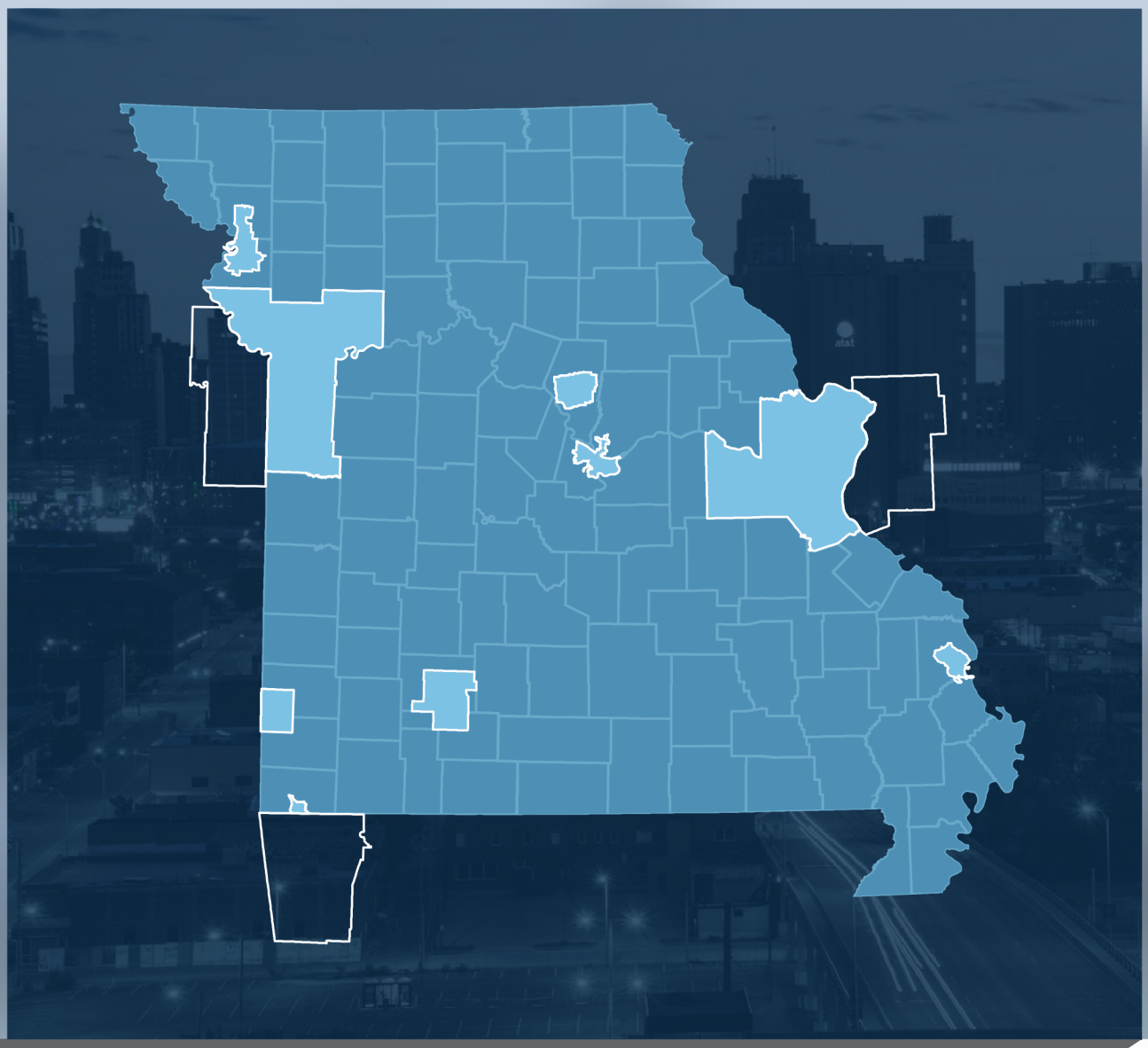


Metropolitan Planning Handbook

June 2026

PREPARED BY MoDOT

In collaboration with

U.S. Department of Transportation
Federal Transit Administration

U.S. Department of Transportation
Federal Highway Administration

Missouri MPOs

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Northwest Arkansas Regional Planning Commission
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Ozarks Transportation Organization
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Southeast Metropolitan Planning Organization
401 Independence Street
Cape Girardeau, MO 63703

St. Joseph Area Transportation Study Organization
1100 Frederick Avenue
Room 202
St. Joseph, Missouri 64501

MANUAL UPDATE

Revisions to the Metropolitan Planning Handbook will primarily be made on an 'as-needed' basis.

Suggested revisions can be submitted to the Planning and Performance group with MoDOT.

Email: TPPPG@modot.mo.gov

Federal Highway Administration and Federal Transit Administration personnel will be included as appropriate.

The updates will be documented here.

DATE	CONTENT UPDATED
September 2025	Ch. 1 MPO maps
June 2026	Ch. 3 – clarified language for MoDOT notification, metropolitan planning area and membership Ch. 5 – added information regarding capital purchases

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1 INTRODUCTION

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1 | INTRODUCTION

1.1 | Purpose

This handbook is intended to be used by the staff of the Missouri Department of Transportation (MoDOT) and Missouri's Metropolitan Planning Organizations (MPOs). In Missouri, the regional planning agencies, in cooperation with MoDOT, have an important role in planning and coordinating transportation projects.

MoDOT prepared the Metropolitan Planning Handbook in cooperation with MPOs. This handbook describes the metropolitan transportation planning processes and administrative requirements that MoDOT and MPOs must implement when working on transportation planning projects and plans.

1.2 | Federal Authority

National transportation policy is set by the U.S. Congress in the form of laws, which can establish specific planning requirements and/or delegate that responsibility to the U.S. Secretary of Transportation. Table 1-1 lists the major U.S. transportation laws since 1990, including the most recent law, Infrastructure Investment and Jobs Act (IIJA), also known as the "Bipartisan Infrastructure Law" enacted on Nov. 15, 2021. Each new law can add, delete or modify provisions in previous laws. A compilation of currently applicable laws, as amended, is found in the Code of Laws of the United States of America, often referred to as the U.S. Code. Transportation planning requirements are found in Title 23 (Highways) of the U.S. Code. Key sections regarding transportation planning include the following:

- 23 U.S.C. §134: Metropolitan Transportation Planning
- 23 U.S.C. §135: Statewide and Non-metropolitan Transportation Planning

As noted previously, Congress delegates the U.S. Secretary of Transportation the responsibility to issue regulations detailing how transportation laws are to be implemented. New regulations from all federal agencies are published on each non-holiday weekday in the Federal Register. Each new regulation can add, delete or modify provisions in previous regulations. A compilation of currently applicable regulations, as amended, is found in the Code of Federal Regulations (CFR).

Title 23 | Highways

Chapter 1 | Federal Highway Administration, Department of Transportation

Subchapter E | Planning and Research

Part 450 | Planning Assistance and

Subpart A, B & C:

A | 23 CFR § 450.100 et seq.* | Transportation Planning and Programming Definitions

B | 23 CFR § 450.200 et seq.* | Statewide and Nonmetropolitan Planning and Programming

C | 23 CFR § 450.300 et seq.* | Metropolitan Transportation Planning and Programming

* "Et seq." is an abbreviation for the Latin et sequences, which means "and the following." It indicates that relevant information continues in the sections that follow the section cited.

Corresponding, nearly identical requirements are found in Title 49 (Transportation), addressing planning for federal transit projects, which are under the jurisdiction of the Federal Transit Administration (FTA).

Title 49 | Transportation

Subtitle III | General and Intermodal Programs

Chapter 53 | Public Transportation Sections 5303 & 5304:

49 U.S.C. §5303 | Metropolitan Transportation Planning

49 U.S.C. §5304 | Statewide and Nonmetropolitan Transportation Planning

1.3 Required Federal Products

There are various required federal documents that must be developed by MPOs and TMAs. Each of the products is contained in this handbook in the following chapters. Table 1-2 summarizes the required federal documents, how often the document needs to be updated, approval responsibility and general remarks. More specific detail on each of the products is contained in this handbook in the following chapters.

Table 1-1 | Major U.C. Transportation Laws: 1991-Present

YEAR	PUBLIC LAW #	ACRONYM	FULL NAME
1991	102-240	ISTEA	Intermodal Surface Transportation Efficiency Act of 1991
1998	105-178	TEA-21	Transportation Equity Act for the 21st Century
2005	109-59	SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
2012	112-141	MAP-21	Moving Ahead for Progress in the 21st Century Act
2015	114-94	FAST Act	Fixing America's Surface Transportation Act
2021	117-58	IIJA	Infrastructure Investment and Jobs Act

Table 1-2 | Schedule of Required Federal Products

PROGRAM ACTIVITIES				AGENCY RESPONSIBLE			
	Work Product	Reference	Update	Develop	Review	Review Approval	Remarks
Primary Planning Documents	State Planning and Research Work Program (SPR)	23 CFR §420	Annually	MoDOT	OneDOT	OneDOT	MoDOT annually develops work program.
	Unified Planning Work Programs (UPWP)	23 CFR §450.308	Annually	MPO	MoDOT & OneDOT	OneDOT	MPO annually develops UPWP. The Consolidated Planning Grant (CPG) Agreement is entered into with each MPO during the UPWP approval process.
	Long-Range Statewide Transportation Plan (LRTP)	23 CFR §450.216	As needed	MoDOT	OneDOT	MHTC	OneDOT reviews and comments on LRTP to determine compliance with federal requirements. No official approval action is taken.
	Statewide Transportation Improvement Program (STIP)	23 CFR §450.218	Annually	MoDOT	OneDOT	OneDOT	Minimum 4-year period; update required every 4 years. MoDOT observes a 5-year period and updates the STIP annually.
	Metropolitan Transportation Plan (MTP)	23 CFR §450.324	Every 5 years (4 years for non-attainment and maintenance areas)	MPO	MoDOT & OneDOT	MPO Board	MoDOT and OneDOT review and comment on MTP's but do not approve them. However, OneDOT must make an air quality conformity determination (if applicable). The MPO shall approve the transportation plan (and any revisions) and submit it for information purposes to the governor. Copies of any updated or revised transportation plans must be provided to OneDOT.
	Transportation Improvement Program (TIP)	23 CFR §450.326	Every 4 years (Annually or bi-annually is preferred)	MPO	MoDOT & OneDOT	OneDOT	Minimum 4-year period; update required every 4 years but may be updated more frequently. OneDOT also reviews the TIP to determine whether it contains projects consistent with the MTP. The TIP is submitted to the governor for approval prior to OneDOT approval.
	MPO Self-Certification	23 CFR §450.336	Every 4 years		MoDOT	OneDOT	Self-certifications must be submitted in conjunction with each new TIP or at least every 4 years.
	Annual Listing of Obligated Projects (ALOP)	23 CFR §450.334	Annually	MPO	MoDOT	NONE	Shared with the MPO board for informational purposes only and then published on the MPO's website.
	Public Participation Plan (PPP)	23 CFR §450.316	As needed	MPO	MoDOT & OneDOT	MPO Board	Details of the MPO public involvement process.
Supplemental	Title VI & Limited English Proficiency Plan (LEP)	23 CFR §200 and LEP	Every 3 years	MPO	MoDOT & OneDOT	MPO Board	Actions taken to meet antidiscrimination laws.
	Congestion Management Process (CMP)	23 CFR §450.322	As needed	MPO	MoDOT	MPO Board	The transportation planning process in a TMA shall address congestion management through a process that provides for safe and effective integrated management and operation of the multimodal transportation system based on a cooperatively developed and implemented metropolitan-wide strategy.

1.4 | Missouri State Statutes

Like the federal process, the Missouri State Legislature passes laws which are approved by the governor and incorporated into the Missouri Statutes. Missouri's laws on transportation planning are found in several articles of Title 14, Roads and Waterways.

Missouri Revised Statutes

Title XIV Roads and Waterways
Chapters 226-238
revisor.mo.gov/main/Home.aspx

CSR
www.sos.mo.gov/adrules/csr/current/7csr/7csr

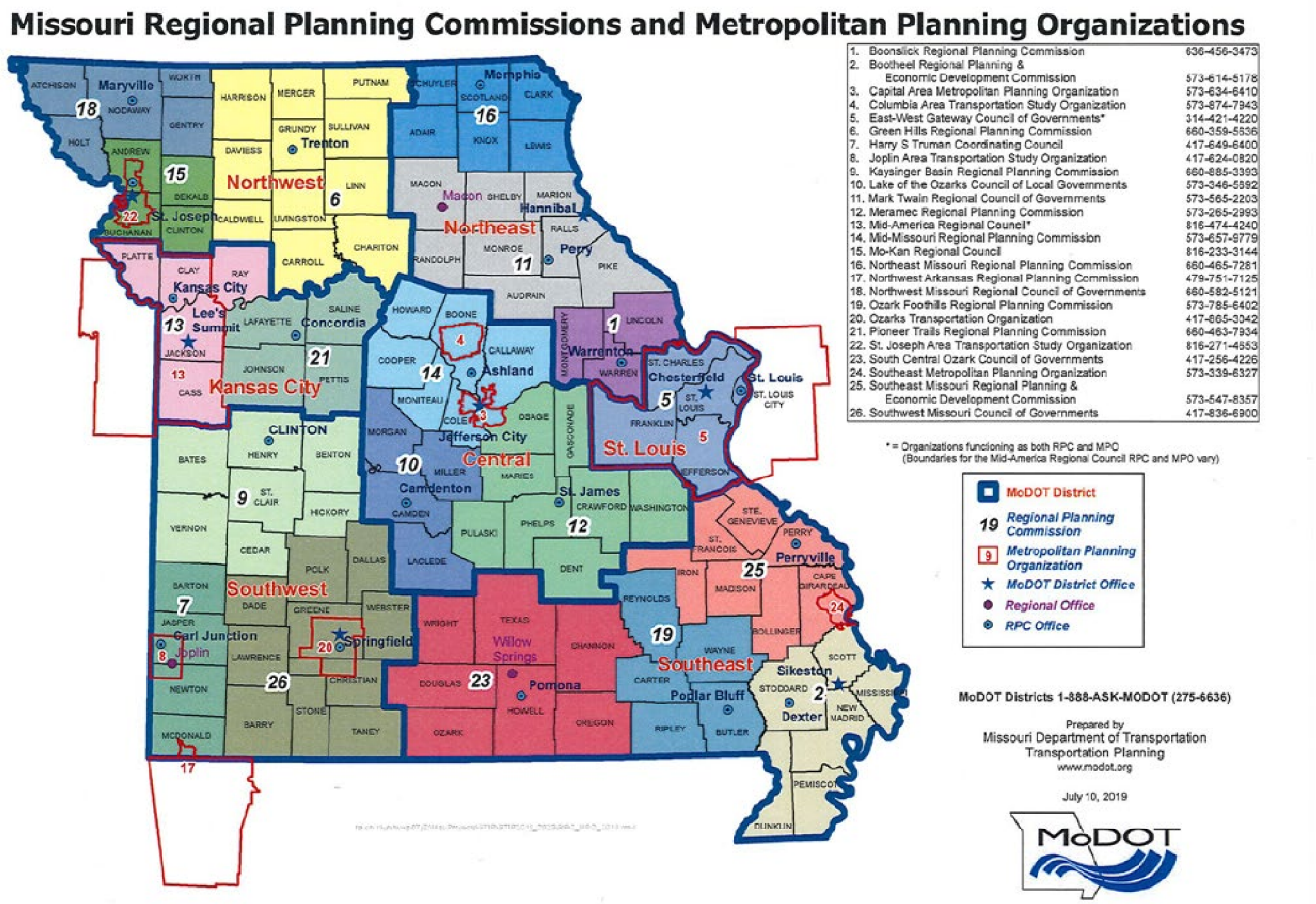
1.5 | Regional Governance in Missouri

Missouri has three types of regional transportation planning agencies to conduct and coordinate transportation planning activities:

4 - Transportation Management Areas (TMAs).
5 - Metropolitan Planning Organizations (MPOs).
19 - Regional Planning Commissions (RPC). This handbook is not meant for RPCs, though it could still provide valuable information.

Every community within Missouri is represented by at least one of the above listed planning agencies, as illustrated in figure 1-1.

Figure 1-1 | MPO/RPC Map



1.6 | Transportation Management Areas

A TMA is an MPO designated by the U.S. Secretary of Transportation for an urbanized area with a population of at least 200,000. Congress provided for this greater role by MPOs through a certification review aimed at formalizing the continuing oversight and day-to-day evaluation of the planning process. MPOs attaining certification enjoy certain benefits, but they also incur additional requirements beyond those of smaller urbanized areas for congestion management, project selection and certification. The Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) jointly review and evaluate the transportation planning process every four years. In air quality nonattainment or maintenance areas, FHWA and FTA review to ensure that TMAs follow air quality conformity regulations.

1.6.1 Structure

After TMA designation occurs, TMAs are created through an agreement between Missouri's governor and the cities and towns within the metropolitan area. They are governed by boards that serve as policy committees with representatives from state and local governments, tribal members, regional planning agencies, business groups and public transit providers as defined in the TMA organization's bylaws. TMAs typically have advisory committees and have a professional staff to provide committee support and prepare required products.

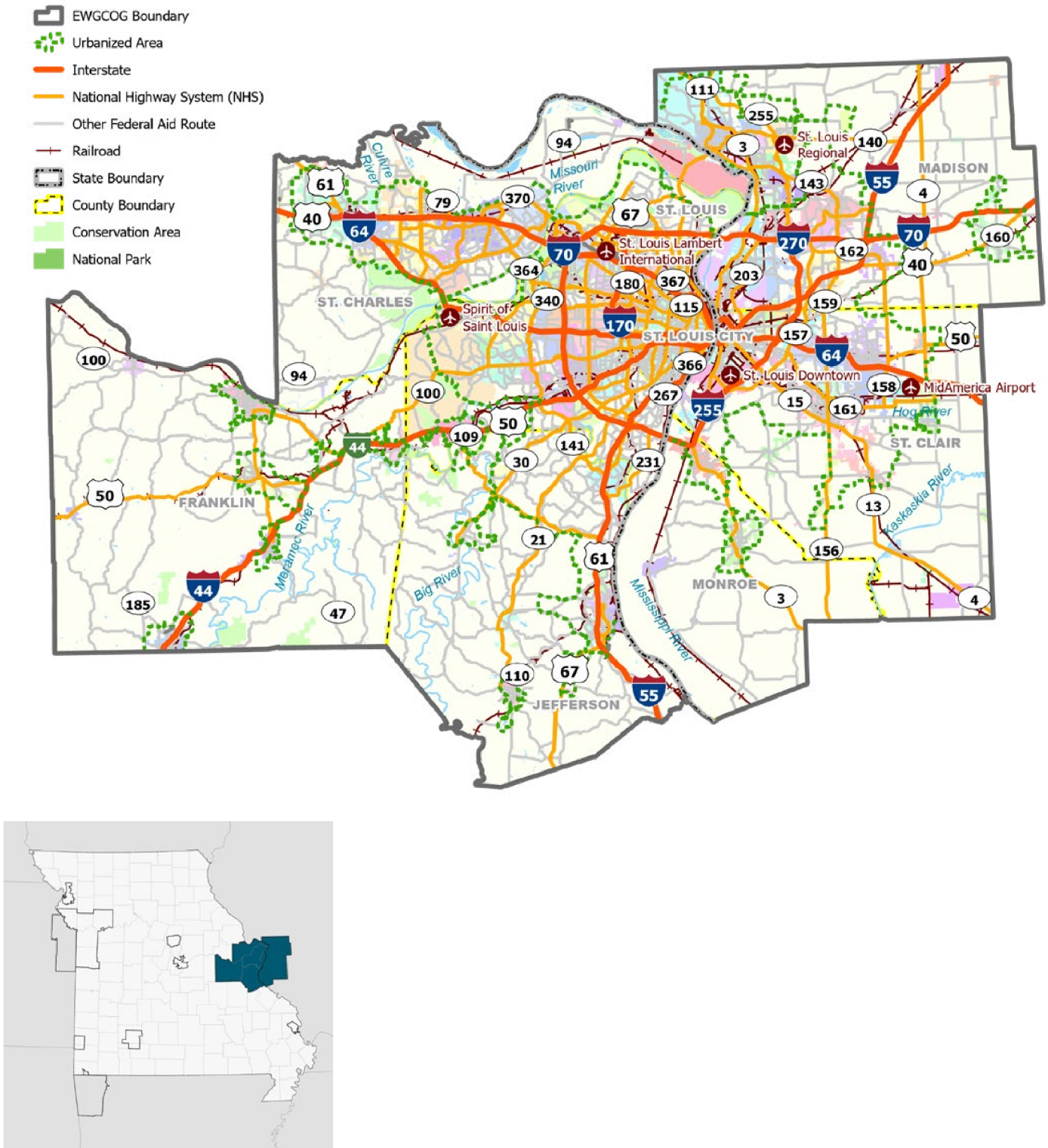
1.6.2 Funding

TMAs typically receive their funding from the federal government or through MoDOT. Some programs may not require a TMA to go through MoDOT for funding, in which case the TMA may apply directly to the federal government. Each MPO, including TMAs, outlines responsibilities and costs in the Unified Planning Work Program (UPWP). One main difference between TMAs and MPOs of a smaller size is that TMAs can sub-allocate funds to member communities and agencies.

1.6.3 TMAs in Missouri

There are four TMAs in Missouri: East-West Gateway Council of Governments (EWG), Mid-America Regional Council (MARC), Ozarks Transportation Organization (OTO) and Northwest Arkansas Regional Planning Commission (NWARPC).

Figure 1-2 | EWG Metropolitan Planning Area





EAST-WEST GATEWAY COUNCIL OF GOVERNMENTS (EWG)

Table 1-3 | EWG Statistics

Year Established	1965
Hosted/Independent MPO	Independent
Number of Staff	50
Land Area (sq. mi.)	Land area = 4,467.7, Water Area = 121.3,Total area= 4,589
Missouri	Land Area=2709.2, Water Area=67.6, Total Area=2776.8.
Illinois	Land Area=1758.5, Water Area=53.7, Total Area=1812.3
2010 Population	2,571,253
Missouri	1,998,958
Illinois	572,295
2020 Population	2,600,607
Missouri	2,042,386
Illinois	558,221
Counties	8
Missouri	5
Illinois	3
Number of Municipalities	193
Missouri	133
Illinois	60
Primary Travel Corridors	I-55, I-44, I-70, I-64, I-170, I-270, US 67, MO 100, MO 141, MO 364, MO 370,
Transit (yes/no)	Yes
Airport (yes/no)	Yes
Air Quality Designation	2008 Ozone Standard - Maintenance MO-IL; 2015 Ozone Standard - Marginal Nonattainment for Jefferson, St. Charles and St. Louis Counties, City of St. Louis and Boles Township in Franklin County MO and Madison, Monroe and St. Clair County IL; 2015 Ozone Standard- Attainment for remainder of Franklin County MO;

MID-AMERICA REGIONAL COUNCIL (MARC)



Figure 1-3 | MARC Metropolitan Planning Area

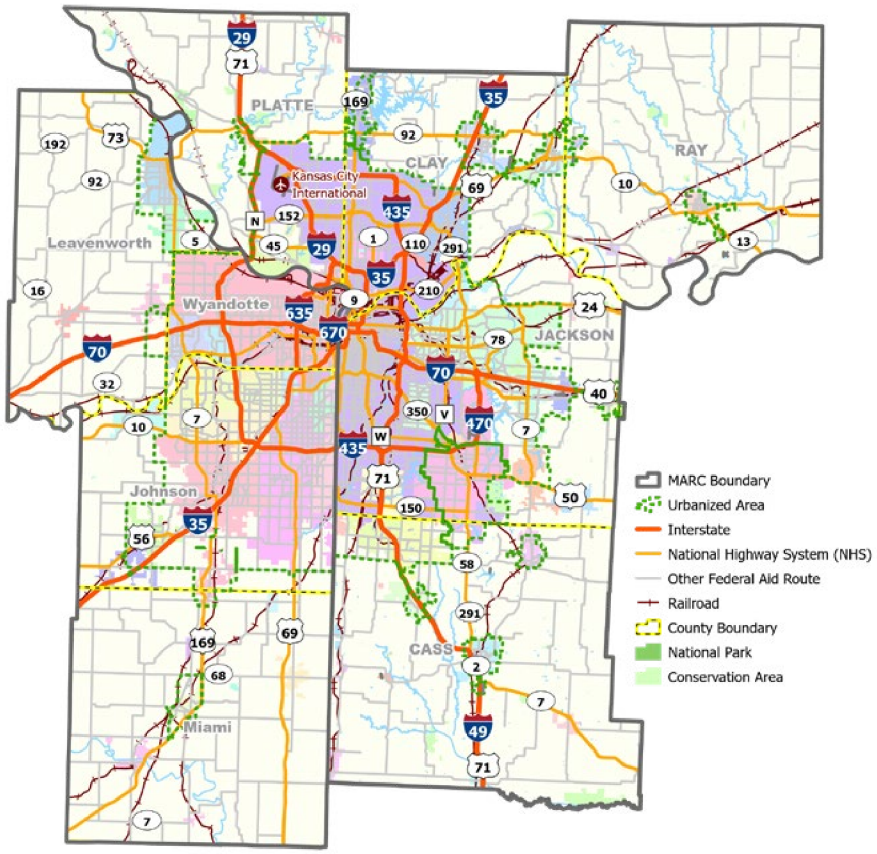


Table 1-4 | MARC Statistics

Year Established	1972
Hosted/Independent MPO	Independent
Number of Staff	27
Land Area (sq. mi.)	3,850
2010 Population	1,862,808
2020 Population	2,080,261
Counties	8 (4 KS, 4 MO)
Number of Municipalities	113
Primary Travel Corridors	I-70, I-35, I-29, I-49, I-435, I-635, US-169, US-71, US-69
Transit (yes/no)	Yes
Airport (yes/no)	Yes
Air Quality Designation	Unclassifiable/Attainment

OZARKS TRANSPORTATION ORGANIZATION (OTO)



Figure 1-4 | OTO Metropolitan Planning Area

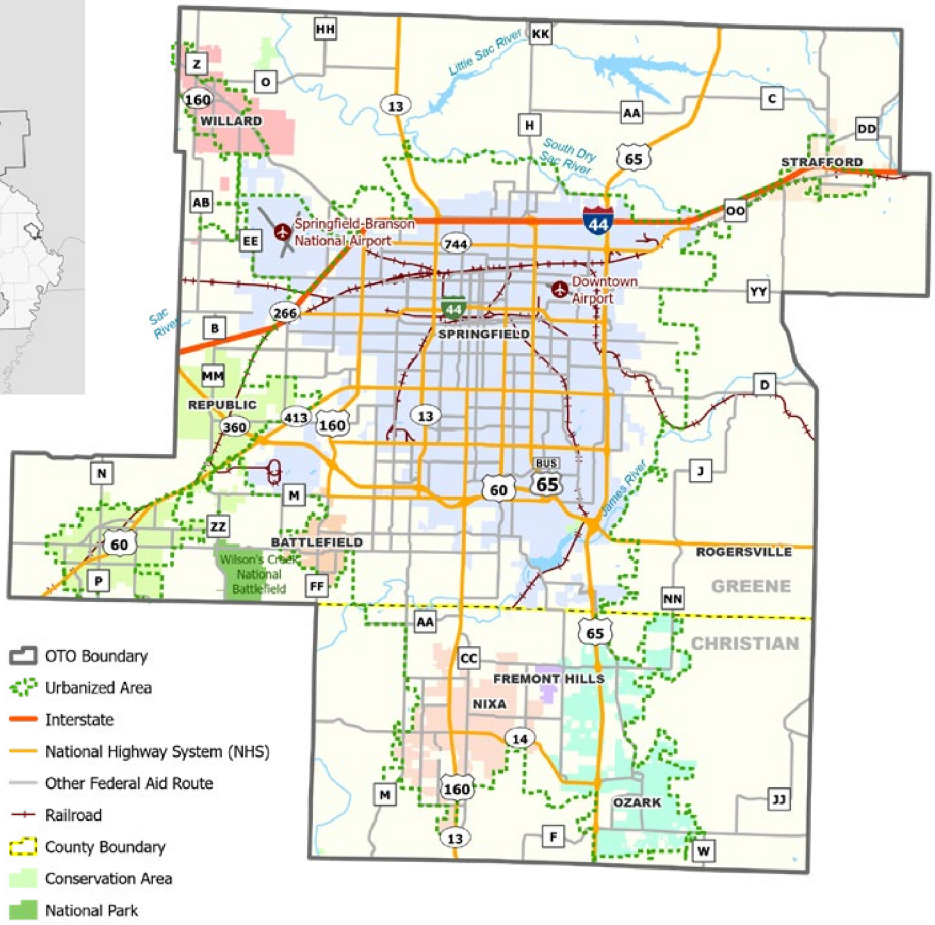


Table 1-5 | OTO Statistics

Year Established	1974
Hosted/Independent MPO	Independent
Number of Staff	7
Land Area (sq. mi.)	427.5
2010 Population	309,457
2020 Population	343,141
Counties	Christian and Greene
Number of Municipalities	7
Primary Travel Corridors	I-44, US 65, US 160, US 60 and MO 13
Transit (yes/no)	Yes
Airport (yes/no)	Yes
Air Quality Designation	Attainment

NORTHWEST ARKANSAS REGIONAL PLANNING COMMISSION (NWARPC)



Figure 1-5 | NWARPC Metropolitan Planning Area



Table 1-6 | NWARPC Statistics

Year Established	1966
Hosted/Independent MPO	Independent
Number of Staff	7
Land Area (sq. mi.)	1,866.7 Total (MO portion of MPA: 30.7)
2010 Population	426,493 Total (MO portion of MPA: 2,089)
2020 Population	540,899 Total (MO portion of MPA: 1,695)
Counties	MO: part of McDonald (AR: Benton, Washington)
Number of Municipalities	33 Total (MO portion of MPA: 2)
Primary Travel Corridors	MO: I-49, Hwy 71 (AR: I-49, Hwy 71, US 412, US 62, Hwy 37)
Transit (yes/no)	MO: no (AR: yes)
Airport (yes/no)	MO: no (AR: yes)
Air Quality Designation	Attainment

1.7 | Metropolitan Planning Organizations (MPOs)

An MPO is a governmental entity required in urban areas with a population of 50,000 persons or more. The MPO is charged with providing a comprehensive regional transportation planning process for the designated planning area. MPOs work with MoDOT and other partner agencies to develop federal- and state-required transportation plans and programs for their regions.

1.7.1 | Structure

Designation of an MPO is required for all urbanized areas with a population of 50,000 or more as determined by the U.S. Census Bureau following each decennial census. MPO designations in Missouri are by agreement among the governor of Missouri and the units of local governments (i.e., cities and counties) representing at least 75% of the population in the affected metropolitan area (including the largest incorporated city). The designation agreement clearly identifies that the Policy Board will act as the forum for cooperative decision-making, taking the required approval actions as the MPO.

1.7.2 | Funding

MPOs typically receive their funding through MoDOT. Some programs may not require an MPO to go through MoDOT for funding, in which case the MPO may apply directly to the federal government. Several factors determine the amount of funding granted, including formula funds, transit activities, air quality conformity planning and other agreed-upon planning work outlined in the UPWP.

1.7.3 | MPOs in Missouri

There are five MPOs in Missouri: Columbia Area Transportation Study Organization (CATSO), Capital Area Metropolitan Planning Organization (CAMPO), St. Joseph Area Transportation Study Organization (SJATSO), Joplin Area Transportation Study Organization (JATSO) and Southeast Metropolitan Planning Organization (SEMPO).

COLUMBIA AREA TRANSPORTATION STUDY ORGANIZATION (CATSO)



Figure 1-6 | CATSO Metropolitan Planning Area

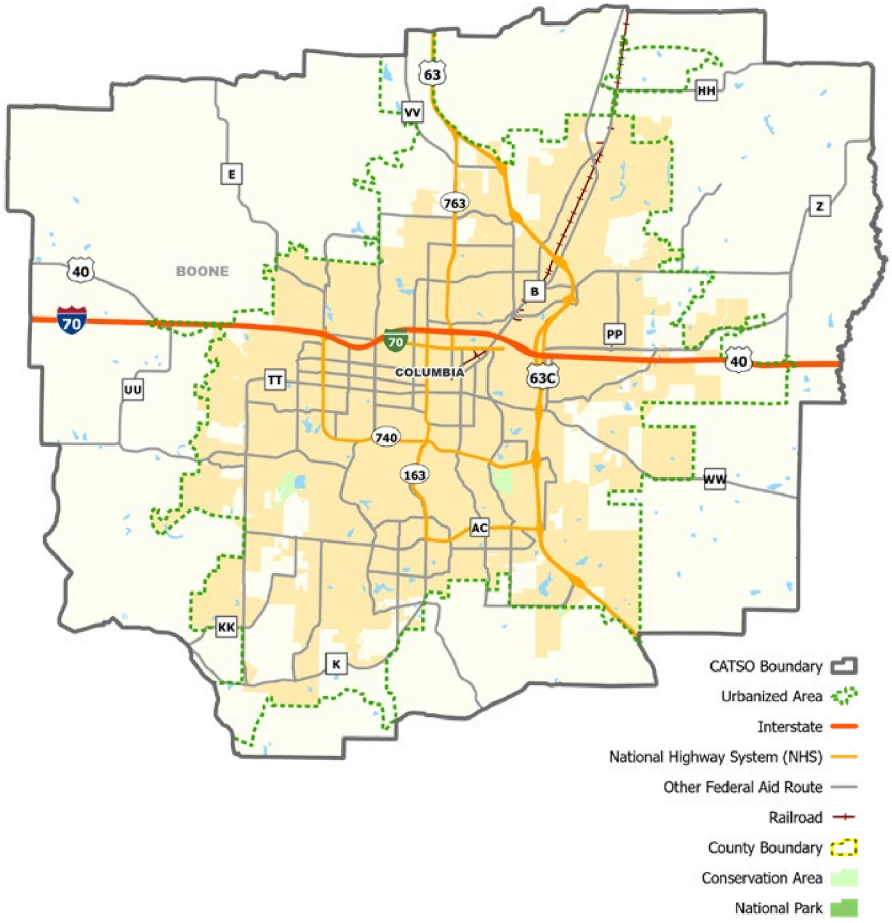


Table 1-7 | CATSO Statistics

Year Established	1964
Hosted/Independent MPO	Hosted - City of Columbia
Number of Staff	1 FTE / 4.52 Part-time
Land Area (sq. mi.)	190.1
2010 Population	134,592
2020 Population	158,817
Counties	1
Number of Municipalities	1
Primary Travel Corridors	I-70, US 63, MO Route B, Katy Trail
Transit (yes/no)	Yes
Airport (yes/no)	No
Air Quality Designation	Unclassifiable/Attainment

CAPITAL AREA METROPOLITAN PLANNING ORGANIZATION (CAMPO)



Figure 1-7 | CAMPO Metropolitan Planning Area

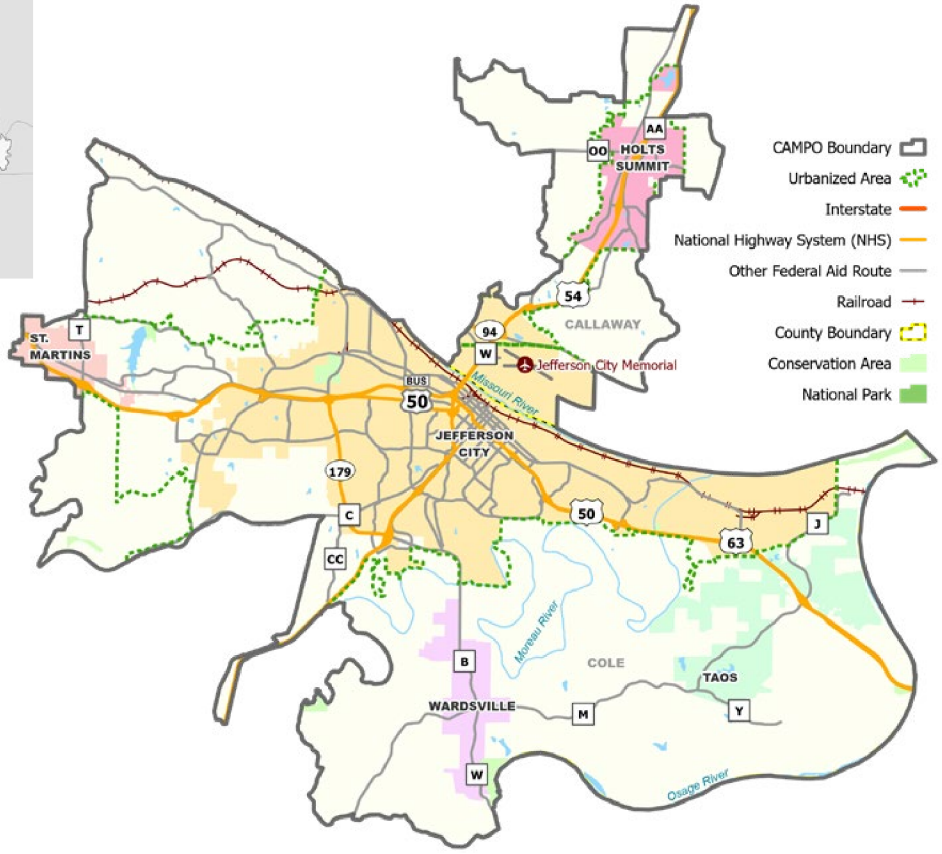


Table 1-7 | CAMPO Statistics

Year Established	2003
Hosted/Independent MPO	Hosted - Jefferson City
Number of Staff	3
Land Area (sq. mi.)	153
2010 Population	72,000
2020 Population	75,000
Counties	Cole, Callaway
Number of Municipalities	5
Primary Travel Corridors	US 63, US 54, US 50
Transit (yes/no)	Yes
Airport (yes/no)	Yes
Air Quality Designation	Unclassifiable/Attainment

ST. JOSEPH AREA TRANSPORTATION STUDY ORGANIZATION (SJATSO)

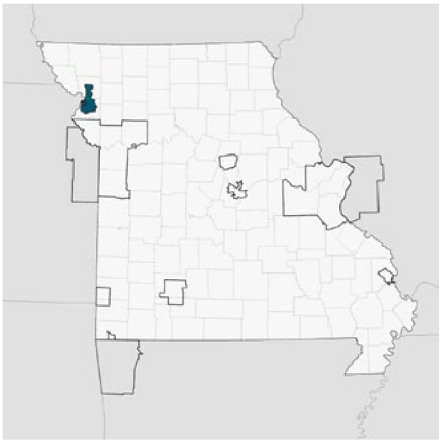


Figure 1-8 | SJATSO Metropolitan Planning Area



Table 1-8 | SJATSO Statistics

Year Established	1974
Hosted/Independent MPO	Hosted – City of St. Joseph
Number of Staff	2
Land Area (sq. mi.)	228.57
2010 Population	126,030
2020 Population	126,173
Counties	3
Number of Municipalities	5
Primary Travel Corridors	36 Hwy, I-29, I-229, Belt Hwy (169 Hwy)
Transit (yes/no)	Yes
Airport (yes/no)	Yes
Air Quality Designation	Unclassifiable/Attainment

JOPLIN AREA TRANSPORTATION STUDY ORGANIZATION (JATSO)

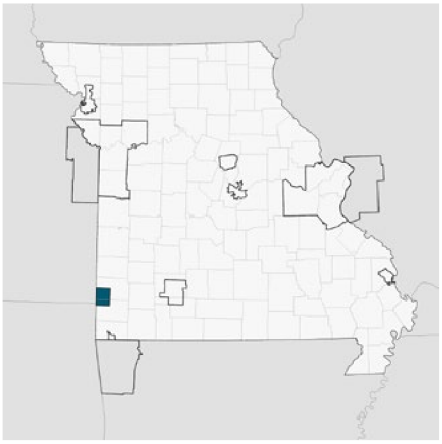


Figure 1-9 | JATSO Metropolitan Planning Area

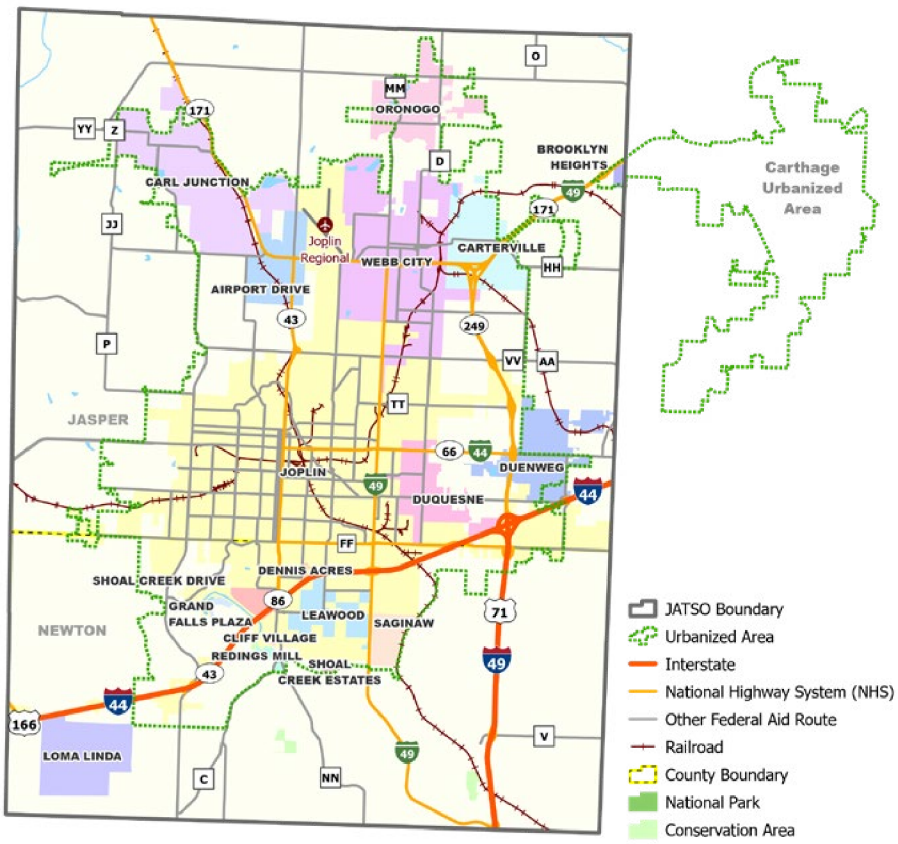


Table 1-9 | JATSO Statistics

Year Established	1983
Hosted/Independent MPO	Hosted
Number of Staff	4.35 FTE
Land Area (sq. mi.)	218
2010 Population	111,587
2020 Population	115,490
Counties	2
Number of Municipalities	17
Primary Travel Corridors	I-44, I-49, 249, Rte 66, Rte 43, Rte 171
Transit (yes/no)	Yes
Airport (yes/no)	Yes
Air Quality Designation	Attainment

SOUTHEAST METROPOLITAN PLANNING ORGANIZATION (SEMPO)

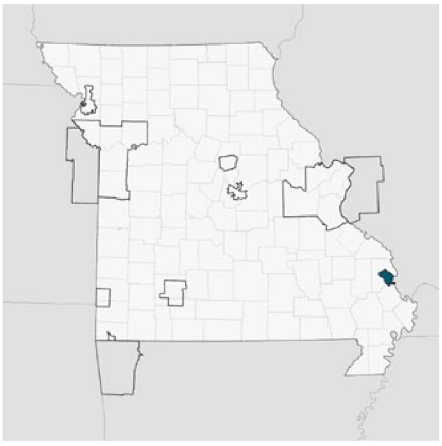


Figure 1-10 | SEMPO Metropolitan Planning Area



Table 1-10 | SEMPO Statistics

Year Established	2013
Hosted/Independent MPO	Hosted – City of Cape Girardeau
Number of Staff	0.97
Land Area (sq. mi.)	117
2010 Population	52,900
2020 Population	54,854
Counties	3
Number of Municipalities	4
Primary Travel Corridors	I-55, US 61 (I-55 Business), 25, 34, 72, 74, 146, Route K, Route W
Transit (yes/no)	Yes
Airport (yes/no)	Yes
Air Quality Designation	Unclassifiable/Attainment

1.8 | Consolidated Planning Grant (CPG)

MoDOT is the grant administrator of the planning funds (PL) and 5303 funds received from FHWA and FTA, respectively. MoDOT combines these two funding categories to form the Consolidated Planning Grant (CPG). These funds are distributed to the MPOs to perform federally required transportation planning activities.

Federal regulations require MoDOT to develop an allocation formula to distribute FHWA metropolitan PL funds and FTA Section 5303 funds to nine Missouri MPOs. These funds are combined for purposes of distribution and grant management. The purpose of these metropolitan planning funds is to provide MPOs with federal funds for metropolitan transportation planning.

Process for CPG agreements:

- CPG agreements are initiated by MoDOT when Appendix A of the annual UPWP is finalized and submitted to MoDOT.
- The eAgreements process will be used to streamline the agreement process of drafting, reviewing and executing agreements.
- Execution of document is by electronic signature through DocuSign.

1.9 | Contact Information

Contact information for Missouri MPOs can be found on MoDOT's website and is shown below in Table 1-11.

Table 1-11 | TMA and MPO Contact Information

	ORGANIZATION	CONTACT INFORMATION	
MPO	EWG	One Memorial Drive Suite 1600 Gateway Tower St. Louis, MO 63102-1714	P: 314-421-4220 F: 314-231-6120
	MARC	600 Broadway Suite 200 Kansas City, MO 64105	P: 816-474-4240 F: 816-421-7758
	OTO	Ozarks Transportation Organization 2208 W. Chesterfield Blvd., Suite 101 Springfield, MO 65807	P: 417-865-3042 F: 417-862 6013
	NWARPC	1311 Clayton Street Springdale, AR 72632	P: 479-751-7125 F: 479-751-7150
	CATSO	701 E. Broadway City Building P.O. Box 6015 Columbia, MO 65205	P: 573-874-7239 F: 573-442-8828
	CAMPO	City of Jefferson 320 E. McCarty Street Jefferson City, MO 65101	P: 573-634-6410 F: 573-634-6457
	SJATSO	1100 Frederick Avenue Room 202 St. Joseph, Missouri 64501	P: 816-236-1489
	JATSO	602 South Main St. Joplin, MO 64801	P: 417-624-0820 ext. 510 F: 417 -625-4738
	SEMPO	401 Independence Street Cape Girardeau, MO 63703	P: 573-339-6734 F: 573-339-6303

2 FEDERAL AND STATE PLANNING PARTNERS

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2 | FEDERAL AND STATE PLANNING PARTNERS

Various state and federal planning partners provide assistance, guidance and oversight for various funding, operating and decision-making processes that Missouri's MPOs facilitate. Most of these programs involve coordinating with MoDOT planning liaisons or a specific section of MoDOT. This collaborative effort is the core purpose for this manual, intended to help provide a broader perspective and understanding of common practices.

Figure 2-1 is a simplified illustration of the interrelationships and coordination between MoDOT and Missouri's planning partners. In most cases, federal and state funding used by MPOs must be administered by MoDOT; however, there are several instances when the MPO coordinates directly with the federal funding partner.

2.1 | MoDOT

MoDOT depends on citizens from across the state to offer input on transportation needs and priorities. To guide the process for seeking out citizen input into the planning process, MoDOT created a planning process that has become the standard for all state DOTs to follow.

Missouri's Planning Process

MoDOT also offers assistance to rural and urban transportation planning organizations by reviewing proposed state and federal legislation for impacts on transportation, assisting with planning processes and coordinating planning activities among local agencies, regional MoDOT offices, metropolitan planning organizations and rural planning commissions. MoDOT staff is also available to assist MPOs with performance measurement, target setting and required reporting.

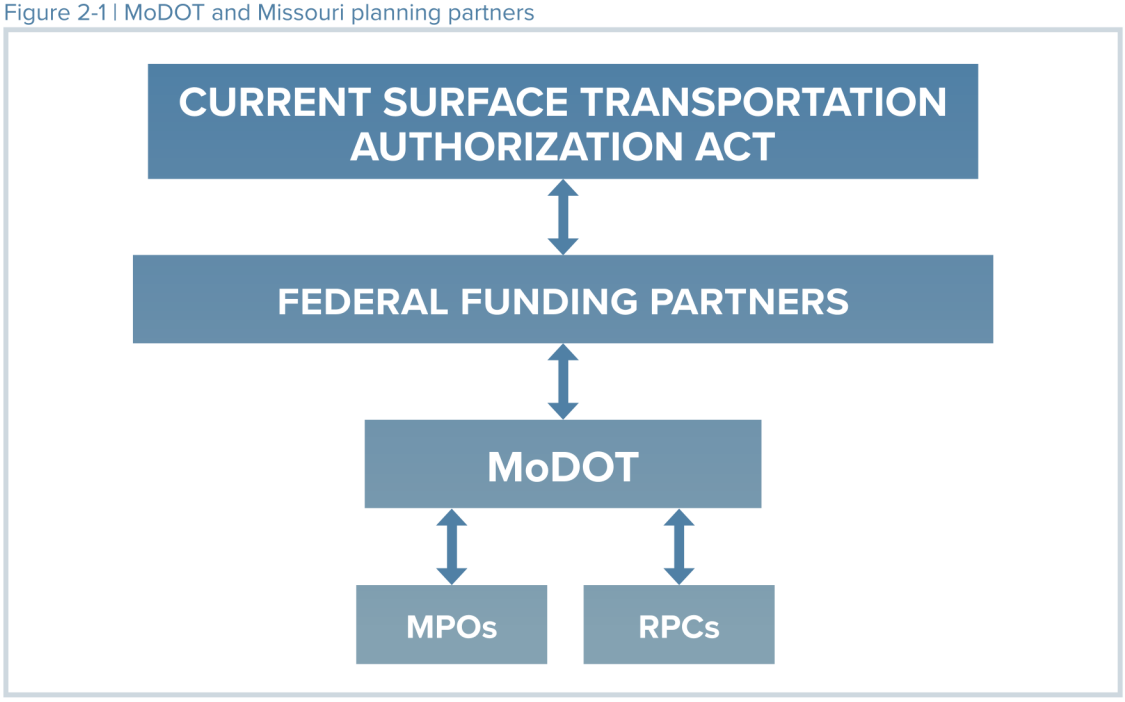
2.2 | Transportation Planning

2.2.1 | Planning and Performance

The Planning and Performance Section works directly with MPOs to coordinate and review all required federal work products and execute all standard contract agreements between MoDOT and MPOs. One contract example is the CPG agreement between MoDOT and every MPO to undertake the activities outlined in the UPWP. This section manages all audit, budget, federal match and financial management activities relative to CPG agreements.

Missouri has several key transportation plans that all MPOs should reference as they develop their

Figure 2-1 | MoDOT and Missouri planning partners



localized transportation plans, including the Long-Range Transportation Plan (LRTP) and the Missouri State Freight and Rail Plan. These two documents outline the investment choices for Missouri for a 25-year period. In addition, MoDOT has developed a Strategic Highway Safety Plan (SHSP) that outlines how to prioritize safety funds for future programming.

Long-Range Transportation Plan

MoDOT updated its LRTP in 2018, which sets the 25-year vision for the state's transportation system and establishes goals, objectives and performance management metrics. Three of the most important aspects of the update include:

- MoDOT utilized online outreach methods to gather a significant amount of public input in a cost-effective way.
- MoDOT confirmed its previous goals are accurate and added a new goal to the LRTP based on public input.
- Staff worked to ask the hard questions about what the future of technology holds for transportation in Missouri.

State Freight and Rail Plan

Given Missouri's central national location and abundance of transportation resources available, a combined Freight and Rail Plan identifies strategies for the transportation network to operate harmoniously across all modes. Missouri's Rail Plan was last updated in 2012 and the State Freight Plan was updated in 2017.

In early 2020, MoDOT began planning for a combined State Freight and Rail Plan, which:

- Demonstrates how transportation supports, maintains and expands the Missouri economy.
- Leverages Missouri's assets for economic growth and improved quality of life.
- Incentivizes a compelling business case for comprehensive freight investment.
- Identifies methods to plan and manage a shared freight network.
- Helps Missouri adapt to quickly changing economic circumstances.
- Balances freight and passenger rail needs.

The Missouri State Freight and Rail Plan is discussed more in Chapter 10.

LONG-RANGE TRANSPORTATION PLAN

GOALS

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

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

Invest in projects that spur economic growth and create jobs.

Give Missourians better transportation choices.

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



Strategic Highway Plan – Show-Me Zero

Missouri's Strategic Highway Safety Plan, Show-Me Zero, outlines the state's plan for achieving success by implementing strategies most effective at mitigating the behaviors and issues most commonly associated with fatal and serious injury crashes in Missouri. The goal is zero fatalities.

2.2.2 | Statewide Programming

By state law, MoDOT is responsible for planning, constructing and maintaining all interstate and state highways in Missouri and providing financial assistance to public airports for airport development projects, which is guided by the Missouri Highways and Transportation Commission. Fulfilling this responsibility requires extensive public participation.

MoDOT is committed to working with local officials, citizens and stakeholders to help determine the right transportation solutions for their communities. MoDOT recognizes that a transparent, inclusive and flexible process produces the best outcomes.

MoDOT includes planning partners, transportation stakeholders and the general public in the process to identify the highest priority needs and improvements statewide and in each district. This process, referred to as the Planning Framework, requires the proper partners to discuss and evaluate needs and then decide which of those needs should move forward for more detailed evaluation as potential projects.

Because Missouri has significantly more transportation needs than funds available, the Planning Framework provides a process to determine which priorities should receive the limited available funding each year.

5-year Statewide Transportation Improvement Program

All highway and transit projects in the state, funded under Title 23 (Highway) and Title 49 (Transit) must be included in a federally approved Statewide Transportation Improvement Program (STIP). Projects in the STIP must be consistent with the statewide LRTP and all metropolitan TIPs. The program must reflect expected funding and priorities for programming, including transportation enhancements.

MoDOT, in accordance with state and federal law, prepares this STIP annually. The STIP includes projects proposed for funding under the Infrastructure Investment and Jobs Act of 2021, FAA Reauthorization Act of 2018 and state revenue. The STIP meets all state and federal requirements and is fiscally constrained.

2.2.3 | Transportation System Analysis

There are several units within this section of MoDOT that perform various transportation planning functions.

Pavement Analysis and Application Development

This unit is responsible for creating new Transportation Management System (TMS) data inventories and using GIS software to edit linework that represents the roads throughout the state. This unit can also provide custom reports on TMS data.

Mapping and Customer Service

This unit provides statewide support and training to TMS users via the TMS Help Desk, maintains County Aid Road Trust (CART) road inventories for all 114 Missouri counties and maintains city and county maps along with the official Missouri Highway Map.

Traffic / Collection

This unit is responsible for collecting, producing and maintaining a wide array of highway extent, use and performance information regarding Missouri's public road and street network. Primarily focusing on the centerline miles of the state highway system, the primary function of this unit is to collect and classify traffic volume data, maintain related traffic monitoring equipment, collect global positioning system (GPS) data and maintain an annual log of length and geometric information on each state highway as a result of completed construction projects.

Data

The unit is responsible for administering FHWA's Highway Performance Monitoring System (HPMS), a comprehensive source of information about vehicle mileage and travel estimates for all of Missouri's public roads and streets. Information collected is used extensively in and out of the department to develop policies and support decisions related to public highway funding issues and private investment options. Products from this section include:

- HPMS.
- NHS.
- Highway log.
- State system class.
- Functional class.

2.3 | Multimodal Operations

The role of the Multimodal Operations (MO) section is to ensure a multimodal approach to mobility, congestion and air quality issues throughout the state. MO staff administers several federal grant programs, provides technical assistance and expertise to local agencies and decision makers, coordinates and funds state transit, aviation, freight, waterways and rail planning efforts, and monitors compliance with safety standards.

2.3.1 | Aviation

MoDOT administers federal and state funding for airport maintenance and capital improvements. Other duties include airport safety inspections, maintaining a state airport system plan and providing airfield safety equipment.

For more information, visit modot.org/aviation.

2.3.2 | Freight

Freight

MoDOT encourages freight development to promote a more prosperous Missouri. MoDOT seeks ways to enhance system capacity and evaluate performance of the state system, including rail, air, waterways and pipelines.

For more information, modot.org/freight-general-information.

Waterways

MoDOT assists authorized cities and counties in forming port authorities to foster use of Missouri's navigable rivers to make low-cost waterborne transportation benefits available for business.

For more information, visit modot.org/waterways-general-information.

2.3.3 | Railroads

This unit administers the state's railroad program. This program includes freight rail regulation, passenger rail, light rail safety regulation, highway/rail crossing safety and construction, and railroad safety inspection and outreach.

For more information, visit modot.org/railroads-general-information.

2.3.4 | Transit

MoDOT provides financial and technical assistance to public transit and specialized transit providers across the state, carried out through state and federal programs for both general public transportation and programs serving seniors and persons with disabilities.

For more information, visit modot.org/transit-general-information.

2.4 | Highway Safety and Traffic

MoDOT is committed to reducing the number of injuries and deaths on Missouri roadways. As part of the Missouri Coalition for Roadway Safety, the department supports the 2021 Missouri Strategic Highway Safety Plan - a comprehensive guide for reducing fatal and serious injuries on Missouri roadways.

2.5 | Federal Partner Agencies

Most of the funds spent on infrastructure improvements in Missouri come from the state's federal partners. Therefore, recipients of federal funding (MoDOT, MPOs) must meet federal criteria, requirements and expectations in order to use the funding on Missouri's transportation systems.

2.5.1 | Federal Highway Administration

The Federal Highway Administration (FHWA) is an agency within the U.S. Department of Transportation (USDOT) that supports state and local governments in the design, construction and maintenance of the nation's highway system under the Federal Aid Highway Program (FAHP) and various federally and tribal owned lands (Federal Lands Highway Program (FLHP)). Through financial and technical assistance to state and local governments, FHWA is responsible for ensuring that America's roads and highways continue to be among the safest and most technologically sound in the world.

FHWA Missouri Division

The FHWA Missouri Division Office (FHWA-MO) is a local field office that provides leadership, guidance and direction to MoDOT in the development and delivery of transportation projects.

FHWA-MO provides stewardship and oversight to MoDOT and local governments in the design, construction and maintenance of the Federal Aid Highway Program (FAHP). Through financial and technical assistance, the FHWA is responsible for ensuring that America's roads and highways continue to be among the safest and most technologically sound in the world.

Administration and oversight areas include funding reimbursement, innovative financing, civil rights, statewide and metropolitan planning, research, technology development and transfer, major investment studies, environmental evaluations, rights of way acquisition, safety programs, highway and bridge design reviews, construction inspections, maintenance reviews, quality improvement reviews and technical assistance.

The FHWA-MO and FTA Region VII (see 2.5.2) work collaboratively to approve work products in the state of Missouri and is referenced as "OneDOT."

Missouri Division

3220 W. Edgewood, Suite H

Jefferson City, Missouri 65109

Phone: (573) 636-7104

Fax: (573) 636-9283

www.fhwa.dot.gov/modiv/staff.cfm

Office of Federal Lands Highway

The Office of Federal Lands Highway (FLH) of the USDOT/FHWA was established to promote effective, efficient and reliable administration for a coordinated program of federal public roads and bridges; to protect and enhance our nation's natural resources; and to provide needed transportation access for Native Americans. Its primary purpose is to provide financial resources and transportation engineering assistance for public roads that service the transportation needs of federal and Indian lands.

Figure 2-2 | Federal Lands Highway Contact Map



Eastern Federal Lands Highway Division

22001 Loudoun County Parkway
Building E2, Suite 200
Ashburn, VA 20147

Phone: (703) 404-6201
Fax: (703) 404-6217
Email: efl.fhwa@dot.gov

2.5.2 Federal Transit Administration

The Federal Transit Administration (FTA) provides financial and technical assistance to local public transit systems, including buses, subways, light rail, commuter rail, trolleys and ferries. FTA also oversees safety measures and helps develop next-generation technology research.

As an agency within the USDOT, FTA is headed by an administrator appointed by the President of the United States. FTA is one of USDOT's ten modes of transportation and is run by a headquarters in Washington, D.C., as well as 10 regional offices that assist transit agencies in all states and U.S. territories.

The 10 FTA Regional Offices work with local transit officials to develop and manage grants. Staff in FTA Metropolitan Offices provide additional support in cities/regions with greater transit activities.

1 **FTA Region 1 Office**
Connecticut, Massachusetts, Maine, New Hampshire, Rhode Island and Vermont

2 **FTA Region 2 Office**
New York and New Jersey

3 **FTA Region 3 Office**
Delaware, District of Columbia, Maryland, Pennsylvania, Virginia and West Virginia

4 **FTA Region 4 Office**
Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, The Commonwealth of Puerto Rico and the United States Virgin Islands

5 **FTA Region 5 Office**
Illinois, Indiana, Minnesota, Michigan, Ohio and Wisconsin

6 **FTA Region 6 Office**
Arkansas, Louisiana, New Mexico, Oklahoma and Texas

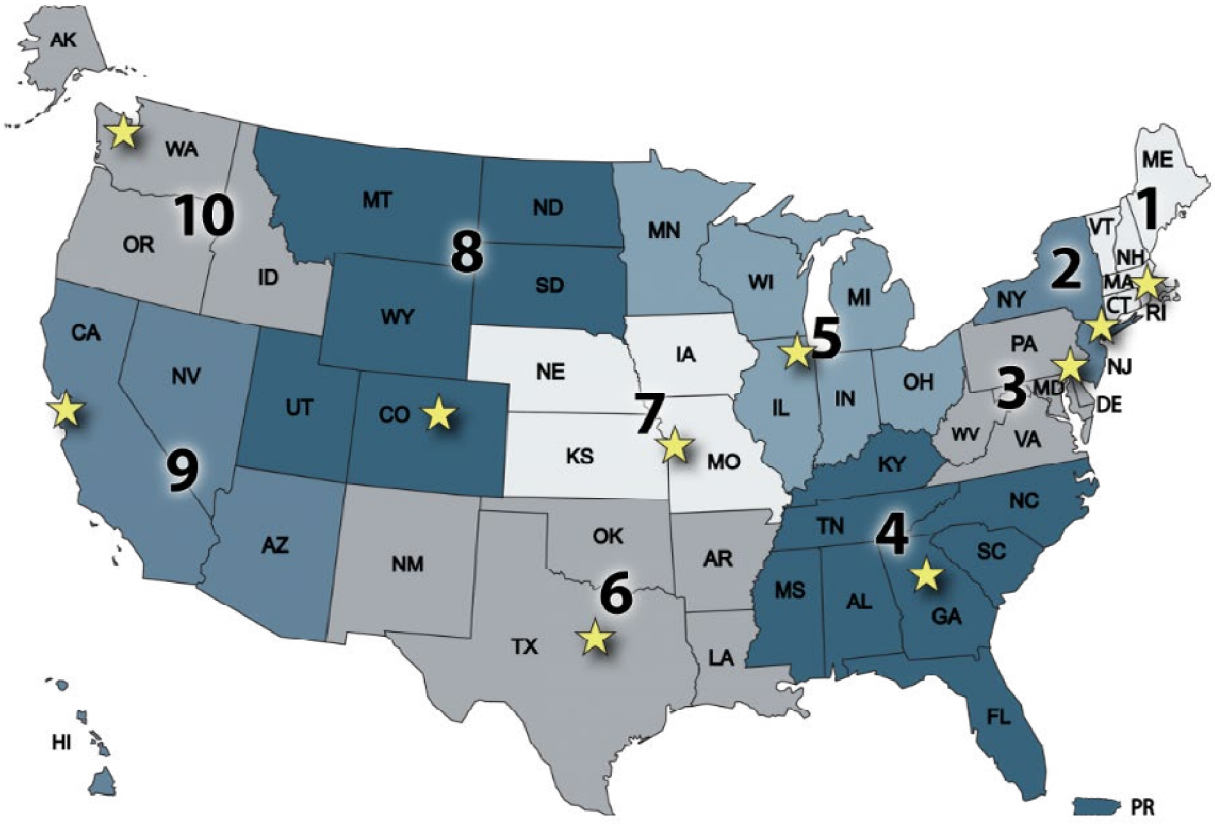
7 **FTA Region 7 Office**
Iowa, Kansas, Missouri and Nebraska

8 **FTA Region 8 Office**
Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming

9 **FTA Region 9 Office**
Arizona, California, Hawaii, Nevada, American Samoa, Guam and the Commonwealth of the Northern Mariana Islands

10 **FTA Region 10 Office**
Alaska, Idaho, Oregon and Washington

Figure 2-3 | FTA Region Offices



Region 7

FTA's Region VII Office, located in Kansas City, Missouri, serves the states of Iowa, Kansas, Missouri and Nebraska. The region serves 56 grantees in five states and covers 23 urbanized areas, including Des Moines, Kansas City, Omaha, St. Louis and Wichita, as well as eight Tribal Nations.

www.transit.dot.gov/about/regional-offices/region-7/region-7-staff-organization

Region 7 Office

Federal Transit Administration

901 Locust Street

Suite 404

Kansas City, MO 64106

Phone: 816-329-3920

Fax: 816-329-3921

Planning Contact

Eva Steinman, Community Planner

2.5.3 Federal Railroad Administration

The Federal Railroad Administration (FRA) was created by the Department of Transportation Act of 1966.

The FRA's mission is to enable the safe, reliable and efficient movement of people and goods for a strong America, now and in the future. The FRA is led by an administrator, who is nominated by the President and confirmed by the Senate, and a deputy administrator also appointed by the President.

The administrator is the principal advisor to the secretary and is the principal representative of the USDOT on railroad affairs and other fixed guideway transportation matters.

Contact

1200 New Jersey Ave, SE

Washington, D.C. 20590

Phone: (202) 493-6014

2.5.4 Federal Aviation Administration

The Federal Aviation Administration (FAA) is responsible for providing a safe and efficient aerospace system. It's accountable to the American public and the FAA's stakeholders. The FAA has nine regional offices, an aeronautical center and the FAA headquarters located in Washington, D.C.

Figure 2-4 | FAA Regions



Central Region

The Central Region serves the states of Iowa, Kansas, Missouri and Nebraska.

Federal Aviation Administration

Central Region

901 Locust St. Rm 364

Kansas City, MO 64106-2641

Central Regions Operations Center (C-ROC)

24-hour Accident and Incident Response

(817) 222-5006

Contact

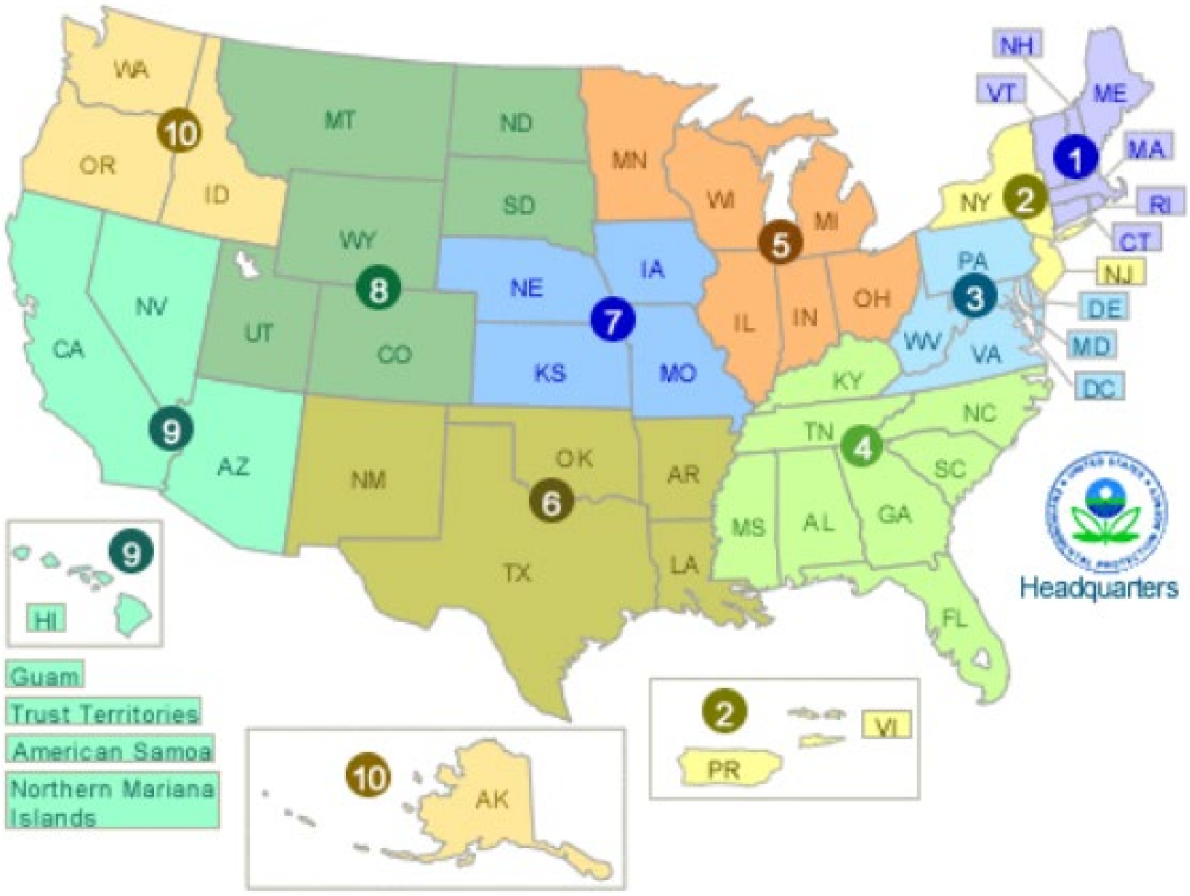
Ed Hyatt, Manager

(816) 329-2605

2.5.5 Environmental Protection Agency

The Environmental Protection Agency (EPA)'s mission is to protect human health and the environment. Air quality and water quality are two aspects of the environment that interface directly with the planning, delivery and operation of transportation facilities and services. The EPA has offices headquartered in Washington, D.C., and 10 regional offices located throughout the U.S.

Figure 2-5 | EPA Regions



Region 7

EPA Region 7 protects human health and the environment in our nation's Heartland. The Region 7 office serves Iowa, Kansas, Missouri, Nebraska and nine Tribal Nations.

Region 7's Three Priority Areas:

- Protecting children from exposure to lead.
- Working with the agriculture community.
- Revitalizing land for communities (Superfund, Brownfields and more).

Regional Office:

11201 Renner Boulevard

Lenexa, KS 66219

Phone: (913) 551-7003

Toll free: (800) 223-0425

Acting Regional Administrator

Edward Chu

Phone: (913) 551-7006

2.6 | Contact Information

Tables 2-1 through 2-3 provide the primary contact information for MoDOT as well as FHWA, FTA, FRA, FAA, FLA and EPA.

Table 2-1 | Federal/State Planning Partner Contacts

CENTRAL OFFICE	CONTACT	PHONE	EMAIL
Transportation Planning: CAMPO, CATSO, EWG, SJATSO	Mike Henderson	(573) 522-6214	Michael.Henderson@modot.mo.gov
Transportation Planning: JATSO, MARC, OTO, SEMPO, NWARPC	Britni O'Connor	(573) 751-6550	Britni.OConnor@modot.mo.gov
MAP-21/FAST Act (All MPOs)	Karen Miller	(573) 522-5529	Karen.Miller@modot.mo.gov
Aviation	Kyle LePage	(573) 526-5571	Kyle.LePage@modot.mo.gov
Freight & Waterways	Cheryl Ball	(573) 526-5578	Cheryl.Ball@modot.mo.gov
Railroads	Troy Hughes	(573) 751-7476	Troy.Hughes@modot.mo.gov
Transit	Christy Evers	(573) 751-2523	Christy.Evers@modot.mo.gov
Highway Safety and Traffic	Nicole Hood	(573) 751-7643	Nicole.Hood@modot.mo.gov

Table 2-2 | District Planning Manager Contacts

DISTRICT	DISTRICT PLANNING MANAGERS	PHONE	EMAIL
Northwest	Adam Wood	(816) 387-2452	Adam.Wood@modot.mo.gov
Northeast	Rob Frese	(573) 248-2457	Rob.Frese@modot.mo.gov
Kansas City	Juan Yin	(816) 607-2216	Juan.Yin@modot.mo.gov
Central	Steve Englebrecht	(573) 751-7689	Steven.Engelbrecht@modot.mo.gov
St. Louis	Cynthia Simmons	(314) 453-1833	Cynthia.Simmons@modot.mo.gov
Southwest	Frank Miller	(417) 895-7727	Frank.Miller@modot.mo.gov
Southeast	Mike Brandon	(573) 472-5282	Michael.Brandon@modot.mo.gov

Table 2-3 | Federal Planning Partner Contact Information

	ORGANIZATION	CONTACT INFORMATION
FHWA	Missouri Division	3220 W. Edgewood, Suite H Jefferson City, Missouri 65109 Phone: (573) 636-7104 https://www.fhwa.dot.gov/modiv/
FTA	Region 7	901 Locust StreetSuite 404 Kansas City, MO 64106 Phone: (816) 329-3920 www.transit.dot.gov/about/regional-offices/region-7/region-7
FRA	Administrator	1200 New Jersey Ave, SE Washington, D.C. 20590 Phone: (202) 493-6014 railroads.dot.gov/about-fra/about-fra
FAA	Central Region	901 Locust St. Rm 364 Kansas City, MO 64106-2641 Phone: (816) 329-2605 www.faa.gov/airports/central/
EPA	Region 7	11201 Renner Boulevard Lenexa, KS 66219 Phone: (913) 551-7003 www.epa.gov/aboutepa/epa-region-7-midwest

3 MPO FORMATION

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3 | MPO FORMATION

3.1 | Purpose

This chapter explains the framework for the formation of an MPO. It describes the way an urbanized area (UZA) is defined, the way relevant transportation planning boundaries are created, the way MPOs designations are established and the way an MPO is structured to serve its member governments. The authority supporting establishment, organization, operation, and administration of an MPO resides in various Federal laws and regulations. The laws are described in table 3-1 below.

Table 3-1 | Federal Authority

	CODE	DESCRIPTION
FEDERAL	23 U.S.C. § 134(e)	These laws outline the requirements and process for the establishment of transportation planning boundaries of an MPO.
	49 U.S.C. § 5303(e)	
	23 C.F.R. § 450.312	
	23 U.S.C. § 134(d)(4),(5)	These laws describe the requirements for the designation and redesignation of MPOs.
	49 U.S.C. § 5303(d)(4),(5)	
	23 C.F.R. § 450.310	
	23 U.S.C. § 134(d)(2)	These laws describe voting membership and membership apportionment of the MPO.
	23 C.F.R. § 450.310(d)	
	49 U.S.C. § 5303(d)(2)	
	23 C.F.R. § 450.314	This law describes the types of agreements necessary to implement the metropolitan transportation planning process.

3.2 | Census Designation of Urbanized Areas

Every 10 years, the U.S. Bureau of Census conducts a population count of the United States of America. Based on this count and density criteria, the Census Bureau designates UZAs throughout the United States in a Federal Register.

Federal law requires the formation of an MPO to coordinate transportation planning in a UZA, defined in 23 U.S.C. § 134 (b) (7) as "a geographic area with a population of 50,000 or more, as determined by the Bureau of the Census." A UZA may consist of one or more municipalities as well as unincorporated areas between municipalities as long as the UZA includes a central core and adjacent, densely-settled territory that together contain at least 50,000 residents.

FHWA and FTA shall identify as a TMA each urbanized area with a population of over 200,000 individuals, as defined by the Bureau of the Census. FHWA and FTA shall also designate any urbanized area as a TMA on the request of the governor and the MPO designated for that area.

Census-defined UZAs are statistically based on results of each decennial census and any special censuses that may be taken by request of a recognized governing jurisdiction (e.g., the city, county, state, etc.). The Census Bureau follows a

delineation process that is applied consistently across the country, and results are not subject to review.

Federal transportation legislation provides state and local officials with the ability to cooperatively expand or extend the census-defined UZA boundaries. However, adjustments, typically undertaken to smooth irregular UZA boundaries, are subject to approval by FHWA.

3.2.1 | FHWA Notification

FHWA notifies each state of the existing and new urbanized areas it now contains along with their respective populations. Notification generally goes to the state DOT central office.

3.2.2 | MoDOT Notification

When the official notification is received from FHWA and/or Census Bureau, Transportation Planning will notify the appropriate District Planning personnel. Information will be sent to each district, which will include a detailed letter including new and removed UZAs and maps of each UZA depicting the minimum required urban boundary.

If a new urbanized area has been formed as a result of the latest census, MoDOT district staff should initiate formation of the newly required MPO. In case of an existing MPO, the appropriate MoDOT district staff will meet with the MPO, provide the latest census information and discuss any changes. See 3.4, Designation of an MPO.

MoDOT Central Office then submits the proposed UZA boundary adjustment to FHWA. This submittal must include maps indicating the proposed adjustments to UZA boundaries as well as documentation indicating coordination with local planning partners.

3.3 | Metropolitan Planning Area

A Metropolitan Planning Area (MPA) is a geographic area in which the transportation planning process required by 23 U.S.C. §134 must be accomplished in accordance with 23 CFR § 420. An MPA must encompass the UZA, as this is the formal geographic area within which planning actions are implemented by an MPO. An MPA must encompass the UZA and contiguous geographic area(s) expected to become urbanized within the following 20 years.

The MPO (in cooperation with the State and public transportation operator(s)) shall review the MPA boundaries after each Census to determine if existing MPA boundaries meet the minimum statutory requirements for new and updated urbanized area(s), and shall adjust them as necessary. As appropriate, additional adjustments should be made to reflect the most comprehensive boundary to foster an effective planning process that ensures connectivity between modes, improves access to modal systems, and promotes efficient overall transportation investment strategies.

MoDOT Central Office Transportation Planning will coordinate with MPOs to facilitate receiving Governor approval of the MPA boundary.

MPOs must provide the following documentation to MoDOT:

- Request letter for changing boundary
- MPO Board Approval
- Updated Map
- Supporting Documentation

Following MPA boundary approval by the MPO and the Governor, the MPA boundary descriptions shall be provided for informational purposes to the FHWA and the FTA. The MPA boundary descriptions shall be submitted either as a geo-spatial database or described in sufficient detail to enable the boundaries to be accurately delineated on a map.

MPO adjusts its membership and voting allocations to incorporate the new member jurisdictions. The MPA may encompass the entire Metropolitan Statistical Area (MSA) or Consolidated Metropolitan Statistical Area (CMSA), as defined by the U.S. Office of Management and Budget (OMB) for the purpose of tabulating statistical data relative to the metropolitan areas. Both the MSA and CMSA are simply geographical regions with a relatively high population density at its core and close economic ties throughout the area.

3.4 | Designation of an MPO

An MPO is a local decision-making body responsible for carrying out the transportation planning process within a defined MPA. The USDOT recognizes the UZAs published in the Federal Register for purposes of disseminating federal transportation funds for highways, public transit and other travel and freight modes. Every UZA must be represented by an MPO in accordance with 23 U.S.C. §134(d).

Once MoDOT is informed of the designated UZAs, MoDOT and FHWA Missouri Division are contacted and provided with relevant information, including the census-defined UZA boundary and population data. MoDOT and FHWA then provide information to existing MPOs and local jurisdictions to help with MPO redesignation or formation, respectively. If a new UZA is not contiguous to an existing MPO, MoDOT provides all relevant information to affected local governments in that area as well as to transportation mode operators, local and regional planning agencies, and tribal governments. This group then meets to discuss the new MPO formation. An existing MPO must review the census data to assess potential changes in its boundaries or governing board membership.

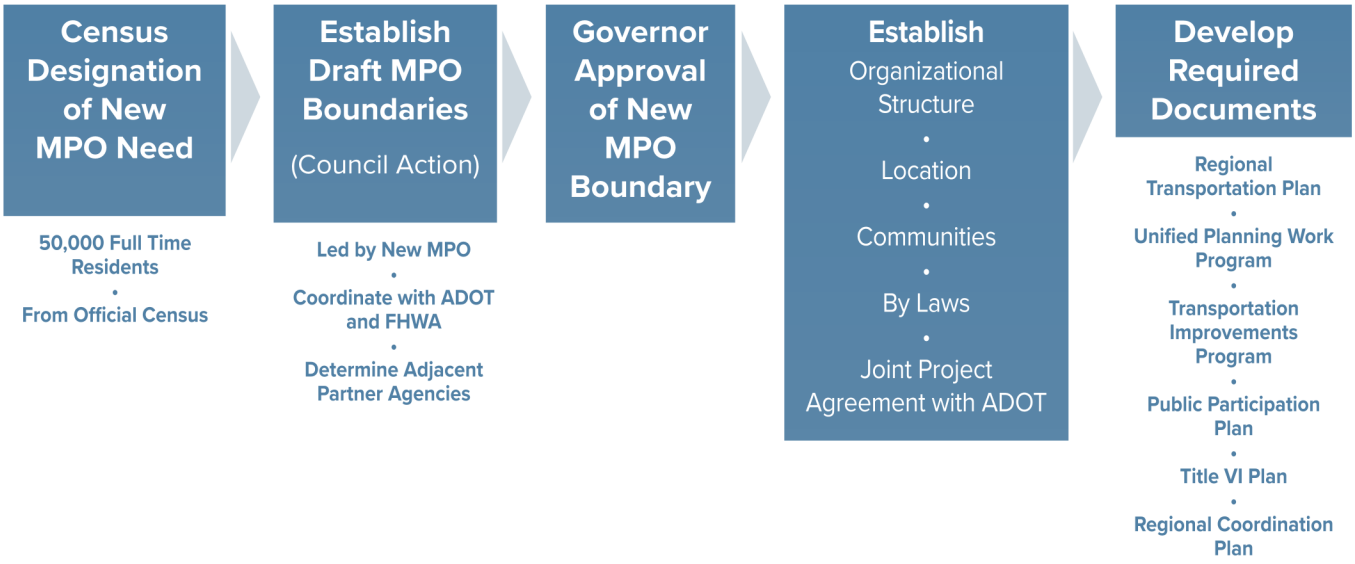
The MPO and its MPA are established and designated by agreement between the governor and local governments that together represent at least 75% of the affected population (including the incorporated city with the largest population) designated for inclusion in the MPA. The agreement includes formation and identification of the MPO and adoption of bylaws that identify membership and voting rights. Figure 3-1 illustrates a generalized process for MPO designation and formation.

3.5 | Membership

An MPO is defined by its membership, which varies from region to region depending on the size of the region and its transportation issues. The BIL requires an MPO that serves an area designated as a transportation management area, when designating officials or representatives for the first time and subject to the MPO's bylaws or enabling statute, to consider the equitable and proportional representation of the population of the metropolitan planning area. Federal regulation specifically requires MPOs for regions with a population of 200,000 and more to have representatives of public transit operators and member tribal agencies. The governor and local governments determine membership when the MPO is formed.

A core function of MPO membership is to establish and manage a fair and impartial setting for effective transportation decision making in a UZA. Therefore, membership generally is representative of key municipal jurisdictions, important agencies and major interests present in the MPA. Voting members and nonvoting members are identified, as appropriate, to meet the needs and issues of the MPO and MPA.

Figure 3-1 | MPO Process Flow Chart



3.5.1 | Voting Membership

The voting membership of an MPO may consist of elected officials of affected local governments and officials of public agencies that administer or operate major modes of transportation in the metropolitan area, including representation by providers of public transportation or appropriate state officials. Designation or selection of officials or representatives shall be determined by the MPO according to the bylaws or enabling statute of the organization. Subject to the bylaws or enabling statute of the MPO, a representative of a provider of public transportation may also serve as a representative of a local municipality.

For an MPO that is additionally designated as a TMA (population of 200,000 or more residents) federal law (23 U.S.C. §134(d) (2) and 23 CFR §450.310(d)) specifically requires that its membership include:

- local elected officials.
- officials of agencies administering major transportation systems (e.g., rail, airports, ports and transit).
- appropriate state officials (e.g., MoDOT).

3.5.2 | Nonvoting Membership

The MPO may identify and designate nonvoting members among agencies, organizations and institutions within the MPA. FHWA and FTA are nonvoting members.

3.5.3 | Agreements and Contracts

Recognition of MPO status and acceptance for funding assistance follows execution of certain required agreements and contracts, as prescribed in 23 CFR § 450.314.

The MPO, the state(s) and the providers of public transportation shall cooperatively determine their mutual responsibilities in carrying out the metropolitan transportation planning process. These responsibilities shall be clearly identified in written agreements among the MPO, the state(s) and the providers of public transportation serving the MPA.

The written agreement(s) shall include specific provisions for the development of financial plans that support the metropolitan transportation plan and the metropolitan transportation improvement program (see § 450.326), and development of the annual listing of obligated projects (see § 450.334).

The MPO, the state(s) and the providers of public transportation should periodically review and update the agreement, as appropriate, to reflect effective changes.

A Cooperative Agreement is an arrangement between MoDOT, the MPO and the local transit provider(s) to determine each agency's roles and responsibilities in the MPO planning process. This is also referred to as a Memorandum of Understanding (MOU).

Per § 450.314 (h) (1), the MPO(s), state(s) and the providers of public transportation shall jointly agree upon and develop specific written provisions for cooperatively developing and sharing information related to transportation performance data, the selection of performance targets, the reporting of performance targets, the reporting of performance to be used in tracking progress toward attainment of critical outcomes for the region of the MPO (see § 450.306(d)) and the collection of data for the state asset management plan for the NHS for each of the following circumstances:

- When one MPO serves an urbanized area.
- When more than one MPO serves an urbanized area.
- When an urbanized area that has been designated as a TMA overlaps into an adjacent MPA serving an urbanized area that is not a TMA.

MoDOT's process is to include these provisions in a separate agreement than the agreement stated above.

3.6 | MPO Organizational Structure

The organizational structure of an MPO is determined by agreement between its members during the designation process and documented in the MPO bylaws. It is customary for an MPO to have a governing board charged with setting policy for the transportation planning process in the designated MPA.

The governing board generally is assisted in its activities by an executive director, a professional staff and advisory committees, when necessary or

appropriate. This section presents a generalized structure and composition of MPO governance and outlines the principal characteristics of the organizational elements of an MPO.

3.6.1 | Policy Board

The policy board serves as the decision-making body of the MPO as well as the primary forum for stakeholder input into the MPO decision-making process. The policy board is the key element of an MPO's composition and function. Each policy board member has the legal authority to speak and act in the MPO setting on behalf of the jurisdiction that they represent. The policy board debates issues, proposals and projects and makes decisions regarding key MPO actions relating to the federal transportation planning process.

The policy board plays an active role in key decisions or at important milestones associated with MPO plans and studies and conducts public hearings and meetings. The policy board makes specific prioritization recommendations regarding future projects in the region after formally reviewing, discussing and adopting plans developed through regional collaboration.

Federal law provides authority to states and their local governments to determine the composition of an MPO Policy Board, as prescribed in 23 CFR § 450.310. There is wide variation in policy board size, which is dependent on a number of factors that vary by locality and size of the MPA.

Adopted bylaws regulate policy board composition and voting rights, nonvoting membership and the composition of any advisory committees. Intergovernmental politics and demographics may lead some board seats to be treated differently than others (e.g., a dominant county may have more voting power).

3.6.2 | Advisory Committees

The policy board may establish advisory committees as it deems necessary or desirable to carry out its functions and responsibilities.

3.6.3 | MPO Director & Staff

The MPO director and professional staff generally manage day-to-day functions of the organization and provide direct support to the policy board as it meets its responsibilities in carrying out the planning process. Personnel also may prepare (in-house or with outside assistance) technical assessments and evaluations of proposed transportation initiatives, which may be provided to the board, committees or subcommittees, as appropriate.

3.7 | Responsibilities of an MPO

MPOs have been mandated by Congress as a vehicle to establish and manage a fair and impartial setting for effective regional decision making. This responsibility requires the MPO policy board to formulate and evaluate transportation improvement alternatives sensitive to the context of regional interest and, therefore, scaled to the size and complexity of the region. All MPOs have the same basic planning requirements.

Thus, by its focus and actions, the policy board establishes a forum to discuss regional issues and manages effective regional decision making for transportation improvement projects within the MPA. It accomplishes this through comprehensive evaluations of transportation needs and issues with public involvement.

4 PERFORMANCE MEASURES

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4 | PERFORMANCE MEASURES

4.1 | Purpose

Establishing a meaningful strategic direction to drive system investment decisions is a critical part of the statewide transportation planning process. Plan goals and objectives define investment priorities and describe how MoDOT plans to work with its transportation planning partners to achieve a shared transportation vision.

Plan-level performance measures establish a means of determining how different investment strategies contribute to achieving the plan's goals and objectives and provide a basis to establish program-level and project-level measures to guide plan implementation.

4.2 | Authority

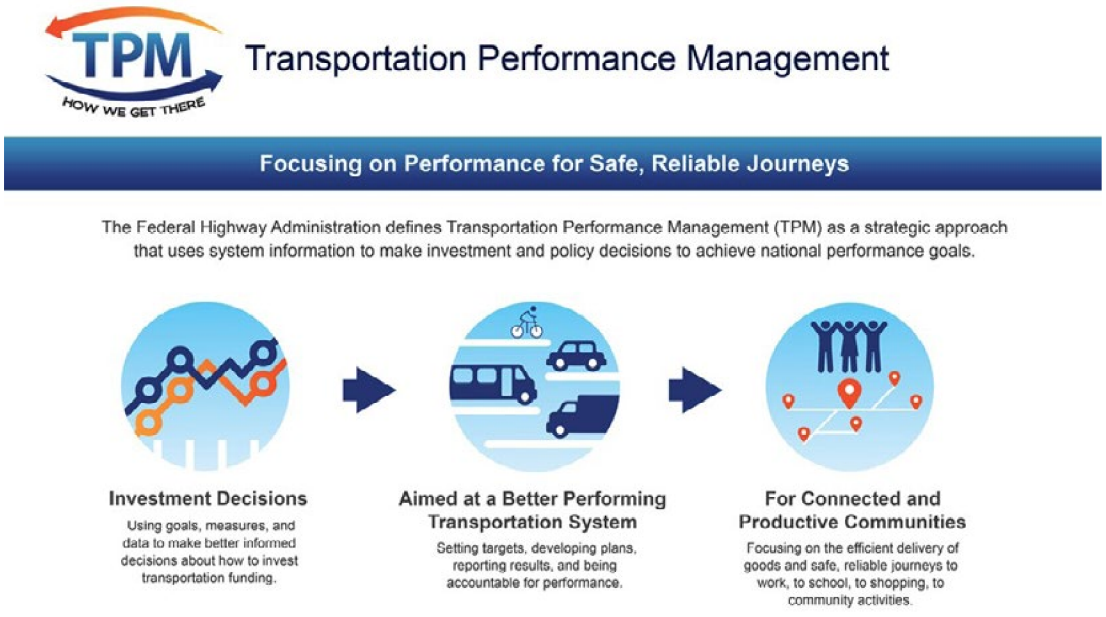
The Moving Ahead for Progress in the 21st Century Act, or MAP-21, integrated performance measures into the planning and programming aspects of transportation investment. MAP-21 established seven national goals as the focus of the federal-aid highway program. The FAST (Fixing America's Surface Transportation) Act provided for continuation of these goals. Guidance has been released listing the required performance measures to achieve the national goals. The state DOTs, MPOs and transit agencies are required to coordinate target setting for these measures. MPOs must set their targets within 180 days of the state. MPOs may choose to set their own targets or to program in support of the state and transit agency targets.

A target is defined as "a quantifiable level of performance or condition, expressed as a value for the measure, to be achieved within a time period required by the Federal Highway Administration." A target for a measure is a single numerical value that has the same unit and precision level as its measure. MAP-21 does not provide FHWA the authority to approve or reject state DOT- or MPO-established targets.

4.3 | Transportation Performance Management

Transportation Performance Management from FHWA TPM Website:

- is a systematically applied, regular ongoing process.
- provides key information to help decision makers understand the consequences of investment decisions across transportation assets or modes.
- improves communications between decision makers, stakeholders and the traveling public.
- ensures targets and measures are developed in cooperative partnerships and based on data and objective information.



4.4 | Public Involvement in Planning Products

Federal transportation planning regulations require public involvement during state and MPO development of the long-range transportation plan (LRTP), metropolitan transportation plan (MTP), Statewide Transportation Improvement Program (STIP) and the Transportation Improvement Program (TIP). Including targets in the LRTP and MTP, reporting on progress toward achievement of targets with updates to the plans and reporting in the STIP and TIP(s) on the anticipated effect of the STIP and TIP(s) toward achievement of targets are integral parts of the transportation planning process.

As such, targets and progress reporting should be included in the public involvement process during the development of the LRTP, MTP(s), STIP and the TIP(s). Early and continuous public involvement brings diverse viewpoints and values into the decision-making process. It also ensures that states and MPOs make informed decisions and build mutual understanding and trust with the stakeholders they serve.

4.5 | National Performance Measures

The Infrastructure Investment and Jobs Act (IIJA) establishes national performance goals for Federal highway programs:

- **Safety.**
- **Infrastructure Condition.**
- **System Reliability.**
- **Congestion Reduction.**
- **Environmental Sustainability.**
- **Freight Movement and Economic Vitality.**
- **Transit Asset Management.**
- **Transit Asset Safety.**

Transit Links:

FTA TAM: Transit Asset Management | FTA (dot.gov)

- See an overview here: TAM Performance Measures Fact Sheet.

FTA PTASP: PTASP Final Rule Fact Sheet | FTA (dot.gov)

- See an overview here: PTASP Final Rule Fact Sheet | FTA (dot.gov).

Table 4-1 provides an overview of the national performance measures.

Table 4-1 | National Performance Measures

Program Area	National Goal Area	National Performance Measure Area	Targets
HSIP	Safety	Number of Fatalities	Set annually
		Rate of Fatalities per 100 million VMT	
		Number of Serious Injuries	
		Rate of Serious Injuries per 100 million VMT	
		Number of Non-Motorized Fatalities and Non-Motorized Serious Injuries	
NHPP	Infrastructure Condition	Percentage of NHS Bridges Classified as in Good Condition	Two- and four-year targets are set in each four-year performance period. Targets may be adjusted every two years by the state DOT, with MPOs able to adjust.
		Percentage of NHS Bridges Classified as in Poor Condition	
		Percentage of Pavements of the Interstate System in Good Condition	
		Percentage of Pavements of the Interstate System in Poor Condition	
		Percentage of Pavements of the non-Interstate NHS in Good Condition	
		Percentage of Pavements of the non-Interstate NHS in Poor Condition	
	System Reliability	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	
CMAQ	Congestion Reduction	Peak Hour Excessive Delay (PHED) Measure: Annual Hours of PHED Per Capita	
		Non-Single Occupancy Vehicle Travel (SOV) Measure: Percent of non-SOV Travel	
	Environmental Sustainability	Total Emissions Reduction	
NHFP	Freight Movement & Economic Vitality	Freight Reliability Measure: Truck Travel Time Reliability (TTTR) Index	
Transit (FTA)	Transit Asset Maanagement	Percentage of Vehicles that have met or exceeded their Useful Life Benchmark	Transit agencies must review plans each year for possible updates. Transit agencies need to evaluate targets annually with an option for MPOs to adjust.
		Percentage of Facilities with an asset class rated below 3.0 on the TERM Scale	
		Percentage of Guideway Directional Route Miles with Performance Restrictions by Class	
		Percentage of Revenue Vehicles within a particular asset class that have met or exceeded their ULB	
Transit (FTA)	Transit Safety	Fatalities: Total Number of Reportable Fatalities by Mode	
		Fatalities: Rate per Total Vehicle Revenue Miles by Mode	
		Injuries: Total Number of Reportable Injuries by Mode	
		Injuries: Rate per Total Vehicle Revenue Miles by Mode	
		Safety Events: Total Number of Reportable Events by Mode	
		Safety Events: Rate per Total Vehicle Revenue Miles by Mode	
		System Reliability: Mean Distance between Major Mechanical Failures by Mode	

4.6 | Development and Sharing of Federal Transportation Performance Management (TPM) Data

Data provided by MoDOT will meet the federal reauthorization transportation act requirements.

Safety Data

MoDOT will provide safety data for the federal safety performance measures to MPOs through the safety data file posted to the MoDOT Partner Collaboration website. MoDOT will provide available statewide and MPO data for the prior calendar year by Aug. 31.

Transit Data

Public transportation agencies that are part of the MoDOT Transit Asset Management (TAM) Plan will provide transit data by asset class for the federal transit performance measures annually to MoDOT for the prior state fiscal year (July 1 – June 30) by July 31.

Public transportation agencies, MoDOT and MPOs creating their own TAM Plan will provide transit data by asset class for the federal transit performance measures in the TAM Plan. The TAM Plan will be shared with MoDOT and MPOs in their transit regions each time the plan is updated.

Public transportation agencies will provide transit data for the federal transit performance measures in the Public Transportation Agency Safety Plan (PTASP). The PTASP will be shared with MoDOT and MPOs in their transit regions each time it's updated.

Pavement Data

MoDOT will provide pavement data for the federal pavement performance measures to MPOs through the pavement data file posted to the MoDOT Partner Collaboration website. MoDOT will provide statewide and MPO data for the prior calendar year by Sept. 1 in even years.

Bridge Data

MoDOT will provide bridge data for the federal bridge performance measures to MPOs through the bridge data file posted to the MoDOT Partner Collaboration website. MoDOT will provide statewide and MPO data for the prior calendar year by Sept. 1 in even years.

Reliability Data

MoDOT will provide reliability data for the federal reliability performance measures to MPOs through access to the FHWA National Performance Management Research Data Set (NPMRDS) data, with the reliability data file posted to the MoDOT Partner Collaboration website. MoDOT will provide access to the statewide and MPO data for the prior calendar year by Sept. 1 in even years.

Peak Hour Excessive Delay (PHED) Data

MoDOT will provide PHED data for the federal congestion performance measures to MPOs through access to the FHWA NPMRDS data, with the PHED data file posted to the MoDOT Partner Collaboration website. MoDOT will provide access to the statewide and MPO data for the prior calendar years by Sept. 1 in even years.

Emissions Data

East-West Gateway (EWG) will provide the emissions data for the federal emissions performance measure to MoDOT through the emissions data file posted to the MoDOT Partner Collaboration website. EWG will provide data for their region for the prior state fiscal year by Sept. 1 in even years.

Non-Single Occupancy Vehicle Travel Data

EWG will provide the American Community Survey data for the federal performance measure to MoDOT through the data file posted to the MoDOT Partner Collaboration website. EWG will provide data for their region for the prior state fiscal year by Sept. 1 in even years.

Freight Data

MoDOT will provide freight data for the federal freight performance measure to MPOs through access to the FHWA NPMRDS data, with the freight data file posted to the MoDOT Partner Collaboration website. MoDOT will provide access to the statewide and MPO data for the prior calendar year by Sept. 1 in even years.

4.6.1 | Setting Targets

MoDOT will develop statewide performance targets for each of the federal performance measures and coordinate with MPOs and public transportation agencies, as required by 23 CFR Parts 450 and 771, as well as 49 CFR Part 613. Coordination may include in-person meetings, conference calls, web meetings and/or email communication. MPOs and public transportation agencies participating in the MoDOT TAM Plan will be given an opportunity to comment on the MoDOT statewide targets before they are established.

MPOs will coordinate with MoDOT and/or the public transportation agencies when establishing MPO targets or supporting state targets. MoDOT and public transportation agencies will be given an opportunity to comment on the MPO targets. MPOs will establish performance targets by board action, or as designated by the board.

Public transportation agencies and MPOs creating their own TAM Plan and/or PTASP will coordinate with their respective MPO and MoDOT when establishing transit targets. MoDOT and the respective MPO will be given an opportunity to comment on the transit targets before they are established. MPOs and public transportation agencies will establish transit performance targets by board action, or as designated by the board.

4.6.2 | Reporting of Performance Targets

MoDOT will notify MPOs and public transportation agencies by email when final statewide targets are established, with transit targets communicated through the MoDOT TAM Plan. Public transportation agencies and MPOs creating their own TAM Plan and/or PTASP will notify MPOs and MoDOT through their TAM Plan and/or PTASP when transit targets are established. Subsequent updates to transit targets will be communicated by email to MoDOT, MPOs and public transportation agencies.

MPO targets will be reported to MoDOT and/or public transportation agencies by email no later than 180 days after the latest date MoDOT or public transportation agencies establishes or updates performance targets.

MPOs and public transportation agencies should include in the email the board or committee action date, applicable board or committee document and targets established or supported.

4.6.3 | Reporting of Progress towards Achieving Targets

MoDOT will document progress toward achieving statewide performance targets and report that information to MPOs and/or public transportation agencies in the LRTP, STIP and MoDOT TAM Plan.

MPOs will document progress toward achieving performance targets and report that information to MoDOT and/or public transportation agencies in the Metropolitan Transportation Plan (MTP) and Transportation Improvement Program (TIP).

Public transportation agencies and MPOs creating their own TAM Plan and/or PTASP will document progress toward achieving transit targets and report that information to MoDOT and/or MPOs in their TAM Plan and/or PTASP.

4.6.4 | Collection of Data for State Asset Management Plan

MoDOT will collect federal asset management data (pavement and bridge condition data) on all NHS routes, regardless of ownership. MoDOT will post the pavement data file and the bridge data file to the MoDOT Partner Collaboration website by Sept. 1 in even years.

4.7 | National Performance Measures System Performance Report in the Metropolitan Transportation Plan

The MTP is required to include a description of the performance measures and targets used in assessing the performance of the transportation system, as well as a system performance report evaluating the condition and performance of the transportation system.

MTP (from final rule):

(f) The metropolitan transportation plan shall, at a minimum, include:

(3) A description of the performance measures and performance targets used in assessing the performance of the transportation system in accordance with § 450.306(d).

(4) A system performance report and subsequent

updates evaluating the condition and performance of the transportation system with respect to the performance targets described in § 450.306(d), including—

(i) Progress achieved by the metropolitan planning organization in meeting the performance targets in comparison with system performance recorded in previous reports, including baseline data.

4.8 | National Performance Measures in the Transportation Improvement Program

The TIP is required to include a discussion on how the projects in the TIP help achieve the performance targets.

TIP (from final rule):

(d) The TIP shall include, to the maximum extent practicable, a description of the anticipated effect of the TIP toward achieving the performance targets identified in the metropolitan transportation plan, linking investment priorities to those performance targets.

5 UNIFIED PLANNING WORK PROGRAM

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5 | UNIFIED WORK PLANNING PROGRAM

5.1 | Purpose

This chapter provides information regarding the development, implementation and financial management of funds of the unified planning work program (UPWP). The UPWP is an annual planning work program that identifies activities and the transportation planning budget for a metropolitan area. This chapter is intended for use by MoDOT and MPOs as a guideline in the development, review and administration of the UPWP.

5.2 | Authority

Per 23 CFR §450.308 (b), an MPO shall document metropolitan transportation planning activities performed with funds provided under title 23 U.S.C. and title 49 U.S.C. Chapter 53 in a UPWP or simplified statement of work in accordance with the provisions of this section and 23 CFR part 420.

5.3 | Scope

The UPWP defines tasks and anticipates funding requirements for the metropolitan planning activities performed by the MPO with federal funds provided by FHWA and FTA under title 23 U.S.C. and title 49 U.S.C. Chapter 53.

A UPWP must be consistent with federal and state regulations. The UPWP covers one fiscal year and outlines activities funded through the Consolidated Planning Grant and local funds. It also serves as the basis for funding agreements with MoDOT. Metropolitan Planning (PL) funds and section 5303 transit metropolitan planning funds are distributed to the MPOs via Consolidated Planning Grants (CPG) following state approved funding formulas. The UPWP also serves as a management tool for scheduling, budgeting and monitoring the local planning activities.

The Bipartisan Infrastructure Law (BIL) created a new requirement that each MPO use at least 2.5% of funds apportioned for Metropolitan Planning on one or more activities to increase safe and accessible options for multiple travel modes for people of all ages and abilities.

For tracking purposes, eligible activities for the 2.5% set-aside should be identified in the UPWP.

5.4 | Timeline

UPWP development generally starts six to eight months before the start of the MPO fiscal year. MoDOT staff will provide the most recent estimates of FHWA and FTA metropolitan planning funds available to the MPOs during UPWP development. MPOs are encouraged to start coordinating UPWP development early to outline new tasks and align tasks with anticipated funding. Consult with MoDOT/OneDOT if issues or questions arise during development of the work program. The draft UPWP shall be sent to MoDOT/OneDOT for review prior to release for public comment.

5.5 | Required Content

The UPWP should include an introduction that describes the transportation planning factors (23 CFR §450.306) considered by program elements. The UPWP should highlight major completed tasks from the previous year and identify the upcoming year's priorities. The UPWP should not be an exhaustive review of every completed item.

At a minimum, the UPWP must include (23 CFR §450.308):

- An introduction.
- Fiscal year work elements by major activity and task.
- The proposed funding by activity/task.
- Funding description and budget summary.
- Summary of the total amounts.
- Sources of federal and matching funds.

The UPWP is the annual listing of planning work items that the MPO intends to undertake during the fiscal year. Examples of these work items include:

- Program support and administration.
- TIP development.
- MTP development.
- HPMS data collection.
- Public Participation Plan.
- Technical Assistance (GIS mapping, grant writing).
- Title VI Plan.
- Multimodal mobility planning.
- Manage planning studies or participate as a member of the committees.
- All other transportation planning functions to meet state and federal requirements.

A budget table is required and should be broken down by work task and the amounts of federal, local and total funds to be spent in the upcoming fiscal year. If the MPO is utilizing Surface Transportation Block Grant (STBG) funds, Congestion Mitigation/ Air Quality (CMAQ) or FTA Section 5307 funds, they should also be clearly identified in the work task and budget tables.

Capital purchases, such as vehicle purchases, should be clearly documented how it relates to carrying out planning activities. The purchase must follow federal procurement rules (including Buy America), which generally require a competitive process to ensure fair and reasonable pricing.

- The UPWP should document the need for the vehicle, and the MPO should only charge the federal share for the portion of its use that directly benefits the planning process.

5.5.1 | In-kind Contributions

In-kind contributions can make up a substantial proportion of local matching funds that MPOs use for federal funding. The in-kind contributions come from MoDOT staff, member agency staff, materials or services. Local match used to fund regional planning activities also might include the fair market value of the time spent by local government employees who participate on MPO committees or who develop local transportation data for input into the regional planning process.

In-kind contributions must be tracked and quantified by work element and by task. The UPWP must identify the anticipated in-kind contributions, including narrative descriptions of the services provided and the organizations that provide the in-kind services.

In-kind match either occurs locally or through a third party valued at fair market value. To successfully use in-kind contributions for transportation planning activities, it is critical to:

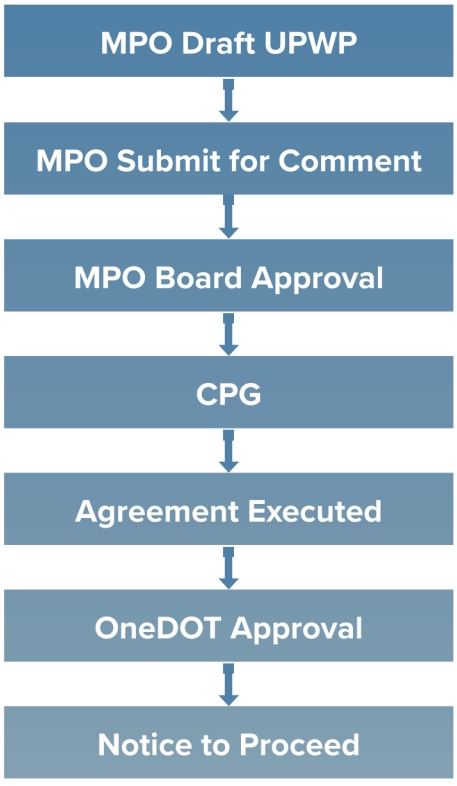
- Carefully estimate the value of proposed in-kind contributions in advance.
- Obtain federal agency approval for the in-kind contribution in advance.
- Track and document the actual contributions of in-kind goods and services in a timely manner as they are received or applied.

5.6 | Review and Approval Process

Each year, the MPO Policy Boards must adopt the UPWP. MoDOT and Federal Highway Administration are responsible for coordinating the review of the UPWP and advising the MPOs on its content and format. The MPO is expected to submit the draft UPWP to OneDOT and MoDOT for its preliminary review at the time it is being presented at the technical committee or other designated committee. The MPO will also follow public involvement procedures as outlined in their Public Participation Plan.

The MPO will then address the regulatory comments before sending it to the Policy Board for review and approval. Once the UPWP is approved by the Policy Board, the MPO provides an approved copy to MoDOT. It is critical to allow adequate time for final approval. The Board-approved UPWP should be submitted to MoDOT no later than **three** weeks prior to the start of the fiscal year.

MoDOT will forward the electronic version to OneDOT for their final review and approval. OneDOT will issue a joint approval on the final UPWP.



5.7 | Consolidated Planning Grant

MoDOT is the grant administrator of the PL and 5303 funds received from FHWA and FTA, respectively. MoDOT combines these two funding categories to form the Consolidated Planning Grant for purposes of distribution and grant management. Federal regulations require MoDOT to develop an allocation formula to distribute FHWA metropolitan PL funds and FTA Section 5303 funds to nine Missouri MPOs.

Process for CPG agreements:

- CPG agreements are initiated by MoDOT when Appendix A of the annual UPWP is finalized and submitted to MoDOT.
- The eAgreements process will be used to streamline the agreement process of drafting, reviewing and executing agreements.
- Execution of document is by electronic signature through DocuSign.
- Non-TMAs will need to execute an Ordinance by their City Council before the agreement can be signed.

Once the UPWP is approved by FHWA and FTA and the CPG agreement is executed, MoDOT will notify the MPOs to proceed with the work tasks in the UPWP.

5.7.1 | Carry-over Policy

MoDOT policy requires allocated funds be spent within four years of receipt. The 4-year time frame was selected to allow MPOs to accumulate funds for larger projects, such as their Metropolitan Transportation Plans, every five years.

At the beginning of the fiscal year, each MPOs carryover balance is calculated and compared to the previous four years allocations. If an MPO has available carryover balances totaling more than the four-year maximum balance, the following will apply:

- The excess balance will be added back into the distribution formula and re-distributed to all Missouri MPOs.

This policy should be reviewed in 3 years to assess if moving to a 3-year policy would better help MoDOT manage MPO balances. Last updated March 8, 2022.

Table 5-1 | Example of the FFY 2021 Distribution Formula:

FFY 2021 FINAL CONSOLADATED PLANNING GRANT (CPG) FUNDS ALLOCATION								
MISSOURI	2010 census	Level of Effort	TMA	Air Quality	Population	Total	Total	TOTAL
Urbanized Area	Population Mo. UzA	Allocation	Allocation	Allocation	Allocation (2010 Census)	Allocated PL Funds	5303 Funds (2010 Census)	CPG Funds
NW Arkansas		$5,000			$0	$5,000	$0	$5,000
Kansas City	940,990	$50,000	$50,000	$100,000	$1,305,984	$1,505,984	$504,572	$2,010,556
St. Louis	1,777,811	$50,000	$50,000	$100,000	$2,467,394	$2,667,394	$953,288	$3,620,682
Springfield	273,724	$50,000	$50,000		$379,897	$479,897	$146,775	$626,672
Columbia	124,748	$50,000			$173,136	$223,136	$66,892	$290,028
Jefferson City	58,533	$50,000			$81,237	$131,237	$31,386	$162,623
Joplin	82,775	$50,000			$114,882	$164,882	$44,385	$209,267
St. Joseph	78,808	$50,000			$109,376	$159,376	$42,258	$201,634
Cape Girardeau	52,591	$50,000			$72,990	$122,990	$28,200	$151,190
UzA Total	3,389,980	$405,000	$150,000	$200,000	$4,704,896	5,459,896	$1,817,756	$7,277,652
Percent	-	7.42%	2.75%	3.66%	86.17%	100.00%		

*Population allocation and 5303 funds distributions are based on 2010 Census data
**Total Apportioned PL Funds = $5,571,322 with OL applied at 98% = $5,459,896

5.8 | Third Party Agreement

Third-party agreements are used when an MPO enters into an agreement with a party other than MoDOT to perform UPWP work activities. Consultant contracts must be in accordance with the applicable requirements of federal and State of Missouri laws as defined in all CPG contracts.

An example of a third-party agreement is hiring a consultant to complete the MTP or a study.

All federal contract provisions should be included. Contact MoDOT if you need assistance with the contract.

Contracts exceeding $50,000 are required to be submitted to MoDOT for review prior to execution. See DBE requirements in Chapter 11.

5.9 | UPWP Modification and Amendment Process

MoDOT and the MPO monitor all invoices to ensure consistency between task expenditure amounts and programmed task amounts. When a federally funded line item requires modification, the MPO must prepare and submit a request for modification to MoDOT.

Modification: Minor revision to a task or work element but not changing the total UPWP cost.

Examples of modifications:

- Adding a work task that will not be completed by the MPO or use federal planning funding (e.g., TEAP project).
- Shifting funds between tasks with no increase or decrease in total CPG Agreement budget amount or change in federal/local prorata share.
- Adding equipment costs with no increase or decrease in the total CPG Agreement budget or change in federal/local prorata share.

Amendment: An amendment is necessary if a budget increase for the CPG agreement is required as well as the following situations:

- Addition of a new work task(even if there is no associated budget revision requiring prior written approval).
- Change in the scope or the objective of the task or program (even if there is no associated budget revision requiring prior written approval).
- Changes in the approved cost-sharing or matching provided by the non-federal entity
- Changes in the approved budget to include additional CPG federal funding.

Amendments must be approved by the Board of Directors, FHWA and FTA. Some modifications may also go through an official approval by the Board of Directors as deemed appropriate by MPO staff and are subject to the MPO's public involvement plan.

Modifications or minor revisions should be verified with MoDOT Planning staff. Completed modification actions will be provided to FHWA, FTA and MoDOT for information purposes.



5.10 | Progress Reports

Progress reports are used to monitor the implementation of the UPWP, consistent with 23 C.F.R. § 420.117. Progress reports should be submitted at least quarterly within 30 days after the end of the reporting period.

The progress reports should be concise and include:

- Tasks completed for each work element during the time period.
- Percentage of each task completed to date.
- Status of expenditures for each work element.
- Approved UPWP revisions.
- Other related supporting data.

Progress reports are submitted to OneDOT for informational purposes.

5.11 | Invoicing

MPOs are required to submit invoices at least quarterly and no more frequently than monthly.

5.11.1 | Submitting Invoices

The following invoice requirements shall be applied by the MPO to ensure eligibility of reimbursement.

All costs incurred by the MPO for both contract work and work performed by MPO personnel for whom reimbursement is sought must be supported by original source documents or documentation which provides adequate assurance of the completed work. Reimbursement requests for costs incurred should be substantiated as follows:

- Itemized breakdown of direct costs (Rent, Insurance, Travel, Printing, Supplies, Phone, etc.).
- Equipment costs exceeding $5,000 are supported by submitting a receipt from the vendor.
- Vendor/Consultant invoices exceeding $1,000 are supported by documentation (services, supplies, etc.).
- Timesheet details for employees paid with CPG funds including itemization of hours, tasks worked on or completed and salary/rate information. Tasks should be able to be tied back to current work program activities.
- In-kind match documentation to support amount used for match.

Note: All documentation must be maintained in MPO files regardless of the thresholds listed above.

If at any time during the contract period MoDOT determines that additional documentation is required in support of a request for payment, MoDOT may request any or all documentation necessary to support the claim.

5.11.2 | Processing Payment

Upon approval by a Transportation Planning specialist and Financial Services section at MoDOT, MoDOT reimburses expenses within 15 days of receipt of the request or reimbursement from the MPO relating to Section 134 (23 U.S.C. § 104). Should MoDOT later determine those charges were unallowable, MoDOT will deduct those charges from any future claim for reimbursement. MoDOT may request additional information before approving and processing the invoice.

6 TRANSPORTATION IMPROVEMENT PROGRAM

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6 | TRANSPORTATION IMPROVEMENT PROGRAM

6.1 | Overview

The MPO is required by 23 U.S.C. § 134(j) to develop a TIP. The TIP is the short-range capital improvement program for various transportation systems located in the metropolitan planning area. MPOs serve to conduct and lead a continuing, cooperative and comprehensive transportation planning process. A new TIP is developed every one or two years, and at least every four years, in accordance with the metropolitan planning requirements set forth in the Statewide and Metropolitan Planning Final Rule (23 CFR 450, 49 CFR 613).

The TIP is the primary document to communicate to the public the ways that public (and private) dollars are allocated and spent. The listing of projects must be displayed in a manner that is understandable by the public, as the public is the intended audience of the document.

The TIP shall cover a period of no less than four years, outlining the most immediate implementation priorities for area transportation projects and carrying out the goals and vision of the metropolitan transportation plan. It serves to allocate limited financial resources among the various transportation needs of the community and to program the expenditure of federal, state and local transportation funds. In order to receive federal highway or transit funds, a project must be included in the TIP, though the TIP should also include any regionally significant projects, including those funded from non-federal funding sources.

TMAs establish reasonable progress policies to ensure federal transportation dollars allocated to their regions are programmed in a reasonable timeframe.

Reasonable Progress Policies:

- East-West Gateway Council of Governments.
- Mid-America Regional Council of Governments.
- Ozarks Transportation Organization.

6.2 | Fiscal Constraint

The TIP must identify the funding sources that are determined to be reasonably available to pay for the programmed improvements and the local public agencies cost to maintain locally owned federal-aid system lane miles. The funds used to pay for the improvements cannot exceed the amount of available funding per funding source that can be programmed in the TIP.

The MPO must demonstrate that the TIP is financially constrained by year and maintain that financial constraint (23 CFR § 450.326(j)). It is recommended that the TIP include a table(s) that compares the funding sources and amounts by year with the total project costs by year.

Reach out to your Central Office Planning Liaison for more guidance on this topic.

6.3 | Public Involvement

The Infrastructure Investment and Jobs Act (IIJA) requires that the MPO develop and use a documented Public Participation Plan (23 CFR § 450.316(a)) in the TIP development process. The MPO must provide all interested parties opportunity to comment on the TIP. Public comment is taken prior to the approval of the TIP.

6.4 | Format and Content

Introduction

- Maps – MPO Study Area and MPO Urbanized Area.
- MPO Governing Body Membership.
- Statement that Annual Listing of Obligated Projects (ALOP) will be published separately.

Status of Prior Year Projects

- Provide a status update on all TIP projects not moved from prior TIP to new TIP.

Project Selection

- Define project selection process and funding sources (by mode if necessary).
- Describe planning activities and priorities related to various project types.

System Performance

- Describe existing National Performance Measures (and any that are set locally).
- Provide information on how TIP helps meet targets, including amount of funding programmed and types of projects relevant to each measure (see section on Performance Measures).

Public Involvement

- Outline of public involvement process used in TIP development.
- Demonstration of explicit consideration and response to public input received during the development of the TIP.

Fiscal Constraint

- Define funding sources (much of which can be pulled from MoDOT's STIP).
- Outline federal, state and local funding amounts by year to determine financial projections for fiscal constraint.
- Work with MoDOT to determine operations and maintenance costs per mile for locally owned, federal-aid-system eligible roads.
- Develop table showing fiscal capacity to deliver local projects (local funding provided for projects in the TIP).
- Develop fiscal constraint tables showing projects programmed by year compared to amount of revenue projected by year (each year should be fiscally constrained).

Projects

Required information for each project in the TIP is outlined in 23 CFR Part 450.326.

6.5 | Project Selection Process

There is no set methodology to determine which projects are selected for inclusion in the TIP. Typically, the process involves an evaluation that determines how the proposed project meets the goals and objectives of the MTP and other regional and state plans. All TIP projects in MPO areas must be included in the MTP. For MPOs, local and state governments generally submit projects during an update of the TIP or when funding becomes available.

MPO staff may have established a set of evaluation criteria and the evaluation methodology by which all projects will be judged. Once submitted, project applications are screened to ensure that they are eligible for available funding categories. Then, they are scored against the evaluation criteria. Overall, transportation professionals tend to be most comfortable with this project selection method because projects are measured and compared against one another in a scientific and technically defensible manner. Selection criteria generally address cost-effectiveness (both current and future), air quality benefits, local commitment, congestion reduction and the level of multimodal and social mobility benefits afforded by a project. A comprehensive project rating system with diverse rating criteria, linked to the type of funding category being requested, is an efficient and equitable way to rank projects.

Federal projects on the state system for inclusion in the STIP also need to appear in the TIP. MoDOT works with planning partners to identify projects for the STIP.

6.6 | Funding Programs

Federal

The USDOT allocates Highway Trust Funds collected from gasoline and other federal transportation-related taxes to major transportation programs administered by FHWA and FTA as authorized by IIJA.

IIJA was signed into law Nov. 15, 2021. It authorizes the federal surface transportation programs for highways, highway safety, transit and rail for the five-year period from 2022-2026. Table 6-1 is a list of some of the federal transportation programs from which funding is available:

Table 6-1 | BIL Funding Programs

Major Federal-Aid Highway Programs under BIL		
Program	**Eligible Uses**	**Percent (%) Federal Share of Funded Projects**
Bridge Formula Program	Formula program to replace, rehabilitate, preserve, protect and construct highway bridges.	In accordance with 23 USC 120 unless used on a locally owned off-system bridge (100)
Congestion Mitigation and Air Quality (CMAQ)	A wide range of projects in air quality non-attainment and maintenance areas for ozone, carbon monoxide and small particulate matter, which reduce transportation-related emissions.	80
Carbon Reduction Program	A wide range of projects in air quality non-attainment and maintenance areas for ozone, carbon monoxide and small particulate matter, which reduce transportation-related emissions.	In accordance with 23 USC 120
Highway Safety Improvement Program	Any strategy, activity or project on a public road that is consistent with the data-driven State Strategic Highway Safety Plan (SHSP) and corrects or improves a hazardous road location or feature, or addresses a highway safety problem.	90
Metropolitan Planning (PL)	All planning activities are eligible (e.g., modeling, air quality analysis, public outreach, environmental analysis).	80, unless the Secretary determines that changing this contribution level is warranted
National Electric Vehicle Infrastructure Formula Program	Provide funding to states to strategically deploy electric vehicle charging infrastructure and to establish an interconnected network to facilitate data collection, access and reliability.	80

Major Federal-Aid Highway Programs under BIL		
Program	**Eligible Uses**	**Percent (%) Federal Share of Funded Projects**
National Highway Freight Program	Contributes to the efficient movement of freight on the National Highway Freight Network and is identified in a freight investment plan included in the state's freight plan.	In accordance with 23 USC 120
National Highway Performance Program	Support for the condition and performance of the National Highway System (NHS), for the construction of new facilities on the NHS and to ensure that investments of federal-aid funds in highway construction are directed to support progress toward the achievement of performance targets established in a state's asset management plan for the NHS.	80
Highway Infrastructure Program (as defined in annual appropriations funding)	As defined by Section 133(b)(1)(A) of Title 23, U.S.C. – construction of highways, bridges and tunnels, including designated routes of the Appalachian development highway system and local access roads under Section 14501 of Title 40, U.S.C.	80
Off-System Bridge Replacement and Rehabilitation Program	Replacement and rehabilitation of deficient bridges located on roads functionally classified as local or rural minor collectors.	80
Surface Transportation Block Grant Program (STBG)	Broad range of surface transportation capital needs, including many roads, transit, sea and airport access, vanpool, bike and pedestrian facilities.	80
Transportation Alternatives Program – STBG Set-Aside	A variety of alternative transportation projects, including many that were previously eligible activities under separately funded programs including Transportation Enhancements, Recreational Trails, Safe Routes to School and several other discretionary programs.	80
Transportation and Community and System Preservation (TCSP)	Research and grants to investigate the relationships among transportation, community and system preservation plans and practices and identify private sector-based initiatives to improve such relationships.	80

Federal Transit Administration Urban-Related Programs under BIL		
Program	**Eligible Uses**	**Percent (%) Federal Share of Funded Projects/Services**
Metropolitan Planning Program Funds – Section 5303	Transportation Planning.	80
Urbanized Area Formula Grants – Section 5307	For public transportation capital, planning, job access and reverse commute projects, as well as operating expenses in certain circumstances.	80 for capital 50 for operating 80 for paratransit
Capital Investment Grants – Section 5309	For new and expanded rail, bus rapid transit and ferry systems that reflect local priorities to improve transportation options in key corridors.	80
Enhanced Mobility of Seniors and Individuals with Disabilities – Section 5310	Enhance mobility for seniors and persons with disabilities by providing funds for programs to serve the special needs of transit-dependent populations beyond traditional public transportation services and Americans with Disabilities Act (ADA) complementary paratransit.	80 for capital 50 for operating
Mobility on Demand (MOD) Sandbox Demonstration Program – Section 5312	Funds projects that promote innovative business models to deliver high-quality, seamless and equitable mobility options for all travelers.	80
Bus and Bus Facilities Program – Section 5339	Provides funding through a statutory formula to replace, rehabilitate and purchase buses and related equipment and to construct bus-related facilities. Additionally, this program includes two discretionary components – the Bus and Bus Facilities Discretionary Program and the Low or No Emissions Bus Discretionary Program.	80

State of Missouri

The state of Missouri receives state revenue for transportation from fuel taxes, licensing fees, sales taxes, interest earned on invested funds and other miscellaneous collections, and General Revenue.

Local Government

There are a variety of options available for transportation funding by local governmental entities. These include taxes, improvement districts, obligation bonds, development districts, Community Development Block Grants, special assessments, impact fees, excise taxes, development agreements, tax increment financing, gasoline taxes, licensing and motor vehicle fees, service fees and property taxes.

6.7 | TIP Approval

Each MPO will have its own process to gain approval by its governing body. In this process, MoDOT, FHWA and FTA will need to have reviewed the TIP before it moves forward for local MPO approval. The public is also required to have reasonable opportunity to comment on the proposed TIP, as set by the MPO Public Participation Plan.

The self-certification required by 23 CFR §450.220 will require a separate approval by the governing body at the same time as the TIP document. The self-certification is signed by the MPO and MoDOT.

Once approved by the MPO governing body, the governor of Missouri must also approve the TIP. MoDOT facilitates approval by the governor and submits to FHWA and FTA for final approval.

6.8 | Amendments

At times, the MPO TIPs may require changes. MoDOT should identify the need for amending the TIP and work with the MPO to prepare and approve the TIP amendment in accordance with 23 CFR §450.218 and §450.326. Internal production schedules may need to be modified to allow time for MPO board action and FHWA and/or FTA approvals. A typical amendment process may require two months or more to complete.

TIP projects may be modified due to comments from the public, design issues, cost constraints, new federal or state laws or any number of other reasons. The most common project changes include scope changes (i.e., work to be performed), cost increases, changes in the implementing agency (i.e., the agency responsible for constructing or implementing a project) and changes in federal funding year. Projects are altered, added and deleted through modification to the TIP.

6.8.1 | TIP Amendment Procedure

A request to amend the TIP may be received as an email or a letter (preferred) from the MPO. The MPO should compile supporting documentation, including:

- a signed letter from the MPO requesting the attached TIP be included in the current STIP.
- the page of the TIP being amended.
- other supporting documents related to the request.

The MPO provides a request letter on its letterhead with backup material to a MoDOT transportation planning liaison for processing. The transportation planning liaison reviews the amendment, requests the MoDOT director's signature and sends it to the governor's office for signature. Once approved, the STIP change is submitted to FHWA/FTA for approval.

6.8.2 | Determining Amendment or Modification

Not all changes to the TIP require state review and federal approval. Changes requiring formal state review and federal approval are referred to as "TIP/STIP amendments" and are based upon criteria established under federal law. An administrative modification is a minor revision to a TIP or STIP that includes minor changes to project/project phase costs, minor changes to funding sources of previously included projects and minor changes to project/project phase initiation dates. An administrative modification does not require public review and comment, redemonstration of fiscal constraint nor a conformity determination, if applicable (23 CFR § 450.104).

An amendment is a revision to a TIP or STIP that involves a major change to a project, including the addition or deletion of a project, a major change in project cost, project/project phase initiation dates or a major change in design concept or design scope (e.g., changing project termini or the number of through traffic lanes) (23 CFR § 450.104). An amendment requires public review and comment, redemonstration of fiscal constraint or a conformity determination, if applicable.

Many MPOs develop their own amendment procedures. MoDOT STIP amendments require formal approval when one or more of the following criteria are met:

- The change adds new individual projects.
- The change adversely impacts financial constraint.
- The change results in major scope changes.
- The change deletes an individually listed project from the TIP/STIP.
- The change results in any cost increase to the programmed budget.
  - Minor change to project cost is allowed per CFR 450.104.

This criteria may be used by MPOs.

6.9 | Strategies for a Successful TIP

1. FHWA and FTA will provide a comprehensive review of the TIP document for required elements. It's good to keep a copy of these changes to review for the next year, ensuring these requested changes carry forward.
2. Work with MoDOT to ensure that projects are in both the STIP and TIP (when MoDOT sponsored) and that funding amounts match.
3. MoDOT and the MPO may have different fiscal years for projects in the STIP vs. TIP. MoDOT is on a state fiscal year of July 1-June 30. Many MPOs follow the federal fiscal year of Oct. 1-Sept. 30.
4. When in doubt, refer to the requirements included in the Code of Federal Regulations. There are references to the TIP outside of the specific TIP subsection, so it is wise to review all of 23 CFR 450 Subpart C.

6.10 | Project Prioritization Methods

Transportation needs are prioritized in each district. Statewide, this prioritization effort works in concert with the goals of MoDOT's LRTP. The prioritization efforts within individual MPOs also reflect the goals of their MTPs. MoDOT districts and planning partners work together to annually identify, discuss and then prioritize each district's needs. Each district has the flexibility to prioritize their needs using a method they have agreed upon. Examples include, but are not limited to:

- Scoring needs against performance measures, such as safety, congestion, traffic volume, condition, etc.
- Multi-voting.
- Ranking needs high, medium, low and then assigning points to each category to end up with a prioritized list.

Each time needs are prioritized, the previously identified needs will be re-evaluated. Some higher priority needs may never be designed or constructed due to prohibitive costs, changing priorities or for other valid reasons.

6.10.1 | High Priority Unfunded Needs List

MoDOT maintains a list of high priority unfunded needs. Each year MoDOT works with planning partners to identify unfunded needs for road and bridge projects in three tiers. Tier one includes project needs we could accomplish in the time of the current five-year STIP as federal and state funding levels increase. These projects have more refined estimates. Tier two includes project needs beyond the current STIP timeframe with broader estimates. Tier three includes project needs also beyond the current STIP timeframe with broader estimates. In addition, MoDOT works with planning partners to identify multimodal needs.

Through the planning process, MoDOT staff work with the planning partners to identify and prioritize regional needs. These prioritized regional needs include both roadway and bridge items as well as multimodal needs. Each region provides their prioritized needs to the district. The district will add the appropriate needs to the unfunded needs list. The prioritization process is intentionally flexible in order to allow each district and region the ability to adopt a process that functions adequately and can be molded to their desired approach.

Additional specific guidance on the unfunded needs list targets is provided to the districts prior to the start of the effort to develop the lists. The high priority unfunded needs list process starts once the draft STIP is created and it is finalized in the summer of each year to be taken to the Missouri Highway Transportation Commission, usually around August.

6.11 | Annual Listing of Obligated Projects

The Annual Listing of Obligated Projects (ALOP) is intended to increase public awareness of federal spending on transportation projects. The annual listing report includes all federally funded projects with obligations in the preceding program year. The contents of the ALOP should be consistent with the TIP. Included obligated projects have not necessarily been initiated or completed during the report year. The obligated project cost may also not equal the final project cost.

Federal requirements for the ALOP are outlined in §23 CFR 450.334.

6.11.1 | Report

The ALOP report should have two sections at a minimum. The first should be a summary and the second, the actual project listing.

Summary Contents:

- Basis for ALOP in Federal Law.
- Background on authoring MPO.
- Description of the TIP.
- Explanation of informational items included for each project in listing.

Many MPOs also include a graphical summary of projects included in the listing, highlighting the breakdown of projects by type.

Project Listing

Within the month following the conclusion of the program year, MoDOT will provide an Excel listing of obligations for projects during the preceding program year. MoDOT works to narrow this list down to an MPO level, but occasionally there may be projects in this report that fall outside of the MPO boundary.

MPOs should work with MoDOT Multimodal staff and their local transit provider(s) to obtain similar information for transit projects.

It should be noted that the MoDOT-produced report does not contain enough information to satisfy the ALOP requirements, and the MPO should be prepared to add the additional TIP project information. The STIP/TIP reference field may be missing the TIP number or may not reference the most recent TIP year in which the project appears.

Sample MoDOT Report

FEDERAL FUNDS OBLIGATED IN MID-AMERICA REGIONAL COUNCIL (MARC)

October 1, 2020 to September 30, 2021

Transaction Date	Project Number	Job Number	Project Description	County	Total Cost Amount	Obligations Amount	Change in federal funds	STIP/TIP
10/15/20	0701215	J4I3475	IS 70, JACKSON CO; REPAIR DRAINAGE STRUCTURE IN MEDIAN0.5 MILES EAST OF OAK GROVE	Jackson	$226,580.03	$203,922.17	($150,229.49)	
10/20/20	3457404		CITY OF KEARNEY, SIDEWALK CONSTRUCTION NEAR DOGWOOD ELEMENTARY	Clay	$209,427.65	$167,542.12	($17,960.45)	
10/27/20	0451034	J4U1108C	MO 45, PLATTE CO, CORRIDOR IMPRVMTS INCLUDING ROAD WIDENING & BIKE/PED ACCOMMODATIONS FROM RTE K TO I-435 IN PLATTE CO. 1.63 MI	Platte	$13,711,926.22	$10,969,540.89	$148,954.19	490135; 2014
10/27/20	S301090	J3S3104	MO 224, LAFAYETTE CO, PAVEMENT RESURFACING, GUARDRAILS, UPGRADE PEDESTRIAN FACILITIES TO COMPLY W/ ADA TRANSITION PLAN & UPGRADE SIGNALS FROM RT 24-13	Lafayette	$2,131,428.60	$1,746,593.68	($558,211.24)	2018
10/28/20	S301098	J4P3212	JACKSON CO, RT H, IMPROVE SIGHT DISTANCE AT PINK HILL RD	Jackson	$1,555,998.57	$1,487,896.36	$165,898.16	990292

As stated in federal law, the ALOP has a number of required elements. Below is an explanation of each column to be included in the report.

Transaction Date

This is the date that funding was obligated during the program year.

Project No.

This is the Federal Number assigned to a project when it is entered into the federal financial management system.

Job No.

This is an ID assigned by MoDOT for tracking of projects at the state level.

Project Description

Contains a brief description of the project.

County

County where project is to take place.

Sponsor

This references the project sponsor who is managing the project.

TIP Number

The MPO assigns each project a unique identifier to track it through the local process. This number is often assigned before the state and federal IDs are known.

TIP Years

The TIP is typically developed annually with a four or five year time horizon. This column indicates each edition of the TIP where the project appears.

Total Cost Amount

This amount includes total project costs (federal/non-federal) (PE, RW and Constr.) to date.

Obligation Amount

This is the amount of federal funds that have been obligated for the life of the project through the end of the fiscal year being reported on.

Change in Federal Funds

This is the amount of money either obligated or de-obligated during the current fiscal year. Values shown in the positive are obligations, and values shown in the (negative) are de-obligations. Funding is often de-obligated at the end of a project if costs were less than expected.

Programmed Federal Funds

This amount is not included in Financial Service's report. MPOs need to locate this amount (federal funds programmed only) in their current TIP. This amount will need to be updated annually when the ALOP is updated by using the latest federal funds programmed in the current TIP.

Federal Funds Remaining

This shows how much money is left to obligate based on the amount of funding programmed in the MPO's TIP. If the project is complete, the amount can be left at $0.00, which is also the case when the obligated amount has maxed the available programmed funding. Generally, this number is determined by subtracting all obligated funding from all programmed funds, regardless of the year in which funding was programmed.

Other

An MPO may include any additional information that might be of benefit to the local audience.

7 METROPOLITAN TRANSPORTATION PLAN

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7 | METROPOLITAN TRANSPORTATION PLAN

7.1 | Overview

MPOs are charged with developing a Metropolitan Transportation Plan (MTP) (23 CFR 450.324 and 49 CFR 613.100). The plan addresses, at minimum, a 20-year planning horizon from the date of plan adoption and must be updated every four years in nonattainment and maintenance areas, or every five years in attainment areas.

The MPO is responsible for leading the development of the MTP, defining its scope and following federal guidelines. The MTP must be performance-based and include goals and strategies that guide a region's transportation planning decisions and investments. There are currently 10 planning factors that must be considered when developing these goals and strategies:

1. Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity and efficiency.
2. Increase the safety of the transportation system for motorized and non-motorized users.
3. Increase the security of the transportation system for motorized and non-motorized users.
4. Increase accessibility and mobility of people and freight.
5. Protect and enhance the environment, promote energy conservation, improve the quality of life and promote consistency between transportation improvements and state and local planned growth, housing and economic development patterns.
6. Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight.
7. Promote efficient system management and operation.
8. Emphasize the preservation of the existing transportation system.
9. Improve the resiliency and reliability of the transportation system, and reduce or mitigate stormwater impacts of surface transportation.
10. Enhance travel and tourism.

7.2 | Public Involvement

During the MTP development process, MPOs are responsible for consulting and engaging interested parties such as citizens, state and local agencies, transit providers, air quality and environmental agencies, and all other interested parties. Federal law requires MPOs to develop a Public Participation Plan which defines the process for public input for the MTP. Detailed information on the public involvement process can be found in Chapter 12, "Public Involvement."

The MTP must establish public engagement procedures, be fiscally constrained and include a financial plan. The financial plan must identify the revenue that is reasonably expected based on existing and proposed funding sources, the estimated costs of proposed transportation improvements, operations and facility maintenance.

7.3 | Plan Development Methods

The MTP addresses the unique goals and objectives of the region or metropolitan area that prepares it. For this reason, there is no single methodology used to develop an MTP. At the beginning of the MTP process, the local communities work through a public process to identify transportation needs that are important for their local citizens. The plan includes both long-range and short-range strategies and actions that lead to the development of an integrated multimodal transportation system that facilitates the efficient movement of people and goods and addresses current and future transportation demand (23 C.F.R. § 450.324(b)). See Table 7-1 for Missouri MTPs.

Table 7-1 | MPO Metropolitan Transportation Plans

MPO	MTP Document
EWG	Connected 2045
CAMPO	2045 & Beyond
CATSO	2050 MTP
JATSO	2045 MTP
MARC	Connected KC 2050
OTO	Destination 2045
SEMPO	2045 MTP
SJATSO	2045 MTP
NWARPC	2045 MTP

7.4 | Fiscal Constraint

MPOs are required to include a fiscally constrained element in their MTP. Fiscal constraint is defined by FHWA as "a demonstration of sufficient funds (federal, state, local and private) to implement proposed transportation system improvements, as well as to operate and maintain the entire system, through the comparison of revenues and costs." Revenue and cost estimates supporting the plans must use an inflation rate or rates to reflect the year of expenditure (YOE) amounts (23 C.F.R. 450.324 (f) (11) (iv)). For the outer years of the MTP (beyond the first 10 years), the financial plan may reflect aggregate cost ranges/cost bands, as long as the future funding source(s) is reasonably expected to be available to support the projected cost ranges/ cost bands.

MoDOT's STIP demonstrates fiscal constraint for MoDOT projects so only entities with sponsored projects in the MTP need to be included in the demonstration of fiscal constraint.

7.5 | Relationship to the STIP/TIP

The MTP is used as the basis upon which TIPs are developed. Accordingly, there must be an approved MTP or a properly amended MTP in place when the MPO submits its TIP to MoDOT for approval. The TIP must be incorporated into the STIP to ensure continued federal funding for the metropolitan area. A TIP (for inclusion in the STIP) that is not representative of a currently approved or amended MTP cannot be approved.

7.6 | MTP Revisions

Besides the five-year update cycle, there are times when an MPO may find it necessary to revise the MTP. Federal regulations define two types of MTP revisions: administrative modifications and amendments.

An administrative modification is a minor revision to the MTP. Administrative modifications include minor changes to project/phase costs, funding sources or project/phase initiation dates. Administrative modifications do not require public review and comment nor must they demonstrate fiscal constraint (23 C.F.R. §450.104).

An amendment is a major revision to the MTP. This may include adding or deleting projects from the plan as well as making major changes to project costs, initiation dates or design concepts and scopes for existing projects. An amendment requires public review and comment in accordance with the public participation plan and must demonstrate fiscal constraint.

Changes to projects that are included only for illustrative purposes do not require an amendment (23 C.F.R. § 450.104). An amendment requires revenue and cost estimates supporting the plan to use an inflation rate(s) to reflect year of expenditure dollars, based on reasonable financial principles and information (23 C.F.R. § 450.324(f) (11) (iv)).

7.7 | Publication and Distribution

Although the MTP does not require approval by FHWA or FTA, these agencies should be involved during the development of the plan and be provided an opportunity to comment on the draft plan. Copies of any new and/or revised plans must be provided to each agency as well as to MoDOT (23 C.F.R. § 450.324(c)).

New or revised plans should be provided to FHWA, FTA and appropriate MoDOT offices prior to the

MPO annual self-certification. Federal law requires that the MPO publish its MTP and make it available to the public for review, including, to the maximum extent practicable, in electronically accessible formats and means, such as the internet (23 U.S.C. § 134 (i) (7); 23 C.F.R. § 450.316(a) (1) (iv)).

7.8 | MPO Role/Responsibility

- Develop the MTP every four years in nonattainment and maintenance areas and every five years in attainment areas.
- Include goals and strategies that are based on federal planning factors for at least a 20-year planning horizon.
- Develop a financial plan with revenue projections that are fiscally constrained and show how the adopted transportation plan can be implemented.
- Consult and engage the public for input during the MTP's development.

7.9 | MoDOT Role/Responsibility

- Provide support to MPO for development and implementation of the MTP, including review of the document prior to publication.
- Supply the MPO with revenue forecast information as well as assumptions made, and identify historic and future trend estimates of state revenues that will be available to support metropolitan transportation plan implementation.

8 CERTIFICATION OF METROPOLITAN PLANNING PROCESS

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8 | CERTIFICATION OF METROPOLITAN PLANNING PROCESS

8.1 | Authority

Every four years, the Secretary of the USDOT must certify that each metropolitan planning organization (MPO) serving a transportation management area (TMA) – a designation by USDOT of an urbanized area with a population over 200,000 as defined by the Bureau of the Census or smaller urbanized areas on request by the governor and MPO – is carrying out the metropolitan planning process in adherence with federal statutes and regulations.

FTA and FHWA conduct a review of the metropolitan planning process within each MPO and jointly issue this certification on behalf of the USDOT Secretary, in accordance with 49 U.S.C. 5303(k)(6). Federal regulation (23 CFR § 450.336) requires that the state and TMA certify the TMA's planning process at least once every four years.

8.2 | Components of the review

FHWA/FTA must contact the TMA and the corresponding MoDOT district to schedule the certification review of the metropolitan planning process two months prior to the certification review. The certification review consists of four parts: document review, site visit, written report and closeout meeting.

Document Review

FHWA and FTA review the MPO's planning documents and work products, such as the MTP, Congestion Management Process, TIP and UPWP. In nonattainment or maintenance areas, the EPA may also examine these items prior to a site visit to the MPO.

Site Visit to the MPO

The site visit consists of federal team meetings with participants to discuss findings from the document review and areas critical to the planning process, such as those listed at 23 CFR §450.336(a). The site visit includes the opportunity for information-sharing sessions in which best practices may be discussed.

Public involvement is required during MPO certification reviews (23 U.S.C. § 134 (k)(5) (D)). Accordingly, the site visit includes public involvement activities. The Missouri Division of FHWA may provide guidelines used for scheduling and administering the public involvement component of the certification process. Public involvement activities include a public meeting and, if feasible, individual meetings with members of the MPO board and/or committees. The MPO must provide documentation of its public involvement efforts.

Public involvement during the federal certification review is designed to:

- Provide citizens an opportunity to comment on the transportation planning process.
- Inform the public about federal transportation planning requirements.
- Discuss public concerns.
- Provide follow-up action to demonstrate that public concerns are being addressed.
- Help the federal team better understand community issues.

Written Report

The written report consists of document review and site visit findings, as well as comments from the public involvement activities. A draft preliminary report is distributed to the MPO and MoDOT for review and commentary prior to finalization.

Closeout Meeting

The closeout meeting is a presentation by the federal review team on the report findings and a discussion on the certification options at the MPO board meeting.

9 TRANSIT

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9 | TRANSIT

9.1 | Purpose & Authority

This chapter contains guidance to assist MPOs in their mission to fulfill their respective public transportation planning responsibilities under IIJA.

9.2 | Roles and Responsibilities

This section discusses the roles and responsibilities of MoDOT and other agencies in providing administration and technical assistance for transit programs throughout Missouri.

9.2.1 | Federal Transit Administration (FTA)

FTA provides overall policy and program guidance. FTA is responsible for apportioning funds annually to the state; developing and implementing financial management procedures; initiating and managing program support activities; and conducting national program review and evaluation. FTA regional offices have day-to-day responsibility for interface with state transit program managers. FTA's Region VII Office, located in Kansas City, Missouri, serves the states of Iowa, Kansas, Missouri, and Nebraska. In 2018, the region served 56 grantees in four states and covered 23 urbanized areas, including Des Moines, Kansas City, Omaha, St. Louis and Wichita, and eight Tribal Nations. See FTA Region VII Office website for further details.

TRANSIT PROGRAMS

PROGRAMS	STATE	FEDERAL	OPERATING	CAPITAL	PLANNING	RESEARCH
State Transit Assistance	x		x	x		
MEHTAP	x		x			
5303 MPO Planning & 5304 State Planning		x			x	
5310		x	x	x		
5311		x	x	x	x	
5312		x				x
5339		x		x		

Operating – Financial assistance for salaries, wages, materials, supplies and equipment in order to maintain equipment and buildings for transit-related services.
Capital – Financial assistance for the cost of long-term assets of a public transit system, such as property, buildings, vehicles, etc.
Planning – Financial assistance for studies or research related to transit activities. (e.g. Transit Development Plan – TDP)
Research – Financial assistance for the development of innovative products and services assisting transit agencies in better meeting the needs of their customers.

9.2.2 | Missouri Department of Transportation (MoDOT)

MoDOT's Transit Section is located within the Multimodal Division and provides financial and technical assistance to public transit and specialized mobility providers statewide. The section administers state and federal programs related to general public transportation and specific transit programs for agencies serving senior citizens and/or persons with disabilities.

MoDOT has been designated by the governor to administer Section 5303, 5304, 5310, 5311, 5312 and 5339 grant programs in Missouri. To administer these programs, MoDOT works directly with MPOs and other subrecipients. Subrecipients are service providers that use federal funds to provide various transit operational and/or planning services.

Duties of MoDOT include assistance throughout the grant processes, as well as subsequent monitoring of how successful applicants provide and deliver their transit program services. MoDOT also provides information, oversight and technical assistance to Missouri communities, transportation planning agencies and intercity carriers.

9.2.3 | Transportation Planning Agencies

In Missouri, the responsibilities of Transportation Planning Agencies are assumed by the established MPOs. Of the nine urbanized areas with designed MPO status in Missouri, all are eligible recipients of Section 5303 planning assistance and are responsible for coordination of FTA programs within

their respective areas. Requests for FTA funding from within urbanized areas are submitted to the MPO for inclusion in the MPO's Transportation Improvement Program (TIP).

MPOs work with transit agencies, federal government, state government, local governments, area stakeholders and the public to ensure that plans and projects are developed to help move a region towards achieving goals.

Work elements for MPOs may include promoting transit and ridership programs, promoting high occupancy vehicles, increasing the efficiency of a traffic system, developing performance measures to evaluate a transportation system, identifying transportation disadvantaged populations and approving all capacity-adding projects included in the LRTP/MTP and TIP. MPOs are also engaged in special project planning such as special transit studies.

9.2.4 | Transportation Providers

Transportation providers (public, private and non-profit agencies) apply for funding through processes that differ depending on the program. The providers are responsible for working with MoDOT and their local MPO to meet all application requirements. If granted funding, they are required to fulfill a series of federal conditions including record keeping, financial management and disclosures, civil rights compliance, procurement and monitoring.

9.3 | State Administration & Technical Assistance

MoDOT's general responsibilities for grant program administration include:

- Effectively manage FTA funds, and complete all FTA reports.
- Develop project selection procedures in accordance with FTA requirements, and manage annual grant application processes.
- Provide program information and technical assistance to local and regional government agencies and transit providers for project development, implementation and operation.
- Monitor all grant recipients through project completion, oversee projects by audits and site visits and monitor project closeout.
- Encourage and facilitate the most efficient use of all federal funds to provide passenger transportation through the coordination of programs and services.
- Coordinate vehicle purchases through competitive bids.
- Coordinate FTA programs administered by MoDOT including Section 5310, 5311, 5312, 5339, Rural Transit Assistance Program (RTAP) and Transportation Planning Program Section 5303 and 5304.
- Assist in the development and support of intercity bus transportation.
- Facilitate coordination between MoDOT subrecipients and other local transportation providers.
- Stay appraised of federal regulations by attending state, national and FTA-sponsored conferences.

9.4 | Statewide & Metropolitan Transit Planning Requirements

Public transportation planning and grant-making responsibilities are defined in IIJA and Chapter 53 of the United States Code. Federal transit planning requirements are outlined in Section 5303 and 5304 as described in the funding section.

9.4.1 | MoDOT's Role in Public Transportation Planning

As the direct recipient of FTA funds for statewide and regional planning activities, MoDOT is responsible for coordinating transit planning activities around the state and certifying to the federal government that all legal and regulatory requirements are met. MoDOT's Multimodal Division oversees the transit programs with day-to-day administration assigned to the Administrator of Transit. Key staff functions include administering FTA grants; providing technical assistance and expertise to MPOs, local transit agencies and decision makers; and ensuring that a multimodal approach is utilized to address problems of mobility, congestion and air quality throughout Missouri. Multimodal staff coordinate closely with other MoDOT divisions to oversee and provide the financial, managerial and civil rights compliance oversight that FTA requires.

LRTP / STIP

MoDOT is required to prepare the statewide Long Range Transportation Plan (LRTP). The plan includes strategies and actions that will lead to the development, management and operation of integrated multimodal transportation systems and facilities. More information is contained in Chapter 7.

The STIP, prepared annually, sets forth the specific construction projects MoDOT will undertake in the next five years. It covers highways and bridges, transit, aviation, rail, waterways, bicycle, pedestrian, and operations and maintenance projects. In urbanized regions, projects must also be included in the TIP. See Chapter 6 for more information regarding inclusion of Transit projects in the TIP.

Coordinated Public Transit - Human Services Transportation Plan (Coordinated Plan)

MPOs and RPCs lead the development of the Coordinated Public Transit – Human Service Transportation Plan, required by 49 U.S. Code 5310. Federal transit law requires that projects selected for funding under Section 5310 funding be "included in a locally developed, coordinated public transit-human services transportation plan," and that the plan be "developed and approved through a process that included participation by seniors, individuals with disabilities, representatives of public, private, and nonprofit transportation and human services providers and other members of the public" utilizing transportation services.

MoDOT is the direct recipient of Missouri's Rural and Small Urbanized Area Section 5310 apportionment and awards subrecipients funds for projects around the state. Projects must be included in a locally approved Coordinated Plan showing that subrecipients are actively coordinating among transportation service providers within their region.

Performance Monitoring

Performance-based Planning and Programming (PBPP) is a requirement of IIJA and impacts both the MTP and the 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.

See Chapter 4 for more information on performance measures.

Transit Asset Management (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.
- Condition Assessment.
- Management Approach.
- Investment Prioritization.

MoDOT collects and evaluates existing buses and facilities to be included in the State TAM Plan and uses this information to set targets, which are evaluated on an annual basis as inventory changes. Some transit agencies may opt to create their own TAM plan and set their own targets.

9.5 | Federal Funding Programs Overview

The following section highlights federal funding categories relevant to Missouri. More information about FTA funding programs can be found online at www.transit.dot.gov/grants.

Section 5303 – Metropolitan Transportation Planning

FTA provides planning funds to urbanized areas via states through the Section 5303 program. MoDOT's Transportation Planning Section allocates these urban transportation planning funds on a population basis to locally designated MPOs. Funds are distributed annually.

www.transit.dot.gov/funding/grants/metropolitan-statewide-planning-and-nonmetropolitan-transportation-planning-5303-5304

Section 5304: Statewide & Nonmetropolitan Transportation Planning

Section 5304 requires MoDOT to develop a statewide transportation plan consistent with the policy objectives stated in Section 5304 to address the non-urbanized areas of Missouri. Funds appropriated to Missouri are distributed by MoDOT to the 17 RPCs, transit associations and other entities. Recipients must meet the 20% non-federal matching requirement.

Section 5310 – Enhanced Mobility of Senior and Individuals with Disabilities

FTA Section 5310 formula grants target agencies serving the mobility needs of senior citizens and/or persons with disabilities. MoDOT administers the Section 5310 program as a capital program to procure and fund 80% of the cost of vehicles for such agencies as developmental disability resource boards (Senate Bill 40 boards), sheltered workshops, senior citizen services boards (House Bill 351 boards), senior centers and not-for-profit medical service agencies. Funds are distributed annually.

www.transit.dot.gov/funding/grants/enhanced-mobility-seniors-individuals-disabilities-section-5310

Section 5311 – Rural Areas

FTA provides grants to states on a formula basis for nonurban transit in the Section 5311 program. Rural transit providers and intercity bus carriers apply to MoDOT's Transit Section for these grants to carry out rural public transit-related service, planning and capital projects. Funds are distributed annually.

www.transit.dot.gov/rural-formula-grants-5311

Section 5339 – Buses and Bus Facilities

MoDOT's Transit Section also administers grants to replace, rehabilitate and purchase buses and related equipment and to construct bus-related facilities. The federal transit capital grants in FTA's Section 5339 grant program fund 80% of the cost of these activities.

www.transit.dot.gov/funding/grants/busprogram

Rural Transit Assistance Program (RTAP)

The Transit Section also administers the Rural Transportation Assistance Program by providing training and technical assistance functions funded by FTA. Free on-site training courses for rural transit agencies include defensive driving, CPR, first aid, passenger assistance techniques and emergency procedures. Funds are distributed annually.

mltrc.mst.edu/mortaphome/

State Funding

Rural and urban public transit agencies benefit from state-funded operating assistance. This general revenue fund and/or state transportation fund program helps to defray a portion of the costs those agencies incur in providing mobility services in their communities. Funds are distributed annually.

Missouri Elderly and Handicapped Transportation Assistance Program (MEHTAP)

MEHTAP is a state-funded program that helps defray a portion of the transportation costs incurred by agencies providing mobility services to senior citizens and persons with disabilities. Half of the annual general revenue funding in this program is allocated to the 10 Area Agencies on Aging districts statewide.

RESOURCES

- FTA – Federal Transit Administration
  - www.transit.dot.gov/regulations-and-guidance/transportation-planning/training-technical-assistance
  - www.transit.dot.gov/research-innovation/fta-reports-and-publications
  - www.transit.dot.gov/regulations-and-guidance/transportation-planning/planning-resource-library
  - www.transit.dot.gov/ntd/national-transit-database-ntd-glossary
- NTI – National Transit Institute
  - National Transit Institute | A Training Resource for the Transit Industry (ntionline.com)
- Transit Center
  - transitcenter.org/publications
- APTA – American Public Transportation Association
  - www.apta.com
  - www.apta.com/research-technical-resources/research-reports
  - www.apta.com/research-technical-resources/tcrp/tcrp-publications-by-category
- CTAA – Community Transportation Association of America
  - ctaa.org
- Human Transit
  - humantransit.org
  - The book, *Human Transit: How Clearer Thinking about Public Transit Can Enrich Our Communities and Our Lives,* by Jarrett Walker, is a beginning text about how transit works.

10 FREIGHT AND RAIL

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- Federal Section 130 Funding
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10 | FREIGHT AND RAIL

Freight and goods movement is an important aspect of transportation planning and touches on many modes, including trucks, rail, waterways and ports, pipelines, and aviation. Pipelines do not typically fall under the purview of MPOs, and aviation is addressed elsewhere in this handbook.

The FAST Act established a National Highway Freight Network (NHFN). This network is comprised of:

- Primary Highway Freight System (PHFS).
  - 41,518 centerline miles | 9.8% non-interstate.
- Interstate routes not on the PHFS – approximately 9,800 centerline miles.
- Critical Urban Freight Corridors (CUFC).
- Critical Rural Freight Corridors (CRFC).

The NHFN was created to strategically direct federal resources and policies toward improved freight performance in the United States.

23 USC 167(f)

(f)CRITICAL URBAN FREIGHT CORRIDORS.—

(1)URBANIZED AREA WITH POPULATION OF 500,000 OR MORE.— In an urbanized area with a population of 500,000 or more individuals, the representative metropolitan planning organization, in consultation with the State, may designate a public road within the borders of that area of the state as a critical urban freight corridor.

(2)URBANIZED AREA WITH A POPULATION LESS THAN 500,000.— In an urbanized area with a population of less than 500,000 individuals, the State, in consultation with the representative metropolitan planning organization, may designate a public road within the borders of that area of the state as a critical urban freight corridor.

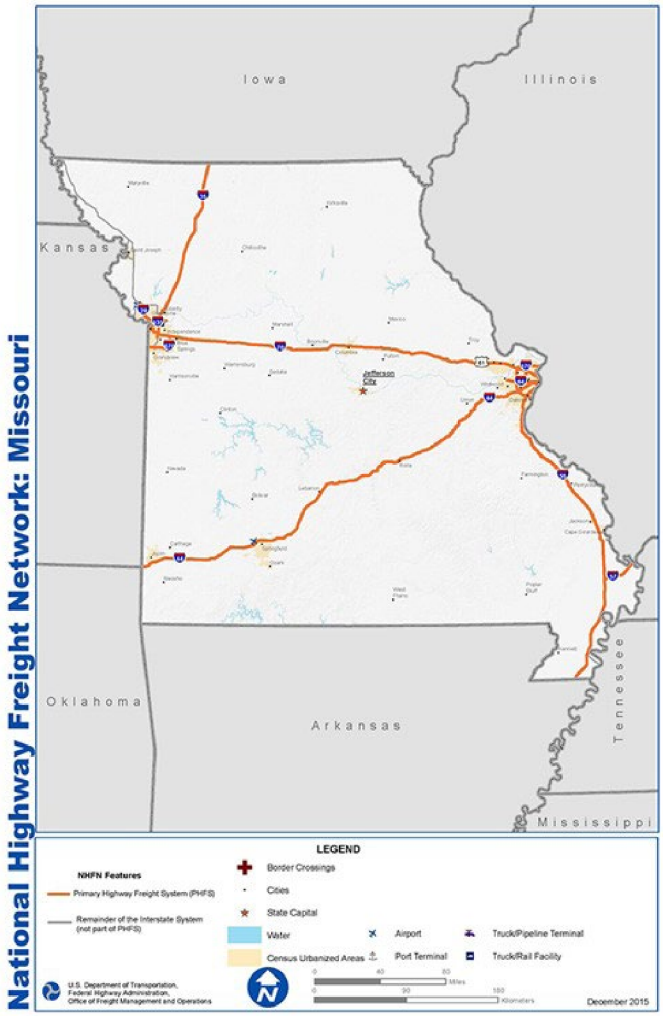
Requirements to designate CUFCs:

- Connect an intermodal facility to the PFHS, the interstate system or another intermodal facility.
- Provide a bypass route for the PFHS.
- Serve a major freight generator, logistics center or manufacturing and warehouse industrial land.
- Be important for freight movement in the region.

Guidance is still forthcoming from the Bipartisan Infrastructure Law.

The State of Missouri is limited to 150 miles of CUFC divided among Missouri's nine MPO urban areas. FHWA is allowing states to maintain a dynamic list of CUFCs. The list for Missouri will vary depending on roads in need of the specific funding category eligible by this designation.

Figure 10-1 | National HIghway Freight Network Map



10.1 | State Freight and Rail Plan

MoDOT drafted the 2022 Missouri State Freight and Rail Plan, which is a comprehensive plan that provides guidance at the regional level in coordination with statewide objectives. The 2022 plan focuses on:

- The safety of all who use Missouri's transportation.
- Mobility and the reliability of the entire system so freight can move efficiently.
- System preservation to minimize maintenance and repair costs.

- Enhancing Missouri's economic competitiveness, bringing greater revenue to the state.
- Promoting choice for how businesses ship their goods.

10.2 | Freight Data

The Freight Analysis Framework (FAF), produced through a partnership between the Bureau of Transportation Statistics (BTS) and FHWA, integrates data from a variety of sources to create a comprehensive picture of freight movement among states and major metropolitan areas by all modes of transportation. Starting with data from the 2017 Commodity Flow Survey (CFS) and international trade data from the Census Bureau, FAF Version 5 (FAF5) incorporates data from agriculture, extraction, utility, construction, service and other sectors.

The FAF5 provides estimates for tonnage and value by regions of origin and destination, commodity type, and mode for base year 2017 and 30-year forecasts. FAF5 forecasts provide a range of future freight demands at five-year increments representing three different economic growth scenarios - through 2050 - by various modes of transportation.

Customized origin-destination freight flow data is available through the FAF Data Tabulation Tool, available for download as a complete database or as prepopulated summary tables.

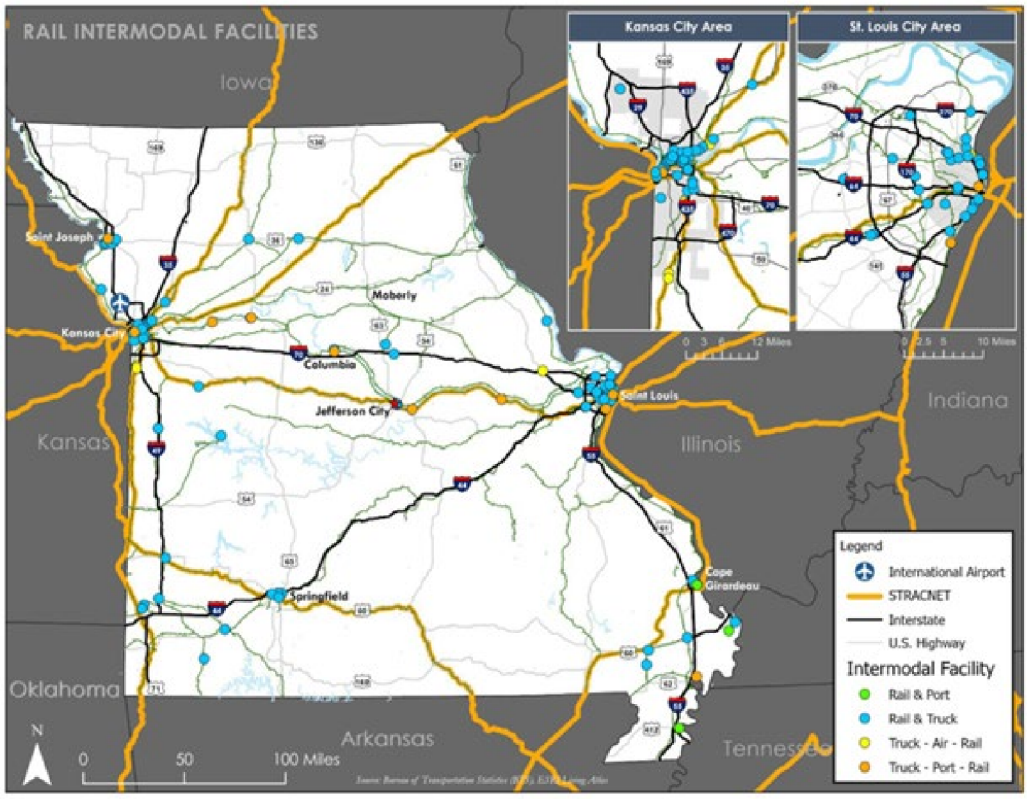
10.3 | Commercial Traffic Volumes

When discussing roadway capacity and level of service, it's important to note the impact commercial truck volumes can have on that capacity. Using the concept of Passenger Car Equivalency (PCE) can provide a more accurate picture of congestion than just volume. Depending on terrain and traffic conditions, trucks may either be equivalent to two passenger cars or up to 15, though two to four PCEs is more likely on an urban highway.

10.4 | Intermodal Transfer Facilities

These sites support the transfer of freight between modes without handling the freight itself. According to the 2022 Missouri State Freight Plan, there are currently 141 intermodal facilities identified in Missouri. The majority accommodate transfers of commodities between rail and trucks. Others connect rail/truck and ports, rail/truck and airports, or other modes.

Figure 10-2 | Rail Intermodal Facilities



Source: Bureau of Transportation Statistics (BTS), ESRI Living Atlas.

10.5 | Rail

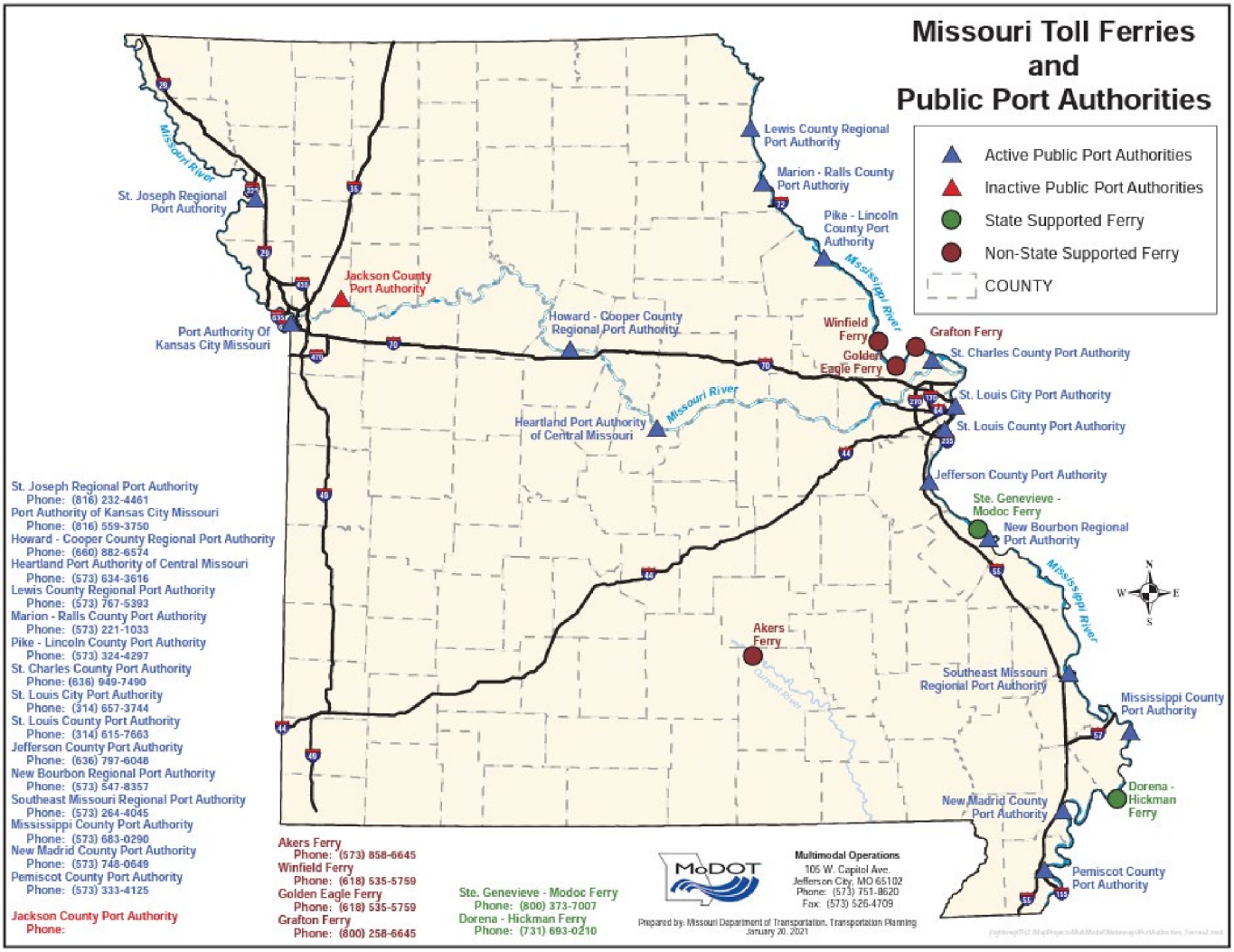
Most rail planning by MPOs in Missouri involves at-grade crossings, though grade-separated rail crossings can also present challenges for trucks if they do not provide enough vertical clearance.

At-grade rail crossings present both safety and congestion concerns. MoDOT has funding to address grade crossing safety and has developed a State Action Plan to identify highway-rail and pathway-rail grade crossings that have experienced recent incidents, identifying specific strategies for improving safety. Recent completed projects range from active warning device installations and upgrades to statewide programs for crossbuck assembly upgrades to meet Manual on Uniform Traffic Control Devices (MUTCD) standards.

10.6 | Waterways

Missouri has access to more than 1,000 miles of the Missouri and Mississippi rivers. More than 500 million tons of cargo flow on these rivers annually, equivalent to 19 million trucks on the highways. Missouri Statute Chapter 68 RSMo 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 and support waterborne commerce. This unit also provides assistance and funding to two Mississippi River ferry crossings at Saint Genevieve and Dorena.

Figure 10-3 | Missouri Toll Ferries and Public Port Authorities



10.7 | Funding

Grade Crossing Safety Account Funding

Missouri's Grade Crossing Safety Account (GCSA) receives collections of fees from state motor vehicle and all-terrain vehicle licensing fees. Under the provisions of Section 389.612 of the Missouri Revised Statutes, each motor vehicle registration or renewal is assessed 25 cents for this purpose. Funds can only be used for installation, construction or reconstruction of automatic signals or other safety devices, or other safety improvements at public roadway crossings with railroads.

Federal Section 130 Funding

Under the Fast Act's Section 130 program, federal funds are annually allocated for states to install new active warning devices, upgrade existing devices and improve grade crossing surfaces. Half of the funds are dedicated to the installation of protective devices at crossings, and half may be used for any hazard-eliminating project. The federal share is 90%.

Freight Enhancements

MoDOT's Freight Enhancement Program is focused on improving and maintaining the high-priority freight assets and corridors that are critical to the movement of freight into, out of, within and through Missouri. This program is based on partnerships with freight stakeholders and public officials to identify the greatest freight movement needs and remove barriers to efficient movement of goods through capital improvements to the system. Freight enhancement funds must be used for transportation purposes other than roads and are limited to capital projects that support the current State Freight and Rail Plan's identified goals, objectives, strategies, actions, or needs. Operating costs are not eligible. The program will pay for a maximum 80% of a project, after which funds must come from another source.

Visit modot.org to learn more about Freight and Rail.

11 CIVIL RIGHTS

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11 | CIVIL RIGHTS

11.1 | Purpose

All recipients of federal financial assistance are obligated to comply with various civil rights requirements. This chapter provides the basis for the requirements and descriptions of the programs. The overarching law that provides the basis of all civil rights programs is Title VI of the Civil Rights Act of 1964. It states:

"No person in the United States shall, on the grounds of race, color or national origin, be excluded from participation in, be denied the benefits of or be subjected to discrimination under any program or activity receiving Federal financial assistance."

USDOT and its modal agencies have established and implemented Title VI / Nondiscrimination programs. To ensure fair treatment and meaningful involvement of all people during the planning, development, evaluation and implementation of federal-aid programs and activities, recipients of federal assistance for transportation and other programs are required to submit assurances of compliance and to comply with established laws, regulations and policies. Figure 11-1 illustrates the nondiscrimination programs.

MPOs are responsible for creating a Title VI Plan, an Environmental Justice (EJ) Program, a Limited English Proficiency (LEP) Plan and an Americans with Disabilities (ADA) Plan. These can be combined in any number of ways; some choose to combine them into one single plan/program or split the topics out separately.

Title 49 CFR Part § 26.21 specifies who must have a DBE program. If you meet one of the requirements below, a Disadvantaged Business Enterprises (DBE) Plan is also required.

§ 26.21 Who must have a DBE program?

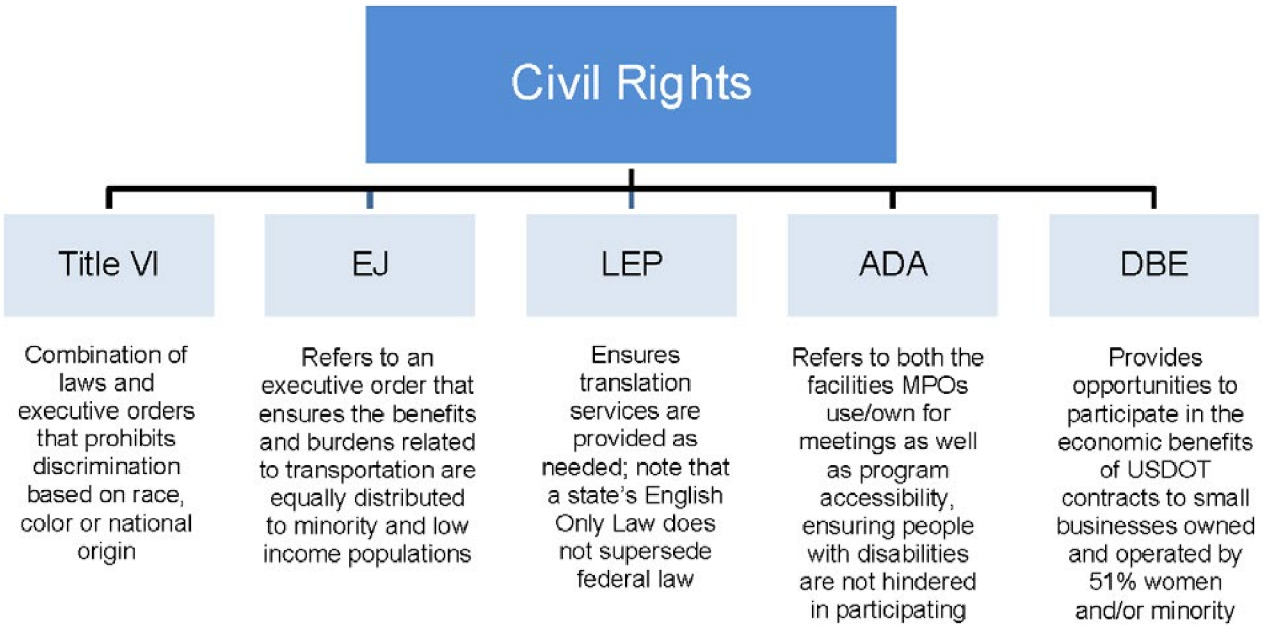
(a) If you are in one of these categories and let DOT-assisted contracts, you must have a DBE program meeting the requirements of this part:

(1) All FHWA primary recipients receiving funds authorized by a statute to which this part applies;

(2) FTA recipients receiving planning, capital and/or operating assistance who will award prime contracts (excluding transit vehicle purchases) the cumulative total value of which exceeds $250,000 in FTA funds in a Federal fiscal year;

(3) FAA recipients receiving grants for airport planning or development who will award prime contracts the cumulative total value of which exceeds $250,000 in FAA funds in a Federal fiscal year.

Figure 11-1 | Nondiscrimination Programs



11.2 | Authority

The following authorities listed in Table 11-1 apply to Missouri MPOs. More guidance can be found on FHWA's Title VI website.

Table 11-1 | Authorities

	Code	Title	Description
Federal	42 U.S.C. § 2000d	Title VI of the Civil Rights Act of 1964	Addresses discrimination based on race, color and national origin in any program or activities financed by federal aid.
	49 U.S.C. § 5332		Prohibits discrimination on the basis of race, color, creed, national origin, sex or age in employment or business opportunity.
	42 U.S.C. § 6101	Age Discrimination Act of 1975	Prohibits discrimination on the basis of age in programs or activities receiving federal financial assistance.
	23 U.S.C. § 324		Adds gender to the list of Title VI protections.
	42 U.S.C. § 12101	ADA of 1990	Prohibits discrimination on the basis of disability.
	Executive Order 12898	Environmental Justice	Federal actions to address environmental justice in minority populations and low-income populations.
	Executive Order 13166	Limited English Proficiency	Improving access to services for persons with limited English proficiency.
	49 CFR Part 26	Minority and Disadvantaged Business	Addresses the involvement of disadvantaged business enterprises (DBEs) in USDOT-funded projects.

11.3 | Title VI of the Civil Rights Act of 1964 and Environmental Justice

Title VI and its subprogram, environmental justice, have been determined to be an essential part of the planning process conducted by MPOs. Environmental justice must be considered in all phases of transportation planning, including the development and implementation of MTPs, TIPs and UPWPs.

As the primary forum for addressing a metropolitan area's transportation needs and plans for improvement, MPOs facilitate the integration of needs and plans with environmental justice concerns. A truly integrated and effective planning process ensures active consideration and promotion of environmental justice within plans, projects and groups of projects. Ultimately, successful plans and policy decisions rely on comprehensive public involvement efforts, engaging MoDOT, transit providers (as may be applicable), local agencies, stakeholders, general public and environmental justice populations.

USDOT planning regulations (23 CFR § 450.316) require MPOs to seek and consider "the needs of those traditionally underserved by existing transportation systems, such as low-income and minority households, who may face challenges accessing employment and other services."

MPOs must develop a Title VI notice and instructions on how to file a discrimination complaint.

1. Define what constitutes a complaint:
   - Legal basis
2. Consider including:
   - Timeframe for accepting complaint
   - Investigation and resolution timeframe
   - Who investigates the complaint
   - Who resolves the complaint

More information can be found on MoDOT's website.

11.4 | Certification

Compliance with Title VI and environmental justice provisions of federal law is accomplished within the framework of the MPO program. The certification process is a check to ensure that compliance is occurring. There are two forms of MPO certification: self-certification and federal certification.

11.4.1 | Self Certification

Self-certification is a process by which MoDOT and MPOs with MPAs having a population of less than 200,000 residents verify and document their compliance with the requirements of 23 U.S.C. § 134, 49 U.S.C. § 5303 and other applicable statutes and regulations. MoDOT and the MPO jointly certify and submit to FHWA and FTA (as may be applicable) that the planning process fully addresses major transportation issues facing the area. Certification is required at least every four years as part of the approval process of the STIP. MoDOT updates the STIP annually and the MPOs and TMAs certify the planning process with adoption of the TIP. To certify compliance with Title VI and adequately address environmental justice, MPOs need to:

- Establish analytical capabilities to ensure that the MTP and the TIP comply with Title VI and related federal nondiscrimination requirements;
- Identify residential, employment and transportation patterns of environmental justice populations in such a manner to permit identifying and addressing whether the benefits and burdens of transportation investments are fairly distributed, and demonstrating the extent to which members of environmental justice populations are beneficiaries of programs and projects and not disproportionately impacted; and
- Evaluate and improve where necessary their public involvement process to eliminate participation barriers and engage environmental justice populations in the transportation decision-making activities within the MPA.

In addition, 23 CFR § 200.9 requires assurances that state program officials and Title VI specialists conduct annual reviews to determine compliance with Title VI, which includes environmental justice matters. Section 200.9(b)(7) stipulates that the state "conduct Title VI reviews of cities, counties, consultant contractors, suppliers, universities, colleges, planning agencies [e.g., MPOs], and other recipients of Federal-Aid Highway funds." MoDOT also is charged in Section 200.9(b)(14) with establishing "procedures to identify and eliminate discrimination when found to exist." Thus, compliance documentation maintained by an MPO provides the appropriate vehicle for the state's compliance with this requirement.

11.4.2 | Federal Certification

Federal certification is required for MPOs with an MPA population of 200,000 or more residents (TMAs). The federal certification assesses how well an MPO is working with transportation-related organizations, local governments and citizens, as well as with MoDOT to meet the many statutory requirements applicable to the planning process. Certifications must be renewed every three years by joint action of the FHWA and FTA for MPOs within the larger metropolitan areas to maintain full eligibility for federal highway and transit funding.

An essential part of the certification process is evidence of compliance with applicable provisions of Title VI of the Civil Rights Act and related environmental justice guidance. Certification with respect of Title VI and environmental justice compliance involves satisfaction of several stipulations outlined in 23 CFR § 450.336.

The federal certification review consists of four parts: a document review, site visit, written report and closeout meeting.

11.5 | Limited English Proficiency (LEP)

Persons with a limited ability to read, write, speak or understand English are designated the status LEP within the construct of Title VI and implementing regulations. The LEP population includes "persons for whom English is not their primary language and who have a limited ability to speak, understand, read, or write English".

Title VI and its implementing regulations require that MPOs receiving federal funds take responsible steps to ensure meaningful access to the benefits, services, information and other important portions of their programs and activities for individuals who are LEP.

11.5.1 | Safe Harbor and LEP Thresholds

Safe Harbor - Requires written translations of vital documents for each LEP group that meets the threshold.

1. Safe Harbor LEP threshold:
   a. 5% or 1,000 individuals, whichever is less.
2. Vital documents:
   a. Documents critical for accessing recipients' services or benefits.
   b. Letters requiring response from customer.
   c. Notification of free language assistance.
   d. Complaint forms.
   e. Notification of rights.

11.5.2 | LEP Plan

USDOT LEP guidance specifies that recipients of federal assistance are required to take reasonable steps to ensure LEP persons are afforded meaningful access to their programs and activities. This requires development of a plan that is fact-dependent yet flexible, and balances the five factors defined by the U.S. Department of Justice (DOJ):

1. Identifying LEP individuals who need language assistance.
2. Language assistance measures.
3. Training staff.
4. Providing notice to LEP persons.
5. Monitoring and updating the LEP Plan.

The results of this analysis provide a reasonable basis for identifying different language assistance measures necessary to ensure meaningful access for LEP persons to the different types of programs or activities in which the recipient engages.

The LEP Plan then is developed, as may be appropriate, to establish a framework for consistently determining the types of documents and activities (e.g., public meetings, workshops) critical to ensuring meaningful access for LEP persons and full participation in federally assisted systems and services. The LEP Plan should serve as a means to document compliance as well as establish a process for providing timely and reasonable language assistance.

Popular strategies include:

- Publishing timetables and route maps in languages other than English.
- Multi-language phone lines.
- Multilingual staff in information booths.
- Pictograms.
- Multi-language announcements at stations and on vehicles.
- Language identification using "I Speak" cards.
- Advertising in ethnic media.

Go to www.LEP.gov for more information.

11.6 | Title VI Plan Format & Content

MPOs are required to submit a Title VI plan every three years as outlined in FTA Circular 4702.1B. Other requirements are listed in 23 CFR Part 200. MoDOT's External Civil Rights (ECR) Division coordinates this effort. Table 11-2 references some existing Title VI Plans that are available on the web. The Title VI Plan should include the sections that are in the Title VI Plan Template found on the MoDOT ECR webpage. This plan, at a minimum, will include nondiscrimination assurances. All MPO Title VI plans must be approved by the agency's governing body. Before obtaining this approval, the plan must be sent to MoDOT External Civil Rights at TitleVI@modot.mo.gov for initial review and comments. This ensures that all required elements are adequately addressed in the plan prior to final approval by the MPO's governing body.

See DOT 1050.2A for Title VI Assurances and non-discrimination provisions.

Table 11-2 | Available Title VI Plans

Header	Header
EWG	Title VI page
MARC	Title VI page
OTO	Title VI page
SJATSO	Title VI page
CATSO	Title VI page
JATSO	Title VI page
CAMPO	Title VI page
SEMPO	Title VI page
NWARPC	Title VI page

11.7 | ADA

Regarding matters of discrimination, MPOs fall under two federal laws: Title II of the Americans with Disabilities Act of 1990 and Section 504 of the Rehabilitation Act of 1973 (herein after ADA/504). These statutes prohibit public agencies from discriminating against persons with disabilities by excluding them from services, programs or activities. In particular, the ADA prohibits discrimination on the basis of disability by public entities.

The facilities MPOs use/own for meetings as well as program accessibility should be considered to ensure people with disabilities are not hindered from participating in the planning process.

Title II prohibits employment discrimination. Title II of ADA applies specifically to all activities of state and local governments, including MPOs, and requires that government entities give people with disabilities equal opportunity to benefit from all of the programs, services and activities that may be offered. The Rehabilitation Act prohibits discrimination on the basis of disabilities in programs conducted by federal agencies, in programs receiving federal financial assistance, in federal employment and in the employment practices of federal contractors.

11.8 | Disadvantaged Business Enterprise

Federal guidelines for participation of disadvantaged business enterprises (DBEs) in USDOT-funded contracts are set forth in 49 CFR Part 26. MPOs, as recipients of federal planning funds, are impacted by these federal requirements.

MoDOT has established its DBE Program in accordance with regulations from USDOT. As a condition of receipt of federal funding, MoDOT has signed an assurance that it will comply with 49 CFR Part 26. It is MoDOT's policy to ensure that DBEs have an equal opportunity to receive and participate in USDOT-assisted contracts.

MPOs are not responsible for determining the eligibility of any particular company to be certified as a DBE. However, they do have several responsibilities when it comes to participation of DBEs in the consultant contracts that they put out to bid.

The Missouri Regional Certification Committee has been established to facilitate statewide DBE certification.

11.8.1 | DBE Program Requirement

If receiving over $250,000 in direct federal FTA or FAA funds or any direct funds from FHWA, the agency should have their own DBE program and should consult with the relevant operating administration (FTA, FHWA, FAA) on those requirements. If receiving over $250,000 in federal funds as a MoDOT grant recipient, the agency can adopt MoDOT's DBE Program, which can be found on at MoDOT.org/dbe-program. There is no requirement that agencies have formal adoption documentation of MoDOT's DBE Program.

11.8.2 | DBE Goal Process

All procurements utilizing federal funds that have ***multiple*** subcontracting opportunities need to be evaluated by MoDOT for a DBE goal. A procurement with multiple subcontracting opportunities would be those that have more than one type of work. An example of a procurement with multiple subcontracting opportunities: a professional service contract for a study to be conducted could include public relations, data retrieval, data analysis – portions of the study could be subcontracted. The purchase of a single item or service would not need to be sent to ECR to be evaluated for a DBE goal. Goals are set in accordance with 49 CFR Part 26.51.

The following information must be submitted to MoDOT External Civil Rights (ECR) Division at dbe@modot.mo.gov for a DBE goal evaluation:

- Project location/areas affected.
- Estimated contract value.
- Scope of services.
- Type of work involved and percentage breakdown for each type.
- Any additional information the MPO would like to provide for consideration in establishing the goal.

This requirement is only for procured contracts, meaning any work conducted by the MPO or work in which an outside vendor is ***not*** utilized will not need a DBE goal evaluation. This process typically takes about **a week** for ECR to process.

Additionally, **all** procured contracts using federal funding, regardless of amount or if it has a **0% DBE goal**, shall include the following language within the solicitation:

The following DBE goal has been established for this solicitation. The dollar value of services and related equipment, supplies and materials used in furtherance thereof which is credited toward this goal will be based on the amount actually paid to DBE firms. The goal for the percentage of services to be awarded to DBE firms "is xx% of the total proposed dollar value." All submitted firms toward the DBE goal must appear in the MRCC Directory with the appropriate work codes to be eligible for DBE participation.

For all solicitations with a DBE goal, all submitted proposals must include DBE participation meeting the goal or a good faith effort to do so. DBE participation submittals must include:

- The name of each DBE that will be utilized.
- The scope of work they will be performing.
- The dollar amount that will go to the DBE.

11.8.3 | DBE Concurrence Process

Once proposals and DBE participation submittals are received by the MPO, the selected proposal and draft contract must be sent to dbe@modot.mo.gov for review and concurrence – this step is still required for 0% DBE goals. The draft contract must include the DBE requirements language shown in Appendix 1 (or similar, as approved by MoDOT).

MoDOT ECR will verify that all DBE participation can be counted for DBE credit and that the proposal has either met the DBE goal or made a good faith effort to do so. MoDOT ECR will notify the MPO of DBE concurrence, after which time the contract may be awarded. If the MPO provides the DBE fee schedule for the agreement, concurrence will occur within one week of receiving the request. If a Good Faith Effort review needs to occur, the process may be delayed by **two weeks**.

11.8.4 | DBE Monitoring

For any DBE performing work on the project, invoices must include all amounts billed by the DBE, as well as all amounts paid to date. MPOs must monitor consultant invoices throughout the contract and report DBE participation to MODOT by submitting each invoice. Figure 136.4.10 in MoDOT's EPG provides a consultant invoice template which may be utilized for purposes of reporting DBE participation. See specifically Section 4 of Figure 136.4.10.

11.8.5 | DBE Closeout

At the completion of the contract, prior to the final invoice being paid by the MPO, DBE information including invoice payments to date must be submitted to MoDOT ECR, at which time DBE payments will be verified and approval for contract closeout will be provided to the MPO within **a week** of the closeout request.

NOTE: All of the above processes are applicable to professional service contracts. For any contracts involving construction, the process will be different. Please contact MoDOT ECR for DBE compliance on construction contracts.

11.8.6 | DBE Contract Assurances

Under 49 CFR § 26.13, MPOs are required to have a signed policy statement expressing their commitment to DBE participation. The same federal regulation requires that each contract that an MPO signs with contractors and subcontractors, consultants and subconsultants include the following assurance:

"The contractor or subcontractor shall not discriminate on the basis of race, color, national origin or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of USDOT assisted contracts. Failure by the contractor

to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate" (49 CFR § 26.13(b).

11.8.7 | DBE Semi-Annual DBE Reporting

Timeframe: April 1 and Oct. 1, each year

Process:

1. MoDOT sends email to MPOs requesting awarded contracts and payments which grant funds were utilized during the periods of Oct. 1 – March 31 and April 1 – Sept. 30.
    a. MPOs report all contracts/purchase orders awarded to an outside party (DBE or non-DBE) for products or services with the federal funds received through the grant and attach copies.
    b. Report wages and benefits for contracted staff (Internal staff wages and benefits do not need to be reported).
    c. Report any payments made to vendors for existing or new contracts during the reporting period.
2. Each MPO is responsible for responding to the email with a completed report (even if no DBE contracts were executed).
3. This is to be completed within a month of the initial email.
4. Any questions received during the submittal period are forwarded to External Civil Rights for disposition.

Visit www.modot.org for External Civil Rights Division Contacts.

12 PUBLIC INVOLVEMENT

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12 | PUBLIC INVOLVEMENT

12.1 | Purpose

This chapter provides guidance to MPOs for creating, implementing and managing the public involvement process mandated by federal regulations. Each MPO is required to develop a Public Participation Plan (PPP) as outlined in 23 C.F.R. § 450.316(a).

The ADA requires the public participation process to provide equal access to people with disabilities. Title VI of the 1964 Civil Rights Act and its implemented regulations prohibit discrimination and require that federal funding recipients take responsible steps to ensure meaningful access to the benefits, services, information and other important portions of their program and activities for LEP individuals.

12.2 | Minimum Requirements

The MPO shall develop the participation plan in consultation with all interested parties and shall, at a minimum, describe explicit procedures, strategies and desired outcomes for the following:

1. Providing adequate public notice of public participation activities and time for public review and comment at key decision points, including a reasonable opportunity to comment on the proposed metropolitan transportation plan and the TIP.
2. Providing timely notice and reasonable access to information about transportation issues and processes.
3. Employing visualization techniques to describe metropolitan transportation plans and TIPs.
4. Making public information (technical information and meeting notices) available in electronically accessible formats and means, such as the internet.
5. Holding any public meetings at convenient and accessible locations and times.
6. Demonstrating explicit consideration and response to public input received during the development of the metropolitan transportation plan and the TIP.
7. Seeking out and considering the needs of those traditionally underserved by existing transportation systems, such as low-income and minority households, who may face challenges accessing employment and other services.
8. Providing an additional opportunity for public comment, if the final metropolitan transportation plan or TIP differs significantly from the version that was made available for public comment by the MPO and raises new material issues that interested parties could not reasonably have foreseen from the public involvement efforts.
9. Coordinating with the statewide transportation planning public involvement and consultation processes.
10. Periodically reviewing the effectiveness of the procedures and strategies contained in the participation plan to ensure a full and open participation process.

A minimum public comment period of 45 calendar days shall be provided before the initial or revised participation plan is adopted by the MPO. Copies of the approved participation plan shall be provided to the FHWA and the FTA for informational purposes and shall be posted on the internet to the maximum extent practicable.

Table 12-1 lists the MPO Public Participation Plans available online.

Table 12-1 | MPO Public Participation Plans

MPO	Link
MARC	www.marc.org/transportation/plans-and-studies/public-participation-plan
OTO	www.ozarkstransportation.org/what-we-do/ppp
SEMPO	southeastmpo.org/participation-plan/
JATSO	www.joplinmo.org/1174/Plans-and-Publications
EWG	www.ewgateway.org/library-post/public-invovlement-plan/
SJATSO	www.stjosephmo.gov/889/Plans-and-Projects
CATSO	www.como.gov/boards/columbia-area-transportation-study-organization/
CAMPO	www.jeffersoncitymo.gov/government/long_range_transportation_plan/public_participation.php
NWARPC	www.nwarpc.org/public-participation-plan/

12.3 | Public Participation in the Planning Process

MPOs are responsible for four major transportation plans and programs: Metropolitan Transportation Plan (MTP); Transportation Improvement Program (TIP); Unified Planning Work Program (UPWP); and Public Participation Plan (PPP), in addition to being responsible for preparing other transportation plans and studies as needed. The PPP documents policies and processes implemented by an MPO to provide a reasonable opportunity for individuals, public agencies and other interested parties to be involved in the transportation planning process.

To achieve full public access, an MPO must adhere to other regulations that require MPOs be proactive in involving under-represented groups in the planning process and the sharing and provision of information. Title VI of the Civil Rights Act prohibits discrimination based on race, color or national origin. Title VI applies to all organizations that receive federal funding. The Americans with Disabilities Act of 1991 and Section 504 of the Rehabilitation Act of 1973 prohibit discrimination based on a disability by public and private sector parties. Additionally, MPOs must comply with Title II of the Americans with Disabilities Act.

In 2000, Executive Order 13166 gave Title VI discrimination protection to people with Limited English Proficiency (LEP). In 1994, Executive Order 12898 required federal agencies make environmental justice part of their mission by identifying and addressing disproportionately high and adverse effects of its programs, policies and activities on minority and low-income populations.

The PPP provides direction and documents the process for inclusive community engagement for MPO transportation planning activities. In addition, the PPP is how MPOs maintain compliance with federal regulations and measure the effectiveness of procedures and strategies aimed at supporting early and continuous involvement of the public.

12.4 | Virtual Public Involvement

Virtual public involvement supports agencies' efforts to engage the public more effectively by supplementing face-to-face information sharing with technology.

Through the Every-Day Counts Program, FHWA has put together a resource for virtual public involvement:

www.fhwa.dot.gov/innovation/everydaycounts/edc_6/virtual_public_involvement.cfm

www.fhwa.dot.gov/innovation/everydaycounts/edc_5/docs/VPI-factsheet.pdf

www.fhwa.dot.gov/innovation/everydaycounts/reports/edc5_finalreport.pdf

13 AVIATION

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13 | AVIATION

While Missouri has more than 500 aviation facilities, only about one-fifth are eligible for funding. Commercial service airports include St. Louis Lambert International, Kansas City International, Springfield-Branson National, Joplin Regional, Branson, Columbia Regional, Cape Girardeau Regional, Kirksville Regional and Waynesville-St. Robert Regional airports.

Passenger and cargo data can be found through the Federal Aviation Administration (FAA) and the Bureau of Transportation Statistics. Additional information on airports in Missouri can be found on the MoDOT Aviation webpage.

Missouri is one of 10 states in the State Block Grant program, which means MoDOT acts on behalf of FAA in certain circumstances. MoDOT is the approving authority for all airport master planning and airport layout plans for Missouri's federal aviation airports.

MoDOT, airport staff from around Missouri, FAA and other stakeholders collaborated to develop the most recent Missouri State Airport System Plan Update, studying the facilities needed to meet projected aeronautical demand over the next 20 years.

13.1 | Purpose

This chapter describes the planning and project prioritization processes that are used to fund infrastructure maintenance and improvements at public airports in Missouri, as well as the role of MPOs regarding ensuring airports contribute to efficient intermodal movement of people and goods in a regional transportation system.

13.2 | Authority

Aviation system planning efforts largely focus on facilities that are eligible to receive Airport Improvement Program (AIP) grants from the FAA.

13.3 | Funding for Aviation

Federal and state funding for aviation improvements is made directly available to the eligible aviation facilities. MPOs do not have direct input in these funding decisions but do play an important role in how the surface transportation network interfaces with the airport. The State of Missouri levies a 9-cent-per-gallon tax on aviation fuel, which must be spent on airport projects. Federally, the AIP provides funding.

13.4 | Airport Improvement Program

The current aviation program, known as the AIP, was established by the Airport and Airway Improvement Act of 1982 (Public Law 97-248). Since then, the AIP has been most recently authorized with passage of the FAA Reauthorization Act of 2018, extending FAA's funding and authorities through Fiscal Year 2023. Funds obligated for the AIP are drawn from the Airport and Airway Trust Fund, which is supported by user fees, fuel taxes and other similar revenue sources.

13.5 | AIP Eligible Airports

AIP grant funds can be used for planning, development, or noise compatibility projects that are located at or associated with individual public-use airports (including heliports and seaplane bases). A public-use airport is an airport open to the public that also meets one of the following criteria:

- Publicly owned.
- Privately owned but designated by FAA as a reliever.
- Privately owned but having scheduled service and at least 2,500 annual enplanements.

To be eligible for an AIP grant, an airport must be included in the National Plan of Integrated Airport Systems (NPIAS). The NPIAS, which is prepared and published every two years, identifies public-use airports that are important to public transportation and contribute to the needs of civil aviation, national defense and the postal service.

Recipients of grants are referred to as "sponsors." The description of eligible grant activities is described in the authorizing legislation (Title 49 USC, Chapter 471) and relates to capital items serving to develop and improve the airport in areas of safety, capacity and noise compatibility. In addition to these basic principles, a sponsor must be legally, financially and otherwise able to carry out the assurances and obligations contained in the project application and grant agreement.

13.6 | AIP Eligible Projects

Eligible projects include those improvements related to enhancing airport safety, capacity, security and environmental concerns. In general, sponsors can use AIP funds on most airfield capital improvements or repairs, and in some specific situations, for terminals, hangars and non-aviation development. Any professional services that are necessary for eligible projects — such as planning, surveying and design — are eligible. Aviation demand at the airport must justify the projects, which must also meet federal environmental and procurement requirements.

Projects related to airport operations and revenue-generating improvements are typically not eligible for funding. Operational costs — such as salaries, equipment and supplies — are also not eligible for AIP grants.

The table below lists typical examples of eligible and ineligible projects; the list is not exhaustive. Questions about AIP eligibility should be directed to the appropriate regional airport office.

The AIP Handbook is FAA's guidebook for administering federal AIP funds.

Table 13-6 | Eligible and Ineligible Projects

EXAMPLES OF ELIGIBLE PROJECTS	EXAMPLES OF INELIGIBLE PROJECTS
Runway construction/rehabilitation	Maintenance equipment and vehicles
Taxiway construction/rehabilitation	Office and office equipment
Apron construction/rehabilitation	Fuel farms
Airfield lighting	Landscaping
Airfield signage	Artworks
Airfield drainage	Aircraft hangars
Land acquisition	Industrial park development
Weather observation stations (AWOS)	Marketing plans
NAVAIDs such as REILs and PAPIs	Training
Planning studies	Improvements for commercial enterprises
Environmental studies	Maintenance or repairs of buildings
Safety area improvements	
Airport layout plans (ALPs)	
Access roads only located on airport property	
Removing, lowering, moving, marking, and lighting hazards	
Glycol Recovery Trucks/Glycol Vacuum Trucks	

SOURCE: www.faa.gov/airports/aip/overview/

13.7 | Other Considerations

Land Use

While MPOs don't directly control land use, it's important for airports to protect their easements and air space needs. It's also critical to be cognizant of noise impacts from airports.

Air Quality

Dependent upon a region's air quality status, coordination with nearby airports is necessary to meet air quality goals. As there is more focus on reducing greenhouse gas emissions, airports can be partners in addressing those reductions.

Goods Movement, Customs, and Foreign Trade Zones

Cargo may be a critical component of airport activity. Planners should be aware of freight movements in and around airport facilities. Some airports house a Customs office and facilitate goods movement and manufacturing through the designation of a foreign trade zone (FTZ). An FTZ is an economic incentives program created by the federal government to facilitate trade, whereby Customs' duties are delayed until the merchandise enters U.S. commerce.

Homeland Security

Security of transportation assets is an important consideration, and airports are considered critical infrastructure addressed by Homeland Security.

14 SUPPORTING PROGRAMS

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14.1 | Air Quality

Protecting and enhancing air quality is a challenging responsibility requiring participation from state and local governments, regulated entities and the public.

14.1.1 | Purpose

The Clean Air Act (CAA) is the comprehensive federal law that regulates air emissions from stationary and mobile sources. Among other things, this law authorizes the Environmental Protection Agency (EPA) to establish National Ambient Air Quality Standards (NAAQS) to protect public health and public welfare and to regulate emissions of hazardous air pollutants.

One of the goals of the CAA was to set and achieve NAAQS in every state by 1975 to address the public health and welfare risks posed by certain widespread air pollutants. The setting of these pollutant standards was coupled with directing the states to develop state implementation plans (SIPs), applicable to appropriate industrial and mobile sources in the state, to achieve these standards. The Act was amended in 1977 and 1990, primarily to set new goals (dates) for achieving attainment of NAAQS since many areas of the country had failed to meet the deadlines. Today, most NAAQS have been achieved or are heading in the right direction. A process called 'transportation conformity' remains necessary to assure transportation plans, programs and projects conform to the state air quality plan or SIP so air quality can continue to improve.

www.epa.gov/naaqs

14.1.2 | Transportation Conformity

Transportation conformity is a requirement of Section 176(c) of the CAA (42 U.S.C. § 7506(c)) that connects air quality and transportation planning activities. Conformity refers to the process of evaluating plans, programs and projects to determine and demonstrate that they meet the requirements of the CAA and applicable SIP. It's required in areas that are classified non-attainment or maintenance for any pollutant. General conformity refers to all sources of pollution, while transportation conformity refers to mobile source (any air pollution emitted by motor vehicles, airplanes, locomotives and other engines and equipment that can be moved from one location to another) pollution.

Designations and Classifications

At this time in Missouri, the transportation conformity process is required for the St. Louis non-attainment and maintenance area. Franklin County, Jefferson County, St. Charles County, St. Louis County and the City of St. Louis are designated maintenance for the **2008** NAAQS for the pollutant, ozone. As this standard has not been revoked, a conformity determination is required. St. Charles County, St. Louis County, Jefferson County, a portion of Franklin County and the City of St. Louis are designated non-attainment (moderate marginal) for the 2015 NAAQS for the pollutant, ozone. These same counties, with the addition of the rest of Franklin County, are designated maintenance for the 2012 NAAQS for the pollutant fine particulate matter or $PM_{2.5}$. A conformity determination for $PM_{2.5}$ is no longer needed for metropolitan transportation plans, transportation improvement programs or at the project level.

A maintenance area is an area that had originally been designated non-attainment for a pollutant, then was subsequently redesignated to maintenance after achieving an NAAQS.

Designations:

- Non-attainment.
- Unclassifiable/attainment.
- Maintenance.

Classifications:

- Marginal.
- Moderate.
- Serious.
- Severe.
- Extreme.

www.epa.gov/green-book/ozone-designation-and-classification-information

State Implementation Plan

An SIP is a collection of regulations and documents used by a state, territory or local air district to implement, maintain and enforce the NAAQS and to fulfill other requirements of the Clean Air Act.

SIPs serve two main purposes:

1. Demonstrate that the state has the basic air quality management program components in place to implement a new or revised NAAQS.
2. Identify the emissions control requirements the state will rely upon to attain and/or maintain the primary and secondary NAAQS.

The Missouri Department of Natural Resources (MoDNR) develops the SIP, and the EPA approves the SIP.

https://dnr.mo.gov/air/what-were-doing/state-planning/ozone

Pollutants

Current NAAQS are shown in Table 14.1-1.

Table 14.1-1 | National Ambient Air Quality Standards (NAAQS)

Pollutant [links to historical tables of NAAQS reviews]		Primary/ Secondary	Averaging Time	Level	Form
Carbon Monoxide (CO)		Primary	8 hours	9 ppm	Not to be exceeded more than once per year
			1 hour	35 ppm	
Lead (Pb)		Primary and Secondary	Rolling 3 month average	0.15 µg/m3 (1)	Not to be exceeded
Nitrogen Dioxide (NO2)		Primary	1 hour	100 ppb	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		Primary and Secondary	1 year	53 ppb (2)	Annual Mean
Ozone (O3)		Primary and Secondary	8 hours	0.070 ppm (3)	Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years
Particle Pollution (PM)	PM2.5	Primary	1 year	12.0 µg/m3	Annual mean, averaged over 3 years
		Secondary	1 year	15.0 µg/m3	Annual mean, averaged over 3 years
		Primary and Secondary	24 hours	35 µg/m3	98th percentile, averaged over 3 years
	PM10	Primary and Secondary	24 hours	150 µg/m3	Not to be exceeded more than once per year on average over 3 years
Sulfur Dioxide (SO2)		Primary	1 hour	75 ppb (4)	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years

(1) In areas designated nonattainment for the Pb standards prior to the promulgation of the current (2008) standards, and for which implementation plans to attain or maintain the current (2008) standards have not been submitted and approved, the previous standards (1.5 µg/m3 as a calendar quarter average) also remain in effect.
(2) The level of the annual NO2 standard is 0.053 ppm. It is shown here in terms of ppb for the purposes of clearer comparison to the 1-hour standard level.
(3) Final rule signed Oct. 1, 2015, and effective Dec. 28, 2015. The previous (2008) O3 standards are not revoked and remain in effect for designated areas. Additionally, some areas may have certain continuing implementation obligations under the prior revoked 1-hour (1979) and 8-hour (1997) O3 standards.
(4) The previous SO2 standards (0.14 ppm 24-hour and 0.03 ppm annual) will additionally remain in effect in certain areas: (1) any area for which it is not yet one year since the effective date of designation under the current (2010) standards, and (2) any area for which an implementation plan providing for attainment of the current (2010) standard has not been submitted and approved and which is designated nonattainment under the previous SO2 standards or is not meeting the requirements of a SIP call under the previous SO2 standards (40 CFR 50.4(3)). A SIP call is an EPA action requiring a state to resubmit all or part of its State Implementation Plan to demonstrate attainment of the required NAAQS.

In Missouri, for transportation conformity purposes, ozone is the main pollutant of concern. Ozone is a gas composed of three atoms of oxygen. Precursor contributing pollutants (NOx and VOCs) chemically react with oxygen in the lower atmosphere in the presence of strong sunlight and high temperatures combined with heat from the sun to produce ozone. Transportation is a primary contributor to NOx.

Ozone occurs both in the Earth's upper atmosphere and at ground level. It can be good or bad, depending on where it is found in the atmosphere. Stratospheric ozone is good because it protects living things from ultraviolet radiation from the sun. Ground-level ozone is bad because it can trigger public health issues, particularly for children, the elderly and people of all ages who have lung diseases such as asthma. Ozone at ground level is a harmful air pollutant because of its effects on people and the environment, and it's the main ingredient in "smog."

Health Effects of Ozone Pollution | US EPA

14.1.3 | Conformity Process

The policy board of an MPO must formally make an initial conformity determination on its MTP and TIP prior to submitting them to FHWA/FTA for an independent review and conformity determination. FHWA and FTA work with EPA in the review and determination process. The transportation conformity process is done in accordance with the required interagency consultation process.

- At least every four years or when an MTP/TIP is updated or amended with non-exempt projects.
- 24 months after certain SIP actions.
- 12 months after new nonattainment designations become effective.
- As needed.

Links

www.epa.gov/ground-level-ozone-pollution

dnr.mo.gov/air/what-were-doing/state-planning/ozone

www.ewgateway.org/community-planning/environmental/air-quality/

www.ewgateway.org/wp-content/uploads/2017/07/AQCDDUsersGuide.pdf

14.2 | CONGESTION MANAGEMENT PROCESS

14.2.1 | Introduction

14.2.2 | CMP Network

14.2.3 | Federal Law

FHWA CMP Guidebook

14.2 | Congestion Management Process

The Congestion Management Process (CMP) is a systematic approach to addressing congestion.

14.2.1 | Introduction

CMP is a federally mandated program that applies only to Transportation Management Areas (TMAs), or those with populations over 200,000. While not required, the exercise of developing a CMP can have value to smaller MPOs. The intent of the CMP is to improve the efficiency and effectiveness of both the existing and future transportation system through the implementation of Transportation System Management (TSM), which includes Intelligent Transportation Systems (ITS) and Travel Demand Management (TDM) techniques.

In TMAs designated as ozone or carbon monoxide non-attainment areas, the CMP takes on a greater significance. Federal law prohibits projects that result in a significant increase in carrying capacity for single-occupant vehicles (SOVs) from being programmed in these areas unless the project is addressed in the region's CMP.

Federal regulations are not prescriptive regarding the methods and approaches that must be used to implement a CMP; however, the process generally includes:

- Development of congestion management objectives.
- Establishment of measures of multimodal transportation system performance.
- Collection of data and system performance monitoring to define the extent and duration of congestion and determine the causes of congestion.
- Identification of congestion management strategies.
- Implementation activities, including identification of an implementation schedule and possible funding sources for each strategy.
- Evaluation of the effectiveness of implemented strategies.

14.2.2 | CMP Network

The CMP network focuses on the Enhanced National Highway System, as first defined in MAP-21, which generally means those roads classified on the Federal Functional Classification system as principal arterials and above.

MPOs may also add other routes beyond the NHS and principal arterials to their regional CMP networks to address concerns such as high traffic volumes, impacts on other modes such as transit or freight routes, etc.

14.2.3 | Federal Law

According to CFR 450.104, a CMP means a systematic approach required in TMAs that provides for effective management and operation, based on a cooperatively developed and implemented metropolitan-wide strategy, of new and existing transportation facilities eligible for funding under title 23 U.S.C., and title 49 U.S.C., through the use of travel demand reduction and operational management strategies. CFR 450.322 further outlines the requirements for a CMP.

FHWA CMP Guidebook

In 2011, the FHWA published a CMP Guidebook meant to help TMAs develop evaluation measures and strategies for addressing causes of recurring and non-recurring congestion.

14.3 | ITS ARCHITECTURE

14.3.1 | Introduction

14.3.2 | Regional ITS Architecture

14.3.3 | Responsibilities

14.3 | ITS ARCHITECTURE

In accordance with 23 CFR Part §940, a regional Intelligent Transportation Systems (ITS) architecture must be developed for areas planning to deploy ITS projects in order to guide the development of these ITS projects and programs.

14.3.1 | Introduction

Any region that is currently implementing ITS projects should have had a regional ITS architecture by April 8, 2005. Per federal regulations, all ITS projects that are funded in whole or in part with highway trust fund monies on NHS and non-NHS routes must be included in the region's ITS Architecture Plan. While a regional ITS architecture plan must be developed for areas planning to deploy ITS projects, it is not a specific MPO requirement. However, the East-West Gateway Council of Governments in St. Louis and MARC in Kansas City have taken on this responsibility with MoDOT's support and approval. Currently, both MPOs have approved ITS Architecture Plans in place and are working to maintain and update them as necessary.

MoDOT should work with areas outside of Kansas City and St. Louis to establish a periodic process for updating the regional ITS architecture.

14.3.2 | Regional ITS Architecture

The Regional ITS Architecture should provide a specific, tailored structure for facilitating institutional agreement and technical integration for the implementation of ITS projects in the region. It should define how systems functionally operate and describe the interconnection of information exchanges that must take place between these systems to accomplish transportation services. The Regional ITS Architecture must be consistent with ITS strategies and projects contained in applicable transportation plans. The regional ITS architecture shall be on a scale commensurate with the scope of ITS investment in the region.

In the development of the regional ITS architecture, provisions should be made to include participation from the following agencies, as appropriate: highway agencies; public safety agencies (e.g., police, fire, emergency/medical); transit operators; federal lands agencies; state motor carrier agencies; and other operating agencies necessary to fully address regional ITS integration. Development of the regional ITS architecture should be consistent with the transportation planning process. Furthermore, the National ITS Architecture shall be used as a resource in the development of the regional ITS architecture and the regional architecture should be consistent with the Statewide ITS Plan.

The regional ITS architecture shall include, at a minimum, the following:

- A description of the region.
- Identification of participating agencies and other stakeholders.
- An operational concept that identifies the roles and responsibilities of participating agencies and stakeholders in the operation and implementation of the systems included in the regional ITS architecture.
- Any agreements (existing or new) required for operations, including, at a minimum, those affecting ITS project interoperability, utilization of ITS related standards and the operation of the projects identified in the regional ITS architecture.
- System functional requirements.
- Interface requirements and information exchanges with planned and existing systems and subsystems (e.g., subsystems and architecture flows as defined in the National ITS Architecture).
- Identification of ITS standards supporting regional and national interoperability.
- The sequence of projects required for implementation.

Existing regional ITS architectures that meet all of the requirements shall be considered to satisfy the requirements. The agencies and other stakeholders participating in the development of the regional ITS architecture shall develop and implement procedures and responsibilities for maintaining it, as needs evolve within the region.

14.3.3 | Responsibilities

Table 14.3-1 provides an overview of responsibilities.

Table 14.3-1 | Overview of Responsibilities

Reference	23 CFR §940: A regional ITS architecture must be developed to guide the development of ITS projects and programs, and it must be consistent with ITS strategies and projects contained in applicable transportation plans.
MPO/MoDOT Roles/ Responsibilities	■ Comply with 23 CFR Part §940 to plan, develop and evaluate proposed transportation technology investments in the region. ■ Review the regional ITS architecture on a periodic basis and will plan to update this at least once every five years, preferably ahead of or in conjunction with the updates of the MTP. □ This update will ensure that the regional ITS architecture remains in compliance with 23 CFR §940 and reflects new components and information exchanges that would enhance transportation performance in the region. ■ Actively participate as a cooperative partner in development of the regional ITS Architecture plan. ■ Develop and implement procedures and responsibilities for maintaining the ITS Architecture Plan as needs evolve within the region. ■ Establish a method for ensuring conformity of ITS projects submitted for inclusion in the TIP with the regional architecture. ■ Provide assistance to project sponsors by identifying information exchanges for proposed ITS and ITS-related projects. ■ Actively participate in the reviews and updates to the regional ITS architecture.
Updates	■ Updates to the ITS Architecture will be made on a periodic basis but should be updated at least once every five years—preferably before or in conjunction with the next update to the MTP.

14.4 | GIS & DATA MODELING

14.4.1 | Introduction

14.4.2 | Travel Demand Models

- Growth Factor Models
- Static Traffic Assignment Models
- Activity-based Models
- Dynamic Traffic Assignment Models

14.4.3 | Requirement for Travel Demand Modeling

14.4.4 | Modeling Development

14.4.5 | MoDOT GIS Support

14.4.6 | ESRI and other GIS Platforms

14.4.7 | Other GIS Support

14.4 | GIS & DATA MODELING

A geographic information system (GIS) is a necessary tool for planning, analyzing, modeling and managing information.

14.4.1 | Introduction

Data modeling allows planners and engineers to quantify future transportation system performance, identify potential operational deficiencies and generate the forecasts that support operation strategies and roadway design.

GIS products and software enable planning agencies to:

- Provide technical analyses that support plan and policy development.
- Evaluate proposed transportation improvement projects and programs.
- Identify transportation system deficiencies.
- Evaluate land use and development scenarios.
- Conduct traffic, corridor and subarea studies.
- Support air quality and energy analyses.
- Conduct freight and goods movement studies.

14.4.2 | Travel Demand Models (TDMs)

TDMs estimate travel in a region or locality based on population, socioeconomic characteristics, economic activity, and available transportation systems and modes.

Travel demand modeling is used for a variety of planning processes:

- Developing regional transportation plans.
- Forecasting traffic on a new highway facility.
- Forecasting use of a new fixed-guideway transit facility.
- Forecasting air quality.
  - For nonattainment areas, travel models are used in conjunction with air quality models to produce estimates of future air quality as part of the regional planning process.

Depending on scale and purpose, travel models can range widely in complexity and are grouped into several broad categories as follows:

Growth Factor Models

Growth factor models are sometimes used for planning applications that do not require much detail and usually produce simple projections of travel based on changes in population and employment. These models may be used in areas with small populations where little fluctuation in population and employment is expected. These models are typically represented as simple growth factor calculations and usually exist in a spreadsheet application.

Static Traffic Assignment Models

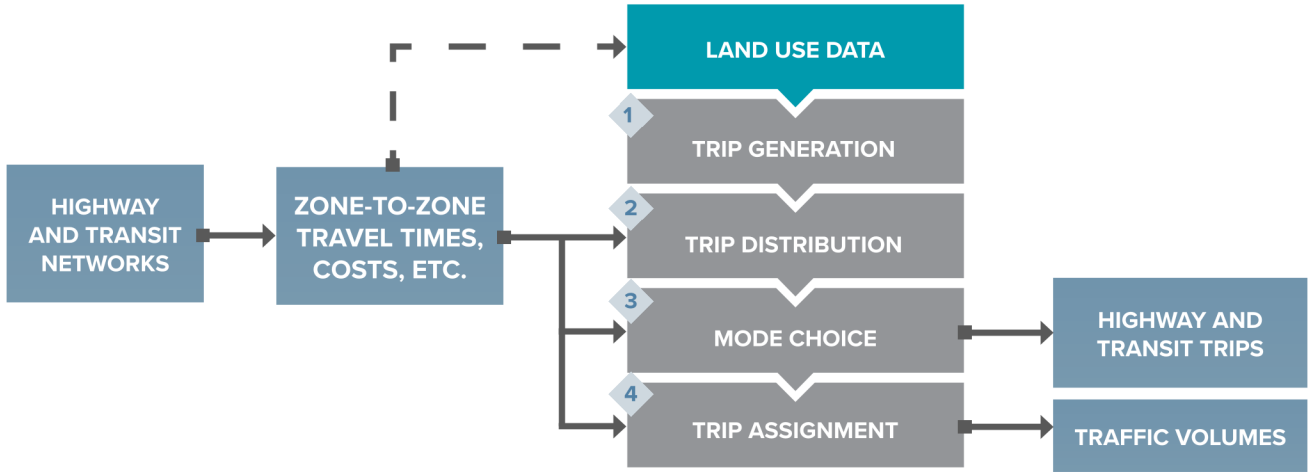
Static traffic assignment models are more complex and require computer-generated forecasts. These models contain representations of major parts of the road network—typically freeways, major and minor arterials, and some collectors. These models work by dividing a region into a number of smaller Transportation Analysis Zones (TAZs) and forecasting travel using a four-step modeling process:

- Trip Generation – Determining how many trips are made.
- Trip Distribution – Linking together where the generated trips begin and end.
- Mode Choice – Determining how the linked trips are made.
- Trip Assignment – Determining the specific paths used for the trips.

Four-step models have been the main method for travel demand forecasting in the United States since the 1950s. This model process is shown in Figure 1.

Visit NCHRP Report on Travel Demand Forecasting.

Table 14.4-1 | Conceptual Four-step Travel Demand Modeling Process



Activity-based Models

Activity-based models (ABMs) forecast the demand for travel for regional residents. The ABMs look at:

- Purpose and number of activities to participate in.
- Amount and type of travel required to fulfill these activities.
- Destinations of these activities.
- Mode of travel used to access activity locations.
- Timing of travel pertaining to these activities.

Demand is primarily influenced by household and individual characteristics and by the performance of the transportation system as reflected in travel times, costs and accessibilities.

ABMs typically are implemented in large, complex urban areas.

Helpful resource: nap.nationalacademies.org/read/22357/chapter/6.

Dynamic Traffic Assignment Models

Dynamic Traffic Assignment (DTA) models, also called Dynamic Network Assignment models, supplement existing travel forecasting models and microscopic traffic simulation models. Travel forecasting models represent the static regional travel analysis capability, whereas microscopic traffic simulation models are superior for dynamic corridor-level travel analysis. The same level of network and zonal resolution used in regional travel models are often used in DTA models but at a much finer level of temporal detail. Because they typically employ link-based simulation models, they produce more robust estimates of link flows and travel times. DTA models are often used for both small and large-scale traffic studies.

Helpful resource: onlinepubs.trb.org/onlinepubs/circulars/ec153.pdf

14.4.3 | Requirements for Travel Demand Modeling

At the federal level, the transportation conformity rule for air quality (C.F.R. 93.122 (b) and (c)) establishes a regulatory requirement of minimum specifications for travel models used to forecast vehicle activity as part of the air quality conformity process. The regulations state that network-based travel models must be used to support air quality conformity determinations and that these models must conform to procedures and methods that are in practice and supported by current available documentation.

Although there are no other federal or state requirements that TDMs be used in the metropolitan planning process, the travel forecasting methods used by the MPO receive close scrutiny by federal agencies during the MPO certification and review processes.

14.4.4 | Modeling Development

Development of TDMs is a cooperative process between local agencies, MPOs and state DOTs. Local agencies and MPOs collect much of the data used in the development, calibration and validation of TDMs. Most small MPOs do not have the capacity to develop and maintain their own TDMs and usually use a consultant.

14.4.5 | MoDOT GIS Support

The MoDOT GIS Section maintains the statewide street centerline GIS database and coordinates GIS issues for MoDOT. The MoDOT GIS Section continually creates and maintains statewide GIS databases in addition to obtaining databases from other sources, such as private, local government, state and federal agencies. These databases are then used to update TMS. The MoDOT GIS Section can provide data (GIS layers) and technical support to local agencies and MPOs.

The TMS Data Zone is MoDOT's portal which gives the public and our partners access to many of our data sets.

Data Zone manuals can be found on the Partner website. Login access is required – email TPPPG for assistance.

14.4.6 | ESRI and other GIS platforms

Most MPOs use ESRI products such as ArcGIS Desktop, Pro, Enterprise or Online. These platforms are commonly used with other GIS applications or extensions produced by a large variety of other companies. While some MPO staff may specialize in the use of these platforms, it's helpful for other planners and staff to have some basic knowledge of the applications used within their organizations. Along with an ESRI license agreement, the organization usually gets access to classes and training opportunities.

ESRI and other third-party vendors also provide a wide range of onsite and virtual training and/or certification opportunities.

Helpful resource: www.esri.com/training/.

14.4.7 | Other GIS Support

There is a large GIS community at the state, regional and national levels. It's very beneficial to join a GIS working group or consortium. Building and maintaining strong working relationships with local GIS professionals is critical to assuring accurate data is used to produce planning products. Additionally, it's important to be a good resource to others in terms of accurate data and stewardship. The list below includes organizations that exist to foster community and best practices:

- Missouri GIS Advisory Council (MGISAC) mgisac.org/.
- Missouri Mappers Association (MMA) www.missourimappers.org/.
- GIS & Data Visualization Working Group ampo.org/working-groups/gis-data-visualization-working-group/.
- AASHTO GIS-T Special Interest Groups gis-t.transportation.org/what_is_gis-t/special-interest-groups/.
- ESRI Community community.esri.com/.

Common Data Sources:

- Missouri Spatial Data Information Service www.msdis.missouri.edu/.
- MoDOT Data Zone modatazone.modot.org/.
- Missouri Census Data Center mcdc.missouri.edu/.
- US Census Datasets www.census.gov/data/datasets.html.
- ESRI www.esri.com/en-us/industries/transportation/overview.

14.5 | TRANSPORTATION DATA AND FUNCTIONAL CLASSIFICATION

14.5.1 | Purpose

14.5.2 | HPMS Data Collection and Reporting

14.5.3 | Functional Classification

14.5.4 | Changing Functional Classification

14.5 | TRANSPORTATION DATA AND FUNCTIONAL CLASSIFICATION

14.5.1 | Purpose

This section serves as a reference for understanding functional classification of roadways and the role functional classification plays in planning and funding opportunities. It explains the role MoDOT has with FHWA and MPOs within the state of Missouri. The authority to collect transportation data and functional classification is listed in Table 14.5-1.

Table 14.5-1 | Authority

Code	Description
23 CFR § 1.5	Provides FHWA authority to request such information deemed necessary to administer the Federal-Aid Highway Program.
23 U.S.C. § 104	Apportionment of Federal-Aid Highway Program funds.
23 CFR § 420.105	HPMS annual data submittal from state and field verification review and report (including traffic volume, monthly automatic traffic recorder data and annual truck weight data).
23 CFR § 420.105(b)	Requires states to provide data that supports FHWA's responsibilities to Congress and the public.
23 CFR § 450.216(m)	STIP includes financial plan to demonstrate adequate operations and maintenance of federal-aid highways.
23 CFR § 460.3	Certification of public road mileage.
23 CFR § 500	Program that supports traffic data collection and traffic monitoring.
23 CFR § 500.106	Pavement Management System (PMS).
23 CFR § 924.5(b)	HSIP project/program eligibility.
23 U.S.C. § 502(h)	Biennial conditions and performance estimate.

14.5.2 | HPMS Data Collection and Reporting

Highway Performance Monitoring System (HPMS) data collection is a critical element MoDOT performs on an annual basis. The importance of HPMS is that it supports the data-driven process within MoDOT, FHWA and Congress. This data is also very important for MPOs, as it can be an excellent resource for performance-based planning activities. The HPMS database includes information regarding the extent, condition, performance, use and operating characteristics of the nation's highways. HPMS is used extensively in the analysis of the highway system's condition, performance and investment needs, which make up the biennial Conditions and Performance (C&P) reports to Congress. Congress uses these reports to establish both authorization and appropriation legislation.

These activities ultimately determine the scope and size of the Federal-Aid Highway Program and the level of federal highway taxation.

www.fhwa.dot.gov/policyinformation/hpms.cfm

In August 2012, FHWA issued a requirement for states to provide extensive coverage of the geospatial network for all highways in their state. This coverage applies only to public non-federally owned highways; FHWA works with federal agencies for federally owned highways. The state is required to report all public road mileage data; this also includes non-state-owned public roads.

The HPMS Field Manual details the core components, data model and data requirements, special guidance, sampling, workflow and the submittal process. This manual serves as the primary guide to the ins and outs of how to prepare the datasets, delegate the workload and submit the HPMS data.

www.fhwa.dot.gov/policyinformation/hpms/fieldmanual/hpms_field_manual_dec2016.pdf

14.5.3 | Functional Classification

Functional classification is used to group roadways into classes according to their ability to accommodate travel. It's necessary to understand that travel involves movement through a network of roadways. This network consists of multiple roads of varying functional classification. The Functional Classification System provides a uniform evaluation of different levels of service provided by each facility. The roadway network is a hierarchical structure comprising of interstates, other freeways and expressways, other principal arterials, minor arterials, major collectors, minor collectors and local roadways. The classification of roadways varies between and among communities according to the design and function of its roadway network.

A roadway's functional classification primarily is based on the following factors or criteria:

- The number of lanes accommodating vehicular flow.
- The average annual daily traffic (AADT) volume.
- The actual roadway segment's connecting function for the purpose of providing vehicular accessibility and mobility within a regional setting.

For example, arterial roadways provide a network of continuous routes that typically accommodate long trips and heavy travel demand (i.e., high traffic volumes) and primarily serve interregional travel. Collectors basically serve a dual purpose, whereby they provide a significant amount of relatively long-distance travel and also provide more frequent access to abutting properties.

The HPMS reassessment determined a consolidation of rural and urban designations used in defining functional classifications to be beneficial. This consolidation reduces emphasis on separate urban and rural designations, so that now, for example, "rural interstate" and "urban interstate" are simply referred to as "interstate." Although the new functional classification codes do not distinguish between urban, small urban and rural, such distinctions may still be necessary for planning and funding purposes. These distinctions can be found in the Highway Functional Classification Guidelines and are still considered to be useful and valid. The new system utilizes GIS to promote efficiency and cost-effective use of resources. For example, instead of the separate urban/rural designations, updated urban layers from census data are used to define the urban roadways. The new guidance and its clear process also allows for consistency between states.

USDOT FHWA. 2008. Policy Information, "Guidance for the Functional Classification of Highways (Updated)." Last modified April, 5, 2011

MoDOT Functional Classification Maps

14.5.4 | Changing Functional Classification

The following process has been developed to ensure that the preceding federal guidance is met when modifications to Missouri's approved Functional Classification System are considered.

I. Request for a revision to the Functional Classification System can be made by local jurisdictions, MoDOT or by MPOs themselves. Requests should be sent to the MPO.

II. MPO and MoDOT staff will review requests to ensure consistency with federal guidelines. The applicant should be prepared to provide any additional information or justification requested by MPO and MoDOT staff.

III. If MPO and MoDOT staff determine that the request is consistent with federal guidelines, the request will be put before the appropriate MPO committee(s) for approval.

IV. Committee-approved requests will then be put before the MPO Board of Directors for approval.

V. Upon Board approval, MoDOT District staff will forward the approved request to MoDOT's Central Office Transportation Planning (COTP) Division.

VI. After COTP review, recommended revisions are forwarded to FHWA for approval.

VII. When MoDOT's Central Office receives FHWA approval, Transportation Planning will notify the MoDOT district staff who then notify the MPO.

This is the general process in Missouri, but MPOs may develop their own, more detailed processes to suit the structure of their organization. Examples of MPO-specific procedures are linked below:

EWGCOG FUNCTIONAL CLASSIFICATION PROCEDURE MANUAL

MARC PROCEDURES FOR ROADWAY FUNCTIONAL CLASSIFICATION

14.6 | SAFETY

14.6.1 | Purpose

14.6.2 | Missouri Coalition for Roadway Safety and the Strategic Highway Safety Plan

14.6.3 | Buckle Up Phone Down

14.6.4 | Vision Zero

14.6.5 | Safe Systems

14.6.6 | Proven Safety Countermeasures

14.6.7 | Crash Modification Factors Clearinghouse

14.6.8 | Data

14.6.9 | Performance Measures

14.6.10 | Safety Funding

14.6 | SAFETY

14.6.1 | Purpose

This section provides guidance to MPOs on compliance with federal requirements and obtaining federal-aid funds through MoDOT for safety projects.

MoDOT administers the state's Highway Safety Improvement Program (HSIP) to reduce traffic fatalities and serious injuries on Missouri roads. A core element of the HSIP is the Strategic Highway Safety Plan (SHSP), which identifies the state's traffic safety goals, emphasis areas and a strategic framework for achieving them.

14.6.2 | Missouri Coalition for Roadway Safety and the Strategic Highway Safety Plan

Founded in 2004, the Missouri Coalition for Roadway Safety (MCRS) exists to end fatalities and serious injuries on Missouri roadways by advocating for the prioritization and implementation of proven safety strategies. Through cooperative efforts in education, public policy, enforcement, engineering and emergency medical services, MCRS encourages all Missourians to take an active role in making the roadways safe for everyone.

The MCRS is responsible for developing and implementing the state's SHSP. Show-Me Zero is the current SHSP and will serve as the state's plan through 2025. To support implementation, the MCRS is represented by locally focused regional coalitions, as well as several issue-specific subcommittees.



14.6.3 | Buckle Up Phone Down

In 2017, MoDOT launched the Buckle Up Phone Down (BUPD) initiative. The BUPD movement aims to make roadway safety personal, emphasizing the responsibility of each driver to protect themselves and improve the landscape of roadway safety for their loved ones. BUPD stresses the two most important things drivers can do to move the needle closer to the ultimate goal: zero deaths on our roadways. The key to keeping the momentum of the BUPD challenge alive is getting involved. Anyone is capable of joining the movement and spreading the word, and each pledge is a step toward safer roadways. More information on the movement and how to join are located at modot.org/bupd.

14.6.4 | Vision Zero

Vision Zero is a strategy to eliminate all traffic fatalities and severe injuries within a locality, while increasing safe, healthy, equitable mobility for all.

Vision Zero starts with the ethical belief that everyone has the right to move safely in their communities and that system designers and policy makers share the responsibility to ensure safe systems for travel:

- Vision Zero recognizes that people will sometimes make mistakes, so the road system and related policies should be designed to ensure those inevitable mistakes do not result in severe injuries or fatalities. This means that system designers and policymakers are expected to improve the roadway environment, policies (such as speed management) and other related systems to lessen the severity of crashes.
- Vision Zero is a multidisciplinary approach, bringing together diverse and necessary stakeholders to address this complex problem. In the past, meaningful, cross-disciplinary collaboration among local traffic planners and engineers, policymakers and public health professionals had not been the norm. Vision Zero acknowledges that many factors contribute to safe mobility - including roadway design, speeds, behaviors, technology and policies - and sets clear objectives to achieve the shared goal of zero fatalities and severe injuries.

Currently, there are three Vision Zero cities in Missouri: Columbia, Kansas City and Kirkwood. Other cities in Missouri are encouraged to consider adopting a Vision Zero designation to help implement the Show-Me Zero plan and help eliminate traffic fatalities in Missouri, one city at a time. Let's keep this list growing!

14.6.5 | Safe System

FHWA promotes a Safe System approach to achieve a zero deaths vision. The Safe System approach was founded on the principles that humans make mistakes and that human bodies have limited ability to tolerate crash impacts. In a Safe System, those mistakes should never lead to death. Applying the Safe System approach involves anticipating human mistakes by designing and managing road infrastructure to keep the risk of a mistake low; and when a mistake leads to a crash, the impact on the human body doesn't result in a fatality or serious injury. Road design and management should encourage safe speeds and manipulate appropriate crash angles to reduce injury severity.

Addressing human behavior is also part of the Safe System approach, and efforts should continue to educate the public on exercising personal responsibility when using the transportation system. Behavioral programs that remind citizens to buckle up, put down their phones, slow down and never drive impaired are a strong supplement to the infrastructure and roadway designs encouraged in the Safe System approach.

There are six principles that form the basis of the Safe System approach:

1. Deaths and serious injuries are unacceptable.
2. Humans make mistakes.
3. Humans are vulnerable.
4. Responsibility is shared.
5. Safety is proactive.
6. Redundancy is crucial.

Making a commitment to zero traffic deaths means addressing all aspects of safety through the following five Safe System elements that, together, create a holistic approach with layers of protection for road users: safe road users, safe vehicles, safe speeds, safe roads and post-crash care.

The Safe System approach requires a supporting safety culture that places safety first and foremost in road system investment decisions. To achieve zero traffic deaths, everyone must first acknowledge fatalities and serious injuries resulting from traffic crashes are unacceptable and preventable.

MoDOT developed the Safety Assessment for Every Roadway (SAFER) document as a tool to help prompt conversation, consideration and evaluation of potential safety improvements. The goal is to incorporate safety measures in all projects. Crash history and customer areas of concern should be part of the discussion, as well as considerations for potential future crashes. This is not an all-inclusive list, and further safety analysis may be required. MPOs could also utilize this tool in project discussions.

Figure 14.6.6 | Authority



14.6.6 | Proven Safety Countermeasures

FHWA has identified a set of 28 Proven Safety Countermeasures that can offer significant, measurable impacts as part of any agency's data-driven, systemic approach to improving safety.

14.6.7 | Crash Modification Factors Clearinghouse

A crash modification factor (CMF) is used to compute the expected number of crashes after implementing a countermeasure on a road or intersection. The CMF clearinghouse provides a searchable database along with guidance and resources. CMFs can help guide cost-benefit analysis data for discretionary grant programs.

14.6.8 | Data

MoDOT provides safety data to planning partners. GIS files provide crash rates and types along roadways in the state of Missouri. MoDOT also has an online tool through the Data Zone that maps crashes based on location and attribute filters. Specific data is also provided to meet performance measure needs.

The Fatality Analysis Reporting System (FARS) is a national census providing yearly data regarding fatal injuries suffered in motor vehicle traffic crashes.

14.6.9 | Performance Measures

These are discussed in more detail in Chapter 4, Performance Measures.

Safety Performance Management includes five performance measures on five-year rolling averages:

1. Number of fatalities.
2. Rate of fatalities per 100 million vehicle miles traveled (VMT).
3. Number of serious injuries.
4. Rate of serious injuries per 100 million VMT.
5. Number of non-motorized fatalities and non-motorized serious injuries.

Transit Safety is a focus of transportation performance management as well. Certain public transit agencies that receive Urbanized Area Formula Grants are required to develop a Public Transportation Agency Safety Plan (PTASP), which must include safety performance targets by mode.

14.6.10 | Safety Funding

Safety is a key factor in any prioritization process. This can be implemented in a variety of ways, whether looking at existing safety concerns or the improvements a proposed project might make.

HSIP Funding

The Highway Safety Improvement Program (HSIP) is a core federal-aid program with the purpose to achieve a significant reduction in traffic fatalities and serious injuries on all public roads, including non-state-owned roads. The HSIP requires a data-driven, strategic approach to improving highway safety on all public roads, with a focus on performance.

The HSIP is legislated under Section 148 of Title 23, United States Code (23 U.S.C. 148) and regulated under Part 924 of Title 23, Code of Federal Regulations (23 CFR Part 924). The HSIP consists of three main components, the SHSP, State HSIP or program of highway safety improvement projects and the Railway-Highway Crossing Program (RHCP). In addition, some states also have a High-Risk Rural Roads (HRRR) program if they have increasing fatality rates on rural roads.

Open Container Funding

The Open Container Transfer Provision requires states to enact and enforce a law that prohibits the possession of any open alcohol beverage container, or the consumption of any alcoholic beverage, in the passenger area of any motor vehicle located on a public highway, or the right-of-way of a public highway, in the states. States, like Missouri, which fail to comply with these minimum requirements have a portion of their highway funds transferred into the State and Community Highway Safety Grant Program. This money may further be transferred into the State's HSIP.

Safe Streets and Roads for All (SS4A) Grant Program

This is a new program offered under the Bipartisan Infrastructure Law and funds regional, local and Tribal initiatives through grants to prevent roadway deaths and serious injuries. The purpose of SS4A grants is to improve roadway safety by significantly reducing or eliminating roadway fatalities and serious injuries through safety action plan development and implementation focused on

all users, including pedestrians, bicyclists, public transportation users, motorists, personal conveyance and micromobility users, and commercial vehicle operators. The program provides funding to develop the tools to help strengthen a community's approach to roadway safety and save lives and is designed to meet the needs of diverse local, Tribal and regional communities that differ dramatically in size, location and experience administering federal funding.

The SS4A program provides funding for two types of grants: Action Plan Grants (for comprehensive safety action plans) and Implementation Grants. Action Plan Grants are used to develop, complete or supplement a comprehensive safety action plan. To apply for an Implementation Grant, an eligible applicant must have a qualifying Action Plan. Implementation Grants are available to implement strategies or projects that are consistent with an existing Action Plan.

Transit Security Funding

Transit Agencies that receive Section 5307 – Urbanized Area Formula Grants – are required to spend at least 1% of such funds for transit security projects or otherwise certify that such expenditures are not necessary.

CPG Safety Set-Aside

The Bipartisan Infrastructure Law requires each MPO to use at least 2.5% of its Planning (PL) funds on specified planning activities to increase safe and accessible options for multiple travel modes for people of all ages and abilities. A state or MPO may opt out of the requirement, with the approval of the Secretary, if the state or MPO has Complete Streets standards and policies in place and has developed an up-to-date Complete Streets prioritization plan that identifies a specific list of Complete Streets projects to improve the safety, mobility or accessibility of a street. For the purpose of this requirement, the term "Complete Streets standards or policies" means standards or policies that ensure the safe and adequate accommodation of all users of the transportation system, including pedestrians, bicyclists, public transportation users, children, older individuals, individuals with disabilities, motorists and freight vehicles.

(1) DISADVANTAGED BUSINESS ENTERPRISE (DBE) REQUIREMENTS:

(A) DBE Goal: The following DBE goal has been established for this Agreement. The dollar value of services and related equipment, supplies, and materials used in furtherance thereof which is credited toward this goal will be based on the amount actually paid to DBE firms. The goal for the percentage of services to be awarded to DBE firms is xx% of the total Agreement dollar value.

(B) Consultant's Certification Regarding DBE Participation: The consultant's signature on this Agreement constitutes the execution of all DBE certifications which are a part of this Agreement.

1. Policy: It is the policy of the U.S. Department of Transportation, the Missouri Department of Transportation, and the Metropolitan Planning Organization that businesses owned by socially and economically disadvantaged individuals (DBE's) as defined in 49 C.F.R. Part 26 have the maximum opportunity to participate in the performance of contracts financed in whole or in part with federal funds. Thus, the requirements of 49 C.F.R. Part 26 and Section 1101(b) of the Transportation Equity Act for the 21st Century (TEA-21) apply to this Agreement.

2. Obligation of the Consultant to DBE's: The Consultant agrees to assure that DBEs have the maximum opportunity to participate in the performance of this Agreement and any subconsultant agreement financed in whole or in part with federal funds. In this regard the Consultant shall take all necessary and reasonable steps to assure that DBEs have the maximum opportunity to compete for and perform services. The Consultant shall not discriminate on the basis of race, color, religion, creed, disability, sex, age, or national origin in the performance of this Agreement or in the award of any subsequent subconsultant agreement.

3. Geographic Area for Solicitation of DBEs: The Consultant shall seek DBEs in the same geographic area in which the solicitation for other subconsultants is made. If the Consultant cannot meet the DBE goal using DBEs from that geographic area, the Consultant shall, as a part of the effort to meet the goal, expand the search to a reasonably wider geographic area.

4. Determination of Participation Toward Meeting the DBE Goal: DBE participation shall be counted toward meeting the goal as follows:

A. Once a firm is determined to be a certified DBE, the total dollar value of the subconsultant agreement awarded to that DBE is counted toward the DBE goal set forth above.

B. The Consultant may count toward the DBE goal a portion of the total dollar value of a subconsultant agreement with a joint venture eligible under the DBE standards, equal to the percentage of the ownership and control of the DBE partner in the joint venture.

C. The Consultant may count toward the DBE goal expenditures to DBEs who perform a commercially useful function in the completion of services required in this Agreement. A DBE is considered to perform a commercially useful function when the DBE is responsible for the execution of a distinct element of the services specified in the Agreement and the carrying out of those responsibilities by actually performing, managing and supervising the services involved and providing the desired product.

D. A Consultant may count toward the DBE goal its expenditures to DBE firms consisting of fees or commissions charged for providing a bona fide service, such as professional, technical, consultant, or managerial services and assistance in the procurement of essential personnel, facilities, equipment, materials or supplies required for the performance of this Agreement, provided that the fee or commission is determined by the Missouri Department of Transportation and the_____ Metropolitan Planning Organization to be reasonable and not excessive as compared with fees customarily allowed for similar services.

E. The Consultant is encouraged to use the services of banks owned and controlled by socially and economically disadvantaged individuals.

5. Replacement of DBE Subconsultants: The Consultant shall make good faith efforts to replace a DBE Subconsultant, who is unable to perform satisfactorily, with another DBE Subconsultant. Replacement firms must be approved by the Missouri Department of Transportation and the_____ Metropolitan Planning Organization.

6. Verification of DBE Participation: Prior to final payment by the the_____ Metropolitan Planning Organization, the Consultant shall file a list with the_____ Metropolitan Planning Organization showing the DBEs used and the services performed. The list shall show the actual dollar amount paid to each DBE that is applicable to the percentage participation established in this Agreement. Failure on the part of the Consultant to achieve the DBE participation specified in this Agreement may result in sanctions being imposed on the_____ Metropolitan Planning Organization for noncompliance with 49 C.F.R. Part 26 and/or Section 1101(b) of TEA-21. If the total DBE participation is less than the goal amount stated by the_____ Metropolitan Planning Organization, the_____ Metropolitan Planning Organization may sustain damages, the exact extent of which would be difficult or impossible to ascertain. Therefore, in order to liquidate such damages, the monetary difference between the amount of the DBE goal dollar amount and the amount actually paid to the DBEs for performing a commercially useful function will be deducted from the Consultant's payments as liquidated damages. If this Agreement is awarded with less than the goal amount stated above by the Missouri Department of Transportation and the_____ Metropolitan Planning Organization, that lesser amount shall become the goal amount and shall be used to determine liquidated damages. No such deduction will be made when, for reasons beyond the control of the Consultant, the DBE goal amount is not met.

7. Documentation of Good Faith Efforts to Meet the DBE Goal: The Agreement goal established by the Missouri Department of Transportation and the_____ Metropolitan Planning Organization is stated above in Subsection (1)(A). The Consultant must document the good faith efforts it made to achieve that DBE goal, if the agreed percentage specified in Paragraph 8. below is less than the percentage stated in Subsection (1)(A). Good faith efforts to meet this DBE goal amount may include such items as, but are not limited to, the following:

A. Attended a meeting scheduled by the Department to inform DBEs of contracting or consulting opportunities.

B. Advertised in general circulation trade association and socially and economically disadvantaged business directed media concerning DBE subcontracting opportunities.

C. Provided written notices to a reasonable number of specific DBEs that their interest in a subconsultant agreement is solicited in sufficient time to allow the DBEs to participate effectively.

D. Followed up on initial solicitations of interest by contacting DBEs to determine with certainty whether the DBEs were interested in subconsulting work for this Agreement.

E. Selected portions of the services to be performed by DBEs in order to increase the likelihood of meeting the DBE goal (including, where appropriate, breaking down subconsultant agreements into economically feasible units to facilitate DBE participation).

F. Provided interested DBEs with adequate information about plans, specifications and requirements of this Agreement.

G. Negotiated in good faith with interested DBEs, and not rejecting DBEs as unqualified without sound reasons, based on a thorough investigation of their capabilities.

H. Made efforts to assist interested DBEs in obtaining any bonding, lines of credit or insurance required by the Missouri Department of Transportation, the_____ Metropolitan Planning Organization or by the Consultant.

I. Made effective use of the services of available disadvantaged business organizations, minority contractors' groups, disadvantaged business assistance offices, and other organizations that provide assistance in the recruitment and placement of DBE firms.

8. DBE Participation Obtained by Consultant: The Consultant has

obtained DBE participation, and agrees to use DBE firms to complete, xx% of the total services to be performed under this Agreement, by dollar value. The DBE firms which the Consultant shall use, and the type and dollar value of the services each DBE will perform, is as follows:

DBE FIRM NAME, STREET AND COMPLETE MAILING ADDRESS	TYPE OF DBE SERVICE	TOTAL $ VALUE OF THE DBE SUBCONTRACT	CONTRACT $ AMOUNT TO APPLY TO TOTAL DBE GOAL	PERCENTAGE OF SUBCONTRACT DOLLAR VALUE APPLICABLE TO TOTAL GOAL

9. Good Faith Efforts to Obtain DBE Participation: If the Consultant's agreed DBE goal amount as specified in Paragraph (1) 8. is less than the Missouri Department of Transportation and the_____ Metropolitan Planning Organization's DBE goal given in Subsection (1)(A), then the Consultant certifies that the following good faith efforts were taken by Consultant in an attempt to obtain the level of DBE participation set by the Missouri Department of Transportation and the_____ Metropolitan Planning Organization in Subsection (1)(A).