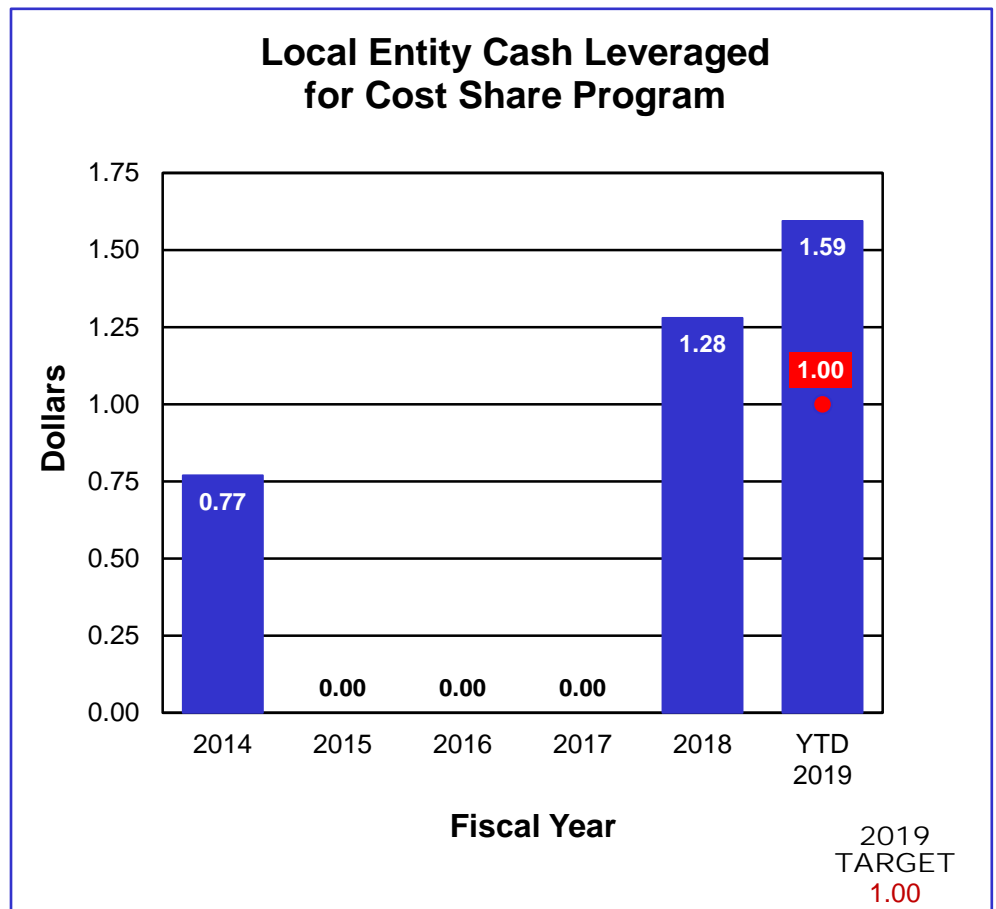
The target for this measure was set by management directive.

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.

As of the first quarter of FY 2019, Cost Share Program funds totaling \$9.1 million were approved for six projects. For every \$1 of Cost Share Program funds, local entities provided \$1.59 of cash, which is \$0.59 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

# ADVANCE ECONOMIC DEVELOPMENT

**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 STIP cycle.

## *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.

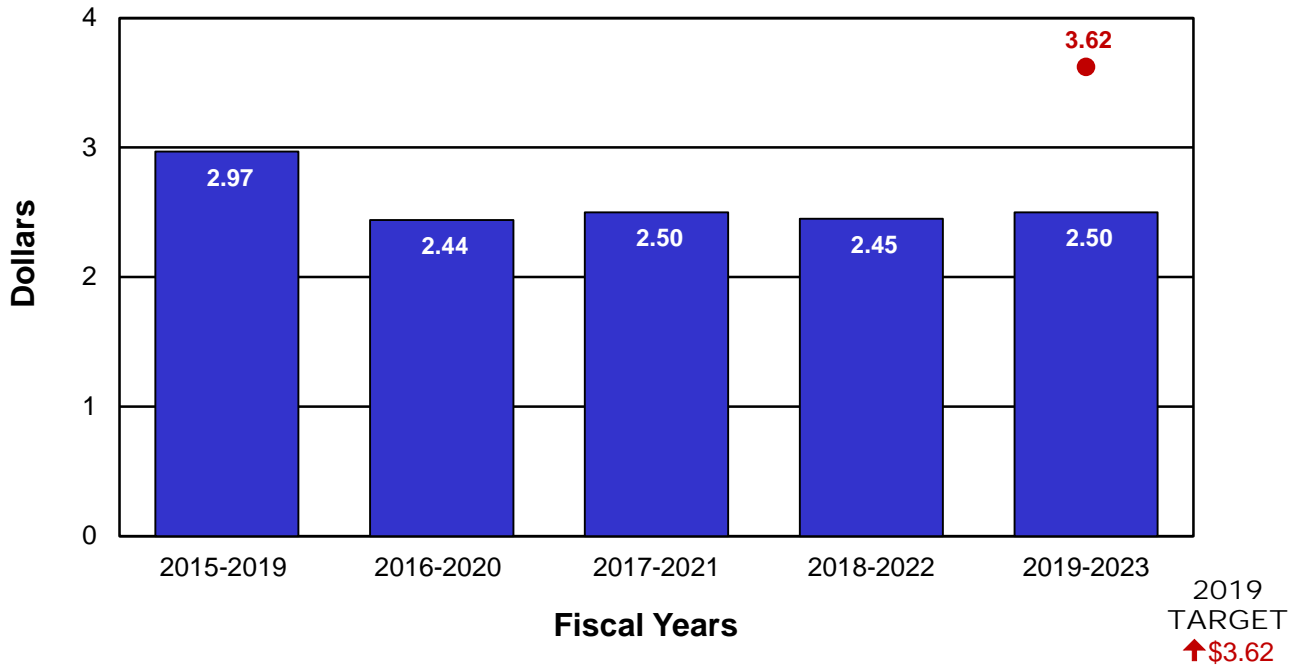
Based on MoDOT's 2019-2023 Statewide Transportation Improvement Program investment of \$5.9 billion, the program is estimated to create 4,746 jobs – a 4 percent increase when compared to MoDOT's 2018-2022 STIP. Transportation investments are expected to contribute \$15 billion of economic output during 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.

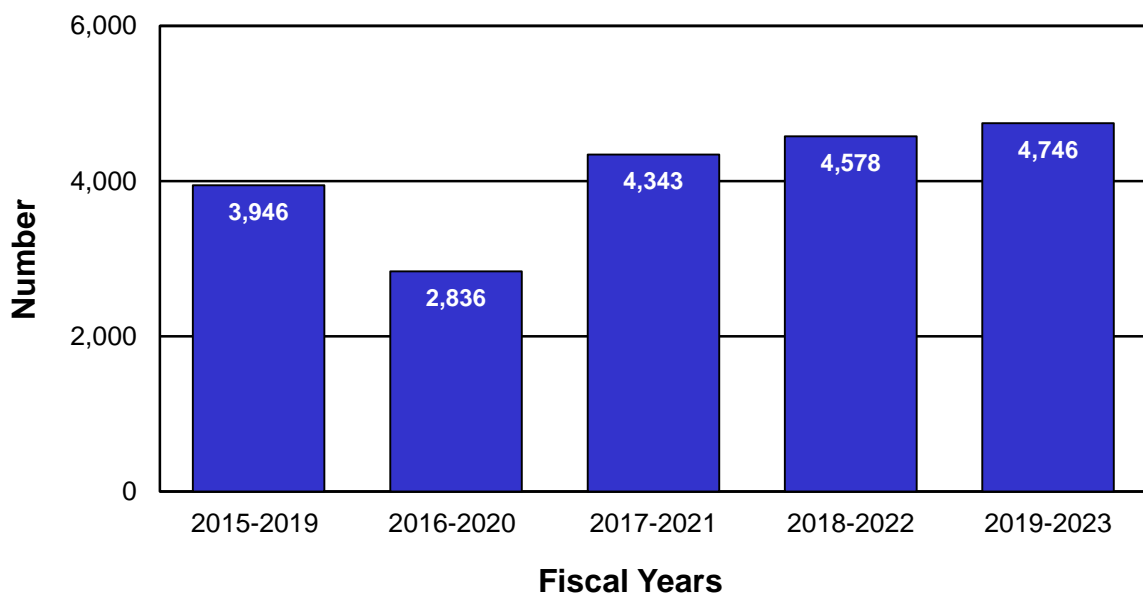


# ADVANCE ECONOMIC DEVELOPMENT

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



## Economic Return from Transportation Investments Jobs Created Annually



DESIRED TREND 



**RESULT DRIVER:**  
Lester Woods  
External Civil Rights Director

# ADVANCE ECONOMIC DEVELOPMENT

## *Goods movement competitiveness – 7b*

**MEASUREMENT  
DRIVER:**  
Cheryl Ball  
Administrator of Freight and  
Waterways

**PURPOSE OF  
THE MEASURE:**  
This measure tracks the estimated cost of transporting representative Missouri products from key economic industries (chemical manufacturing, transportation equipment and agriculture) to top destinations as compared to shipping the same products from competitor states. The relative costs for these illustrative products serve as a proxy for Missouri's competitiveness on transport costs as a whole.

**MEASUREMENT AND  
DATA COLLECTION:**  
Transearch 2011 freight data was used to identify products representative of Missouri's economic drivers as well as the top origins, destinations and modes of transport. Estimates of the transport costs are calculated using different external sources for the modes: (1) The 2014 American Transportation Research Institute report, An Analysis of the Operational Costs of Trucking, (2) AAA's diesel on-highway price data, (3) the Bureau of Labor Statistics wage data, (4) the Surface Transportation Board's Uniform Railroad Costing System and (5) the USDA's Average Weekly River Barge Rates.

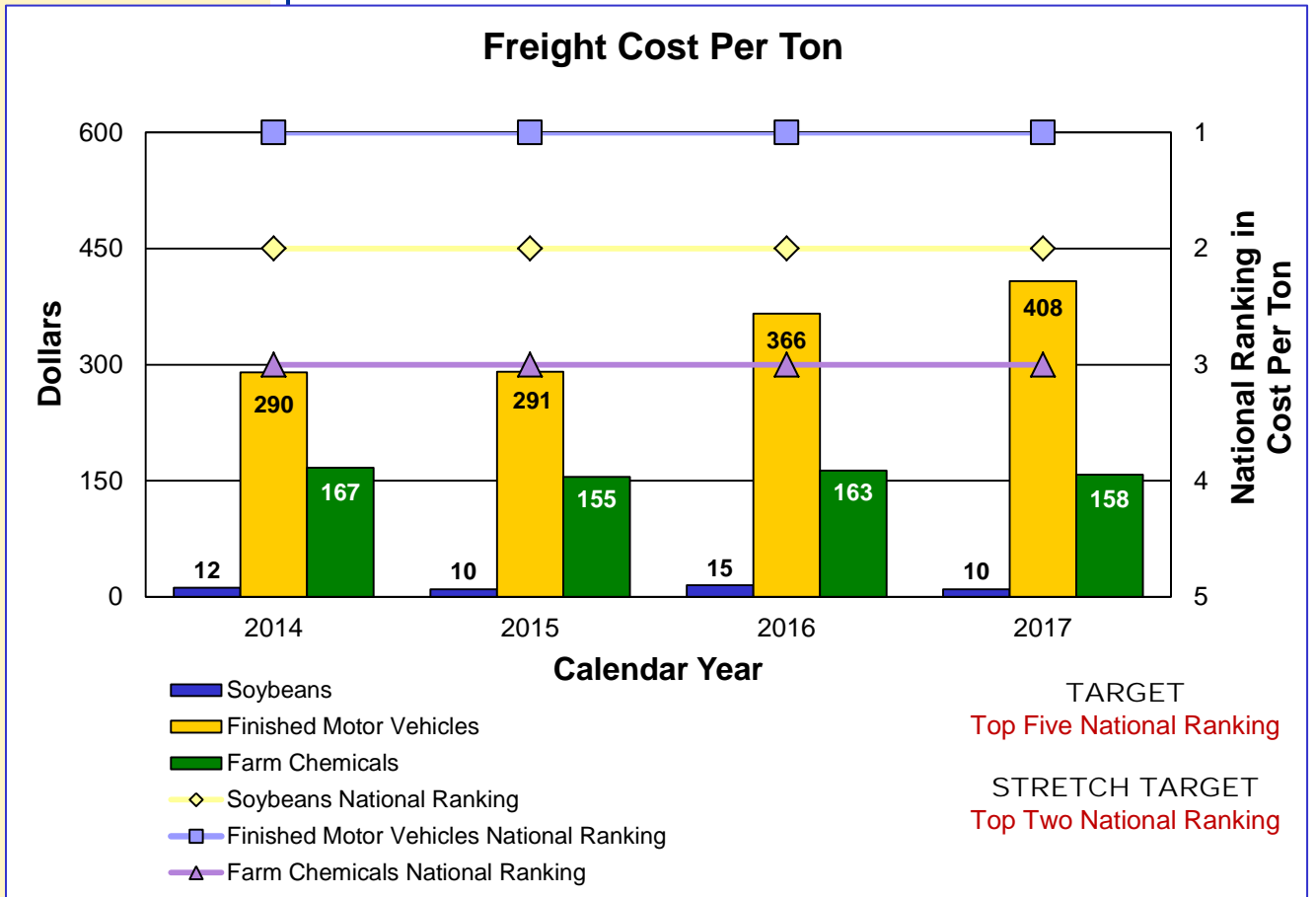
Product transportation costs vary depending on the efficiency, reliability, safety and modal options in a state's transportation system. Accumulation of costs to transport, starting at product origination through travel to the production facility and finally to market, directly impact the final cost of a product as well as how competitive the product is in the global market. Transportation costs account for 9-14 percent of a product's market price. Therefore, maintaining low transportation costs is critical to retain and expand current businesses in Missouri as well as attracting new businesses to create new employment.

The three key Missouri products (soybeans, finished motor vehicles and chemical manufacturing) account for more than \$8 billion in revenue annually and employ more than 300,000 Missouri workers. Missouri producers of these products compete with other states and other countries for customers. MoDOT compares Missouri transportation costs to those of the closest domestic competitors. At this time, Missouri's transportation cost is among the lowest of these competitors.

Deterioration of any of the factors influencing transportation cost not only impacts the competitiveness of Missouri products in external markets, but also influences the cost to bring products into Missouri, which controls the prices at local stores.

MoDOT plays an active role in keeping costs low by working with existing businesses to identify transportation barriers that reduce competitiveness regardless of transportation mode. These barriers can include bridges with load postings, closed bridges, rough pavement, at-grade rail crossings, congestion and inability to access a port or airport. MoDOT works to find solutions for these barriers, but Missouri's transportation funding does not allow the agency to fully respond to those needs.

# ADVANCE ECONOMIC DEVELOPMENT



**RESULT DRIVER:**  
Lester Woods  
External Civil Rights Director

# ADVANCE ECONOMIC DEVELOPMENT

**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.

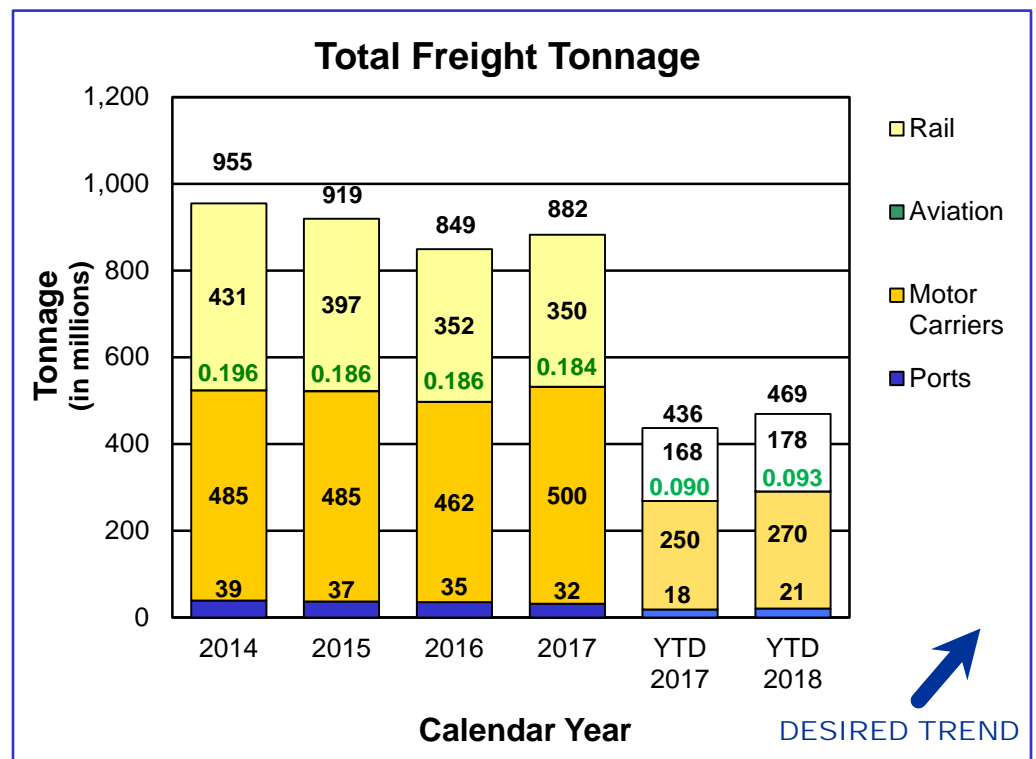
**MEASUREMENT AND DATA COLLECTION:**  
Twice a year, a freight tonnage estimator is used to calculate the amount of freight moved by railroads and highways. The estimator provides timely information for Missouri's primary freight movers. Freight data for aviation and waterways is a combination of direct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

## 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 thoughtful improvements of other transportation facilities such as ports, railroads and airports. Yet many of these needs remain underfunded.

In the first six months of calendar year 2018, Missouri experienced a 7.5 percent increase in freight movements as compared to the same period in 2017. All modes experienced year-to-year increases in freight movements. These numbers can be attributed to the national trend of increasing employment, exports and gross domestic product.



RESULT DRIVER:  
Lester Woods  
External Civil Rights Director

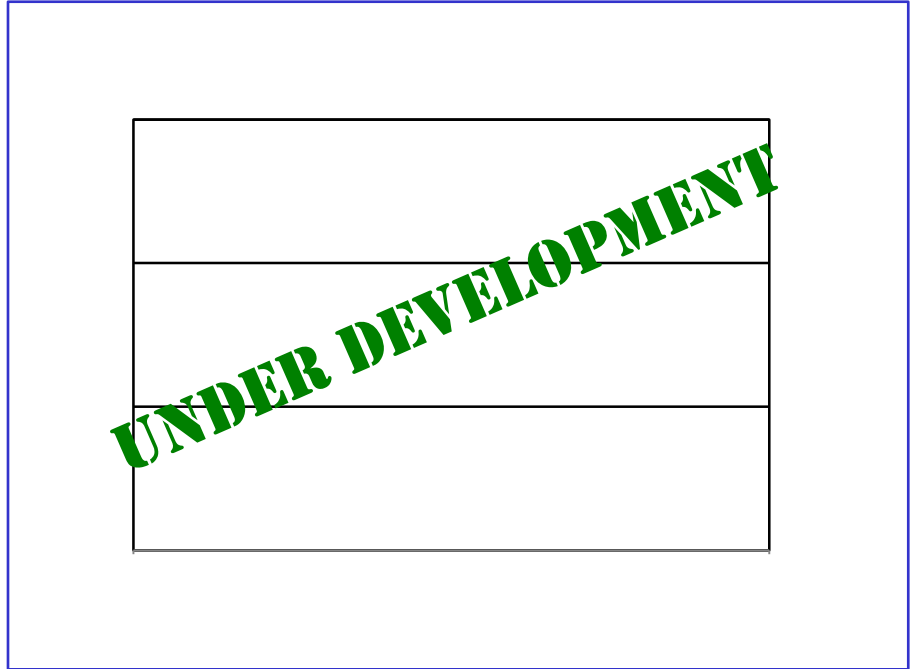
# ADVANCE ECONOMIC DEVELOPMENT

*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

## ADVANCE ECONOMIC DEVELOPMENT

**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 women  
and minorities 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.

### *Percent of minorities and women employed – 7e*

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

The number of minority employees increased about 1.2 percent (511 to 517) from first quarter fiscal year 2018 to first quarter FY 2019.

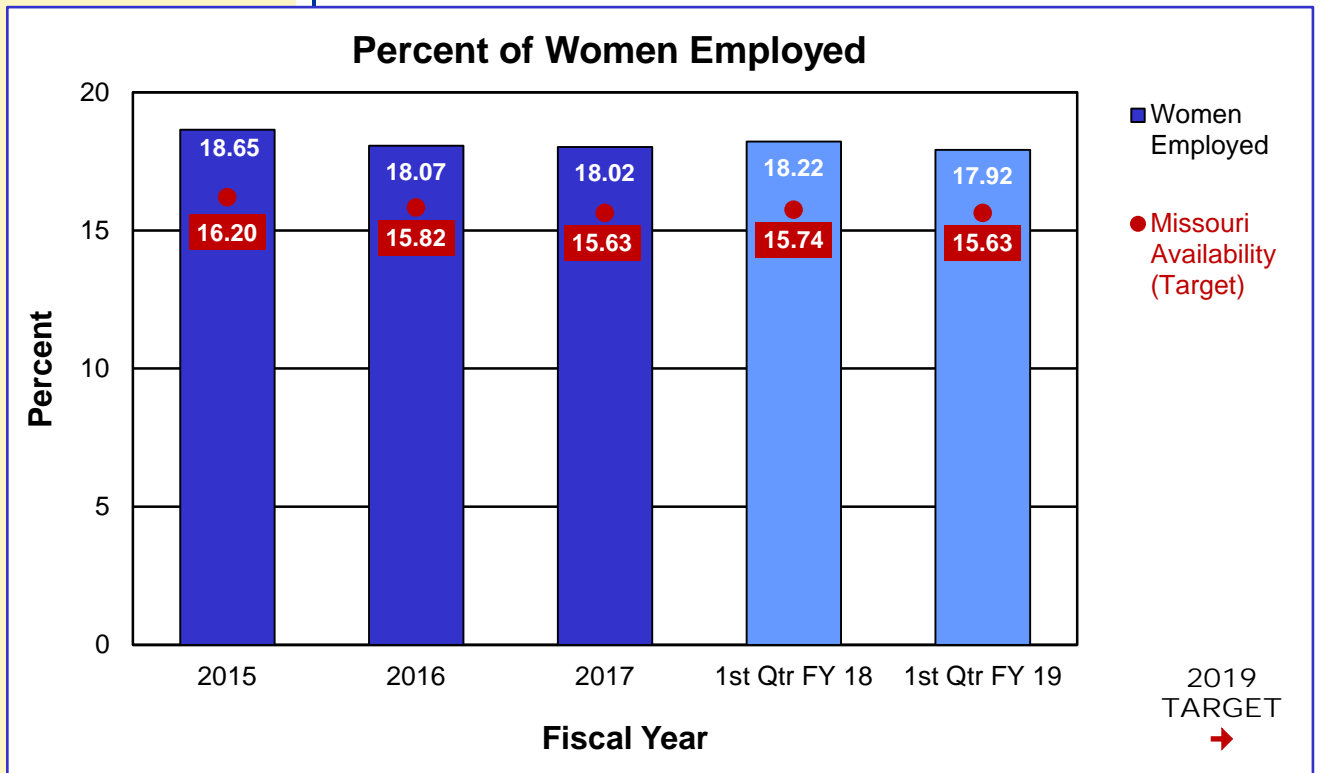
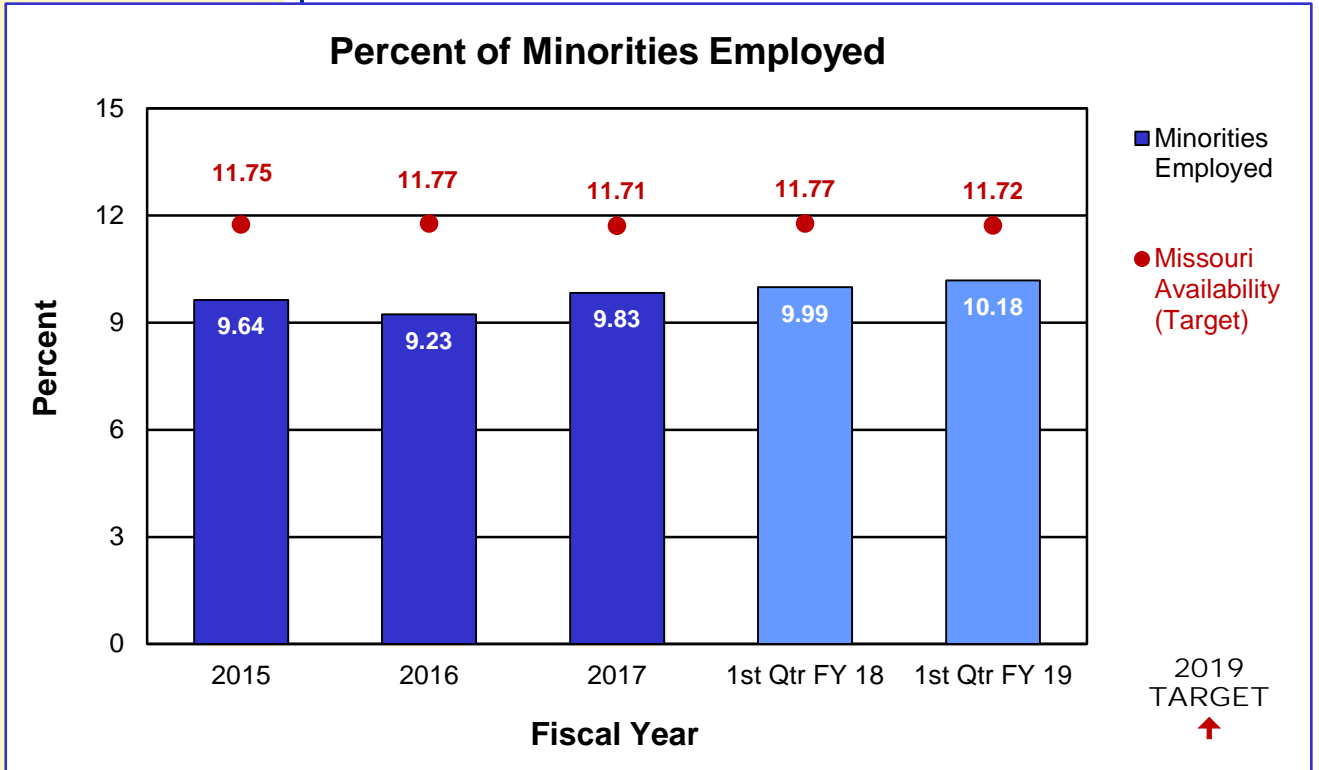
The number of women employees decreased slightly by .9 percent from first quarter FY 2018 to first quarter FY 2019 (918 to 910).

Total full-time employment between first quarter FY 2018 and first quarter FY 2019 increased from 5,047 to 5,079 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. 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



**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 FFY 2012.

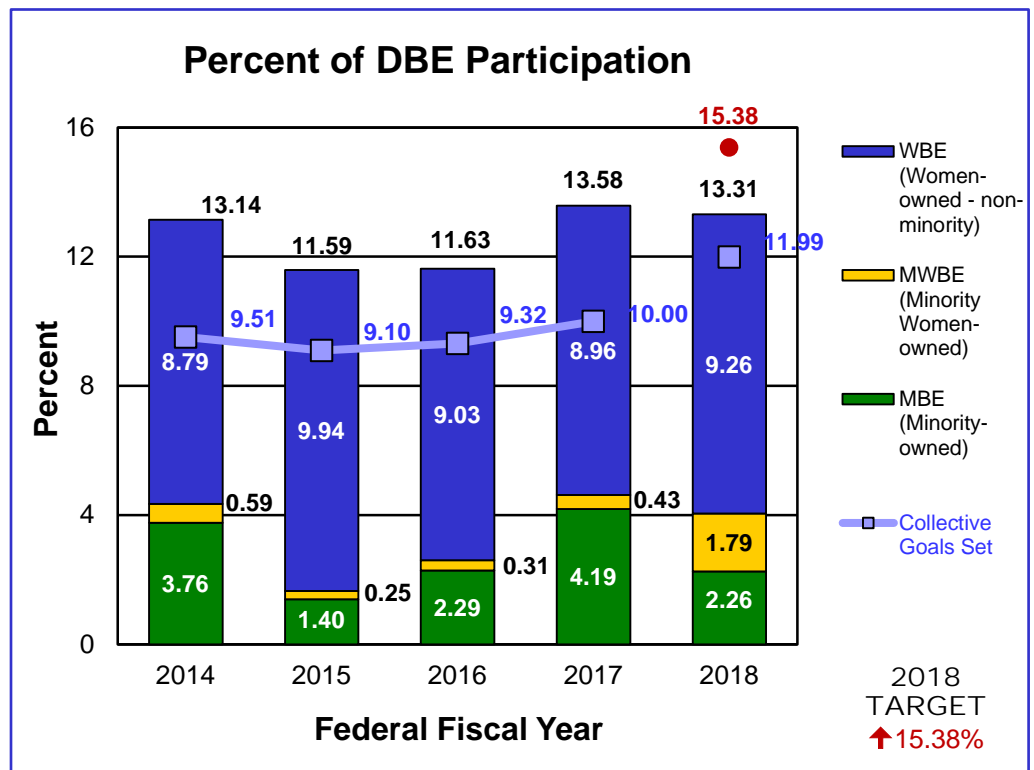
The target for this measure is set by FHWA policy and is updated every three years.

## 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 DBEs have an opportunity to compete for and participate in project contracts and subcontracts.

The overall DBE target for federal fiscal year 2018 is 15.38 percent. The DBE participation for first three quarters of FFY 2018 is 13.31 percent. This is a 0.27 percent decrease from FFY 2017. Of the 13.31 percent utilization, 2.26 percent was participation from minority-owned DBE firms, 1.79 percent was participation from minority women-owned DBE firms and 9.26 percent was participation from women-owned DBE firms. The collective goals set for projects closed during this period amounted to 11.99 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

# ADVANCE ECONOMIC DEVELOPMENT

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

**MEASUREMENT DRIVER:**  
Debbie Rickard  
General Services Director

**PURPOSE OF THE MEASURE:**  
This measure tracks the department's non-program spending with certified minority, women and disadvantaged business enterprises.

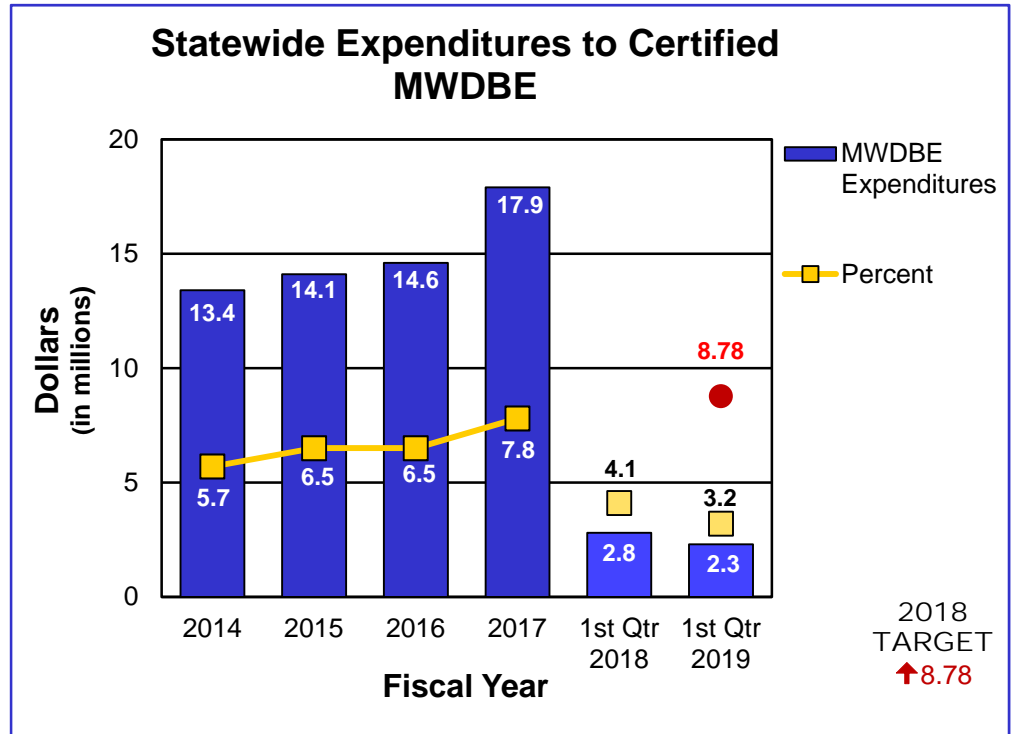
**MEASUREMENT AND DATA COLLECTION:**  
Data is obtained from the statewide financial accounting system expenditure reports and United Missouri Bank purchasing card reports. Certified vendors are maintained in a statewide procurement vendor database. Vendors may be certified through the Office of Administration 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.

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 MWDBE vendors in order to encourage them to become certified and focused inclusion efforts.

Fiscal year 2019 first quarter results show a decrease of \$500,000 in MWDBE disbursements compared to the first quarter of FY 2018. Compared to first quarter FY 2018, the FY 2019 percentage of MWDBE expenditures decreased by 0.9 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.





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