

Missouri
Department of
Transportation



2020

MoDOT RESULTS

Safety. Service. Stability.



Missouri Department of Transportation
www.modot.org

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MoDOT RESULTS

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“We work hard to deliver quality transportation projects every day.”

SAFETY

Be Safe

Be Accountable

SERVICE

Be Respectful
Be Inclusive

Be Bold

Be Better

STABILITY

Be One Team

So we can be a
great organization

MoDOT Delivers Results

The Missouri Department of Transportation is mission-centered. By focusing on customers and providing transparent measures of our progress, MoDOT delivers results through accountability, innovation and efficiency.

We have developed a system of performance metrics to deliver results while being good stewards of the state's transportation dollars.

Since 2007, MoDOT has documented more than **\$5.3 billion** in one-time or on-going savings. This includes redirection of \$268 million in efficiency savings in 2020 to roads and bridges and \$747 million in savings to our customers. In the last 13 years, reinvestment in safety enhancements resulted in an estimated 754 lives saved.

MoDOT is not afraid to make tough decisions. We realized years ago we could not provide customers' top needs without a change in the way we do business. As a result, we decided we will do the best we can with what we have for as long as we can.

By re-examining all we do from project design to daily operations, we were able to identify savings and transfer funds to meet more customer expectations. That wasn't enough.

In 2010, we began a reduction of 124 facilities, 750 pieces of equipment and 1,200 employees (19%) resulting in \$1.2 billion reinvested in roads and bridges through 2020.

MoDOT's core values are safety, service and stability. With those pillars as our foundation, MoDOT is committed to preserving the transportation system, which is essential to Missouri's economic growth.



SAFETY

Behavior Based Safety

In 2015, MoDOT began researching Behavior Based Safety (BBS). By comparing the Behavior Based Safety process with our current safety practices, several areas for improvement were identified. Behavior Based Safety has enhanced MoDOT's safety culture.

BBS is an observation and feedback process that addresses both behavior and people factors to improve the safety culture. Simply put, a culture of behavior-based safety will prevent workplace incidents, injuries and fatalities before they occur.

BBS is designed to work with MoDOT's current safety practices to help employees identify unsafe behaviors in their workplace. Through identification of at-risk behaviors, supervisors can take the necessary steps to discuss, strategize and correct the root causes with their employees. Getting employees involved generates acceptance as people support what they help create.

Proactive measures such as Behavior Based Safety Observations and "Good Catches" are positive rather than punitive programs. Safety happens before an incident and this measure gives employees the goal of elimination before mitigation. Conversely, learning from mistakes is vital to a safety program. Near-miss reporting is another piece of the puzzle that allows the department to continue the vision of zero injuries. Comparing first quarter 2019 to first quarter 2020, the department experienced a **52% increase** in employee participation in observations, near-miss and Good Catch reporting.

Full implementation of the BBS program is estimated to be \$900,000. Workplace injuries and worker's compensation costs MoDOT approximately **\$6 million** each year. But the program is not all about saving money. MoDOT wants every employee to go home safely at the end of each workday. Through the implementation of BBS, MoDOT hopes to reduce workplace incidents and achieve a total safety culture.



Educating Motorists to Buckle Up in Missouri

Seatbelt usage in Missouri this year continues to be a challenge. A recent survey revealed that 86.1% of Missouri motorists are buckling up, down from the previous year's record high of 87.7%.

"We've seen a **4.7% increase** in seat belt usage in the past four years, but we've still got our work cut out for us" said Nicole Hood, state highway safety and traffic engineer. "We've increased educational efforts through the Buckle Up Phone Down program statewide and have surpassed 13,000 participants in the BUPD challenge."

The Buckle Up Phone Down program won the 2020 AASHTO President's Transportation Award: Highway Traffic Safety for its innovation in conveying the life-saving message of bucking seat belts and putting phones down when driving.

RESULTS



KEEPING ALL TRAVELERS SAFE

\$1.4 Billion in Safety Benefits, 120 Lives Saved

The Smooth Roads Initiative and Better Roads, Brighter Future programs were back-to-back efforts that improved 5,600 miles of highways. Completed earlier than scheduled, the efforts delivered smoother pavement, brighter striping, rumble stripes and other safety improvements to the highways that carry 80% of Missouri's traffic. These improvements have resulted in more than **\$1.4 billion** of safety benefits to customers since 2007.



SAFETY COMMITMENT

\$6.0 Billion in Total Customer Savings, 553 Lives Saved

In the spirit of improving safety on every Missouri road, MoDOT has provided treatments on roadways to address "run-off-the-road" crashes. By installing thousands of miles of shoulders and rumble strips on rural highways, MoDOT has reduced severe crashes by 30%. Guard cable is used on portions of interstates and other major routes, drastically reducing the number of median crossover crashes, which are often fatal. Also, high-grip surface treatments have achieved a 20% reduction in run-off-the-road crashes and help hold vehicles in the driving lanes. Electronic truck screening allows prequalified trucks to safely bypass weigh stations.



STATE-OF-THE-ART DESIGN

\$640 Million in Total Savings, 75 Lives Saved

The Diverging Diamond Interchange (DDI), first used in Springfield, Mo., in 2009, solves major traffic and safety issues at a much lower cost than traditional interchange designs. Missouri now has 25 DDIs. Many other states have followed suit, with at least one DDI of their own. J-Turns are a cost-effective alternative to an overpass on four-lane highways and reduce the number and severity of crashes. At locations where J-Turns are installed, crashes are down 25% and there are **88% fewer fatalities**. Missouri also uses shared four-lane highways that feature alternating passing lanes to give motorists periodic opportunities to pass without pulling into the opposing lane.



GEOTAB

The Geotab telematics system combines on-board vehicle diagnostics and GPS tracking to gather data about vehicles in the MoDOT fleet. It also saves vehicle operators time manually logging ending hours and mileage meter readings. This single, shared-view system will: monitor and reduce fuel use through route management; decrease maintenance cost with improved engine diagnostics; improve safety by monitoring speed, seat belt use, backing up, braking and more; and integrate with the Maintenance Management System. Last year during one snow storm, a pilot telematics program demonstrated to legislators, the media and the traveling public the response of our workforce.

SERVICE

CARES Act Brings Relief to Transit and Airports

The Coronavirus Aid, Relief, and Economic Security (CARES) Act, signed into law on March 27, 2020, provided Missouri with an additional **\$408.7 million** for transit agencies and airports, of which **\$70.3 million** is administered by MoDOT. This economic relief funding is provided at a 100% federal share, with no local match required, and available for operating expenses including payroll and utilities, capital expenditures, and other expenses to prevent, prepare for, and respond to the COVID-19 public health emergency.

MoDOT's Aviation section is administering **\$8.5 million** of CARES Act grants to 68 Missouri airports. These grants help keep public-use airports viable at this critical time. This funding supports continued operations and replaces lost revenue resulting from the sharp decline in passenger traffic and other airport business due to COVID-19. Providing this additional funding and eliminating the local share allows critical safety and capacity projects to continue as planned regardless of the airport's current financial circumstances.

During the COVID-19 pandemic stay-at-home orders, public transportation providers across Missouri worked tirelessly to keep operators and passengers safe as they provided a means for essential personnel to get to their jobs, and ensured everyday citizens could gain access to food, medicine and other necessities. This occurred as agencies faced massive deficits due to dropping fare box recovery, increased expenses from new cleaning protocols, and significant driver absenteeism. The MoDOT Transit team's steadfast determination to provide **\$61.8 million** in 100% federal funding to 28 rural transit providers, and keep Missourians moving, led them to develop the first CARES Act grant approved by the USDOT in the nation on April 10, 2020.

The Missouri Public Transit Association (MPTA) recognized the MoDOT Transit team with the **2020 MPTA Transit Champion Award**. It was presented to MoDOT for being the first department of transportation in the country to have its application for CARES Act submitted and approved, ensuring this critical funding was delivered to Missouri transit providers as quickly as possible.

Road Condition and Customer Satisfaction



“Having goals isn't enough. With the help of our partners, we continuously improve our performance and hold ourselves accountable to our customers.”

RESULTS



CUSTOMER PRIORITIES

\$433 Million in Total Savings

MoDOT has saved \$433 million since 2007 by adjusting mowing and striping schedules, using innovative materials and equipment to fight ice and snow, reevaluating our snow route priorities and using incarcerated crews. This savings has been redirected back into improving the conditions of Missouri's roads and bridges.



KEEPING BUSINESSES MOVING

\$107 Million in Total Customer Savings

Missouri's economic health depends on the efficient movement of the goods it produces and consumes. MoDOT Carrier Express, our first-in-the-nation online business portal, streamlines Missouri-based motor carriers' business transactions with the state — getting their drivers and the products they haul on the road in record time. The system, a **Computerworld Honors Laureate** honoree, saved customers \$8.7 million in 2020.



INNOVATIVE PROCUREMENT

\$588 Million Redirected to Roads and Bridges

MoDOT uses Alternative Technical Concepts to provide solutions that are equal or better than the original bid requirement. ATCs have been used on multiple projects since 2007. Looking to copy private-sector success, legislators authorized Design-Build project delivery. Concentrating on project goals, innovation, schedule and budget, construction is completed more efficiently, with less impact on travelers. Before design plans and construction projects are completed, they are reviewed for money-saving methods and procedures. In 2020, these engineering reviews saved **\$6.3 million**.



RECYCLED MATERIALS

\$354 Million Saved from 2007-2020

Like many other organizations, MoDOT recycles office paper, ink cartridges and the like. In addition, we use recycled shingles, tires, asphalt and other materials to deliver the best pavement with cost — and the environment — in mind.

STABILITY

Focus on Bridges

Governor’s “Focus on Bridges” program will improve or replace 250 bridges across the state

Gov. Mike Parson’s “Focus on Bridges” program, approved by the Missouri General Assembly in 2019 to improve or replace 250 of the state’s poorest bridges, made tremendous progress this year. The **\$351 million** program is being funded by **\$50 million** in state general revenue from the FY2020 budget, and by **\$301 million** in bonding to be paid by state general revenue over seven years.

By the end of 2020, 152 bridges in the program will be under contract. That includes a package of 13 bridges bundled with four other bridges in a design-build project in MoDOT’s Southeast District – the Bootheel Bridge Bundle. More than 25 contractors have been awarded projects so far with the Focus on Bridges program.

The first bridge in the program completed was the Route 72 bridge over Stouts Creek in Iron County, which opened to traffic in December 2019. In FY2020, 21 bridges were completed. Since then nearly 80 more have opened to traffic while work continues on others.

“We will do the best we can with what we have for as long as we can.”



RESULTS



MANAGING ASSETS

TAKING CARE OF OUR SYSTEM

\$38.6 Million in Total Savings

With 33,832 miles of state highway to manage, taking care of our signs and signals is a big challenge. By reassessing our road sign needs, modifying sign design and installations, converting signal and roadway lighting to LED, merging multiple software contracts into one and scrutinizing every aspect of traffic signal design and operation, \$38.6 million is sent back over time to take care of our system.



FINANCIAL SUCCESS

MODOT SECURES COMPETITIVE GRANTS

In State Fiscal Year 2020, MoDOT received three federal grants totaling more than \$100 million, including: an \$81.2 million INFRA grant—the largest discretionary grant Missouri has ever received — for the replacement of the I-70 Missouri River Bridge at Rocheport and the construction of I-70 climbing lanes at Mineola Hill in Montgomery County; a \$20.7 million Competitive Highway Bridge Program grant to replace up to 41 poor, weight-restricted, timber pile and one-lane bridges in northern Missouri through the Fixing Access to Rural Missouri (FARM) Bridge Program; and \$1 million to implement predictive models that consider different factors such as traffic volumes, weather or special events and predict the likelihood of crashes and response times on the I-270 North project.

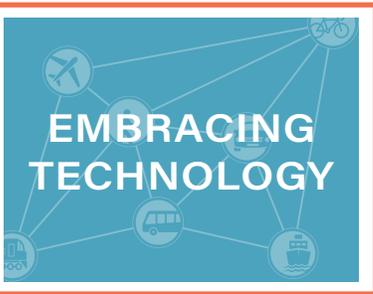


FINANCIAL STABILITY

FINANCIAL RESPONSIBILITY

Billions in Funding from Partners and ROW Leasing and Sales

Communities contribute to state highway projects to receive needed upgrades faster. If custom, decorative work is desired, those costs are also contributed. In the last 14 years, locals shared \$1.5 billion in additional local or federal funding to MoDOT projects and by managing our right-of-way put \$58 million to roads and bridges. Plus **\$107 million in additional savings** came from refinancing and paying off some bond debt years early.



EMBRACING TECHNOLOGY

USING TECHNOLOGY TO DELIVER PROJECTS

\$20 Million in MoDOT Savings

Using Light Detection and Ranging (LiDAR) technology to streamline survey costs, LiDAR instruments are used to deliver needed topographical data to highway designers to create roadway plans. This method allows for safer, faster and more accurate collection of data on a large scale and is shown to be 56% less expensive than traditional aerial and land survey. Since implementing in 2007, this technology has saved taxpayers **\$8 million**. MoDOT has been a pioneer in embracing this technology and expanding the program each year and winning the ACEC Engineering Excellence Grand award in partnership with their consultant for two years straight.

RESULTS



DELIVERING RESULTS

We continue to complete projects on budget and on time.

State Fiscal Year 2020
458 projects completed

9.2% under budget
96% completed on time.

Over the last 10 years
4,333 projects worth
\$10.9 billion completed

7.5% (\$890 million) under budget
94% completed on time.

I-435 Reconstruction Project Improves Safety and Congestion

The Missouri Department of Transportation Kansas City District completed the Interstate 435 South Loop Link design-build project in June 2020. This project, which began in spring 2018, completely rebuilt more than three miles of pavement through one of Kansas City's top three regional commuter corridors, added an additional lane in both eastbound and westbound directions, and replaced and rehabilitated five bridges. This is a heavily traveled route that exceeds daily traffic counts of **150,000 vehicles** a day.

Minimizing impacts to the public during peak travel hours was a large project goal. The key to the project's success was all about shifting traffic. New lanes were built along the outside of the existing footprint, then traffic shifted to and away from where work was needed next, allowing the completion of the bridge work in place simultaneously. Four traffic lanes were maintained through most morning and afternoon peak travel hours.

The Interstate 435 South Loop Link design-build project recently won Project of the Year Award from the Mid-America Design-Build Institute of America.

MoDOT's method of delivering large-scale projects through a design-build format is relatively new. Design-build includes hiring a consultant to complete design and construction under one contract. MoDOT provides project goals, budget and schedule. This technique has proven to significantly save time and money. MoDOT has delivered 13 design-build projects in total 95 months ahead of schedule and saved Missouri taxpayers **\$304.8 million**.

For More Information

ADDITIONAL INFORMATION

Citizens Guide to Transportation Funding in Missouri

www.modot.org/guidetotransportation/

TRACKER: Measures of Performance

www.modot.org/about/Tracker.htm

Appendices and Additional Documents

www.modot.org/Results/Documents.html

“Innovation is woven into MoDOT’s culture and is embraced by our partners.”



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