

# Appendix F – System Performance Report

## Introduction

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The Federal Highway Administration (FHWA), and Federal Transit Administration (FTA), requires Metropolitan Planning Organizations (MPO)s to adopt performance targets for established performance measures and demonstrate progress towards meeting the defined targets. This appendix summarizes the system performance report for the St. Joseph Area Transportation Study Organization (SJATSO) Metropolitan Planning Area (MPA).

## Performance-Based Planning and Programming

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Beginning with Moving Ahead for Progress in the 21st Century Act and continuing with the Fixing America's Surface Transportation Act and the Bipartisan Infrastructure Law, the U.S. Congress established the Performance-based Planning and Programming (PBPP) requirement, which impacts the development of the SJATSO 2050 Metropolitan Transportation Plan (MTP) and the Transportation Improvement Program (TIP). PBPP refers to the application of transportation performance management (TPM) principles within the planning and programming processes of transportation agencies to achieve desired performance outcomes for the multimodal transportation system. The FHWA defines TPM as a strategic approach that uses system information to make investment and policy decisions to achieve national performance goals.

State Departments of Transportation (DOT) and MPOs are required to incorporate FHWA and FTA performance measures and targets into their planning activities, including the SJATSO 2050 MTP. MPOs may choose to support statewide targets set by the Missouri DOT (MoDOT)/Kansas DOT (KDOT) or they may set their own, which includes the responsibility of achieving these targets. The SJATSO is committed to supporting progress toward reaching the federally mandated performance measures targets to support the national federal highway performance goals. Finally, the SJATSO has adopted all statewide MoDOT and KDOT performance targets.

## Federal Goals

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According to the FHWA, TPM represents the opportunity to prioritize needs and align resources for optimizing system performance in a collaborative manner. The national federal highway program performance goals, as established by Congress, are summarized in Table 1. The national federal transit strategic goals are displayed in Table 2.

Table 1. National Federal Highway Program Performance Goals

<b>Safety</b>
<ul style="list-style-type: none"> <li>• Achieve a significant reduction in traffic fatalities and serious injuries on all public roads</li> </ul>
<b>Infrastructure Condition</b>
<ul style="list-style-type: none"> <li>• Maintain the highway infrastructure asset system in a state of good repair</li> </ul>
<b>Congestion Reduction</b>
<ul style="list-style-type: none"> <li>• Achieve a significant reduction in congestion on the National Highway System (NHS)</li> </ul>
<b>System Reliability</b>
<ul style="list-style-type: none"> <li>• Improve the efficiency of the surface transportation system</li> </ul>
<b>Freight Movement and Economic Vitality</b>
<ul style="list-style-type: none"> <li>• Improve the national freight highway network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development</li> </ul>
<b>Environmental Sustainability</b>
<ul style="list-style-type: none"> <li>• Enhance the performance of the transportation system while protecting and enhancing the natural environment</li> </ul>
<b>Reduced Project Delivery Delays</b>
<ul style="list-style-type: none"> <li>• Reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices</li> </ul> <p style="text-align: center;">SOURCE: Federal-Aid Program [23USC §150(b)]</p>

Table 2. Federal Transit Strategic Goals

<b>Enhance Safety</b>
<ul style="list-style-type: none"> <li>• Improve safety for transit riders, workers, and pedestrians through oversight and technical assistance.</li> </ul>
<b>Build Resiliency</b>
<ul style="list-style-type: none"> <li>• Renew and maintain transit systems to ensure they can withstand future challenges.</li> </ul>
<b>Increase Sustainability</b>
<ul style="list-style-type: none"> <li>• Support investments that address climate change and reduce environmental impacts.</li> </ul>
<b>Improve Equity</b>
<ul style="list-style-type: none"> <li>• Ensure all communities, especially underserved ones, have access to quality transit services.</li> </ul>
<b>Connect Communities</b>
<ul style="list-style-type: none"> <li>• Expand high-quality transit services to connect people and build thriving communities.</li> </ul>

SOURCE: FTA

## Federal Performance Measures

The following discusses the current state of federal performance measures as they relate to the SJATSO region. This section highlights transportation planning/investments and progress through the MTP planning process, which can be leveraged to help meet the statewide targets. The performance areas include:

- Safety (PM1)
- Infrastructure Condition (PM2)
- System Performance (PM3)
- Transit Asset Management
- Transit Safety

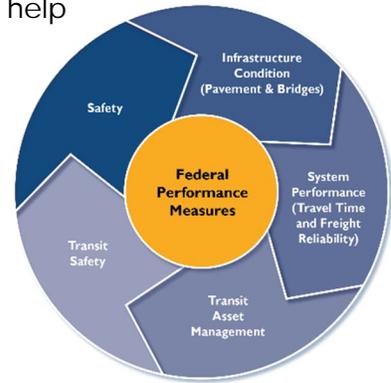


Table 3 lists the performance measures for each area.

Table 3. National Performance Measures

	Infrastructure Condition (PM2)		System Performance (PM3)	Transit Asset Management (TAM)	Public Transportation Agency Safety Plan (PTASP)
<b>Safety (PM1)</b>	<b>Pavement</b>	<b>Bridge</b>			
Number of fatalities	Percentage of pavements on the Interstate System in good condition	Percentage of NHS bridges classified as in good condition	Percentage of person-miles traveled on the Interstate that are reliable	Percentage of revenue vehicles (by type) that exceed the Useful Life Benchmark (ULB)	Number of reportable fatalities
Rate of fatalities per 100 million vehicle miles traveled (VMT)	Percentage of pavements on the Interstate System in poor condition	Percentage of NHS bridges classified as in poor condition	Percentage of person-miles traveled on the non-Interstate NHS that are reliable	Percentage of non-revenue service vehicles (by type) that exceed the ULB	Rate of reportable fatalities per total vehicle revenue miles by mode
Number of serious injuries	Percentage of pavements on the non-Interstate NHS in good condition		Interstate Truck Travel Time Reliability (TTTR) Index	Percentage of facilities (by group) rated less than 3.0 on the Transit Economic Requirements Model (TERM) scale	Number of reportable injuries
Rate of serious injuries per 100 million VMT	Percentage of pavements on the non-Interstate NHS in poor condition				Rate of reportable injuries per total vehicle revenue miles by mode
Number of non-motorized fatalities and non-motorized serious injuries					Number of reportable safety events
					Rate of reportable safety events per total vehicle revenue miles by mode
					Mean distance between major mechanical failures by mode

### Safety (PM1)

The safety performance measure requires State DOTs and planning partners to collaborate on target setting for five measures:

1. Number of Fatalities

2. Fatality Rate per 100 Million Vehicle Miles Traveled (VMT)
3. Number of Serious Injuries
4. Serious Injury Rate per 100 Million VMT
5. Number of Non-Motorized Fatalities and Serious Injuries

Table 4 summarizes the 2025 statewide MoDOT and KDOT safety targets.

Table 4. MoDOT and KDOT Statewide Safety Targets (Five-Year Rolling Average)

Metric	Annual Fatalities	Fatality Rate (per HMVMT)	Annual Serious Injuries	Serious Injury Rate (per HMVMT)	Non-Motorized Fatalities and Serious Injuries
MoDOT 2025 Target	968.7	1.212	4,961.4	6.259	567.0
Baseline (2019 - 2023)	986.4	1.265	4,961.4	6.359	567.0
KDOT 2025 Target	390.0	1.25	1,875.0	6.200	195.0
Baseline (2019 - 2023)	411.0	1.37	1,906.0	6.270	198.0

Source: MoDOT and KDOT, 2024.

The first three performance measures are reported in the Highway Safety Plan for the National Highway Traffic Safety Administration. All five performance measures must be included in the Highway Safety Improvement Program (HSIP), which is submitted to the FHWA. If the established performance targets are not met, a State DOT must spend its full HSIP allocation in 1 fiscal year and submit an HSIP implementation plan to the FHWA detailing how it plans to meet the targets.

*Progress/Opportunities Toward Reaching Targets*

As part of the 2050 MTP development process, the SJATSO Technical and Coordinating Committees reinforced their commitment to providing a safe transportation network as a priority, consistent with MoDOT and KDOT statewide priorities.

In the short term, there are eight projects programmed for safety in the 2024 to 2027 TIP, totaling \$11,961,112. All eight projects are sponsored by the Northwest District of MoDOT. These projects are designed to increase safety and help the state move towards safety performance targets. The SJATSO also actively participates in the Northwest District Coalition of Roadway Safety, which works to implement Missouri’s Show-Me-Zero Program, with ultimate goal of zero fatalities on Missouri roadways, and participates in the annual Highway Safety and Traffic Conference.

The SJATSO has also completed a Safe Routes to School (SRTS) plan that aims to make it safer and easier for students to walk and bike to school. That plan, completed in 2024, identifies potential infrastructure investments, along with planning level cost estimates. The St. Joseph Active Transportation Plan also support SRTS and reinforces the region’s commitment to enhance safety for vulnerable roadway users (VRUs). In addition, in 2025, the SJATSO will begin the development of a Safety Action Plan (SAP). The ultimate goal of the SAP is to create a safer transportation environment for all users by addressing the root causes of traffic incidents and implementing effective countermeasures.

The 2050 MTP development process also analyzed safety throughout the region. Recent crash data shows a downward trend of crashes, which is consistent with the desired trajectory to support statewide targets. The highest crash rates within the SJATSO MPO remain along the Belt Highway. Public outreach efforts have also consistently identified the Belt Highway as a safety concern when discussing needed regional transportation issues. In identifying potential opportunities to improve safety for the traveling public, even a modest reduction in the number of crashes along the Belt Highway would advance SJATSO efforts to meet established statewide safety targets.

The recent introduction of a new north-south transit route along the Belt Highway also reinforces the need to enhance safe bus stops/pull-out areas and to provide a continuous sidewalk connection to safely accommodate pedestrians as they complete their first- and last-mile portion of a trip. In addition, improved intersection crossings would also support an enhanced safety environment for VRUs.

The 2050 MTP also highlights an opportunity to improve a portion of Frederick Avenue from east of I-29 to west of the Belt Highway through enhanced gateway and streetscaping improvements. These improvements would focus on improving space for pedestrians and bicyclists, enhancing pedestrian crossings, and slowing travel speed to enhance safety for all transportation users.

Finally, as part of the 2050 MTP, the SJATSO conducted a stakeholder meeting with local law enforcement and emergency responders. This meeting provided valuable insight into safety concerns within the region. A few of the key findings are summarized below:

- Participants confirmed the crash history along the Belt Highway.
- Participants noted recent safety concerns related to I-229 access, near downtown. In addition, they discussed potential countermeasures.
- Participants noted potential safety concerns due to traffic backups at the eastbound off-ramp from US-36 to Route A (Riverside).
- Participants were asked about a high number of crashes involving bicyclists/pedestrians in the central core of St. Joseph. Participants estimated that half of crashes involving pedestrians are related to unhoused individuals roaming into the street.

## Infrastructure Condition (PM2)

The infrastructure condition performance measure requires State DOTs and planning partners to review pavement and bridge condition for the interstate and non-interstate NHS. The final rule includes the following six measures:

- Percentage of pavements on the Interstate System in Good condition
- Percentage of pavements on the Interstate System in Poor condition
- Percentage of pavements on the non-interstate NHS in Good condition
- Percentage of pavements on the non-interstate NHS in Poor condition
- Percentage of NHS bridges classified in Good condition
- Percentage of NHS bridges classified in Poor condition

Table 5 summarizes the statewide MoDOT and KDOT infrastructure condition targets.

Table 5. MoDOT and KDOT Statewide Infrastructure Condition Targets

Metric	MoDOT			KDOT		
	2021 Baseline	2023 Target	2025 Target	2021 Baseline	2023 Target	2025 Target
Percentage of NHS Bridges in Good Condition	27.2%	22.8%	19.2%	66.5%	73.0%	70.0%*
Percentage of NHS Bridges in Poor Condition	7.1%	7.7%	7.8%	0.3%	0.3%	0.4%
Percentage of Interstate Pavements in Good Condition	79.9%	77.5%	65.0%*	56.9%	60.3%	61.0%
Percentage of Interstate Pavements in Poor Condition	0.0%	0.1%	1.0%*	1.5%	1.4%	1.7%
Percentage of non-Interstate NHS Pavements in Good Condition	61.3%	61.1%	50.0%*	70.6%	69.7%	72.0%
Percentage of non-Interstate NHS Pavements in Poor Condition	0.9%	1.0%	3.0%*	2.5%	2.6%	3.0%

Source: MoDOT and KDOT, 2024.

\* Revised 2025 target.

MoDOT and KDOT pavement and bridge condition data was obtained for the SJATSO region. MoDOT’s Asset Management Plan quantifies asset management needs across the system and their associated costs. Goals are established for the three major asset types: pavements, bridges, and mobility. It is both a strategic and tactical plan in that it identifies specific types of work, bridge square footage, lane miles, treatments, etc.

*Progress/Opportunities Toward Reaching Targets*

In the short term, the 2024 to 2027 SJATSO TIP includes a variety of projects that maintain pavement performance. A total of 13 MoDOT projects are outlined in the rehab and reconstruction section of the TIP, addressing pavement concerns to help the state move towards these targets. In addition, the TIP includes bridge improvement projects, including Cook Road and Gene Field Road bridges at I-29. No projects were noted in the Kansas portion of the MPA.

Regarding interstate pavement conditions, MoDOT targets repaving interstate segments using an 8-year cycle. A portion of I-29, south of Route O, was repaved in 2020. The mainline portion of I-229 between 22nd Street north to the I-29/US-71 interchange (not including the elevated structure) was repaved in 2021.

Two bridges that will need to be addressed in MTP planning horizon include the I-229 elevated structure (double-decker) and the I-229/US-36/US-59 interchange. In 2024, the I-229 Environmental Assessment Study was completed. The study addresses the future of the I-229 Double-Decker Bridge and aims to:

- **Resolve Bridge Deficiencies:** The double-decker bridge is nearing the end of its expected lifespan of 50 years and is rated in Poor condition.
- **Provide Long-Term Solutions:** Develop a sustainable plan for the bridge’s future, considering the high costs and challenges associated with its maintenance and potential replacement.
- **Enhance Mobility and Safety:** Improve travel mobility, accessibility, and safety for all users.
- **Support Economic Development:** Align the project with St. Joseph’s downtown revitalization and riverfront development plans.

### System Performance (PM3)

State DOTs and MPOs use travel time reliability and freight reliability measures to report on system performance. The measures include:

- **Interstate Travel Time Reliability Measure:** Percent of person-miles traveled on the interstate that are reliable
- **Non-Interstate Travel Time Reliability Measure:** Percent of person-miles traveled on the non-interstate NHS that are reliable
- **Freight Reliability Measure:** Truck Travel Time Reliability Index

Table 6 summarizes the statewide MoDOT and KDOT system performance targets.

Table 6. MoDOT and KDOT Statewide System Performance Targets

Metric	MoDOT			KDOT		
	2021 Baseline	2023 Target	2025 Target	2021 Baseline	2023 Target	2025 Target
Interstate Travel Time Reliability Measure: Percent of Reliable Person-Miles Traveled on the Interstate	98.4%	87.1%	86.0%	99.3%	98.3%	99.0%
Non-Interstate Travel Time Reliability Measure: Percent of Reliable Person-Miles Traveled on the Non-Interstate NHS	95.5%	87.8%	87.0%	97.0%	96.1%	98.0%
Freight Reliability Measure: Truck Travel Time Reliability Index	1.18	1.45	1.45	1.13	1.16	1.13*

Source: MoDOT and KDOT, 2024.

\* Revised 2025 Pavement Targets.

### Progress/Opportunities Toward Reaching Targets

Generally speaking, there is low traffic congestion within the SJATSO MPA. There are isolated areas that experience peak hour delays, mostly at off-ramps along I-29 and US-36. Noted areas of delay include:

- Eastbound off-ramp from US-36 to Route A (Riverside). This ramp has backups, but an improvement to help improve traffic flow is being evaluated.
- Route A (Riverside), between Picket Road and Mitchell Avenue. This corridor has experienced increasing employment and as a result, experiences travel delay. The improvement of Picket Road, east of Riverside, is also likely to open up even more employment opportunities, which could further increase future travel delay.
- Northbound and southbound off-ramps from I-29 to Frederick. These ramps experience delays primarily during peak hours; however, the potential for these delays to get worse and extend longer during the day are a possibility as new developments occur (or are being discussed) in the area. The SJATSO is beginning an I-29 Break-in Access study between US-36 and Frederick Avenue to determine if a new interchange location is feasible and if so, if it would relieve travel delays along both the I-29 mainline and ramp locations.
- US-169 (Rochester Road), between the Belt Highway to east of I-29. This area has experienced increasing traffic volumes over the past decade and is continuing to see new development that will increase travel delays in the area.

The SJATSO is committed to strategically prioritizing improvements that can help reduce travel delays within the MPA. The SJATSO has adopted the statewide PM3 targets set by MoDOT and KDOT.

### Transit Asset Management

Transit Asset Management (TAM) is a method to quantify transit improvements, helping staff as well as the community better gauge the larger impacts that programmed projects will have towards achieving these goals to help St. Joseph Transit (*Go St. Joe*) move towards these targets. For example, buses that operate in excess of their designed useful life have an increased need for repairs. Such issues may impact the delivery of service, and if left unaddressed, could potentially affect safety. Transit asset management tracks where transit assets fall in their lifespan and predicts when increased costs should be expected, whether in replacement costs or in increased repair costs.

TAM is the strategic and systematic practice of procuring, operating, inspecting, maintaining, rehabilitating, and replacing transit capital assets to manage their performance, risk, and costs over their life cycles for the purpose of providing safe, cost-effective, and reliable public transportation. The TAM final rule requires every transit provider that receives federal financial assistance under 49 U.S.C. Chapter 53 to develop a TAM plan or be part of a Group TAM Plan prepared by a sponsor (MoDOT). All TAM plans must contain four major components:

- **Asset Inventory:** A register (comprehensive list) of an agency’s assets and specific information about those assets. The inventory is divided into Equipment, Facilities (maintenance and administration), and Infrastructure categories.
- **Condition Assessment:** The process of assessing and documenting the condition or residual life of an asset. This process provides an overall assessment of equipment, maintenance, and administration facilities.
- **Management Approach—Decision Support Tools:** An analytic process or methodology to help prioritize projects to improve and maintain the State of Good Repair of capital assets, based on available condition data, objective criteria, and financial needs for asset investments over time.
- **Investment Prioritization:** A transit provider’s ranking of capital projects or programs to achieve or maintain a State of Good Repair based on financial resources from all sources a transit provider reasonably anticipates will be available over the TAM Plan period.

Table 7 summarizes the St. Joseph Transit TAM performance targets.

Table 7. Transit Asset Management Targets

Asset Category / Class	2024 Target	2025 Target	2026 Target	2027 Target	2028 Target	2029 Target
<b>Equipment</b>						
Non-Revenue / Service Automobile	0%	0%	0%	0%	0%	0%
Other Rubber Tire Vehicles	0%	0%	0%	0%	0%	0%
Maintenance Equipment		0%	0%	0%	0%	0%
Software Systems		0%	0%	0%	0%	0%
Security Systems		0%	0%	0%	0%	0%
<b>Facilities</b>						
Admirative / Maintenance Facilities	0%	0%	0%	0%	0%	0%
Passenger Facilities	0%	0%	0%	0%	0%	0%
<b>Revenue Vehicles</b>						
BU - Bus		0%	0%	0%	0%	35%
CU - Cutaway Bus		100%	100%	100%	100%	100%

Source: St. Joseph Transit (Go. St. Joe) 2024 TAM Plan; January 18, 2024.

Progress/Opportunities Toward Reaching Targets

St Joseph Transit operates fixed route deviation service and demand response service in the cities of St Joseph, Missouri, and Elwood, Kansas. Service is provided Monday through Saturday. Upon request and for an additional fare, buses will deviate from the route to pick up and drop off customers at their desired location. A demand response zone requires a reservation and has no additional charge for stops at any location within this zone. Go St. Joe provides service using 26 low-floor, heavy-duty transit buses and one cutaway bus. Administration and maintenance, along with a bus storage barn, are located in Downtown St Joseph. A transfer station is also downtown, approximately two blocks from the administration building.

TAM targets were discussed at the February 16, 2023, SJATSO Coordinating Committee meeting. At this meeting, Go. St. Joe, the transit agency, presented an overview of the system assets as they relate to the established targets.

The FTA has determined that, at a minimum, facilities should have a 3.0 rating on the Transit Economic Requirements Model Scale. According to the Go St. Joe transit agency, with the exception of the 6th and Angelique Station (built in 1998 and rated 3.0), all other transit facilities receive a 4.0 rating or above.

Regarding equipment, a 2009 service truck that exceeded its useful life was replaced in FY24. The rolling stock includes a bus fleet of 2 2012s, 9 2019s, and 15 2020s. As an addition to the fleet, there is a 2017 Cutaway which serves as a backup vehicle.

**Transit Safety**

The Public Transportation Agency Safety Plan (PTASP) is a critical requirement for bus transit agencies, mandated by the FTA under 49 CFR Part 673. The PTASP aims to enhance the safety of public transportation systems by requiring transit agencies to develop and implement a comprehensive safety plan. This plan must include processes and procedures to implement a Safety Management System, which is a systematic approach to managing safety, including organizational structures, accountabilities, policies, and procedures. Table 8 summarizes the transit system performance targets as developed by Go St. Joe. These targets were presented to the SJATSO Coordinating Committee in January 2024.

Table 8. Transit Safety Targets

Mode of Service	Fatalities (Total)	Fatalities (per 100K VRM)	Injuries (Total)	Injuries (per 100K VRM)	Safety Events (Total)	Safety Events (per 100K VRM)	System Reliability *
Deviated Fixed-Route	0	0	1	0.12	6	0.75	28,500

Source: St. Joseph Transit (Go. St. Joe) Safety Plan; January 2024.

\* Refers to Mean Distance Between Major Mechanical Failures.

### *Progress/Opportunities Toward Reaching Targets*

The SJATSO works closely with *Go St. Joe* staff to promote a safe environment and travel experience for all system users. In support of reaching the safety targets, *Go St. Joe* holds training sessions that have included speakers from the Highway Patrol and the St. Joseph Traffic and Safety Council. These sessions have covered a variety of topics including distracted driving, defensive driving, and de-escalation techniques. Additionally, the transit agency has hired a security guard stationed at the transfer center, which has significantly helped to reduce safety events. The SJATSO and *Go St. Joe* staff are committed to working together to continue to move the region in the right direction to support the transit safety targets.