

Appendix H – Cost Feasible Analysis

Introduction

This appendix summarizes the cost feasible analysis for the SJATSO 2050 MTP update. The cost feasible analysis compares anticipated transportation revenues available through the horizon year 2050 with high-level project cost estimates, inflated to an anticipated year of expenditure. This exercise helps identify which MTP projects are most likely to be funded during the life of the MTP.

The transportation needs and associated project costs are far greater than available transportation revenues—a challenge facing most public agencies. However, even if funds are not available for prioritized projects, this does not mean that this analysis should be viewed as a meaningless exercise. Projects that are not fiscally constrained become part of the MTP illustrative list of projects. Identifying these projects is important as the MTP is a living document and can be amended, between MTP updates, to add projects to the fiscally constrained list as priorities change and/or additional funding becomes available.

Funding Sources

Various federal, state, and local sources of funding are available for transportation infrastructure projects in the form of formula funds, grants, loans, and other special financing mechanisms. The typical sources of funding—existing or potential—for projects in the SJATSO region are discussed in this section. The funding source, estimated amounts, eligibility criteria, and deadlines (if applicable) are described.

Federal Sources

The Infrastructure Investment and Jobs Act (IIJA), aka Bipartisan Infrastructure Law (BIL), was signed into law on November 15, 2021. The law authorizes \$1.2 trillion for transportation and infrastructure spending with \$550 billion over fiscal years 2022 through 2026 in “new” Federal investments and programs. Funding from the IIJA is expansive in its reach, addressing roads, bridges, mass transit, energy and power infrastructure, access to broadband internet, water infrastructure and resilience.¹

Federal funding for transportation is derived in part from highway excise taxes (i.e., taxes paid when purchases are made on a specific good) on motor fuel and truck-related taxes on truck tires, sales of trucks and trailers, and heavy vehicle use. Excise taxes on gasoline and other motor fuels account for more than 85 percent of all receipts to the Federal Highway Trust Fund (HTF).² Tax revenues are deposited into either the Highway Account or the Mass Transit Account of the Federal HTF and then distributed to the states.

¹ USDOT Federal Highway Administration, *Bipartisan Infrastructure Law*, <https://www.fhwa.dot.gov/bipartisan-infrastructure-law/>

² *Congressional Research Service Report R47573, Funding and Financing Highways and Public Transportation Under the Infrastructure Investment and Jobs Act (IIJA)*, <https://crsreports.congress.gov>

The Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) then distribute funds from the Highway and the Mass Transit Accounts, respectively, to each state through a system of formula grants and discretionary allocations. The IJA extended the imposition of highway-user taxes through September 30, 2026, with generally no change to the tax rates as imposed under the Moving Ahead for Progress in the 21st Century Act (MAP-21) and Fixing America's Surface Transportation Act (FAST).

According to estimates from the Congressional Budget Office (CBO), outlays have consistently exceeded the revenues to the trust fund. To address the shortfall in the fund's accounts, lawmakers have enacted legislation that since 2008 has transferred \$275 billion—mostly from the Treasury's General Fund—to the Highway Trust Fund. That total includes \$118 billion that lawmakers transferred from the General Fund through the IJA—\$90 billion to the Highway account and \$28 billion to the Mass Transit account.

The following sections list and describe the federal, state, and local existing and potential funding sources for infrastructure projects in the SJATSO. These are summarized in Figure 1.

The IJA will provide formulaic and discretionary infrastructure funding through the end of fiscal year 2026. In addition to reauthorizing previous transportation funding levels under the FAST Act, IJA added approximately \$285 billion in new transportation funding comprised of approximately \$100 billion in formulaic funding and more than \$180 billion in new discretionary funding. Under the IJA, nearly every existing discretionary transportation-focused program saw its funding allocation augmented significantly and dozens of new programs were created.

The Inflation Reduction Act (IRA) was signed into law in August 2022. The IRA builds on the historic investments under the IJA and advances the Justice40 Initiative, which has the intention to deliver 40 percent of the overall benefits of climate and clean energy investments to disadvantaged communities. The IRA makes specific funding provisions to directly support the transition to vehicle electrification, as well as other provisions including tax credits for clean energy and incentives to improve freight movement.

FUNDING SOURCES

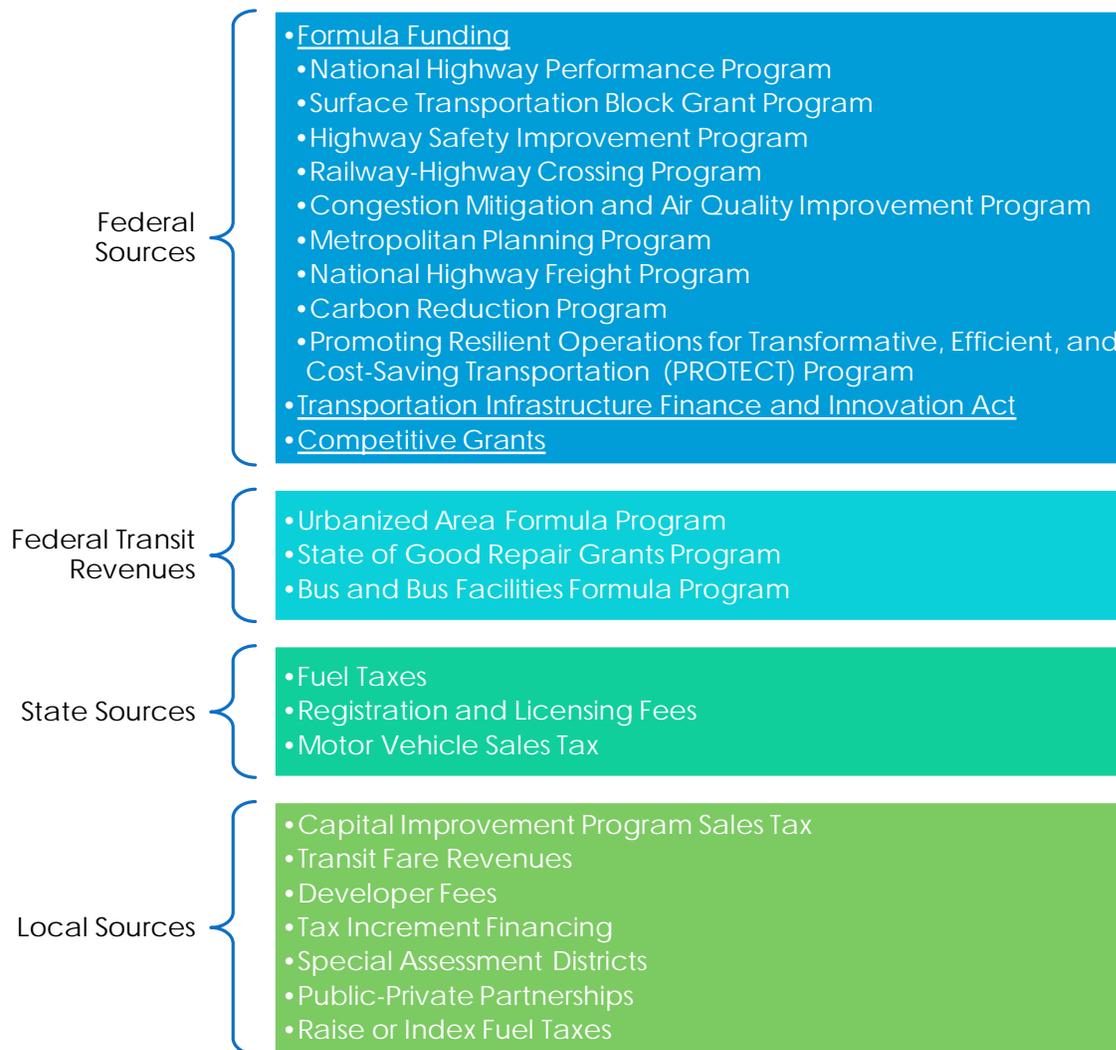
Formula Funds | programs apportion amounts to recipients based on formulas that consider population, miles of roadway, and other metrics

Grants | programs award funding typically through a competitive application and review process

Loans | programs award funding to projects through an application and review process, and the recipient is expected to repay the funding later

Special Funding Mechanisms | other potential vehicles for funding infrastructure projects that may not be currently or fully utilized

Figure 1. Funding Sources and Programs



Formula Funds

Under the IJA, nine core programs are funded within the Federal-Aid Highway Program and apportioned among the states by formula. Division J of the IJA³ provided supplemental appropriations from the General Fund for four other formula highway programs that are outside the scope of the core highway program apportionment process.⁴

³ Congressional Research Service Report R47992, *The Highway Funding Formula: History and Current Status Under the Infrastructure Investment and Jobs Act*, <https://crsreports.congress.gov/product/pdf/R/R47922/2>

⁴These four non-core programs are the Bridge Formula Program, the National Electric Vehicle Infrastructure (NEVI) Formula Program, the Appalachian Development Highway System Program, and the Ferry Boat Program (FBP). Of these, the Bridge Formula Program and the NEVI programs are applicable to the MPO.

Core programs within the Federal-Aid Highway Program include:

- National Highway Performance Program (NHPP): The NHPP provides support for the condition and performance of the National Highway System (NHS), the construction of new facilities on the NHS, investments that achieve performance targets established by state asset management plans, and resilience of the NHS to withstand sea level rise, extreme weather events, flooding, wildfires, and other natural disasters. Funds are apportioned based on formulas to each state, and states divide the funds among apportioned programs. Eligible activities include reconstruction, resurfacing, restoration, rehabilitation, and preservation of bridges on non-NHS highways; projects that reduce the risk of failure of NHS infrastructure; and subsidies for projects under the Transportation Infrastructure Finance and Innovation Act (TIFIA); undergrounding of public utility infrastructure; resiliency improvements on the NHS; and activities to protect NHS segments from cybersecurity threats.⁵ Missouri's estimated apportionment for fiscal years 2022 to 2026 is \$3.7 billion and Kansas's apportionment is \$1.5 billion.⁶
- Surface Transportation Block Grant Program: The program provides flexible spending to states based on apportionment formulas for state and local transportation needs. Eligible projects include the construction of highways, bridges, tunnels, transit capital projects, operational improvements, safety infrastructure projects, parking facilities, recreational trails, bicycle and pedestrian projects, planning and design of roadways and interstates, surface transportation planning, travel demand management strategies, congestion pricing, electric vehicle charging and vehicle-to-grid infrastructure, intelligent transportation systems, protective features and natural infrastructure, and numerous others as found in 23 U.S.C. 133(b)(22).⁷ Missouri's estimated apportionment for fiscal years 2022 to 2026 is \$1.8 billion and Kansas's apportionment is \$709.9 million.⁸
- Highway Safety Improvement Program (HSIP): The HSIP aims to reduce traffic fatalities and injuries on all public roads through a data-driven approach that focuses on performance. Funds are apportioned as a lump sum to the states to divide among programs. Eligible activities include safety projects that are consistent with the State's Strategic Highway Safety Plan (SHSP)⁹ ¹⁰ and that correct or improve hazardous road locations or features. Eligible projects may include vehicle-to-infrastructure communications equipment, pedestrian hybrid beacons, roadway improvements (including medians) to separate pedestrians and motor vehicles, and other physical

⁵ National Highway Performance Program, <https://www.fhwa.dot.gov/bipartisan-infrastructure-law/nhpp.cfm>

⁶ Estimated Highway Apportionments under the IIJA Act, https://www.fhwa.dot.gov/bipartisan-infrastructure-law/docs/Est_FY_2022-2026_Apportions_Infrastructure.xlsx

⁷ Surface Transportation Block Grant Program, <https://www.fhwa.dot.gov/bipartisan-infrastructure-law/stbg.cfm>

⁸ Estimated Highway Apportionments under the IIJA Act, https://www.fhwa.dot.gov/bipartisan-infrastructure-law/docs/Est_FY_2022-2026_Apportions_Infrastructure.xlsx

⁹ FY 2024-2026 Missouri Department of Transportation Triennial Highway Safety Plan, https://www.nhtsa.gov/sites/nhtsa.gov/files/2023-10/MO_FY24HSP-tag.pdf

¹⁰ Kansas Strategic Highway Safety Plan 2020-2024, <https://www.ksdot.gov/Assets/wwwksdotorg/bureaus/burTrafficSaf/reports/reportspdf/SHSP2020.pdf>

projects.¹¹ Missouri's estimated apportionment for fiscal years 2022 to 2026 is \$384.3 million and Kansas's apportionment is \$132.5 million.¹²

- **Railway-Highway Crossings Program:** The program provides funds for safety improvements that reduce fatalities, injuries, and crashes at public railway-highway grade crossings. Funding is apportioned based on formulas and considers the number of public crossings by state. Eligible activities include hazard elimination projects, the installation of protective devices, the relocation of highways to eliminate grade crossings, and projects that eliminate hazards posed by idling trains on crossings.¹³ Missouri's estimated apportionment for fiscal years 2016 to 2020 is \$30.1 million and Kansas's apportionment is \$32.9 million.¹⁴
- **Congestion Mitigation and Air Quality Improvement Program (CMAQ):** The CMAQ program funds state and local governments for transportation projects that help meet the requirements of the Clean Air Act.¹⁵ Funding is available to reduce congestion and improve air quality for areas that do not meet the National Ambient Air Quality Standards for ozone, carbon monoxide, or particulate matter (nonattainment areas) and for former nonattainment areas that are now in compliance. Funds are apportioned to states to divide among localities. Eligible activities include projects that help attain or maintain national ambient air quality standard, highly effective in reducing air pollution, and included in the MPO's Transportation Improvement Program (TIP). New eligibilities include shared micromobility; purchase of diesel replacements or medium-duty or heavy-duty zero emission vehicles and related charging equipment; modernization or rehabilitation of a lock and dam, a marine highway corridor, connector, or crossing connected to the Federal-aid highway system; and alternative fuel projects that reduce emissions from non-road vehicles and engines.¹⁶ Missouri's estimated apportionment for fiscal years 2022 to 2026 is \$133.7 million and Kansas's apportionment is \$54.0 million.¹⁷
- **Metropolitan Planning Program:** The program establishes a cooperative, continuous, and comprehensive framework for metropolitan transportation investment decisions. Funds are apportioned by state. MPOs are required to compile metropolitan transportation plans, transportation improvement programs, and long-range transportation plans. MPOs should make plans that improve transportation system resiliency and reliability, reduce or mitigate stormwater impacts of surface

¹¹ Highway Safety Improvement Program, <https://www.fhwa.dot.gov/bipartisan-infrastructure-law/hsip.cfm>

¹² Estimated Highway Apportionments under the IIJA Act, https://www.fhwa.dot.gov/bipartisan-infrastructure-law/docs/Est_FY_2022-2026_Apportions_Infrastructure.xlsx

¹³ Railway-Highway Crossings Program- Policy and Guidance, <https://highways.dot.gov/safety/hsip/xings/policy-and-guidance>

¹⁴ Estimated Highway Apportionments under the IIJA Act, https://www.fhwa.dot.gov/bipartisan-infrastructure-law/docs/Est_FY_2022-2026_Apportions_Infrastructure.xlsx

¹⁵ Clean Air Act, 1963, <https://www.govinfo.gov/content/pkg/STATUTE-77/pdf/STATUTE-77-Pg392.pdf>

¹⁶ Congestion Mitigation and Air Quality Improvement Program, <https://www.fhwa.dot.gov/bipartisan-infrastructure-law/cmaq.cfm>

¹⁷ Estimated Highway Apportionments under the IIJA Act, https://www.fhwa.dot.gov/bipartisan-infrastructure-law/docs/Est_FY_2022-2026_Apportions_Infrastructure.xlsx

transportation, and enhance travel and tourism.¹⁸ Missouri's estimated apportionment for fiscal years 2022 to 2026 is \$35.7 million and Kansas's apportionment is \$13.4 million.¹⁹

- National Highway Freight Program: The program aims to improve the efficient movement of freight on the National Highway Freight Network (NHFN). A lump sum is apportioned by state and then divided among programs at the local level. Eligible activities include projects and programs that contribute to the efficient movement of freight as identified in the state's freight plan. Examples may include ramp metering, truck-only lanes, adding or widening shoulders, adding road capacity to address highway freight bottlenecks, separation of passenger vehicles and commercial vehicles, modernization of a lock or dam, reduction of on-road mobile source emissions, and other projects.²⁰ Missouri's estimated apportionment for fiscal years 2022 to 2026 is \$170.9 million and Kansas's apportionment is \$68.2 million.²¹
- Carbon Reduction Program: The program provides funds for projects designed to reduce transportation emissions, defined as carbon dioxide (CO₂) emissions from on-road highway sources. A lump sum is apportioned by state and then divided among programs at the local level. Eligible projects must support the reduction of transportation emissions and can include deployment of intelligent transportation systems, development of a carbon reduction strategy, and deployment of alternative fuel vehicles, among several other projects.²² Missouri's estimated apportionment for fiscal years 2022 to 2026 is \$158.6 million and Kansas's apportionment is \$63.3 million.²³
- Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation (PROTECT) Formula Program: The program aims to increase the resiliency of surface transportation to natural hazards, including climate change, sea level rise, flooding, extreme weather events, and other natural disasters through support of planning activities, resilience improvements, community resilience and evacuation routes, and at-risk coastal infrastructure. A lump sum is apportioned by state and then divided among apportioned programs. Eligible activities are divided into four main categories: planning, resilience improvements, community resilience and evaluation route activities, and at-risk coastal infrastructure activities.²⁴ Missouri's estimated apportionment for fiscal years 2022 to 2026 is \$180.3 million and Kansas's apportionment is \$72.0 million.

¹⁸ Metropolitan Planning, https://www.fhwa.dot.gov/bipartisan-infrastructure-law/metro_planning.cfm

¹⁹ Estimated Highway Apportionments under the IIJA Act, https://www.fhwa.dot.gov/bipartisan-infrastructure-law/docs/Est_FY_2022-2026_Apportions_Infrastructure.xlsx

²⁰ National Highway Freight Program, <https://www.fhwa.dot.gov/bipartisan-infrastructure-law/nhfp.cfm>

²¹ Estimated Highway Apportionments under the IIJA Act, https://www.fhwa.dot.gov/bipartisan-infrastructure-law/docs/Est_FY_2022-2026_Apportions_Infrastructure.xlsx

²² Carbon Reduction Program, https://www.fhwa.dot.gov/bipartisan-infrastructure-law/crp_fact_sheet.cfm

²³ USDOT Five-year Bridge Funding By State- Revised Funding for the Bridge Formula Program under the Bipartisan Infrastructure Law, https://www.fhwa.dot.gov/bipartisan-infrastructure-law/bridge_5year_funding_by_state.cfm

²⁴ Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation (PROTECT) Formula Program, https://www.fhwa.dot.gov/bipartisan-infrastructure-law/protect_fact_sheet.cfm

Applicable non-core programs within the Federal-Aid Highway Program include:

- **Bridge Program:** The IIJA establishes the Bridge Formula Program (BFP) to replace, rehabilitate, preserve, protect, and construct highway bridges.²⁵ After set-asides of 3% for tribal transportation facility bridges and 0.5% for administration, funds are distributed to states, the District of Columbia, and Puerto Rico by a formula based on two factors related to bridge condition: the cost of replacing bridges classified in poor condition in the state in proportion to replacing all bridges classified in poor condition (75% of the apportionment); and the cost of rehabilitating bridges classified in fair condition in the state in proportion to rehabilitating all bridges classified in fair condition (25%). BFP funds may be used for highway bridge replacement, rehabilitation, preservation, protection, or construction projects on public roads. Missouri's estimated apportionment for fiscal years 2022 to 2026 is \$523.4 million and Kansas's apportionment is \$225.0 million.²⁶
- **National Electric Vehicle Infrastructure Formula Program (NEVI):** The program provides funding to states to strategically deploy electric vehicle (EV) charging infrastructure and to establish an interconnected network to facilitate data collection, access, and reliability. After funding set-asides, including 10% for grants to state and local governments that require additional assistance for EV charging infrastructure, the program apportions funding to states by a formula based on a state's share of the combined amount distributed in federal-aid highway apportionments. NEVI Formula funding is limited to projects that are directly related to the charging of a vehicle and only for EV charging infrastructure that is open to the public or to authorized commercial motor vehicle operators from more than one company.²⁷ For fiscal years 2022-2026, Missouri will receive \$98.9 million and Kansas will receive \$40 million to deploy electric vehicle charging infrastructure from the NEVI program.^{28 29}

Transportation Infrastructure Finance and Innovation Act (TIFIA)

The program provides federal credit assistance to eligible highway, transit, intercity rail, and some freight rail, intermodal facilities, and port modification projects. Under TIFIA, states, localities, public authorities, and some private entities can take advantage of three types of financial assistance: secured loans, loan guarantees, and lines of credit. Eligible projects include infrastructure related to highway, transit, passenger rail, certain freight facilities, certain port projects, rural areas, transit-oriented development projects, and State Infrastructure Bank rural projects. The IIJA expanded the list of eligible projects to include airports, the public infrastructure component of a transit-oriented

²⁵ *Bridge Formula Program (BFP)*, <https://www.fhwa.dot.gov/bipartisan-infrastructure-law/bfp.cfm>

²⁶ *Estimated Highway Apportionments under the IIJA Act*, https://www.fhwa.dot.gov/bipartisan-infrastructure-law/docs/Est_FY_2022-2026_Apportionments_Infrastructure.xlsx

²⁷ *National Electric Vehicle Infrastructure Formula Program*, https://www.fhwa.dot.gov/bipartisan-infrastructure-law/nevi_formula_program.cfm

²⁸ *Missouri Department of Transportation National Electric Vehicle Infrastructure Formula Program*, <https://www.modot.org/nevi>

²⁹ *Charge Up Kansas: Kansas NEVI Plan FY2024 Update*, https://ikewebstorage.blob.core.windows.net/files/Kansas_NEVI_Plan_Update_FY2024.pdf

development, and the acquisition of plant and animal habitats to mitigate the effects of transportation projects on endangered species.

Specific requirements must be met including project costs, loan amounts, and project types. TIFIA has a rolling application process, where applicants must submit letters of interest demonstrating creditworthiness and readiness to proceed. After an invitation is received from the TIFIA Joint Program Office, a formal application is required. TIFIA has a total of \$75 billion in lending capacity under the IJA.³⁰

Competitive Grants

The IJA expanded upon and created several new competitive discretionary programs. The programs listed below is not an exhaustive list but are relevant to planning, design, and construction projects for the MPO. Most federal competitive grant programs have a matching funds requirement that requires the applicant to provide a certain percentage of the overall project budget. Match requirements vary by program. Several programs require a minimum 20% non-federal match, but this can change if the project is located in a rural area or historically disadvantaged community.

[Bus & Bus Facilities Competitive Grants](#): This program makes federal resources available to states and FTA direct recipients to replace, rehabilitate and purchase buses and related equipment and to construct bus-related facilities, including technological changes or innovations to modify low or no emission vehicles or facilities.

[Charging and Fueling Infrastructure Program](#): This program provides funding to strategically deploy publicly accessible electric vehicle charging infrastructure and other alternative fueling infrastructure.

[Infrastructure for Rebuilding America \(INFRA\)](#): INFRA provides competitive grants for multimodal freight and highway projects of national or regional significance to improve the safety, efficiency, and reliability of the movement of freight and people in and across rural and urban areas.

[Low or No Emission Grant Program](#): The Low or No Emission competitive program provides funding to state and local governmental authorities for the purchase or lease of zero-emission and low-emission transit buses as well as acquisition, construction, and leasing of required supporting facilities.

[Neighborhood Access and Equity Grant \(NAE\)](#): The NAE Program provides technical assistance and grant funding to improve walkability, safety, and affordable transportation access through context-sensitive strategies for improving community connectivity; to mitigate or remediate negative impacts on the human or natural environment; and assist economically disadvantaged or underserved communities with planning and capacity building activities.

[Rebuilding American Infrastructure with Sustainability and Equity \(RAISE\)](#): Previously TIGER and BUILD, this program invests in surface transportation projects that will have a significant local or regional impact and supports projects that are consistent with the

³⁰ *A Guidebook to the Bipartisan Infrastructure Law for State, Local, Tribal, and Territorial Governments, and Other Partners*, [0727aa5a-308f-4ef0-addf-140fd43acfb5_BUILDING-A-BETTER-AMERICA-V2.pdf \(prismic.io\)](https://www.prismic.io/building-a-better-america-v2.pdf)

USDOT's strategic goals of improving safety, economic strength and global competitiveness, equity, and climate and sustainability.

[Reconnecting Communities Pilot Program \(RCP\)](#): The purpose of the RCP Program is to reconnect communities by removing, retrofitting, or mitigating transportation facilities like highways or rail lines that create barriers to community connectivity, including to mobility, access, or economic development. The program provides technical assistance and grant funding for planning and capital construction to address infrastructure barriers, reconnect communities, and improve peoples' lives.

[Recreational Trails Program](#): This program provides funds to states to develop and maintain recreational trails and trail-related facilities for both nonmotorized and motorized recreational trail uses. Federal transportation funds benefit recreation including hiking, bicycling, in-line skating, equestrian use, cross-country skiing, snowmobiling, off-road motorcycling, all-terrain vehicle riding, four-wheel driving, or using other off-road motorized vehicles. The IJA reauthorized the Recreational Trails Program (RTP) as a set-aside from the Transportation Alternatives Set-Aside. Each state administers its own program.

[Safe Streets and Roads for All \(SS4A\)](#): The SS4A program supports the USDOT's National Roadway Safety Strategy and the goal of zero roadway deaths using a Safe System Approach. Funds are to be awarded on a competitive basis to support planning, infrastructure, behavioral, and operational initiatives to prevent death and serious injury on roads and streets involving all roadway users, including pedestrians; bicyclists; public transportation, personal conveyance, and micromobility users; motorists; and commercial vehicle operators.

[Public Works](#) and [Economic Adjustment Assistance Programs](#): These grant programs, administered through the Economic Development Authority (EDA), provide investments that support construction, non-construction, technical assistance, and revolving loan fund projects on a competitive basis. Projects must demonstrate economic distress; based on the *EDA Measuring Distress-County Tool*,³¹ the St. Joseph's metropolitan area³² qualifies as economically distressed based on: (i) a regional per capita money income that is 76.4 percent of the national; (i) a regional per capita personal income that is 71.8 percent of the national.

Transit Revenues

Federal funding for transit is available through from the Federal Transit Administration through the Urbanized Area Formula Program, the State of Good Repair Grant Program, and the Bus and Bus Facilities Formula Program.

Urbanized Area Formula Program (49 U.S.C. 5307): Federal funds are made available for urbanized areas and to Governors for transit capital and operating assistance and for transportation-related planning. The term "urbanized area" refers to an incorporated area with a population of 50,000 or more that is designated as such by the U.S. Bureau of the Census. Recipients must be eligible public bodies.

³¹ *StatsAmerica, Measuring Distress County Tool*, <https://www.statsamerica.org/distress/dist.aspx>

³² *Andrew, Buchanan, and DeKalb Counties in Missouri, and Doniphan County in Kansas.*

A wide variety of activities are eligible for funding assistance: planning, engineering design and evaluation of transit projects, capital investments in buses and bus-related activities (including vehicle replacement, bus overhaul and rebuilding, security equipment, and construction of maintenance and passenger facilities), and capital investments in new and existing fixed-guideway systems (including rolling stock, overhaul and rebuilding of vehicles, track, signals, communications, and computer hardware/software). Also, all preventive maintenance and some Americans with Disabilities Act (ADA) complementary paratransit service costs are considered capital expenses.

Funds are allocated according to legislative formulas. For areas with a population between 50,000 and 200,000, the formula is based on population and population density. For areas of more 200,000, the formula combines bus revenue vehicle miles, bus passenger miles, fixed-guideway revenue vehicle and route miles, population, and population density factors. A 20 percent non-federal match is required.

State of Good Repair Grants Program (49 U.S.C. 5337): The State of Good Repair grants are capital assistance funds for maintenance, replacement, and rehabilitation projects of high-intensity fixed guideway and bus systems. Funds are eligible to be spent on rolling stock, track, line equipment and structures, signals and communication, power equipment, security systems, passenger stations, maintenance facilities and equipment, and operational support equipment. Funds are apportioned by statutory formulas and a 20 percent non-federal match is required.

Bus and Bus Facilities Formula Program (49 U.S.C. 5339): The Bus and Bus Facilities Formula program provides capital assistance for new and replacement buses and related equipment and facilities. Eligible capital projects include the purchasing of buses for fleet and service expansion, bus maintenance and administrative facilities, transfer facilities, bus malls, transportation centers, intermodal terminals, park-and-ride stations, acquisition of replacement vehicles, bus rebuilds, bus preventive maintenance, passenger amenities such as passenger shelters and bus stop signs, accessory and miscellaneous equipment such as mobile radio units, supervisory vehicles, fare boxes, computers and shop and garage equipment. Funds are allocated on a discretionary basis and through competitive grants, and a minimum 20 percent non-federal match is required.

State Sources

For the states of Missouri and Kansas, there are three revenue sources that fund transportation: fuel tax, registration and licensing fees, and motor vehicle sales tax.

State Fuel Taxes: Missouri's fuel tax rate is 27 cents per gallon of motor fuel, including gasoline, diesel, kerosene, gasohol, ethanol, and biodiesel. A share of the fuel tax collections is redistributed to cities based on populations and counties based on road mileage and land valuation.³³ Kansas has a state fuel tax rate of 24 cents per gallon on gasoline and 26 cents on diesel fuel.³⁴

³³ Missouri Department of Revenue, Motor Fuel Tax FAQ, <https://dor.mo.gov/faq/taxation/business/motor-fuel.html>

³⁴ Federal and state motor fuels taxes as of January 1, 2024, <https://www.eia.gov/tools/faqs/faq.php?id=10&t=5>

State Registration and Licensing Fees: Almost from their inception, motor vehicle license fees were designated as a highway user charge levied to partially defray the costs of constructing and maintaining the roads which benefited those who paid the fees. In Missouri, drivers pay registration and license fees depending on the vehicle horsepower, weight, and class. Most fees have not changed since 1984.³⁵ In Kansas, vehicle registration fees vary based on vehicle category, weight class, and for buses, the number of passengers.³⁶

Motor Vehicle Sales Taxes: A sales tax of 4.225 percent on a vehicle's lease or purchase is applied in Missouri, of which 3.5 percent goes back to state and local transportation uses. The remaining share is for the School District Trust Fund, Department of Conservation, and the Department of Natural Resources.³⁷ In Kansas, the state sales tax of 6.5 percent as well as additional city and county taxes are applied to vehicle sales. Cities receive the city tax collections, and county sales taxes are redistributed to the county and unincorporated cities based on formulas.³⁸

The St. Joseph TIP³⁹ lists six state funding sources including five from the Missouri Department of Transportation, MoDOT (MPEN, Safety, State Operating, Statewide Interstate and Major Bridge - SWIMB, and Taking Care of the System - TCOS), and one from the Kansas Department of Transportation, KDOT (Transportation Works for Kansas - TWORKS). In total, \$8.6 million is available through the six funding sources for fiscal year 2024 through fiscal year 2027, with \$8.5 million from Missouri and \$116,000 coming from Kansas. Most of the funds, \$5.7 million, are from TCOS.

Other state revenues include aviation fuel, railroad fees, and interest earned on invested funds.

Local Sources

Most cities and counties in Missouri also receive funding for road construction and maintenance through local sources such as property taxes and sales taxes.⁴⁰ Local transit receives funding through fare revenues in addition to federal funds passed through from the FTA.

- Capital Improvements Program (CIP) Sales Tax: in August 2023, voters approved extending the half-cent CIP Sales Tax for another five years in the city of St. Joseph. CIP Sales Tax revenues are used on projects that ensure roadway safety, offer recreational amenities, public safety projects, and maintenance for public facilities.

³⁵ Missouri Department of Transportation, *Citizen's Guide to Transportation Funding in Missouri*, November 2023, <https://www.modot.org/sites/default/files/documents/Citizen%27s%20Guide%20to%20Transportation%20Funding%20in%20Missouri%202023.pdf>

³⁶ Kansas Department of Transportation *Comprehensive Annual Financial Report*, P. 120, <https://www.ksdot.gov/Assets/wwwksdotorg/bureaus/burFiscal/rfq/ACFR/ACFR.pdf>

³⁷ Missouri Department of Transportation, *Citizen's Guide to Transportation Funding in Missouri*, November 2023, <https://www.modot.org/sites/default/files/documents/Citizen%27s%20Guide%20to%20Transportation%20Funding%20in%20Missouri%202023.pdf>

³⁸ **Pub. KS-1510 Sales Tax and Compensating Use Tax**, <https://www.ksrevenue.gov/pub1510.html>

³⁹ Greater St. Joseph Area MPO 2024-2027 Transportation Improvement Program, Adopted, 2023. <https://www.stjosephmop.org/DocumentCenter/View/18779/2024-2027-SJATSO-TIP>

⁴⁰ Missouri Department of Transportation, *Citizen's Guide to Transportation Funding in Missouri*, November 2023, <https://www.modot.org/sites/default/files/documents/Citizen%27s%20Guide%20to%20Transportation%20Funding%20in%20Missouri%202023.pdf>

The CIP Sales Tax is projected to fund projects totaling \$34.9 million over fiscal year 2024 through fiscal year 2029, including design and construction of streets, playgrounds, an amphitheater, animal shelter, trails, sidewalks, and a fire station, among numerous other projects.

- **Transit Fare Revenues:** the St. Joseph Transit “The Ride” consists of eight routes covering St. Joseph, Missouri and Elwood, Kansas. Fares, ranging from \$0.25 to \$0.50 per ride, partially support the system’s operations.

Other potential sources of funding have been implemented and used successfully in other locations. Local or state regulations would need to permit some revenue sources, which could include:

- *Developer Fees* are charges expensed to new development within pre-defined geographic areas and can be collected based on metrics such as value, square footage, frontage length, and others. The revenues could be dedicated to specific uses including transportation or utilities. Impact fees and mobility fees are types of developer fees with the one-time fees helping to pay for local transportation improvements that serve the new development.
- *Tax Increment Financing (TIF)* is a value capture tool used to encourage redevelopment in designated areas. Transportation investments are paid for with the incremental property tax revenues of new development.
- *Special Assessment Districts* are created to impose a fee on properties within the assessment area to fund improvements in that area.
- *Public-Private Partnership (PPP or P3)* is an organizational structure or agreement between public and private entities. P3s can provide a source of funding to pay the return on investment to the private sector. The benefits of the arrangement include better allocation of risk, faster implementation, and lower costs through private sector innovation.
- *Raise or Index Fuel Taxes* refers to raising or indexing local fuel taxes. In 2021, Missouri’s Governor Mike Parson signed SB 262 into law. This legislation increased the state’s tax on motor fuel by 2.5 cents per gallon each year, adding up to 12.5 cents per gallon and reaching a total of 29.5 cents per gallon by 2025.⁴¹ Kansas, on the other hand has not raised its gas tax since the early 2000s.⁴² Raising or indexing local fuel taxes would require an act of the state legislature or another referendum. Indexing fuel taxes is important because it allows revenues to be adjusted as costs for materials and services rise with inflation. This measure is highly applicable to the high inflation environment experienced within recent years, by maintaining the purchasing power of tax collections, providing additional funds for transportation, and reducing borrowing to fund transportation improvements.

⁴¹ This marked the first fuel tax increase in Missouri since 1996.

⁴² Institute on Taxation and Economic Policy, “How Long Has It Been Since Your State Raised Its Gas Tax?” May 21, 2019, <https://itep.org/how-long-has-it-been-since-your-state-raised-its-gas-tax-0219/>

Roadway/Freight Project Costs

The following summarizes the estimated project costs, in 2024 dollars, for the roadway and freight projects. Many of these projects have been included in previous MTPs, while some new projects have been identified based on existing or projected transportation and mobility needs. It should be noted that these project costs represent high-level planning assumptions, and final project costs are likely to change based on various engineering and design factors. Figure 2 displays the planned/potential roadway and freight projects while Table 1 summarizes the MTP conceptual project costs. Again, these costs should be viewed with caution as many of the proposed improvements are very high level, and conceptual nature. Furthermore, some projects may not have a cost associated with them as the cost could vary greatly depending on several engineering and/or design issues.

Figure 2. Planned/Potential Projects

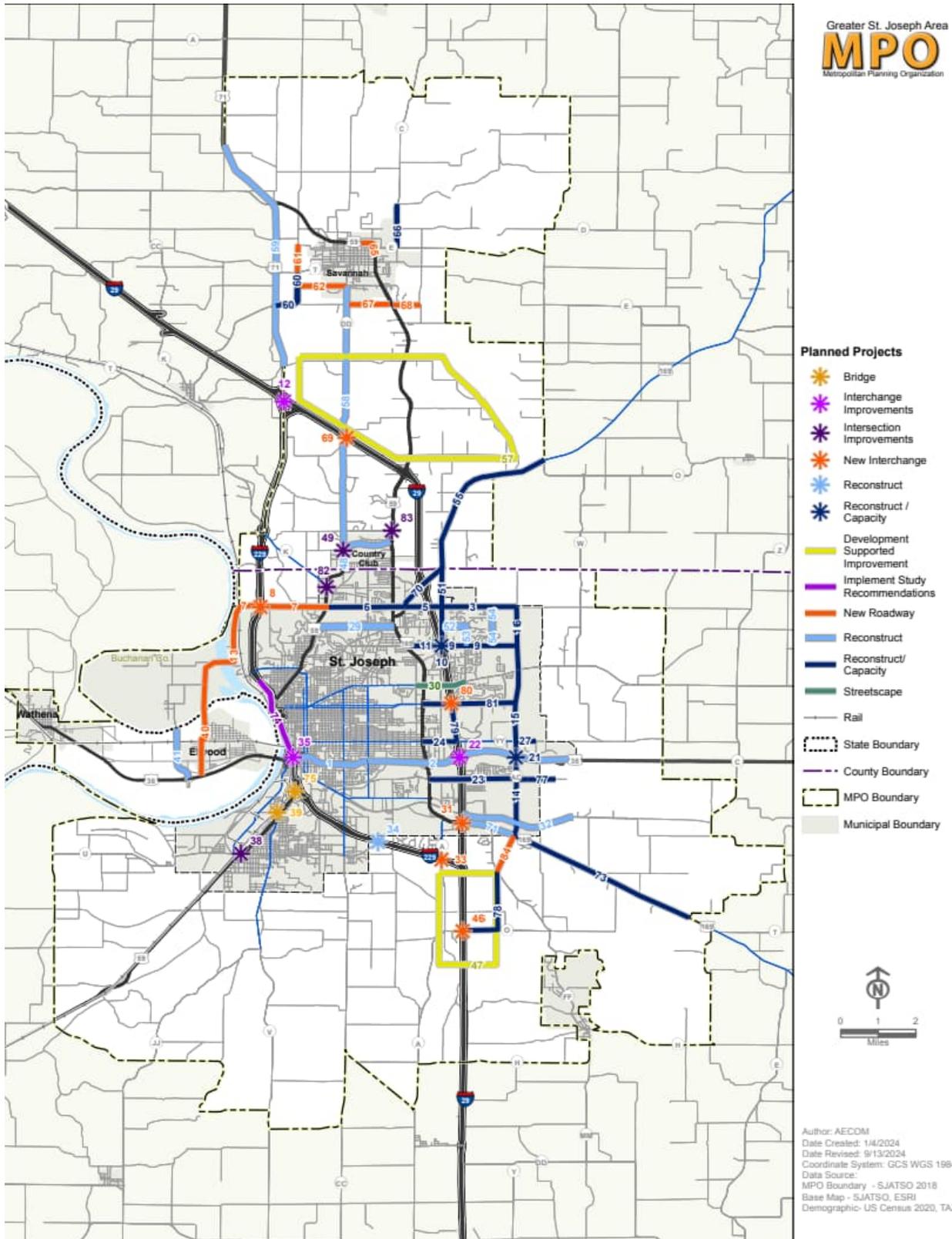


Table 1. Roadway/Freight Project Cost Estimates (2024 Dollars)

Table 1 of 4					
ID	Roadway	Project Sponsor / Jurisdiction	Location	Improvements	Cost Estimate (2024 Dollars)
1	US 36	MoDOT	28th Street to I-229 / US 36 / US 59 (interchange)	Mainline and ramp improvements	\$ 65,000,000
2	US 36	MoDOT	I-29 to 28th Street	Mainline and ramp improvements	\$ 20,000,000
3	Cook Road	City of St. Joseph	Woodbine to Riverside	Improve capacity/reconstruct from 2 lane to 3 lane; improve vertical alignment	\$ 3,000,000
5	Cook Road	City of St. Joseph	US 169 to I-29	Improve capacity/reconstruct from 2 lane to 3 lane	\$ 4,000,000
6	Cook Road	City of St. Joseph	US 59 to US 169	Improve capacity/reconstruct from 2 lane to 3 lane	\$ 8,000,000
7	Cook Road	City of St. Joseph	St. Joseph Avenue / US 59 to Waterworks Rd	Construct new roadway	\$ 19,000,000
8	I-229	MoDOT	@ new Cook Road extension (with project 7)	Construct new interchange	\$ 4,000,000
9	Gene Field Road	City of St. Joseph	Woodbine to Riverside	Improve capacity from (3 lane section)	\$ 11,000,000
10	Gene Field Road (Bridge)	MoDOT	@ I-29	Improve bridge; potential capacity improvement with projects 9 and 11	\$ 4,000,000
11	Gene Field Road	City of St. Joseph	Belt Hwy to Woodbine	Improve capacity (3 lane section)	\$ 6,000,000
12	I-29/I-229/US 71 interchange	MoDOT	System interchange	Improve ramp geometrics; enhance safety and traffic flow	\$ 1,000,000
13	New Airport River Crossing	Buchanan / City of St. Joseph / MoDOT / KDOT	TBD	Construct bridge to provide secondary access to the airport	\$ 170,000,000
14	Riverside Road (Route AC)	MoDOT	US 36 to Pickett Rd	Improve capacity/reconstruct from 2 lane to 3 lane	\$ 7,000,000
15	Riverside Road (Route AC)	MoDOT	US 36 to Route 6	Improve cross section and turn lanes; add capacity US 36 to Mitchell	\$ 18,000,000
16	Riverside Road	City of St. Joseph	Gene Field to Cook	Improve roadway; urban cross section	\$ 7,000,000

Table 2 of 4					
ID	Roadway	Project Sponsor / Jurisdiction	Location	Improvements	Cost Estimate (2024 Dollars)
21	Riverside Road (Route AC)	MoDOT	US 36 Interchange / Bridge	Reconstruct, add capacity	\$ 14,000,000
22	I-29	MoDOT	US 36	Improve interchange	\$ 40,000,000
23	Pickett Road	City of St. Joseph	Belt Highway to Riverside	Improve cross section with turn lanes	\$ 6,000,000
29	Karnes Road	City of St. Joseph	US 169 (Bus. 29) to St. Joseph Avenue (US 59)	Improve cross section; add shoulders; improve intersections	\$ 8,000,000
30	Frederick Avenue	City of St. Joseph	36th St. and Leonard	Streetscape/gateway improvements; improve sidewalks	\$ 3,000,000
31	I-29	MoDOT	US 169	Reconstruct interchange	\$ 8,000,000
32	Easton Road	City of St. Joseph	Leonard to east of Riverside	Improve (rebuild horizontal/vertical alignment as standard urban section)	\$ 3,000,000
33	I-229 (Interchange)	MoDOT	@ Route A	Add ramps at interchange to accommodate all travel movements	\$ 3,000,000
34	I-229 (Interchange)	MoDOT	@ MO 752	Improve interchange ramps	\$ 3,000,000
35	I-229/US 36/US 59 interchange	MoDOT	System interchange	Improve geometrics; enhance safety and traffic flow	\$ 30,000,000
38	Alabama Street	MoDOT	near US 59	Improve intersection geometrics; explore at-grade rail crossing options	\$ 8,300,000
39	Lower Lake Road	City of St. Joseph	@ railroad crossing	Construct grade-separation	\$ 6,000,000
40	New Airport Causeway	Buchanan / Doniphan County / Elwood	Location TBD	Construct secondary access point to/from airport	\$ 9,000,000
41	Rosecrans Airport Access	KDOT	US 36 to airport entrance	Improve cross section	\$ 6,000,000
46	I-29	MoDOT	Route O	Construct new interchange	\$ 12,000,000

Table 3 of 4					
ID	Roadway	Project Sponsor / Jurisdiction	Location	Improvements	Cost Estimate (2024 Dollars)
47	Develop supporting roadway network	City of St. Joseph / Buchanan	TBD	Develop local area roads to support future development	\$ -
48	US 59	MoDOT	County Line Road to Belt Highway	Improve cross section and intersection geometrics	\$ 9,000,000
49	US 59	MoDOT	Route DD	Intersection improvements	\$ 1,000,000
50	McArthur Drive (Bridge)	City of St. Joseph	@ BNSF RR	Reconstruct	\$ 2,000,000
52	Karnes Road	City of St. Joseph	Leonard to Woodbine	Improve (rebuild to 2-lane standard section)	\$ 3,000,000
53	Leonard Road	City of St. Joseph	Gene Field to Karnes	Improve (rebuild to 2-lane standard section)	\$ 3,000,000
54	Bishop Road	City of St. Joseph	Gene Field Road to Cook	Improve (rebuild to 2-lane standard section)	\$ 3,000,000
55	US 169	MoDOT	I-29 to MPA eastern boundary	Improve cross section; and intersections	\$ 14,000,000
57	Develop supporting roadway network	Andrew County	TBD	Develop new roadways to support future development	\$ -
58	Highway DD	Andrew County	Between US 59 and T (near Savannah)	Upgrade segment	\$ 22,000,000
59	US 71	MoDOT	US 59	Upgrade roadway	\$ 18,000,000
60	Highway T	Andrew County	Roadway segment	Improve capacity; add shoulders	\$ 1,000,000
61	Route T / (CR 428)	Andrew County	CR 424 and CR 427	Extend roadway	\$ 2,000,000
62	E. Swenson Drive	Savannah	7th Street to Route T	Extend Roadway	\$ 3,000,000
65	Business 71 (Savannah)	MoDOT	Main street north to 3rd Street	Extend existing four-lane section; include active transportation facilities	\$ 1,000,000

Table 4 of 4					
ID	Roadway	Project Sponsor / Jurisdiction	Location	Improvements	Cost Estimate (2024 Dollars)
66	Highway C	Andrew County	Roadway segment	Improve capacity, resurface & install shoulders	\$ 1,000,000
67	CR 366	Andrew County	Business 71	Connect segment between DD and Business 71	\$ 3,000,000
68	CR 366	Andrew County	Business 71 east to Route 332	Extend CR 366 eastward to connect	\$ 2,000,000
69	I-29	MoDOT	Route DD	Construct new interchange to accommodate future development	\$ 18,000,000
70	US 169	MoDOT	Cook Road to I-29	Improve (increase capacity from 2 to 3 lanes) and modify interchange	\$ 2,000,000
71	US 169	MoDOT	I-29 to Route FF	Increase capacity; 4-lane section with access management	\$ 3,000,000
73	US 169	MoDOT	Route FF to MPA boundary	Improve cross section; add turn-lanes	\$ 12,000,000
74	I-229 (Double Decker)	MoDOT	I-229/US 59 to I-229/US 36/US 59 interchange	Construct preferred alternative identified in I-229 EA Study	\$ 200,000,000
75	6th Avenue (Bridge)	City of St. Joseph	@ King Hill Avenue	Reconstruct concrete stringer	\$ 1,000,000
77	Pickett Road	City of St. Joseph	Route AC to Craig Parkway	Improve to urban cross section	\$ 5,450,000
78	Route O (future I-29 to Route AC connector)	City of St. Joseph / MoDOT	Route O and potential new corridor alignment	Improve existing road capacity/cross section; construct new roadway	\$ -
79	I-29 Mainline	MoDOT	US-36 to Frederick Avenue	Geometric and capacity improvements; coordinated with project 80	\$ -
80	I-29 New Interchange	City of St. Joseph / MoDOT	I-29 at Faraon Street	Construct new interchange (pending results of I-29 break-in access study)	\$ -
81	Faraon Street	City of St. Joseph	Belt Highway to Riverside	Improve roadway cross section; add turn-lanes	\$ -
82	US 59	MoDOT	@ Route K	Improve intersection geometrics/turning lanes	\$ 2,000,000
83	Route DD	Village of County Club / MoDOT	@ John Glenn Road	Improve intersection geometrics/turning lanes	\$ 2,000,000
84	New Route (future I-29 to Route AC connector)	City of St. Joseph	State Route FF to Route AC (Riverside)	Construct new roadway; completes I-29 / Route AC connector route	\$ -

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Roadway/Freight Improvements Cost Feasible Analysis

A cost feasible analysis is intended to ensure that the MTP reflects realistic assumptions regarding future revenues. Project cost estimates, previously presented in Table 1, are compared against available revenues to determine which projects are most likely to have available funding through the planning horizon year 2050. It is equally important to ensure that revenues will cover on-going operation and maintenance (O&M) costs.

In developing the MTP revenue and cost estimates, it is necessary to use an inflation factor to reflect “year of expenditure (YOE) dollars” based on reasonable financial principals. For the TIP, SJATSO uses a 1.5% annual inflation factor; however, the TIP notes that MoDOT uses a 3.0% annual inflation factor. For the 2050 MTP, a 3.0% annual inflation factor was used in developing YOE project cost estimates.

Available Revenue

Transportation revenues come from several different sources including state and local funding. Table 2 summarizes potential revenue sources reviewed for the MTP fiscal constraint analysis. It is important to note that some revenue sources may only be used for a small percentage of transportation projects, and in some years may not be used to fund any transportation projects. As such, assumptions regarding the percentages available for transportation projects have been made for the MTP planning purposes.

Table 2. Potential Revenue Sources

Andrew County	City of St. Joseph	FHWA
Gravel Sales Tax	Capital Improvements Program	NHPP
CART Fund	Use Tax	HSIP
Motor Vehicle Sales Tax	Motor Vehicle and Fuel Tax	STBG
Motor Vehicle Fee Increase	Streets (Sales Tax)	MoDOT
Buchanan County	Road and Bridge	Safety
Property Tax	Village of Country Club	State Operating (transit)
Delinquent Property Tax	General Fund	TCOS
Surtax	City of Savannah	KDOT
Financial Institutions Tax	General Fund (Gas Tax & Sales Tax)	TWORKS
Motor Vehicle Sales Tax	City of Wathena	
CART Fund	Motor Vehicle Tax	
Special Road Fund	Recreational Vehicle Tax	
Miscellaneous	16/20M Vehicle Tax	
Doniphan County	Commercial Vehicle Tax	
Ad Valorem Tax	Watercraft Tax	
Commercial Vehicle Tax	State Gas Tax	
Watercraft Tax	City of Elwood	
Motor Vehicle Tax	Motor Vehicle Tax	
16/20M Vehicle Tax	Recreational Vehicle Tax	
Rec Vehicle Tax	16/20M Vehicle Tax	
State Payments	Commercial Vehicle Tax	
Interfund Transfer	Watercraft Tax	
Miscellaneous	State Gas Tax	

A significant percentage of revenues are needed to fund O&M costs of existing transportation infrastructure and assets. The MTP should contain cost estimates and revenue sources that are reasonably expected to be available to adequately operate and maintain Federal-aid highways. The following summarizes the O&M funding.

MoDOT

Maintenance costs include MoDOT’s salaries, materials and equipment needed to deliver the roadway and bridge maintenance programs. This category includes basic maintenance activities for minor surface treatments such as: sealing, small concrete repairs, and pothole patching; mowing right of way; snow removal; replacing signs; striping; repairing guardrail; and repairing traffic signals. Performing these activities requires employees; vehicles and other machinery; and materials such as salt, asphalt, and fuel. Maintenance operations expenditures are expected to increase 1.5% annually.

Based on data from the FY 2023 approved budget, and the Official 2023 State System Mileage, MoDOT’s O&M cost comes out to \$5,323 per lane mile. Table 3 summarizes the miles of MoDOT roadways within the SJATSO MPA. An additional four centerline miles, and 16 lane miles, are assumed for the US 36 segment which is in Kansas. For the purpose of this analysis, the same O&M cost is assumed for the KDOT portion of the SJATSO MPA.

Table 3. MoDOT Roadways within MPA

System	Centerline miles	Lane miles	% System
Interstate	32	135	26%
Major	48	174	33%
Minor	100	215	40%
Low volume	4	7	1%

Based on these calculations, the O&M expenses for the SJATSO MPA roadways total approximately \$98 million through the year 2050.

Table 4 summarizes the estimated available revenue for capital projects between 2024 and 2050. These estimates were developed using historical and current revenue sources included in the SJATSO TIP. Since the TIP includes fiscally constrained projects from 2024 to 2027, the MTP revenues are assumed to begin in 2028. The top line of Table 4 represents an estimate of total revenues available for transportation (roadway) improvements, including maintenance and capital projects. The middle line represents an off-the-top estimate for a percentage of funding that would be used for on-going maintenance and repairs (80%). An example of this would be funds that are used to resurface interstates, or other area roadways. These funds would also be used to maintain or repair bridges. The bottom line of the table represents an estimate of remaining revenue that could be use used for capital projects. Through the horizon year 2050 it is estimated that approximately \$104 million could be available for construction or other capacity/expansion projects.

Table 4. Projected Transportation Revenues (2028* – 2050)

Funding Source	2028-2030	2031- 2035	2036 - 2040	2041 - 2045	2046 - 2050	Total
Estimated Total Revenue						
Local	\$20,963,556	\$55,223,045	\$59,490,903	\$64,088,598	\$69,041,621	\$268,807,722
Federal / State	\$19,634,160	\$51,721,095	\$55,718,309	\$60,024,443	\$64,663,372	\$251,761,379
Total	\$40,597,716	\$106,944,140	\$115,209,211	\$124,113,040	\$133,704,993	\$520,569,101
Estimated Revenue for Maintenance/Preservation (Assumed 80%)						
Local	\$16,770,845	\$44,178,436	\$47,592,722	\$51,270,878	\$55,233,297	\$215,046,178
Federal / State	\$15,707,328	\$41,376,876	\$44,574,647	\$48,019,554	\$51,730,698	\$201,409,103
Total	\$32,478,173	\$85,555,312	\$92,167,369	\$99,290,432	\$106,963,995	\$416,455,281
Estimated Total Revenue (Available for Capital Roadway Projects)						
Local	\$4,192,711	\$11,044,609	\$11,898,181	\$12,817,720	\$13,808,324	\$53,761,544
Federal / State	\$3,926,832	\$10,344,219	\$11,143,662	\$12,004,889	\$12,932,674	\$50,352,276
Total	\$8,119,543	\$21,388,828	\$23,041,842	\$24,822,608	\$26,740,999	\$104,113,820

*TIP projects are 2024 to 2027 and are fiscally constrained. The first band of the MTP is assumed to begin in 2028.

Fiscally Constrained Roadway/Freight Projects

Figure 3 displays the fiscally constrained roadway projects included in the 2050 MTP. These projects were selected based on the project scoring as summarized in Appendix G, and by allocating the project costs across the YOE revenue bands summarized in Table 4.

Table 5 summarizes the fiscally constrained projects along with the estimated YOE. Table 13 summarizes the fiscally constrained projects along with the estimated YOE. Due to some higher project cost estimates, it is necessary to split costs between YOE bands. In addition, some projects, as noted in the table, are currently included in various phases (i.e., design, letting, construction) of the SJATSO current TIP.

Project #31 is currently on MoDOT’s unfunded needs list; however, it is anticipated that this project will be needed in the next 20 years, and as such, it is included in the fiscally constrained list as it is anticipated that funding will become available.

Project #74, the preferred alternative to address the I-229 Double-Decker Bridge, has a significant price tag that cannot be covered by projected revenues. However, some early phases of this project are planned to move forward in the next few years, and given the current bridge condition, it is reasonably anticipated that this project will be fully funded and constructed prior to the 2050 horizon year. As such, this project is included in the fiscally constrained list.

Finally, it is worth noting that the MTP fiscally constrained list can be modified to add or remove projects or potentially move projects around in the YOE. This could be done for various reasons, including when funding becomes available.

Figure 3. Fiscally Constrained Roadway/Freight Improvements

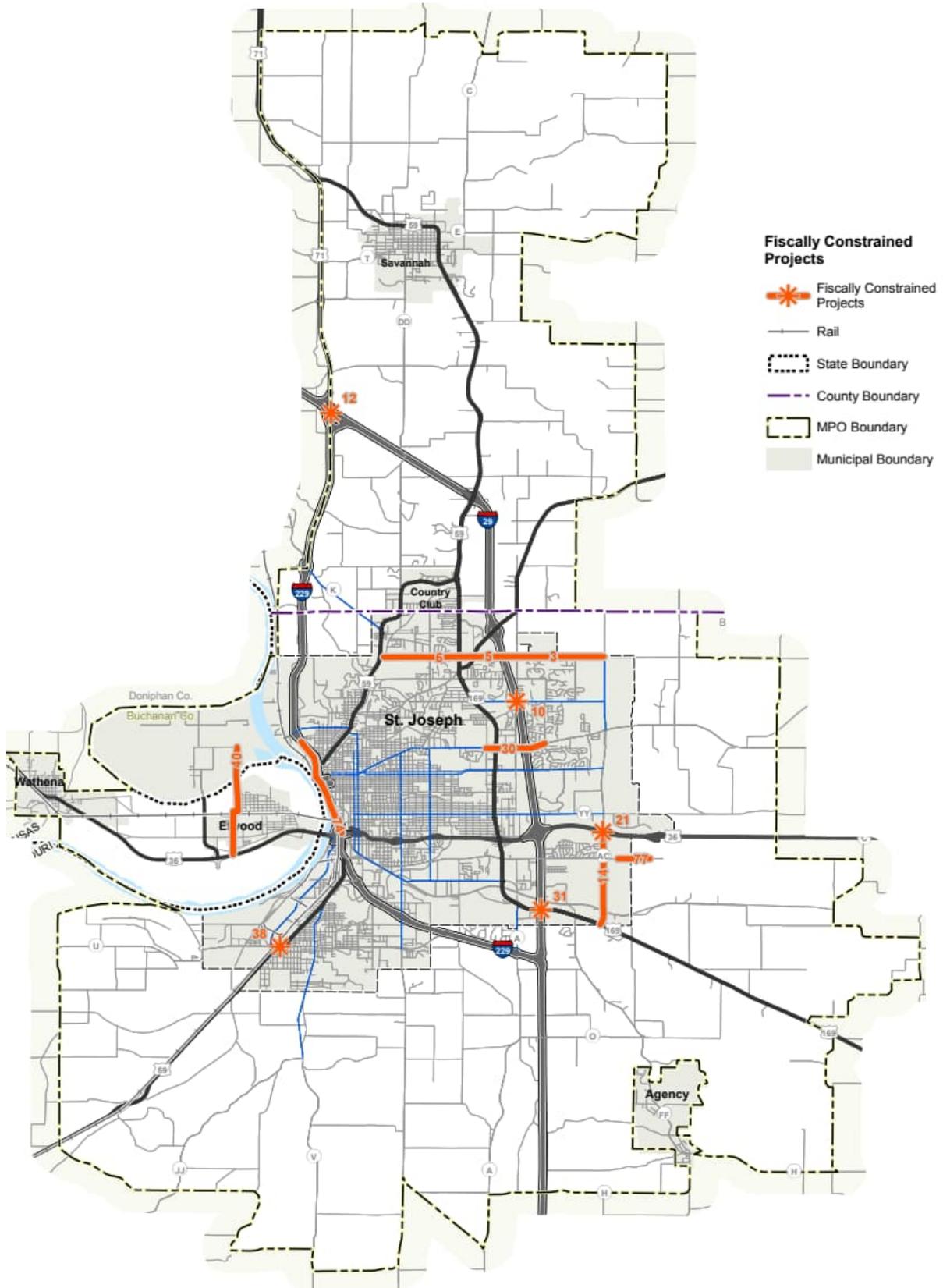


Table 5. Fiscally Constrained Projects

ID	Roadway	Project Sponsor / Jurisdiction	Location	Improvements	Funding Source	Estimated Year of Expenditure Cost				
						2028-2030	2031-2035	2036-2040	2041-2045	2046-2050
3	Cook Road	City of St. Joseph	I-29 to Riverside	Improve capacity/reconstruct from 2 lane to 3 lane; improve vertical alignment	Local	\$2,900,000				
					Federal / State	\$600,000				
5	Cook Road	City of St. Joseph	US 169 to I-29	Improve capacity/reconstruct from 2 lane to 3 lane	Local		\$4,000,000			
					Federal / State		\$1,200,000			
6	Cook Road	City of St. Joseph	US 59 to US 169	Improve capacity/reconstruct from 2 lane to 3 lane	Local		\$2,000,000	\$7,000,000		
					Federal / State		\$500,000	\$3,000,000		
10	Gene Field Road (Bridge)	MoDOT	@ I-29	Improve bridge; potential capacity improvement with projects 9 and 11	Local					
					Federal / State	Project currently in design and expected to be constructed during 2025-2028 TIP period				
12	I-29/I-229/US 71 interchange	MoDOT	System interchange	Improve ramp geometrics; enhance safety and traffic flow	Local					
					Federal / State	Project currently in design and expected to be constructed during 2025-2028 TIP period				
14	Riverside Road (Route AC)	MoDOT	US 36 to Pickett Rd	Improve capacity/reconstruct from 2 lane to 3 lane	Local			\$1,000,000	\$500,000	
					Federal / State			\$3,000,000	\$4,000,000	
21	Riverside Road (Route AC)	MoDOT	US 36 Interchange / Bridge	Reconstruct, add capacity	Local					
					Federal / State	Project currently in design and expected to be constructed during 2025-2028 TIP period				
30	Frederick Avenue	City of St. Joseph	36th St. and Leonard	Streetscape/gateway improvements; improve sidewalks	Local	\$1,000,000	\$2,000,000			
					Federal / State	\$500,000	\$500,000			
31	I-29	MoDOT	US 169	Reconstruct interchange	Local					
					Federal / State				\$3,000,000	\$12,000,000
38	Alabama Street	MoDOT	near US 59	Improve intersection geometrics; explore at-grade rail crossing options	Local					
					Federal / State	Project to be constructed during 2025-2028 TIP period (let for construction in September 2024).				
40	New Airport Causeway	Buchanan / Doniphan County / Elwood	Location TBD	Construct secondary access point to/from airport	Local					
					Federal / State		\$4,000,000	\$7,000,000		
74	I-229 (Double Decker)	MoDOT	I-229/US 59 to I-229/US 36/US 59 interchange	Construct preferred alternative identified in I-229 EA Study	Local					
					Federal / State	2025-2028 TIP includes some funding; remaining funds to construct the preferred alternative to be identified.				
77	Pickett Road	City of St. Joseph	Route AC to Craig Parkway	Improve to urban cross section	Local					
					Federal / State	Project released for bid October 2024				

Illustrative Projects (Fiscally Unconstrained Vision)

The SJATSO future transportation needs exceed the projected revenue forecast to the year 2050. SJATSO recognizes that it is not possible to construct all the transportation projects identified in the MTP; however, the unconstrained vision remains a critical part of the MTP. The fiscally unconstrained vision—or illustrative project list—is important because it:

- Defines the long-term vision, or blueprint, for future transportation investments;
- Allows for better land use planning, informed development decisions, and better policy making; and,
- Positions the SJATSO to understand future year transportation needs and be able to more quickly respond by having “shovel ready” projects prepared, should additional funding become available.

The MTP divides the unconstrained vision into Tier II and Tier III projects. Tier II projects are sub-divided into a general time period during which specific improvements might be needed (again, with the understanding that current funding levels are not adequate to construct these projects). Tier III projects are viewed as potentially being needed beyond the 2050 planning horizon.

Tier II Illustrative Projects (2025 to 2034 and 2035 to 2050)

The MTP identifies a wide range of potential improvements to address specific transportation needs to the year 2050. As previously indicated, Federal guidelines require the MTP to be fiscally constrained to the estimated level of public and/or private sector funding available. The majority of projects identified do not have a reasonable funding source identified and likely will not be implemented by the year 2050 unless additional revenue is identified (potential additional funding sources are summarized at the beginning of this memo).

While these projects may not have funding, many are still vital pieces of a much larger regional vision for future growth and development. In some cases, if these projects were not identified, it could at some point prohibit or restrict implementation or future development.

Tier III Illustrative Projects (Beyond 2050)

Tier III projects are another component of the illustrative vision and include projects that would likely be needed, or implemented, beyond the 25-year planning horizon year (2050). Table 6 provides a summary of the Tier I to Tier III projects. Figures 4 and 5 display the location of the unconstrained projects, grouped by tiers. Figure 5 includes an overlay of the tiered projects with the area land use.

Figure 4. Fiscally Unconstrained Roadway/Freight Improvements (Tier II and Tier III Projects)

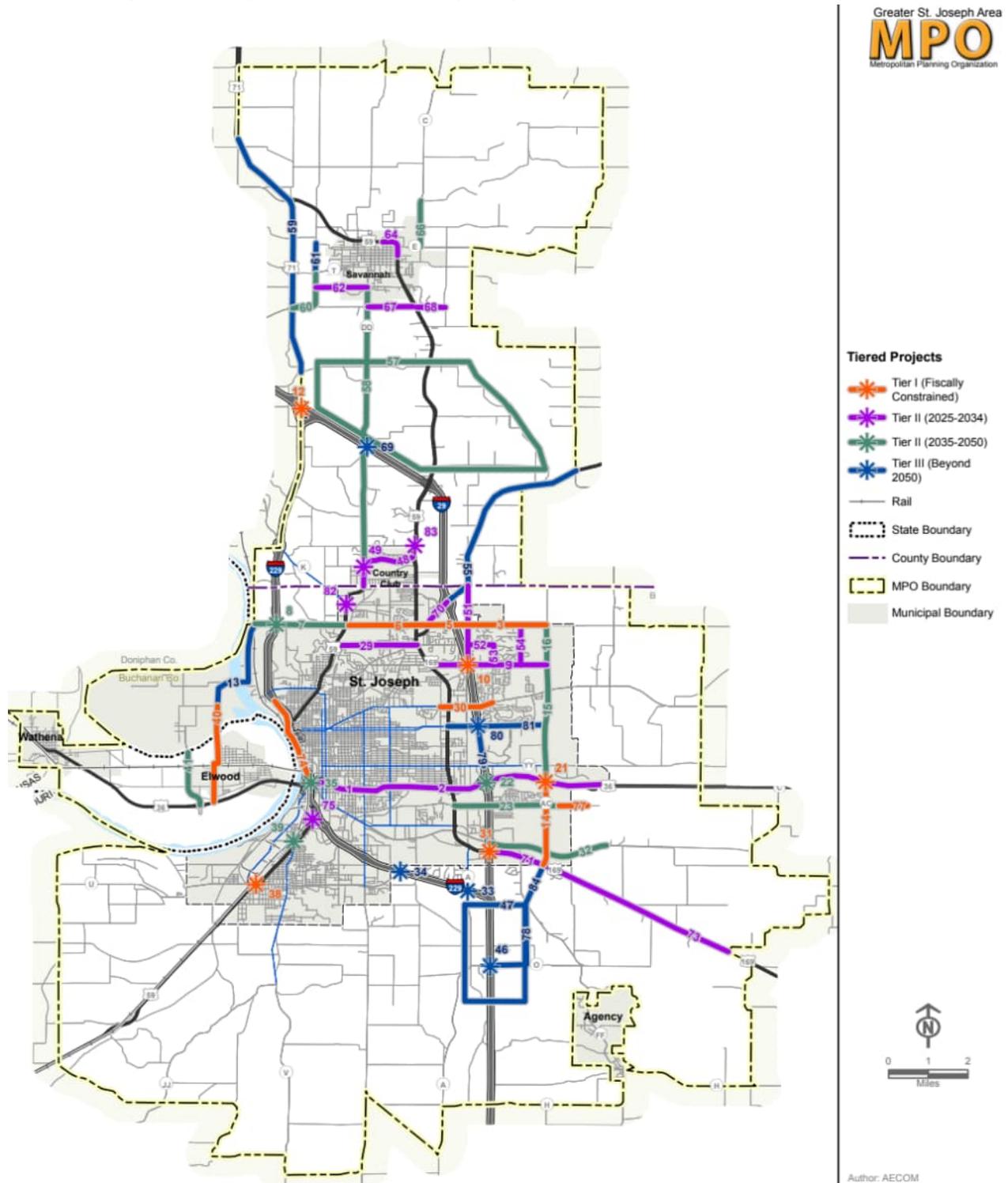


Figure 5. Fiscally Unconstrained Roadway/Freight Improvements (Tier II and Tier III Projects, with Land Use)

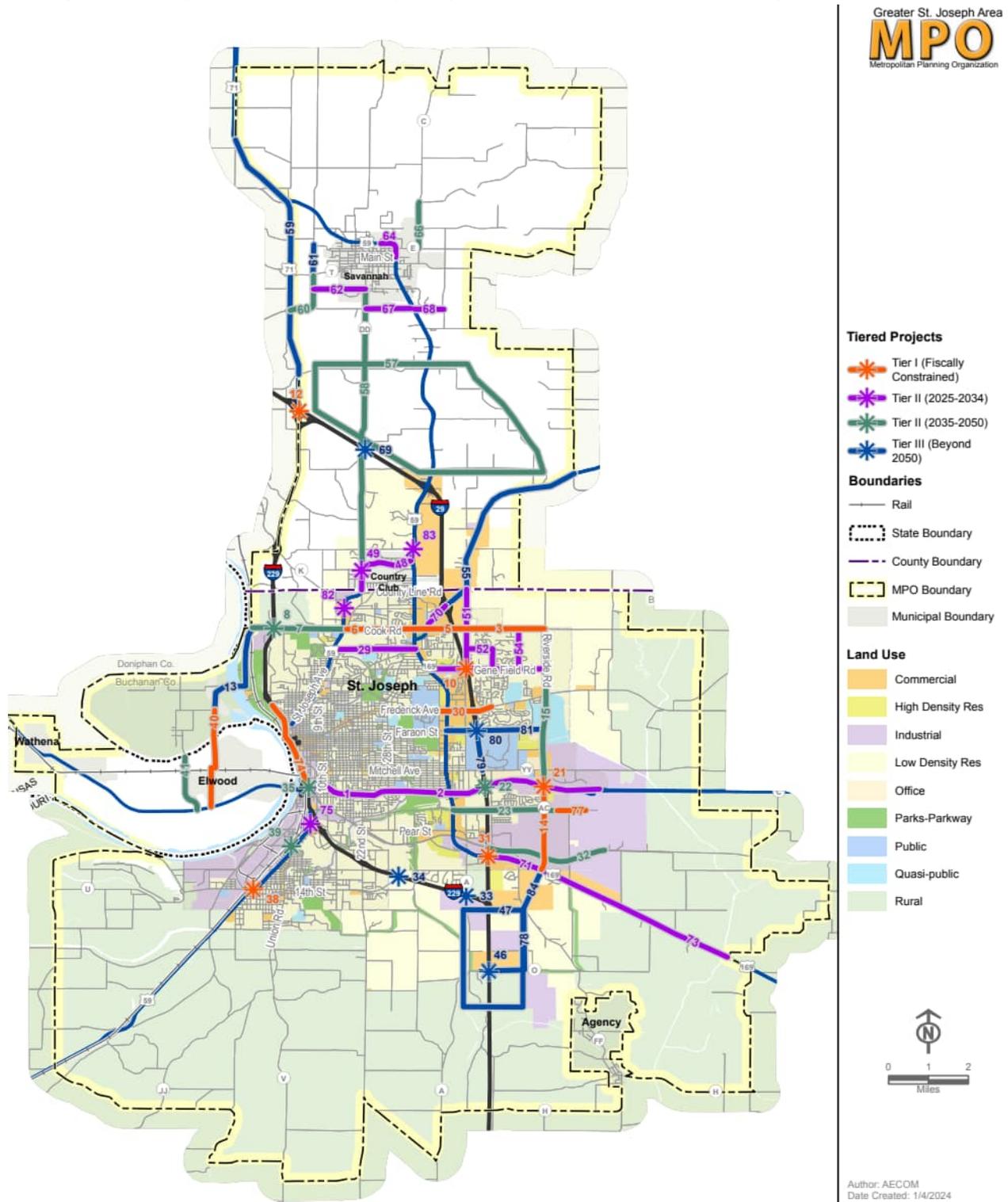


Table 6. Roadway/Freight Project Tiers

Table 1 of 3 (sorted by Tier)									
ID	Roadway	Project Sponsor / Jurisdiction	Location	Improvements	Cost Estimate (2024 Dollars)	Tier I Fiscally Constrained	Tier II Year 2025 to 2034	Tier II Year 2035 to 2050	Tier III Beyond 2050
3	Cook Road	City of St. Joseph	Woodbine to Riverside	Improve capacity/reconstruct from 2 lane to 3 lane; improve vertical alignment	\$ 3,000,000	●			
5	Cook Road	City of St. Joseph	US 169 to I-29	Improve capacity/reconstruct from 2 lane to 3 lane	\$ 4,000,000	●			
6	Cook Road	City of St. Joseph	US 59 to US 169	Improve capacity/reconstruct from 2 lane to 3 lane	\$ 8,000,000	●			
10	Gene Field Road (Bridge)	MoDOT	@ I-29	Improve bridge; potential capacity improvement with projects 9 and 11	\$ 4,000,000	●			
12	I-29/I-229/US 71 interchange	MoDOT	System interchange	Improve ramp geometrics; enhance safety and traffic flow	\$ 1,000,000	●			
14	Riverside Road (Route AC)	MoDOT	US 36 to Pickett Rd	Improve capacity/reconstruct from 2 lane to 3 lane	\$ 7,000,000	●			
21	Riverside Road (Route AC)	MoDOT	US 36 Interchange / Bridge	Reconstruct, add capacity	\$ 14,000,000	●			
30	Frederick Avenue	City of St. Joseph	36th St. and Leonard	Streetscape/gateway improvements; improve sidewalks	\$ 3,000,000	●			
31	I-29	MoDOT	US 169	Reconstruct interchange	\$ 8,000,000	●			
38	Alabama Street	MoDOT	near US 59	Improve intersection geometrics; explore at-grade rail crossing options	\$ 8,300,000	●			
40	New Airport Causeway	Buchanan / Doniphan County / Elwood	Location TBD	Construct secondary access point to/from airport	\$ 9,000,000	●			
74	I-229 (Double Decker)	MoDOT	I-229/US 59 to I-229/US 36/US 59 interchange	Construct preferred alternative identified in I-229 EA Study	\$ 200,000,000	●			
77	Pickett Road	City of St. Joseph	Route AC to Craig Parkway	Improve to urban cross section	\$ 5,450,000	●			
1	US 36	MoDOT	28th Street to I-229 / US 36 / US 59 (interchange)	Mainline and ramp improvements	\$ 65,000,000		●		
2	US 36	MoDOT	I-29 to 28th Street	Mainline and ramp improvements	\$ 20,000,000		●		
9	Gene Field Road	City of St. Joseph	Woodbine to Riverside	Improve capacity from (3 lane section)	\$ 11,000,000		●		
11	Gene Field Road	City of St. Joseph	Belt Hwy to Woodbine	Improve capacity (3 lane section)	\$ 6,000,000		●		
29	Karnes Road	City of St. Joseph	US 169 (Bus. 29) to St. Joseph Avenue (US 59)	Improve cross section; add shoulders; improve intersections	\$ 8,000,000		●		
48	US 59	MoDOT	County Line Road to Belt Highway	Improve cross section and intersection geometrics	\$ 9,000,000		●		
49	US 59	MoDOT	Route DD	Intersection improvements	\$ 1,000,000		●		
50	McArthur Drive (Bridge)	City of St. Joseph	@ BNSF RR	Reconstruct	\$ 2,000,000		●		
52	Karnes Road	City of St. Joseph	Leonard to Woodbine	Improve (rebuild to 2-lane standard section)	\$ 3,000,000		●		

Table 2 of 3 (sorted by Tier)

ID	Roadway	Project Sponsor / Jurisdiction	Location	Improvements	Cost Estimate (2024 Dollars)	Tier I Fiscally Constrained	Tier II Year 2025 to 2034	Tier II Year 2035 to 2050	Tier III Beyond 2050
53	Leonard Road	City of St. Joseph	Gene Field to Karnes	Improve (rebuild to 2-lane standard section)	\$ 3,000,000		●		
54	Bishop Road	City of St. Joseph	Gene Field Road to Cook	Improve (rebuild to 2-lane standard section)	\$ 3,000,000		●		
62	E. Swenson Drive	Savannah	7th Street to Route T	Extend Roadway	\$ 3,000,000		●		
65	Business 71 (Savannah)	MoDOT	Main street north to 3rd Street	Extend existing four-lane section; include active transportation facilities	\$ 1,000,000		●		
67	CR 366	Andrew County	Business 71	Connect segment between DD and Business 71	\$ 3,000,000		●		
68	CR 366	Andrew County	Business 71 east to Route 332	Extend CR 366 eastward to connect	\$ 2,000,000		●		
70	US 169	MoDOT	Cook Road to I-29	Improve (increase capacity from 2 to 3 lanes) and modify interchange	\$ 2,000,000		●		
71	US 169	MoDOT	I-29 to Route FF	Increase capacity; 4-lane section with access management	\$ 3,000,000		●		
75	6th Avenue (Bridge)	City of St. Joseph	@ King Hill Avenue	Reconstruct concrete stringer	\$ 1,000,000		●		
82	US 59	MoDOT	@ Route K	Improve intersection geometrics/turning lanes	\$ 2,000,000		●		
83	Route DD	Village of County Club / MoDOT	@ John Glenn Road	Improve intersection geometrics/turning lanes	\$ 2,000,000		●		
7	Cook Road	City of St. Joseph	St. Joseph Avenue / US 59 to Waterworks Rd	Construct new roadway	\$ 19,000,000			●	
8	I-229	MoDOT	@ new Cook Road extension (with project 7)	Construct new interchange	\$ 4,000,000			●	
15	Riverside Road (Route AC)	MoDOT	US 36 to Route 6	Improve cross section and turn lanes; add capacity US 36 to Mitchell	\$ 18,000,000			●	
16	Riverside Road	City of St. Joseph	Gene Field to Cook	Improve roadway; urban cross section	\$ 7,000,000			●	
22	I-29	MoDOT	US 36	Improve interchange	\$ 40,000,000			●	
23	Pickett Road	City of St. Joseph	Belt Highway to Riverside	Improve cross section with turn lanes	\$ 6,000,000			●	
32	Easton Road	City of St. Joseph	Leonard to east of Riverside	Improve (rebuild horizontal/vertical alignment as standard urban section)	\$ 3,000,000			●	
35	I-229/US 36/US 59 interchange	MoDOT	System interchange	Improve geometrics; enhance safety and traffic flow	\$ 30,000,000			●	
39	Lower Lake Road	City of St. Joseph	@ railroad crossing	Construct grade-separation	\$ 6,000,000			●	
41	Rosecrans Airport Access	KDOT	US 36 to airport entrance	Improve cross section	\$ 6,000,000			●	
57	Develop supporting roadway network	Andrew County	TBD	Develop new roadways to support future development	\$ -			●	

Table 3 of 3 (sorted by Tier)

ID	Roadway	Project Sponsor / Jurisdiction	Location	Improvements	Cost Estimate (2024 Dollars)	Tier I Fiscally Constrained	Tier II Year 2025 to 2034	Tier II Year 2035 to 2050	Tier III Beyond 2050
58	Highway DD	Andrew County	Between US 59 and T (near Savannah)	Upgrade segment	\$ 22,000,000			●	
60	Highway T	Andrew County	Roadway segment	Improve capacity; add shoulders	\$ 1,000,000			●	
61	Route T / (CR 428)	Andrew County	CR 424 and CR 427	Extend roadway	\$ 2,000,000			●	
66	Highway C	Andrew County	Roadway segment	Improve capacity, resurface & install shoulders	\$ 1,000,000			●	
13	New Airport River Crossing	Buchanan / City of St. Joseph / MoDOT / KDOT	TBD	Construct bridge to provide secondary access to the airport	\$ 170,000,000				●
33	I-229 (Interchange)	MoDOT	@ Route A	Add ramps at interchange to accommodate all travel movements	\$ 3,000,000				●
34	I-229 (Interchange)	MoDOT	@ MO 752	Improve interchange ramps	\$ 3,000,000				●
46	I-29	MoDOT	Route O	Construct new interchange	\$ 12,000,000				●
47	Develop supporting roadway network	City of St. Joseph / Buchanan	TBD	Develop local area roads to support future development	\$ -				●
55	US 169	MoDOT	I-29 to MPA eastern boundary	Improve cross section; and intersections	\$ 14,000,000				●
59	US 71	MoDOT	US 59	Upgrade roadway	\$ 18,000,000				●
69	I-29	MoDOT	Route DD	Construct new interchange to accommodate future development	\$ 18,000,000				●
73	US 169	MoDOT	Route FF to MPA boundary	Improve cross section; add turn-lanes	\$ 12,000,000				●
78	Route O (future I-29 to Route AC connector)	City of St. Joseph / MoDOT	Route O and potential new corridor alignment	Improve existing road capacity/cross section; construct new roadway	\$ -				●
79	I-29 Mainline	MoDOT	US-36 to Frederick Avenue	Geometric and capacity improvements; coordinated with project 80	\$ -				●
80	I-29 New Interchange	City of St. Joseph / MoDOT	I-29 at Faraon Street	Construct new interchange (pending results of I-29 break-in access study)	\$ -				●
81	Faraon Street	City of St. Joseph	Belt Highway to Riverside	Improve roadway cross section; add turn-lanes	\$ -				●
84	New Route (future I-29 to Route AC connector)	City of St. Joseph	State Route FF to Route AC (Riverside)	Construct new roadway; completes I-29 / Route AC connector route	\$ -				●

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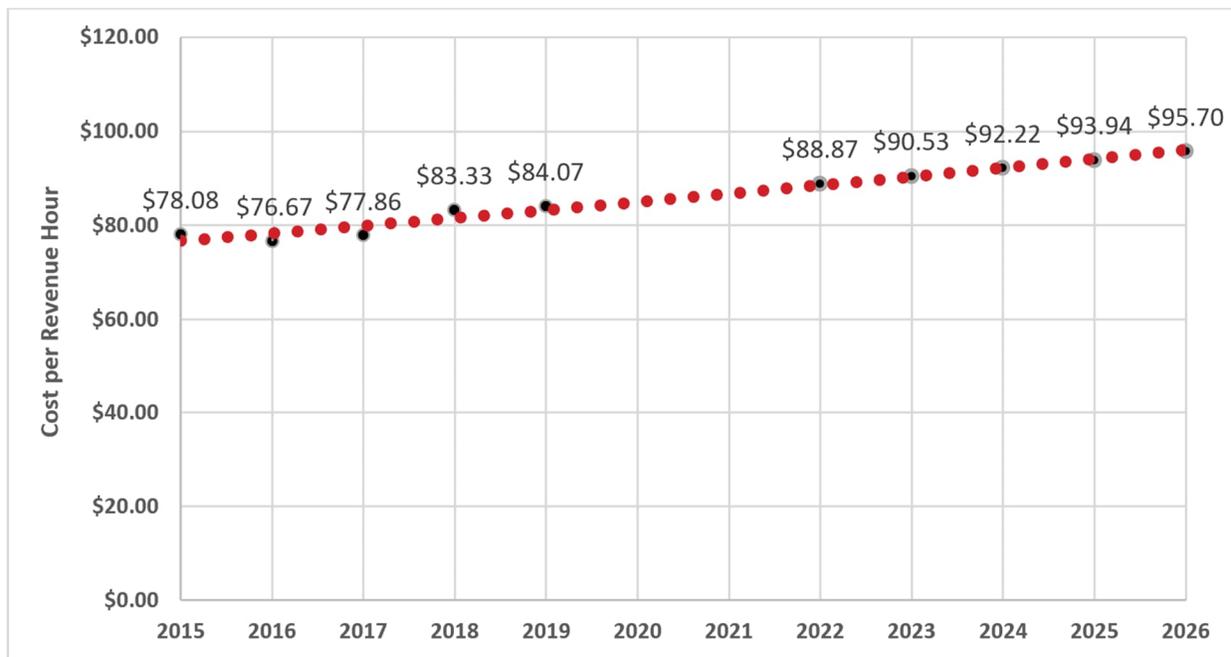
Public Transportation Cost Feasible Analysis

The public transportation cost feasible analysis considers O&M and operating costs through the year 2050. This analysis is based on analysis conducted as part of the Go. St. Joe June 2022 Transit Development Plan. For additional details on the O&M and service costs, please refer to the TDP.

O&M Costs

The financial plan assumes an annual escalation of 1.9% for O&M costs. The TDP based this on a 5-year historical cost growth (2015 to 2019). These O&M unit costs were compared to national trends, including 3rd party demand response service costs, and were found to be consistent with national averages. Figure 6 shows the O&M costs per revenue hour assumptions that were applied through the 2026 TDP horizon.

Figure 6. O&M Costs per Revenue Hour Assumptions



SOURCE: National Transit Database, 2015-2019; AECOM, 2022

For the purposes of the MTP, the same 1.9% annual escalation was used to estimate the O&M costs through the 2050 planning horizon. Assuming revenue hours per year remain consistent at approximately 69,700, then the total O&M costs projected between 2025 and 2050 totals nearly \$215 million.

Operating Costs

Operating revenue estimates were derived by analyzing 2015-2019 revenue trends, assuming federal funding trends. This is based on the June 2022 TDP financial analysis. State funding reflects the recent allocation for the FY2022 Statewide Operating Assistance Grant, assuming no escalation or increase in future years. Fare revenues

conservatively assume a 5% fare recovery, with remaining operating resources coming from local funding sources. Table 7 summarizes the project operating budget between 2025 and 2050.

Table 7. Projected Operating Budget (2025 to 2050)

Operating Budget	2025 to 2030		2031 to 2040		2041 to 2050		2025 to 2050 Total
	Total	Annual Average	Total	Annual Average	Total	Annual Average	
Federal Operating Grants	\$12,349,574	\$2,058,262	\$23,892,763	\$2,389,276	\$28,756,064	\$2,875,606	\$64,998,401
State Operating Grants	\$140,034	\$23,339	\$233,390	\$23,339	\$233,390	\$23,339	\$606,814
Local Contribution	\$25,336,980	\$4,222,830	\$56,649,056	\$5,664,906	\$81,702,709	\$8,170,271	\$163,688,745
Fare Revenue	\$2,005,097	\$334,183	\$3,434,377	\$343,438	\$3,542,341	\$354,234	\$8,981,815
Other Income	\$2,005,097	\$334,183	\$3,434,377	\$343,438	\$3,542,341	\$354,234	\$8,981,815
Total Operating Revenue	\$41,836,781	\$6,972,797	\$87,643,964	\$8,764,396	\$117,776,845	\$11,777,684	\$247,257,590

SOURCE: AECOM MTP Analysis; Go St. Joe 2022 TDP – Financial Plan.

Assuming the system remains relatively “as is” through 2050, the total operating budget is estimated to be around \$247 million.

Capital Costs

Capital costs for replacing buses are a significant component of maintaining a reliable and efficient public transportation system. *Go St. Joe* adheres to FTA guidelines for bus replacement, ensuring compliance with federal standards and maximizing the use of available funding. According to FTA guidelines, buses are typically replaced based on a combination of age, mileage, and condition. For instance, standard transit buses are generally replaced after 12 years or 500,000 miles, whichever comes first.

The FTA’s Bus and Bus Facilities Program provides financial assistance to support the replacement, rehabilitation, and purchase of buses and related equipment. This program helps transit agencies maintain a state of good repair, improve safety, and enhance service reliability. By following these guidelines, *Go St. Joe* ensures that its fleet remains modern and efficient, reducing maintenance costs and improving overall service quality for passengers

Future Service Enhancements

The 2050 MTP recognizes that public transportation is likely to become an increasingly important mobility option within the SJATSO region over the coming years. As seen nationally, an aging population is often seeking alternatives to driving, some by choice and others due to physical and/or mental conditions that restrict driving. The 2050 MTP future needs also discusses certain future year transit investments including:

- Implementing (or, reintroducing) 30-minute headways
- Constructing a new transit center along the Belt Highway
- Adding regional service to the Kansas City area

Should these services be introduced in future years, additional funding will be needed to help offset the increased operating costs.