



LONG RANGE PLAN UPDATE

# Executive Summary



2018



# Table of Contents

---

<b>Section 1</b> Page 3	<b>Introduction</b> Director's Letter Introduction to the Plan
<b>Section 2</b> Page 9	<b>Goals and Objectives</b>
<b>Section 3</b> Page 13	<b>Stakeholder Engagement</b>
<b>Section 4</b> Page 19	<b>Emerging and Continuing Trends</b> Demographics Infrastructure Emerging Trends
<b>Section 5</b> Page 29	<b>Transportation System Needs and Revenues</b>



LONG RANGE PLAN UPDATE

# Introduction



# Hello

## Letter from the Director



**Patrick K. McKenna,**  
**Director of MoDOT**

### **Residents and visitors alike use Missouri roads every day.**

At the Missouri Department of Transportation (MoDOT), we build and maintain a transportation system that safely and reliably connects people with jobs and services, connects businesses with suppliers and customers, moves students to and from school and allows visitors to explore the state's many destinations. Our aspiration is to provide a world-class transportation system that is safe, innovative, reliable and dedicated to a prosperous Missouri.

Planning efforts are, of course, the critical first steps in achieving that aspiration. Over the past eight months, MoDOT has worked to update our Long Range Transportation Plan (LRTP), which sets the 25-year vision for the state's transportation system and establishes goals and objectives.





This year's update is different from past LRTPs in three important ways:

- We utilized online outreach methods to gather a significant amount of public input in a cost-effective way
- We confirmed our previous goals were accurate and added a new goal
- We worked to ask the hard questions about what the future of technology holds for transportation in Missouri

At the end of the day, input from Missourians is the true driver of our planning process and we are national leaders in incorporating public feedback into planning. This year, while gathering input to

develop our LRTP goals, we used traditional paper surveys and an online survey. The online survey yielded an outstanding response – more than 7,700 Missourians participated to tell us what they thought.

Incorporating this public feedback with stakeholder engagement, we confirmed our previous goals are still transportation priorities for Missouri. We also identified the improvement of reliability and the reduction of congestion on Missouri's transportation system as a new goal.

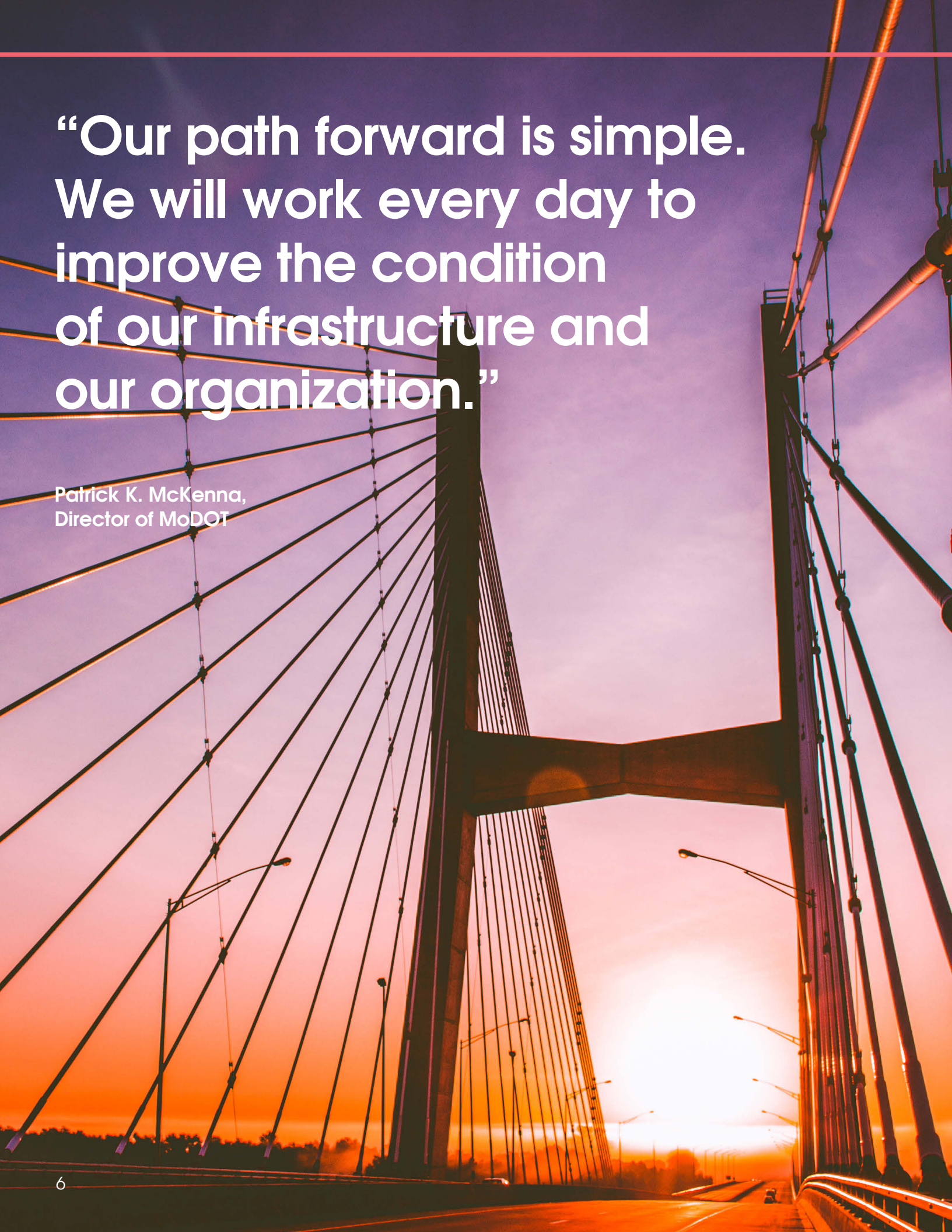
Lastly, the LRTP is a 25-year glimpse into the future. We may not be able to accurately predict the future, but we do know that advancing technology will impact transportation systems. We

convened a statewide conversation to discuss the future role of technology and what it might mean to safety, infrastructure investments and planning. That conversation provided focus for our technological efforts and a framework for further discussion.

MoDOT has always worked to balance limited resources with ever-increasing transportation needs. As we strive to implement the vision set forth by this LRTP, we believe our hard work to identify and address the needs of Missourians will carry the state successfully into the future.







“Our path forward is simple.  
We will work every day to  
improve the condition  
of our infrastructure and  
our organization.”

Patrick K. McKenna,  
Director of MoDOT



## Introduction to the Plan

The Missouri 2018 LRTP is a performance-based policy plan which:

- evaluates future trends that will impact Missouri's transportation system;
  - updates the state's transportation goals, objectives and performance measures;
  - examines transportation system needs and anticipated revenues over the next 25 years.
- 

With the input of more than 7,700 Missourians and transportation planning partners across the state, the analyses provided in this plan will inform future transportation decisions.

MoDOT has a long history of involving citizens in making decisions about the state's transportation system. This public outreach process involves citizens from start to finish and the approach has earned MoDOT recognition as a national leader in public involvement and several industry awards. Building on the goals established in the 2014 LRTP, MoDOT reached out to stakeholders and citizens to determine the goals and objectives which will influence future transportation policy decisions in Missouri.

The updated goals and objectives included in the 2018 LRTP address Missourians' transportation priorities, prepare Missouri for new and emerging transportation technologies, are aligned with the freight plan goals, and cover the national goals set by Congress.









LONG RANGE PLAN UPDATE

# Goals and Objectives



**Mission Statement:** Provide a world-class transportation system that is safe, innovative, reliable and dedicated to a prosperous Missouri.

## Goals and Objectives

A key component of the 2018 LRTP update was to identify those goals that align with the transportation vision of Missourians. The LRTP goals and objectives are important because they are citizen-driven.

An additional goal was identified and several new objectives related to technology improvements, environmental stewardship, improvements in system reliability and project delivery are included.

## Tangible Results

Since 2005, MoDOT has been a national leader in performance management and has achieved significant improvements in processes and services by implementing a performance based approach. MoDOT focuses efforts on seven Tangible Results. These are outcomes the public expects, and they guide MoDOT decision-making. MoDOT uses

a range of performance measures to focus and encourage progress in achieving the seven Tangible Results. Through performance management efforts MoDOT has documented more than \$4.9 billion in one-time or on-going savings since 2007.

At MoDOT we are moving  
Missouri's CITIZENS  
VISITORS &  
PRODUCTS

**Safely.**





# Our Goals



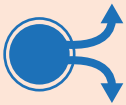
- Take care of the transportation system and services we enjoy today



- Keep all travelers safe, no matter the mode of transportation



- Invest in projects that spur economic growth and create jobs



- Give Missourians better transportation choices

NEW



- Improve reliability and reduce congestion on Missouri's transportation system











LONG RANGE PLAN UPDATE

# Stakeholder Engagement





The 2018 LRTP used a highly effective public engagement process that included input from stakeholders across the state. Stakeholder input helped confirm goals from the existing LRTP and add an additional goal for the plan update.

## Planning Partners Key to Success

MoDOT worked with planning partners representing metropolitan planning organizations (MPOs) and regional planning commissions (RPCs) to gather input from those organizations and from the public. Following an initial webinar with MPOs and RPCs, MoDOT encouraged its planning partners to ask stakeholders to participate in an online survey and share input on the LRTP. By reaching out through this planning partner network, MoDOT received far more responses to the survey than anticipated. This was an outstanding demonstration of the importance of partnering in planning efforts.





## Discussion Questions

- Based on what you have heard, what do you think are the key issues for public sector leaders?
- What happens if we do nothing?
- Who should be at the discussion?
- Are there other areas of concern?

2) What Happens If We Do Nothing

- Problems During Transition
- Compounded Dangers of Mixed Technology
- Impede Private Investment

Jeff Glenn  
Mercury Alliance

Pointer

Scott Marion  
Missouri Department of Transportation

Tom Crawford  
Missouri Trucking Association

David Wyman  
Missouri Department of Transportation

Paula Coug  
Missouri Department of Transportation





# Listening to Missourians

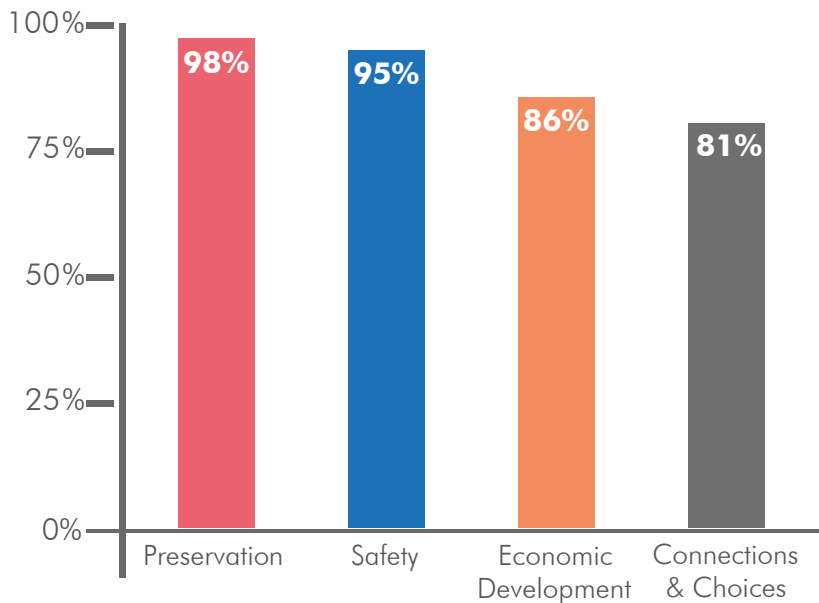
# 7,716

Stakeholders  
provided input

# 5,377

Comments received

The percentage of people who agreed each of the previous LRTP's goal areas should be a focus in the future.

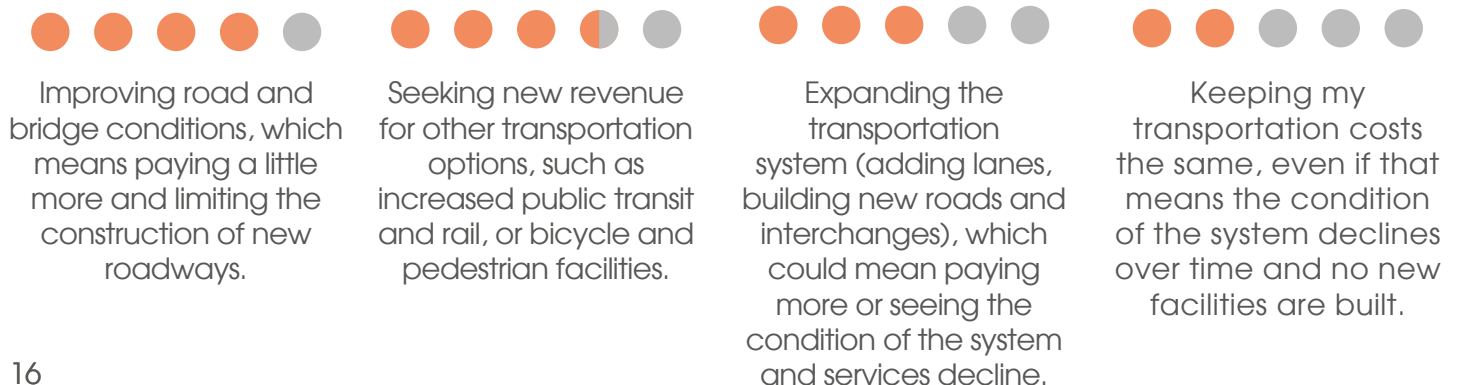


Participants were asked to rank their **top three** priority areas with the following results:

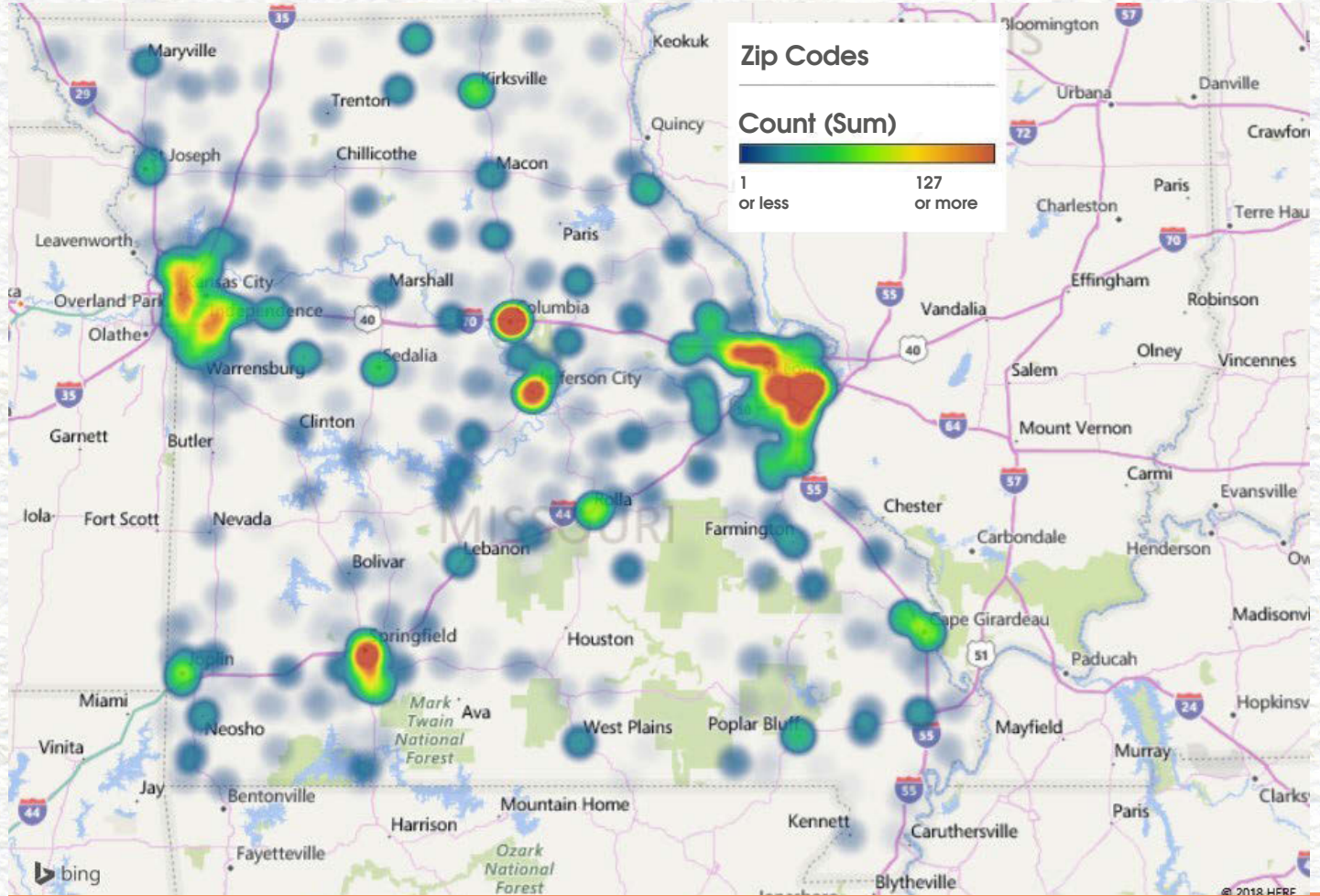
1. **Preserve the existing system**
2. **Congestion reduction**
3. **System reliability**
4. Sustainability
5. Advanced technology
6. Freight movement

Preserve the existing system is already an LRTP goal, which was confirmed during stakeholder engagement. Congestion and reliability ranked so highly, a fifth goal area - **improve reliability and reduce congestion on Missouri's transportation system** - is being added to the LRTP update.

Participants were asked to rank a variety of scenarios by what was most important to them. Here's how people rated each scenario.







*As this heat map demonstrates, Missourians who provided input were geographically balanced and mirrored the distribution of the State's population.*

## Social Media Extends Survey Reach

In addition to promoting the survey with planning partners, MoDOT utilized social media platforms to encourage Missourians to provide feedback on the LRTP update via the online survey. MoDOT received nearly 600 comments on its Facebook posts and more than 80 comments via Twitter.

## Online Survey Participation

MoDOT used an online survey to gather input about priorities for the future of Missouri's transportation system. The survey was open to stakeholders for one month and was available in both English and Spanish to all interested Missourians. Thanks to the support of MoDOT's planning partners, the survey had a response of more than 7,700 participants. Participants represented a wide variety of locations from across the state.

## Stakeholder Engagement Takeaways

During the survey, stakeholders indicated the four existing goals should be retained. Stakeholders also indicated support for adding a fifth goal – improve reliability and reduce congestion on Missouri's transportation system – to the plan update. In addition to goals, stakeholders were asked to rate their priorities.









LONG RANGE PLAN UPDATE

# Emerging and Continuing Trends









## Missouri's Trends

The LRTP is informed by a thorough analysis of emerging and existing transportation trends, both nationally and in Missouri. These trends have implications for long-range planning and have been factored in while confirming statewide transportation goals and objectives. The LRTP also includes an analysis of emerging technology – like autonomous and connected vehicle technology (sometimes called driverless cars) – and its potential impact.



Population is getting older



Cities are growing



More interest in modal choice



Emerging trends include an aging population, increasing urbanization, a younger population that isn't as interested in driving and advanced technology. These trends may combine in ways that significantly alter transportation needs. In addition, other trends likely to require evaluation of investment priorities include changing highway capacity needs, the expanding desire or need for a more robust multimodal transportation system, and the development of infrastructure required to sufficiently adapt to advancing technologies.

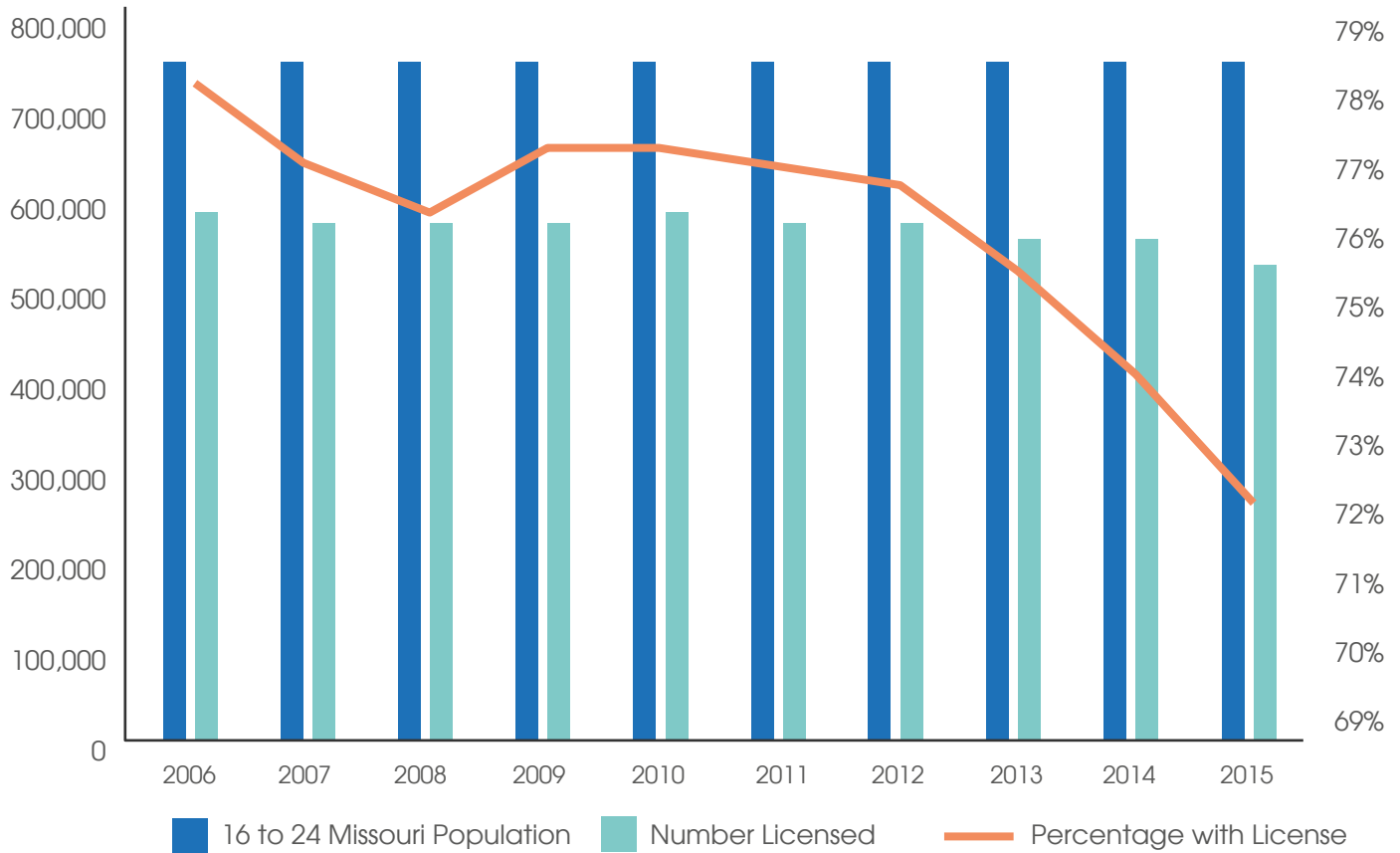
Continuing trends include an anticipated 55 percent growth in truck freight between 2011 and 2030, commuters overwhelmingly preferring to drive alone in private automobiles to and from work, and increasing vehicle miles traveled (VMT) as fuel prices remain at or near existing rates. These trends will continue to be the most significant influencing factors on the use of the transportation system. Additionally, trends that will continue to drive the evaluation of investment priorities in the near term include improving safety, expanding or adding new highways, addressing bottlenecks that tie up freight movement, and maintaining highway and bridge conditions.





# Missouri Transportation By the Numbers

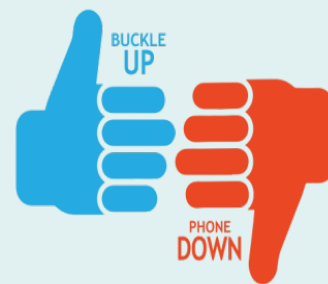
TRENDS: 16-24 YEAR OLD MISSOURI RESIDENTS WITH DRIVERS LICENSE







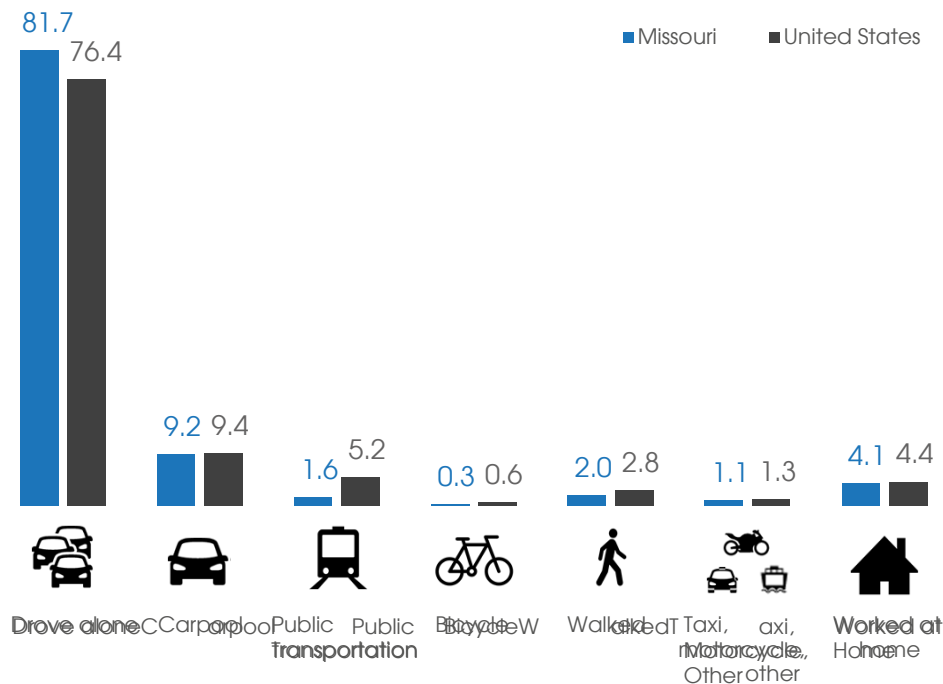
# Missouri Transportation Safety



- 25 percent reduction in fatalities from 2005-2016
- Trend has seen an increase in fatalities from 757 in 2013 to 947 in 2016
- MoDOT launched Buckle Up, Phone Down campaign in 2017
- MoDOT has challenged the public, schools, community leaders and business to take the challenge by signing a commitment to make Missouri roads safe

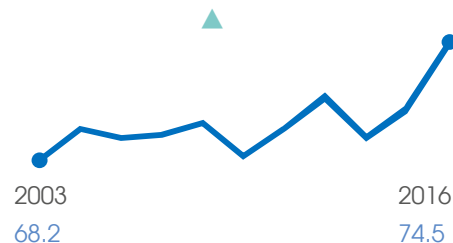
## HOW RESIDENTS GET TO WORK

Percentage of workers over age 16, 2013



## HIGHWAY TRAVEL

Billions of vehicle miles traveled, 2003-2016



## TRANSIT RIDERSHIP

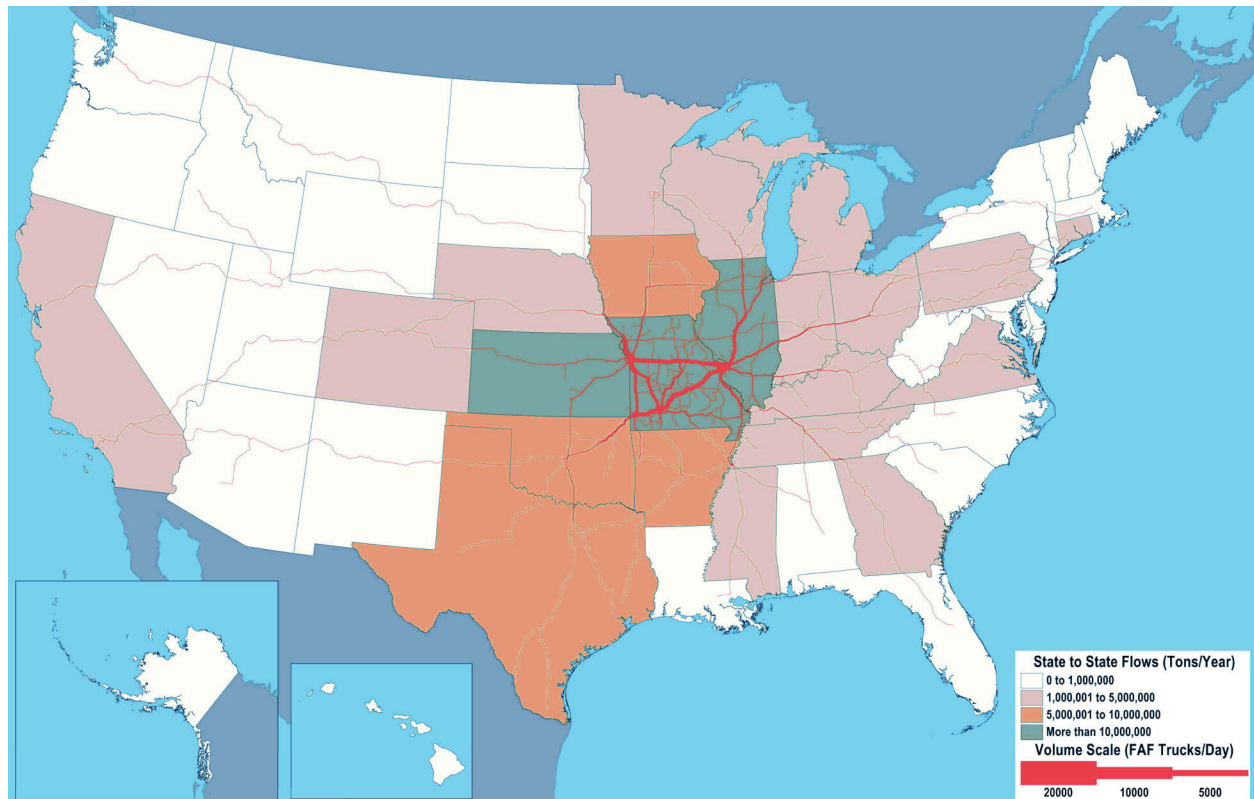


## AIR CARRIER ENPLANEMENTS





## MAJOR TRUCK FREIGHT FLOWS TO, FROM, AND WITHIN MISSOURI, 2012



### STATE GROSS DOMESTIC PRODUCT

**\$276.7b** ▲ 15.1%  
Current dollars, 2013 2003-2013

### VALUE OF FREIGHT FLOW

**\$496.8b** ▲ 7.3%  
Current dollars, 2013 2007-2013

### TONS OF FREIGHT FLOW

**585.3m** ▲ 3.0%  
2013 2007-2013

### TOP COMMODITIES SHIPPED FROM MISSOURI

By value moved in billions of current dollars, 2013

Motorized vehicles	\$24.5
Pharmaceuticals	\$15.3
Misc. mfg. prods.	\$12.0
Machinery	\$11.2
Chemical prods.	\$10.1

By weight moved in millions of tons, 2013

Cereal grains	27.4
Gravel	22.9
Waste/scrap	12.8
Nonmetal min. prods.	10.2
Other ag prods.	8.3

### TOP COMMODITIES SHIPPED TO MISSOURI

By value moved in billions of current dollars, 2013

Motorized vehicles	\$22.5
Pharmaceuticals	\$18.9
Electronics	\$13.4
Machinery	\$12.7
Base metals	\$12.0

By weight moved in millions of tons, 2013

Coal	43.6
Natural sands	12.1
Coal-n.e.c.	10.7
Cereal grains	10.5
Base metals	5.8

### TOP COMMODITIES SHIPPED WITHIN MISSOURI

By value moved in billions of current dollars, 2013

Machinery	\$17.0
Motorized vehicles	\$11.2
Pharmaceuticals	\$9.0
Mixed freight	\$8.3
Other foodstuffs	\$5.5

By weight moved in millions of tons, 2013

Gravel	70.2
Cereal grains	40.0
Nonmetal min. prods.	32.1
Natural sands	24.4
Waste/scrap	23.2



## Emerging Technologies

Autonomous and connected vehicle technologies promise many changes in how we move people and goods throughout the nation. Transformational changes appear likely in most areas of transportation, including the development of infrastructure capable of handling new technology, land use, traffic volumes, safety, vehicle ownership, operations, maintenance, data sharing and funding.

To begin to prepare for changing technology, MoDOT analyzed both national trends and internal state efforts currently in place. It is important Missouri considers these technologies and how they may impact investments in things like new highways, shoulders and equipment.

- J.D. Power's 2017 study found 43 percent of millennial and post-millennial consumers were supportive of full self-driving vehicles, compared to only seven percent of baby boomers
- An Insurance Information Institute Pulse survey conducted in May 2016 found 55 percent of consumers said they would not ride in an autonomous vehicle
- According to the Alliance of Automobile Manufacturers, in 2015, Missouri's average vehicle age was 11.9 years, about six percent higher than the national average
- Some projections indicate 35 percent of light-duty car sales worldwide will be non-gasoline vehicles by 2040
- Nationwide in 2016, there were 567,000 all-electric vehicles on the road, with annual sales projected to reach 1.2 million by 2025

### Perceived Benefits of Driverless Cars:

- Easier/less stressful transportation
- Increased road safety
- Lower insurance costs

*Source: Insurance Journal  
October 3, 2017*













LONG RANGE PLAN UPDATE

# System Needs and Revenue





## Needs and Revenues

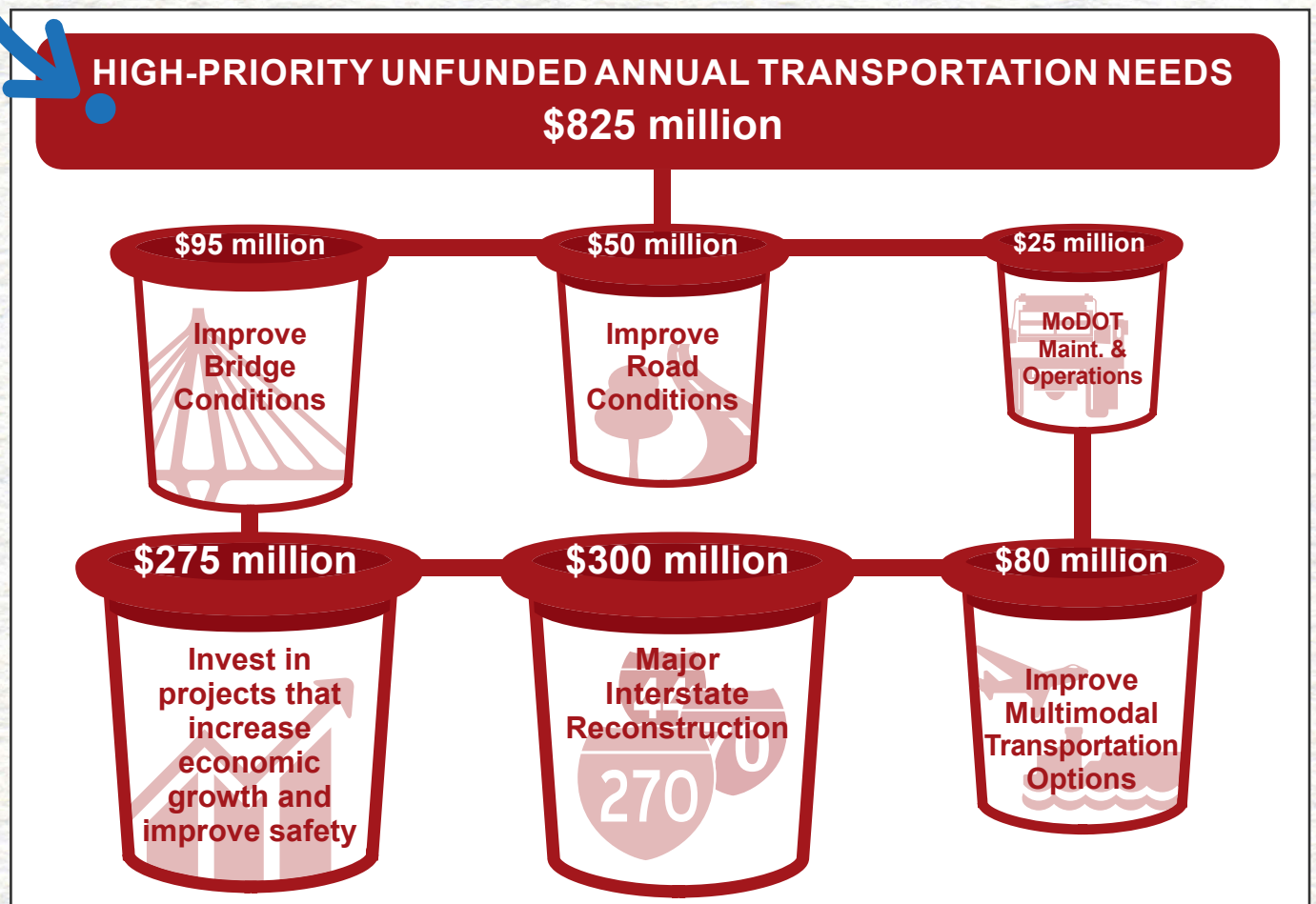
The Citizen's Guide to Transportation Funding takes the complex issues of the state's transportation revenue, expenditures, system condition and unfunded needs and explains them in clear and easy-to-understand terms.



MoDOT is responsible for maintaining a network of 33,856 miles of highway and 10,403 bridges. In addition, the state has responsibilities for non-highway modes of transportation including transit, aviation, railroads, bicycle and pedestrian and waterways. The state does not own most multimodal facilities, but instead primarily administers the funding and provides oversight for multimodal investments.

Nearly two-thirds of the state's transportation funding comes from state user fees and one-third from federal revenue. A small fraction comes from Missouri's General Revenue Fund, which receives revenue from the state's income tax and general sales tax.

Given the current funding resources, most of the revenue will address maintaining and preserving the existing system in the current condition. Many high-priority unfunded annual needs still exist, as summarized in the graphic below.







## Our Thanks

Boonslick Regional Planning Commission

Bootheel Regional Planning & Economic Development Commission

Capital Area Metropolitan Planning Organization

Columbia Area Transportation Study Organization

East West Gateway Council of Governments

Green Hills Regional Planning Commission

Harry S. Truman Coordinating Council

Joplin Area Transportation Study Organization

Kaysinger Basin Regional Planning Commission

Lake of the Ozarks Council of Local Governments

Mark Twain Regional Council of Governments

Meramec Regional Planning Commission

Mid America Regional Council

Mid-Missouri Regional Planning Commission

Mo-Kan Regional Council

Northeast Missouri Regional Planning Commission

Northwest Arkansas Regional Planning Commission

Northwest Missouri Regional Council of Governments

Ozark Foothills Regional Planning Commission

Ozarks Transportation Organization

Pioneer Trails Regional Planning Commission

St. Joseph Area Transportation Study Organization

South Central Ozark Council of Governments

Southeast Metropolitan Planning Organization

Southeast Missouri Regional Planning and Economic Development Commission

Southwest Missouri Council of Governments



