2026 Long-Range Transportation Plan

Approved by Missouri Highways and Transportation Commission (MHTC)

June 3, 2026

Source: MoDOT

Contents

Chapter 1: Public and Stakeholder Outreach


Source: MoDOT

Stakeholder input is critical to the success of both the Long-Range Transportation Plan (LRTP) and State Freight and Rail Plan (SFRP). The Missouri Department of Transportation (MoDOT) is committed to meaningful engagement throughout the outreach process, giving Missourians the opportunity to help shape future transportation decisions.

Stakeholder engagement for the LRTP and SFRP took place simultaneously, aligning with the key milestones for the development of both plans. This coordinated approach supports compliance with the state's public involvement procedures and Federal Highway Administration (FHWA) regulations under 23 CFR 450.210. To maximize efficiency and leverage resources, the stakeholder engagement established a comprehensive communications framework that includes:

Strategic Touchpoints

These were set at key milestones for feedback from stakeholders. Each touchpoint provided a meaningful chance to influence the direction of both plans.

Specific Key Outreach Activities

These activities were designed to match each stage of both plans, making sure engagement fit the stage of the project.

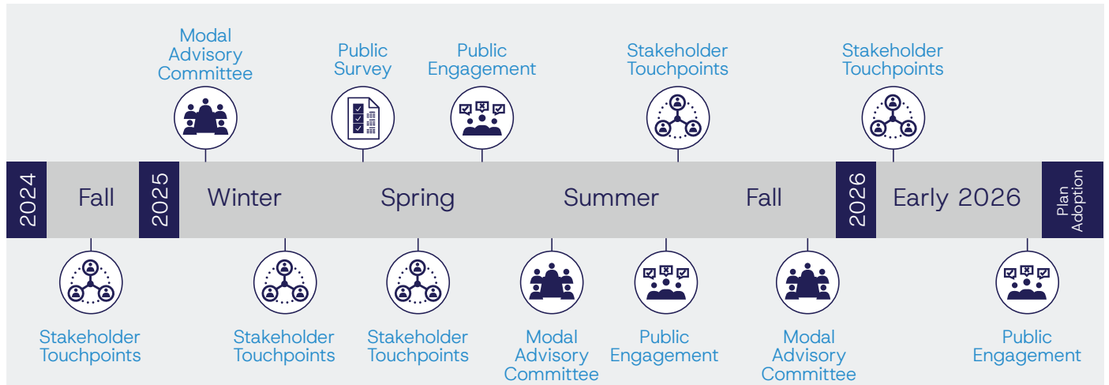
Continuous Adaptation

The engagement approach stayed flexible, using new methods and technologies as the outreach plan moved forward to improve outreach and better capture community input.

Broaden Outreach

Data was collected and reviewed to support broad, inclusive outreach, with a focus on geographic balance.

LRTP Public Involvement Overview



LRTP Public Involvement Activities

Agency Coordination

Agency coordination played an important role in developing MoDOT's LRTP and SFRP, helping transportation strategies reflect a range of expertise and align with state and federal priorities. The Study Team initiated the process by providing an overview of the LRTP update and inviting both FHWA and FTA to participate in the MAC. This proactive involvement enabled the agencies to offer technical guidance and highlight potential issues early, thereby strengthening the plan's quality, credibility and federal compliance.

Stakeholder Engagement

The Study Team worked closely with a wide range of stakeholders through strong agency coordination and collaboration. This approach helped bring key perspectives into the study at every stage. During this process, the Study Team engaged with:

- **Director's Advisory Committee**
- **Metropolitan Planning Organizations (MPOs)**
- **Regional Planning Commissions (RPCs)**
- **Missouri Department of Transportation (MoDOT) Districts**
- **High-Priority Unfunded Needs (HPUN) Meetings**
- **Modal Advisory Committee (MAC):** Consisted of a large group of stakeholders that represented all transportation modes
  - **Executive MAC:** A subset of the MAC that offered targeted input on LRTP components

Director's Advisory Committee Meetings

The Study Team presented and/or provided project updates during MoDOT's Director's Advisory Committee meetings. Details of the information presented at these meetings are as follows:

1 May 28, 2025

- Provide relevant project updates for both LRTP and SFRP
- Update on the project components and schedule
- Present an overview of the draft goals
- Summarize the gathered feedback from freight outreach

2 Oct. 29, 2025

- Provide updates on the following project items:
  - Number of public survey responses
  - Virtual Public Information Meeting (VPIM) and State Fair overview
  - High-level MAC meetings summary
  - Scenario planning overview
  - SFRP-specific updates
  - Public comment period

Metropolitan Planning Organization and Regional Planning Commission Coordination

The Study Team provided project updates to Missouri's MPOs and RPCs during various in-person and virtual meetings. This included attending two coordination meetings with the Missouri Association of Councils of Governments (MACOG), a statewide association that includes Missouri's 16 RPC's. The Study Team also attended the MoDOT Statewide Planning Partners Meeting, an annual event hosted by MoDOT for its MPO's, RPC's and other transportation industry partners. MoDOT also hosts monthly virtual calls with its MPOs and RPCs. Details of each of these meetings are as follows:

1 Oct. 29, 2024

MACOG Meeting – Introductions and present an overview of the LRTP and SFRP

- Outline the public and stakeholder outreach framework
- Review next steps in the planning process
- Discuss regional challenges:
  - Roadway expansion and funding
  - Multimodal and access issues
  - Economic development and planning
- Discuss regional opportunities:
  - Planning grants and land use
  - Quality of place and recreational opportunities
  - Economic development through trails and ports

2 Feb. 27, 2025

Statewide Planning Partner Meeting - Present on draft goals and gather input including:

- Tech-driven change and funding/ workforce challenges
- Multimodal investment, technology and maintenance focus
- Goals aligned but limited by funding and workforce constraints

3 Oct. 7, 2025

MACOG Meeting – Review of the scenario planning process and selected scenarios

- Highlight feedback on multimodal investments, grant strategies and coordination with the United States (U.S.) Economic Development Administration (EDA), including support for freight, safety and infrastructure
- Discuss future planning scenarios

Ongoing

- Provide project updates through monthly MoDOT Planning Partners calls

1 Feb. 11, 2026

- Meramec RPC Technical Advisory Committee

2 Feb. 19, 2026

- Statewide Planning Partner Meeting

3 March 3, 2026

- Meramec RPC Multimodal Technical Advisory Committee

4 March 4, 2026

- Mid-Missouri RPC Technical Advisory Committee

District Meetings

To better understand the specific needs of MoDOT's districts, the Study Team held two district outreach meetings. Both sessions focused on collaborating with district staff to help shape future transportation priorities. A total of 70 participants attended, including district engineers, planners and specialists from all seven MoDOT districts. The first district meeting was held on July 21, 2025 and the second on July 31, 2025.

Identify top themes: aging infrastructure, safety and growing multimodal needs

Prioritize asset management and system preservation

Recognize that safety and preservation outrank capacity expansion

Call for full interstate and bridge reconstruction in many districts

Focus safety efforts on pedestrians, bicyclists and rail crossings

Address the need for sustained funding and corridor-wide safety upgrades

Acknowledge ongoing challenges, including congestion and unfinished corridors

Resolve freight bottlenecks and truck parking shortages

Consider transit access needs, including urban expansion and rural service limitations

Assess resiliency risks, such as flooding and low-water crossings

High-Priority Unfunded Needs Meetings

During a series of public meetings regarding Missouri's HPUN, presenters provided a short update on the project. A total of ten meetings were held covering each of the seven MoDOT Districts. Details of the information presented at these meetings are as follows:

1-10 Aug. 5 – Aug. 28, 2025

- Present the plan's draft goals and objectives
- Provide general description of an LRTP
- Explain the connection between the LRTP and HPUN

Source: MoDOT

Modal Advisory Committee Meetings

The MAC was established to support the development of the LRTP. The committee comprised 32 representatives from major transportation modes and related sectors, including trucking, aviation, waterways, freight and passenger rail, transit, bicycle and pedestrian interests, planning partners, FHWA and economic development organizations. A list of the MAC members is provided in **Appendix A**. Details of each MAC meeting are as follows:

The MAC was convened to provide modal perspectives, needs and priorities to be incorporated throughout the planning process.

1 July 7, 2025

- Focus on existing conditions
- Draft LRTP goals and objectives
- Overview of freight cargo flows and bottleneck
- Summary of stakeholder input from earlier outreach efforts

2 Aug. 5, 2025

- Review updated goals and objectives
- VPIM 1 feedback
- District meeting themes
- Identification of transportation needs
- Overview of upcoming outreach activities

3 Oct. 16, 2025

- Summary of the Second Executive MAC Meeting
- Feedback from the Missouri State Fair on the LRTP goals and objectives
- Summary of modal group meetings
- Input from the HPUN meetings
- Introduction to scenario planning, including investment policies and strategies for the next phase

4 Nov. 21, 2025

- Develop policy levers for selected scenarios to guide the scenario planning process

5 Feb. 2, 2026

- Overview of the content that will be presented during VPIM 2

Executive Modal Advisory Committee Meetings

An Executive MAC was also formed, consisting of approximately 18 members. The Executive MAC is a smaller subset of the larger MAC with one representative from each transportation mode. The Executive MAC offered more focused input on the HPUN list, scenario planning and investment strategies. A list of the Executive MAC members is provided in **Appendix A**. The Executive MAC met three times throughout the study; details of each meeting are as follows:

1 May 29, 2025

Provided an overview of the LRTP and SFRP, along with the draft LRTP goals.

2 Oct. 15, 2025

Reviewed MoDOT's HPUN needs, the scenario planning process and feedback from the MACOG meeting on the scenarios.

3 Nov. 13, 2025

Focused on the final scenarios, investment funding and associated policies.

Source: MoDOT

Public Engagement

In addition to targeted stakeholder engagement, the Study Team actively gathered input from the public through a variety of outreach methods, including pop-up events, VPIMs and surveys. These efforts helped capture the priorities and needs of Missourians, making sure their voices were reflected in the vision for Missouri's transportation system.

Pop-Up Events

To engage the public, the study team hosted a pop-up booth at the Missouri State Fair held Aug. 7-17, 2025 in Sedalia, Missouri to introduce the LRTP and SFRP, share information about Missouri's transportation system and gather input to help guide plan development. Volunteers were available to answer questions, explain the goals and objectives of the LRTP and encourage participation through information boards, fact sheets, promotional items, comment cards and a public survey.

17 Comment cards were received

321 Survey responses were received

- **Survey results showed strong support for:**
  - Improved safety
  - Maintaining existing infrastructure
  - Better community connections
  - Long-term funding
- **Comment cards highlighted interest in:**
  - Public transit expansion
  - Passenger rail expansion
  - Improved roadway conditions
  - Pedestrian and cyclist safety

Source: CDM Smith

Virtual Public Information Meetings

The Study Team hosted two VPIMs, which recreated the experience of in-person public meetings, to gather input on transportation priorities for the LRTP and SFRP. During the VPIMs, participants could explore virtual stations, answer optional questions and submit digital feedback. Both meetings were held on CDM Smith's Gather 360-degree virtual platform, were accessible through the project website and provided materials in English and Spanish. The VPIMs introduced updates to the LRTP and SFRP, shared existing conditions and draft plans and gathered community feedback to help guide Missouri's transportation planning over the next 25 years. Details for the two VPIMs are as follows:

1 Open from June 2 – 30, 2025

1,179 Website visits

89 Optional sign-ins

- **Outreach methods: email blasts (E-blasts) to over 393 stakeholders, newspaper ads (six publications) and Facebook and Instagram posts**
- **Eight topic stations: goals, system overview, trends, performance, technology, freight and rail, study schedule and public comments**
- **Public comment summary:**
  - Top priorities include safety, accessibility, multimodal travel and maintaining roads and bridges or assets
  - Concerns include aging infrastructure, limited transit and congestion
  - Preference for maintaining and modernizing roads, bridges and transit over highway expansion
  - Support for expanded transit, passenger rail, bike lanes and sidewalks
  - Freight and rail priorities include better passenger service, safer crossings and reliable deliveries
  - Cautious adoption of new technologies
  - Overall call for sustainable, connected and resilient transportation investments across Missouri

2 Open from Mar. 3 – Apr. 4, 2026

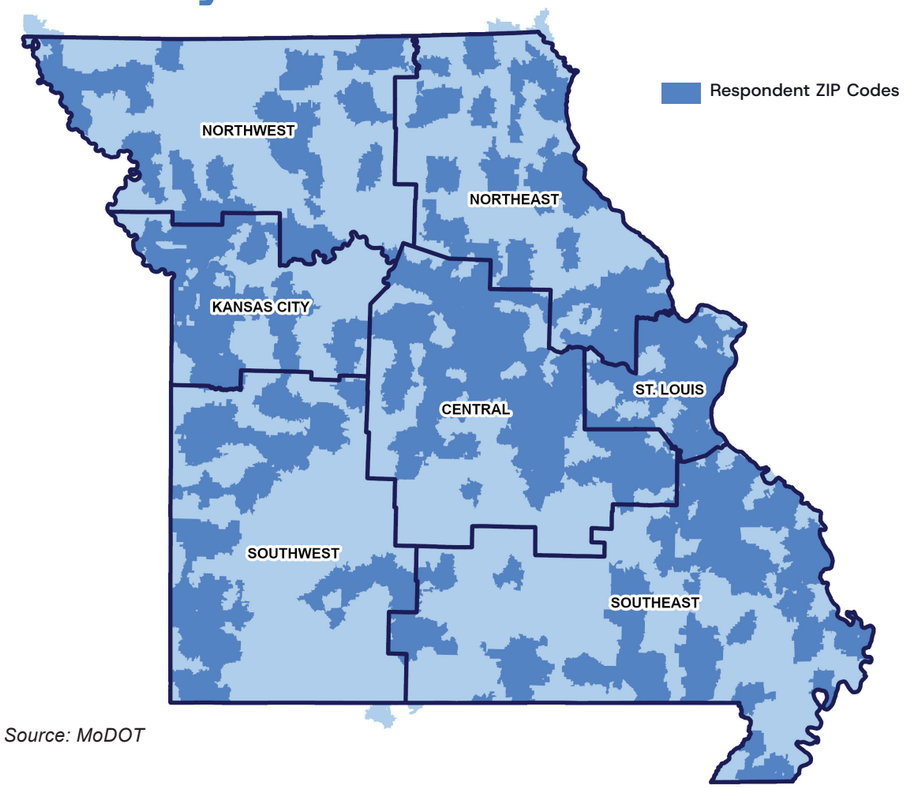
1,416 Website visits

32 Optional sign-ins

- **Outreach methods: E-blasts to 495 stakeholders and Facebook and Instagram posts**
- **Seven stations for the draft LRTP and five stations for the draft SFRP.**
- **Public comment summary:**
  - Advancing corridor-specific transportation improvements
  - Increasing frequency of Amtrak Missouri River Runner service
  - Opposing increases to interstate speed limits
  - Prohibiting trucks in the third lane on I-70
  - Supporting the Statewide Active Transportation Plan
  - Opposing elimination of the income tax
  - Establishing a centralized repository for active transportation plans and resources

Source: CDM Smith

Respondent Distribution Across Missouri for All Surveys Conducted



Source: MoDOT

Surveys

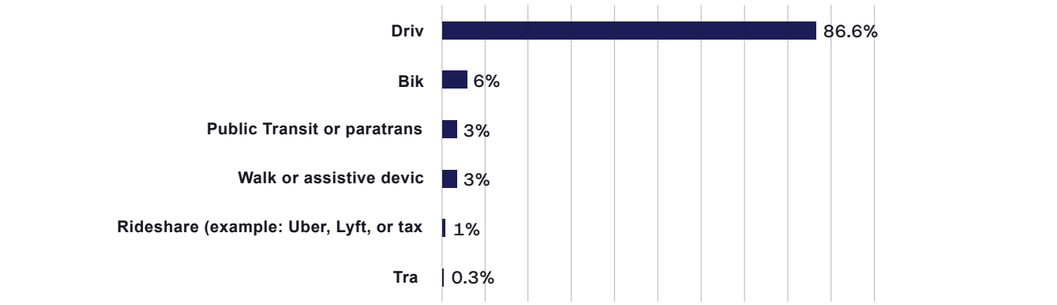
Two surveys were conducted to gather public input during the planning process. Details for each of the surveys are as follows:

1 Mar. 13 – Apr. 25, 2025:

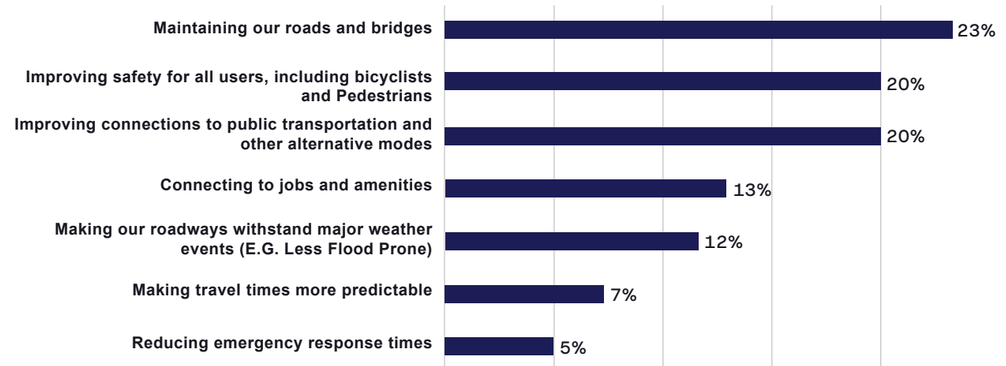
- Survey topics:
  - Regional transportation priorities
  - Local issues and needs
  - Modes used and commute patterns
  - Desired future improvements

2,000+ Survey responses collected

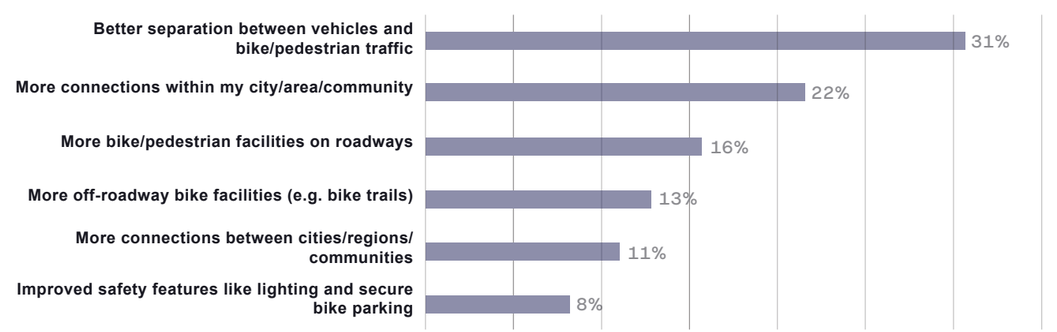
- Survey Questions:
  - What form of transportation do you use most frequently?



  - Choose the top 3 transportation system improvements you would like to see.



  - Which bike/pedestrian improvements are most important to you? (select up to two)



- What are the three most significant transportation issues affecting your region?

Response	Percent
Road And Bridge Maintenance	22%
Access To Transportation Options	20%
Safety	19%
Traffic Congestion	14%
Population And Employment Growth	10%
Other	5%
Emergency Preparedness	4%
New Technology Advancements	4%
Delivery Of Packages And Other Goods	3%
Total	**100%**

- Survey response results:
  - Top priorities include road and bridge maintenance and safety and access to travel options
  - Driving remains the dominant mode
  - Transit viewed as limited in coverage and reliability
  - Key choice factors are availability, reliability, accessibility and location
  - Most commutes are moderate or not applicable
  - Strong support for bike and pedestrian improvements
  - Focus on infrastructure upkeep, safety and dependable travel
  - Less emphasis on transit expansion or long distance travel

2 Aug. 7 – 17, 2025:

300+ Survey responses collected

- Survey topics:
  - Suggested changes to LRTP goals
  - Local transportation priorities
  - System needs and improvement preferences
  - Themes of funding, equity and accountability
- Survey response results:
  - General support for LRTP goals
  - Top priorities include safety, road and bridge maintenance and improving multimodal community connectivity
  - Support for optimizing and funding the existing system over large scale expansion and clear, practical, fiscally responsible funding strategies
  - Balanced feedback between multimodal/environmental priorities and traditional infrastructure focus
  - Consistent emphasis on vulnerable road user safety (VRU), people-focused design and efficient maintenance
  - Cautious sentiment toward connected and automated vehicle technology
  - Desire for system preservation alongside modernization

SFRP Public Involvement Activities

While the LRTP addresses broad statewide transportation goals and multimodal needs, the SFRP focuses specifically on freight and rail priorities. Stakeholder engagement was central to the SFRP's development, following a collaborative approach that drew on industry experts, modal advisory committees and public feedback. This process supported coordination with the LRTP and alignment with Missouri's long-term transportation vision, while providing targeted insights to assess infrastructure needs and guide responsive recommendations. Stakeholders engaged in the SFRP included representatives from trucking, rail, waterways and aviation sectors. For more detailed information on SFRP outreach, refer to **Appendix F** of the SFRP.

Trucking

Feedback from the trucking industry was collected through a series of meetings and a survey. Additional information on the truck parking activities can be found in the **SFRP 4.02 Truck Parking Technical Memorandum**.

Through these discussions, truck parking consistently emerged as a key concern, shaping priorities during the early stages of the plan's development.

Truck Driver Survey for Missouri Truck Parking Study (March 2025)

A survey was conducted from March 3-16, 2025 with 84 respondents which revealed the following:

- Statewide need for more truck parking
- 70% spent over 30 minutes searching for parking
- Frustration with paid third-party parking and capacity limits
- Desire for early notification of parking availability
- Priority amenities: restrooms and lighting

In-Person Engagement (Summer 2025)

In-person industry engagement was conducted to supplement and validate survey data. Multiple meetings were held and a total of 37 participants were engaged throughout all efforts; the findings for each are as follows:

Trucking Roundtable: This meeting was held on July 11, 2025 via an online meeting. It included eight attendees, five of whom represented the trucking sector. Four of those five participants are active, long-term, long-haul truck drivers. This meeting validated the survey findings, with participants emphasizing:

- The need for additional truck parking over enhanced amenities
- Frustration with limited parking availability near industrial areas and distribution centers
- Concerns related to third-party parking options

Truck Modal Meetings: The meeting was held on June 16, 2025 via an online meeting. It included 16 attendees, seven of whom represented the trucking sector, all at the management level. This meeting further reinforced feedback, highlighting the importance of early coordination with industry stakeholders, with participants emphasizing:

- Concerns about the shortage of safe and convenient truck parking
- Evolving driver expectations
- Global trade distribution
- Emerging technologies

Missouri Trucking Association Safety Council Meeting: The in-person meeting was held on July 17, 2025. It included approximately 20 attendees, the majority of whom were safety officers at motor carrier companies based in or operating terminals in Missouri. The discussions addressed parking amenities such as lighting and restrooms. When presented with trade-offs, the group unanimously prioritized increasing the number of parking spaces over amenity improvements.

One-On-One Discussions With Law Enforcement: The interviews were conducted in mid-Oct. 2025 via telephone and indicated that truck parking along I-70 generates relatively few service requests and presents a low concern for cargo theft.

Source: MoDOT

Rail

Rail engagement included outreach to Class I railroads, short line railroads, passenger rail representatives and rail-focused advisory groups through virtual meetings. The meetings focused on gathering feedback from each Class I railroad individually on rail trends and outlook and rail priorities.

Grade crossing safety, infrastructure constraints and the value of early and ongoing coordination with MoDOT were consistently identified as key issues across the rail network.

Class I Railroads (Aug. 27 2025 – Sept. 5, 2025)

This engagement included:

- Burlington Northern Santa Fe Railway (BNSF)
- Canadian Pacific Kansas City (CPKC)
- Norfolk Southern (NS)
- Union Pacific Railroad (UP)

This engagement emphasized the need for:

- Improved grade crossing safety
- Closures and grade separations to provide the largest safety benefits
- Advanced technologies to address safety and infrastructure challenges
- Early coordination with MoDOT

Participants also identified infrastructure limitations creating operational bottlenecks including:

- Bridge clearance restrictions
- Drainage issues
- Capacity constraints
- Substandard interchanges

Short Line Railroads (Sept. 3, 2025 and Sept. 8, 2025)

This engagement identified priorities that differed from those of Class I carriers, focusing on:

- Grade crossing maintenance
- Aging infrastructure
- Rising costs associated with signal and track improvements
- Capacity constraint
- Operational inefficiencies
- Competition from other transportation modes
- Need for sustainable funding
- Continued coordination with MoDOT

Passenger Rail

The engagement was conducted through the Missouri Rail Passenger Advisory Committee (MORPAC) meetings from Dec. 2024 to Dec. 2025. An Amtrak station manager survey was distributed and remained open from Dec. 2024 to March 2025. The meetings and survey focused on:

- Platform improvements
- Service frequency, on-time performance
- First- and last-mile connectivity
- Fare affordability

Waterways

Waterways stakeholders were engaged through coordination with the Missouri Port Authorities Association (MPAA), modal meetings and the development of port-specific outreach materials. Waterways stakeholders emphasized the critical but often underrepresented role of waterborne freight in Missouri's transportation system and the need for its impacts to be clearly reflected in the SFRP.

The Study Team participated in two MPAA meetings in 2025 with port directors representing nearly all public port authorities in Missouri, which included:

1 June 26, 2025

Introduced the SFRP and outlined upcoming engagement efforts

2 July 2, 2025

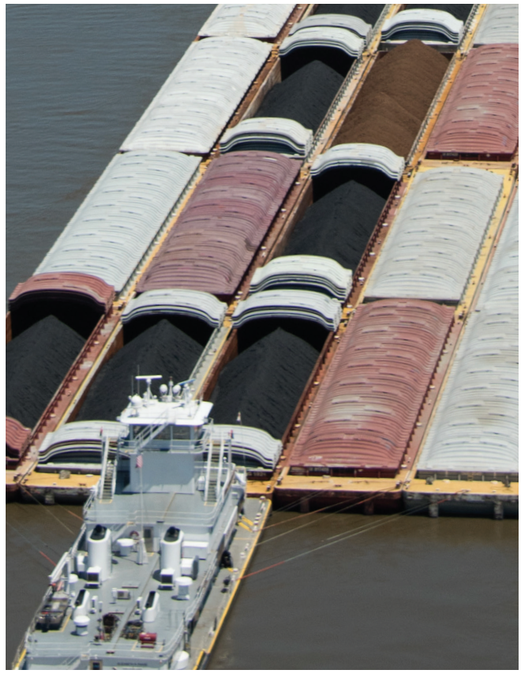
Shared preliminary findings from the Missouri Public Ports Economic Impacts Study and held during MPAA's annual summer meeting in Kansas City.

Participants at both meetings provided feedback including:

- How to represent port activity and economic impact in the SFRP
- Preference for highlighting total economic output, not added value alone

Key concerns raised included:

- Aging lock and dam infrastructure on the Upper Mississippi River
- Environmental impacts on port operations and system reliability including flooding and drought



Aviation

1 June 23, 2025

The Study Team conducted one-on-one meetings with aviation stakeholders such as St. Louis Lambert International Airport (STL), Kansas City International Airport (MCI) and Springfield Branson Airport (SGF). The aviation stakeholders highlighted the following:

- Aviation cargo demand strongly tied to growth in manufacturing and distribution centers
- Tonnage and cargo value identified as key metrics for SFRP aviation freight
- Federal Aviation Administration (FAA) funding requirements and limited state funding constrain facility improvements
- Major automation and AI impacts not expected in Missouri aviation in the near term
- Physical roles like cargo offloading largely protected from automation

Freight Attractors and Generators

1 April 2025

The Study Team conducted one-on-one discussions with statewide freight-attraction organizations. Details of these discussions are as follows:

- Freight attraction organizations engaged: St. Louis Freightway, Kansas City SmartPort (KC SmartPort), Missouri Department of Economic Development (MO DED) and Missouri Partnership
- Discussion focuses on targeted industries, regional strengths and challenges, multimodal connectivity, workforce needs and transportation system performance

Key Themes:

- Automation is occurring primarily within manufacturing facilities rather than in freight transportation
- Congestion levels are relatively low across the state
- Intermodal access is essential to support new businesses and maintain efficient freight movement

Chapter 2: Existing System Trends and Conditions

Source: MoDOT

Missouri's transportation system is the backbone of the state's economy and quality of life. It connects people to essential needs such as jobs, schools, healthcare and community services while enabling businesses to access suppliers, reach customers and support economic growth. The system also plays a key role in tourism, helping visitors travel safely and efficiently across the state of Missouri.

To make sure this vast network continues to meet current and future demands, the Missouri Department of Transportation (MoDOT) examines trends, conditions and emerging challenges across all modes of transportation, using a broad set of resources, studies, reports and planning data. This chapter provides a comprehensive picture of the state's transportation assets, their condition and the pressures that shape them.

The state's system is multimodal and interconnected, encompassing highways, bridges, public transit, railroads, airports, waterways, bicycle and pedestrian routes and freight infrastructure. Each mode contributes uniquely to the overall system and each must be considered as part of one integrated network that sustains the state's mobility and competitiveness. For example, highways and major bridges support the bulk of passenger and freight movement, while rail, ports and air cargo enhance the state's role as a national logistics hub. Meanwhile, transit, bicycle and pedestrian networks provide connections for those without access to personal vehicles, supporting equitable mobility.

This chapter highlights both progress and persistent challenges. The state's extensive highway network remains central to mobility but requires continued investment to maintain safety and reliability. Bridge conditions are improving, yet aging infrastructure presents ongoing concerns. Public transit has faced declining ridership, exacerbated by the COVID-19 pandemic, though recovery is underway. Freight volumes continue to grow, reinforcing the state's importance as a connector for national and global commerce. Aviation, waterways and active transportation systems also present opportunities for growth and modernization.

By examining system performance, emerging trends and long-term risks, this chapter lays the foundation for informed decision-making. It provides a clear understanding of the state's transportation needs and priorities, offering guidance for future investments that will sustain mobility, enhance safety and strengthen the economy. Together, these insights help the state's transportation system remain resilient, adaptable and capable of supporting a more connected future.

Multimodal Transportation System Overview

The state's transportation system includes a vast multimodal network of roads, bridges, buses, airports, railroads, waterways, ports, bicycle routes and pedestrian paths. A numerical snapshot highlighting the key components of the state's multimodal transportation system is shown in **Figure 1**.[1]

Figure 1 – Missouri's Transportation System

40.1 Million
Average Annual Transit Trip between 2019 and 2023

23.5 Minutes
Average Commute Time

120
Public-Use Airports

4
Amtrak Routes

33,814
State-Maintained Centerline Miles

18
Interstates

2
Navigable Rivers

21
Freight Railroads

13
Amtrak Stations

10,427
State-Maintained Bridges and Culverts

600+
Miles of Bike Trails

19
River Ports

1,050
Navigable River Miles

Source: MoDOT, Fast Facts.

This system provides the necessary infrastructure to support an economy for the state of Missouri that maintains and attracts investments and supports quality of life by safely and reliably connecting people with family, jobs and services, businesses with suppliers and customers, students with schools and visitors with their destinations. For that reason, each transportation mode in the state cannot be thought of as an individual transportation system. Instead, each component, whether road, rail, waterway, port, airport, bus or sidewalk, must be considered part of one large and interconnected network. **Figure 2** shows key components of the state's multimodal transportation network.

[1]MoDOT, "Fast Facts," accessed June 5, 2025, https://www.modot.org/fast-facts.

Figure 2 – Missouri's Multimodal Transportation Network

Source: MoDOT.

Highway System

The state of Missouri has the seventh largest state highway system in the United States (U.S.), totaling 33,814 centerline miles. Each day, 80.8 million miles are driven and 1.7 million tons of freight are hauled on this system.[2&3] The state's highway network includes interstates, major routes, minor routes and low-volume routes. Interstates and major routes include approximately 5,560 miles or 16% of the 33,814 miles of highway in the state, but account for 77% of the travel. The state's minor routes make up the largest group of state highways, accounting for 17,903 miles or 53% of the state system miles and approximately 22% of travel occurs on these routes. The final tier of the state highways is the low-volume routes, each of which carry less than 400 vehicles per day and serve local transportation needs. The low-volume routes total 10,351 miles accounting for 31% of the state system. Travel on these routes is approximately 1% of all state highway travel.[4] The state's highway travel by route type is given below in **Table 1**.

Source: MoDOT

Table 1 – Missouri's Highway Travel by Route Type

Description	Major Highways	Minor Highways	Low Volume Roads
Missouri System Miles	16%	53%	31%
Where Travel Takes Place	77%	22%	1%

Source: MoDOT.

[2]Federal Highway Administration (FHWA), "Table VM-2 – Highway Statistics 2023," accessed June 20, 2025, https://www.fhwa.dot.gov/policyinformation/statistics/2023/vm2.cfm

[3]Transearch, 2023.

[4]MoDOT, "Fast Facts," accessed June 5, 2025, https://www.modot.org/fast-facts.

Major Highways

The state's major highways, such as I-70, I-44, I-55, U.S. 50, U.S. 60 and U.S. 63, encompass just 16% of the state highway miles but carry 77% of the system's traffic. Many of the busy routes in urban areas, particularly where vehicles travel between business districts and residential areas, also are classified as major highways. Since 2021, major highways in good condition decreased from 90% to 89%.[5] **Figure 3** below shows the network of the state's major highways.

Figure 3 – Missouri's Major Highways

Source: HG Consult Inc. Analysis of MoDOT, Major Highways Dataset, 2025.

[5]MoDOT, "Tracker" "Condition of State Highways - 5c," accessed June 5, 2025, https://www.modot.org/condition-state-highways-5c.

Minor Highways

The state's minor highways primarily serve local transportation needs. Examples include MO 17, MO 42, BU 54 and Rt. C. The state's minor highways account for 17,903 miles of the total state system and are the largest group of state highways, accounting for approximately 22% of statewide travel. The minor highways serve as a vital link to the agricultural industry throughout the state. In 2024, 83% of minor highways were in good condition and thus 17% of minor highways were in poor condition. Since 2021, minor highways in good condition increased from 80% to 83%.[6] **Figure 4** below highlights the state's minor highway network.

Figure 4 – Missouri's Minor Highways

Source: HG Consult Inc. Analysis of MoDOT, Minor Highways Dataset, 2025.

[6]MoDOT, "Condition of State Highways - 5c," accessed June 5, 2025, https://www.modot.org/condition-state-highways-5c.

Low-Volume Routes

The state's low-volume routes carry less than 400 vehicles per day and primarily serves local transportation needs and consist mostly of lettered routes. The low-volume routes total 10,351 miles, accounting for 31% of the state system. Travel on these routes is approximately 1% of all state highway travel. **Figure 6** shows the low-volume routes that serve as a vital link to the agricultural industry throughout the state. **Figure 5** presents two photographs of MoDOT-owned low-volume routes. In 2024, low-volume routes mirrored the condition of minor highways with 83% of low-volume routes in good condition and 17% in poor condition. Since 2021, low-volume roads in good condition increased from 71% to 83%.[7]

Figure 5 – MoDOT-Owned Low-Volume Route C (Grundy County) and Route D (Iron County)

Source: HG Consult Inc. Analysis of MoDOT, Low-Volume Routes Dataset, 2025.

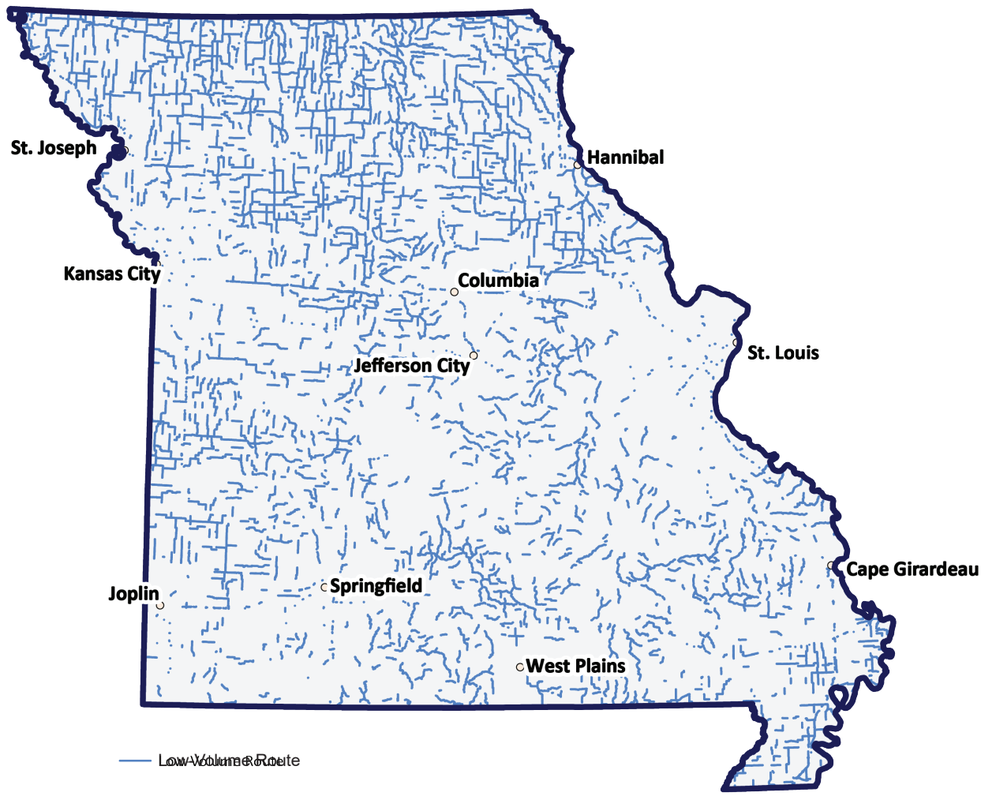
[7]MoDOT, Tracker "Condition of State Highways - 5c," accessed June 5, 2025, https://www.modot.org/condition-state-highways-5c.

Bridges

In addition to the large network of highways, the state has 10,427 bridges and culverts of varying sizes, including 209 major bridges that are longer than 1,000 feet. The average bridge age in 2024 is 50 years. Between 2021 and 2024, the number of bridges in poor condition declined from 823 to 752, representing an 8.6% reduction.[8]

[8]MoDOT, Tracker "Condition of State Bridges – 5a," accessed June 5, 2025, https://www.modot.org/condition-state-bridges-5a.

Figure 6 – Missouri's Low-Volume Routes



Source: MoDOT.

Public Transit

Public transit continues to provide Missourians with an essential alternative to personal vehicle travel to access work, school and essential services. An overview of the state's transit system is provided in **Figure 7**. In the state, transit travel mostly occurs on buses and vans but includes other forms such as light rail and street cars. The state's larger cities offer a broader array of transit services, in some cases offering service most hours of the day, seven days a week. Transit-dependent residents in smaller communities and rural areas typically rely on limited scheduled trips (specific days of the week or month) or on-demand services that must be scheduled in advance.

Less than 1% of Missourians use public transit for commuting compared to the national average of 3.5%. The 2019-2023 American Community Survey (ACS) data for the state estimated that 6.6% of households in the state have no vehicle available. This is slightly less than 8.3% nationally.[9]

Figure 7 – Missouri's Public Transit Overview

34
Transit Agencies in 2023

Source: Federal Transit Administration (FTA), "2024 Annual Agency Database Information,"2024.

782,550
Annual Amtrak Ridership at Missouri Stations

Source: Amtrak, "Amtrak in Missouri Fiscal Year 2025," 2025.

40,800,000
Public Transit Ridership

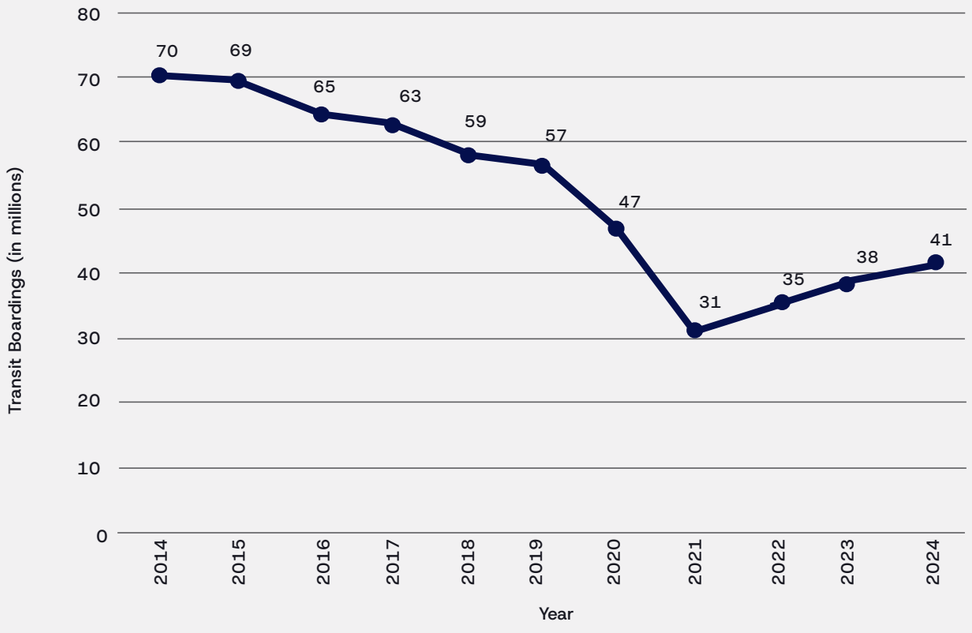
Source: MoDOT, 2024.

[9]U.S. Census Bureau, "Vehicles Available and Electric Vehicles," accessed June 5, 2025, https://www.census.gov/acs/www/about/why-we-ask-each-question/vehicles/#:~:text=starting%20in%202026.-,United%20States,Data%20Profiles/Housing%20Characteristics.

In 2024, the state's transit systems—both rural and urban—provided an annual average of 40.8 million rides, equivalent to approximately 6.5 rides per resident.[10] Despite this, overall ridership declined by 40% over the past decade, with the most significant drop occurring between 2019 and 2022 primarily due to the impacts of the COVID-19 pandemic. **Figure 8** illustrates annual transit boardings from 2014 to 2024, highlighting a general downward trend.

Transit ridership in the state has been declining since 2014 due to a mix of economic and structural factors. Affordable car ownership reduced dependence on transit, while service cuts, labor shortages and less compact urban development weakened reliability and accessibility. The rise of ride-hailing, COVID-19's impact on commuting and significant investments in light rail that did not substantially boost ridership also shaped the trend. The lowest point was reached in 2021, with just 31 million boardings. However, ridership has rebounded since the pandemic, climbing to 40.8 million boardings in 2024.[11]

Figure 8 – Missouri's Transit Boardings



Source: FTA, NTD, Annual Data Tables – Metrics.

[10]Robert M. Lewis, "Economic Impact of Public Transit in Missouri 2019-2023," January 2024, https://mopublictransit.org/wp-content/uploads/2024/02/Economic-Impact-of-Public-Transit-in-MO-Report_2024.pdf.

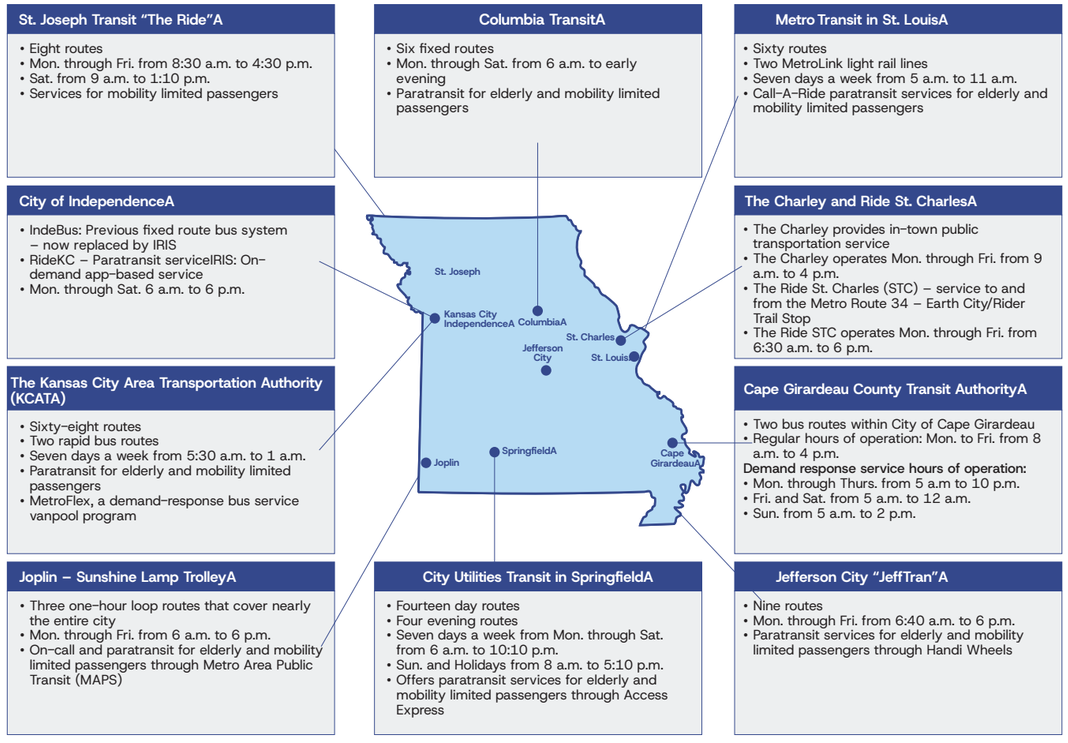
[11]MoDOT

Urban Transit

The state's largest metro areas inclusive of St. Louis, St. Charles, Kansas City, Independence, Springfield, Columbia, Jefferson City, Joplin, Cape Girardeau and St. Joseph support urban transit systems offering a variety of services and availability. On average, 165,000 passengers board buses on these systems each day.[12]

Public transportation consists of shared passenger services that are used by the general public as an alternative to driving and in some cases owning, a personal vehicle. There are a variety of public transit methods in the state, including buses, vans, light rail and streetcars. Larger cities in the state offer the public a wider variety of public transit options with greater frequency. **Figure 9** highlights the type of service, number of routes and service schedules of each urban area's system.

Figure 9 – Missouri Urban Public Transit Systems



Source: MoDOT.

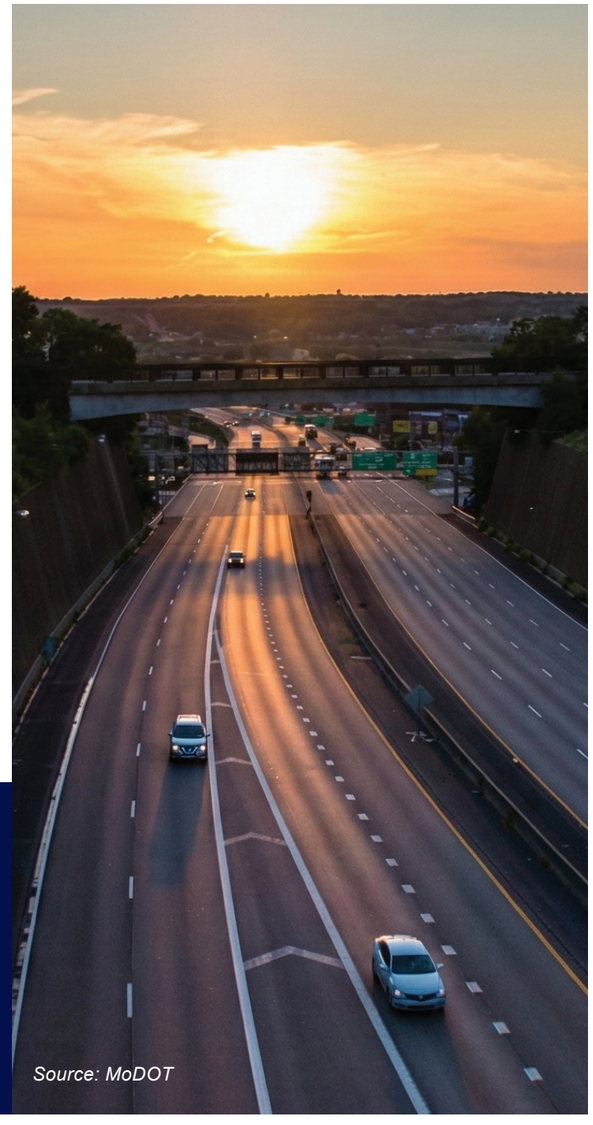
[12]U.S. Department of Transportation (USDOT) FTA, "NTD Transit Agency Profiles", accessed June 5, 2025, https://www.transit.dot.gov/ntd/transit-agency-profiles?field_geography_target_id=All&field_address_administrative_area=MO&combine=.

Rural Transit

As shown in **Figure 10**, numerous rural transit service providers serve the state's rural areas. Operating Above the Standard (OATS), Inc. is a 501(c)(3), not-for-profit organization serving 87 of the state's 114 counties. Southeast Missouri Transportation Service (SMTS) serves 21 of the state's counties. Some of these transit services are branded with a localized name, such as Direct Transit (Ray County), Cape Girardeau County Transit (Cape Girardeau County), Scott County Transit System (Scott County) and Dunklin County Transit Service (Dunklin County). In addition, 19 towns, cities and not-for-profit organizations offer local transportation services.

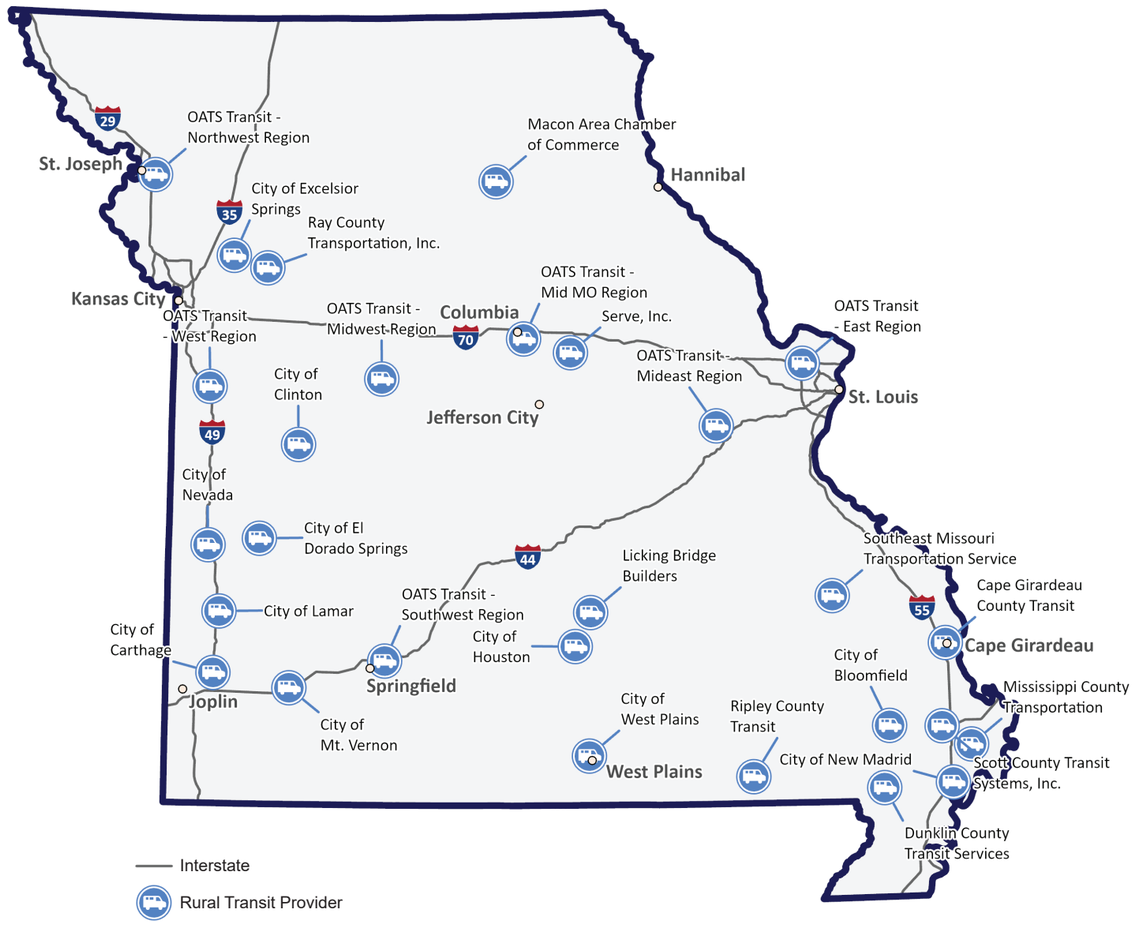
Services offered vary and include local buses, intercity bus services, taxi coupon programs and paratransit (which is a service that does not follow fixed routes or schedules). Transit services are available throughout the state; however, depending on the county, service may be limited in days and hours of operation, which on average is two days per week.

State and local social service programs also offer transit services for riders with financial or physical needs to get access to essential services, such as medical appointments and healthcare facilities, job training and grocery shopping. Assistance is offered in the form of cash reimbursements, contracts with public or private transportation providers or agency-operated transportation services.



Source: MoDOT

Figure 10 – Missouri's Rural Transit Service Providers

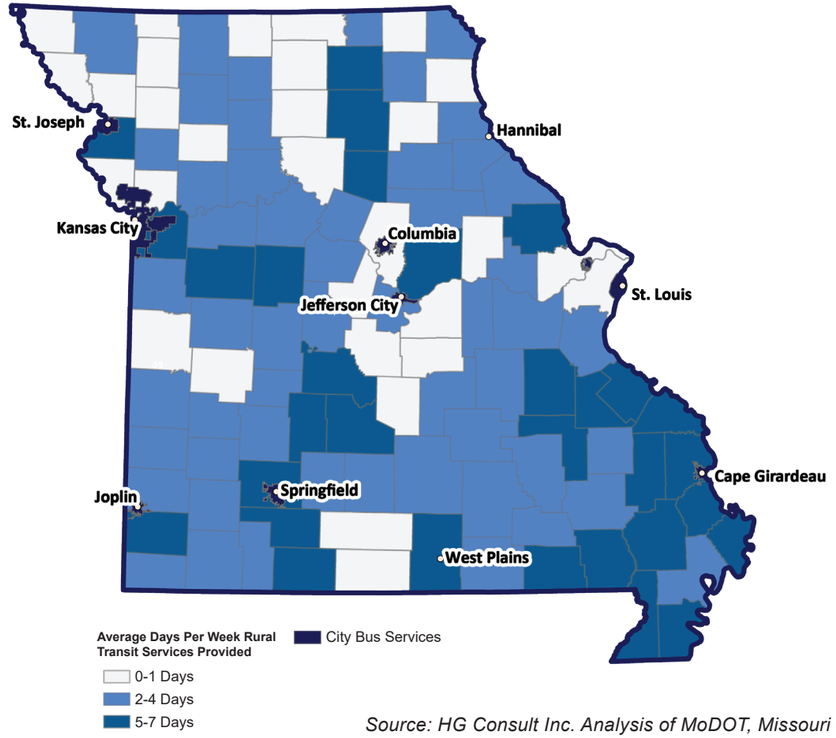


Source: MoDOT, Missouri Rural Transit Map, 2025.

Smaller communities and rural areas in the state tend to rely heavily on less frequently scheduled trips or on-demand services that are scheduled in advance. OATS, Inc. offers shared-ride, demand-response and door-to-door transportation service. SMTS provides door-to-door transportation throughout South Central and Southeast Missouri. In addition, there are 25 other city, county and not-for-profit service providers. University bus systems including University of Missouri, Missouri State University and Southeast Missouri State University also provide transit services for students, staff and the general public.

Transit ridership across the state declined by 24% between 2015 and 2019, followed by an additional 20% drop from 2019 to 2020. These declines were largely driven by the COVID-19 pandemic, with reduced ridership continuing into 2021. However, modest and steady recovery began in 2022 and continued through 2023. During the 2019–2023 period, OATS, Inc. provided an average of 38,470 rides annually equating to roughly one-third of a ride per resident within its service area.[13] **Figure 11** illustrates the average number of rural transit service days per week by county, showing that service is most frequent in southeastern Missouri and in counties surrounding metropolitan areas.

Figure 11 – Average Days Per Week of Rural Transit Service



Source: HG Consult Inc. Analysis of MoDOT, Missouri Rural Transit Map, 2025.

[13]Robert M. Lewis, "Economic Impact of Public Transit in Missouri 2019–2023," January 2024, https://mopublictransit.org/wp-content/uploads/2024/02/Economic-Impact-of-Public-Transit-in-MO-Report_2024.pdf.

Intercity Bus

The state's intercity bus (ICB) services provide a link between smaller communities and connects those communities to larger urban areas that offer services and opportunities otherwise not available as shown in **Figure 12**. Four intercity bus companies provide service to Missourians—Greyhound, Megabus, Burlington Trailways and Jefferson Lines **(Appendix B)**.

Intercity bus ridership in the state totaled 80,034 in 2016, down from a peak of 89,129 in 2015, though still an increase from 64,404 in 2014.[14] Private intercity bus companies play a vital role in reducing traffic congestion, lowering emissions and conserving energy across the state. MoDOT is currently conducting a Statewide ICB Needs Assessment to help determine the level of need and current utilization of ICB service in Missouri.

Six of the seven cities with urban transit services also have ICB service.[15] While route connections between these two types of bus service are fairly good, the time of day that the ICB bus arrives may not always be compatible with the hour of service offered by the urban transit system. Additional information can be found in **Appendix C**.

Figure 12 – Intercity Bus Stop Locations

Source: HG Consult Inc. Analysis of Bureau of Transportation Statistics (BTS); Intercity Bus Atlas Stops, 2025; HG Consult Inc. Analysis of BTS; Intercity Bus Atlas Routes, 2025.

[14]HDR Engineering, Inc., "Missouri Intercity Bus Study," April 27, 2010, https://www.modot.org/sites/default/files/documents/multimodal/modoticbreport-final042710ch1-2.pdf.

[15]HDR Engineering, Inc., "Missouri Intercity Bus Study," April 27, 2010, https://www.modot.org/sites/default/files/documents/multimodal/modoticbreport-final042710ch1-2.pdf.

Passenger Rail

Passenger rail services in the state are shown in **Figure 13**. The state has three passenger rail transit systems: Amtrak, the St. Louis MetroLink and the Kansas City Streetcar. Amtrak provides inter-city passenger service while St. Louis MetroLink is a light rail system serving the St. Louis metropolitan area and surrounding communities and the Kansas City Streetcar is an electric streetcar system within downtown Kansas City. An additional light rail service, the Delmar Loop Trolley, completed construction in early 2020. The Delmar Loop Trolley is a 2.2-mile, 10-station heritage streetcar line in and near the Delmar Loop area of greater St. Louis.

The state sponsors the Amtrak Missouri River Runner inter-city passenger service with four permanent routes and stops at 13 locations. The Missouri River Runner provides an alternative travel mode along the heavily traveled I-70 corridor between St. Louis and Kansas City. The state also has access points to two national Amtrak routes and another regional service between St. Louis and Chicago. Additionally, there are three excursion railroads that operate in the state.[16]Amtrak operates two national passenger train routes in the state:

- Southwest Chief Train operates between Chicago and Los Angeles with service in the state from Kansas City across northern Missouri to Ft. Madison, Iowa.
- Texas Eagle Train provides connections between Chicago and San Antonio, through major cities from Austin to Dallas and through the Ozarks to Little Rock.

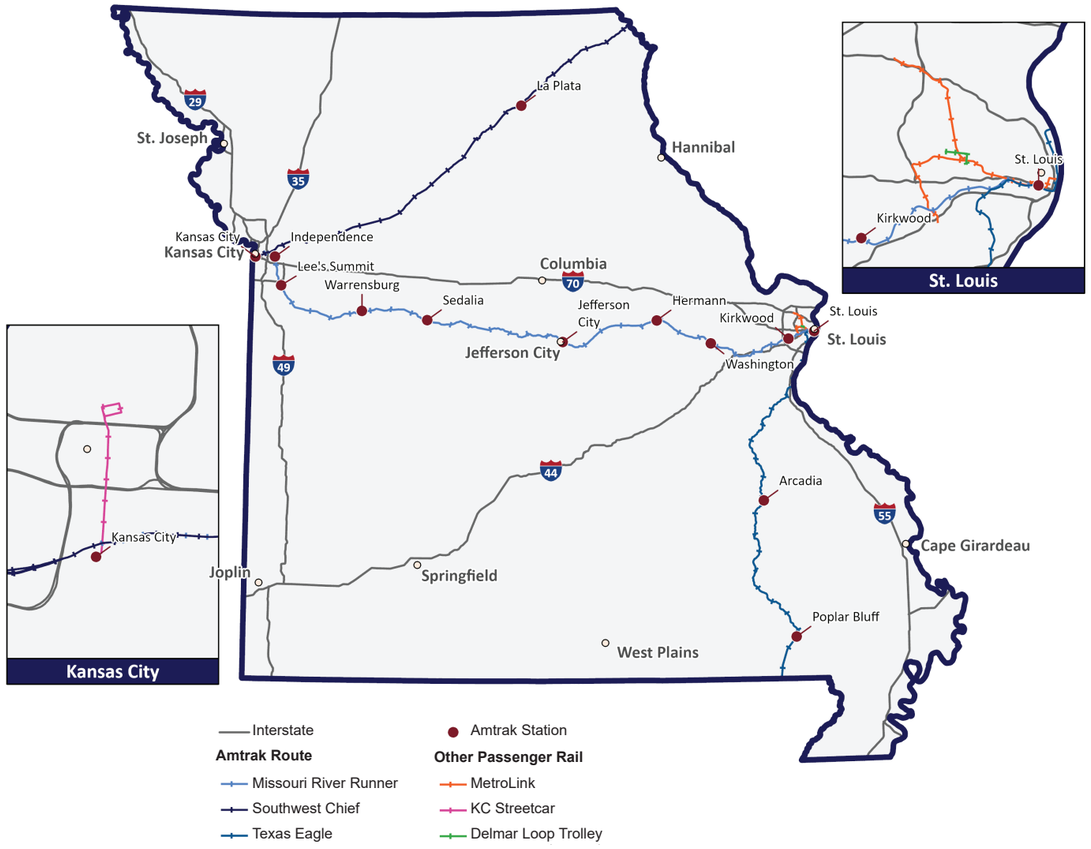
The Missouri River Runner operates two round trips per day across 283 miles of track between the Gateway Transportation Center in St. Louis and Union Station in Kansas City, providing connection to the Southwest Chief and Texas Eagle routes, with stops in Kirkwood, Washington, Hermann, Jefferson City, Sedalia, Warrensburg, Lee's Summit, Independence and Kansas City.

82% of Missourians live within 60 miles of a passenger rail station. In 2024, 194,275 passengers rode the Missouri River Runner with an average fare of $34.88 per passenger. Passenger rail ridership decreased almost two-thirds between 2019 and 2021. This decrease in ridership can be attributed to the COVID-19 pandemic. In 2025 Amtrak ridership in Missouri surpassed pre-pandemic levels and reached a ridership level of 782,550.[17]

[16]MoDOT, "Passenger Railroads," accessed June 5, 2025, https://www.modot.org/passenger-railroads.

[17]Amtrak, "Amtrak in Missouri Fiscal Year (FY) 2025," accessed June 5, 2025, https://www.amtrak.com/content/dam/projects/dotcom/english/public/documents/corporate/statefactsheets/MISSOURI25.pdf

Figure 13 – Missouri's Passenger Rail Service



Source: HG Consult Inc. Analysis of BTS, Amtrak Routes and Stations, 2025; HG Consult Inc. Analysis of St. Louis Metro, Current MetroBus and MetroLink System, 2022; HG Consult Inc. Analysis of City of St. Louis, Loop Trolley, 2024; HG Consult Inc. Analysis of RideKC, Streetcar Route, 2025.

Aviation

The state is home to 505 aviation facilities, including publicly owned airports. The state system includes nine public-use commercial and 98 general aviation airports.[18] There are over 250 airfields in the state, ranging from private grass strips to large commercial service airports as shown in **Figure 14**. Of its 120 public use airports, 106 are publicly owned.[19]

Figure 14 – Missouri's Airport Locations

Source: MoDOT, State Airport System Plan Update – Chapter 5, Airport Roles, 2019; HG Consult Inc. Analysis of BTS, Aviation Facilities, 2025.

[18]MoDOT, "Missouri State Airport System Plan Update: Executive Summary," February 2019, https://sites.jviation.com/MoDOTAirportSystemPlan/documents/MoSASP-Executive-Summary.pdf.

[19]MoDOT, "Aviation Overview," accessed June 5, 2025, https://www.modot.org/sites/default/files/documents/Aviation%20Overview%20FY25.pdf.

More than 200,000 tons of cargo are transported by air in the state each year.[20] The state's top three freight airports are Kansas City International Airport, St. Louis Lambert International Airport and Springfield-Branson National Airport. In 2023, the St. Louis Lambert International Airport, the region's primary cargo airport, moved 160 million pounds of cargo for dedicated freighters such as UPS, FedEx, Amazon, DHL and more as well as belly cargo moved from passenger airlines.[21] In the same year, the Springfield-Branson National Airport moved 15,600 tons for dedicated daily freight such as FedEx and UPS. As shown in **Figure 15**, according to 2023 Transearch data, air tonnage is forecast to increase from 207,031 in 2023 to 280,244 in 2043 an increase of 35.4%. Moreover, air commodity value is forecast to increase from $7.2 billion in 2023 to $9.4 billion by 2043, an increase of 30.5%.[22]

According to the Federal Aviation Administration (FAA), the state had approximately 13.7 million enplaned passengers in 2023, up from approximately 12.1 million enplaned passengers in 2022.[22] In 2023, Springfield-Branson National Airport was ranked as the 123rd busiest airport in the U.S., St. Louis Lambert International Airport ranked as 34th and Kansas City International Airport was ranked as 40th.[24]

For fiscal year (FY) 2025, MoDOT received appropriations of $98.1 million in federal funds and $38.4 million in state funds.[25]

Figure 15 – Missouri's Aviation by the Numbers

Source: MoDOT, FY2025 Aviation Overview.

[20]Transearch, 2023

[21]St. Louis Regional Freightways, "Airfreight and Cargo," accessed June 5, 2025, https://www.thefreightway.com/regional-advantages/airfreight-and-cargo/.

[22]Transearch, 2023.

[23]FAA, "CY 2023 Enplanements at All Airports (Primary, Non-primary Commercial Service and General Aviation)," accessed June 5, 2025, https://www.faa.gov/airports/planning_capacity/passenger_allcargo_stats/passenger/cy23_all_enplanements.

[24]USDOT, Bureau of Transportation Statistics (BTS), "Airport Rankings 2023," accessed June 5, 2025, https://www.bts.gov/topics/airlines-and-airports/airport-rankings-2023.

[25]MoDOT, "Aviation Overview," accessed June 5, 2025, https://www.modot.org/sites/default/files/documents/Aviation%20Overview%20FY25.pdf.

Commercial Service Airports

In 2024, the state's nine commercial service for public use airports combined served over 27 million passengers. Two of the nine commercial airports – Kansas City International Airport and St. Louis Lambert International Airport shown in **Figure 16** – offer national and international flights. In 2023, the Kansas City Aviation Department reported that 5,654,068 passengers traveled through Kansas City International Airport. In 2024, that number increased by 4.6% to 5,915,078 passengers.[26]

In the same year, 15,946,730 passengers traveled through St. Louis Lambert International Airport, which is 7.1% higher than in 2023 when 14,886,000 traveled through the airport.[27] Additional regional airport services are offered at Springfield-Branson National Airport, Joplin Regional Airport, Branson Airport, Columbia Regional Airport, Cape Girardeau Regional Airport, Kirksville Regional Airport and Waynesville-St. Robert Regional Airport.

Kansas City International has six all-cargo carriers including Amazon Air, Atlas Air, DHL, FedEx Express, Freight Runners Express and UPS servicing shipping needs for western Missouri and eastern Kansas. St. Louis Lambert International has four all-cargo carriers including Amazon Air, DHL, FedEx Express and UPS serving eastern Missouri and western Illinois.

Figure 16 – Commercial Service (St. Louis Lambert International Airport)

Source: MoDOT

[26]FAA, "CY 2024 ACAIS: Calendar Year 2024 Enplanements at All Commercial Airports (by Rank)," accessed January 15, 2026, https://www.faa.gov/airports/planning_capacity/passenger_allcargo_stats/passenger/arp-cy2024-commercial-service-enplanements.pdf?utm.

[27]St. Louis Lambert International Airport, "STL's Total Number of Passengers Is Largest in More Than 20 Years," February 4, 2025, https://www.flystl.com/newsroom/stl-news/2025/high-number-of-travelers-use-st-louis-lambert-in-2024.

Business Capable Airports

In the state, 35 business capable airports have runways 5,000 feet or longer. These airports, such as Jefferson City Memorial Airport shown in **Figure 17**, serve a wide variety of services and amenities for general aviation, business community, military aircraft and supports local and regional economies across the state.

Figure 17 – Business Capable (Jefferson City Memorial Airport)


Source: MoDOT

General Aviation Airports

The final category of public use airports is General Aviation, such as the Jesse Viertel Memorial Airport (Boonville) shown in **Figure 18**. General aviation refers to aviation not served for military or commercial uses. While these airports may provide passenger service, they are more typically used by businesses and corporations and for agricultural, private flying and training, law enforcement and security, emergency response and various industrial and recreational activities.

Figure 18 – General Aviation (Jesse Viertel Memorial Airport – Boonville)


Source: MoDOT

Waterways

The state's waterways transport an average of $19.2 billion in cargo annually.[28] The state has approximately 1,050 miles of navigable rivers, including almost 500 river miles of the Mississippi River and over 550 river miles of the Missouri River. The state statute allows for the formation of port authorities and MoDOT's waterways unit assists authorized cities and counties in forming port authorities to foster local economic development. MoDOT assists in capital and administrative funding for public port authorities, along with other technical assistance. A total of 19 public port authorities and approximately 200 private river terminals can be found along the state's waterways.[29&30] The general status of the state's 19 public port authorities, as of 2025, is summarized below:

Commodities transported by barge on the Missouri River include agricultural products, fertilizers, petroleum products, road salt, aggregates and iron/steel. The Mississippi River continues to be a key transportation option for a variety of agricultural products, as well as other bulk materials including aggregates, petroleum products, chemicals and building materials.

In 2023, ports in the state moved 51.1 million tons of freight.[31] In 2043, 58.6 million tons of freight will be transported through the state's waterways, according to forecasts. This would amount to a cumulative increase of 14.5% and a compounded annual growth rate of 0.7%.[32] The value of this freight is expected to increase to $22.6 billion by 2043, which amounts to a cumulative increase of 17.5%.

The state has four nationally designated marine highways, as shown in **Figure 19**, which generally shadow the interstate highway system along the Mississippi and Missouri Rivers. Designated marine highways receive preferential treatment for federal assistance from USDOT's Maritime Administration (MARAD). The marine highway system has been designated to expand the use of the nation's waterways to relieve congestion, reduce air emissions and generate other public benefits by increasing the efficiency of freight movement on the surface transportation system.

[28]Transearch, 2023.

[29]MoDOT, "Port Authority Contacts," accessed September 3, 2025, https://www.modot.org/port-authority-contacts.

[30]U.S. Army Corps of Engineers (USACE), "Project Assistance Library, Navigation and Civil Works Decision Support Center, Port and Waterfall Facilities," July 2024, https://publibrary.sec.usace.army.mil/resource?title=Port%20and%20Waterways%20Facilities&documentId=6b2be847-d49d-46c9-980b-00ac094104f8.

[31]Transearch, 2023.

[32]Transearch, 2023.

Marine highways serving the state include the following:

- **M-29 connects the Upper Missouri River from Kansas City to Sioux City, Iowa**
- **M-70 covers the Missouri River from Kansas City to St. Louis**
- **M-35 covers the Upper Mississippi River from the Twin Cities to St. Louis**
- **M-55 connects the Illinois River from Chicago to St. Louis and then the Mississippi River from St. Louis to the Gulf of America**

Figure 19 – U.S. Marine Highway Routes

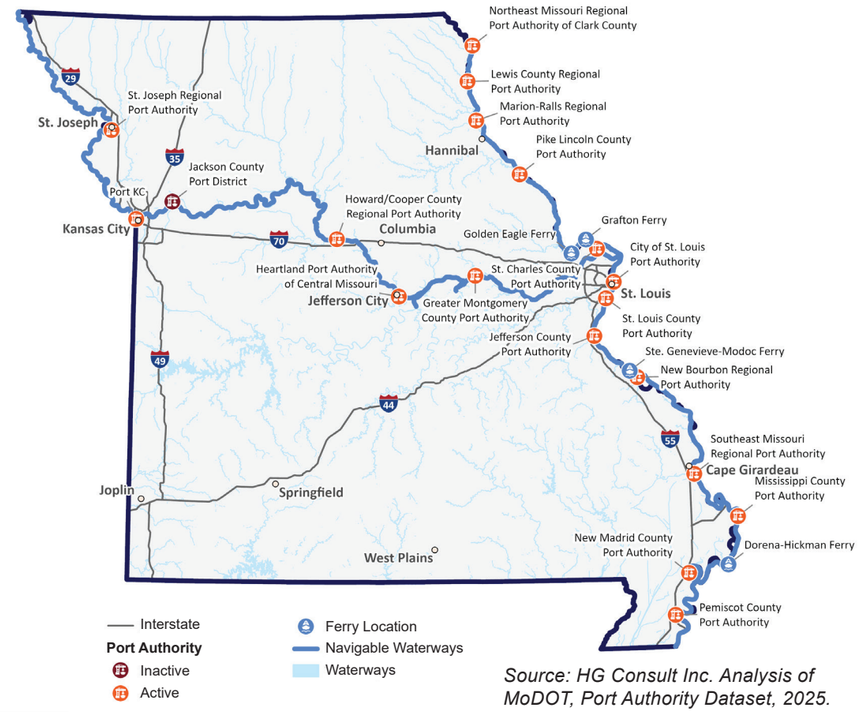
Source: U.S. Maritime Administration (MARAD), U.S. Marine Highway Program Routes Map, 2025

In 2023, approximately 32 million tons of freight originated on the state's waterways.[33] Access to this transportation option is available through 19 public port authorities in the state as shown in **Figure 20**. Commodities transported by barge tow on the Missouri River include agricultural products, chemicals such as fertilizers and petroleum products and manufactured goods such as building materials. The Mississippi River continues to be a major mode of transportation for a variety of farm products and other bulk materials such as chemicals and building materials.

The state also offers four toll ferry services that cross the Mississippi River:

- **The Golden Eagle Ferry is privately owned and operated.**
- **The Grafton Ferry is privately operated with the landings maintained by St. Charles County (Missouri) and the City of Grafton (Illinois).**
- **The Ste. Genevieve-Modoc Ferry is privately operated, but it is owned by the New Bourbon Regional Port Authority (Missouri), with the Illinois Department of Transportation (IDOT) owning and maintaining the Illinois landing.**
- **The Dorena-Hickman Ferry is owned and operated by the Mississippi County Port Authority (Missouri).**

Figure 20 – Missouri's Public Port Authorities and Toll Ferries



Source: HG Consult Inc. Analysis of MoDOT, Port Authority Dataset, 2025.

[33]Transearch, 2023.

Freight Rail

Rail is a major part of the state's transportation system and plays a significant role in the state's economy. **Figure 21** shows the state's freight railroad routes. The state has the 11th-largest number of railroad miles in the U.S., with 3,793 miles of freight track (including 2,500 miles of yard track).[34&35] The state has 6,524 total rail crossings, 4,364 public (including 3,294 at grade), 2,148 private (including 2,080 at grade) and 12 unknown crossings.[36] Twenty freight railroads operate in the state, carrying the fourth-largest volume of freight tonnage in the country. Kansas City and St. Louis are ranked as the second and sixth largest rail transportation centers in the nation, respectively.[37] In 2022, the state ranked sixth nationally in freight rail employment.[38]

In 2023, 7.3 million rail cars carried 344.8 million tons of freight valued at $663 billion, representing 39.2% of the total value of goods shipped in the state.[39]

The state has a significant freight rail infrastructure, with five Class I railroads - BNSF, UP, NS, CSX Transportation (CSX) and CPKC, operating approximately 4,161 miles of main track rail lines and approximately 4,100 public and private highway-rail crossings.[40&41] Of these, 2,755 crossings are public and 1,316 crossings are private. In addition to the Class I network, 15 short line railroads operate approximately 566 track miles within the state, providing essential last-mile connections to rural shippers and local industries.[42&43] **Figure 22** shows the routes of the state's Class I railroads. 30% of the freight in the state is moved by rail and volumes are projected to grow in the future, reinforcing the state's role as a connector in the national freight network.[44]

[34]Association of American Railroads (AAR), "Missouri State Fact Sheet," accessed September 3, 2025, https://www.aar.org/wp-content/uploads/2025/01/AAR-Missouri-State-Fact-Sheet.pdf.

[35]MoDOT, "Freight Railroads," accessed September 3, 2025, https://www.modot.org/freight-railroads.

[36]Federal Railroad Administration (FRA),"Crossing Inventory Listing (8.01/8.08)," updated January 27, 2025, DOT Open Data Catalog, accessed September 3, 2025, https://data.transportation.gov/stories/s/Crossing-Inventory-Listing/ejv6-cpdh/.

[37]AAR, "Freight Railroads", accessed September 3, 2025, https://www.modot.org/freight-railroads.

[38]AAR, "Freight in Your State," accessed September 3, 2025, https://www.aar.org/states/.

[39]Transearch, 2023.

[40]MoDOT, "Freight Railroads," accessed September 3, 2025, https://www.modot.org/freight-railroads.

[41]AAR, Missouri State Fact Sheet," accessed September 3, 2025, https://www.aar.org/wp-content/uploads/2025/01/AAR-Missouri-State-Fact-Sheet.pdf.

[42]AAR, Missouri State Fact Sheet," accessed September 3, 2025, https://www.aar.org/wp-content/uploads/2025/01/AAR-Missouri-State-Fact-Sheet.pdf.

[43]MoDOT, "Freight Railroads," accessed September 3, 2025, https://www.modot.org/freight-railroads.

[44]Transearch, 2023

Figure 21 – Missouri's Freight Railroads

Source: HG Consult Inc. Analysis of MoDOT, Freight Railroads, 2025.

Figure 22 – Missouri's Class I Freight Railroads

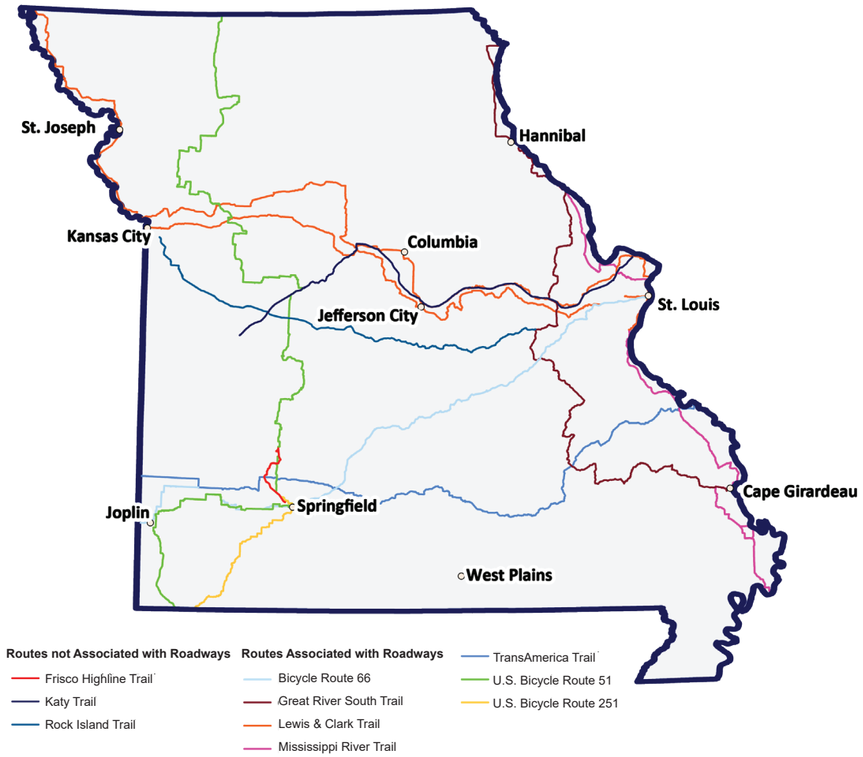
Source: HG Consult Inc. Analysis of MoDOT, Freight Railroads, 2025.

Bicycle and Pedestrian

Missouri has more than 600 miles of shared use paths that serve both bicyclists and pedestrians, although bicycling and walking together account for less than 2% of all trips taken on Missouri's roadways.[45] These facilities include sidewalks, shoulders, on street bicycle lanes, crosswalks and trail systems and they are managed by a variety of entities including cities, counties and MoDOT. MoDOT partners with active transportation advocacy groups to improve bicycle and pedestrian facilities and to bring attention to nonmotorized transportation issues around the state. **Figure 23** shows designated bicycle routes throughout Missouri.

The state has nine cross-country bicycle routes each of which is a small part of a much longer national bicycle route, plus one cross-state route, the Katy Trail. Additional information can be found in **Appendix D**.

Figure 23 – Missouri Bicycle Routes



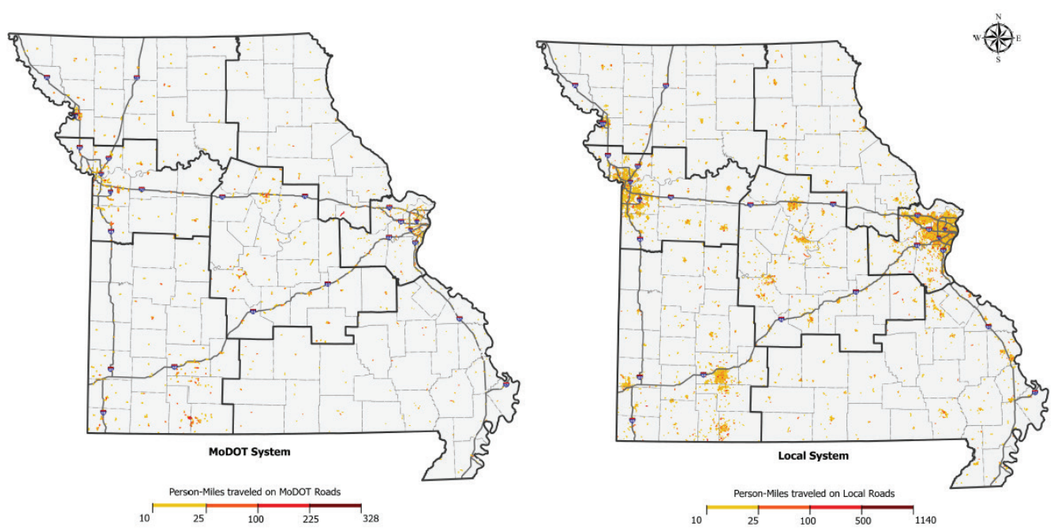
Source: HG Consult Inc. Analysis of MoDOT, Multimodal Bike/Ped, 2025; Adventure Cycling Association, U.S. Bicycle Route System Maps and Route Resources, 2025.

[45]MoDOT, "Number of Vulnerable Roadway User Fatalities," accessed September 3, 2025, https://www.modot.org/number-vulnerable-roadway-user-fatalities-1c.

As reflected spatially in **Figure 24** and **Figure 25** and summarized in **Table 2** and **Table 3**, pedestrian and cyclist activity on Missouri roadways is overwhelmingly concentrated on locally maintained facilities rather than MoDOT owned roads, with this pattern consistent across all districts. Statewide, 93.2% of total daily pedestrian miles traveled and 94.9% of total daily cyclist miles traveled occur on local roadways, while MoDOT facilities account for only 6.8% of pedestrian miles and 5.1% of cyclist miles.

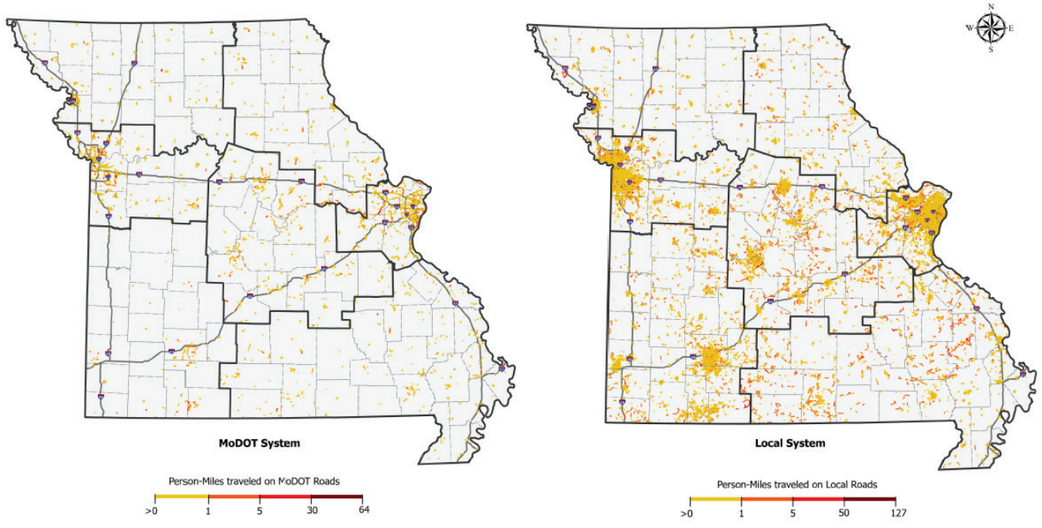
Urban districts, particularly St. Louis and Kansas City record the highest overall volumes for both modes and the lowest shares on MoDOT roads, reflecting dense local street networks that support walking and biking. In contrast, rural districts such as the Northwest and Southeast show higher proportional use of MoDOT facilities, though total pedestrian and cyclist miles traveled remain comparatively low. Across all districts, pedestrian travel consistently exceeds cycling in total miles, underscoring the critical role of local roadway networks in supporting active transportation and the importance of pedestrian and bicycle friendly design on locally maintained streets.

Figure 24 – Total Daily Pedestrian Miles Traveled on Missouri Roadways



Source: Streetlight Data, Collected from May 1, 2021 to April 30, 2022.

Figure 25 – Total Daily Cyclist Miles Traveled on Missouri Roadways



Source: Streetlight Data, Collected from May 1, 2021 to April 30, 2022.

Table 2 – Total Pedestrian Miles Traveled on Missouri Roadways

District	MoDOT	Local
Northwest	18,938 (17.6%)	88,842 (82.4%)
Northeast	8,516 (8.9%)	86,495 (91.0%)
Kansas City	28,960 (5.5%)	496,282 (94.5%)
Central	17,046 (6.4%)	250,936 (93.7%)
St.Louis	37,120 (4.3%)	831,621 (94.7%)
Southwest	25,600 (5.9%)	404,447 (94.1%)
Southeast	34,730 (16.6%)	174,272 (83.4%)
Statewide	**170,910 (6.8%)**	**2,332,895 (93.2%)**

Source: Streetlight Data, Collected from May 1, 2021 to April 30, 2022.

Table 3 – Total Daily Cyclist Miles Traveled on Missouri Roadways

District	MoDOT	Local
Northwest	543 (9.0%)	5,489 (91%)
Northeast	351 (6.6%)	4,992 (93.4%)
Kansas City	2,2029 (5.9%)	32,547 (94.1%)
Central	1,061 (6.2%)	16,109 (93.8%)
St.Louis	2,740 (4.6%)	57,116 (95.4%)
Southwest	756 (2.6%)	28,353 (97.4%)
Southeast	718 (8.5%)	7,735 (91.5%)
Statewide	**8,220 (5.1%)**	**152,319 (94.9%)**

Source: Streetlight Data, Collected from May 1, 2021 to April 30, 2022.

Source: MoDOT

Highly trafficked trails in the St. Louis District include the Grants Trail and Katy Trail among cyclists and the Arch Pedestrian Walkway, Great River Road Trail and the Lewis and Clark Trail among pedestrians and hikers. The Kansas City District experiences high volumes of cyclists and pedestrians on the Lewis and Clark Trail, U.S. Bike Route 51 and the Katy Trail.

These findings are based on StreetLight data, which, while providing valuable insights, may have limitations due to segmentation and trip classification methods. Continuous trips may be counted as separate segments and transitions between street and trail could result in overlapping or double counting. As such, percentages should be interpreted with caution and considered as estimates rather than precise measures.

Freight Transportation

Freight transportation is the economic engine for the state, enabling the movement of manufactured goods, agricultural produce, energy products and critical inputs across the nation and around the world. The state's central location, expansive highway system and strong connectivity between all transportation modes are among the state's top strengths for moving freight efficiently. More than 1.1 billion tons of freight were shipped within, from, or to the state in 2023, with volumes expected to grow to 1.3 billion tons by 2043.[46] Whether by rail, truck, barge, or air cargo, these networks not only sustain key industries but also support thousands of jobs in logistics, warehousing and operations.

Though exact numbers vary across sources, freight-related activity is expected to account for a substantial portion of the state's economic output and workforce, likely representing a significant share of the state's gross domestic product (GDP) and employment across sectors. Because of its central role in the state's economy, understanding current and future freight system needs is critical to the state's Long-Range Transportation Plan (LRTP), aligning infrastructure investments, policies and programs with long-term economic growth and competitiveness.

The following charts illustrate the top five commodities moved in the state by mode and percent share, providing a snapshot of the goods that dominate the state's freight flows and drive demand across transportation modes.

Source: MoDOT

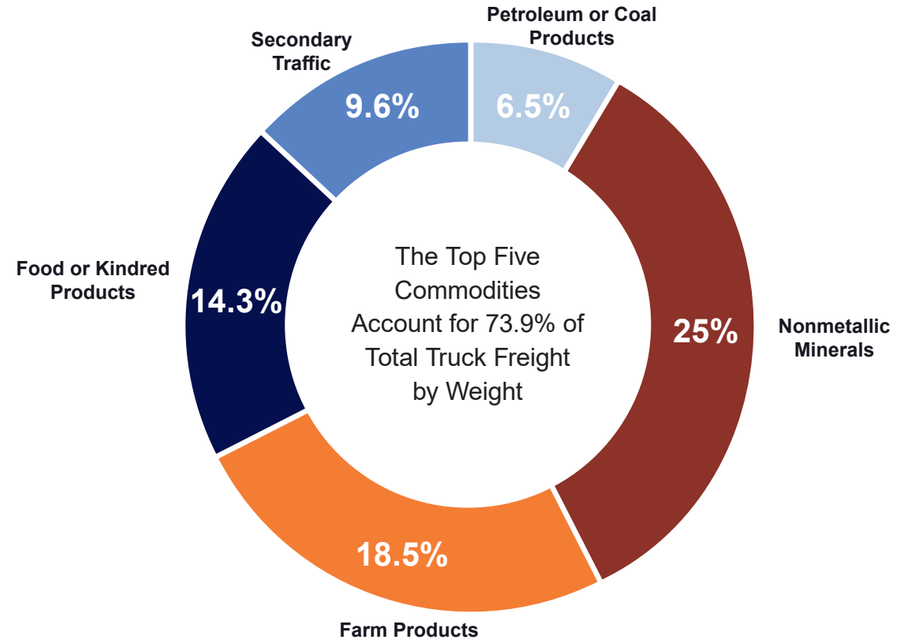
[46]Transeearch, 2023.

Truck Freight

Truck movements accounted for 55% of the total freight tonnage in 2023 and are forecast to increase 59% from 624 million in 2023 to 765 million in 2043.[47]

As shown in **Figure 26**, top five commodities include non-metallic minerals (25%, e.g., coal, salt, clay, aggregates), farm products (18.5%), food or kindred products (14.3%), secondary traffic (9.6%, e.g., mixed shipments containing consumer goods) and petroleum or coal products (6.5%).[48]

Figure 26 – Top Five Commodities by Weight (Percent) for Truck Freight, 2023



Source: Transeearch, 2023.

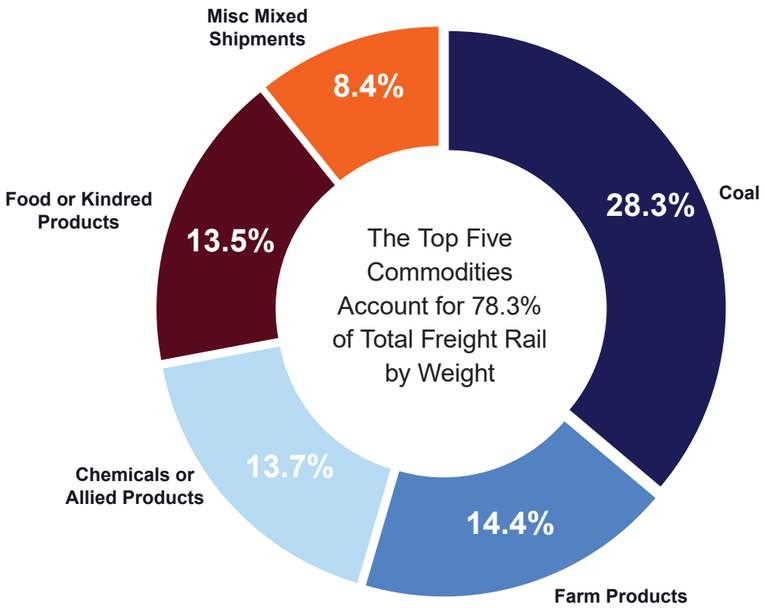
[47]Transeearch, 2023.

[48]Transeearch, 2023.

Freight Rail

As shown in **Figure 27,** coal represented 28.3% of the rail freight tonnage transported in the state in 2023. Other commodities that contribute to the freight tonnage moved through the state include farm products (14.4%), chemicals or similar products (13.7%), food or similar products (13.5%) and miscellaneous mixed shipments (8.4%).[49]

Figure 27 – Top Five Commodities by Weight (Percent) for Freight Rail, 2023



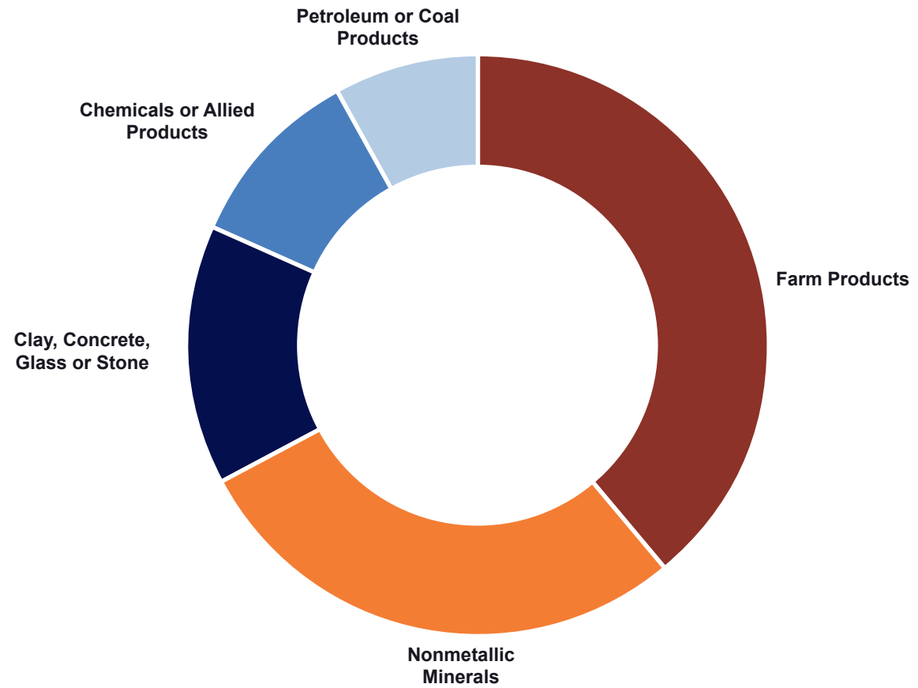
Source: Transearch, 2023.

[49]Transearch, 2023.

Ports and Waterways

As shown in **Figure 28**, farm products (34.1%); non-metallic minerals (24.8%); clay, concrete, glass or stone (12.6%), chemicals or similar products (9.1%); and petroleum or coal products (6.8%) are the primary commodities moved on the waterways.[50]

Figure 28 – Top Five Commodities by Weight (Percent) for Ports and Waterways, 2023



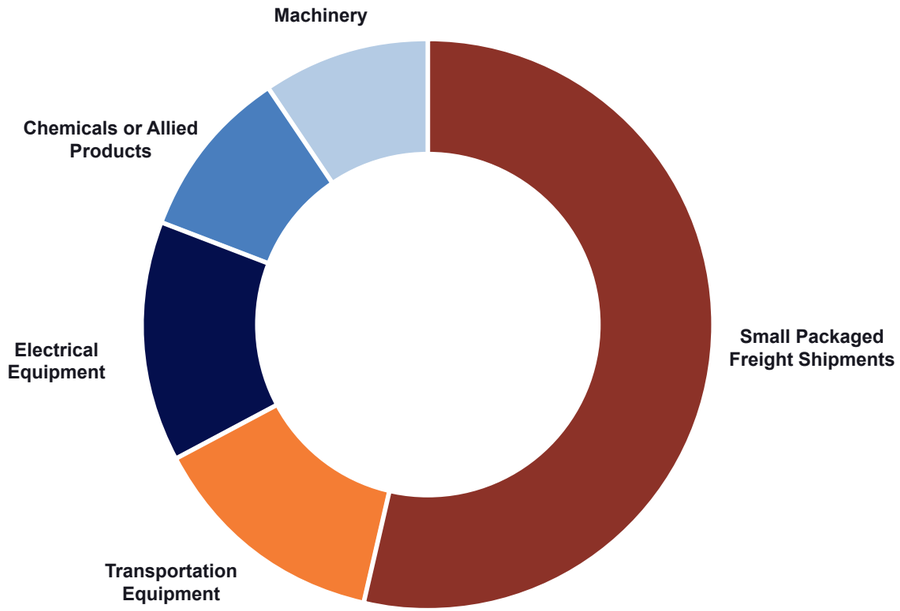
Source: Transearch, 2023.

[50]Transearch, 2023.

Air Cargo

As shown in **Figure 29**, principal commodities moved by air include small, packaged freight shipments (35.1%), transportation equipment (8.9%), electrical equipment (8.8%), chemicals or similar products (6.4%) and machinery (6.1%).[51]

Figure 29 – Top Five Commodities by Weight (Percent) for Air Cargo, 2023



Source: Transearch, 2023.

[51]Transearch, 2023.

Table 4 below provides an overview of the top five freight commodities by weight and value in the state. In 2023, broken stone or riprap and crude petroleum were ranked top one and two commodities, respectively, by weight and are projected to continue to rank as such in 2043. In 2023, mixed freight and motor vehicles were ranked top one and two commodities, respectively, by value and are projected to continue to rank as such in 2043.

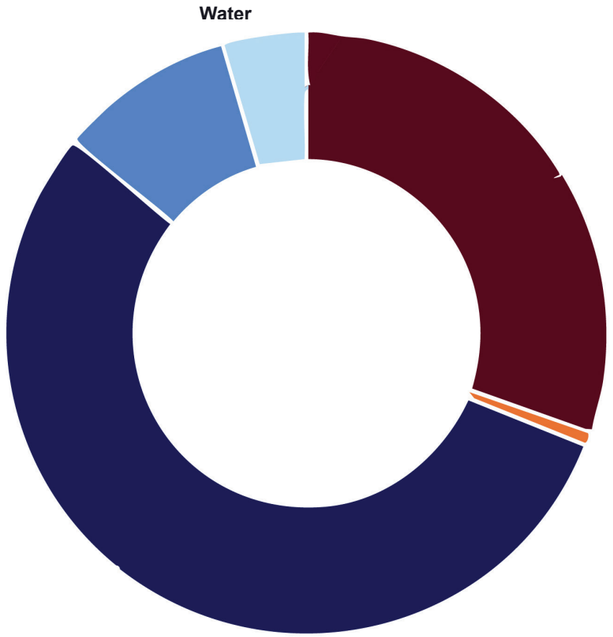
Table 4 – Missouri Freight and Rail Overview

Top Five Commodities by Weight			
2023		2043 (Projected)	
Broken Stone or Riprap	131,430 TT*	Broken Stone or Riprap	155,298.2 TT
Crude Petroleum	117,722.4 TT	Crude Petroleum	118,069.7 TT
Bituminous Coal	100,125.8 TT	Grain	117,224.7 TT
Grain	96,433.2 TT	Warehouse and Distribution Center	59,905.71 TT
Warehouse and Distribution Center	47,757.9 TT	Mixed Freight	40,027 TT
Top Five Commodities by Value			
2023		2043 (Projected)	
Mixed Freight	$198,371.5 M	Mixed Freight	$273,374.6 M
Motor Vehicles	$146,936.2 M	Motor Vehicles	$201,448.1 M
Small Packaged Freight Shipments	$98,889.3 M	Small Packaged Freight Shipments	$150,638.3 M
Motor Vehicle Parts or Accessories	$81,710.73 M	Motor Vehicle Parts or Accessories	$115,171.4 M
Warehouse and Distribution Center	$77,908.5 M	Warehouse and Distribution Center	$97,725.4 M
****Millions of Dollars**			

Source: Transearch, 2023.
*Note: *TT = Thousand Tons ** Millions of Dollars*

Figure 30 below shows the movement of all freight in the state by weight in 2023. Truck movement accounted for 55% while movement by water accounted for 5%. Both pipeline and rail movement accounted for 39% of all freight movement by weight.

Figure 30 – Movement of all Freight in Missouri by Weight (Thousands of Tons), 2023



Source: Transearch, 2023.

Source: MoDOT

Chapter 3: Demographics, Socioeconomics and Travel Trends


Source: MoDOT

The state of Missouri's transportation system is a critical resource that:

- **Supports the state's economy, communities and quality of life.**
- **Provides residents with access to jobs, schools, healthcare and essential services while connecting businesses to suppliers and customers.**
- **Helps visitors reach destinations across the state, reinforcing the state's role as both a regional hub and a national connector.**

A central step in developing the Long-Range Transportation Plan (LRTP) is understanding the demographic and socioeconomic forces that influence transportation needs. Where people live, work and carry out daily activities shapes the demand placed on the system.

This chapter examines existing and emerging trends including changes in population, employment, income, education and household characteristics to provide a foundation for forecasting future conditions and planning transportation investments.

The state's population is expected to continue growing, surpassing 6.7 million residents by 2050. Growth will not be uniform: urban and suburban areas around Kansas City, St. Louis, Springfield, Columbia and Cape Girardeau are projected to see the largest increases, while many rural regions will experience population decline.

At the same time, the state's age profile is shifting. The number of residents over 65 will rise sharply through 2030, creating greater demand for mobility options beyond personal vehicles. Meanwhile, the proportion of young people is projected to decline, altering long-term patterns of school-related and household travel.

Economic activity also plays a defining role. The state's gross state product (GSP) has grown steadily in recent years, led by industries such as real estate, manufacturing and healthcare. These sectors rely heavily on efficient freight movement and workforce commuting. Employment trends highlight continued growth in healthcare and professional services, while cross-border commuting in the Kansas City and St. Louis metropolitan areas underscores the need for regional coordination in transportation planning. Personal income levels, poverty rates and educational attainment vary across the state, shaping both access to transportation and reliance on it.

Changing travel patterns add another layer of complexity. Vehicle miles traveled (VMT) are projected to rise through 2050, intensifying concerns about congestion, safety and system maintenance. While most Missourians still commute by personal vehicle, remote work has increased significantly and alternative modes such as cycling are growing modestly. Shifts toward fuel-efficient and electric vehicles promise benefits but also create challenges for transportation funding, which has traditionally relied on motor fuel taxes.

By analyzing these interconnected demographic and socioeconomic dynamics, this chapter provides a clearer picture of the opportunities and constraints facing the state's transportation system. These insights are essential to promoting future policies and investments to support a safe, reliable and resilient network capable of meeting the needs of a changing population and economy.


Source: MoDOT

Demographics

People rely on and use the state's transportation system every day. The way people utilize transportation changes as their characteristics, needs and preferences evolve.

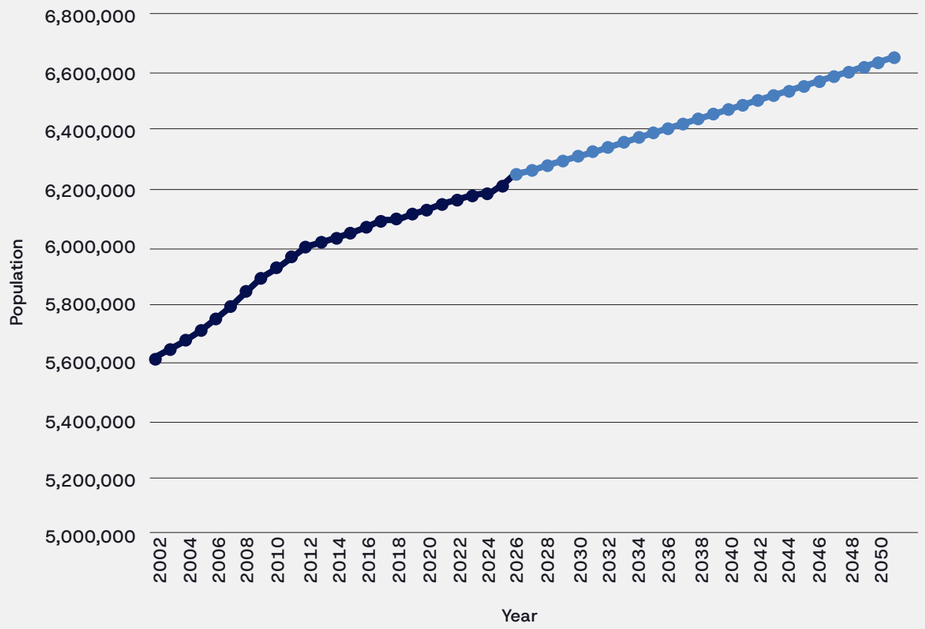
Transportation demand increases or decreases based on changes in demographics, like the age and size of the population.

Being able to forecast population size and age, among other characteristics, allows for improved ability to anticipate potential impacts on the transportation system and how the transportation system would need to adapt to address these changes.

Population Trends and Projections Through 2050

As shown in **Figure 31,** the state is projected to continue growing during the next 30 years, with a total population approaching 6.7 million people by 2050, compared to 6.1 million in 2024. The state is projected to surpass 6.4 million people by 2034. The projected growth rate remains positive and the state's net population increase will be primarily attributable to natural increases (births minus deaths) with slight gains in net migration. The state's projected population growth will continue to increase VMT throughout the state. With an increasing population and VMT, congestion, safety and maintenance will continue to be primary transportation concerns.

Figure 31 – Historic Population and Projected Growth in Missouri, 2002–2050



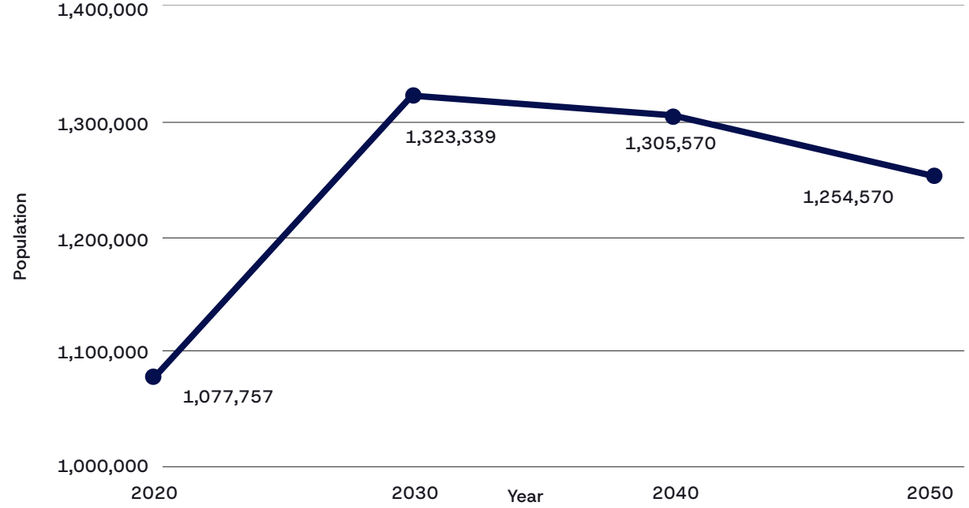
Source: Missouri Census Data Center (MCDC), State/County Annual Population Change, 2025.

Population Trend One – An Aging Population

The United States (U.S.) population of persons aged 65 and over is one of the fastest growing segments. Populations 65 and over reached 55.8 million, or 16.8% of the U.S. population, in 2020.[52] The state mirrors the national trend of an increasing population for this age group. In 2023, the state's 65 and over population was 17.4% of the state's total population.[53] It is estimated that by 2030 this group will represent more than one-fifth of Missourians (21%).[54] However, it is projected the population of persons aged 65 and over will peak by 2030 with projections for 2040 and 2050 being lower, as shown in **Figure 32.**

Changes in the state's over 65 population will likely have the greatest impact on the state's travel demand of any changes seen among the various age groupings through 2030 with less impact between 2030 and 2050. This population is more likely to want or need to use transportation options other than single occupancy vehicles. In the near-term, as this age group increases, the state will need to explore how to best provide mobility options for the needs of those who decide to stop or reduce their driving. The added number of older drivers encourages investments in highway maintenance and makes safety paramount for the transportation system.

Figure 32 – Missouri's Projected Older Population, 2020–2050



Source: University of Virginia, Weldon Cooper Center for Public Service, National Population Projections, 2025.

[52]U.S. Census Bureau, "U.S. older Population Grew from 2010 to 2020 at Fastest Rate Since 1880 to 1890," May 25, 2023, https://www.census.gov/library/stories/2023/05/2020-census-united-states-older-population-grew.html.

[53]U.S. Census Bureau, "Demographic and Housing Estimates," American Community Survey (ACS), ACS 5-Year Estimates Data Profiles, Table DP05, 2023, https://data.census.gov/table/ACSDP5Y2023.DP05?q=Missouri+population&g=040XX00US29.

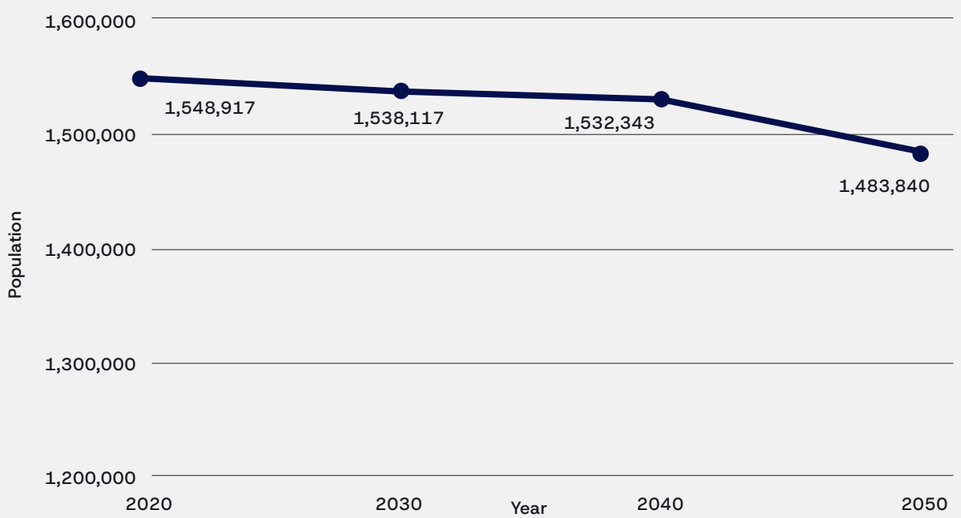
[54]Missouri Office of Administration, Division of Budget and Planning, "Population Trends," accessed June 5, 2025, https://budplan.oa.mo.gov/demographic-information/population-trends.

Population Trend Two – A Decreasing Younger Population

As shown in **Figure 33**, from 2020 to 2050 the state's younger population, those ages 0 to 19, is projected to decrease at an average rate of 1.41%, with the biggest decrease occurring between 2040 and 2050. In the mid-2040s, the state's younger population is projected to fall to under 1.5 million people. In 2023, the state's population of people ages 0 to 19 was 25.1% of the state's total population.[55] It is estimated that by 2030 this group will drop to 24.5% of the state's total population, still representing approximately one-quarter of Missourians. Overall, the younger population is projected to decrease by approximately 65,000 by 2050.[56]

This projected decrease in the state's younger population contrasts with the projected increase in the younger population nationally. Nationally, the younger population is expected to increase from 2020 to 2050, approaching close to 90 million people in 2050.

Figure 33 – Missouri's Projected Younger Population, 2020–2050



Source: University of Virginia, Weldon Cooper Center for Public Service, National Population Projections, 2025.

[55]U.S. Census Bureau, "ACS Demographic and Housing Estimates," American Community Survey, ACS 5-Year Estimates Data Profiles, Table DP05, 2023, https://data.census.gov/table/ACSDP5Y2023.DP05?q=Missouri+population&g=040XX00US29.

[56]University of Virginia, Weldon Cooper Center for Public Service, "National and 50-State Population Projections," 2024, https://coopercenter.org/national-population-projections.

Population Trend Three – Concentration of Population and County Trends

Since 2010, the population living in the state's urban areas has increased to 65% of the state's total population.[57] The southeastern portion of the state experienced the greatest population decline. All population projections expect to see a continued migration of people moving from rural regions to urbanized areas, as shown in **Figure 34**.

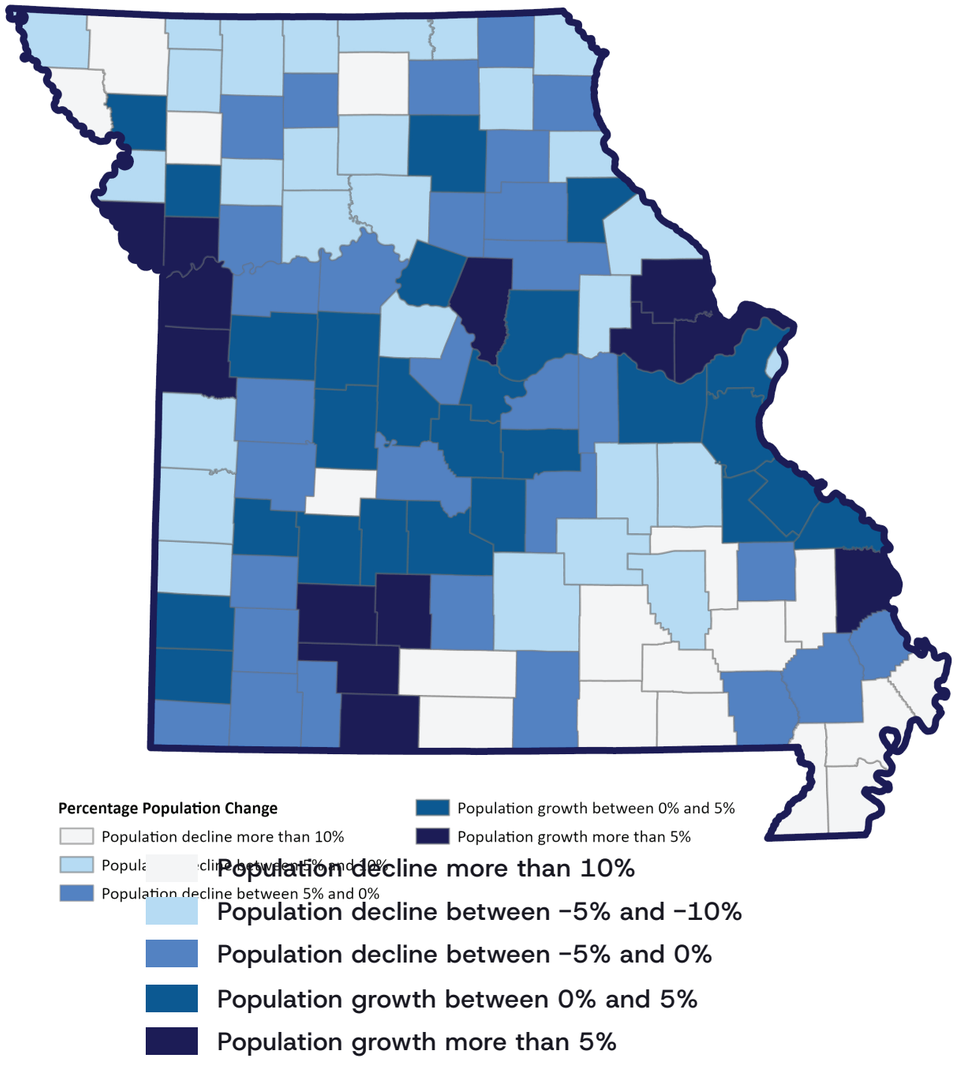
The suburbs and the counties surrounding the state's major urban areas of Kansas City, Springfield and St. Louis, are the locations projected to have the highest population gains. Migration trends indicate a continuing decrease in population will occur in the rural areas located in the northern and southeastern portions of the state.

Census projections show the state's 10 fastest growing counties are those within the Metropolitan Planning Areas of Cape Girardeau, Columbia, Kansas City, Springfield and St. Louis. Current growth patterns indicate the primary locations of population increases will be suburban and adjacent rural areas in those counties. The metropolitan planning organizations (MPOs) in Kansas City and St. Louis continue to adopt strategies prioritizing transportation system improvements that support their increasing populations. Travel in urbanized areas is expected to increase in tandem with an increase in statewide VMT, which will prolong periods of congestion and increased traffic during peak travel times.


Source: MoDOT

[57]MCDC, "Population Trends, 2010 to 2020," accessed June 5, 2025, https://mcdc.missouri.edu/applications/population/trends/report.php?y=2010-2020&g=29all&d=total.

Figure 34 – Population Change by County, 2010–2020

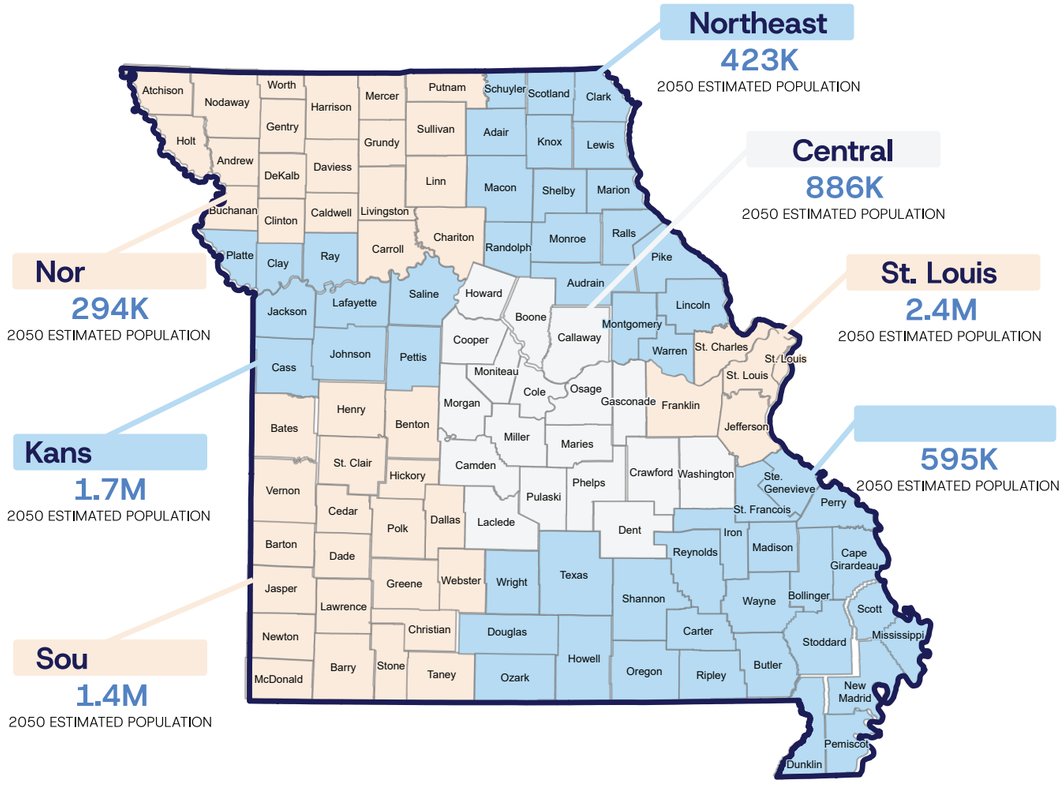


Source: HG Consult Inc. analysis of MCDC, State/County Annual Population Change, 2025.

Population Trends by MoDOT District

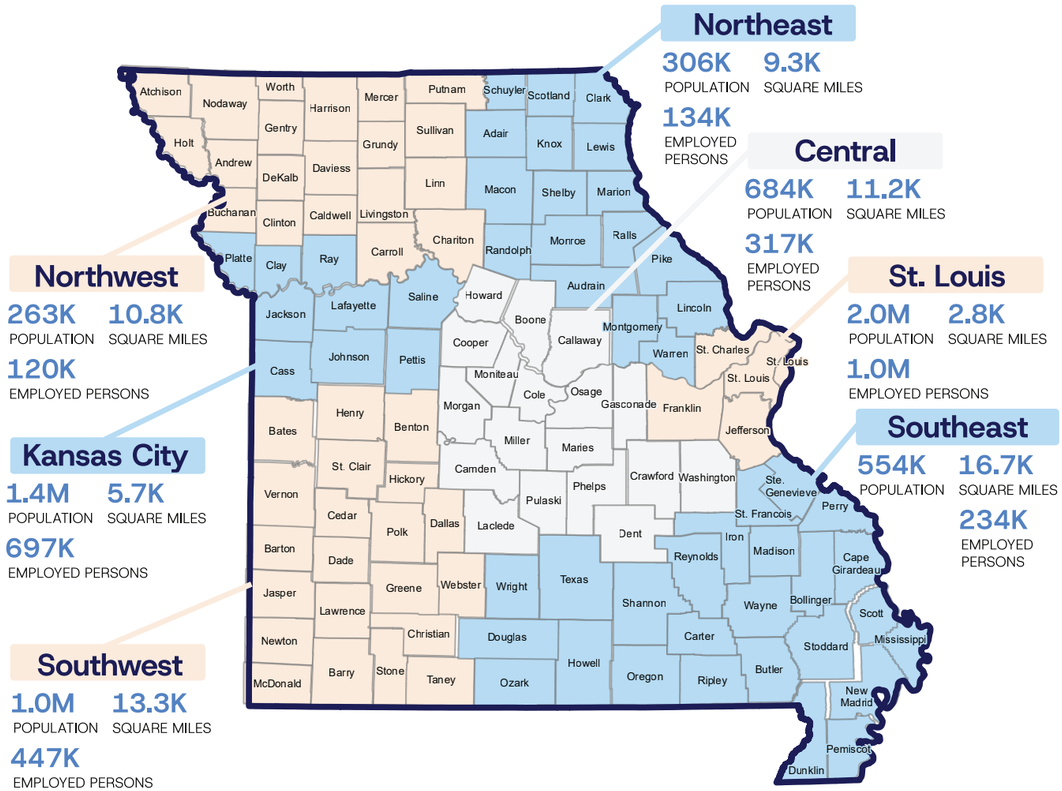
Figure 35 presents Missouri Department of Transportation (MoDOT) District population estimates through 2050. As shown in **Figure 36,** which is based on U.S. Census County population totals from 2020 to 2024, the Central, Kansas City, St. Louis, Northeast, Southwest and Southeast Districts are projected to experience population growth, while the Northwest District is expected to see a decline in its population share.

Figure 35 – MoDOT District Population Estimates, 2050



Source: Missouri Office of Administration, Division of Budget and Planning.

Figure 36 – MoDOT District Population, Square Miles and Employment



Source: U.S. Census Bureau 2020–2024 Estimates.

[58]U.S. Census Bureau, "County Population Totals and Components of Change: 2020-2024," March 2025, https://www.census.gov/data/tables/time-series/demo/popest/2020s-counties-total.html.

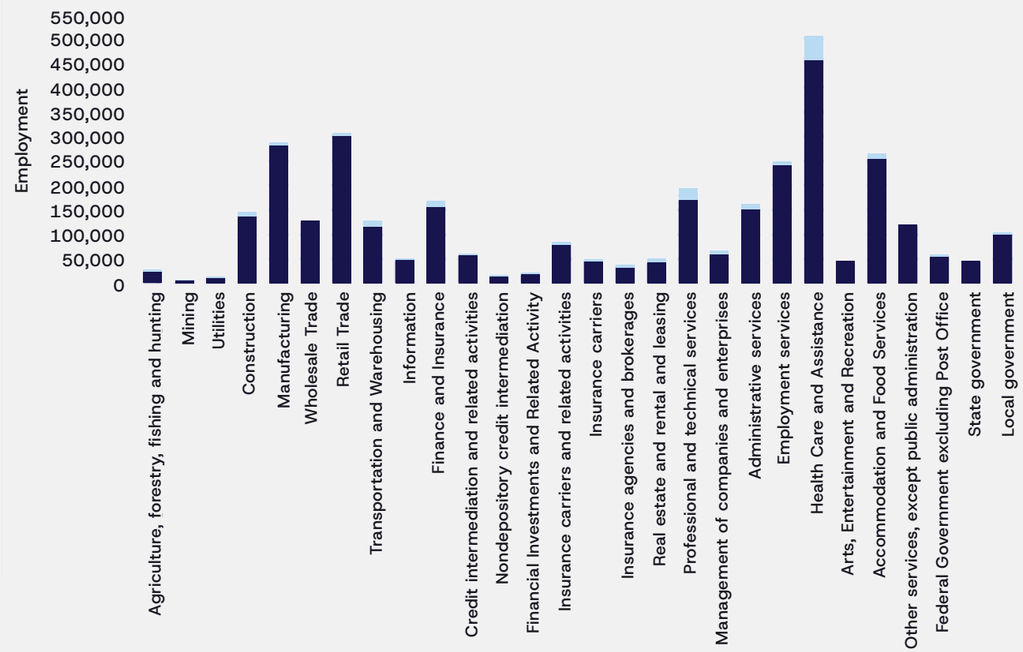
Economics and Employment

Economic activity and employment levels are critical drivers of transportation system performance. GSP, as an indicator of overall business activity, is closely linked to travel demand. Periods of economic slowdown or elevated unemployment, such as those experienced from 2020 through 2025, often correlate with reduced VMT, reflecting decreased commuting, freight movement and overall travel. **Figure 37** highlights industry employment projections between 2022 and 2032.

A distinctive aspect of the state's transportation story is the presence of two major bi-state metropolitan areas, St. Louis and Kansas City, as well as several smaller bi-state regions. As a result, many individuals who work in the state reside in neighboring states. To a lesser extent, Missourians also commute out of state for work. This daily "import" of workers has important implications for the state's transportation system.

The high volume of cross-border commuting increases demand on the state's highways, bridges and transit systems, particularly during peak travel times. It also contributes to wear and tear on infrastructure without necessarily generating corresponding tax revenue, since many commuters do not pay income or property taxes in the state. Additionally, coordinating transit services, traffic management and infrastructure investments with neighboring states becomes more complex. These dynamics underscore the importance of regional planning, interstate collaboration and targeted investment in corridors that serve bi-state travel patterns.

Figure 37 – Industry Employment Projections in Missouri 2022 and 2032

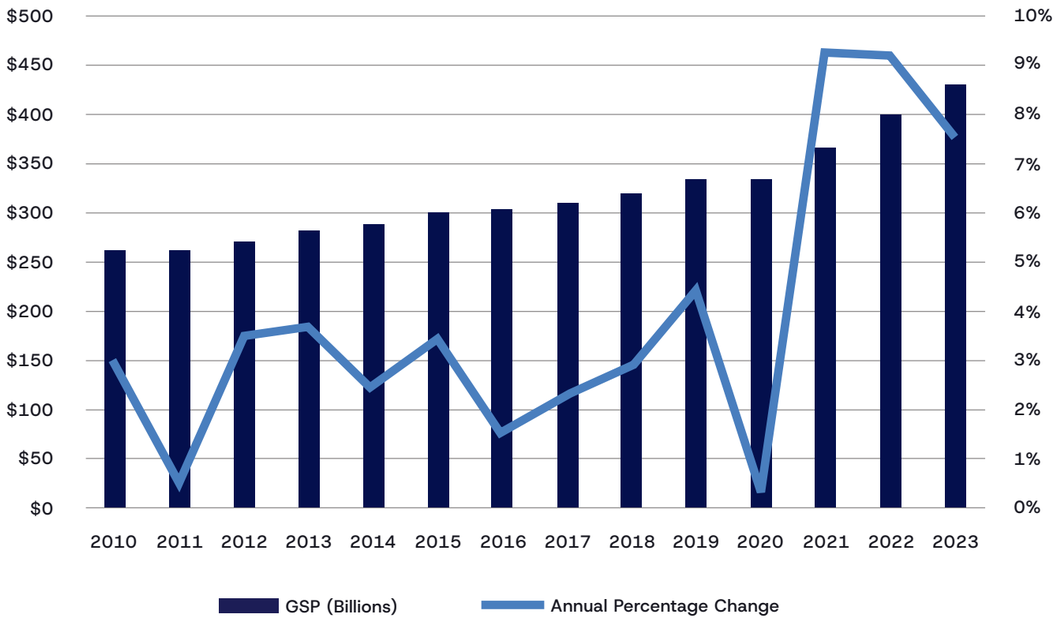


Source: Missouri Economic Research and Information Center (MERIC), Industry Employment Projections,2025.

Gross State Product Trends

GSP represents the total economic output of the state's economy and serves as a primary indicator of overall economic health and business activity within the state. As shown in **Figure 38**, the state's GSP has had a nominal growth rate of 6.1% over the past five years (2019 to 2023). Adjusted for inflation, the growth rate averaged 2.1% over the same period. Disregarding the 2020 values as an outlier data point due to the COVID-19 pandemic, the growth percentages are 7.6% (nominal) and 3.1% (inflation adjusted) respectively.

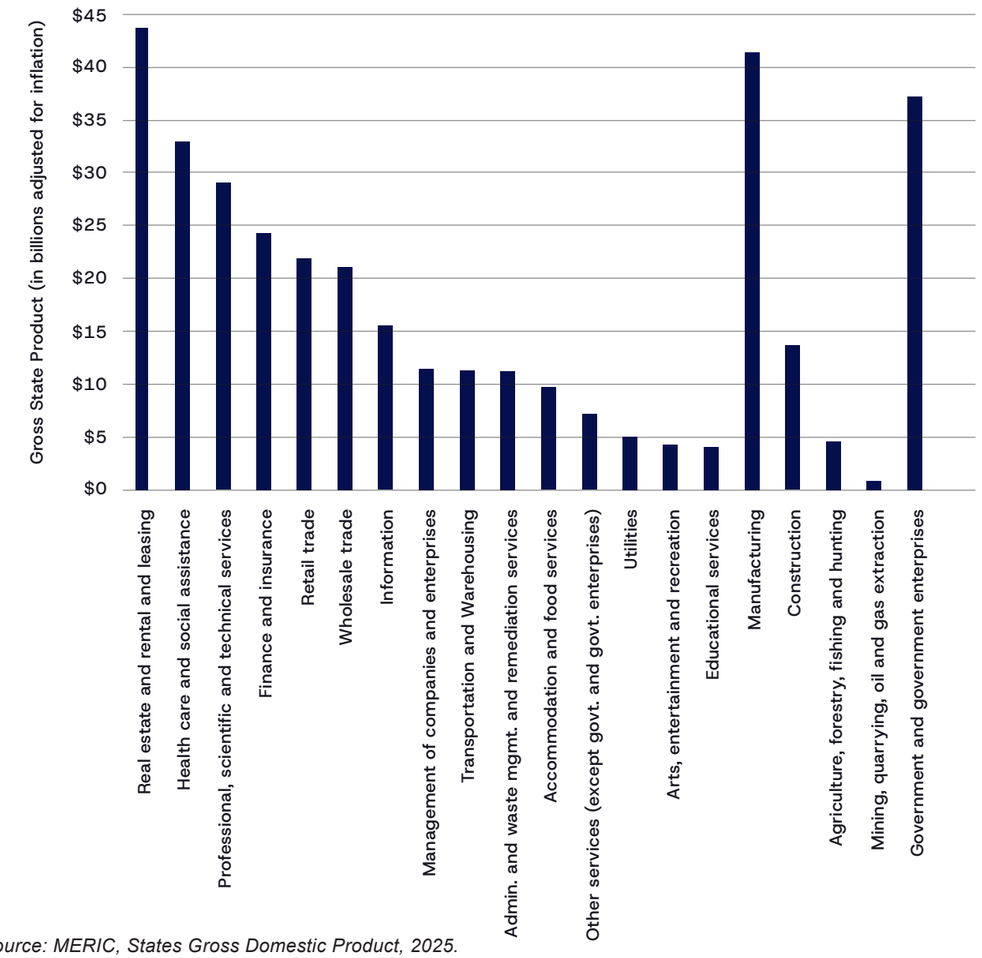
Figure 38 – Missouri Gross State Product, 2010–2023



Source: MERIC, States Gross Domestic Product, 2025.

The state's GSP by industry type is shown in **Figure 39**. The largest industry contributors to the state are real estate/rentals, manufacturing and healthcare social services when excluding government enterprises. When analyzing these largest industries in the state, there is a direct relationship between manufacturing and the need for transportation corridors to move these physical goods from their points of origin to their destination.

Figure 39 – Missouri Gross State Product by Industry, 2023



Source: MERIC, States Gross Domestic Product, 2025.

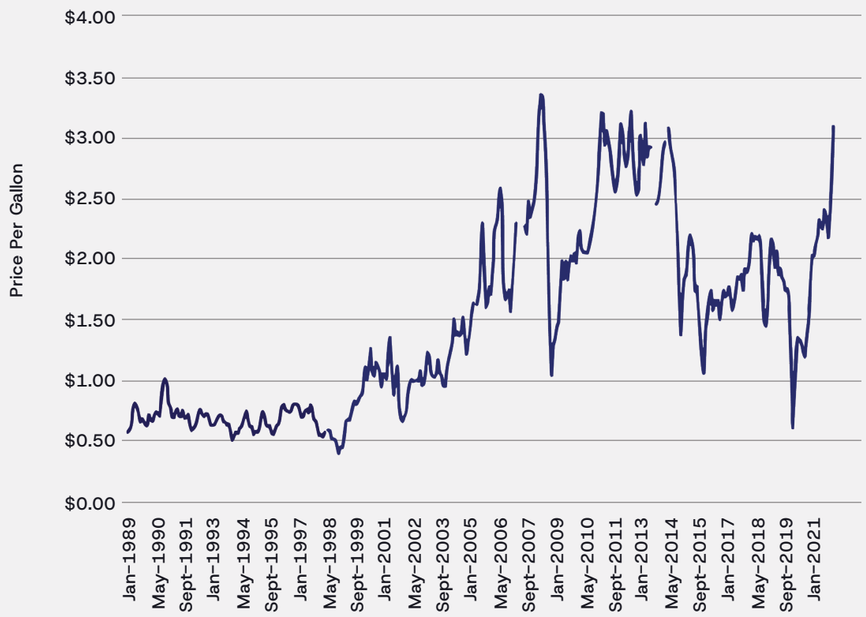
Fuel Price Trends

The state's fuel price trends displayed in **Figure 40** show gas prices from 1989 to 2021. Over this period, gas prices have shown significant fluctuations, shaped by a range of economic, geopolitical and market factors. From 1989 through the late 1990s, gas prices in the state remained relatively stable, generally fluctuating between $0.70 and $1.20 per gallon. A sharp upward trend began in the early 2000s, driven by increasing global demand, geopolitical tensions and rising crude oil prices. By mid-2008, gas prices peaked at over $3.70 per gallon, representing the highest level observed during the period.

The sharp drop in prices during late 2008 reflects the global financial crisis, which led to a significant decline in demand. Prices recovered and remained volatile throughout the 2010s, with another peak approaching $3.50 per gallon around 2012 to 2013, followed by a decline beginning in 2014 due to increased oil production and a softening global economy. The most dramatic decline occurred in early 2020 during the onset of the COVID-19 pandemic, when prices briefly fell below $1.00 per gallon due to plummeting demand and an oversupply of oil. However, prices quickly rebounded in 2021 and surged into 2022, surpassing $3.00 per gallon, driven by global supply chain disruptions, recovering demand and geopolitical instability.

Overall, the graph reflects the strong influence of macroeconomic events, energy markets and global crises on fuel costs, with direct implications for consumer behavior and transportation system performance in the state.

Figure 40 – Missouri's Fuel Prices, 1989–2021

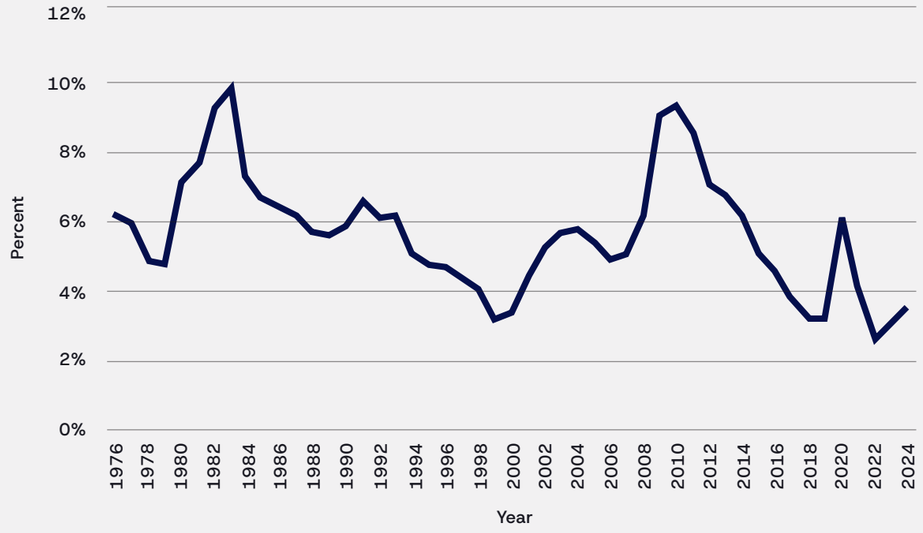


Source: Adapted from U.S. Energy Information Administration (EIA), Missouri Gasoline Midgrade Wholesale/Resale Price by Refiners, 1989-2021.

Employment and Socioeconomics Characteristics

The available workforce in the state exceeds 3.1 million people with nearly 3 million people employed in sectors other than farming. As shown in **Figure 41**, the unemployment rate has been steadily declining since peaking at 9.8% in the first quarter of 2010 to currently less than 4% statewide. This trend impacts MoDOT's ability to recruit and retain its workforce. According to the American Community Survey (ACS), 19%, or one out of every five employed Missourians, work in the trade, transportation and utilities industries. Other industry sectors that have large contributions to the state's employment base include education (18%), government (15%), professional and business services (12%), manufacturing (10%) and leisure and hospitality (10%).

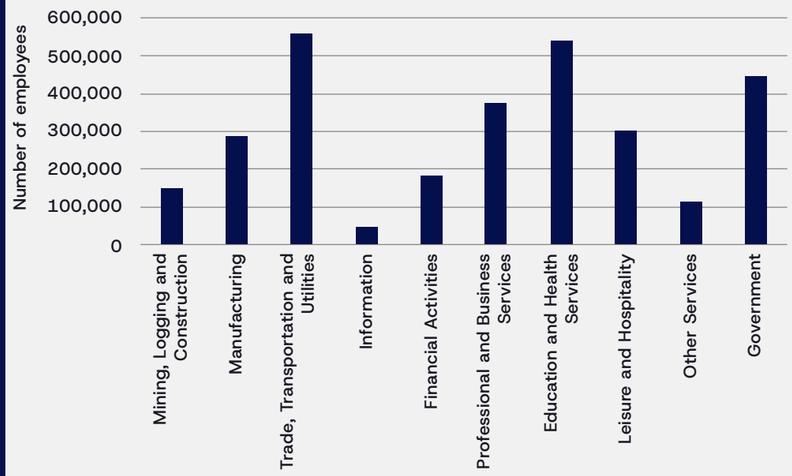
Figure 41 – Missouri Unemployment Rate, 1976–2024



Source: Bureau of Labor Statistics (BLS), Local Area Unemployment Statistics, 2025.

Figure 42 illustrates employment by industry in the state for the year 2025. National projections for employment across the nation show an increase in the need for health care and social assistance due mainly to aging population trends. The state is expected to follow this national trend over the coming years.

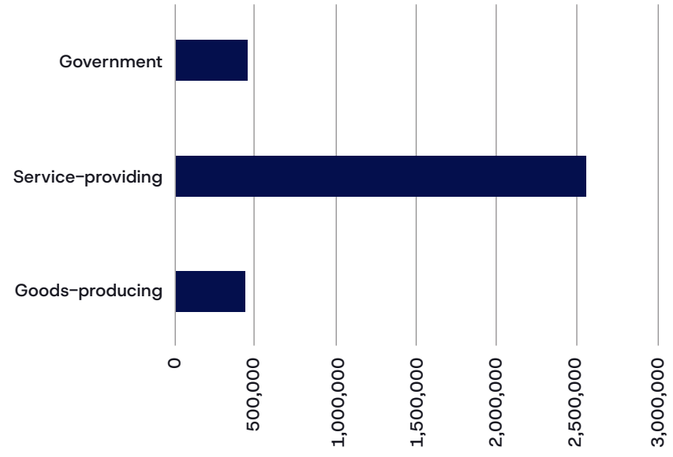
Figure 42 – Missouri Workers by Industry, 2025



Source: MERIC, Current Employment Statistics, 2025.

Figure 43 illustrates the largest employment sectors in the state in 2025. Goods-producing (12.9%) and service-providing (74.4%) sectors of the workforce are often related to the shipment of goods and provision of services that utilize the state's transportation system. Shipment of goods within and to destinations outside the state use the state highway system, water ports and airports to receive, transport and deliver raw, unfinished and finished goods. Service-sector employment is important to the state transportation system for a wide variety of reasons, ranging from employee commuting to for-hire transportation services, e-commerce delivery and other transport activities.

Figure 43 – Largest Employment Sectors in Missouri, 2025

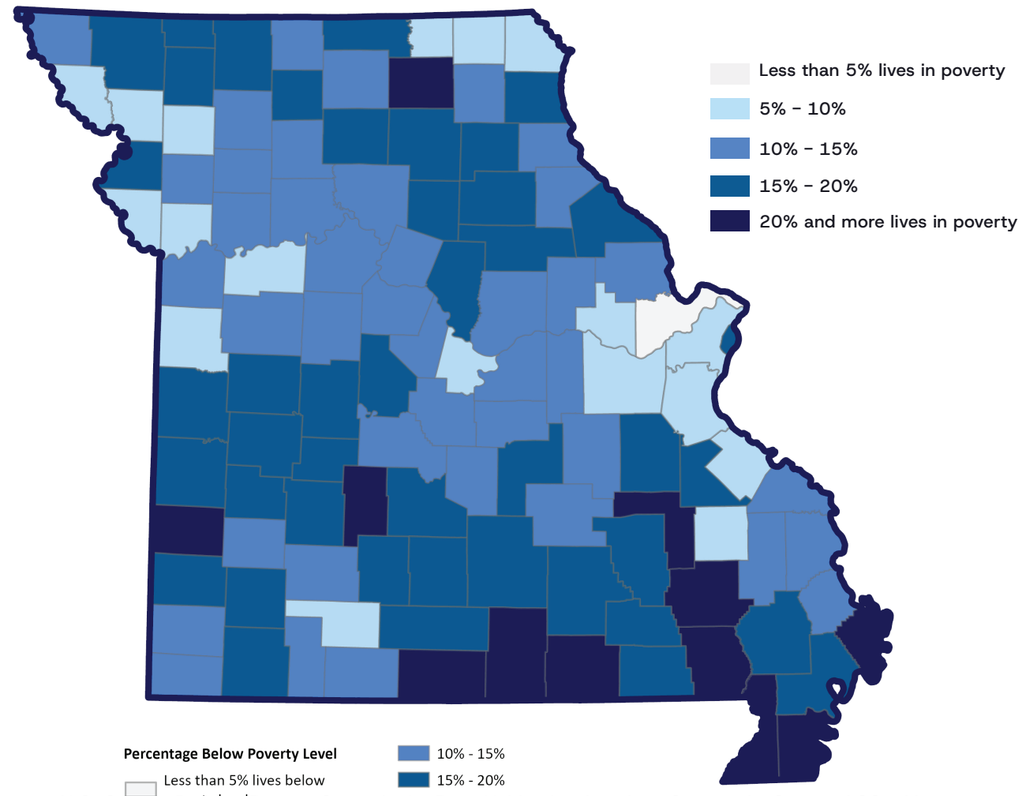


Source: MERIC, Current Employment Statistics, 2025.

Personal Income and Poverty Statistics

The real median income in the state was reported to be $68,920 in the year 2023.[59] This was an increase of 4.5% from the reported real median income of 2022. Even with the increase of median income, 12% of the state's population lived below the poverty level at some point during the year 2023, according to ACS statistics.[60] Poverty percentages are highest in Wayne County and Pemiscot County where more than 25% live below the poverty line, as displayed in **Figure 44**. For many living below the poverty line, it can be difficult to find transportation to and from a job or seek a prospective job, with limited transportation choices. Lower income individuals may have one or no vehicles available and those in rural areas typically have limited public transit options.

Figure 44 – Missouri Poverty Levels by County, 2023



Source: U.S. Census Bureau, Poverty Status in the Past 12 Months, American Community Survey, ACS 5-Year Estimates Subject Tables, Table S1701, 2023.

[59]U.S. Census Bureau, "Median Income in the Past 12 Months (in 2023 Inflation-Adjusted Dollars)," American Community Survey, ACS 5-Year Estimates Subject Tables, Table S1903, 2023, https://data.census.gov/table/ACSST5Y2023.S1903?t=Income+(Households,+Families,+Individuals)&g=040XX00US29.

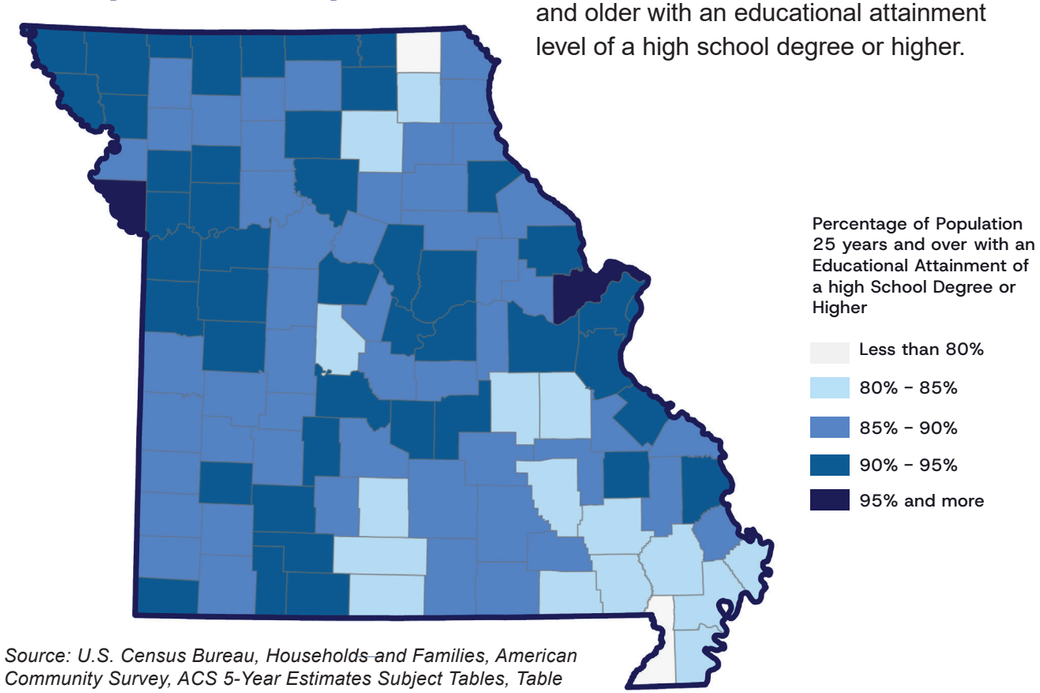
[60]U.S. Census Bureau, "Poverty Status in the Past 12 Months," American Community Survey, ACS 5-Year Estimates Subject Tables, Table S1701, 2023, https://data.census.gov/table/ACSST5Y2023.S1701?t=Poverty&g=040XX00US29.

Educational Attainment

In 2023, according to ACS statistics, the percentage of persons 25 years and older with an educational attainment level of a high school degree or higher for the state of Missouri was 91.6%. This was an increase of 0.3% from 2022's percentage of persons 25 years and older with an educational attainment level of a high school degree or higher. The state's 2023 percentage of persons 25 years and older was over 2% higher than the national percentage of 89.4%.

The percentage of persons 25 years and older with an educational attainment level of a high school degree or higher was highest in Platte County with 96.7%. Scotland County had the lowest percentage of persons 25 years and older with an educational attainment level of a high school degree or higher at 78.4%. Transportation availability can influence access to education and job opportunities. A well-functioning transportation system with a variety of available and reliable transportation options may remove barriers to higher levels of educational attainment. **Figure 45** shows each county's percent of population 25 years and older with an educational attainment level of a high school degree or higher.

Figure 45 – Educational Attainment Levels by Missouri County, 2023



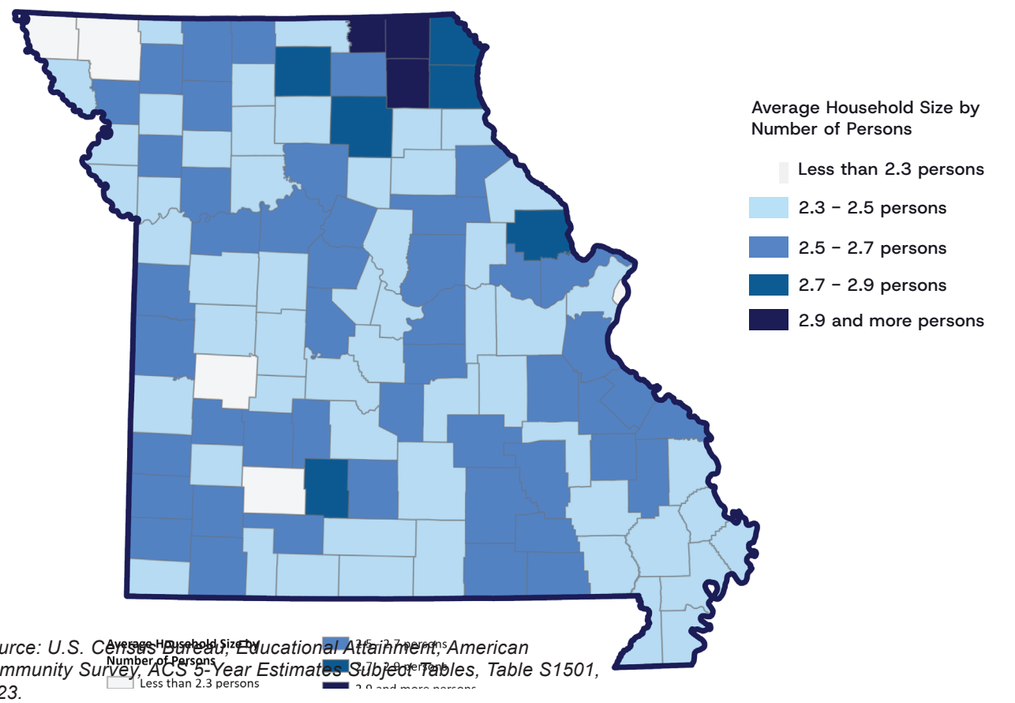
Source: U.S. Census Bureau, Households and Families, American Community Survey, ACS 5-Year Estimates Subject Tables, Table S1101, 2023.

Persons and Children Per Household

The average number of persons per household in the state for 2023, according to ACS statistics, was 2.42 persons. The state's 2023 average household size was 0.02 persons less than 2022's value of 2.44 persons. For 2023, the state's average number of persons per household was 0.1 persons less than the national number of 2.54 persons. Schuyler County had the highest average number of persons per household with 3.2 persons and St. Louis City has the lowest average number of persons per household with 1.96 persons. A larger household may indicate a greater number of transportation users than a smaller household. The greater the number of transportation users a household has the more reliant that household is on the transportation system. **Figure 46** shows each county's average number of persons per household.

In 2023, the percentage of the state's households with one or more people under 18 years old was 28.7%, 0.1% less than in

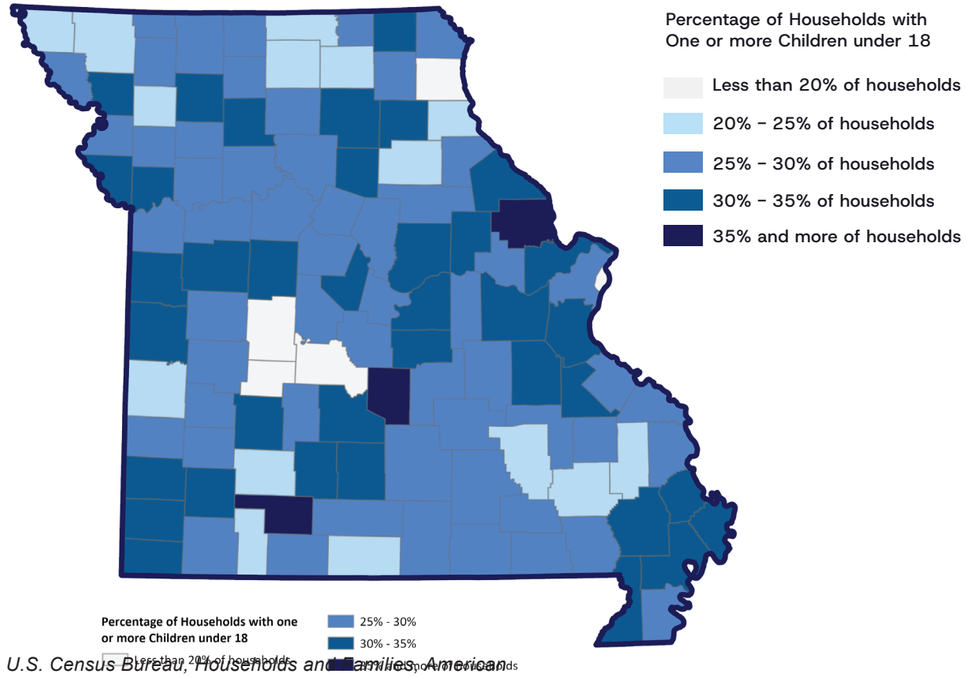
Figure 46 – Average Household Size by Missouri County, 2023



Source: U.S. Census Bureau, Educational Attainment, American Community Survey, ACS 5-Year Estimates Subject Tables, Table S1501, 2023.

2022 (28.8%). The state's 2023 percentage of households with one or more people under 18 years old was 1.2% less than the national percentage of 29.9%. According to 2023 ACS statistics, Christian County had the largest percentage of households with one or more people under 18 years old at 39%. Hickory County was the county with the smallest percentage of households with one or more people under 18 years old at 12.4%. Children rely on other household members for transportation to and from school and other activities. Children may also rely on school provided transportation services as well as public transportation. The more children a household has, the more reliant that household may be on the transportation system. Having a dependable transportation system and providing a variety of accessible transportation services benefits all transportation users and may benefit households with people under 18 more. **Figure 47** shows the percentage of households with one or more people under 18 for each county in the state.

Figure 47 – Missouri Percentage of Households with One or More Children by County, 2023



Source: U.S. Census Bureau, Households and Families, American Community Survey, ACS 5-Year Estimates Subject Tables, Table S1101, 2023.

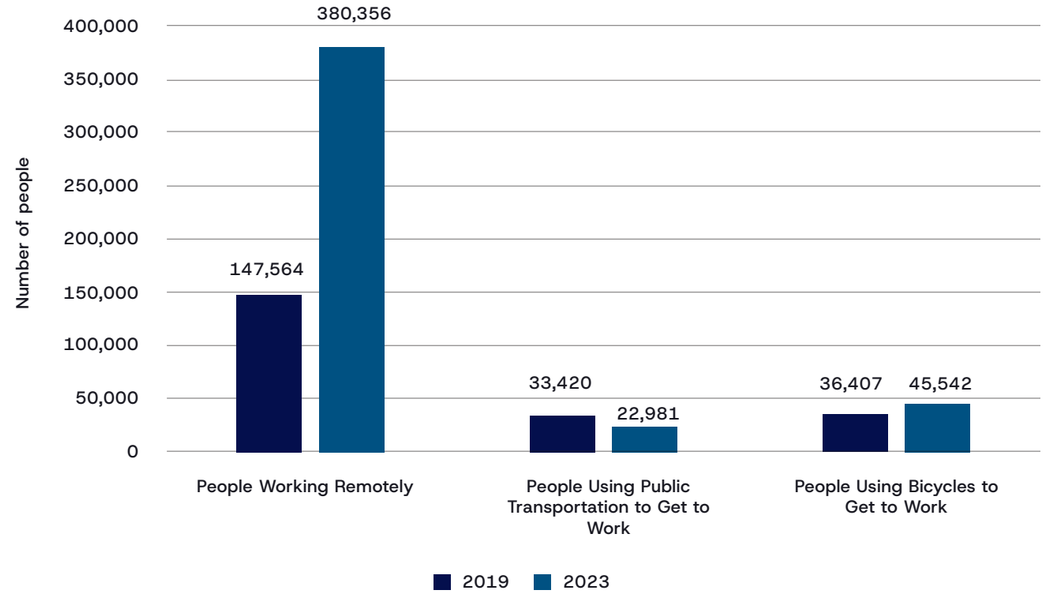
Travel Trends

Emerging trends including an aging population, a growing younger population, increasing urbanization, the sharing economy and advanced technology may combine in ways that would significantly alter transportation needs. Moreover, existing trends include anticipated growth in truck freight, commuters preferring to travel in private vehicles and increasing VMT would continue to be significant contributing factors to the use of the transportation system and travel patterns in the state.

Travel Choices in Missouri Are Changing

Travel by personal vehicle is still the primary transportation mode of choice both in the state and nationally. However, there are changing trends in travel choices seen in the state. From 2019 to 2023, the percentage of Missourians who work remotely increased by 158% (380,356). Exploring other commuter modes, 10,439 Missourians stopped using public transit to commute to and from work and an increase of 9,135 started biking or cycling to commute to and from work. See **Figure 48** below.

Figure 48 – Travel Choices in Missouri, 2019 and 2023



Source: MoDOT, Fast Facts, 2025; Adapted from MoDOT, Transportation Systems Management and Operations (TSMO) Program and Action Plan, 2024.

Roadway

While the personal automobile is the primary transportation mode of choice both in the state and nationally, this section examines trends in travel choices being made today and how these trends may influence overall transportation system usage.

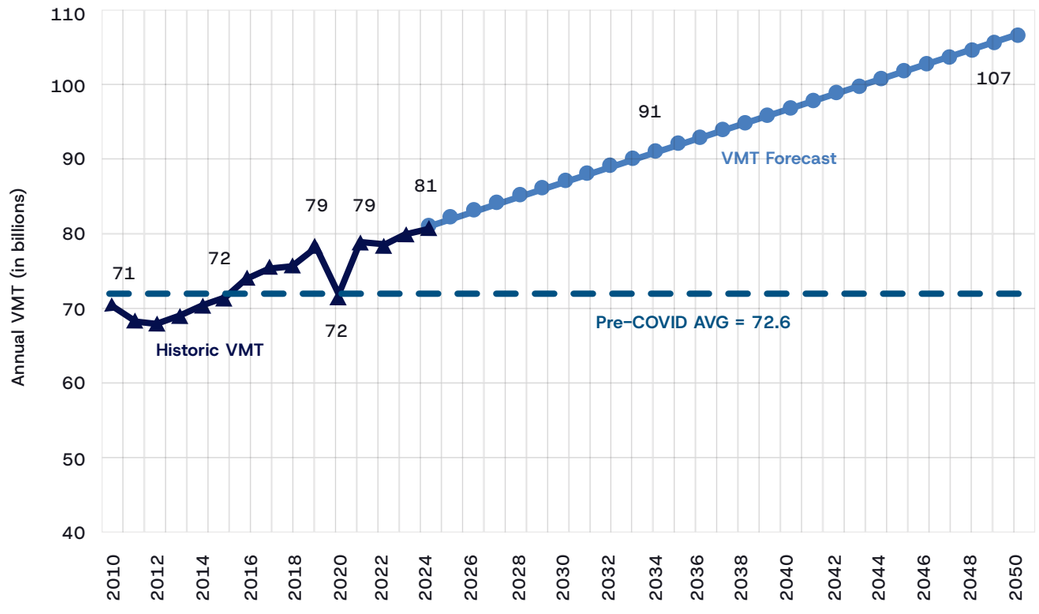
Recent State VMT Trends

Figure 49 shows annual VMT trends between 2010 and 2024 and includes projections through 2050. Since 2012, VMT has experienced a slight increase annually, followed by a noticeable decrease in 2020.

The drastic drop of roughly seven billion VMT, in 2020, coincided with the COVID-19 pandemic. VMT rose significantly in 2021 to be slightly above the pre-pandemic level of 2019. After a decrease in 2022, VMT increased in 2023 and 2024. In the future, VMT is expected to grow annually. VMT is projected to surpass 100 billion by 2044.

The growth in VMT may be attributed to a number of factors including shifting populations, suburban sprawl and increased delivery trucks on the road.

Figure 49 – Annual Vehicle Miles Traveled

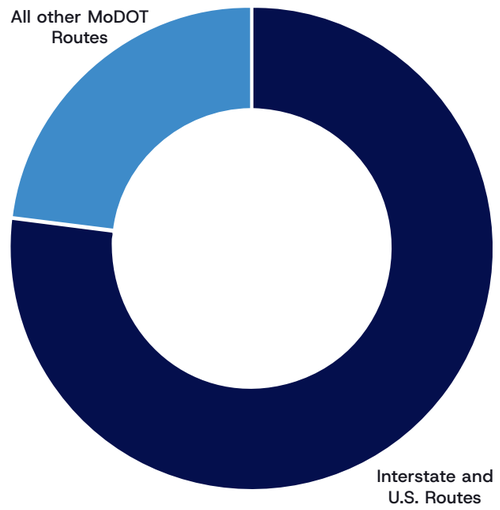


Source: MoDOT, Fast Facts, 2025; Adapted from MoDOT, TSMO Program and Action Plan, 2024.

Percentage of Travel by Route Type

The Missouri state highway system spans over 33,800 miles and is categorized by route type based on usage and traffic volume. As shown in **Figure 50,** which illustrates the percentage of total traffic carried by each route category, a significant portion of travel is concentrated on a relatively small segment of the network. Interstate and U.S. Routes, totaling approximately 5,560 miles, accommodate 77% of all highway traffic in the state. In contrast, all other MoDOT routes, which include around 28,254 miles of minor and low-volume roads, carry the remaining 23%. This distribution highlights the critical role of major routes in supporting the state's transportation demands despite their limited share of the total roadway mileage.[61]

Figure 50 – Percent of Statewide Traffic by Route Type



Source: MoDOT, Fast Facts, 2025.


Source: MoDOT

[61]MoDOT, "Fast Facts," accessed June 5, 2025, https://www.modot.org/fast-facts.

Existing Traffic – Congestion Hotspots

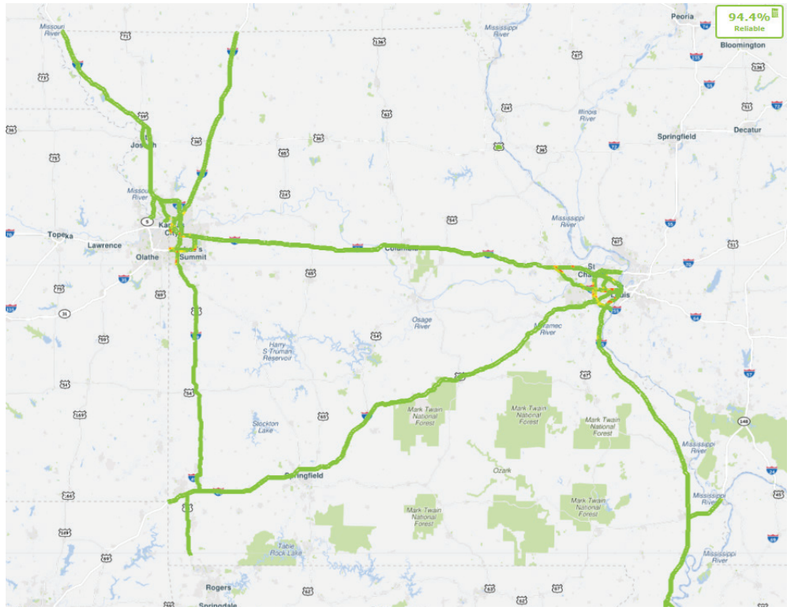
MoDOT uses real-time traffic information from third-party data sources to help monitor congestion and identify bottlenecks on the statewide roadway network. Bottlenecks are locations on the roadway where conditions have fallen below a certain percentage of the free-flow speed for an extended period of time. Simply put, these are areas where recurring congestion typically occurs.

For this analysis, traffic information from 2024 was evaluated for all routes designated as U.S. or state routes to help identify bottlenecks by looking at total delay and congestion metrics. Total delay is the amount of time drivers spend on a roadway in excess of the amount of time they would have been on the roadway in free-flow conditions. In other words, if a trip normally takes 10 minutes but congestion caused the trip to take 15 minutes, the delay would be five minutes. The top 10 areas of total delay in the state are shown in **Appendix E**.

Congestion is similar to total delay, except that it is for individual vehicles and not the cumulative amount of delay for all drivers. This metric helps identify bottlenecks regardless of how much traffic uses a particular roadway. The top 10 areas of congestion in the state are shown in **Appendix F**.

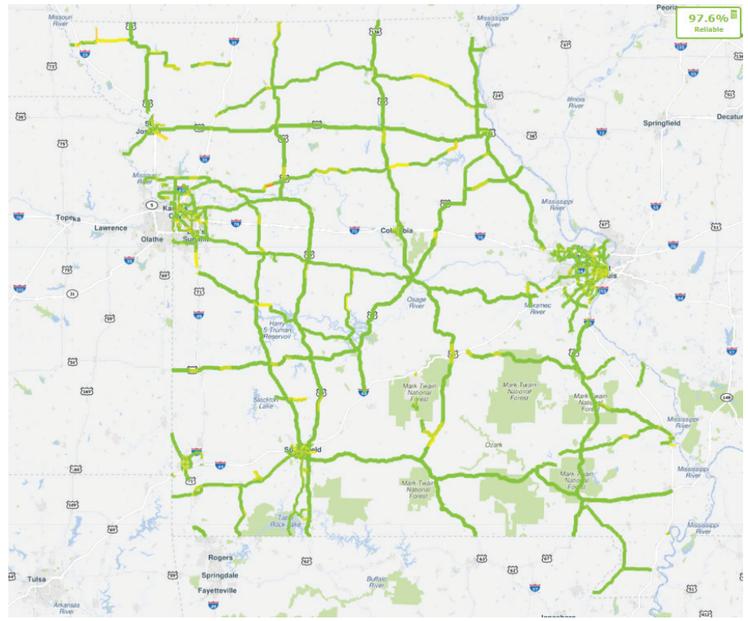
Finally, the Level of Travel Time Reliability (LOTTR) assesses the consistency or dependability of travel times from day to day regardless of whether congestion is a recurring incidence. Even if a road segment experiences recurring congestion, if the level of congestion is similar from day to day, the segment would have a high level of reliability. In contrast, road segments that sporadically have high levels of congestion are considered to be unreliable. As shown in **Figure 51**, 94.4% of interstate routes in the state of Missouri are considered reliable. As shown in **Figure 52**, 97.6% of non-interstate National Highway System (NHS) routes are considered reliable.

Figure 51 – Interstate Travel Time Reliability for Missouri, 2024



Source: MoDOT Analysis of HERE Data, 2024.

Figure 52 – Non-Interstate National Highway System Travel Time Reliability for Missouri, 2024



Source: MoDOT Analysis of HERE Data, 2024.

Fuel Efficiency and Revenue Impact

As referenced in the **Revenue Forecast Chapter**, the per gallon motor fuel tax is a significant source of revenue for the state. Effective July 1, 2025, the motor fuel tax rate will be $0.295 per gallon.[62] The fuel tax collections are distributed to cities based on population and to counties based on road mileage and land valuation, while the remainder is transferred to MoDOT.

The trend toward more fuel efficient or all electric vehicles, when coupled with projections that the state's VMT will continue to increase, indicates there will be increased demand on the state's transportation system. All while less fuel tax is being generated per mile traveled.

To account for this shift towards more fuel-efficient vehicles and make up for less fuel tax revenue, in 2022, the Missouri Department of Revenue implemented an annual special fuel decal fee. All passenger vehicles, commercial and buses (includes public school buses but not shuttle buses) must display a special fuel decal if they are powered by the following: Liquefied Petroleum (LP)/Propane; Electricity; Plug-in Hybrid Electric Vehicle (PHEV) - Model years 2018 and newer; or Natural Gas. The revenue generated from the purchase of special fuel decals is deposited into the State Road Fund.

Since 1975, National Corporate Average Fuel Economy (CAFE) standards have been established with the goal to reduce energy consumption of passenger cars and light duty trucks. Fuel efficiency standards continue to increase. In June 2024, the National Highway Traffic and Safety Administration (NHTSA) announced the final rule establishing CAFE standards that would require an industry-wide fleet average of approximately 50.4 miles per gallon (mpg) in model year 2031 for passenger cars and light trucks and an industry fleet-wide average for heavy-duty pick-ups and vans of roughly 2.851 gallons per 100 miles in model year 2035.[63] While the NHTSA finalized updated CAFE standards in June 2024, subsequent legislative and administrative actions have significantly undermined their enforceability. In June 2025, the U.S. Department of Transportation (USDOT) issued an interpretive rule declaring the 2024 standards legally invalid, citing the inclusion of electric vehicles in fuel economy calculations as inconsistent with federal law.

Source: MoDOT

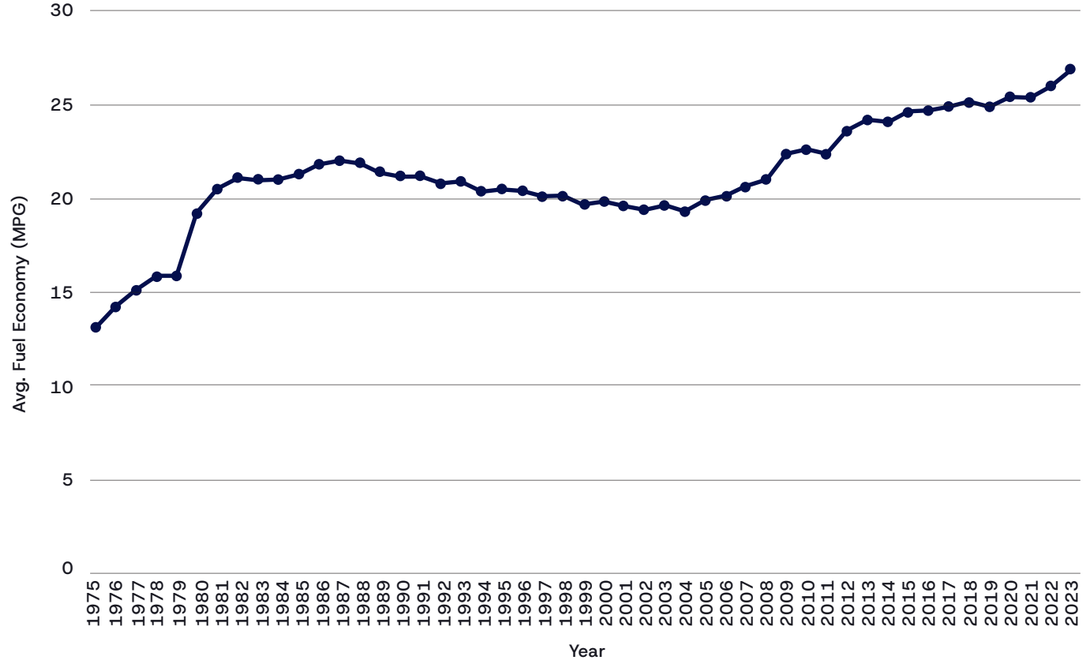
[62]Missouri Department of Revenue, "Motor Fuel Tax FAQ," accessed June 5, 2025, https://dor.mo.gov/faq/taxation/business/motor-fuel.html.

[63]U.S. Department of Transportation National Highway Traffic Safety Administration, "Corporate Average Fuel Economy," June 7, 2024, https://www.nhtsa.gov/laws-regulations/corporate-average-fuel-economy.

Around the same time, Congress passed a federal budget package that eliminated financial penalties for noncompliance and removed key enforcement mechanisms, effectively nullifying the program's regulatory power. Additionally, lawmakers have introduced measures under the Congressional Review Act to formally repeal the 2024 standards, which, if successful, would further weaken or eliminate the CAFE program altogether. **Figure 53** displays the average MPG for light duty vehicles from 1975 to 2023 which has continuously increased over the course of time.

Many automakers have made independent commitments to expand electric vehicle (EV) production and to deploy autonomous vehicle fleets equipped with advanced electronic systems. If these more fuel-efficient and alternative-fuel vehicles become a larger share of the state's rolling stock, overall fuel consumption may decline. If this transition accelerates, the resulting reduction in fuel demand could significantly impact transportation funding, particularly in a state where per-gallon motor fuel taxes remain a primary revenue source. As fuel-efficient technologies continue to advance, the state may need to consider alternative or supplemental funding mechanisms to support the sustainability of its transportation infrastructure.

Figure 53 – Average MPG for Light Duty Vehicles, 1975–2023



Source: Adapted from U.S. Environmental Protection Agency (EPA), "2024 EPA Automotive Trends Report Greenhouse Gas Emissions, Fuel Economy and Technology since 1975," 2024.

Vehicle Ownership

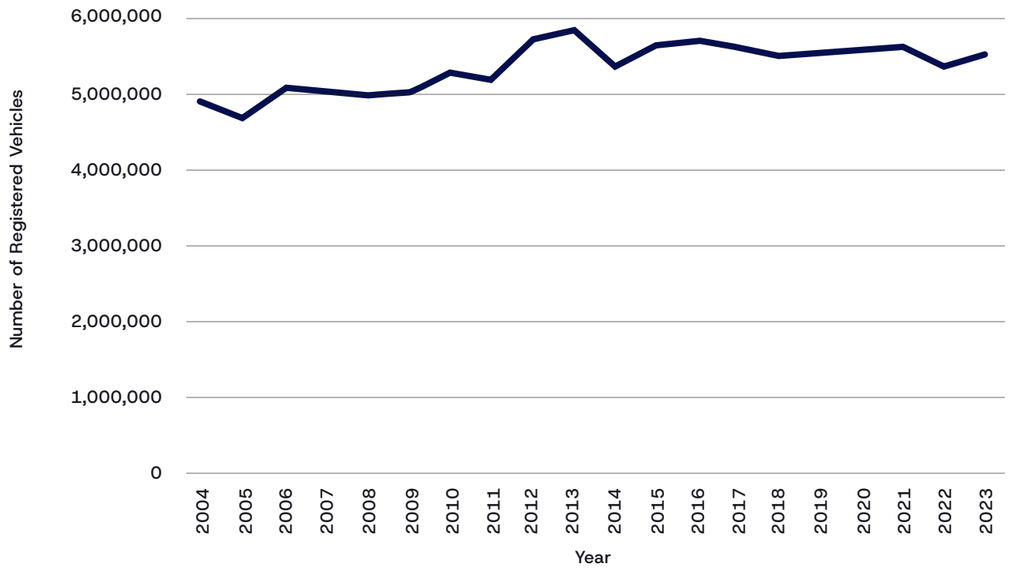
As shown in **Figure 54**, motor vehicle registrations in the state peaked in 2013 when Missourians registered 5.8 million total private and commercial vehicles. In 2023, the state had 5.5 million registered vehicles, an increase of 2.4% from 2022.

Based on ACS data, in 2023, the county with the largest percentage of households with zero vehicles was St. Louis City at 17.9%. Knox County has the lowest percentage of households having zero vehicles at 1.8%. The percentage of zero vehicle households for each county in the state is shown in **Figure 55**. Overall, 6.6% of households in the state have no vehicle, which is less than the National percentage of 8.3%.

Today, not owning a vehicle poses less of a hindrance to a person's transportation mobility. With the rise of ride-share apps that allow riders to simply pay to ride on-demand services, there are now more alternatives to owning personal vehicles.

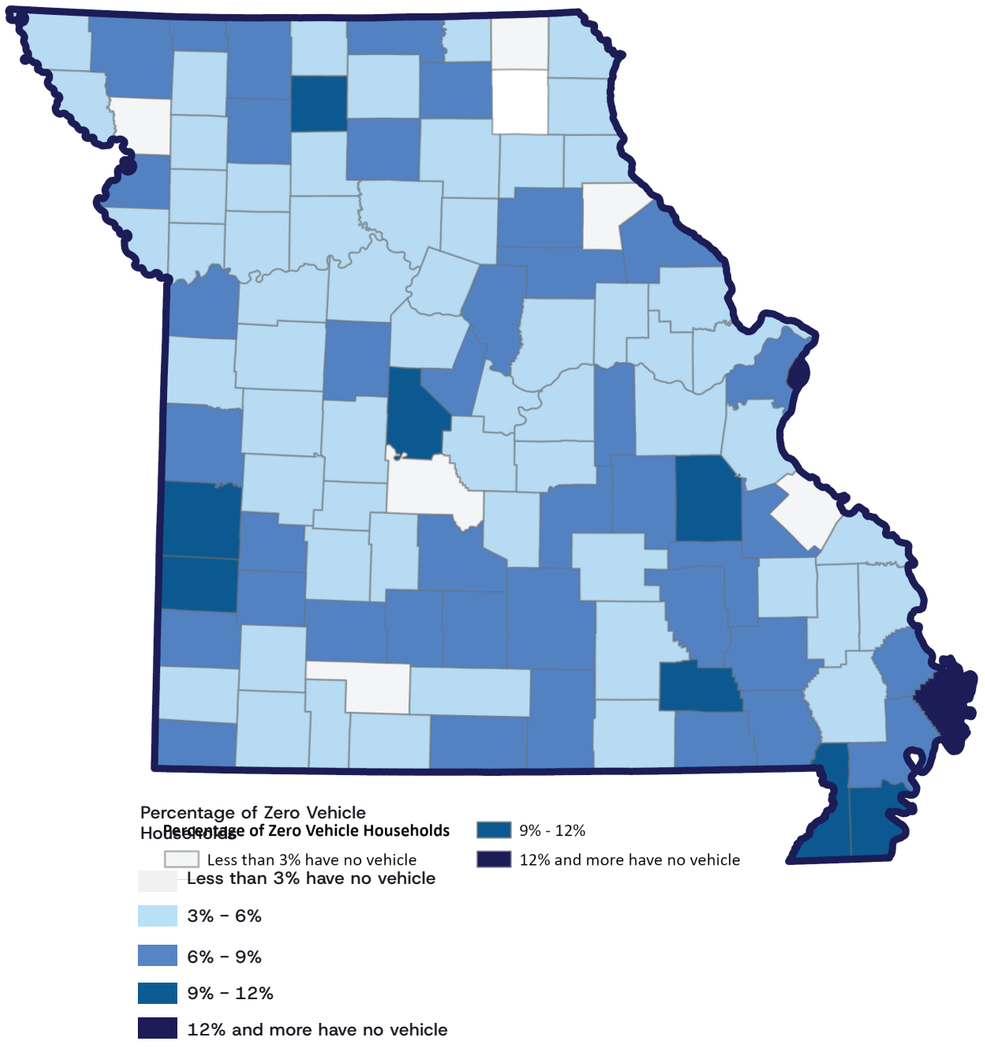
Source: MoDOT

Figure 54 – Total Number of Private and Commercial Vehicles Registered in Missouri, 2004–2023



Source: Adapted from Federal Highway Administration (FHWA), Office of Highway Policy Information, Motor Vehicle Registrations, (1990-2023).

Figure 55 – Zero Vehicle Households in Missouri by County, 2023



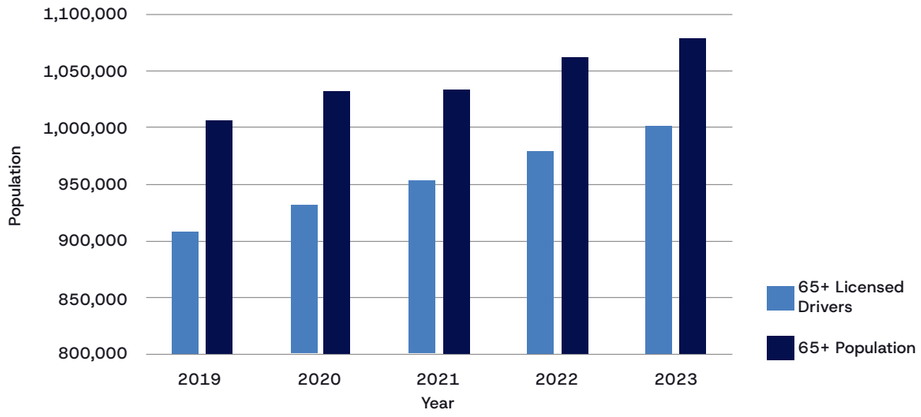
Source: U.S. Census Bureau, Household Size by Vehicles Available, American Community Survey, ACS 5-Year Estimates Subject Tables, Table B08201, 2023.

Licensed Drivers

In 2023, the state had more than 4.3 million licensed drivers, this is an increase of 0.4% from 2022. The 4.3 million licensed drivers are approximately 70% of the state's total population eligible to become a licensed operator. Since 2020, the overall trend for the number of licensed drivers in the state has been increasing.[64]

The Federal Highway Administration (FHWA) classifies young drivers as individuals with a driver's license between the ages of 16-to-24. Of the more than 4 million licensed drivers in the state, 12% of them were in the 16-to-24 age group. In contrast to the classification of young drivers, FHWA classifies older drivers as individuals with driver's license over the age of 65. As the state's population of people 65 and older has grown, so has the number of licensed drivers in this age group. **Figure 56** shows the number of the state's residents 65 years and older with a vehicle operating license. In 2023, of the state's 4.3 million licensed drivers 1 million (23%) of them were 65 years old or older. This was the first time the number of licensed drivers aged 65 or older surpassed 1 million. Older drivers (age 65 and up) have been involved in 16-18% of all the state's fatal and serious injury crashes in the past three years. This is primarily due to the growing population in this age group.[65]

Figure 56 – Missouri Residents Aged 65 and Older with an Operating License, 2019–2023



Source: FHWA Policy and Governmental Affairs Office of Highway Policy Information, Highway Statistics Licensed Drivers, by State, Sex and Age Group, 2023; Source: Adapted from FHWA, Policy and Governmental Affairs Office of Highway Policy Information, Highway Statistics Licensed Drivers, by State, Sex and Age Group, 2022; Source: FHWA, Policy and Governmental Affairs Office of Highway Policy Information, Highway Statistics Licensed Drivers, by State, Sex and Age Group, 2021; Source: FHWA, Policy and Governmental Affairs Office of Highway Policy Information, Highway Statistics Licensed Drivers, by State, Sex and Age Group, 2020; Source: FHWA, Policy and Governmental Affairs Office of Highway Policy Information, Highway Statistics Licensed Drivers, by State, Sex and Age Group, 2019.

[64]FHWA, Office of Highway Policy Information, "Highway Statistics 2023," accessed March 20, 2025, https://www.fhwa.dot.gov/policyinformation/statistics/2023.

[65]MoDOT, "Save MO Lives, Older Drivers," accessed June 5, 2025. https://www.savemolives.com/mcrs/older-drivers.

Commuting Patterns

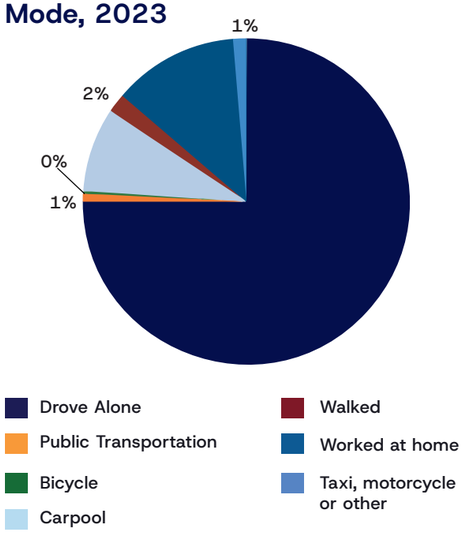
Approximately 75% of those who commute to work do so alone, in a personal vehicle and 8% use carpooling in a personal vehicle. The percentage of commuters carpooling has remained relatively consistent over the last 10 years with only a 0.5% decrease. The percentage of commuters driving alone has decreased 6.8% during the last 10 years; this decrease is the largest among seven commute modes.[66]

Figure 57 highlights the preferred commute mode for Missourians. The percentage of Missourians working from home has increased 8.1% over the last 10 years. In 2023, approximately 13% of Missourians worked from home, making it the second largest commute mode that year. The largest increase in the percentage of workers working from home occurred between 2019 and 2020. An 8% increase occurred between those years, likely tied to the COVID-19 pandemic and continued improvements in communication technologies.

The commuting modes of walking and cycling have decreased slightly over the last 10 years. In 2023, around 0.3% of Missourians commuted via bicycle and 1.8% walked. The use of public transit among commuters has fallen steadily over the last 10 years from its peak of 1.6% of commuters in 2014, with only 0.8% of commuters opting for this mode in 2023.

When compared to national trends, Missourians drive alone to work at a rate nearly 6% above the national average and commute by public transit at a rate of 2.8% less than the national average. The remaining commute modes are close to the national average. Independent of travel mode, Missourians average 23.7 minutes of travel time to work.[67]

Figure 57 – Missourians' Commute Mode, 2023



Source: BTS, Commute Mode, 2023.

[66]BTS, "Commute Mode 2023," accessed June 5, 2025, https://www.bts.gov/browse-statistical-products-and-data/state-transportation-statistics/commute-mode.

[67]U.S. Census Bureau, "QuickFacts Missouri," accessed June 5, 2025, https://www.census.gov/quickfacts/fact/table/MO/PST045224.

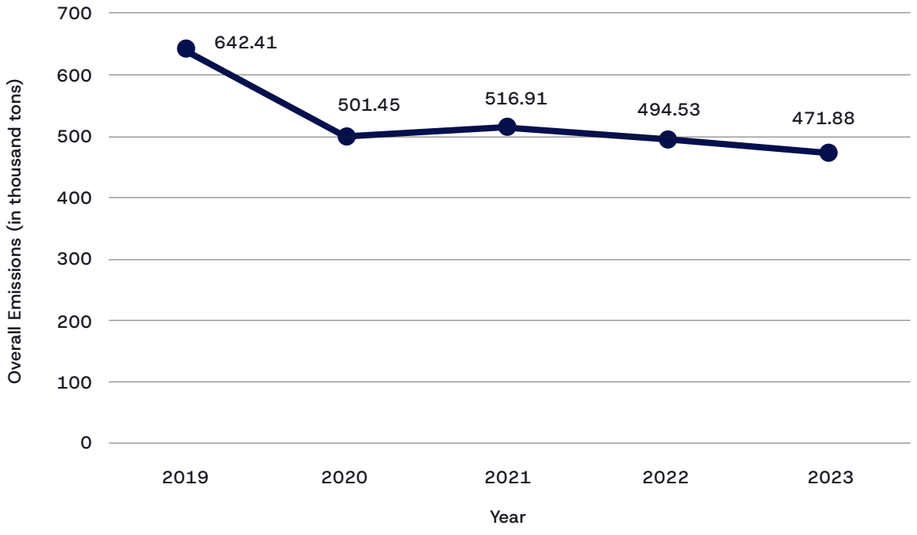
Environmental Resources and Resiliency

Sustainability and Carbon Reduction

Each year the state, along with other states and their delegated local agencies, submit emissions data to the Environmental Protection Agency (EPA) for the National Emissions Inventory. One of the key emissions inventoried is on-road mobile source emissions. On-road mobile source emissions result from motorized vehicles operating on public roadways. Motorized vehicles encompass buses, light-duty trucks, heavy-duty trucks and passenger cars.

As shown in **Figure 58**, there was a 27% decrease in the state's total on-road mobile source emissions from 2019 to 2023. On-road mobile source emissions produce several pollutants, but the pollutant contributing the most to the total number of on-road mobile source emissions is Carbon Monoxide (CO). CO forms from on-road vehicles when carbon-based fuels like gasoline are not burned completely. CO accounted for 79% of the state's total emissions from on-road mobile sources in 2023.[68]

Figure 58 – Missouri's Total On-Road Mobile Source Emissions, 2019–2023



Source: Adapted from U.S. Environmental Protection Agency, State Tier 1 Criteria Air Pollutants (CAPs) Trends, 1990-2024.

[68]EPA, "Air Pollutant Emissions Trends Data," April 28, 2025, https://www.epa.gov/air-emissions-inventories/air-pollutant-emissions-trends-data.

Resiliency

The state's transportation system has similar challenges and associated risks when compared to other neighboring states. These challenges and risks have the potential to impact the system's operation regarding safety and reliability. MoDOT has multiple processes in place to aid in mitigating this risk including the use of an asset management plan.

MoDOT's approach to asset management is built upon the foundation of its primary goal being to take care of the transportation system and services available today. In 2016, MoDOT's asset management planning evolved from a statewide plan to individual district models. Since 2016, each of MoDOT's seven districts has maintained an asset management plan for pavements and bridges. These plans have been developed and updated regularly by multidisciplinary teams.[69]

As part of the asset management plans, MoDOT has identified assets vulnerable to extreme weather due to recent flooding events occurring throughout the state. The assets vulnerable to flooding include several National Highway System (NHS) bridges and pavements, some of which are located on interstates. Locations that have been identified as having a risk due to natural disaster or extreme weather events are documented and, in 2020, MoDOT updated the Transportation Management System (TMS) to include records of all locations (NHS and all other routes) affected by natural disasters which resulted in repairs. There is consideration of potential mitigation strategies with each project programmed in these identified locations.

Air Quality

When it comes to air quality, MoDOT is responsible for implementing the conformity regulation for transportation actions in


Source: MoDOT

[69]MoDOT, National Highway System Transportation Asset Management Plan, 2022, https://www.modot.org/sites/default/files/documents/Federal%20Transporation%20Asset%20Management%20Plan_508Compliant.pdf.

attainment and nonattainment areas. For the Missouri ozone nonattainment area, the East-West Gateway Council of Governments conducts conformity analyses whenever a regionally significant project is added to the Transportation Improvement Program (TIP). These analyses ensure consistency with the State Improvement Plan (SIP) developed by the Missouri Department of Natural Resources. Areas that do not meet the primary standard for any one or more of the six criteria pollutants are designated nonattainment areas and must implement a SIP that includes measures to reduce emissions.

Ozone is the primary transportation-related pollutant for which Missouri currently has nonattainment areas, particularly concentrated in and around St. Louis in the eastern part of the state. All Missouri counties that are designated nonattainment areas for ozone and other pollutants are shown in **Figure 59**.[70] MoDOT coordinates with East-West Gateway and Mid-America Regional Council Air Quality Committees to ensure consistency with the Air Quality regulations and to coordinate with State and Federal Environmental Agencies.

Environmental Resource Constraints

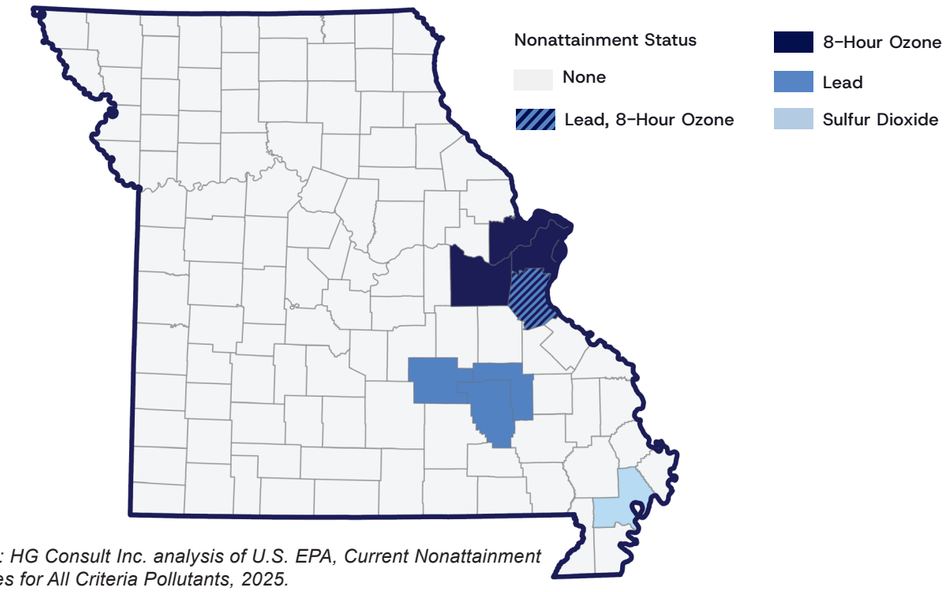
The state of Missouri is home to an abundance of unique environmental resources. The state is nicknamed the "Cave State," with approximately 7,500 recorded caves in the state.[71] The state's unique karst geology allows for these caves to form as well as springs and sinkholes.

The state contains the two longest rivers in the U.S. The Missouri River bisects the state west to east and the Mississippi River forms the state's eastern border. Accompanying those two rivers is the first national park area to protect a river system, Ozark National Scenic Riverway. All three of these riverways boast and support numerous natural resources, economic resources and recreational resources specific to the state.

The state has approximately 45 federally listed threatened and endangered plant and animal species.[72] The state is also home to Mark Twain National Forest, which encompasses 1.5 million acres in 29 counties. Complementing Mark Twain National Forest are the state's 57 state parks and 36 historic sites. Two National Historic Trails cross through the state, the Trail of Tears and the Butterfield Overland Trail.

MoDOT's policy is to avoid impacts on natural resources where feasible. Federal policy guides the proposed mitigation on potential impacts to natural resources such as streams, wetlands and farmland.

Figure 59 – Missouri Counties in Nonattainment, 2025



Source: HG Consult Inc. analysis of U.S. EPA, Current Nonattainment Counties for All Criteria Pollutants, 2025.

[70]EPA, "Current Nonattainment Counties for All Criteria Pollutants," May 31, 2025, https://www3.epa.gov/airquality/greenbook/ancl.html.

[71]Missouri Department of Natural Resources (DNR), "Caves," accessed June 5, 2025, https://dnr.mo.gov/land-geology/geology/karst-missouri/caves#:~:text=With%20approximately%207%2C500%20recorded%20caves,be%20easily%20dissolved%20by%20water.

[72]MoDOT, "Environmental Studies – Threatened and Endangered Species," accessed June 5, 2025, https://www.modot.org/threatened-and-endangered-species#:~:text=Missouri%20has%20approximately%2045%20federally,found%20on%20the%20USFWS%20website.

Transportation Implications

The state's demographic and socioeconomic projections underscore the complexity of transportation planning through 2050. The state's population is expected to surpass 6.7 million by mid-century, with urban and suburban regions, particularly Kansas City, St. Louis, Springfield, Columbia and Cape Girardeau, driving the majority of growth while many rural areas continue to decline. The proportion of residents over 65 will peak at more than 21% by 2030, while the population under 20 is projected to decrease by 65,000 by 2050, signaling significant shifts in travel demand, mobility preferences and household transportation reliance. Concurrently, VMT is projected to exceed 100 billion annually by 2044, amplifying congestion, safety and maintenance concerns.

Economics and workforce dynamics reinforce these challenges. GSP has grown at an inflation-adjusted rate of 2.1% since 2019, led by manufacturing, healthcare and real estate, all sectors dependent on efficient freight and commuter networks. Cross-border commuting in the Kansas City and St. Louis metropolitan areas continues to place disproportionate strain on the state's infrastructure without equivalent revenue returns. At the same time, fuel efficiency gains and adoption of electric vehicles, while beneficial for sustainability, threaten to erode per-gallon motor fuel tax revenues that remain the state's primary funding source. Compounding these fiscal pressures, fiscal year (FY) 2026 state budget actions reduced transit operating assistance by roughly 42%, cutting $5 million from prior allocations. These interlinked demographic, economic and travel trends make clear that the state's future transportation strategy must prioritize system resiliency, capacity expansion in high-growth corridors, alternative funding mechanisms and equitable access to mobility for an increasingly diverse and aging population.

Source: MoDOT

Chapter 4: Goals, Objectives and Performance Measures


Source: MoDOT

The 2026 Long-Range Transportation Plan (LRTP) addresses the statewide planning requirements under the Federal Surface Transportation Act–the Infrastructure Investment and Jobs Act (IIJA), also known as the Bipartisan Infrastructure Law (BIL). IIJA/BIL emphasizes performance-based, multimodal planning and retains the core highway program structure established under prior legislation. IIJA supports the following:

- Promoting economic vitality
- Improving safety and security for all users
- Enhancing accessibility and mobility for people and freight
- Strengthening multimodal connectivity
- Promoting efficient operations
- Preserving existing infrastructure in a state of good repair
- Increasing resiliency and reliability while reducing congestion
- Accelerating project delivery

Additionally, the Missouri Department of Transportation (MoDOT) has also developed a suite of strategic initiatives and performance-based programs that align with and support the goals of the Federal Surface Transportation Act. The Show-Me Zero Strategic Highway Safety Plan targets zero fatalities by heightening the safety of people, vehicles, speeds, infrastructure and crash responses. The *SAFER* program proactively assesses roadway safety to guide improvements. MoDOT's 2024 Transportation Systems Management and Operations (TSMO) Program and Action Plan enhance system reliability and congestion management. Internal efforts like Tracker performance metrics drive innovation, accountability and data-driven decision-making across the state's transportation system.

MoDOT Mission Statement

Source: MoDOT

Goals and Objectives Development

A goal is a broad, overarching aspiration that defines a desired outcome, while an objective is a specific, measurable action or milestone undertaken to achieve that goal. The goals and objectives were shaped through a comprehensive, multi-phase stakeholder engagement process utilizing a variety of communication channels. Initial draft goals were created in collaboration with the MoDOT Executive Leadership Team.

These preliminary goals were then refined based on feedback gathered during key meetings and engagement activities. Comprehensive information from these meetings is summarized in the **Public and Stakeholder Outreach Chapter**.

Stakeholder and Engagement Groups

- MoDOT Executive Leadership Team
- MoDOT Statewide Planning Partners Meeting
- MoDOT LRTP Virtual Public Information Meeting (VPIM)
- Modal Advisory Committee (MAC): A larger group representing various modes, safety and industry representatives within Missouri who provide input and feedback
- Executive Modal Advisory Committee (Executive MAC): A smaller group selected from MAC to provide direction, decision-making and guidance, particularly around scenario planning
- Public outreach events at the Missouri State Fair
- MoDOT High-Priority Unfunded Needs (HPUN) meetings

Source: MoDOT

To ensure broad public participation, online surveys were made available during the VPIM and at State Fair events. This allowed Missourians to share their perspectives and contribute to the planning process. Through this iterative approach, a final set of goals and objectives emerged which reflect a shared mission for the future of transportation across the state.

LRTP Goals and Objectives

MoDOT's performance-based planning and programming process begins with the LRTP. To ensure the successful implementation of Missouri's transportation vision, MoDOT revisited the foundational elements of its mission and vision, specifically its goals and objectives. Informed by federal and state planning requirements, a review of multimodal transportation plans and inclusive stakeholder engagement, MoDOT identified long-range goals that reflect statewide priorities and address transportation needs through 2045. Each goal is supported by specific objectives that outline actionable strategies MoDOT can lead or support to achieve the desired goals. These goals and objectives guide project prioritization and investment decisions within MoDOT's performance based planning and programming framework. This includes the Statewide Transportation Improvement Program (STIP), which directs the development of transportation projects over a multi-year horizon. MoDOT identified the following six goals to guide the LRTP:

Stewardship - **Preserve the assets and services currently in place**

Safe - **Enhance safety for all users of the transportation network**

Reliable - **Maintain a transportation network that is efficient and dependable**

Connected - **Maximize mobility and connect connect communities through multimodal transportation options**

Innovative - **Leverage technology and creative solutions to build a future-ready transportation network**

Prosperous - **Drive economic growth through transportation investments**

Stewardship

Preserve the Assets and Services Currently in Place

Provide a transportation system in a state of good repair through meeting or exceeding established performance targets. (*Performance target details are in the **Existing System Trends and Conditions Chapter***).

Explore and secure stable funding to support the current system and services for each mode of transportation.

Maintain system resilience by adapting to changing life cycle costs, advancing technologies, an evolving workforce and a growing multimodal transportation demand.

Enhance the transportation system by avoiding, minimizing or mitigating impacts on natural and cultural resources.

Advance the Missouri State Freight and Rail Plan Stewardship objectives.

Source: MoDOT

Safe

Enhance Safety for All Users of the Transportation Network

Invest in system-wide safety improvements to reduce fatalities and serious injuries for all modes and support driver education.

Enhance transportation safety with a focus on the Show-Me Zero – Missouri Strategic Highway Safety Plan emphasis areas.

Enhance safety and security at transportation mode connection points such as transit hubs and pedestrian/cyclist crossings.

Expand partnerships with safety advocates and citizens around the state to identify and implement safety improvements.

Reduce barriers to access and provide protection for vulnerable road users.

Advance the Missouri State Freight and Rail Plan Safety objectives.

Source: MoDOT

Reliable

Maintain a Transportation Network That Is Efficient and Dependable

Take a practical/life cycle approach to highway system capacity expansion, given financial constraints.

Increase reliability of the transportation system in bottleneck areas.

Enhance transportation infrastructure resilience to maintain the movement of people and goods during traffic disruptions.

Provide reliable and accessible multimodal transportation options for all users.

Enhance emergency and alternative routes.

Advance the Missouri State Freight and Rail Plan Reliable objectives.

Source: MoDOT

Connected

Maximize Mobility and Connect Communities Through Multimodal Transportation Options

Provide an accessible and connected transportation system for all users.

Promote preservation and provision of additional multimodal connectivity during project development.

Maximize multimodal transportation system with options and connections throughout the state.

Advance the Missouri State Freight and Rail Plan Connected objectives.

Source: MoDOT

Innovative

Leverage Technology and Creative Solutions to Build a Future-Ready Transportation Network

Explore technology and develop business practices that result in lower life-cycle costs.

Support automated and connected vehicle technology by advancing the MoDOT Connected and Automated Vehicle Action Plan.

Understand and deploy innovative work zone warning and protection devices.

Identify and plan alternative funding sources to recoup gas tax revenue lost from alternatively fueled vehicles.

Integrate traffic management systems and vehicle detection systems to monitor and improve traffic congestion.

Advance the Missouri State Freight and Rail Plan Innovation objectives.

Source: MoDOT

Prosperous

Drive Economic Growth Through Transportation Investments

Increase partnership coordination with local communities, regional and metropolitan planning organizations, businesses, transportation service providers and other sectors to identify and partner on transportation projects that can better support local economies.

Support projects that provide long-term economic benefits.

Focus federal grants on transformational projects with high economic impacts which stimulate the local economy and strengthen the competitiveness of Missouri's regions.

Advance the Missouri State Freight and Rail Plan Prosperous objectives.

Source: MoDOT

Performance Measures

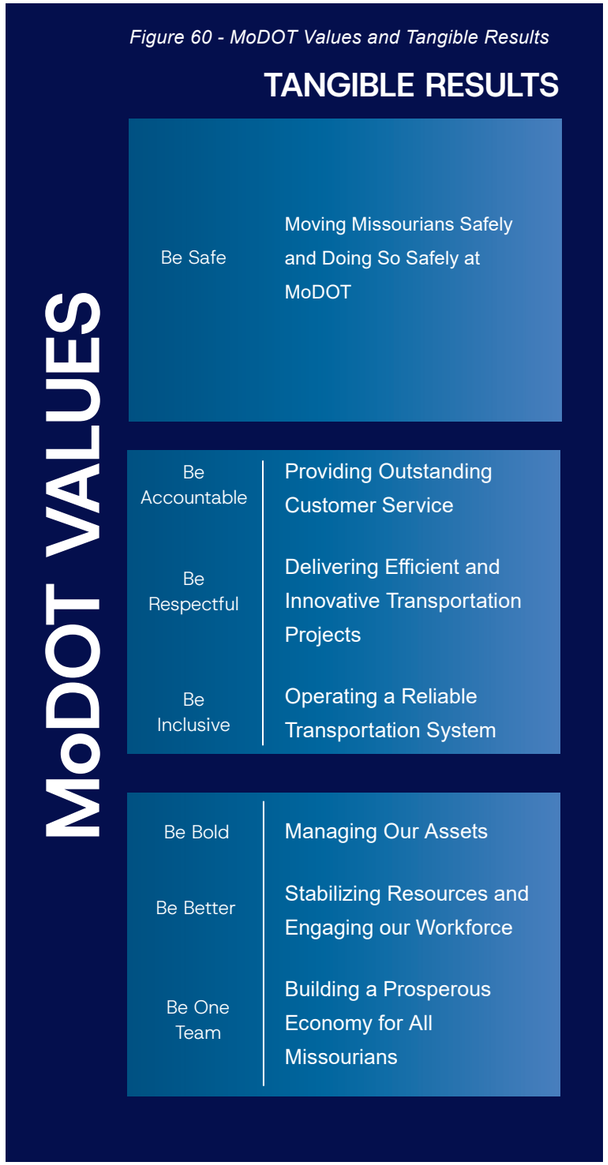
MoDOT has been a national leader in performance management processes for decades when they developed their performance management tool (Tracker) that tracks performance through tangible results. Monitoring and reporting progress toward LRTP goals and objectives and statewide performance measures are central to MoDOT's performance-based planning. For comprehensive details on data collection methods, measurement criteria and methodologies, please refer to MoDOT's Tracker system website which is updated quarterly. MoDOT tracks performance at two levels:

- State-level Tracker metrics: Aligned with strategic goals and objectives
- Federal metrics: Established under 23 CFR 450

MoDOT Agency Performance Measures

MoDOT's publicly available Tracker measures are updated quarterly to enhance transparency, evaluate agency performance and support fiscally constrained strategic decision-making. Tracker performance measures are tied directly to MoDOT's values and tangible results within the focus areas of deliver the program, restore operations, work safely for ourselves and the traveling public and focus on customers highlighted in **Figure 60.**

Figure 60 - MoDOT Values and Tangible Results



Stewardship

Preserve the Assets and Services Currently in Place

Associated Tangible Results

Managing our Assets

Delivering Efficient and Innovative Transportation Projects

Stabilizing Resources and Engaging our Workforce

Safe

Enhance Safety for All Users of the Transportation Network

Associated Tangible Results

Moving Missourians Safely and Doing So Safely at MoDOT

Reliable

Maintain a Transportation Network That Is Efficient and Dependable

Associated Tangible Results

Operating a Reliable Transportation System

Delivering Efficient and Innovative Transportation Projects

Building a Prosperous Economy for All Missourians

Connected

Maximize Mobility and Connect Communities Through Multimodal Transportation Options

Associated Tangible Results

- Operating a Reliable Transportation System
- Stabilizing Resources and Engaging our Workforce
- Providing Outstanding Customer Service

Innovative

Leverage Technology and Creative Solutions to Build a Future-Ready Transportation Network

Associated Tangible Results

- Operating a Reliable Transportation System
- Stabilizing Resources and Engaging our Workforce

Prosperous

Drive Economic Growth Through Transportation Investments

Associated Tangible Results

- Building a Prosperous Economy for All Missourians
- Operating a Reliable Transportation System

Federal Performance Measures

The Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) have established performance measures to enhance transportation performance management nationwide. These measures support state-level efforts and help agencies track progress toward achieving national planning goals set by Congress.

MoDOT aligns its goals with these federal priorities in areas such as safety, infrastructure and vehicle condition, system performance and reliability. The System Performance Report in **Appendix G**, reports on progress toward federally required performance measure targets, ensuring continued compliance and eligibility for federal funding.

Source: MoDOT

Chapter 5: Needs Assessment

Traverse a small stretch of Missouri's roadways and you are likely to encounter the investments being made in transportation infrastructure. Missouri's transportation system is a tremendous asset to the citizens of Missouri. The system consists of 33,814 miles of state highways and 10,427 bridges, ranking it as the 7th largest state highway system with the 6th most bridges in the country. Identifying and prioritizing the needs of the system is essential to keeping it operational. There are two levels of needs identification, regional and statewide, both of which are identified through the Long-Range Transportation Plan (LRTP) planning process.

Statewide Needs

- Involve public outreach that occurs during long-range plan development
- Typically crosses multiple District boundaries
- Often involve interstates and major highways

Regional Needs

- Are defined by the seven Missouri Department of Transportation (MoDOT) Districts in collaboration with:
  - Local and regional elected officials
  - Community officials
  - Metropolitan planning organizations
  - Regional planning commissions
- Are reviewed and updated throughout the year

Prioritizing Needs

Is the process of deciding which problems from the list of identified needs should be addressed first

Can be challenging due to wide range of needs and varying time frames

Requires coordinated effort from many groups

Immediate needs do not automatically receive higher priority

Subject areas include:

Integrating Regional Planning

Federal regulations (23 CFR 450) require Missouri's transportation planning process to be continuing, cooperative and comprehensive. MoDOT works closely with MPOs, RPCs and local jurisdictions to understand community priorities and corridor needs.

MPO plans offer detailed corridor analysis and regional priorities within metropolitan areas. RPC and local plans provide additional context on community development patterns, land use and mobility needs. Together, these efforts help shape a more complete picture of Missouri's transportation needs.

MoDOT considers regional and local planning information during project scoping and development to ensure statewide investments reflect both system-level priorities and the needs of the communities they serve.


Source: MoDOT

Funded Needs

MoDOT funds both statewide and regional transportation needs through the Statewide Transportation Improvement Program (STIP).

Present Day (2025)

- The largest STIP in MoDOT history
- The busiest construction season on record, with more than $2 billion in awarded contract work
- Delivery of large-scale transportation projects, including Improve I-70 and Forward 44

Over the Last 10 Years

- 4,099 projects completed
- $9.7 billion total investment

Looking Forward (Next Five Years)

- $13.3 billion in federal and state revenues available for all transportation modes
- $9.5 billion allocated for road and bridge contractor awards
- Maintaining the existing system is the focus of the 2026–2030 STIP, as taxpayers requested
- Many regions will only have enough funding to maintain current pavement and bridge conditions rather than improve them

Source: MoDOT

Needs prioritization is based on the goals in Missouri's long-range transportation plan. MoDOT Districts work with planning partners to prioritize regional needs annually. Each district develops a program that first focuses on asset management goals to maintain existing condition. If a district has funds remaining after programming the work needed to meet condition goals, then other regional needs may be considered and prioritized.

More information about revenue sources can be found in the **Revenue Forecast Chapter** of this document and the Citizen's Guide to Transportation Funding in Missouri, available at the MoDOT website: http://www.modot.org/guidetotransportation/.

$2.83B

Missouri 2024 expenditures for state roads and bridges

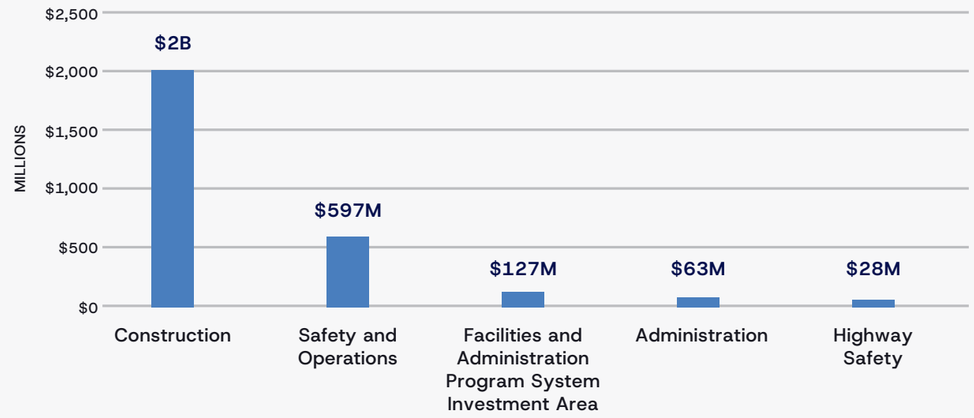
$174M

Administered and overseen by MoDOT in 2024 for multimodal improvements

State Roads and Bridges Funded Needs

Funding needs for Missouri's state roads and bridges include investments to design, construct, operate and maintain these facilities throughout state. The state road and bridge investments are divided into five categories. **Figure 61** illustrates the distribution of the total investments and details each of the categories.

Figure 61 – MoDOT Transportation Funded Expenditures, 2025



Source: MoDOT, Financial Snapshot (2025).

Construction

Largest area of investment that includes:

- Payments to contractors for projects that maintain and improve the transportation system
- MoDOT engineering costs for administering and monitoring the construction program
- Payments to engineering design consultants
- Costs of acquiring right of way and relocating utilities

Safety and Operations

Investments that include:

- Snow plowing, mowing and other routine maintenance services
- Pavement upkeep on approximately 5,100 miles of lower-volume routes not eligible for federal reimbursement
- Utilities, tools and materials for maintenance buildings statewide
- Bridge maintenance, signing, striping, sweeping, rumble strips and lighting
- Traveler information and incident-management services

Facilities and Administration Program System Investment Area

Investments that include:

- Purchasing MoDOT's fleet of trucks
- Constructing and maintaining MoDOT buildings
- Providing information technology needed for maintenance and engineering functions

Administration

Administrative costs are the fifth lowest in the nation and include salaries, wages and benefits for:

- Human resources
- Accounting
- Legal services
- Executive management
- Customer service
- Other support services

Highway Safety

Investments that include:

- Road and bridge features designed to reduce fatalities and serious injuries
- Salaries, wages and benefits for highway safety personnel

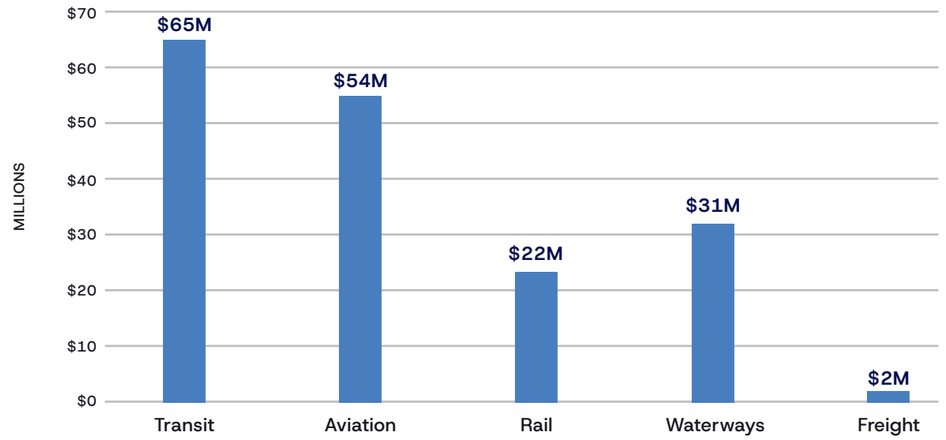
Multimodal Funded Needs

Multimodal refers to non-highway modes of transportation including transit, aviation, railroads, waterways and freight. Most of the transportation revenue is constitutionally required to be spent on state roads and bridges, leaving limited funds to support these services and facilities. Unlike roads and bridges, the State does not own multimodal facilities but instead administers the funding and provides oversight for multimodal investments.

The distribution of the total investments for each of the non-highway modes of transportation for fiscal year (FY) 2025 is shown in **Figure 62**, followed by funding details for each mode.

Source: MoDOT

Figure 62: MoDOT Multimodal Investments, 2025



Source: MoDOT, Financial Snapshot, 2025.

Transit (Fiscal Year 2025)

- $65 million in transit funds administered by MoDOT
- Most funding came from federal programs supporting operating costs and bus purchases for transit agencies statewide
- A small portion came from state and General Revenue funds to support operating costs

Aviation (Fiscal Year 2025)

- $54 million in aviation funds administered by MoDOT
- Missouri uses dedicated aviation fuel taxes to fund improvements to public-use airports
- MoDOT also administers federal funding for:
  - Airfield pavement and lighting improvements
  - Obstruction removal
  - Expansion projects

Rail (Fiscal Year 2025)

- $22 million in rail funds administered by MoDOT
- Funds support:
  - The Amtrak service between St. Louis and Kansas City (funded by General Revenue)
  - Safety improvements at railroad crossings (funded by state and federal sources)

Waterways (Fiscal Year 2025)

- $31 million in waterways funding administered by MoDOT
- Funds provided operating and capital assistance to Missouri's river ports and ferry boat operators

Freight (Fiscal Year 2025)

- $2 million administered by MoDOT for its Freight Enhancement Program supporting non-highway capital projects that improve freight flow efficiency
- Eligible recipients include public, private and nonprofit entities

Unfunded Needs

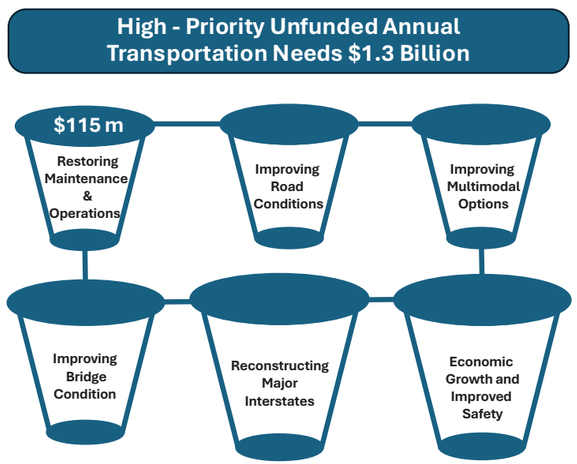
What Are Missouri's Transportation Needs?

Missouri has made historic investments in its transportation system, but with MoDOT's current available resources, the department must focus on preserving the existing system. Maintaining today's conditions requires nearly all available funding—and in some districts, every dollar is dedicated to keeping roads and bridges in good condition. Even with this focus, some areas will still lose ground over time.

This reality leaves a number of transportation needs unfunded. These needs represent critical improvements that go beyond basic maintenance—such as safety enhancements, mobility upgrades, economic development opportunities and multimodal connections.

Through the LRTP public engagement process, Missourians helped identify and prioritize these needs. Based on this input, MoDOT has adjusted its **Annual High-Priority Unfunded Needs** "buckets" to reflect what matters most to the public and stakeholders as shown in **Figure 63**.

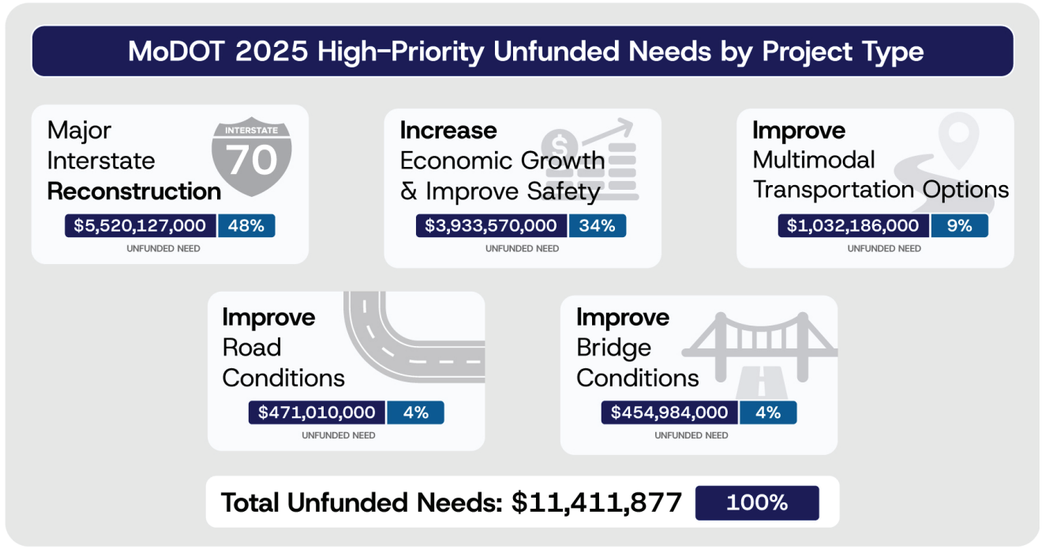
Figure 63 – Annual High-Priority Unfunded Needs



10-Year High Priority Unfunded Needs

While the State has made a historic investment in transportation, MoDOT must continue to prioritize using its existing resources to preserve the current condition of the transportation system. As a result, many MoDOT districts must devote all available funding to maintaining existing roads and bridges, leaving limited capacity to address additional needs. These unmet needs are documented in the 2025 High-Priority Unfunded Needs (HPUN) and represent a 10-year list of unfunded transportation needs across the state. To clearly communicate these challenges, the HPUN have been organized into high-priority categories. **Figure 64** summarizes the 10-year HPUN by category.

Figure 64 – 10-Year High-Priority Unfunded Needs



Source: MoDOT, Missouri High Priority Unfunded Needs, 2025.

Improve Road and Bridge Conditions

- Additional $1 billion needed in roads, bridges and maintenance that could:
  - Enable all MoDOT Districts to adequately maintain their existing systems
  - Reduce the number of poor condition bridges across the state
  - Improve overall road conditions statewide
  - Stabilize MoDOT's maintenance and operations to keep pace with inflationary cost increases

Increase Economic Growth and Improve Safety

- Additional $3.9 billion needed to support economic growth and safety
- Includes projects sought by communities statewide but that are unaffordable
- Includes:
  - New interchanges
  - Adding shoulders with rumble strips
  - Adding lanes to existing roads
- Benefits include:
  - Reduced congestion
  - Economic growth
  - Improved safety, reducing fatalities and serious injuries

Major Interstate Highway Reconstruction

- Additional $5.5 billion needed to reconstruct interstates
- Interstate considerations:
  - The interstate system is 65 years old, originally built with a 20-year life expectancy
  - Recent General Revenue investment supports improvements to 200 miles of I-70 through reconstruction and added capacity
  - Key Freight Corridors include I-44, I-70, I-55, I-57 and I-270. These corridors are projected to see moderate but steady growth in both tonnage and value, reflecting their importance to regional supply chains

Improve Multimodal Transportation Options

- Additional $1 billion investment needed to address key needs for Missouri's transit, railroads, ports, waterways, airports and bicycle/pedestrian facilities
- MoDOT would collaborate with system owners, stakeholders and regional planning partners
- Goal: Identify and fund the highest-priority multimodal improvements statewide

District Meeting Themes

Each MoDOT District also had the opportunity to provide feedback on the needs of their district. This feedback resulted in seven themes across all or most of the districts. These seven themes are:

Capacity and safety projects are needed to address congestion and improve traffic flow

Transit and modal accessibility needs were identified, including ports, airports, transit and passenger rail

Vulnerable road user safety is a high priority

Truck parking facilities are insufficient across the state

Asset management and maintenance funding resources are needed for bridges, pavement and operational infrastructure

Resiliency investments are needed to address flooding hazards

Intelligent Transportation System (ITS) infrastructure improvement needs were identified

Chapter 6: Emerging Technologies


Source: MoDOT

Transportation technologies are advancing quickly, reshaping how transportation agencies plan, operate and invest in their systems. The Missouri Department of Transportation (MoDOT) is preparing for this shift, guided by its core pillars of Safety, Service and Stability and informed by the strategies outlined in the MoDOT Transportation Systems Management and Operations (TSMO) Plan. Together these provide the innovation to enhance public safety, deliver value to customers and sustain a reliable transportation system for the future. MoDOT focuses on a core set of emerging technologies that support the state's long-range goals to use innovation and stewardship to deliver and maintain a safe, reliable and connected transportation system that will strengthen Missouri's economy.

In Missouri, These Innovations Could

- Reduce congestion across Missouri's transportation network
- Extend the life of critical transportation assets
- Enhance safety for all roadway users
- Strengthen Missouri's economy by ensuring reliable and efficient movement of people and goods
- Align with MoDOT's TSMO strategies and core pillars
- Support proactive, data-driven management of Missouri's multimodal transportation system

Missouri's Transportation System

- Includes 33,814 miles of state highway and 10,427 bridges, making it one of the largest networks in the United States.
- Supports essential industries such as agriculture, manufacturing and logistics.
- Connects major metropolitan areas—including St. Louis, Kansas City and Springfield with rural communities throughout the state.
- Serves as a central freight corridor for the Midwest, positioned at the intersection of I-70, I-44, I-55 and I-35, which places it at the center of national goods movement.

Emerging technologies present an opportunity for MoDOT to strengthen its strategic role while improving safety, reliability and economic competitiveness. Through its Stability pillar and TSMO plan, MoDOT emphasizes system reliability, asset management and workforce readiness to support the sustainability of operational and technological advancements over time.

MoDOT is well positioned to learn from peer states and national leaders in technology deployment while tailoring solutions to Missouri's urban, suburban and rural communities. MoDOT is preparing for a transportation future that is both data-driven and user-focused, with initiatives in varying phases of implementation such as adaptive traffic signals, smart work zones, truck platooning pilots, predictive maintenance and freight corridor digital twins. These efforts directly support the TSMO plan's focus areas of safety, reliability and efficiency, demonstrating MoDOT's service commitment to innovation and customer value while upholding its Safety and Stability pillars across all communities.

As the Long-Range Transportation Plan (LRTP) establishes a long-term vision for investment across all modes, emerging technologies will play a critical role in addressing challenges related to congestion, safety, system condition and accessibility. By integrating the TSMO framework and the Safety, Service and Stability pillars, MoDOT can support technology deployment that complements operational strategies, performance management and public trust.

This chapter will examine four technology areas most relevant to Missouri:

- **Smart Infrastructure and Intelligent Transportation Systems (ITS)**
- **Connected Vehicles and Autonomous Vehicles (CV/AV)**
- **Digital Twins and Predictive Analytics**
- **Smart Freight and Logistics**

For each area, the chapter will review benefits, challenges and costs of implementation, drawing on case studies from peer states.

Definitions and ExamplesA

Smart Infrastructure and Intelligent Transportation Systems

Smart Infrastructure and Intelligent Transportation Systems (ITS) applies advanced technologies, such as sensors, communication networks and data analytics, to improve the safety, efficiency and sustainability of transportation networks by enabling real-time management of traffic flow, optimizing journeys and providing user information.

Source: MoDOT

Opportunities for Statewide Expansion

Missouri's existing Transportation Management Centers (TMCs) in St. Louis, Kansas City and Springfield already provide a strong foundation for ITS expansion. By building on these successes, MoDOT can:

- **Expand Smart Corridor Management:** Scale up successful KC Scout and Springfield pilots statewide
- **Integrate ITS into Rural Highways and Freight Corridors:** Enhance safety and reliability, especially in areas affected by frequent weather and work zone disruptions
- **Improve Real-Time Safety:** Deploy technology for proactive incident detection and response
- **Optimize Freight Movement:** Support efficient goods transport across Missouri's extensive highway network, including truck parking

Connected and Autonomous Vehicles

Connected and Autonomous Vehicles (CV/AV) are transformative transportation technologies that operate autonomously, use sensors, artificial intelligence (AI) and communication networks to enhance safety, efficiency and mobility. They analyze their surroundings and communicate with other vehicles and infrastructure to navigate and control themselves, with the goal of reducing accidents, alleviating traffic congestion and expanding transportation access for various users.

MoDOT's Connected and Automated Vehicle Action Plan

MoDOT's Connected and Automated Vehicle Action Plan was published in 2025. It established a foundation for CV/AV readiness and advancement in Missouri.[73] The key elements of CV/AV in Missouri outlined in this plan are provided in **Table 5**.

Table 5 – MoDOT's Connected and Automated Vehicle Action Plan Elements

Element	Details
Strategic Advantage	Missouri's geographic and economic profile makes it ideal for automated freight and CV/AV technology testing
Significant Freight Generators	Kansas City SmartPort and St. Louis multimodal logistics hubs
Advanced Initiatives	Truck platooning and vehicle-to-infrastructure pilots to provide immediate safety and fuel efficiency benefits
Key Collaborations	University of Missouri and Missouri University of Science and Technology for simulation modeling and readiness assessments
Major Deployment Corridors	I-70, I-55, I-49, I-44 and I-35

Source: MoDOT, Connected and Automated Vehicle Action Plan, 2025.

[73]MoDOT recently began using the term "Connected and Autonomous Vehicles" instead of "Connected and Automated" to align with terminology used by other state Departments of Transportation and agencies.

Data Exchange Pooled Fund Study (MoDOT-Led)

The Data Exchange Pooled Fund Study, led by MoDOT and initiated in December 2024, supports the development of a scalable, public-private transportation data exchange framework. The study is intended to enable interoperable data sharing across jurisdictions and industry partners, with a particular emphasis on supporting data-driven transportation technologies.

Study Partner States

- **Missouri**
- **California**
- **Connecticut**
- **Hawaii**
- **Kansas**
- **New Jersey**
- **Pennsylvania**
- **Texas**
- **Wisconsin**

Study Focus

- The study concentrates on the planning, design and governance of a shared data exchange environment, including:
  - Developing a multi-agency data exchange platform to support advanced transportation applications along multi-state transportation corridors
  - Establishing a public-private transportation data exchange center to enable secure, real-time data sharing and interoperability between public agencies and private sector partners
  - Identifying data standards, architectures and governance models that promote consistency, scalability and reuse across participating states
  - Advancing collaborative approaches to data sharing among DOTs, technology providers and mobility stakeholders

Study Objectives

- The primary objectives of the Data Exchange Pooled Fund Study include:
  - Facilitating seamless and secure information flow between infrastructure systems, vehicles, traffic management centers and operators
  - Improving transportation safety, mobility and operational efficiency through enhanced data availability and integration
  - Reducing duplication of effort by enabling shared solutions and best practices among participating agencies
  - Preparing Missouri and partner states' transportation corridors for broader deployment of emerging, data-dependent technologies

Digital Twins and Predictive Analytics

Digital twins and predictive analytics are virtual models of physical assets or systems that integrate real-time data for monitoring, analysis and forecasting.

When paired with predictive analytics, digital twins allow MoDOT to simulate scenarios, assess risks and make smarter investments. These tools support proactive maintenance and future-proof planning.

Statewide Digital Twin Pilot

Building on MoDOT's Transportation Asset Management Plan (TAMP), a statewide digital twin pilot could enhance transportation asset management, utility coordination and autonomous ride-sharing expansion by providing the following benefits:

- **Integrated Platform:** Link bridge condition, pavement performance and weather data into one system
- **Visualization:** Engineers can see system-wide vulnerabilities and test investment strategies
- **Forecasting:** Predict asset needs and plan maintenance proactively
- **Pilot Focus:** Target high-traffic freight corridors like I-70 for initial implementation

Digital Twin Technology for Utility Management

Digital twin technology also offers significant benefits for utility management within highway right of way, providing MoDOT with enhanced capabilities to document, visualize and coordinate underground and above ground utility assets by providing the following benefits:

- Improves the accuracy of utility location records for MoDOT
- Proactively identifies potential utility conflicts during project planning and design
- Minimizes unexpected utility impacts during construction
- Helps reduce project delays, control costs and maintain construction schedules
- Supports more efficient plan development in utility management
- Enhances safety throughout the project lifecycle

Autonomous Ride-Sharing Expansion

Investing in digital twin technology presents valuable opportunities for ride-sharing in Missouri.

- **Market Opportunity:** Digital twins for Kansas City and St. Louis make these regions attractive for autonomous rideshare companies
- **Potential Providers:** Innovative companies like Waymo and Tesla can leverage local digital twin data
- **Regional Impact:** Positions Missouri communities as leaders in advanced transportation technology

Source: MoDOT

Smart Freight and Logistics

Smart Freight and Logistics is a technology-driven approach that uses AI, internet of things (IoT) and data analytics to optimize the entire freight and logistics process, from tracking and management to delivery and resource use. This method enhances supply chain visibility, reduces operational costs, increases efficiency and speed and improves customer satisfaction.

Opportunities in Missouri

- **Chokepoints along I-70, I-44 and I-55** could benefit from real-time freight monitoring and truck parking technology.
- **Expanding truck parking availability and electrification**, particularly along the I-70 and I-44 corridors, can:
  - Reduce idling
  - Improve driver safety
  - Support sustainability
- **MoDOT can leverage partnerships** with private carriers, railways and river port authorities to:
  - Enhance intermodal connectivity
  - Strengthen digital freight management systems

Transportation Systems Management and Operations Capability Areas

MoDOT organizes its Transportation Systems Management and Operations (TSMO) Program around several capability areas that reflect where emerging technologies deliver the greatest operational benefits:

- **Traffic Incident Management (TIM):** Coordinated detection, response and clearance of roadway incidents
- **Work Zone Management (WZM):** Safe and efficient traffic movement through construction and maintenance zones
- **Traffic Signal Coordination:** Optimizing timing and coordination to enhance mobility and reliability
- **Planned Special Events Management:** Coordinated planning to manage travel demand during major events
- **Road Weather Management:** Monitoring and responding to weather impacts through a road weather information system (RWIS) and decision-support tools
- **Freight and Logistics Operations:** Enhancing efficiency for freight corridors, ports and intermodal connections

Table 6 – Emerging Technologies and TSMO Capability Areas

Capability Areas	Emerging Technologies: Smart Infrastructure and ITS	Emerging Technologies: CV/AV	Emerging Technologies: Digital Twins and Predictive Analytics	Emerging Technologies: Smart Freight and Logistics
TIM	X	X	X	X
WZM	X	X	X	X
Traffic Signal Coordination	X	X	X	X
Planned Special Events Management	X			
Road Weather Management	X	X	X	X
Freight and Logistics Operations	X			X

Table 6 aligns how the emerging technologies discussed above align with these TSMO capability areas.

Across all capability areas, emerging technologies strengthen MoDOT's institutional capacity by improving business processes, system interoperability and performance-based decision making. They enhance:

- **Business Processes:** Data integration and performance-based investment prioritization
- **Systems and Technology:** Interoperable architecture enabling real-time information exchange
- **Performance Measurement:** Metrics for travel time reliability, clearance times and weather response
- **Culture and Workforce:** Building technical proficiency and data literacy
- **Collaboration:** Shared platforms and partnerships with public safety, freight and local agencies

Together, these innovations enable a connected, adaptive and resilient transportation system that anticipates conditions, coordinates responses and optimizes performance for all users.

LRTP Goals and Objectives

MoDOT's performance-based planning and programming framework begins with the LRTP, which sets the vision for how Missouri will invest in and manage its transportation system through 2050. As part of this effort, MoDOT has identified emerging technologies as critical tools to achieve its long-term goals. The emerging technologies identified support MoDOT's strategic goals as discussed below.

Stewardship: Technology strengthens asset management and financial stewardship by enabling data-driven decisions that extend infrastructure life and optimize resources

Safe: Emerging technologies collectively enhance roadway safety by enabling earlier detection, faster response and prevention of crashes

Reliable: Technologies improve travel time consistency and system resilience under changing conditions

Connected: Connectivity supports Missouri's transportation system serves all users and modes seamlessly

Innovative: Innovation drives continuous improvement through collaboration, testing and learning

Prosperous: Emerging technologies drive economic growth by improving freight efficiency, reliability and statewide connectivity

Case Studies

This section presents comparative case studies illustrating how state Departments of Transportation (DOTs) across the United States (U.S.) are integrating technology, data and innovation into long-range transportation planning. Each example highlights a distinct yet complementary approach to preparing for an evolving mobility landscape.

- **The I-10 Corridor Coalition,** uniting DOTs from California, Arizona, New Mexico and Texas, demonstrates how CV/AV and Smart Freight technologies enhance corridor safety and reliability. Its Truck Parking Availability System (TPAS) leverages real-time connected vehicle data and roadside sensors to guide drivers to open parking, reducing unsafe stops and improving freight efficiency through coordinated, multistate TSMO strategies.
- **The Wisconsin Department of Transportation (WisDOT)** demonstrates how Smart Infrastructure and ITS can be embedded into a statewide vision for safety and efficiency.
- **The Michigan Department of Transportation (MDOT)** focuses on CV/AV as transformative tools for improving roadway performance and safety.
- **The Iowa Department of Transportation (Iowa DOT)** showcases how digital twins, predictive analytics and freight focused ITS applications can enhance logistics and system reliability.
- **The Pennsylvania Department of Transportation (PennDOT)** emphasizes Smart Freight and Logistics technologies as a foundation for multimodal connectivity and economic competitiveness.

Source: MoDOT

MoDOT aligns closely with these agencies in its strategic direction. Like Wisconsin, Iowa and Pennsylvania, Missouri recognizes that the future of transportation depends on leveraging technology to build a system that is safer, more efficient and more operationally resilient. The following case studies demonstrate how MoDOT's initiatives in connected vehicle readiness, intelligent corridor management and multimodal freight integration parallel national best practices. Collectively, they provide insight into how states are adapting to technological change, addressing shared challenges such as broadband access and funding and building collaborative frameworks to modernize transportation networks across both urban and rural settings.

I-10 Corridor Coalition

The I-10 Corridor Coalition, a partnership among the DOTs in California, Arizona, New Mexico and Texas, demonstrates how multistate collaboration and emerging technologies can modernize freight mobility and highway operations. Spanning more than 2,500 miles, the coalition focuses on improving safety, reliability and efficiency along one of the nation's busiest freight corridors. Its flagship initiative, the TPAS, integrates real-time monitoring, sensor networks and connected data platforms to identify open truck parking spaces and share that information through dynamic message signs, traveler information systems and in-cab communication tools that connect drivers to dispatch.

Program Elements

- TPAS funded by a $6.85 million U.S. Department of Transportation Advanced Transportation and Congestion Management Technologies Deployment (ATCMTD) grant, with matching funds from participating states
- Two TSMO capability areas of smart infrastructure and freight technology supporting freight operations and incident management for safe and efficient corridor performance
- Shared data architecture, coordinated operations and consistent technology standards extending TSMO benefits beyond state borders
- Governance structure emphasizing interoperability, real-time information exchange and joint performance evaluation

Program Goals and Outcomes

- Reducing illegal shoulder parking, optimizing rest area use and strengthening driver safety
- Lowering emissions by decreasing vehicle idling and search time
- Making freight deliveries more predictable across state lines

Considerations for Missouri

- Adapt I-10 framework for major freight corridors: I-70, I-44, I-55, I-49, I-35
- Implement real-time parking availability and harmonized data sharing across states
- Apply corridor-based TSMO strategies to enhance freight reliability and reduce congestion
- Advance connected and automated freight technologies using the I-10 Coalition framework

WisDOT (Connect 2050) – Smart Infrastructure and ITS

WisDOT's Connect 2050 Vision Plan serves as a roadmap for building and modernizing Wisconsin's transportation system over the next three decades. Recognizing the rapid pace of technological change, the plan integrates CV/AVs, adaptive traffic management and ITS as core elements of a safe and efficient future network.

Wisconsin's Statewide Long-Range Transportation Plan
Source: WisDOT

Plan Elements

- Recognition of Smart Infrastructure as both a challenge and an opportunity under Goal Five of the plan, Maximizing Technology Benefits
- Collaboration through the Wisconsin Automated Vehicle External Advisory Committee (WAVE) engaging industry, local agencies and advocacy groups
- Expansion of ITS and automated traffic management to reduce congestion, improve safety and enhance disaster response
- Deployment of connected vehicle technologies including lane departure assistance, adaptive cruise control and Vehicle-to-Infrastructure (V2I) communication to transform personal travel and freight operations
- Strong partnerships to support CV/AV research, adaptive traffic management and real-world implementation across Wisconsin and Missouri

Considerations for Missouri

- Collaborate with Missouri Center for Transportation Innovation (MCTI) to support innovation on I-70 and I-44
- Address limited rural broadband access and connectivity challenges
- Mitigate high ITS implementation costs impacting deployment
- Plan transition from dedicated short-range communications (DSRC) to cellular vehicle-to-everything (C-V2X) communications
- Balance urban congestion management with rural connectivity and access
- Combine technological investment with collaborative planning for safer, more reliable and responsive systems

MDOT – CV/AVs

MDOT views CV/AVs as transformative tools, reshaping how transportation systems are planned, designed and operated. In its 2045 Long-Range Transportation Plan, Michigan Mobility 2045 (MM2045), MDOT identifies automation, electrification and data connectivity as key drivers influencing safety, infrastructure performance, travel behavior and economic competitiveness.

Michigan Department of Transportation
Michigan 2045 Mobility
A transportation plan for a connected future #MM45

Source: MDOT

- Statewide readiness for AVs, V2I and truck platooning through integrated planning
- Strategic investments in EV charging, broadband and intelligent traffic systems
- Partnerships with the University of Michigan's Mcity testing facility and the American Center for Mobility for CV/AV testing and policy alignment
- Alignment with Moving Ahead for Progress in the 21st Century Act (MAP-21) and Fixing America's Surface Transportation (FAST) Act priorities on safety, reliability and multimodal sustainability
- CV/AV technologies to reduce crashes and improve freight efficiency
- Emphasis on connected freight corridors and truck automation to maintain mobility leadership
- Cross-sector collaboration to support workforce development and adaptive infrastructure
- Innovation-driven approach balancing system preservation with automation readiness
- Long-term vision for a connected transportation network supporting economic growth through 2045

Considerations for Missouri

- Manage high infrastructure upgrade costs
- Address cybersecurity risks and data management challenges
- Expand rural broadband coverage to enable technology deployment
- Foster collaboration among government, academia and private sectors for harmonization and adaptive planning
- Balance system preservation with readiness for future automation
- Leverage strategic investments in ITS, EV infrastructure and partnerships (e.g., Michigan's approach)

Iowa DOT – Digital Twins and Predictive Analytics

Freight mobility is central to Iowa's transportation strategy, reflecting its agricultural and manufacturing economy and its critical role in national supply chains. The Iowa in Motion 2050 plan emphasizes that efficient freight systems are vital to economic growth and regional connectivity. It identifies key freight corridors, intermodal hubs and rural–to–urban links as essential for reliability and performance.

Plan Elements

- Integration of technology, operations and policy to enhance freight efficiency, safety and sustainability
- Deployment of ITS for real-time monitoring, data collection and information sharing with carriers
- Management of congestion, improvement of incident response and generation of predictive insights
- Alignment with national freight goals under MAP-21 and the FAST Act
- Promotion of real-time truck parking information systems
- Fostering public-private partnerships to expand truck parking facilities
- Improvement of safety and reduction of idling
- Strengthening multimodal connectivity by linking highways, rail and river ports
- Advancement of data-driven, multimodal freight strategies and enhancement of Iowa's competitiveness in global markets

Considerations for Missouri

- Resolve truck parking shortages
- Support economy through efficient movement of agricultural and manufactured goods
- Align MoDOT's Freight and Rail Plan with Iowa's focus on ITS, predictive analytics and intermodal integration
- Build on existing investments: I-70 freight improvements, river port expansion, logistics technology
- Advance technology, policy and planning for efficient, sustainable freight systems supporting long-term growth

PennDOT – Smart Freight and Logistics

Freight is a central component of Pennsylvania's transportation system and economy. Positioned between the Northeast and Midwest, the state serves as a major national freight hub connecting highways, rail lines, ports and airports. In PA On Track, PennDOT recognizes that this strategic role drives economic growth but also places heavy demands on aging infrastructure.

PA On Track
PA'S LONG RANGE TRANSPORTATION & COMPREHENSIVE FREIGHT MOVEMENT PLAN

Source: PennDOT

Program Elements

- Adoption of smart freight and logistics technologies such as real-time data platforms, connected logistics hubs and intelligent corridor management systems
- Emphasis on tools to improve supply chain visibility, reduce bottlenecks and enhance efficiency
- Promotion of safety, congestion reduction and environmental sustainability
- Strengthening coordination among truck, rail and port systems to support reliable access in urban and rural areas
- Alignment with MAP-21 and FAST Act priorities focusing on safety, reliability and economic vitality
- Initiatives such as truck platooning and corridor monitoring to prepare the state for automation and digital logistics

Considerations for Missouri

- Coordinate with private partners to manage complexity
- Modernize infrastructure while balancing growth with community and environmental goals
- Maintain Missouri's role as a key freight gateway with highways, river ports and rail systems critical to commerce
- Align MoDOT Freight and Rail Plan with PennDOT's technology-driven logistics approach
- Continue investment in real-time tracking, predictive analytics and multimodal integration to create resilient freight networks

Strategic Framework for Implementing Emerging Transportation Technologies

Policy and Regulatory Context

Federal and state policies play a critical role in shaping how emerging transportation technologies are planned, funded and implemented.

At the National Level:

- Guidance from the Federal Highway Administration (FHWA) and the Infrastructure Investment and Jobs Act (IIJA) encourages states to adopt technology-driven solutions that enhance safety, efficiency, accessibility and sustainability.
- Programs such as the Advanced Transportation Technology and Innovation (ATTAIN) Program, SMART Grants and various formula funding streams provide vital support for deploying ITS, CV/AV and data-driven infrastructure management tools.

At the State Level:

- Missouri's Show-Me Zero Strategic Highway Safety Plan aligns directly with the deployment of technologies that reduce crashes through automation, real-time alerts and advanced analytics.
- The Missouri Broadband Strategic Plan complements these efforts by expanding connectivity across rural corridors as an essential foundation for statewide ITS and CV/AV readiness.
- MoDOT's TSMO CV/AV research indicates that Missouri needs CV/AV enabling legislation to attract emerging technology and integrating these initiatives with the LRTP supports technology investments to improve safety and accessibility across all regions.

Missouri continues preparing for technology adoption by:

- **Expanding broadband**
- **Advancing transportation safety initiatives that are underway**
- **Fostering partnerships with universities and industry to support innovation**
- **Aligning the LRTP with federal guidance and state strategies to keep MoDOT eligible for funding**
- **Coordinating investments across agencies and jurisdictions is a priority**
- **Adapting strategies as federal rules and standards change, especially for connected vehicle communications, data sharing and cybersecurity**
- **Focusing efforts on maintaining consistency with national best practices to support a safe, connected and future-ready transportation system**

Future Scenarios and Strategic Foresight

Strong partnerships are essential for successful technology deployment. MoDOT will need to consider:

- Collaboration with universities, industry leaders, regional planning organizations, local governments and community groups to share knowledge and coordinate efforts
- Partnerships with academic institutions to support research on digital twins and CV/AV readiness
- Working with the freight industry can help design logistics solutions that meet both public and private needs

Engaging stakeholders early and often helps build public understanding, identify community priorities and develop solutions that reflect local contexts. These partnerships:

- Help promote interoperability
- Align investments
- Leverage outside expertise to strengthen Missouri's transportation technology strategy

Fair Access, Inclusive Design and Workforce Readiness

MoDOT must support the deployment of emerging technologies that promote fair access, inclusive design and workforce readiness across all communities. As tools such as CV/AVs, smart infrastructure and advanced data analytics reshape the transportation landscape.

Accessibility should remain a core design principle. Infrastructure, vehicles and digital systems must follow universal design standards that serve users of all ages and abilities. Emerging technologies should expand mobility options for people with disabilities, older adults and those without access to private vehicles by improving multimodal connections and creating accessible digital interfaces.

The transition to technology-driven operations will also demand a skilled and adaptable workforce. DOTs should:

- Invest in training, reskilling and forming partnerships with educational institutions and industry to prepare employees for new roles in automation, data management and systems integration
- Embed fairness, accessibility and workforce development at every stage of planning, procurement and implementation to support technological innovation that brings widespread and lasting benefits to Missouri's transportation system

In Missouri, workforce readiness is particularly critical given the state's aging labor base. MoDOT can collaborate with community colleges and the University of Missouri System to develop specialized training in data analytics, automation systems and cybersecurity, ensuring the next generation of transportation professionals is prepared for a data-driven future.

Partnerships and Stakeholder Engagement

To help technology investments deliver meaningful results, MoDOT should consider using performance measures to evaluate outcomes over time. These measures may include:

- **Safety:** Reduction in crashes, injuries and fatalities linked to ITS and CV/AV deployments
- **Reliability:** Improvements in travel time consistency on key corridors
- **Stewardship:** Reduced lifecycle costs from predictive maintenance and smarter asset management
- **Accessibility:** Expansion of broadband access and improved transportation options for underserved communities
- **Environmental:** Decreases in emissions or fuel consumption from freight and traffic management strategies

Establishing clear metrics and tracking progress regularly will help MoDOT adjust strategies, make the case for future funding and communicate benefits to the public.

Performance tracking can be integrated into MoDOT's Tracker Framework, allowing emerging technology outcomes to be measured alongside existing performance indicators. For example, MoDOT could track adaptive signal efficiency under 'Reliable Travel,' digital twin use under 'Stewardship,' and crash reduction tied to CV/AV pilots under 'Safe Transportation.' Aligning new technological metrics with Tracker will streamline internal reporting and demonstrate accountability to the public.

Source: MoDOT

Data Governance, Cybersecurity and Privacy

Emerging technologies depend on reliable, secure and well-managed data. MoDOT's existing asset management systems already collect large amounts of information on pavement condition, bridges and traffic patterns. As technologies like digital twins, CV/AV and advanced ITS expand, the volume and sensitivity of this data will increase significantly. To manage this effectively, MoDOT will need to continue to build strong data governance policies that address how data is collected, stored, shared and protected.

Cybersecurity is also a growing concern. Connected infrastructure and vehicles introduce new vulnerabilities that must be managed to protect both users and the transportation system. Future strategies will need to include:

- Strengthened cybersecurity frameworks
- Regular risk assessments and working with public and private partners to set data-sharing agreements that respect privacy while enabling innovation
- Building public trust through clear policies and transparent practices

Funding and Implementation Pathways

Bringing emerging technologies into Missouri's transportation network requires sustained investment and strategic planning. In addition to existing state and federal funding, MoDOT will need to explore opportunities such as:

- Competitive grant programs including:
  - ATTAIN
  - Strengthening Mobility and Revolutionizing Transportation (SMART)
  - Infrastructure for Rebuilding America (INFRA)
- Partnerships with the private sector
- Coordination with regional planning partners, local governments and freight stakeholders to help align funding sources and priorities

Resilience and Sustainability

Emerging technologies can play a powerful role in making Missouri's transportation system more resilient to extreme weather, changing travel patterns and other disruptions. By integrating resilience and environmental performance into technology planning, MoDOT can support these investments that strengthen the transportation system for decades to come. For this, the following technologies should be considered:

Predictive analytics and digital twins can help planners model the effects of climate scenarios and identify vulnerable corridors before problems occur.

Smart infrastructure can provide real-time information during storms or floods, improving incident response and keeping travelers safe.

Technologies like **truck platooning, adaptive traffic management and optimized freight routing** can reduce emissions, improve fuel efficiency and support the state's broader sustainability goals.

Missouri's climate variability from flooding in the Mississippi Basin to winter ice events makes resilience planning valuable. Integrating predictive analytics into floodplain corridors such as I-29 and I-55 could improve incident management and recovery times. MoDOT's ongoing efforts to modernize stormwater systems and enhance weather-responsive management can be further supported by these tools.

Source: MoDOT

Innovation Priorities and Challenges

Smart Infrastructure and Intelligent Transportation Systems

Missouri's highway and bridge network is one of the largest in the country, carrying more than 200 million tons of freight each year and connecting both dense urban corridors and rural farming communities. MoDOT has already laid the foundation for smarter real-time alerts through TMCs, highway cameras and dynamic message signs and operational decision-making by using data from TMCs and connected systems into MoDOT's operational response and resource allocation. However, the demand on the system continues to grow and technology is evolving that can be used today to assist in modernizing corridors.

Moving forward, the following priorities and challenges should be considered:

Priorities

- Expanding broadband and roadside unit deployment to promote seamless connectivity for passenger vehicles and freight carriers
- Piloting adaptive signal systems statewide for real-time signal adjustments based on changing traffic conditions, enhancing safety and reducing delays
- Integrating multimodal ITS applications for buses, freight carriers and passenger vehicles to share real-time information, increasing system reliability for all users
- Modernizing and optimize existing assets to meet next-generation needs while maximizing use of current infrastructure

Challenges

- Limiting broadband access and traffic management in many rural areas, especially during incidents in St. Louis and Kansas City
- Facing high upfront costs for smart infrastructure such as upgraded traffic signals, roadside sensors and broadband connections
- Managing ongoing maintenance required to keep systems reliable
- Resolving compatibility issues among equipment from different vendors due to varying standards
- Justifying investment in rural areas with low traffic volumes
- Handling large data volumes, increasing responsibilities for storage, security and staff training

Connected and Autonomous Vehicles

As a freight crossroads with I-70, I-44, I-55, I-49 and I-35, Missouri plays a critical role in national goods movement. This makes the state a natural testing ground for CV/AVs. The state already has a strong focus on safety through programs like Show-Me Zero, but preparing for automation requires a different type of readiness.

Moving forward, the following priorities and challenges should be considered:

Priorities

- Maintaining pavement markings that are highly visible and ensuring signage is clear
- Strengthening digital infrastructure for autonomous vehicle operations
- Adding corridor readiness assessments to statewide asset management
- Conducting truck platooning pilots on major freight corridors such as I-70, I-55, I-49 and I-44 to reduce fuel costs, cut emissions and make freight movement more efficient
- Leveraging targeted pilots and corridor assessments to build confidence in CV/AVs
- Aligning initiatives with MoDOT's LRTP goals of safety and reliability
- Developing a clear statutory framework for testing and operation of autonomous vehicles

Challenges

- Meeting higher infrastructure standards for CV/AV operations
- Maintaining roads, pavement markings and signage to required levels with limited budgets
- Addressing interoperability across different manufacturers and systems
- Protecting against cybersecurity risks and data breaches
- Clarifying liability in the event of autonomous vehicle crashes
- Securing legislative action to establish statutory frameworks for autonomous vehicles
- Overcoming public skepticism and building trust in autonomous systems
- Managing aging infrastructure while preparing for new technologies
- Proactively addressing financial, legal and social challenges for a safe and accessible transition to CV/AV technology

Digital Twins and Predictive Analytics

MoDOT already manages one of the most comprehensive asset inventories in the nation. With more than 33,814 miles of road and 10,427 bridges, asset condition data is collected using advanced pavement sensors, automatic road analyzer (ARAN) vehicles and GIS systems. These existing tools provide a solid foundation for more advanced predictive approaches. However, the MoDOT Statewide TAMP shows many bridges are nearing the end of their design life and maintaining these assets with limited funding will be a growing challenge.

Moving forward, the following priorities and challenges should be considered:

Priorities

- Continuing to build statewide digital data exchanges to combine available data and data sources into a single system for better decision-making
- Piloting pavement lifecycle and crash-risk models to forecast maintenance needs and identify high-risk corridors before issues develop
- Training staff in data analytics and AI integration to help the workforce effectively use advanced tools
- Shifting Missouri's asset management approach further away from reactive maintenance to proactive planning building on the desire to keep good assets in good condition

Challenges

- Collecting and managing large volumes of data from diverse sources such as traffic counts, pavement conditions, crash records and weather systems
- Integrating data into a unified platform, which requires significant funding and technical expertise
- Maintaining and updating the system regularly to keep it accurate, resulting in ongoing costs
- Training staff to use new data and analytics tools, which requires additional effort and resources
- Addressing the risk that predictive forecasts might not account for sudden changes, potentially affecting the accuracy of decisions

Smart Freight and Logistics

Freight is the backbone of Missouri's economy. Every day, more than 1.5 million tons of goods move across the state's highways, railways and waterways. Yet the system faces challenges that limit efficiency, including shortages of truck parking, weather-related disruptions on interstates and congestion around freight hubs. MoDOT's Freight Plan has identified these issues, but new technology offers opportunities to address them in smarter ways.

Moving forward, the following priorities and challenges should be considered:

Priorities

- Expanding ITS on freight corridors to provide truckers with real-time information on weather, construction and traffic conditions to support safer and more efficient routing decisions
- Investing in truck parking electrification and logistics hubs to address the lack of rest areas and emissions from idling
- Equipping parking facilities with electrification technology to reduce pollution and offer essential services to drivers
- Strengthening intermodal coordination with rail and ports to enhance Missouri's role as a national trade hub and facilitate seamless movement of goods across modes
- Adopting strategies that reduce bottlenecks, lower emissions and maintain reliable freight movement through the state

Challenges

- Coordinating across agencies, private trucking companies and logistics providers due to the system's size and multi-regional nature
- Securing substantial funding for building, operating and maintaining smart freight corridors, truck parking with electrification and upgraded logistics hubs
- Addressing uneven adoption of advanced systems since not every trucking company can afford new technologies right away
- Managing unpredictable factors like weather, congestion and other unexpected issues that require constant monitoring to support smooth system performance

Overcoming Implementation Challenges and Next Steps

A phased implementation roadmap outlining a conceptual MoDOT approach to advancing smart infrastructure and ITS, CV/AVs, digital twins and predictive analytics and smart freight and logistics initiatives over the next decade is summarized in **Table 7**. It is organized into three implementation phases, each representing a stepwise progression from readiness to full statewide deployment:

- **Phase 1: Foundation (0–5 years)** - Focuses on planning, assessments and data readiness.
- **Phase 2: Pilot and Integration (6–10 years)** - Introduces field pilots, technology integration and early analytics applications.
- **Phase 3: Expansion and Optimization (10+ years)** - Scales successful strategies statewide and embeds digital transformation into daily operations.

Using these three implementation phases, each of the emerging technology focus areas outlined are:

- **Smart Infrastructure and ITS** focuses on expanding broadband connectivity, deploying adaptive signal control and improving interoperability of existing systems. This enables real-time traffic management, enhances reliability and supports connected vehicle communications statewide.
- **CV/AV** uses the MoDOT Connected and Automated Vehicle Action Plan as a framework and initial actions for the MoDOT TSMO program's CV/AV team to prepare Missouri's highway system for emerging CV/AV technologies by strengthening corridor readiness, improving pavement markings and digital infrastructure and piloting truck platooning on key freight routes. These efforts aim to enhance freight efficiency, safety and energy savings.
- **Digital Twins and Predictive Analytics** leverages data integration and modeling to move MoDOT further from reactive maintenance to proactive, data-driven asset management. Pilot projects will develop corridor-level digital twins and predictive models to forecast pavement, bridge and safety needs before problems occur.
- **Smart Freight and Logistics** expands upon Missouri's role as a national freight hub by promoting connected freight technologies, logistics data-sharing and intermodal coordination. Long-term actions establish statewide smart freight corridors and predictive freight demand systems to enhance supply chain reliability and competitiveness.

Table 7 – Emerging Technologies Phased Implementation Roadmap

Emerging Technology Focus Area	Phase 1: Foundation (Short Term 0 5 Years)	Phase 2: Pilot and Integration (Mid Term 6–10 Years)	Phase 3: Expansion and Optimization (Long–Term 10+ Years)
Smart Infrastructure and ITS	Expand rural broadband planning Audit ITS systems for interoperability Develop data governance policies and staff training	Deploy adaptive signal pilots Begin roadside unit (RSU) installations Integrate TMC, sensor and weather data into regional dashboard	Statewide adaptive signal control Rural broadband expansion to freight routes Establish statewide mobility data hub
CV/AVs	Pass CV/AV enabling legislation including truck platooning Conduct CV/AV readiness assessments Develop CV/AV Asset Readiness Index Plan truck platooning pilots	Launch I-70/I-44/I-55 pilot corridors Implement cybersecurity framework Establish CV/AV test zones with universities	Full CV/AV corridor upgrades Develop liability and insurance frameworks Public education and acceptance campaigns
Digital Twins and Predictive Analytics	Inventory data and gaps Initiate data integration roadmap Staff training in analytics and AI tools	Develop corridor-level digital twins Pilot predictive maintenance and crash-risk models Establish performance metrics	Expand to statewide digital twin system Integrate predictive models across assets Institutionalize data-driven decision making
Smart Freight and Logistics	Map freight corridors and data sources Engage industry stakeholders and ports Assess freight signal and broadband needs	Pilot connected truck and logistics data-sharing Test dynamic freight routing and signal priority Develop intermodal freight data exchange	Establish statewide smart freight corridors Deploy predictive freight demand models Implement public-private data collaboration network

Cross-cutting enablers support all phases and focus areas of the roadmap. These enablers represent the policies, partnerships and organizational capabilities required to support the long-term success of Missouri's transportation technology initiatives.

- **Funding Strategy**: Establishes a stable and diverse investment framework that combines state funding, federal programs such as the IIJA and Federal Highway Administration Intelligent Transportation Systems (FHWA ITS) grants and private-sector investment to sustain deployment and modernization efforts.
- **Public-Private Partnerships (P3s):** Enables collaboration with telecommunications providers original equipment manufacturers (OEMs), freight carriers and universities to accelerate research, development and implementation of emerging transportation technologies.
- **Cybersecurity and Data Privacy:** Embeds "security-by-design" principles into all digital platforms, ensuring the protection of transportation data and infrastructure from cyber threats while maintaining public trust and compliance with data protection standards.
- **Interoperability Standards:** Promotes open data and communication protocols, including the National Transportation Communications for Intelligent Transportation System Protocol (NTCIP), the Society of Automotive Engineers (SAE) and the Institute of Electrical and Electronics Engineers (IEEE) standards, to support seamless integration across vendors and systems statewide.

Source: MoDOT

- **Systems Engineering and Lifecycle Planning:** Emphasizes the application of systems engineering principles within TSMO to support technology deployments that are needs based, interoperable and sustainable. Supports structured processes for defining requirements, verifying performance and managing technology assets through their full lifecycle, including maintenance, updates and replacement planning, to enhance reliability, efficiency and long-term system integration statewide.
- **Performance Management:** Emphasizes tracking measurable outcomes in safety, system reliability, congestion reduction and cost efficiency to guide ongoing improvement and accountability.
- **Workforce Development:** Helps equip MoDOT staff with the knowledge and skills to manage emerging technologies by providing training in AI, data analytics and digital asset management tools, strengthening workforce readiness to support TSMO through data-driven analysis, informed operational decision-making and effective interdepartmental coordination.

Collectively, these enablers provide the institutional, technical and workforce foundation necessary for MoDOT to deliver a connected, data-driven and resilient transportation network capable of meeting the needs of Missouri's residents, businesses and visitors for years to come.

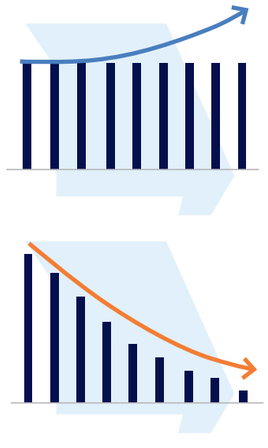
Source: MoDOT

Chapter 7: Revenue Forecast


Source: MoDOT

Sustainable and predictable funding provides critical support for maintaining and enhancing Missouri's transportation system. This chapter assesses the Missouri Department of Transportation's (MoDOT) funding based on current revenue sources and projected needs. The analysis indicates that revenues are not keeping pace with needs for two primary reasons:

- Several MoDOT funding sources are fixed and do not adjust with inflation, while the cost of addressing needs continues to rise. This challenge affects both road and bridge needs as well as multimodal programs.
- As vehicle fuel economy improves and more drivers switch to hybrid vehicles, plug-in hybrid vehicles (PHEVs) and electric vehicles (EVs), fuel consumption and fuel excise tax revenues decline. This primarily affects the roads and bridges program, since fuel tax revenues are dedicated to road and bridge needs.



Together, these trends create growing gaps between available revenues and the state's transportation needs. Furthermore:

- Aging infrastructure (e.g. bridges, pavements) requires high-cost maintenance to support safety and service quality.
- Fiscal Year (FY) 2026 state budget actions reduced transit operating assistance by roughly 42%, cutting $5 million from prior allocations.
- Combined pressures on the roads and bridges program and the multimodal program (including transit) limit the state's ability to meet transportation needs and leverage federal funds.
- Projected shortfalls emphasize the need to incorporate revenue and cost trends into long-term planning.
- Alternative funding strategies may help MoDOT keep Missouri's transportation system safe and efficient.

The primary objective of this funding assessment is to identify the timing and magnitude of MoDOT's long-term funding gap. This analysis quantifies when revenues are expected to fall short of documented needs and the scale of those shortfalls over the 2025 to 2050 planning horizon. This information provides a quantitative foundation to inform future discussions of investment prioritization and/or funding alternatives.

Methodology

This section describes the methodology used to develop the transportation revenue and needs forecasts.

The revenue analysis uses MoDOT financial data and incorporates key assumptions about future trends, including:

- **Population growth**
- **Vehicle fleet growth**
- **Improvements in vehicle fuel economy**
- **Adoption of alternative fuel vehicles**

The needs analysis is based on:

- **The Statewide Transportation Improvement Program (STIP)**
- **The latest MoDOT Financial Forecasts**
- **MoDOT's High-Priority Unfunded Needs List (HPUN)**
- **Additional needs identified through consultation with MoDOT**

Appendix H contains assumptions used in the revenue and needs forecasts. The funding gap is calculated by subtracting projected revenues from forecasted needs:

Funding Gap =

Forecasted Needs - Projected Revenues

Forecasting Approach for Revenues

Revenue forecasts are based on MoDOT's existing revenue sources based on future economic and demographic trend assumptions, vehicle fleet composition, vehicle fuel economy and travel demand. The methodology began by defining each source of transportation revenue, then identifying the primary drivers that influence how those revenues are expected to change over time. Revenue forecasts assume that tax and fee rates for all existing sources remain unchanged throughout the forecast period. **Table 8** summarizes the existing rates.

Table 8 – Revenue Mechanism Rates

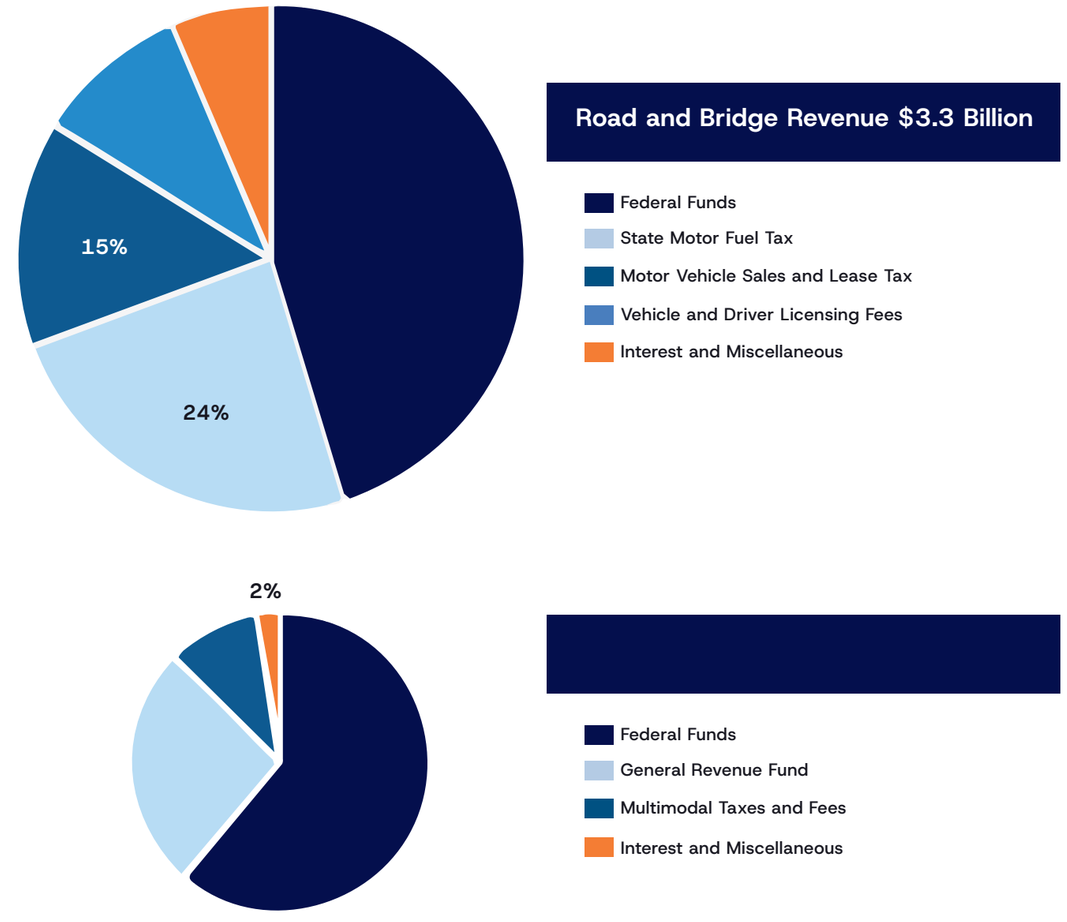
Revenue Mechanism	Existing Rate
Gasoline and Diesel Tax	$0.295
Sales and Lease Tax	4.225%
Passenger Vehicle Registration	Varies by vehicle horsepower
Commercial Vehicle Registration	Property-carrying vehicles: rate varies by vehicle weight Passenger-carrying vehicles: rate varies by seating capacity
Licensing Fees	Varies by type of license
Special Fuel Decal EV Fee	$150
Special Fuel Decal PHEV Fee	$75

Source: Missouri Department of Revenue, Motor Fuel Tax, accessed September 2, 2025; Missouri Department of Revenue, Motor Vehicle Fees, accessed September 2, 2025; Missouri Department of Revenue, Permit/Driver License/ Nondriver ID Fees, accessed September 2, 2025; Missouri Department of Revenue, Special Fuel Decals, accessed September 2, 2025.

Revenue Sources

Figure 65 shows MoDOT's transportation revenue of $3.3 billion for road and bridge improvements and $155 million for multimodal improvements in FY 2025, as well as a breakdown of those revenues by category. Details for each of the funding categories and the assumptions for each follow.

Figure 65 – Transportation Revenues by Category, FY 2025



Note: Not to scale; one-time general revenue fund appropriations excluded from roads and bridges and multimodal

Federal Funds

Largest Source of Total MoDOT Transportation Revenue

Funded by:

Federal motor fuel tax

Tire taxes

Heavy truck and trailer sales taxes

Heavy vehicle use tax

Transfers from federal general revenue

Distributed Through the Federal Highway Trust Fund Via:

Formula programs

Discretionary grant programs[74]

Dedicated to:

Roads and Bridges

Multimodal Transportation

Forecast Assumptions

- Based on historical funding levels
- Accounts for periodic increases from federal reauthorizations (e.g., Infrastructure Investment and Jobs Act - (IIJA) also known as the Bipartisan Infrastructure Law (BIL)
- Historical trends:
  - 13-year average annual growth: **4.5%**
  - 2021–2024 average annual growth: **12.5%** (post-IIJA)
- Forecast growth rate reduced to **2.5% annually** because:
  - IIJA funding is not expected to continue
  - No new major federal funding sources are anticipated

[74]MoDOT, "Financial Snapshot – November 2025," (appendix to the Citizen's Guide to Transportation Funding in Missouri),2025, https://www.modot.org/sites/default/files/documents/2025%20Financial%20Snapshot_Final_0.pdf.

State Motor Fuel Tax

Largest Source of State-Generated Transportation Revenue[75]

Levied per Gallon of Fuel Sold in Missouri, Including:

Gasoline and diesel

Motor fuel blends

Compressed and liquefied natural gas

Propane

Dedicated to:

Roads and Bridges

Forecast Assumptions

- Based on:
  - Vehicle miles traveled (VMT)
  - Average fleet fuel efficiency
  - Historical and forecasted vehicle counts
- Passenger vehicle fuel economy assumptions:
  - **23.0 miles per gallon (mpg) in 2025**
  - **31.5 mpg by 2050**

[75]Missouri Department of Revenue, "Financial and Statistical Report," 2024, https://dor.mo.gov/revenue-annual-financial-report/documents/financialstatreport24.pdf.

State Vehicle Sales and Lease Tax

Sales Tax:

Applied to the purchase price minus trade-in value

Lease Tax:

Applied to each monthly lease payment

Dedicated to:

Roads and Bridges

Forecast Assumptions

- Based on:
  - Historical revenues
  - Passenger vehicle fleet growth
  - Average vehicle value
- Average vehicle value:
  - Approximately $20,000 in 2025
  - Approximately $30,000 in 2050
- National vehicle turnover (2024): **18.1%**[76]
- Missouri forecast vehicle turnover assumption: **15%**
  - Adjusted for economic variability, vehicle longevity and consumer behavior

[76]AP News, "US Vehicle Sales Rose 2.7% in 2024," https://apnews.com/article/auto-sales-us-increase-deals-c686d72dfbeddfd136bfe03f5f0d587a; National Independent Automobile Dealers Association, "Used Vehicle Sales Expected to Increase in 2025," https://niada.com/dashboard/used-vehicle-sales-expect-to-increase-in-2025/; Hedges Company, "Automotive Market Research Statistics," https://hedgescompany.com/automotive-market-research-statistics/auto-mailing-lists-and-marketing/.

Vehicle and Driver's Licensing Fees

Vehicle Registration Fees

Collected every one or two years

Fee varies by:

- Passenger vehicle horsepower
- Commercial vehicle gross weight
- Passenger-carrying commercial vehicle seating capacity[77]

Driver Licensing Fees

Driver licenses and renewals

Commercial licenses

Identification cards and instruction permits

Processing, reinstatement and miscellaneous fees[77]

Dedicated to:

Roads and Bridges

Forecast Assumptions

- Registration revenues:
  - Historical registration counts
  - Vehicle fleet forecast
  - Population growth
- Licensing fee revenues:
  - Historical revenues
  - Vehicle registration trends
  - Population growth

[77]Missouri Department of Revenue, "Financial and Statistical Report 2024," https://dor.mo.gov/revenue-annual-financial-report/documents/financialstatreport24.pdf.

Interest and Miscellaneous Revenues

Includes:

Interest earned on invested funds

Sale of surplus property

Excess right of way and construction reimbursements

Also includes special fuel decal fees:

- Annual fees paid by owners of alternative-fuel vehicles (e.g., electric, propane)
- Paid in lieu of motor fuel tax

Dedicated to:

Roads and Bridges

Multimodal Transportation

Forecast Assumptions

- Based on historical data
  - Informed by discussions with MoDOT
  - Special fuel decal revenues based on the vehicle fleet forecast

State General Revenue Funds

Missouri's Primary Operating Fund

Major Revenue Sources:

Individual income tax

Corporate income tax

State general sales tax

Transfers to Transportation:

Determined annually through legislative appropriations

Core transfers support multimodal programs

Forecast Assumptions

- Based on current funding needs
- One-time appropriations removed from historical baseline
- Future transfers assumed to remain constant
  - Reflects a conservative approach due to funding uncertainty

Multimodal Taxes and Fees

Includes:

Aviation fuel taxes

Multimodal program fees

Multimodal sales taxes

Aviation Fuel Taxes:

Collected on fuel used by aircraft

Multimodal Fees

User fee revenues from non-highway transportation programs

Multimodal Sales Tax

Sales-tax-derived funds that are directed to non-highway transportation programs

Dedicated to:

Multimodal Transportation

Forecast Assumptions

- Based on historical collections
- Informed by discussions with MoDOT to reflect a reasonable outlook

Forecast of Missouri State Fuel Tax Revenues

This section conducts a deeper analysis of fuel tax forecasting. Fuel taxes are the largest source of state-generated revenue and are experiencing significant change due to improvements in vehicle fuel economy and the adoption of alternative fuel vehicles, unlike other revenue sources. To estimate motor fuel tax revenues, both a fleet forecast and a motor fuel tax forecast were developed. Conventional passenger gasoline vehicles are becoming increasingly fuel-efficient, meaning drivers purchase less fuel to travel the same distances. At the same time, the vehicle fleet is shifting toward PHEVs and EVs, which use little or no gasoline. As the number of these vehicles grows, motor fuel tax revenues are expected to continue declining on a per-vehicle and per-mile-traveled basis. The next two sections explore these factors in more detail.

Source: MoDOT

Impacts of MPG Improvements on Fuel Tax Receipts

MPG is a nonlinear metric. Fuel savings are greater for each one MPG fuel economy improvement among relatively lower-MPG vehicles. For example, as shown in **Figure 66**, a Ford F-150 improving from 15 to 25 MPG saves 267 gallons of fuel over 10,000 miles (about $79 in tax revenue), while a Honda Accord improving from 25 to 48 MPG saves much less, only 192 gallons (about $57). Even though the Accord's MPG gain increment is greater, the decline in motor fuel consumed and tax paid is smaller. Hybrid vehicles and EVs add to the trend, but improvements in regular internal combustion engine vehicles are already driving declines in fuel tax revenue.

Source: MoDOT

Figure 66 – Non-Linear Impact of Vehicle Efficiency on Fuel Consumption

FORD F-150

HONDA ACCORD

MPG IMPROVEMENT FROM 2010 TO 2025:	15 ⟶ 25	25 ⟶ 48
GALLONS SAVED OVER 10K MILES OF DRIVING:	267	192
ANNUAL FUEL TAX LOST:	$79	$57

Source: U.S. Environmental Protection Agency (EPA), 2010 Ford F150 Pickup, 2010; EPA, Fuel Economy of 2025 Ford Vehicles, 2025; EPA, 2010 Honda Accord, 2010; EPA, Fuel Economy of 2025 Honda Vehicles, 2025; Future Analysis, CDM Smith, 2025.

Forecasted Increase in Zero-Emission Vehicles for Missouri's Passenger Fleet

In addition to ongoing gains in fuel efficiency among internal combustion engine vehicles, the growing adoption of EVs and PHEVs further reduces motor fuel consumption and related tax revenues. As these vehicles gradually replace traditional gasoline vehicles, fuel purchases and the taxes they generate decline.

To estimate future fuel tax revenues in Missouri, the state's passenger vehicle fleet was projected through 2050 using national EV and PHEV forecasts combined with Missouri's existing passenger vehicle counts.

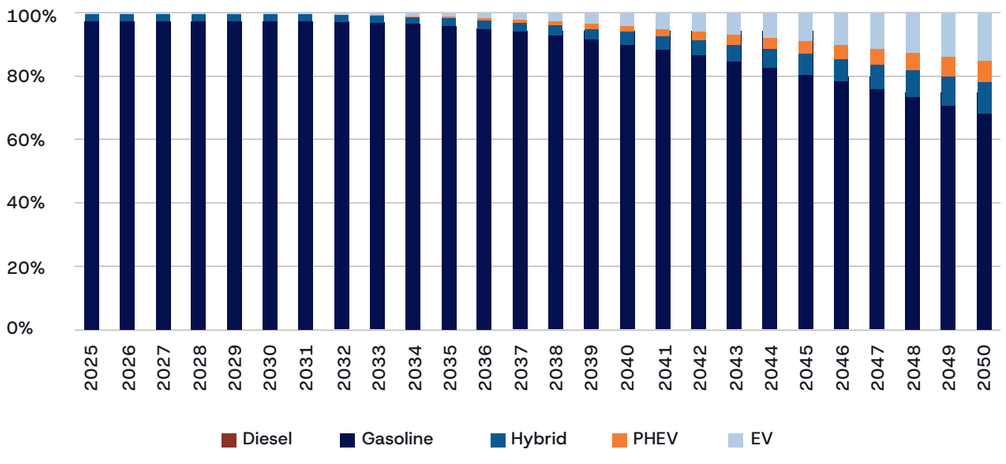
Key trends shown in **Figure 67** include:

- **Highest in 2025:** Gasoline vehicles dominate the fleet.
- **Growth over time:** Adoption of hybrids, PHEVs and EVs steadily increases.
- **Fastest growth:** EVs grow more rapidly than other vehicle types.
- **Smallest share:** Diesel vehicles remain a very small share of the fleet and contribute minimally to fuel tax revenues.

2050 Fleet Composition (Forecast):

- **Internal combustion engine vehicles:** approximately 68%
- **EVs:** approximately 16%
- **Hybrids and PHEVs (combined):** approximately 16%

Figure 67 – Missouri Fleet Forecast , 2025 – 2050



Source: EvAdoption; MoDOT; CDM Smith Analysis and Figure.
Note: Diesel vehicles are included in the figure but are not visible due to their minimal share of the fleet

Response to Declining Fuel Taxes

In response to concerns about declining fuel tax due to improved vehicle fuel economy and increased PHEV and EV purchases, Missouri enacted an increase to its existing motor fuel tax in 2021 through Senate Bill 262, the first adjustment to the fuel tax rate in more than 25 years.[78] The legislation phased in a 2.5-cent-per-gallon increase each year over five years, beginning in October 2021, raising the gasoline and diesel fuel tax rate from 17 cents to 29.5 cents per gallon by July 1, 2025 (FY 2026). No additional rate increases have been enacted.

A key component of Senate Bill 262 is a provision that allows purchasers of motor fuel for highway use to request a refund for the amount of the tax increase they paid. These refund amounts are subtracted from the gross fuel tax revenue, which impacts the net revenue available for transportation projects.

State Fuel Tax Revenue Distribution

- 72% → State Road Fund
- 15% → Cities
- 13% → Counties[79]

Scope of This Analysis

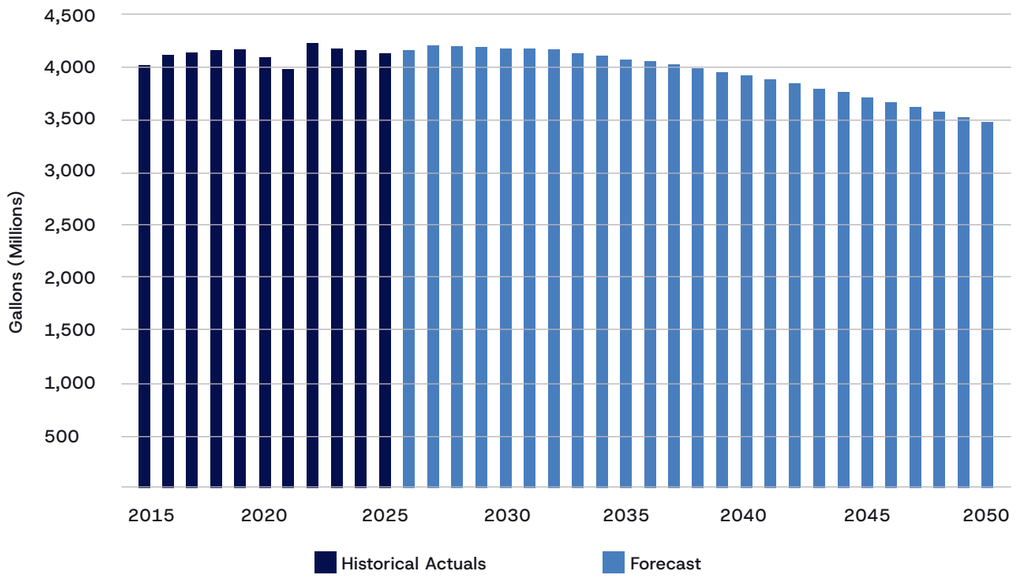
- Focuses only on the state's share
- Includes 72% of total fuel tax revenue allocated to the State Road Fund

Source: MoDOT

[78]Missouri Senate, SS #2/SCS/SB 262—Modifies Provisions Relating to Transportation, 2021 Regular Session, Senate Bill 262 (signed by Governor July 13, 2021; effective with emergency clause), Missouri Senate website, accessed September 5, 2025, https://www.senate.mo.gov/BillTracking/Bills/BillInformation?year=2021&billid=54298589

[79]Missouri Department of Revenue, "Financial and Statistical Report," 2024, https://dor.mo.gov/revenue-annual-financial-report/documents/financialstatreport24.pdf

Figure 68 – Gallons of Motor Fuel Taxed, 2015 – 2050



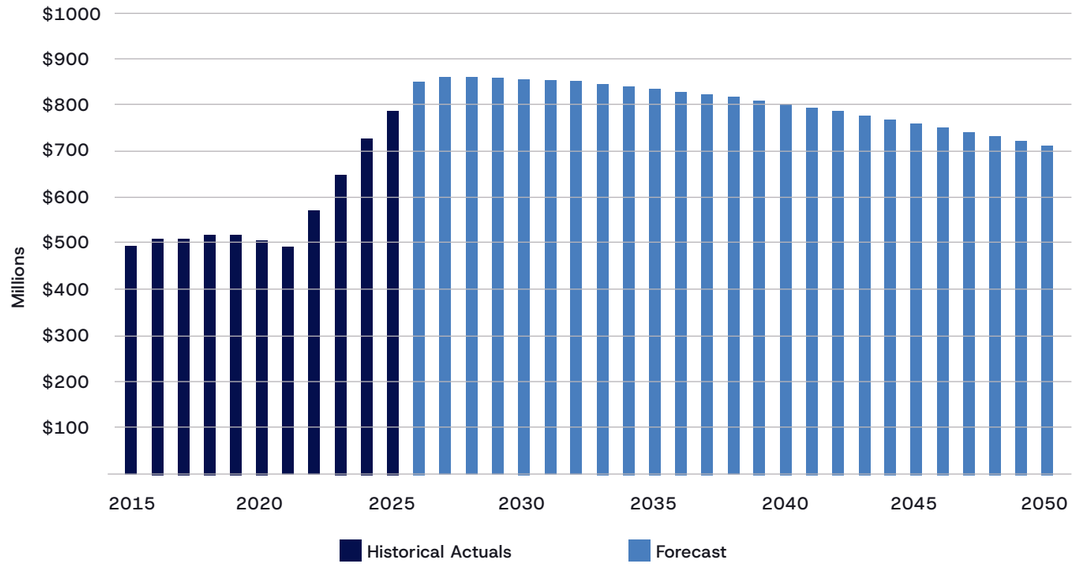
Source: MoDOT, Historical Actuals; CDM Smith, Forecast.

Gallons of Motor Fuel Taxed

Figure 68 illustrates the historical and projected number of gallons of motor fuel taxed in Missouri. The trend shows a gradual but steady decrease over time, which directly correlates with the increasing fuel economy of the vehicle fleet and the rising number of EVs and PHEVs. The figure highlights the core challenge facing transportation funding: the tax base itself is shrinking.

While **Senate Bill 262** increased the tax rate, the total number of taxable fuel gallons purchased continues to decline.

Figure 69 – State Motor Fuel Tax Revenue, 2015 – 2050



Source: MoDOT, Historical Actuals; CDM Smith, Forecast.

Figure 69 shows the resulting revenue from the taxed gallons of motor fuel. The graph indicates a slight increase in revenue from 2015 to 2018, a minor decline in revenue from 2019 to 2021. The increase in the per-gallon tax rate from 2022 through 2026 leads to a short-term revenue boost, with revenues peaking in 2027. After that point, the forecast projects a renewed, long-term decline as tax rates stabilize and fewer gallons are sold over time.

While **Senate Bill 262** provided a short-term boost to motor fuel tax revenues, the long-term downward revenue trend remains.

Forecasting Approach for Needs

This section provides an overview of the methodology used to forecast transportation needs in Missouri. Two scenarios were developed: 2025-funded needs and 2025-funded and unfunded needs. For each scenario, this section defines the concept and explains the approach followed. Examining both scenarios helps illustrate the gap between what can be accomplished with existing funding resources and what is needed to meet the state's long-term transportation goals. For a more detailed breakdown of road and bridge and multimodal needs, see the **Needs Assessment Chapter**.

2025-Funded Program Needs

2025-funded program needs represent the transportation projects and programs for which funding has already been identified and committed. For this analysis, 2025-funded needs are based on the 2025 funded programs, which draw from multiple categories and data sources listed in **Table 9.** The total cost of these programs in 2025 is then projected forward through 2050 using inflation to create the funded needs forecast.

Understanding 2025-funded needs is a useful baseline because it shows the portion of transportation system needs that are funded with today's existing resources, but it does not consider present or future unfunded needs.

Table 9 – 2025-Funded Programs Definition and Source

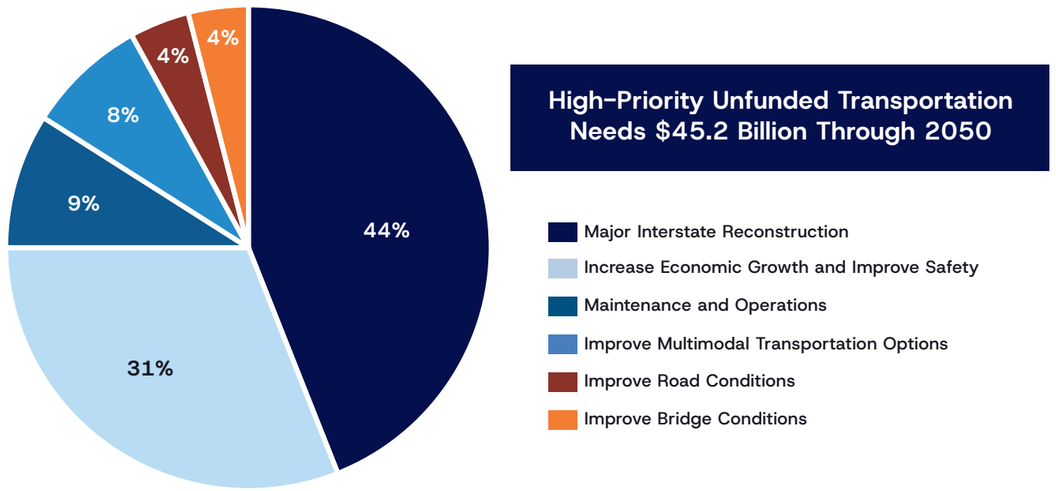
Category	Definition	Document
Construction Needs	Funding for roads, bridges and other improvement projects	2026-2030 STIP
Debt Service	Paying back bonds that were used to fund past and present construction projects	2026-2030 STIP
Operations and Maintenance	The daily costs of keeping our roads and bridges in good working condition	MoDOT Operations and Maintenance (O&M) Plan
Multimodal Operations	Funding for transportation options other than highways, such as public transit, airports and rail	2026-2030 STIP
Internal Operating Costs	The administrative costs to run the department, including salaries, IT and office expenses	2025 Financial Snapshot

2025-Funded and Unfunded Needs

2025-funded and unfunded needs reflect the total transportation investment required to meet all documented transportation needs in Missouri. 2025-funded needs come from the methodology described in the preceding section. Unfunded needs are taken from the 2025 Missouri High-Priority Unfunded Needs, which provides 10 years of non-inflated estimates.[80] The unfunded needs were divided over the 10-year period and then inflated in the outer years of the 10-year forecast. Finally, this forecast was extended through 2050 to cover the full analysis period. This resulted in a total of $45.2 billion in unfunded needs from 2025 to 2050, which is depicted by category in **Figure 70.**

Source: MoDOT

Figure 70 – Unfunded Needs



Source: High-Priority Unfunded Needs 2025, MoDOT; CDM Smith.

[80]MoDOT, "Missouri High-Priority Unfunded Needs," 2025, https://www.modot.org/sites/default/files/documents/High-Priority%20Unfunded%20Needs%202025Oct.pdf.

Findings

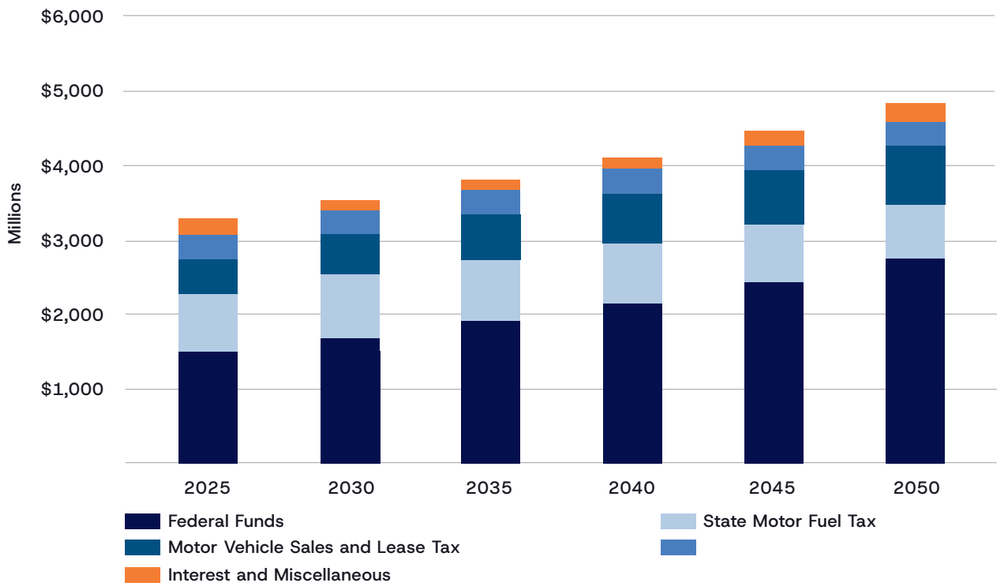
The following section presents the key findings of the analysis. First, the revenue forecast is presented, highlighting how various funding sources are projected to change over time. Next, the transportation needs forecasts are overlaid on the revenue forecast to illustrate when funding gaps are likely to emerge.

Revenue Forecast Through 2050

Figure 71 illustrates 2025 actuals and the 2026 to 2050 revenue forecast for roads and bridges. The analysis shows that overall funding levels are likely to increase in nominal dollars. However, the forecast includes a steady decline in fuel tax revenues. Vehicle and driver licensing fee revenues remain relatively flat over time. Sales and lease tax revenues (based on vehicle values) and federal funds increase in future years with inflation. Interest and miscellaneous revenues, which include special fuel decal fees, grow over time as EV and PHEV adoption grow.

Motor vehicle sales and lease taxes are projected to overtake motor fuel taxes as the largest source of state funding for roads and bridges by 2047.

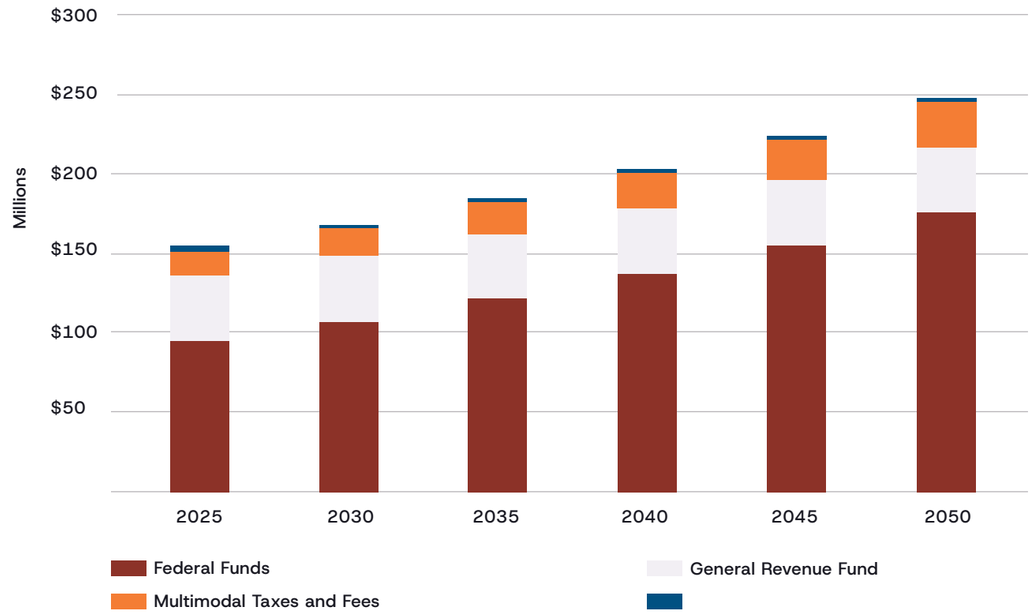
Figure 71 – Roads and Bridges Revenue Forecast, 2025 – 2050



Source: MoDOT, Historical Actuals; CDM Smith, Forecast.

Figure 72 illustrates 2025 actuals and the 2026 to 2050 revenue forecast for multimodal. Federal funds and multimodal tax and fee revenues increase with inflation over time. General revenue funds and interest and miscellaneous revenues remain at a flat fixed rate. A detailed table of the revenue forecast findings for both roads and bridges and multimodal can be found in **Appendix I.**

Figure 72 – Multimodal Revenue Forecast, 2025 – 2050



Source: MoDOT, Historical Actuals; CDM Smith, Forecast.

General Revenue Funds and interest and miscellaneous revenues remain at a flat, fixed rate, even as multimodal needs continue to increase between 2025 and 2050.

Needs Forecast Through 2050

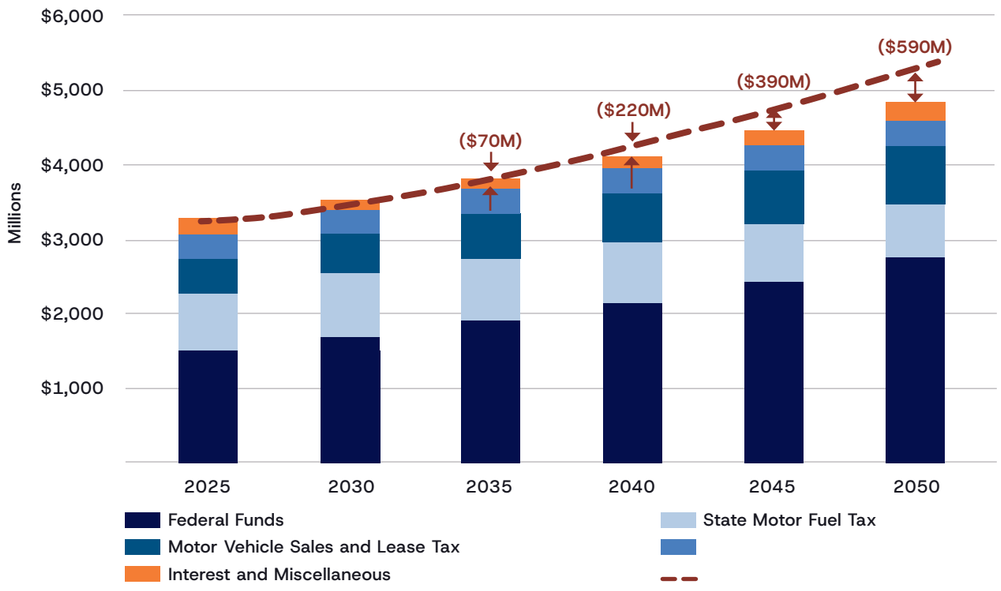
The needs forecast evaluates Missouri's transportation requirements under two distinct scenarios:

- 2025-funded needs consider only programs with committed funding
- 2025-funded and unfunded needs reflect the full level of investment required to maintain and improve the system

2025-Funded Program Needs

Figure 73 illustrates the 2025-funded program needs forecast for roads and bridges as a line atop the revenue forecast. From 2025 to 2030, revenues will cover the 2025-funded program needs. However, in 2031, a funding gap emerges as cost inflation outpaces revenue growth. The funding gap for roads and bridges increases to approximately $590 million per year in 2050.

Figure 73 – Roads and Bridges 2025-Funded Program Needs

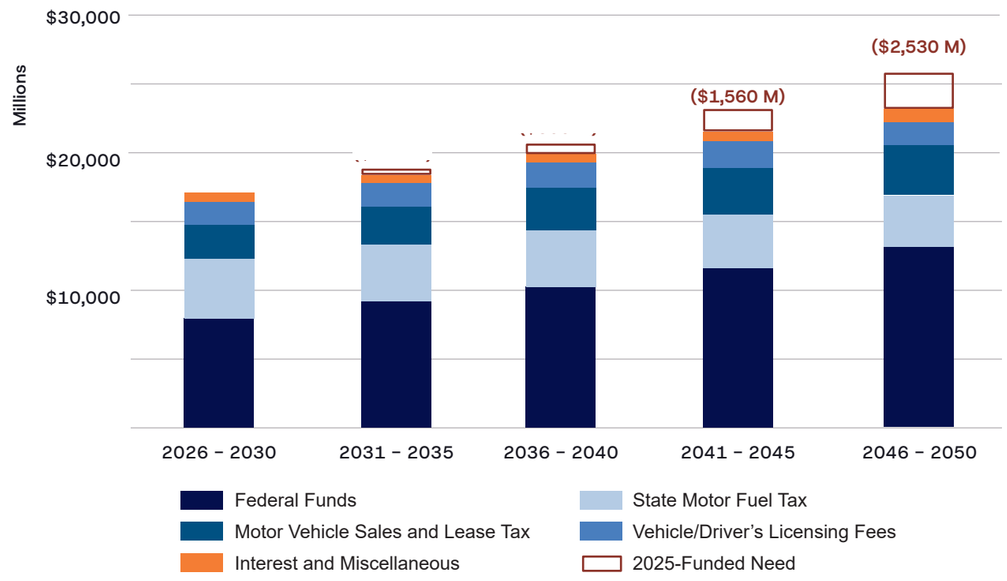


Source: MoDOT, Historical Actuals; CDM Smith, Forecast.

The funding gap for roads and bridges increases to approximately $590 million per year in 2050.

Figure 74 illustrates the 2025-funded program needs forecast for roads and bridges over 5-year increments to demonstrate the funding gap associated with future STIP cycles. While the 2031–2035 period faces a $250 million shortfall, this deficit scales significantly over the planning horizon. By the 2046–2050 interval, the projected funding gap expands to $2.5 billion.

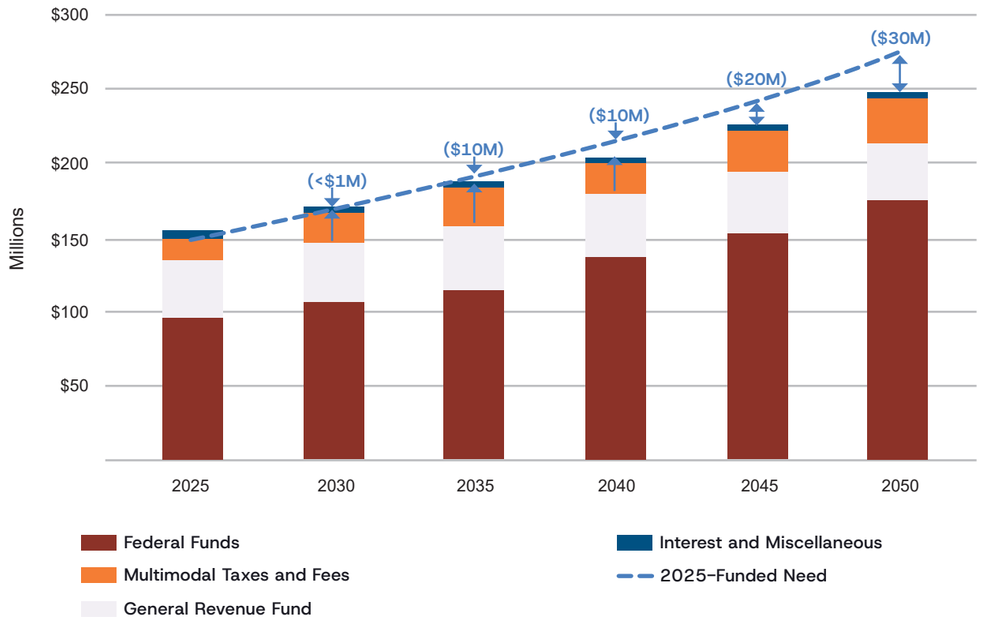
Figure 74 – Roads and Bridges 5-Year 2025-Funded Program Needs



Source: MoDOT, Historical Actuals; CDM Smith, Forecast.

Figure 75 illustrates the 2025-funded program needs forecast for multimodal. Revenues are sufficient to meet the 2025-funded needs through 2029. However, a funding gap begins in 2030. A table of the 2025-funded roads and bridges and multimodal program needs can be found in **Appendix I**.

Figure 75 – Multimodal 2025-Funded Program Needs



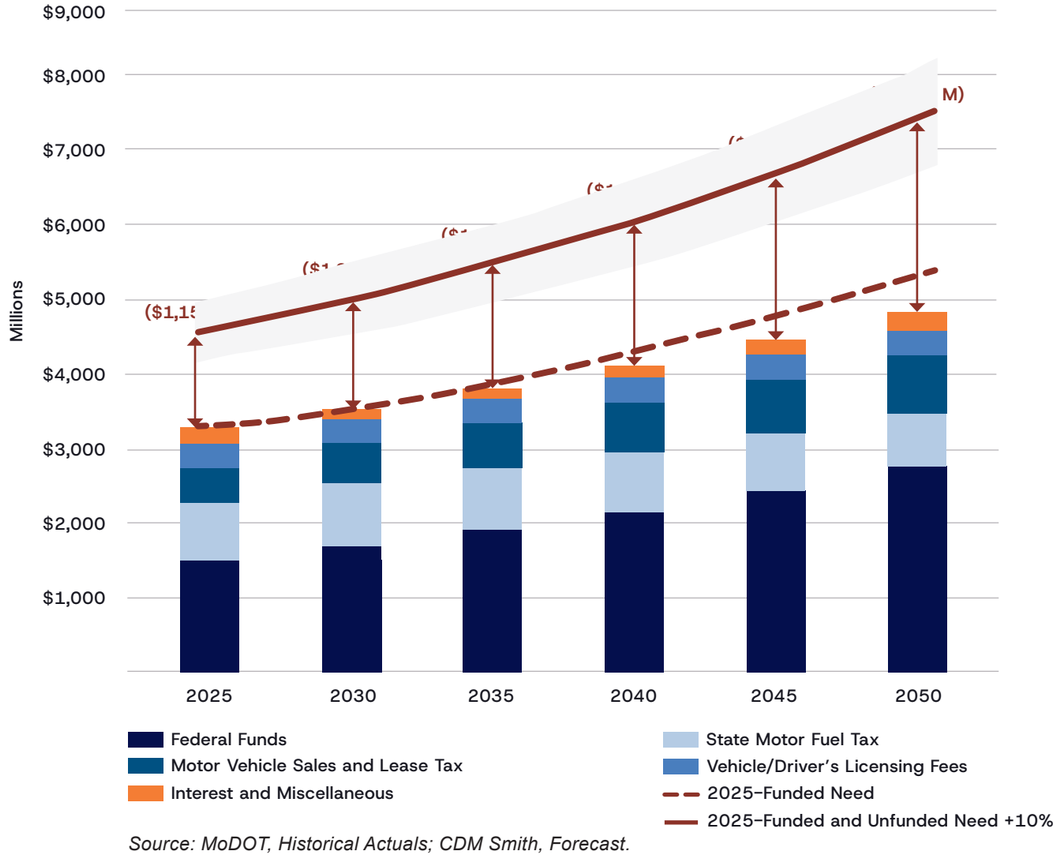
Source: MoDOT, Historical Actuals; CDM Smith, Forecast.

The funding gap for multimodal increases to almost $30 million by 2050.

2025-Funded and Unfunded Needs

Figure 76 illustrates the 2025-funded + unfunded needs forecast for roads and bridges. As of 2025, there is a funding gap of approximately $1.2 billion, reflecting the fact that the demand for transportation improvements exceeds the funding currently available, requiring prioritization of projects that provide the greatest benefit to taxpayers. The projected funding gap grows to approximately $2.7 billion by 2050 Similar to 2025-funded program needs, unfunded needs are expected to increase with inflation. However, evaluating unfunded needs involves greater uncertainty due to the broader assumptions required, so an error margin of ±10% is applied to illustrate the potential variance in these estimates (illustrated as a gray area above or below the 2025-Funded and Unfunded Need ±10% trend line).

Figure 76 – Roads and Bridges 2025-Funded and Unfunded Needs

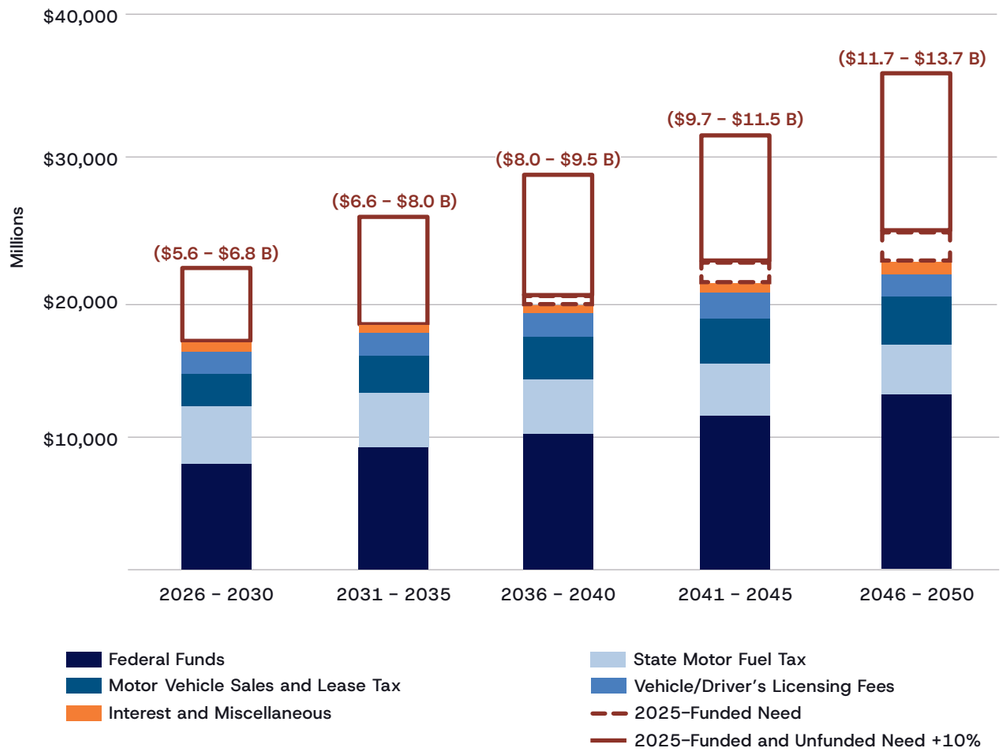


Source: MoDOT, Historical Actuals; CDM Smith, Forecast.

The projected funding gap for 2025-funded and unfunded needs for roads and bridges grows to approximately $2.7 billion by 2050.

Figure 77 illustrates the 2025-funded and unfunded program needs forecast for roads and bridges over 5-year increments to demonstrate the funding gap associated with future STIP cycles. While the immediate 2025–2029 period faces a deficit of $5.6–$6.8 billion, this shortfall nearly doubles over the life of the plan. By the final 2046–2050 interval, the projected funding gap reaches a peak of $11.7–$13.7 billion.

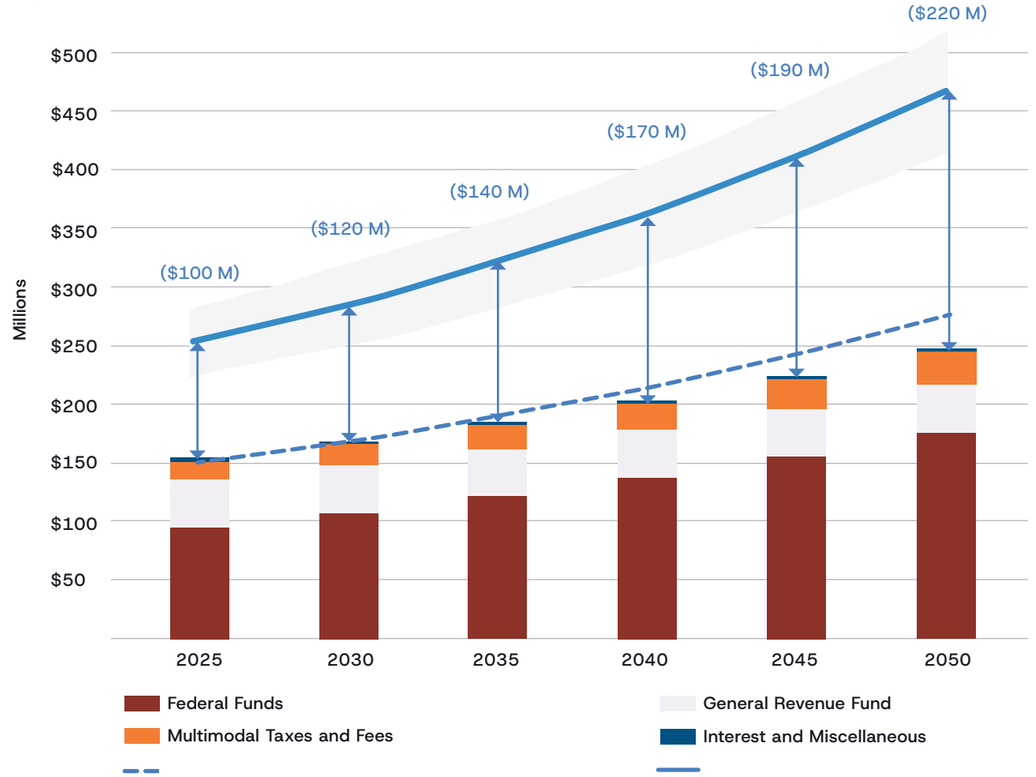
Figure 77 – Multimodal 5-Year 2025-Funded + Unfunded Needs



Source: MoDOT, Historical Actuals; CDM Smith, Forecast.

Figure 78 illustrates the 2025-funded and unfunded needs forecast for multimodal. As of 2025, there is a funding gap of approximately $100 million. The projected funding gap grows to approximately $220 million by 2050. Evaluating unfunded needs involves uncertainty due to the broader assumptions required, so an error margin of ±10% is applied to illustrate the potential variance in these estimates (illustrated as a gray area above or below the 2025-Funded and Unfunded Need ±10% trend line). A table of the 2025-funded and unfunded needs for roads and bridges and multimodal can be found in **Appendix I.**

Figure 78 – Multimodal 2025-Funded and Unfunded Needs



Source: MoDOT, Historical Actuals; CDM Smith, Forecast.

The projected funding gap for 2025-funded and unfunded needs for multimodal grows to approximately $220 million by 2050.

Implications for Missouri's Transportation Funding

Missouri's transportation system is essential to the state's economy, safety and quality of life. The state will face growing shortfalls that challenge MoDOT's ability to maintain existing infrastructure and meet future needs. Maintaining and improving the system depends on reliable, long-term funding. This chapter highlights two primary reasons why revenues are not keeping pace with needs:

- **Revenues do not keep up with inflation:** Most state revenues sources are set at fixed rates and are not adjusted for inflation. Meanwhile, construction, maintenance and operating costs continue to rise each year. Over time, this creates a widening gap between flat revenues and growing expenses.
- **Vehicles are using less fuel:** As vehicles become more fuel-efficient and as adoption of PHEVs and EVs grows, people are buying less gasoline and diesel. Missouri relies heavily on the motor fuel tax for transportation funding and fewer gallons sold means less fuel tax revenue collected.

Table 10 summarizes the findings from the report as projected funding gaps for both

Source: MoDOT

needs scenarios. Road and bridge revenues are expected to cover 2025-funded program needs through 2030. Beginning in 2031, however, a shortfall emerges, growing to $220 million by 2040 and $590 million by 2050. When both 2025-funded and unfunded needs are considered together, Missouri faces a $1.2 billion funding gap in 2025. That shortfall is projected to increase to $1.3 billion in 2030, $1.9 billion in 2040 and $2.7 billion in 2050.

Multimodal revenues are sufficient to meet 2025-funded needs through 2029. A funding gap begins in 2030 and grows to about $30 million by 2050. Looking at combined 2025-funded and unfunded needs, a funding gap of $100 million is present as of 2025. This funding gap grows to $220 million by 2050.

Table 10 – Funding Gap Based on Need Scenario ($ in Millions)

Year	Roads & Bridges		Multimodal		Total	
	2025 Funded Programs	2025 Funded and Unfunded Needs	2025 Funded Programs*	2025 Funded and Unfunded Needs	2025 Funded Programs	2025 Funded and Unfunded Needs
2025	$ –	$1,150	$ –	$100	$ –	$1,250
2030	$ –	$1,300	< $1	$120	< $1	$1,420
2035	$70	$1,550	$10	$140	$80	$1,690
2040	$220	$1,890	$10	$170	$230	$2,060
2045	$390	$2,280	$20	$190	$410	$2,470
2050	$590	$2,720	$30	$220	$620	$2,940

Note: Numbers rounded to the nearest $10 million.

In summary, Missouri faces a substantial and widening funding gap. This shortfall will challenge the state's ability to preserve existing infrastructure, invest in safety improvements and support future mobility needs. Critically, the state's buying power is increasingly constrained. While Missouri may maintain consistent levels of nominal contractor awards, the rising costs of materials and labor, compounded by declining fuel tax revenues, mean these investments will yield fewer completed projects. Addressing this challenge will require prioritization of investments during the time frame of this long-range plan. At the same time, by outlining the level of investment Missouri requires to address needs, this chapter provides a foundation for understanding the magnitude of possible funding solutions that can support the state's long-term transportation system.

Chapter 8: Implementation Plan

The Implementation plan bridges the gap between vision and reality, detailing how to achieve Long-Range Transportation Plan (LRTP) goals and objectives by outlining specific actions, scenarios, stakeholder engagement, funding and resource strategies and priorities aligned with statewide programs and policies.

Source: MoDOT

The development of this Implementation Plan reflects an extensive, year-long process that began with revisiting MoDOT's mission, vision and goals to guide long-range planning through 2050. Starting in early 2025, MoDOT and its partners conducted a multi-phase stakeholder engagement effort, including outreach to Metropolitan Planning Organizations (MPOs), Regional Planning Commissions (RPCs), district offices and the Modal Advisory Committee (MAC), as well as public input through surveys, virtual meetings and events like the Missouri State Fair. The feedback and insights gathered during these activities helped shape Missouri's goals, objectives, vision and the scenario planning process.

Using baseline snapshots, "future headlines" and policy level discussions, the scenario planning process explored future conditions across four key topics: funding and investments, safety, economic growth and rural and aging communities.

By late 2025, MAC meetings and executive reviews refined priorities and identified actionable strategies aligned with statewide programs and policies. This collaborative approach culminated in the Action Plan, which organizes recommendations into short-, mid- and long-term timeframes and provides a roadmap for implementing the LRTP and State Freight and Rail Plan (SFRP) goals.

Action Plan

The Action Plan translates the LRTP vision into a practical roadmap for implementation, providing clear steps to achieve MoDOT's established goals and objectives through 2050. It outlines general recommendations and identifies critical issues, such as safety risks, aging infrastructure, freight bottlenecks and funding constraints, while strengthening a collaborative planning process that supports effective communication and coordination among statewide stakeholders. It builds on statewide programs and policies, including the Freight Enhancement Program, Show-Me Zero safety initiatives and multimodal connectivity strategies.

Recommended Implementation Strategies Address:

- POLICY
- OPERATIONS
- PROJECT DEVELOPMENT
- COMMUNICATIONS

For Fiscally Responsible Investments, Funding and Resource Considerations Integrate:

- STATE/FEDERAL PROGRAMS
- CROSS-SECTOR PARTNERSHIPS
- PERFORMANCE-BASED PRIORITIZATION

Action Plan Aligns With Performance Trends and Targets, Supporting MoDOT's Statewide Goals For:

- SAFETY
- RELIABILITY
- STEWARDSHIP
- ECONOMIC VITALITY

Long-Range Transportation Plan

Several recommendations for achieving the goals and objectives of the LRTP have been established, as shown in **Table 11**. Recommended action items are categorized by:

- **Short-term (0–5 years)**
- **Mid-term (5–10 years)**
- **Long-term (10+ years)**

Table – 11 Recommendations and Action Items to Support LRTP Goals and Objectives

Recommendation	Associated Goal	Action Item
Short Term (0 5 Years)		
Assess Future Revenue Scenarios to Inform Planning	**Stewardship**	Continue revenue impact analysis to forecast future funding gaps.
Advance Show-Me Zero and Vulnerable Road Users (VRU) Safety Strategies Through Collaborative Efforts	**Safe**	Continue supporting and promoting Show-Me Zero and VRU strategies.
Explore Options for a Repository for Local Active Transportation Plans	**Connected**	Explore options for creating a repository for local active transportation plans to enhance collaboration.
Create a Shared Platform for Active Transportation Resources	**Connected**	Collaborate with regional partners to identify, compile and share active transportation resources—such as plans, data and best practices—through a coordinated approach that improves accessibility and supports regional connectivity.
Research Emerging Technologies Pilot Programs	**Innovative**	Assess potential pilot programs for emerging technologies that emphasize techniques and treatments from innovative programs—Transportation System Management and Operations (TSMO) and the Missouri State Transportation Innovation Council (MoSTIC)—and identify opportunities for future implementation.
Advance Freight Connectivity and Address Parking Needs	**Prosperous**	Collaborate with partners to assess freight bottlenecks at key intermodal hubs and explore strategies to improve efficiency and address truck parking challenges, as appropriate and subject to available resources.
Mid Term (5 10 Years)		
Strengthen Long-Term Transportation Funding Stability	**Stewardship**	Evaluate strategies to address revenue challenges, including potential alternative funding mechanisms such as mileage-based user fees, tolling and congestion pricing.
Apply Advanced Technologies for Safer, Smarter Mobility	**Safe**	Leverage smart signal systems, intelligent transportation systems and data analytics to enhance safety and reliability.
Multimodal Focus	**Reliable**	Integrate additional intermodal connections to better move freight and people via rail, water and air, not just highways.
Leverage Technology and Broadband	**Innovative**	Look for opportunities to invest in technology to improve infrastructure, including leveraging broadband, intelligent transportation systems and advances in artificial intelligence (AI) solutions.
Evaluate Cost Share Program Requirements	**Prosperous**	Evaluate cost share program requirements to identify opportunities for implementing strategies that expand fiscally constrained communities' participation in this highly beneficial program.
Long Term (10+ Years)		
Explore AI Technology	**Reliable**	Investigate, consider impacts and develop a framework which could identify and implement AI-driven traffic and incident management to continue increasing reliability of the system.
Strengthen Transit Funding and Modernize Statutes	**Connected**	Explore opportunities to strengthen transit funding and review statutory updates to support evolving mobility options.

These action items drew support from stakeholders for the following reasons:

- Strengthening financial sustainability and stewardship of transportation resources
- Enhancing system safety, reliability and real time responsiveness
- Expanding multimodal options and improving access across geographies and user groups
- Advancing innovation to modernize infrastructure and improve statewide mobility

State Freight and Rail Plan

As discussed in the SFRP, the Missouri Freight Action Plan establishes a proactive, statewide framework to guide freight planning and investment decisions over the next 20 years.

As discussed in the SFRP, the Missouri Freight Action Plan builds on the analyses and recommendations specified in the SFRP providing strategic, actionable guidance to address anticipated freight growth, evolving patterns and critical challenges such as truck parking, multimodal connectivity and infrastructure resiliency. The plan aligns with the LRTP and SFRP goals, Reliability, Innovation, Stewardship, Safety, Prosperity and Connectivity and fosters collaboration among MoDOT, MPOs, RPCs, ports, railroads and private-sector partners to support efficient goods movement and economic competitiveness.

Source: MoDOT

2026

LRTP

Long-Range Transportation Plan

Appendices

Appendix A – Modal Advisory Committee and Executive Modal Advisory Committee Members

Modal Advisory Committee (MAC) Members			
Attendee Name	Agency	Attendee Name	Agency
Aimee Andres	Inland Rivers, Ports & Terminals, INC. (IRPT)	Jon Stephens	Kansas City Port Authority (Port KC)
Bailey DeJonge	East-West Gateway Council of Governments (EWG)	Lesley Rone	Missouri Department of Economic Development (MO DED)
Ben Jones	Union Pacific Railroad (UP)	Lewie Pugh	Owner-Operator Independent Drivers Association (OOIDA)
Bonnie Prigge	Meramec Regional Planning Commission (RPC)	Liz Gibbons	City of Kirkwood
Brent Stevens	Workforce Dev Board of N. Missouri	Melissa Cooper	Kansas City International Airport (MCI)
Brian Weiler	Springfield Branson National Airport (SGF)	Michael Kelley	BikeWalkKC
Cecelie Cochran	Federal Highway Administration (FHWA)	Mike Latuszek	FHWA
Chance Gallagher	St. Joseph Area Transportation Study Organization (SJATSO)	Randall Aulbur	Missouri Department of Transportation (MoDOT) Central District
Crystal Jones	Perry County Economic Development Authority (PCEDA)	Rhonda Hamm-Niebruegge	St. Louis Lambert International Airport (STL)
David Pearce	University of Central Missouri (UCM)	Ron Achelpohl	Mid-America Regional Council (MARC)
Geri Doyle	Federal Transit Administration (FTA)	Stefan Herron	MO DED
Jackson Hotaling	Missourians for Responsible Transportation (MRT)	Tammy Bruckerhoff	Visit Hermann
Jeff Davis	Burlington Northern Santa Fe Railway (BNSF)	Tom Blair	MoDOT St. Louis District
Jeremy Tanz	Southeast Missouri Regional Planning and Economic Development Commission (SEMO RPC) and Missouri Association of Councils of Government (MACOG)	Tom Crawford	Missouri Trucking Association (MoTA)
John Ferguson	Missouri Port Authorities Association (MPAA)	Tom Evers	MoDOT St. Louis District
John Miller	FHWA	Zachary Young	MoDOT Southwest District

Executive Modal Advisory Committee (MAC) Members			
Attendee Name	Agency	Attendee Name	Agency
Bailey DeJonge	EWG	Jackson Hotaling	MRT
Ben Jones	UP	Jeremy Tanz	MACOG and SEMO RPC
Bonnie Prigge	Meramec RPC	John Ferguson	MPAA
Brent Stevens	Workforce Dev Board of N. Missouri	Randall Aulbur	MoDOT Central District
Brian Weiler	SGF	Ron Achelpohl	MARC
Cecilie Cochran	FHWA	Tammy Bruckerhoff	Visit Hermann
Chance Gallagher	SJATSO	Tom Blair	MoDOT St. Louis District
Crystal Jones	PCEDA	Tom Crawford	MoTA
Gerri Doyle	FTA	Tom Evers	MoDOT St. Louis District
Bailey DeJonge	EWG		

Appendix B – Intercity Bus Service Routes

The state's intercity bus (ICB) services provide a link between smaller communities and connects those communities to larger urban areas that offer services and opportunities.

Burlington Trailways

An exceedingly small portion of Burlington Trailways service occurs in the state, through a connection from Iowa south along the Missouri-Illinois border, with a southern terminus in St. Louis. Burlington Trailways has six stops in the state in addition to St. Louis: Canton, Hannibal, Bowling Green, Troy, Wentzville and the St. Louis-Lambert Airport.

Greyhound

Greyhound routes through the state fall on largely east-west transcontinental routes. There are three routes specifically carried by Greyhound and these routes follow I-70, I-44 and I-55. Each of these routes includes St. Louis. In addition, Greyhound has 10 other stops in the state. Along I-70 there are stops in Columbia, Boonville and Kansas City. Along I-44, there are stops in Rolla, Ft. Leonard Wood, Lebanon, Springfield and Joplin. Along I-55, there are stops at Cape Girardeau and Sikeston.

Jefferson Lines

Within the state, Jefferson routes run primarily along the western border of the state. Jefferson has 22 bus stops, the most of any provider within the state of Missouri. From north to south, stops are located at Rock Port, Maryville, Bethany, St. Joseph, Cameron, Kansas City (three stops – Kansas City International Airport, Union Station and Greyhound Station), Warrensburg, Peculiar, Harrisonville, Clinton, Butler, Rich Hill, Osceola, Nevada, Collins, Humansville, Bolivar, Springfield, Joplin and Anderson.

Megabus

There is currently only one Megabus route through the state, along I-70, with stops in Kansas City, Columbia and St. Louis. Megabus has a unique operating style compared to the other three major ICB providers in the state. Megabus exclusively provides point-to-point service with very minimal stops (generally no rural access). There are no bus stations/terminals operated by Megabus. Their stop locations are primarily curbside, although they are generally near local transit.

Appendix C – Intercity Bus Stops/Stations

- St. Louis – The St. Louis Greyhound bus terminal is in the Gateway Multimodal Transportation Center. There are MetroBus and MetroLink (light rail) stops at this location. Megabus also stops near Union Station.
- Kansas City – The Kansas City Greyhound terminal (which serves both Greyhound and Jefferson Lines) is situated along several Kansas City Area Transit Authority (KCATA) routes, including the 12th Street (12), Troost (25), 9th Street (109) and Woodland/Brooklyn (110) routes. Megabus stops in Kansas City at the 3rd and Grand KCATA MetroCenter. The MetroCenter is a major park-and-ride location, which is served by four different local bus routes, including the MAX (Bus Rapid Transit). However, as Kansas City continues to strive to develop Union Station as a multimodal hub, it might make sense to consider consolidating ICB operations to this location, for true intermodal connectivity.
- Columbia – The Greyhound station is located along the “101 N Orange” transit line. However, the station is not specifically listed as a transit stop. The closest scheduled stop is located at Providence Road and Leslie Lane, which is approximately one mile from the Greyhound station. Megabus stops in Columbia at Wabash Station, the main transit hub in Columbia. All bus lines are routed through Wabash Station. Although the Greyhound terminal in Columbia is a stand-alone building that clearly represents a past investment, it may not be sited in the best place for true multimodal integration. Together with the other alternative modes in Columbia, ICB providers should work to determine a suitable location for a true multimodal hub (whether at Wabash Station or some other location). This is the kind of consolidation that might not occur without state encouragement and investment.
- Springfield – The former Greyhound terminal in Springfield has moved to Springfield City Utilities (CU) Transit Center at N. Main St. in between West College St. and West Olive St. This is the only Greyhound bus stop in Springfield. The Greyhound terminal was relocated to the CU Transit Center as of late 2022, which provides a central location for passengers to transfer between different bus routes. This station would not be considered true multimodal integration in the sense of offering connections to numerous other transportation modes in one facility. Together with the other alternative modes in Springfield, ICB providers should work to determine a suitable location for a true multimodal hub. This is the kind of consolidation that might not occur without state encouragement and investment.

- Joplin – The ICB stop location is located at a gas station near Route 249 and Route 66 in the Village of Duenweg. The Greyhound station stops in the parking lot of the Phillips 66 right off 7th St. This station is about 6 miles from the nearest Sunshine Lamp Trolley located on Main St. This constitutes fairly good modal integration.
- St. Joseph – The St. Joseph transit system has a transfer station at 6th and Angelique, through which all city transit lines are routed. The St. Joseph ICB bus stop is at that transfer station, an example of perfect integration of these modes. In summary, working to better integrate modes in Columbia, Springfield and Kansas City with ICB would create true intermodal connectivity. St. Joseph is a good model for this type of geographic integration.

Appendix D – Bicycle Routes/Trails

- **The Frisco Highline Trail** - Winds 35 miles through the scenic Ozarks and it connects Springfield to Bolivar, Missouri. The trail was designated a National Recreation Trail by the National Park Service and American Trails in 2004. The trail is feasible due to donors and members of Ozark Greenways, who named and own this Ozarks' Premier Scenic Rail Trail.[1]

- **The Great River Bicycle Trail** - Runs from Muscatine, Iowa to New Orleans, Louisiana. The Great River Bicycle Trail enters the state at Hannibal and traverses the east side of the state before exiting the state at Cape Girardeau. There is a trail spur leading into St. Louis. The Great Rivers South Bicycle Route provides the traveler with the subtle beauty of the state's farmland, woods and rivers.[2]

- **Katy Trail -** Is the longest developed rail to trail facility in the country. Katy Trail State Park attracts users of all ages, interests and riding abilities. The trail offers a place to enjoy nature and an opportunity to discover the rich history from the past. The trail is popular among bicyclists, walkers, equestrians, nature lovers and history buffs. Built on the former Missouri-Kansas-Texas Railroad, the Katy Trail is 240 miles long between Clinton and Machens and contains 26 trailheads and four fully restored rail depots. The Cooper County to St. Charles County section has been designated as an official segment of the Lewis and Clark National Historic Trail. In addition, the Katy Trail is part of the American Discovery Trail, designated as a Millennium Legacy Trail and is in the Rails-to-Trails Conservancy Hall of Fame.[3]

- **Lewis and Clark Trail Bicycle Routes -** Was created to celebrate the anniversary of the Corps of Discovery's 1803-1806 historic journey and offers cyclists the opportunity to follow the path of the explorers Captains Meriwether Lewis and William Clark. The main route of the Lewis and Clark Bicycle Trail is made up of paved roads, bike paths and unpaved rail-trails, with occasional short sections of gravel roads. The trail enters the state near St. Charles and exits the state north of Kansas City into Atchison, Kansas. The Lewis and Clark Trail runs

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[1] Ozark Greenways, "Frisco Highline Trail," accessed June 5, 2025, https://www.ozarkgreenways.org/explore/greenway-trails/frisco-highline-trail/.
[2] Adventure Cycling Association, "Great Rivers South Bicycle Route", accessed June 5, 2025, https://www.adventurecycling.org/routes-and-maps/adventure-cycling-route-network/great-rivers-south/.
[3] Missouri State Parks, "Katy Trail State Park," accessed June 5, 2025, https://mostateparks.com/park/katy-trail-state-park.

concurrently with a segment of the Katy Trail. Near Boonville, the two trails diverge.[4]

- **Mississippi River Trail (MRT)** - The MRT stretches from the headwaters at Lake Itasca in Minnesota to its near-mouth in Venice, Louisiana, offering a continuous riverside route along the Mississippi River. The Missouri portion follows the river's eastern bank as the route enters the state, traces scenic levees, historic river towns and riverfront greenways and then exits toward the next state south. Riders experience expansive river views, seasonal floodplain forests and the blend of river heritage and natural landscapes. Much of the route uses paved shoulders on roads and multi-use trails rather than fully separated rail-trails, making it accessible to a broad range of riders seeking a long-distance journey along America's greatest waterway.[5]
- **Route 66 Trail -** In the state, the Route 66 Trail travels through St. Louis and Springfield and exits near Joplin along a bike-friendly version of Historic Route 66. Like the Historic Route 66, the trail generally parallels I-44. The Riverfront Trail leads cyclists into the city and past the Gateway Arch commemorating the launch of the Lewis and Clark Corps of Discovery Expedition. Once through the suburbs on city and county roads, Bicycle Route 66 begins paralleling I-44 mostly on frontage roads and some county highways. Not far out of St. Louis, cyclists will encounter the rolling hills of the northern reaches of the Ozark Mountains. West of Springfield, Missouri, the route leaves Historic 66 in favor of quieter county roads and state highways. Bicycle Route 66 rejoins Historic Route 66 east of Joplin.[6]
- **Transamerica Trail Bicycle Route -** Crosses the country from Astoria, Oregon to Yorktown, Virginia. The trail enters the state along Route 126 east of Pittsburg, Kansas and exits the state into Kaskaskia, Illinois south of St. Genevieve. In western Missouri, the riders experience going from flat and dry terrain to a roller coaster ride as the route gets hillier as they approach the Ozarks Mountain Range. The Ozarks themselves contain many steep grades and tight curves. The Ozark National Scenic Riverways is a national park that provides riders with

[4] National Park Service, "Lewis and Clark Trail Cycle Route," June 2, 2021, https://www.nps.gov/places/lewis-and-clark-trail-cycle-route.htm.
[5] Missouri Bicycle and Pedestrian Federation, "The Mississippi River Trail (MRT)," Nov 11, 2002 https://mobikefed.org/2002/11/the-mississippi-river-trail-mrt.php
[6] Adventure Cycling Association, "Bicycle Route 66," accessed June 5, 2025, https://www.adventurecycling.org/routes-and-maps/adventure-cycling-route-network/bicycle-route-66/.

scenic rivers and forests. East of Farmington, riders travel down the bluffs of the Mississippi River and down into the floodplain.[7]

- **U.S. Bicycle Route 51** - Runs the length of Missouri, beginning at the Missouri-Iowa state line near the U.S. 69 crossing and ending in Alma, Arkansas. With visions to extend from Minnesota to New Orleans, Louisiana, the trail currently travels approximately 554 miles through rolling farmland, small historic towns and the scenic Ozark region. The route uses a combination of existing roadways and segments of local trails, providing riders with a mix of rural countryside, forested hills and river landscapes. USBR 51 is an emerging long-distance touring route that enhances the state's bicycle tourism potential and links several recreational and historical areas.[8]
- **U.S. Bicycle Route 251** - Serves as a southwestern spur of USBR 51, beginning near the Springfield and Cassville region and continuing south through the Ozarks to the Missouri-Arkansas border. Covering approximately 90 miles in the state, the route travels through rural southwest Missouri, offering a quieter alternative to the main spine of USBR 51. The corridor features rolling hills, forested landscapes, scenic back roads and access to smaller communities in Barry and McDonald Counties before reaching the state line. Primarily following rural county roads with fewer developed trail segments, USBR 251 provides cyclists with the opportunity to explore the rugged character and natural beauty of the Ozark region, while creating additional loop and connection options into Arkansas' growing trail and cycling network.[9]

[7] Adventure Cycling Association, "TransAmerica Trail," accessed by June 5, 2025, https://www.adventurecycling.org/routes-and-maps/adventure-cycling-route-network/transamerica-trail/.
[8] Adventure Cycling Association, " New USBRS Announcements for Fall 2024," Dec 10th, 2024, https://www.adventurecycling.org/member_news/new-usbrs-announcements-for-fall-2024/
[9] Missouri Bicycle and Pedestrian Federation, "U.S. Bicycle Route 251," Sept 11, 2025, https://mobikefed.org/2025/09/ask-modot-support-wayfinding-signage-us-bicycle-routes-51-251-and-66-across-missouri

Appendix E – Total Delay Hotspots – Top 10

Statewide	Roadway	Approximate Location
1	I-55 S at Reavis Barracks Rd/Exit 199	St. Louis
2	I-64 W at I-70	Lake St. Louis
3	I-270 S at MO-100/Manchester Rd/Exit 9	Des Peres
4	MO-47 N at U.S. 61	Troy
5	I-70 E at Sterling Ave/Exit 10	Kansas City
6	U.S. 71 N at E Gregory Blvd	Kansas City
7	MO-152 W at I-35/U.S. 69	Liberty
8	I-270 S at MO-Ab/Ladue Rd/Exit 13	Creve Coeur
9	I-64 W at Clayton Rd/Oakland Ave/Exit 34	St. Louis
10	I-70 W at Tr Hughes/Belleau Crk/Exit 219	O'Fallon
MoDOT Northwest District	Roadway	Approximate Location
1	MO-31 N at U.S. 36 (North)	Stewartsville
2	MO-13 S at MO-P	Hamilton
3	U.S. 36 W at I-229/U.S. 59	St. Joseph
4	MO-13 N at U.S. 36-Br/Old U.S. 36 E/Berry St	Hamilton
5	MO-13 S at U.S. 36	Hamilton
6	U.S. 36 E at MO-31/SW Spruce Rd	Stewartsville
7	I-35 N at U.S. 69/Exit 48	Cameron
8	I-35 S at MO-116/Exit 44	Lathrop
9	I-229 N at Edmond St/Exit 6A	St. Joseph
10	I-29 N at I-229/Exit 43	St. Joseph
MoDOT Kansas City District	Roadway	Approximate Location
1	I-70 E at Sterling Ave/Exit 10	Kansas City
2	U.S. 71 N at E Gregory Blvd	Kansas City
3	MO-152 W at I-35/U.S. 69	Liberty
4	I-435 CW at Stadium Dr	Kansas City
5	I-435 CCW at Raytown Rd/Exit 63	Kansas City
6	I-29/I-35 S at I-29 End Freeway/Exit 4	Kansas City
7	U.S. 56 N at Ward Pky*	Kansas City
8	U.S. 50 W at Main St/Main St Rd	Sedalia
9	U.S. 71 S at 155Th St/Exit 176	Grandview
10	MO-92 W at I-35	Kearney

*Includes a non-MoDOT owned segment

MoDOT Southwest District	Roadway	Approximate Location
1	MO-13 N at I-44	Springfield
2	MO-66 W at MO-P/S Schifferdecker Ave	Joplin
3	MO-76 E at MO-165/Gretna Rd*	Branson
4	MO-76 E at U.S. 65-Br/Veterans Blvd (North)*	Branson
5	MO-76 W at MO-165/Gretna Rd*	Branson
6	I-44 W at MO-13/Kansas Expy/Exit 77	Springfield
7	MO-171 W at U.S. 71-Br/S Madison St	Webb City
8	MO-76 E at U.S. 65*	Branson
9	U.S. 60 W at MO-M/MO-MM	Republic
10	I-44 W at MO-125/Exit 88	Strafford
MoDOT Central District	Roadway	Approximate Location
1	U.S. 63 N at MO-PP/Clark Ln	Columbia
2	U.S. 63 S at I-70	Columbia
3	I-44 W at MO-V/Exit 189	Rolla
4	U.S. 63 S at U.S. 50-Br/Missouri Blvd	Jefferson City
5	U.S. 63 S From Clark Ave to Cedar Creek	Jefferson City
6	U.S. 54 W at W Main St	Jefferson City
7	I-44 W at MO-28/Exit 163	St. Robert
8	I-44 E at MO-68/Exit 195	St. James
9	U.S. 50 E From Clark Ave to MO-179	Jefferson City
10	MO-AC W at S Bearfield Rd	Columbia
MoDOT Southeast District	Roadway	Approximate Location
1	U.S. 61 S at I-57/U.S. 60	Sikeston
2	U.S. 160 W at U.S. 63-Br/MO-17/E Broadway St	West Plains
3	MO-17 S at U.S. 160/U.S. 63-Br/Broadway St	West Plains
4	MO-K W at S Mt Auburn Rd	Cape Girardeau
5	MO-K E at S Mt Auburn Rd	Cape Girardeau
6	MO-K E at S Silver Springs Rd	Cape Girardeau
7	I-55 N at MO-Ee/Exit 40	Portageville
8	I-55 N at U.S. 61/MO-162/Exit 32	Portageville
9	U.S. 61 N at U.S. 61-Br/N Kingshighway	Sikeston
10	U.S. 61 N at U.S. 61-Br/S Kingshighway	Sikeston

*Includes a non-MoDOT owned segment

MoDOT St. Louis District	Roadway	Approximate Location
1	I-55 S at Reavis Barracks Rd/Exit 199	St. Louis
2	I-64 W at I-70	Lake St. Louis
3	I-270 S at MO-100/Manchester Rd/Exit 9	Des Peres
4	I-270 S at MO-Ab/Ladue Rd/Exit 13	Creve Coeur
5	I-64 W at Clayton Rd/Oakland Ave/Exit 34	St. Louis
6	I-70 W at Tr Hughes/Belleau Crk/Exit 219	O'Fallon
7	I-170 S at Galleria Pky	Clayton
8	I-270 N at I-64/U.S. 40/U.S. 61/Exit 12	Creve Coeur
9	I-270 S at Dougherty Ferry Rd/Exit 8	Kirkwood
10	I-64 E at Boland Pl	Richmond Heights
MoDOT Northeast District	Roadway	Approximate Location
1	MO-47 N at U.S. 61	Troy
2	I-70 E at MO-47/Exit 193	Warrenton
3	I-70 W at MO-F/MO-J/Exit 200	Wright City
4	I-70 W at MO-E/MO-Y/Exit 183	Jonesburg
5	I-70 W at MO-47/Exit 193	Warrenton
6	I-70 W at Wildcat Dr/Exit 199	Wright City
7	I-70 W at MO-A/MO-B/Exit 188	Pendleton
8	I-70 E at MO-F/Exit 179	High Hill
9	I-70 E at MO-E/MO-Y/Exit 183	Jonesburg
10	I-70 E at Warren/St Charles County Line	Foristell

Appendix F – Congestion Hotspots – Top 10

Statewide	Roadway	Approximate Location
1	U.S. 50 W at Main St/Main St Rd	Sedalia
2	MO-47 N at U.S. 61	Troy
3	MO-13 N at U.S. 36-Br/Old U.S. 36 E/Berry St	Hamilton
4	MO-13 S at MO-P	Hamilton
5	I-64 W at I-70	Lake St. Louis
6	MO-13 N at I-44	Springfield
7	MO-92 W at I-35	Kearney
8	U.S. 61 S at I-57/U.S. 60	Sikeston
9	MO-152 W at I-35/U.S. 69	Liberty
10	MO-66 W at MO-P/S Schifferdecker Ave	Joplin
MoDOT Northwest District	Roadway	Approximate Location
1	MO-13 N at U.S. 36-Br/Old U.S. 36 E/Berry St	Hamilton
2	MO-13 S at MO-P	Hamilton
3	MO-31 N at U.S. 36 (North)	Stewartsville
4	MO-13 S at U.S. 36	Hamilton
5	U.S. 36 E at MO-31/SW Spruce Rd	Stewartsville
6	U.S. 36 W at I-229/U.S. 59	St. Joseph
7	U.S. 136 W at MO-K (West)	Unionville
8	I-35 N at U.S. 69/Exit 48	Cameron
9	I-229 N at Edmond St/Exit 6A	St. Joseph
10	I-35 S at MO-116/Exit 44	Lathrop
MoDOT Kansas City District	Roadway	Approximate Location
1	U.S. 50 W at Main St/Main St Rd	Sedalia
2	MO-92 W at I-35	Kearney
3	U.S. 56 N at Ward Pky*	Kansas City
4	MO-152 W at I-35/U.S. 69	Liberty
5	MO-92 E at I-29/U.S. 71	Platte City
6	I-70 E at Sterling Ave/Exit 10	Kansas City
7	U.S. 71 N at E Gregory Blvd	Kansas City
8	I-435 CW at Stadium Dr	Kansas City
9	MO-92 E at MO-33/S Jefferson St	Kearney
10	MO-7 S at I-49 (North)	Harrisonville

*Includes a non-MoDOT owned segment

MoDOT Southwest District	Roadway	Approximate Location
1	MO-13 N at I-44	Springfield
2	MO-66 W at MO-P/S Schifferdecker Ave	Joplin
3	MO-76 E at MO-165/Gretna Rd*	Branson
4	MO-76 W at MO-37-Br/Main St	Cassville
5	MO-171 W at U.S. 71-Br/S Madison St	Webb City
6	MO-76 E at U.S. 65-Br/Veterans Blvd (North)*	Branson
7	MO-76 W at MO-165/Gretna Rd*	Branson
8	U.S. 60 W at MO-M/MO-Mm	Republic
9	MO-165 S at Green Mountain Dr	Branson
10	MO-66 E at U.S. 71-Br/Range Line Rd	Joplin
MoDOT Central District	Roadway	Approximate Location
1	U.S. 63 N at MO-Pp/Clark Ln	Columbia
2	U.S. 63 S at I-70	Columbia
3	U.S. 50 W at MO-100	Linn
4	I-44 W at MO-V/Exit 189	Rolla
5	I-44 W at MO-28/Exit 163	St. Robert
6	I-44 E at MO-68/Exit 195	St. James
7	U.S. 63 S From Clark Ave to Cedar Creek	Jefferson City
8	U.S. 50 E From Clark Ave to MO-179	Jefferson City
9	U.S. 54 W at W Main St	Jefferson City
10	U.S. 63 S at U.S. 54/MO-94/Red Whaley Exp/Bluff Rd	Jefferson City
MoDOT Southeast District	Roadway	Approximate Location
1	U.S. 61 S at I-57/U.S. 60	Sikeston
2	U.S. 160 W at U.S. 63-Br/MO-17/E Broadway St	West Plains
3	MO-17 S at U.S. 160/U.S. 63-Br/Broadway St	West Plains
4	MO-5 S at U.S. 160/Cr-815/Cr-805/Old U.S. 160	Gainesville
5	U.S. 160 W at MO-5 (West)	Gainesville
6	U.S. 160 W at Cr-303/Cr-404	Alton
7	I-55 N at MO-EE/Exit 40	Portageville
8	U.S. 61 N at MO-162	Portageville
9	U.S. 63 S at MO-VV/E Main St	West Plains
10	MO-K E at S Silver Springs Rd	Cape Girardeau

*Includes a non-MoDOT owned segment

MoDOT St. Louis District	Roadway	Approximate Location
1	I-64 W at I-70	Lake St. Louis
2	MO-A W at Pounds Rd	Festus
3	I-55 S at Reavis Barracks Rd/Exit 199	St. Louis
4	MO-100 W at S Kingshighway Blvd*	St. Louis
5	I-270 W at Riverview Dr/Exit 34	Riverview
6	MO-100 E at McCausland Ave*	St. Louis
7	I-70 W at Tr Hughes/Belleau Crk/Exit 219	O'Fallon
8	I-64 W at Clayton Rd/Oakland Ave/Exit 34	St. Louis
9	MO-47 S at MO-100/Franklin St	Washington
10	I-170 S at Galleria Pky	Clayton
MoDOT Northeast District	Roadway	Approximate Location
1	MO-47 N at U.S. 61	Troy
2	I-70 E at MO-47/Exit 193	Warrenton
3	U.S. 61 S at MO-N/Palmyra Rd	Hannibal
4	I-70 W at MO-E/MO-Y/Exit 183	Jonesburg
5	I-70 W at MO-F/MO-J/Exit 200	Wright City
6	I-70 W at MO-A/MO-B/Exit 188	Pendleton
7	U.S. 61 N at MO-168	Hannibal
8	I-70 W at MO-47/Exit 193	Warrenton
9	I-70 E at MO-F/Exit 179	High Hill
10	I-70 E at MO-E/MO-Y/Exit 183	Jonesburg

*Includes a non-MoDOT owned segment

Appendix G – System Performance Report Federal Performance Metrics

Federal System Performance Metrics

This appendix provides an overview of the performance management process and the federal statewide targets established by the Missouri Department of Transportation (MoDOT) in coordination with the Federal Highway Administration (FHWA), Federal Transit Administration (FTA) and Metropolitan Planning Organizations (MPOs). These efforts are undertaken to meet federal requirements.

The federal performance metrics in this appendix assess the condition and effectiveness of the federal transportation system relative to the applicable federal performance targets for each area. These areas include Highway Safety; Highway Assets, specifically Pavement and Bridge Condition; System Performance, covering the Interstate and National Highway System (NHS), Freight Movement on the Interstate System and the Congestion Mitigation and Air Quality Improvement (CMAQ) Program; as well as Transit Asset Management and Transit Safety. An overview of MoDOT's federal performance targets is also provided.

Safety Performance

Safety Condition Performance Measures

The federal Safety Performance Measures establish requirements for state departments of transportation (DOTs) to assess safety on the transportation system by setting targets for the number of fatalities, the fatality rate per 100 million vehicle miles traveled (MVMT), the number of serious injuries, the serious injury rate per 100 MVMT and the number of non-motorized fatalities and serious injuries.

Safety Performance Versus Targets

The 5-year rolling average for fatalities increased steadily over the analysis period, rising from 910 in 2019 to 1,001 in 2024 **(Figure 1)**. Although fatalities declined in 2024, the continued increase in the rolling average indicates that long-term fatality trends remain elevated. The upward trajectory of the 5-year average reflects sustained increases over multiple years, even as recent annual performance shows improvement.

The 5-year rolling average fatality rate increased from 1.21 per 100 MVMT in 2019 to 1.28 in 2024. While year-to-year rates fluctuated, the rolling average demonstrates an

overall upward trend. This sustained increase highlights continuing long-term challenges in reducing the fatality rate despite short-term progress in 2024.

The 5-year rolling average for serious injuries rose consistently from 4,682 in 2019 to 5,156 in 2024 **(Figure 3)**. The steady increase in rolling averages underscores a persistent upward trend in serious injury outcomes statewide. Even in years where annual performance stabilized, the rolling average reflects cumulative growth in serious injuries over time.

The 5-year rolling average serious injury rate increased from 6.21 per 100 MVMT in 2019 to 6.56 in 2024 **(Figure 4)**. This gradual but continuous rise indicates that the rate of serious injuries has trended upward. The sustained increase in the rolling average suggests that long-term progress toward reducing injury severity has not yet been achieved.

The 5-year rolling average for non-motorized fatalities and serious injuries increased from 463 in 2019 to 603 in 2024 **(Figure 5)**. The consistent upward movement in the rolling average reflects long-term growth in crashes involving vulnerable road users. The rolling average indicates that long-term improvements remain necessary to reverse the overall trend.

Safety Performance Progress

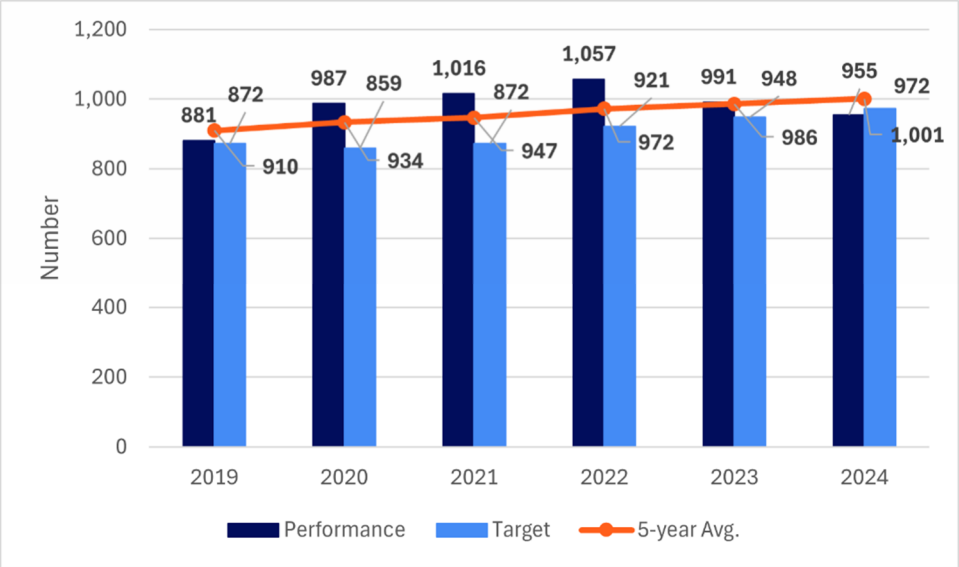
Safety is MoDOT's primary goal for Missouri citizens and MoDOT workers, so everyone goes home safe every day. MoDOT's 2026-2030 Strategic Highway Safety Plan (SHSP) titled Show-Me Zero serves as the strategic plan for agencies and organizations working to improve roadway safety and reduce fatalities and serious injuries on Missouri's transportation system. The plan takes a holistic approach to improving safety by considering the elements of the Safe Systems Approach – Safer People, Safer Vehicles, Safer Speeds, Safer Infrastructure and Safer Response. The Missouri Coalition for Roadway Safety (MCRS) leads the implementation of these efforts alongside several safety partners including MPOs, RPCs, community leaders, health care providers, legislators, educators, law enforcement, emergency responders, engineers and concerned citizens. The goal of the Show-Me Zero plan is to have zero traffic fatalities in Missouri. An interim goal of getting to half of the fatalities seen in 2024 by 2045 has been identified to help evaluate the efforts and strategies implemented.

Missouri has seen an overall increase in fatalities from 2015 to 2024, from 870 in 2015 to 955 in 2024. However, Missouri has seen a recent decrease in fatalities from 987 in 2020 to 955 in 2024. MoDOT looks for systemic safety issues and determines what can be done to mitigate them. MoDOT engages in significant public outreach efforts using the focus areas from the Show-Me Zero plan. While these efforts have proven to save

lives, there is still more to do to improve the safety of roadways in Missouri. One area with increased attention is those crashes involving vulnerable road users (VRUs). VRU crashes have been on the rise in Missouri over the last several years. Strategies identified in the VRU Safety Assessment are reviewed for implementation.

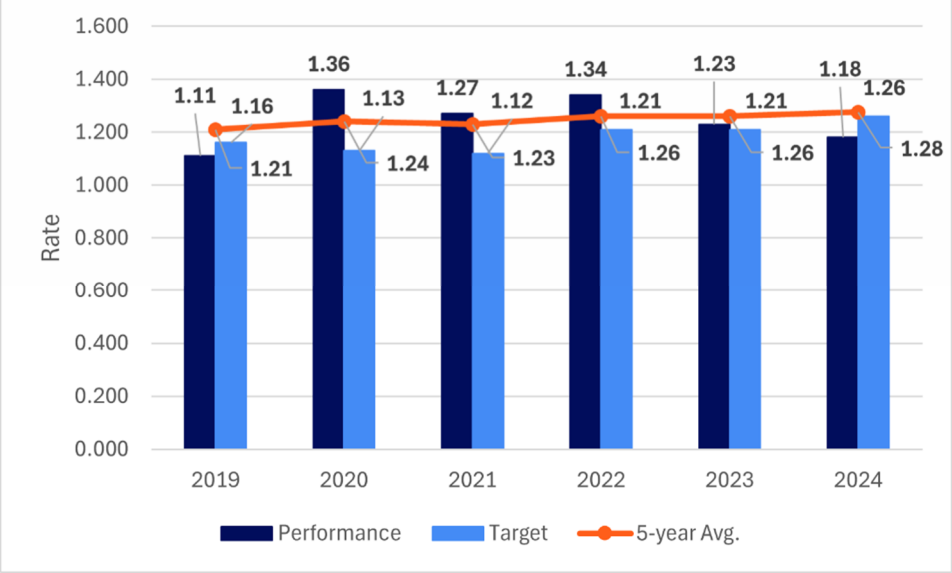
MoDOT launched a campaign in 2017 called Buckle Up, Phone Down (BUPD) to increase the percentage of seat belt usage and minimize the amount of distracted driving. The primary message of this campaign is: use a seat belt each time while either driving or riding in a vehicle and hands-free use of the phone, if needed, when driving. MoDOT has challenged the general public, local schools, community leaders, along with businesses and others to take the BUPD challenge by signing a commitment to make Missouri roads safe. As of January 2026, there have been over 65,000 individuals and over 775 businesses taking the pledge. This campaign has also gained national attention with many states adopting, or creating their own, program.

Figure 1 – Number of Fatalities, 2019 – 2025



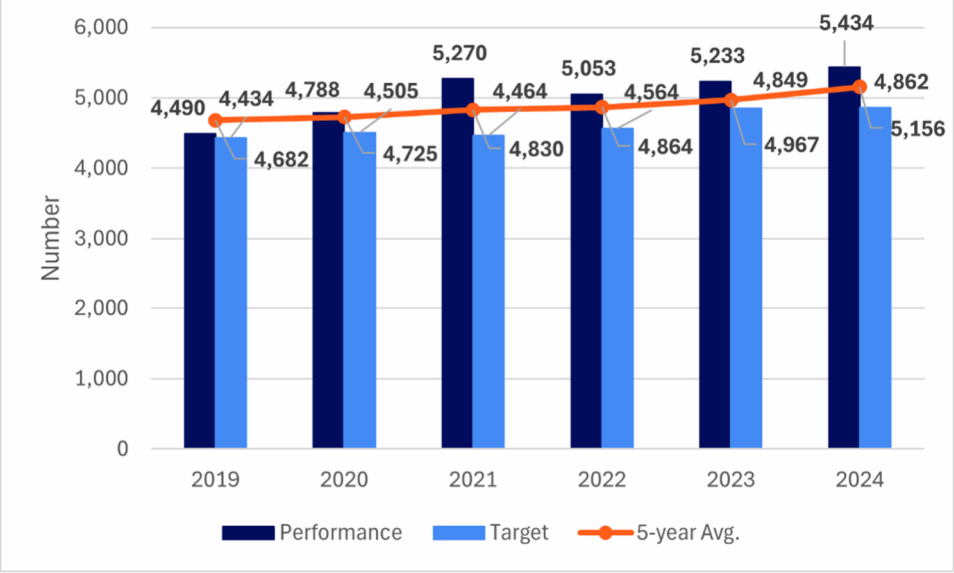
Source: FHWA, State Highway Safety Report, Number of Fatalities, 2019-2025.

Figure 2 – Fatalities Rate (per 100 MVMT), 2019 – 2025



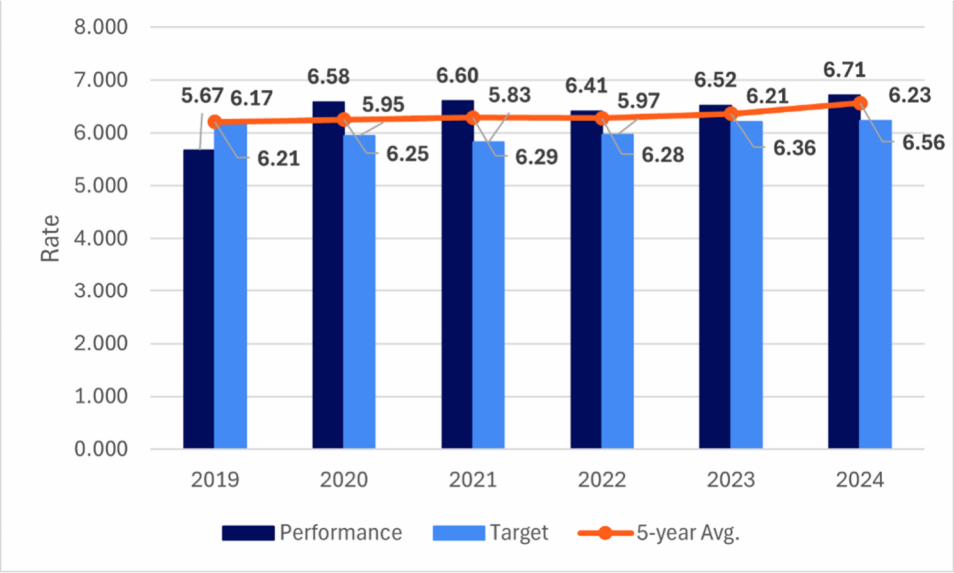
Source: FHWA, State Highway Safety Report, Fatality Rate (per 100 million VMT), 2019-2025.

Figure 3 – Number of Serious Injuries, 2019 – 2025



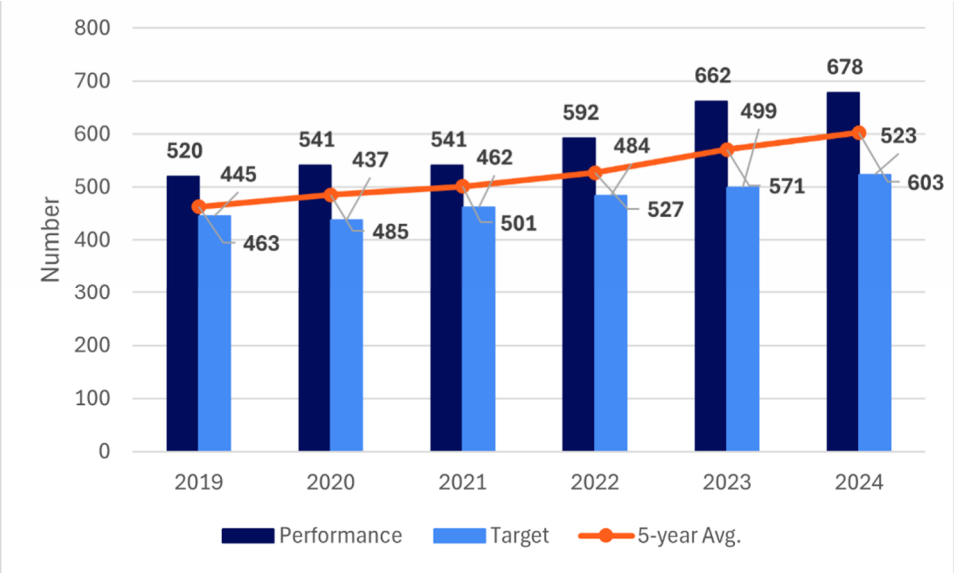
Source: FHWA, State Highway Safety Report, Number of Serious Injuries, 2019-2025.

Figure 4 – Rate of Serious Injuries (per 100 MVMT), 2019 – 2025



Source: FHWA, State Highway Safety Report, Rate of Serious Injuries (per 100 million VMT), 2019-2025.

Figure 5 – Number of Non-Motorized Fatalities and Serious Injuries, 2019 – 2025



Source: FHWA, State Highway Safety Report, Number of Non-Motorized Fatalities and Serious Injuries, 2019-2025.

Pavement and Bridge Condition Performance

Pavement and Bridge Condition Performance Measures

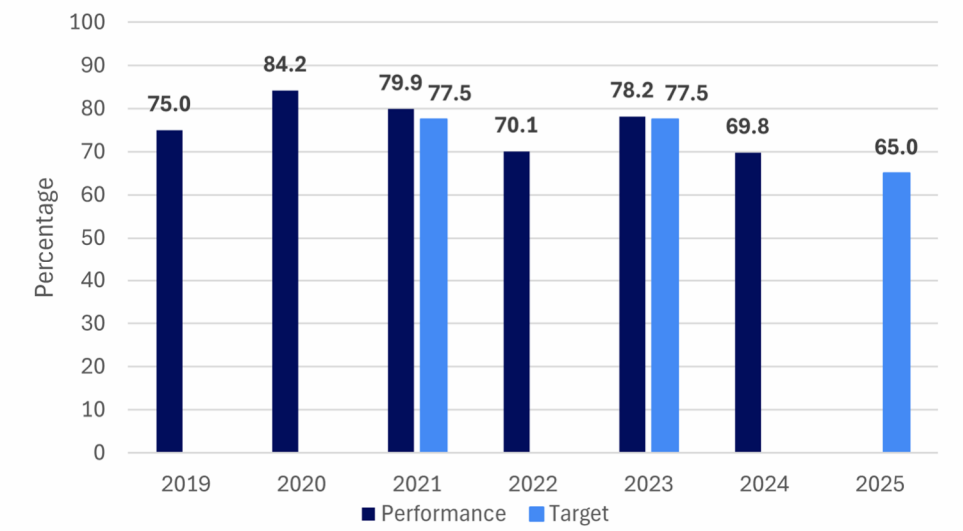
The federal Pavement and Bridge Condition Performance Measures require state DOTs to assess pavement conditions on both Interstate and non-Interstate NHS roadways, as well as the condition of NHS bridges and to set targets for six areas: the percent of Interstate pavements in good and poor condition, the percent of non-Interstate NHS pavements in good and poor condition and the percent of NHS bridge deck area classified as in good and poor condition.

Figure 6 through **Figure 9** below display actual performance data annually through 2024 in comparison to the 2021 and 2023 targets. Observing trends through 2023, the Interstate pavement in good condition (78.2%) exceeded the target of 77.5% and the Interstate pavement in poor condition met the target of 0.1%. In 2023, the NHS (Non-Interstate) pavement good condition target was not met, with actual performance at 52.6% compared to the target of 61.1% and the poor condition target was also not met, with 1.6% exceeding the target of 1.0%.

Pavement Condition Performance Progress

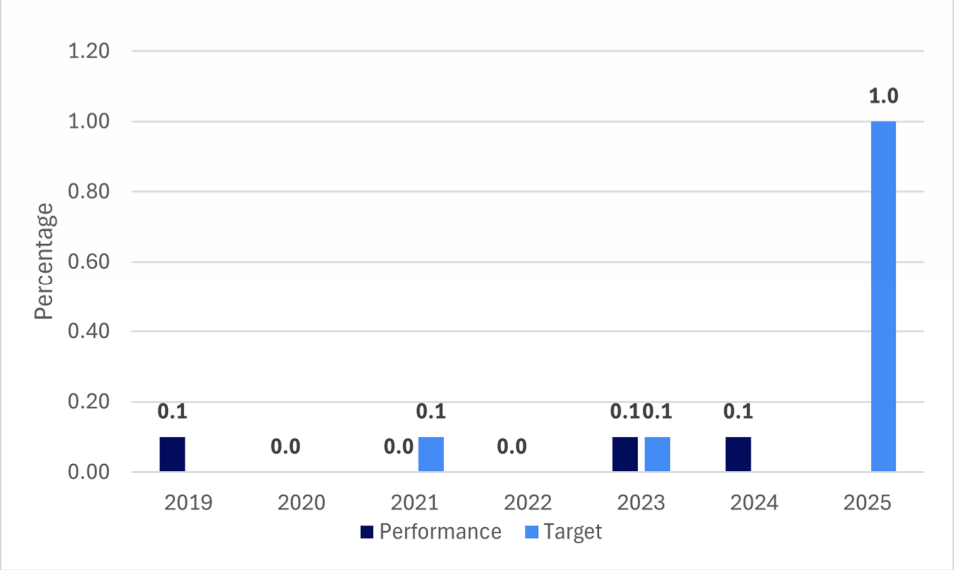
Missourians have consistently asked MoDOT to prioritize taking care of what we have, so our investments focus on taking care of our assets. While the percentage of poor pavements has been relatively flat, there was a recent decrease in the percentage of good pavements. This is due to new equipment with more sensitive cracking detection capabilities. The percentage of good pavement remains a focus with investments on the I-70 and I-44 corridors. Keeping the system in good condition remains a top priority for MoDOT.

Figure 6 – Interstate Pavement: Performance vs. Targets (Good Condition), 2019 – 2025



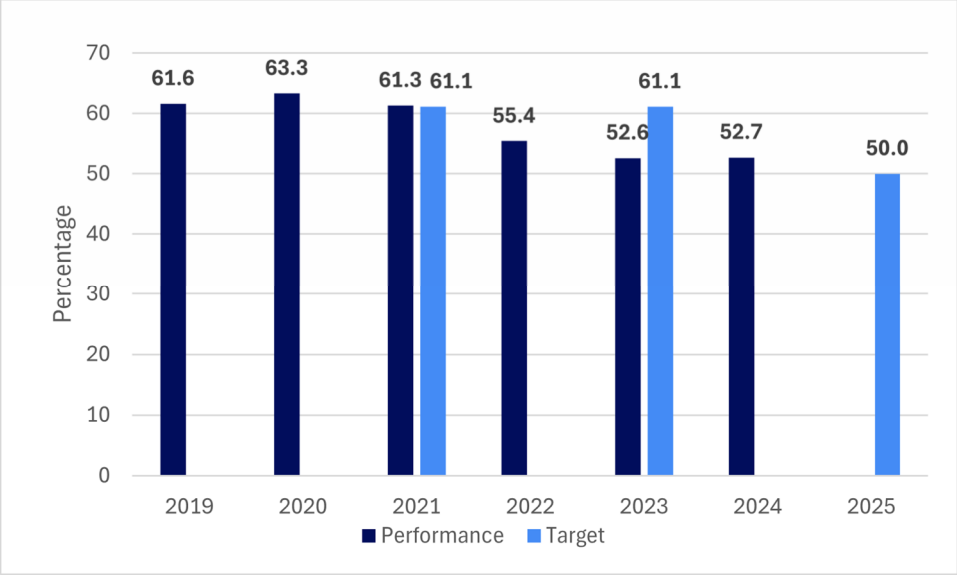
Source: FHWA, State Highway Infrastructure Report, Interstate Pavement in Good Condition, 2019-2025.

Figure 7 – Interstate Pavement: Performance vs. Targets (Poor Condition), 2019 – 2025



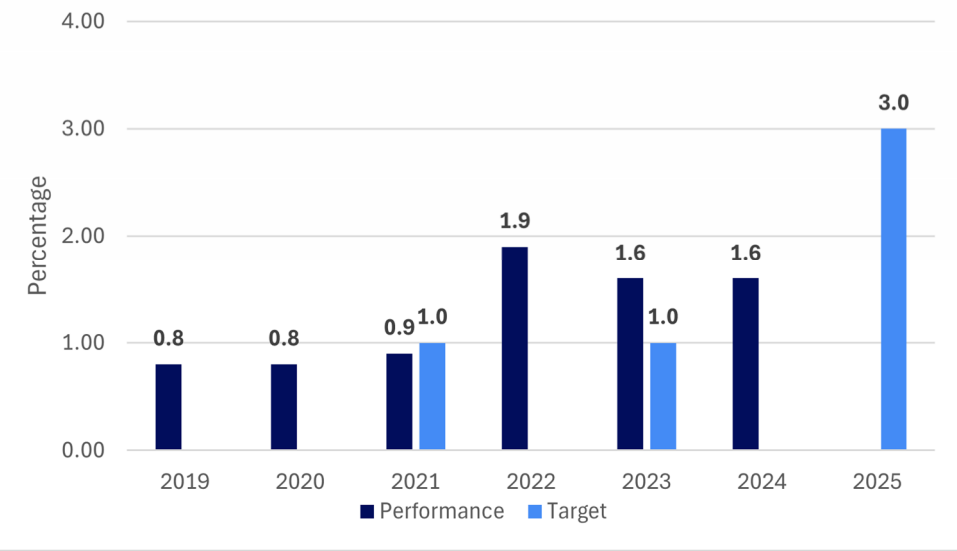
Source: FHWA, State Highway Infrastructure Report, Interstate Pavement in Poor Condition, 2019-2025.

Figure 8 – NHS (Non-Interstate) Pavement: Performance vs. Targets (Good), 2019 – 2025



Source: FHWA, State Highway Infrastructure Report, NHS (Non-Interstate) Pavement in Good Condition, 2019-2025.

Figure 9 – NHS (Non-Interstate) Pavement: Performance vs. Targets (Poor), 2019 – 2025



Source: FHWA, State Highway Infrastructure Report, NHS (Non-Interstate) Pavement in Poor Condition, 2019-2025.

Bridge Performance Versus Targets

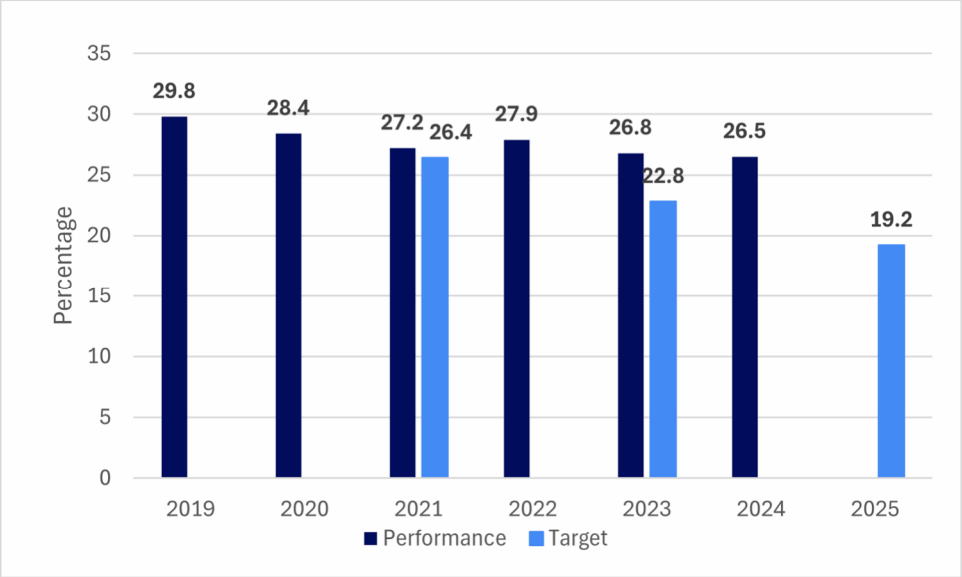
Figure 10 and **Figure 11** below display actual performance data annually through 2024 in comparison to the 2021 and 2023 targets.

Observing trends through 2023, the share of NHS bridges in good condition (26.8%) met and improved upon the 22.8% target, while the share in poor condition (6.0%), met and improved upon the 7.7% target.

Bridge Condition Performance Progress

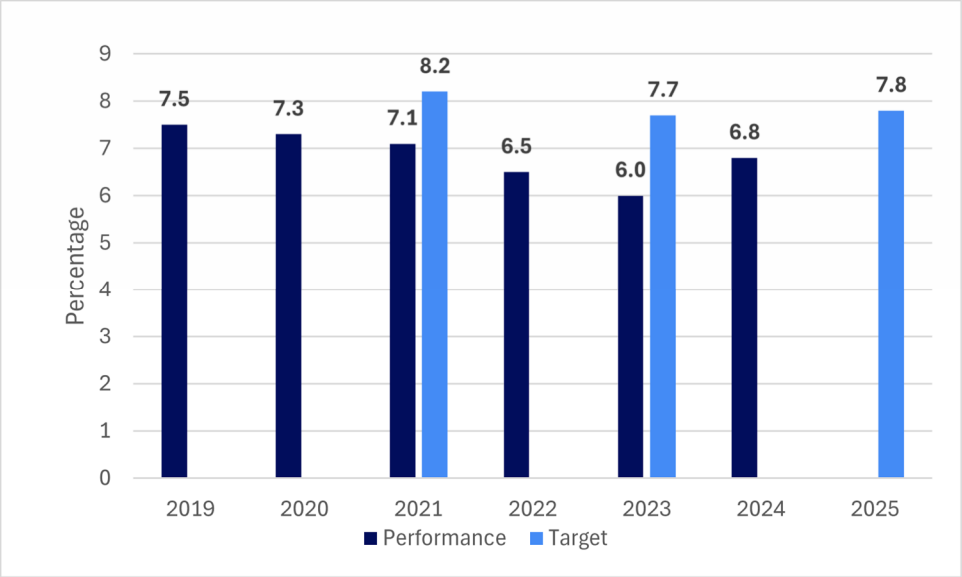
Missourians have consistently asked MoDOT to prioritize taking care of what we have, so our investments focus on taking care of our assets. Year-to-year shifts in the percentage of good and poor deck area are primarily driven by the larger or major bridges on the NHS. Poor bridge deck area remains a focus with multiple projects on major bridges currently under construction for either replacement or rehabilitation of the structures, especially with the I-70 rebuild. Keeping the system in good condition remains a top priority for MoDOT.

Figure 10 – NHS Bridges: Performance vs. Target (Good)



Source: FHWA, State Highway Infrastructure Report, NHS Bridges in Good Condition, 2019-2025.

Figure 11 – NHS Bridges: Performance vs. Target (Poor)



Source: FHWA, State Highway Infrastructure Report, NHS Bridges in Poor Condition, 2019-2025.

System Reliability, Freight and Environmental Performance

State DOTs are required to establish federal targets for system reliability, freight and environmental performance measures including Interstate Travel Time Reliability (TTR), NHS TTR and freight reliability measured by the Truck Travel Time Reliability (TTTR) Index. Under the CMAQ Program State DOTs and applicable MPOs must also set targets for Peak Hour Excessive Delay (PHED), Mode Share (Non-SOV) and Emission Reductions.

System Reliability and Freight Performance Versus Targets

Figure 12 through **Figure 14** below display actual performance data annually through 2024 in comparison to the 2021 and 2023 targets.

In 2023, performance satisfactorily exceeded targets across all three TTR measures. Interstate TTR achieved 95.9% compared to a target of 87.1% and Non-Interstate TTR reached 93.4% versus the 87.8% target. For the TTTR Index, 2023 performance was 1.21, outperforming the target of 1.45 (lower is better).

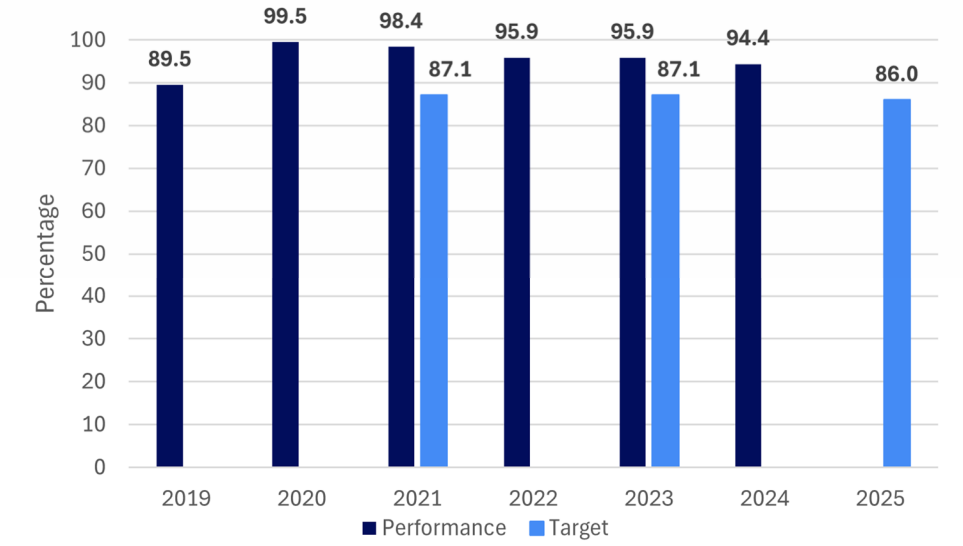
TTR and TTTR Performance Progress

A stated goal in MoDOT's mission is to provide a reliable transportation system. Interstates are the primary routes for moving people and goods across the state and nation. Interstate and Non-Interstate NHS TTR has remained steady as MoDOT implements Transportation Systems Management and Operations (TSMO) strategies. Major MoDOT projects on I-70, I-55 and I-44 have improved TTR by adding capacity. However, as more improvements are made, disruptions in reliability may occur. To

minimize these disruptions, MoDOT reviews TSMO strategies to execute in these work zones, such as smart work zones and traffic incident management strategies.

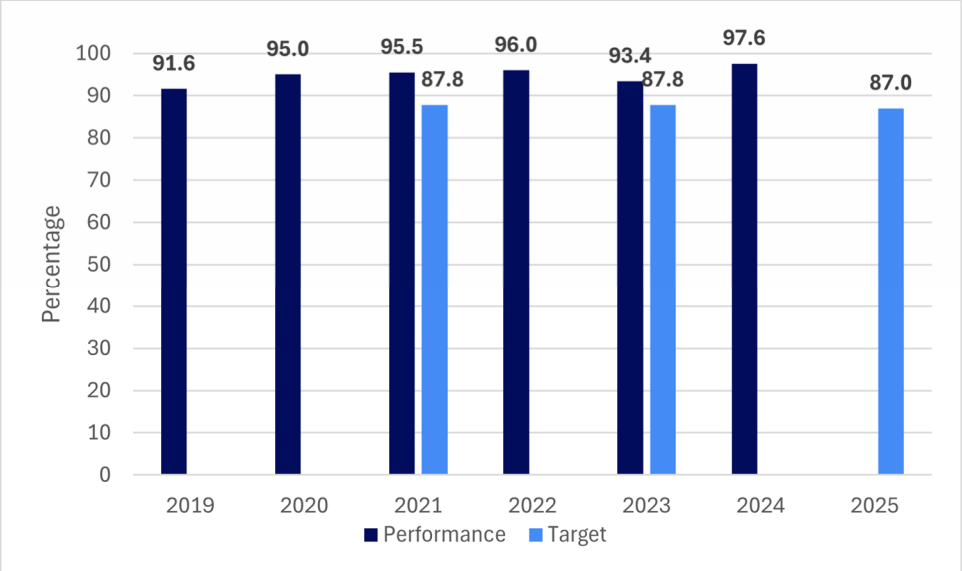
TTTR in Missouri has remained relatively stable. Since few interstate projects are specifically designed to address freight reliability concerns, improvement is found with major MoDOT projects on I-70, I-55 and I-44. MoDOT reviews and implements strategies identified in State Freight and Rail Plan (SFRP).

Figure 12 – TTR (Interstate): Performance vs. Target



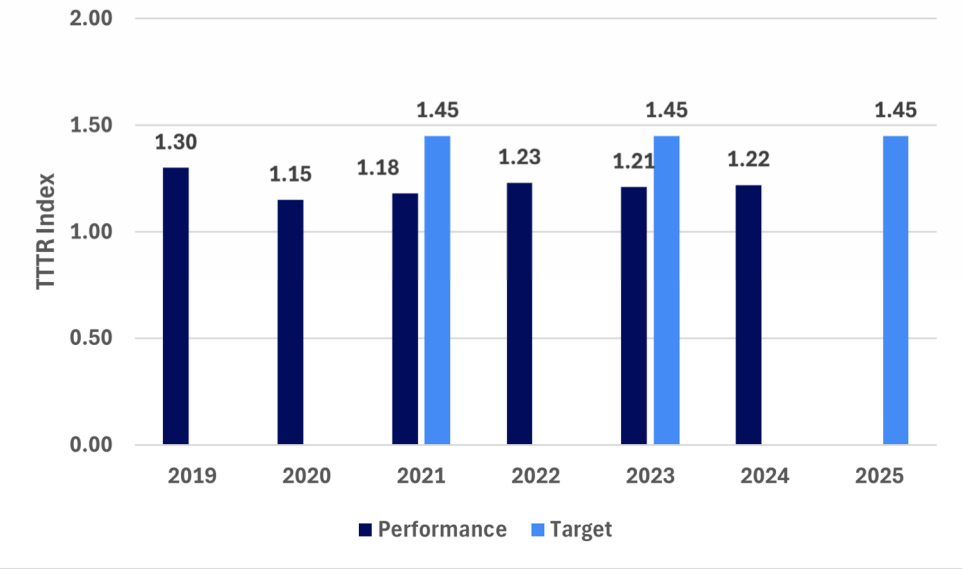
Source: FHWA, State Highway Infrastructure Report, Interstate Highway Truck TTR Performance, 2019-2025.

Figure 13 – TTR (Non-Interstate): Performance vs. Target



Source: Source: FHWA, State Highway Infrastructure Report, Non-Interstate Truck TTR Performance, 2019-2025.

Figure 14 – TTTR Index: Performance vs. Target



Source: Source: FHWA, State Highway Infrastructure Report, Interstate Highway Truck TTTR Performance, 2019-2025.

CMAQ Program Performance

Congestion and air quality are central focus areas of the CMAQ Program. The following summarizes the key federal performance measures and targets associated with PHED and Non-SOV in urbanized and congested areas and emissions reductions for applicable pollutants and precursors.

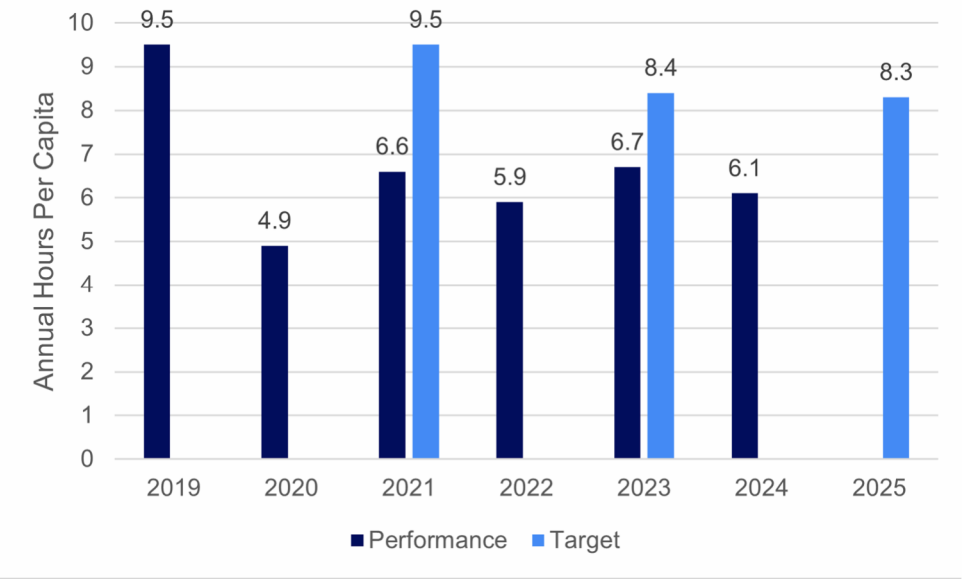
The St. Louis urbanized area is the only area in Missouri required to measure and report the PHED and Non-SOV travel federal performance measures.

CMAQ Program Performance Versus Targets

Peak Hour Excessive Delay (PHED)

Figure 15 through **Figure 18** below display annual performance data through 2023 in comparison to the applicable targets. In 2023, PHED performance was 6.7 annual hours per capita, which was below and improved upon the target of 8.4. Mode Share (Non-SOV) performance in 2023 was 23.8%, which exceeded and improved upon the target of 18.0%. For the CMAQ Emissions Reduction measures, volatile organic compound (VOC) reductions in 2023 were 7.011 kilograms per day, exceeding and improving upon the target of 2.940 kilograms per day and the nitrogen oxide (NOx) reductions in 2023 were 146.193 kilograms per day, exceeding and improving upon the target of 8.836 kilograms per day.

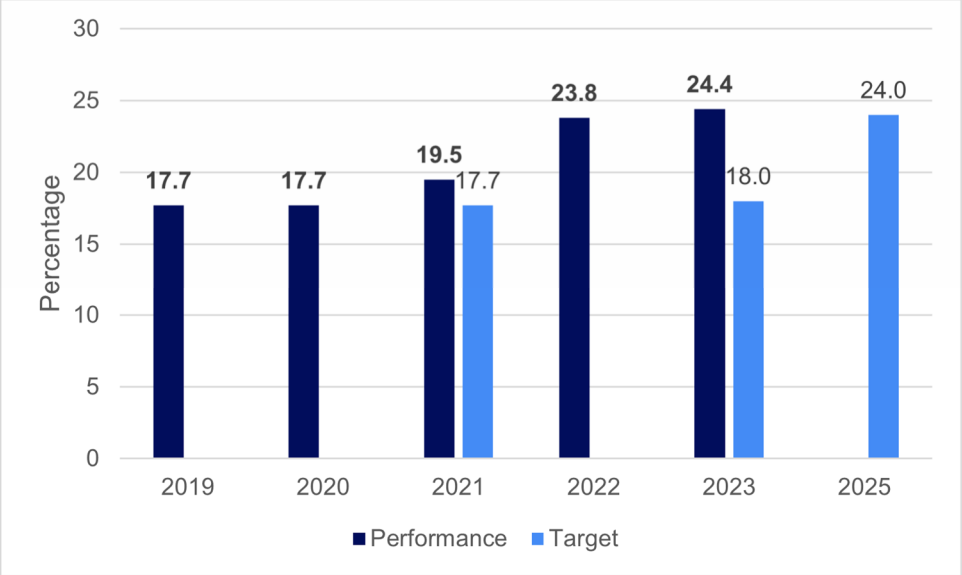
Figure 15 – PHED Performance vs. Target, 2019 – 2025



Source: FHWA, St. Louis Missouri-IL Urbanized Area Congestion Report, Annual Hours of PHED per Capita, 2019-2025.

Mode Share (Non-SOV)

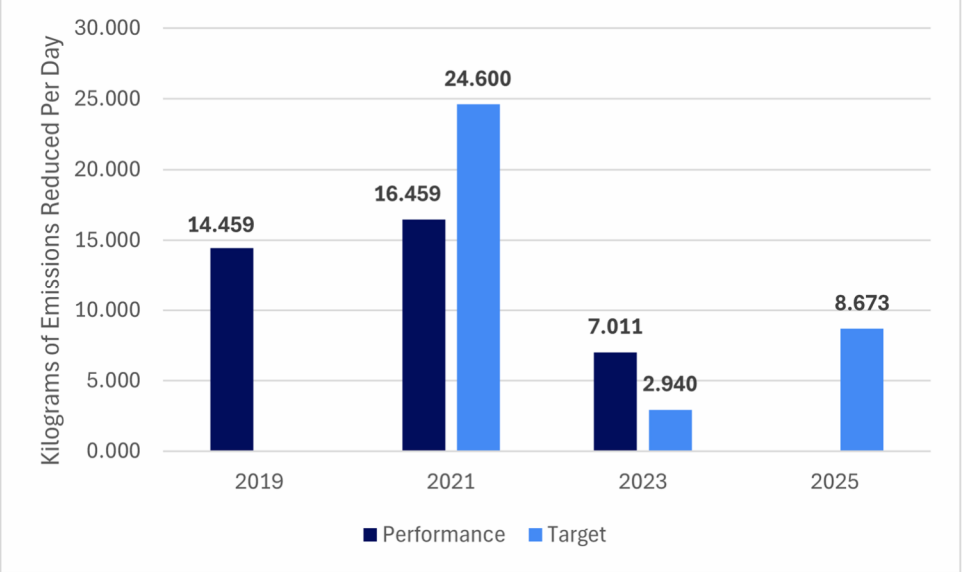
Figure 16 – Mode Share (Non-SOV) Performance vs. Target, 2019 – 2025



Source: FHWA, St. Louis Missouri-IL Urbanized Area Congestion Report, Non-SOV Travel, 2019-2025.

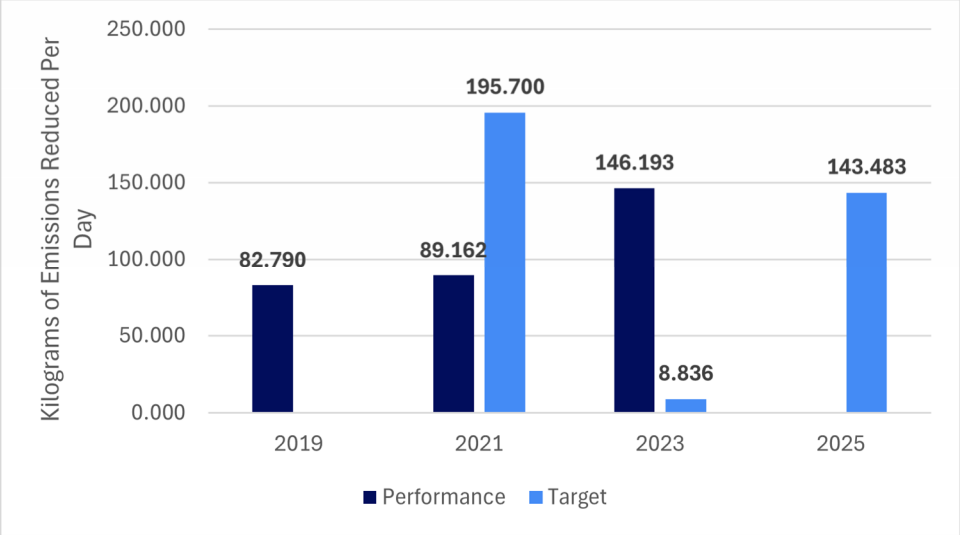
Emissions Reduction

Figure 17 – CMAQ Emissions Reduction Performance for VOCs, 2019 – 2025



Source: FHWA, State On-Road Mobile Source Emissions Reductions Report - Missouri, Emission Reductions for VOC through CMAQ Projects, 2019-2025.

Figure 18 – CMAQ Emissions Reduction Performance for NOx, 2019 – 2025



Source: FHWA, State On-Road Mobile Source Emissions Reductions Report - Missouri, Emission Reductions for NOx through CMAQ Projects, 2019-2025.

Transit Asset Management Performance

The FTA requires all recipients of federal transit funding to develop and implement a Transit Asset Management (TAM) Plan. Established under 49 U.S.C. § 5326 and codified in 49 CFR Part 625, this requirement ensures that transit agencies maintain their capital assets, such as vehicles, facilities and infrastructure, in a State of Good Repair (SGR). The overarching goal is to enhance safety, reliability and cost-effectiveness across the nation's transit systems through strategic, data-driven asset management practices.

A TAM Plan must include four core elements:

1. **An inventory of capital assets**
2. **Condition assessments for those assets**
3. **Decision-support tools** to analyze and prioritize investments
4. **A prioritized list of projects** based on asset needs

These components enable agencies to understand the current condition of their assets and make informed decisions about maintenance, replacement and upgrades. By institutionalizing asset management, the FTA aims to extend asset life, minimize service disruptions and optimize the use of public funds.

MoDOT Sponsored Group TAM Plan

The following agencies participated in MoDOT's group sponsored TAM Plan:

- Cape Girardeau County Transit Authority
- City of Columbia
- City of Jefferson
- CU – Springfield
- City of Bloomfield
- City of Carthage
- City of Clinton
- City of El Dorado Springs
- City of Excelsior Springs
- City of Houston
- City of Lamar
- City of Mt. Vernon
- City of Nevada
- City of New Madrid
- City of West Plains
- Dunklin County Transit Service, Inc.
- Licking Bridge Builders, Inc.
- Macon Area Chamber of Commerce
- Mississippi County Transit System
- New Bourbon Port Authority
- Older Adults Transportation Service, Inc. (OATS)
- Ray County Transportation, Inc.
- Ripley County Transit, Inc.
- Scott County Transit System, Inc.
- SERVE, Inc.
- Southeast Missouri Transportation Service, Inc. (SMTS)
- Southeast Missouri State University

Referring to **Table 1** below, buses have an FTA established useful life benchmark of 14 years, the target is that no more than 45% of the fleet is beyond the useful life benchmark (ULB) established by the FTA. Referring to the table below, the actual result is 42% of the fleet beyond the ULB, meaning the target has been met. Group TAM participants achieved ULB targets for all fleet vehicle types except for minivans/vans. Buy America requirements and supply issues have made vehicle acquisition in this area difficult.

Table 1 – Rolling Stock Inventory and Performance Targets – Group TAM Plan

Vehicle Type	Number of Vehicles	% of Vehicles at or Past ULB	Performance Measure Target
Automobiles	21	44%	45%
Minivans/ Vans	380	44%	45%
Cutaways	699	39%	45%
Buses	69	42%	45%
Ferry Boats	1	0%	30%

Source: MoDOT Sponsored Group TAM Plan, October 2022.

All facilities operated by the transit providers in the group sponsored TAM Plan are rated at the target of 3.0 or better, meaning all facilities meet and exceed the established targets as shown in **Table 2**.

Table 2 – Facility Inventory and Performance Targets – Group TAM Plan

Asset Type	Units	Facilities Rated Below 3	Target
Admin/Passenger Building	19	0%	30%
Maintenance Facilities	12	0%	25%
Parking/Passenger Facilities	7	0%	30%

Source: MoDOT Sponsored Group TAM Plan, October 2022.

Individual TAM Plans

There are six transit providers that prepare individual TAM Plans. These are:

- KCATA, including City of Lee's Summit
- Metro Bi-State – (St. Louis area)
- City of Joplin
- City of St. Joseph

- Kansas City Streetcar
- Loop Trolley Transportation Development Authority (St. Louis)

The fleets for these six agencies and associated performance targets are shown in **Table 3.** There are two vehicle types that do not meet ULB average performance targets. These are cutaways and light rail vehicles.

Table 3 – 2024 Vehicle Inventory and Performance Targets – Individual TAM Plans

Vehicle Type	Fleet Vehicles	% of Vehicles at or Past ULB	Performance Measure Target
Kansas City Area Transportation Authority			
Bus	394	27.03%	29.00%
Cutaway	36	13.33%	13.00%
Minivan	153	0.00%	0
Van	31	0.00%	0
Bi-State Development Agency			
Articulated Bus	14	0.00%	0
Bus	389	0.00%	19.44%
Cutaway	138	37.46%	34.15%
Light Rail Vehicles	84	35.14%	29.30%
City of Joplin			
Bus	1	0.00%	0.00%
Cutaway	15	0.00%	10.00%
City of St. Joseph			
Bus	26	0.00%	8.00%
Cutaway	1	0.00%	0.00%
Loop Trolley Transportation Development District			
Vintage Trolley	2	0.00%	0.00%
Kansas City Streetcar			
Light Rail Vehicles	6	0.00%	0.00%

Source: FTA, National Transit Database, 2024 Revenue Vehicle Inventory, 2024 Performance Measure Targets and A-90 Forms, 2024.

As shown in **Table 4**, most transit facilities in the state meet performance targets except passenger/parking facilities and administrative/maintenance facilities.

Table 4 – 2024 Facility Inventory and Performance Targets – Individual TAM Plans

Facility Type	Number or Facilities	Facility Rating Below 3	Performance Measure Target
Kansas City Area Transportation Authority			
Passenger/Parking Facilities	4	0.00%	0.00%
Administrative/ Maintenance Facilities	2	0.00%	0.00%
Bi-State Development Agency			
Passenger/Parking Facilities	92	11.24%	2.90%
Administrative/ Maintenance Facilities	10	8.33%	0.00%
City of Joplin			
General Purpose Maintenance Facility/Depot	2	0.00%	0.00%
City of St. Joseph			
Passenger/Parking Facilities	1	0.00%	0.00%
Administrative/ Maintenance Facilities	1	0.00%	0.00%
General Purpose Maintenance Facility/Depot	1	0.00%	0.00%
Loop Trolley Transportation Development District			
Administrative/ Maintenance Facilities	1	0.00%	0.00%
Simple At-Grade Platform Station	13	0.00%	0.00%
Kansas City Streetcar			
General Purpose Maintenance Facility/Depot	2	0.00%	0.00%
Other, Administrative & Maintenance	2	0.00%	0.00%

Source: FTA, National Transit Database, 2024 Facility Inventory, 2024 Performance Measure Targets and A-90 Forms, 2024.

As shown in **Table 5**, the Bi-State Development Agency does not meet the performance target for light rail facilities.

Table 5 – 2024 Transit Way Mileage Condition – Individual TAM Plans

Mode	Miles of Revenue Track with Capital Responsibility	% of Track Miles Under Performance Restriction	Performance Measure Target
Bi-State Development Agency			
Light Rail	96.39	12.00%	4.15%
Loop Trolley Transportation Development District			
Streetcar	3.1	0.00%	0.00%
Kansas City Streetcar			
Streetcar	4.4	0.00%	0.00%

Source: FTA, National Transit Database, 2024 Transit Way Mileage, Performance Measure Targets and A-90 Forms, 2024.

Transit Safety

The FTA requires urban transit providers to implement Public Transportation Agency Safety Plans (PTASPs) incorporating Safety Management System (SMS) principles and setting performance targets in key areas:

- **Fatalities** (total and per 100,000 Vehicle Revenue Miles [VRM])
- **Injuries** (total and per 100,000 VRM)
- **Safety Events** (total and per 100,000 VRM)
- **System Reliability** (meaning distance between major mechanical failures)

Data for these measures comes from the FTA's National Transit Database (NTD). Targets are reviewed and updated annually as part of ongoing safety planning and continuous improvement.

PTASP Performance Versus Targets Summary

Here are the Missouri transit agencies that develop PTASPs and report safety, security and vehicle maintenance information to the FTA as full reporters:

- Bi-State Development
- Kansas City Area Transportation Authority
- GoComo Transit (Columbia)
- CU Transit

- Kansas City Streetcar

In addition, there are the Missouri small urban and rural transit agencies that do not submit Full Reporter data to the FTA:

- Cape Girardeau County Transit Authority
- JeffTran (Jefferson City)
- MAPS Transit & Sunshine Lamp Trolley (City of Joplin)
- St. Joseph Transit

Table 6 shows the 2024 safety and reliability targets by mode set in the agency PTASPs as well as the 2024 reported fatalities, injuries and safety events. Also shown is the PTASP target for reliability along with the 2024 reported vehicle failure rate.

Bi-State's MetroLink and MetroBus exceed the target values for fatalities. The target for fatalities is always zero and any incidence of fatality will exceed the target. In addition, the safety events on Bi-State's MetroLink and Call-A-Ride both exceed the target rates. Vehicle reliability for both MetroBus and MetroLink did not meet target rates.

The Kansas City Area Transportation Authority service meets all the safety, security and vehicle requirements identified in the agency's PTASP. GO COMO meets all PTASP targets except for demand response reliability.

Springfield's CU Transit set PTASP targets for fatalities, injuries and safety in terms of the rate per 250,000 vehicle revenue miles rather than the typical rate per 100,000 vehicle revenue miles. The agency meets all targets except for bus service reliability.

Kansas City Streetcar sets PTASP targets in terms of rates per 1,000 vehicle revenue miles rather than the typical rate per 100,000 vehicle revenue miles. The agency achieved the zero-fatality target but did not meet targets in terms of injuries, safety events, or vehicle failures.

Table 6 - Safety and Reliability PTASP Targets and Reporting

		Fatality		Injury		Safety event		Reliability
Agency/ Service Type		Number	Rate (per 100k VRM)	Number	Rate (per 100k VRM)	Number	Rate (per 100k VRM)	Distance Between Failures (miles)*
Bi-State Development	**MetroLink**							
	Target	0	0.00	34	1.53	7	0.25	29,781
	Actual	1	0.02	13	0.26	16	0.31	20,655
	MetroBus							
	Target	0	0.00	145	1.25	55	0.53	23,537
	Actual	4	0.03	57	0.45	31	0.24	20,108
	Call-A-Ride							
	Target	0	0.00	8	0.23	4	0.11	24,239
	Actual	0	0.00	11	0.19	11	0.19	8,713
Kansas City Area Transportation Authority	**Demand Response**							
	Target	0	0.00	4	1.38	1	0.35	1,186
	Actual	0	0.00	1	0.02	1	0.02	63,654
	Bus							
	Target	0	0.00	31	8.64	13	3.62	1,962
	Actual	0	0.00	19	0.31	13	0.21	11,872

		Fatality		Injury		Safety Event		Reliability
Agency/Service Type		Number	Rate (per 100k VRM)	Number	Rate (per 100k VRM)	Number	Rate (per 100k VRM)	Distance Between Failures (miles)*
GoComo Transit (Columbia)	**Demand Response**							
	Target	0	0.00	1	0.38	0	0.00	9,373
	Actual	0	0.00	0	0.00	2	0.67	6,984
	Bus							
	Target	0	0.00	1	0.31	0	0.00	6,151
	Actual	0	0.00	5	2.20	3	1.32	5,162
CU Transit	**Demand Response**							
	Target	0	0.00	5	0.10	5	0.10	16,233
	Actual	0	0.00	0	0.00	0	0.0	17,413
	Bus							
	Target	0	0.00	20	4.61	20	4.61	7,229
	Actual	0	0.00	8	1.86	6	1.39	2,940
Kansas City Streetcar	**Streetcar**							
	Target	0	0.00	2	0.015	6	0.045	11,220
	Actual	0	0.00	4	0.038	9	0.080	8,885

Source: 2024 Target Information from PTASPs and actual data from 2024 NTD Safety & Security data set and 2023 Vehicle Maintenance data set.
**2024 target reliability shown with 2024 actual reliability data.*

Table 7 presents the PTASP performance targets for systems that are not required to submit a full FTA NTD report with corresponding actual performance data.

Table 7 - Safety and Reliability PTASP Targets

	Fatality		Injury		Safety Event		Reliability
Agency/ Service Type	Number	Rate (per 100k VRM)	Number	Rate (per 100k VRM)	Number	Rate (per 100k VRM)	Distance Between Failures (miles)*
Cape Girardeau County Transit Authority							
Demand Response	0	0.00	2	0.20	2	0.50	80,000
JeffTran (Jefferson City)							
Demand Response	0	0.00	3	0.30	38	1.60	Not Available
Bus	0	0.00	2	0.15	32	0.74	Not Available
MAPS Transit & Sunshine Lamp Trolley (City of Joplin)							
Data Not Available							
St Joseph Transit							
Deviated Fixed Route	0	0.00	1	0.12	6	0.75	28,500

Source: PTASPs, 2024.

Appendix H – Revenue and Needs Forecast Assumptions

Revenue Forecast Assumptions

Inflation: An inflation rate of 2.5% was selected and used for all inflation calculations, based on Federal Reserve Economic Data (FRED), specific to the state of Missouri.[10]

Federal Funds: Federal funds are projected to grow 2.5%, based on historical trends. The past 13 years show an average growth of 4.5%, with 12.46% average growth from 2021 to 2024 following the passage of the Infrastructure Investment and Jobs Act (IIJA). However, the growth rate used in the forecast was reduced to 2.5% per year to reflect that IIJA funding is not expected to continue and no new major sources of federal funding are anticipated.

General Funds: One-time General Fund appropriations to multimodal programs are removed from the baseline and are not carried forward in future year estimates. Forecasted General Fund transfers are held constant at the baseline level, with no growth or escalation assumed.

Needs Forecast Assumptions

All revenues considered in this forecast represent state-specific income and do not include taxes or funds allocated to counties or local municipalities. The revenue projections are based on rates established under existing legislation. No additional motor fuel tax rate increases are forecasted after FY 2026.[11] No motor fuel tax repeals are forecasted.[12] Similarly, no further increases in the Special Fuel Decal fee rates are assumed after FY 2026.[13]

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[10] U.S. Bureau of Labor Statistics, *Consumer Price Index for All Urban Consumers: Midwest* [series CUUR0200SA0], retrieved from FRED, Federal Reserve Bank of St. Louis, https://fred.stlouisfed.org/series/CUUR0200SA0

[11] Missouri Department of Revenue, “Motor Fuel Tax,” accessed September 2, 2025, https://dor.mo.gov/taxation/business/tax-types/motor-fuel/.

[12] Missouri Department of Revenue, “Motor Fuel Tax,” accessed September 2, 2025, https://dor.mo.gov/taxation/business/tax-types/motor-fuel/.

[13] Missouri Department of Revenue, “Special Fuel Decals,” accessed September 2, 2025, https://dor.mo.gov/motor-vehicle/fuel-decals.html.

Appendix I – Revenue and Needs Forecast Detailed Findings

Revenue Forecast

Table B.1 – Roads and Bridges Forecasted Revenues ($ in Millions)

	2025 (Actuals)	2030	2035	2040	2045	2050
Federal Funds	$1,490	$1,680	$1,910	$2,160	$2,440	$2,760
State Motor Fuel Tax	$790	$850	$830	$800	$760	$710
Motor Vehicle Sales and Lease Tax	$480	$540	$610	$670	$730	$790
Vehicle/Driver's Licensing Fees	$320	$330	$330	$340	$340	$340
Interest and Miscellaneous	$210	$130	$130	$160	$190	$240
Total	**$3,290**	**$3,530**	**$3,810**	**$4,130**	**$4,460**	**$4,840**

Note: Numbers rounded to the nearest $10 million. Forecasted totals do not include discretionary funds.

Table B.2 – Multimodal Forecasted Revenues ($ in Millions)

	2025 (Actuals)	2030	2035	2040	2045	2050
Federal Funds	$90	$110	$120	$140	$160	$180
General Fund	$40	$40	$40	$40	$40	$40
Multimodal Taxes and Fees	$20	$20	$20	$20	$30	$30
Interest and Miscellaneous	$0	$0	$0	$0	$0	$0
Total	**$150**	**$170**	**$180**	**$200**	**$230**	**$250**

Note: Numbers rounded to the nearest $10 million. Interest and miscellaneous totals are not actually $0, but round down to $0. Forecasted totals do not include discretionary funds.

Needs Forecast

Table B.3 – Roads and Bridges Forecasted Needs ($ in Millions)

Year	2025-Funded Needs	2025-Funded + Unfunded Needs	2025-Funded + Unfunded Needs (+/-10%)
2025	$3,280	$4,440	$3,990 to $4,880
2030	$3,530	$4,840	$4,350 to $5,320
2035	$3,890	$5,360	$4,830 to $5,900
2040	$4,340	$6,010	$5,410 to $6,610
2045	$4,850	$6,740	$6,060 to $7,410
2050	$5,430	$7,570	$6,810 to $8,320

Note: Numbers rounded to the nearest $10 million.

Table B.4 – Multimodal Forecasted Needs ($ in Millions)

Year	2025-Funded Needs	2025-Funded + Unfunded Needs	2025-Funded + Unfunded Needs (+/-10%)
2025	$150	$250	$230 to $280
2030	$170	$290	$260 to $310
2035	$190	$320	$290 to $360
2040	$220	$370	$330 to $400
2045	$240	$410	$370 to $450
2050	$280	$470	$420 to $510

Note: Numbers rounded to the nearest $10 million.