

Columbia Area Transportation Study Organization

TRANSPORTATION IMPROVEMENT PROGRAM

FY 2020-2023

FOR CATSO TECHNICAL COMMITTEE
REVIEW
FEBRUARY 5, 2020

FEBRUARY, 2020 ADMINISTRATIVE REVISION

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Disclaimer: The opinions, findings and conclusions expressed in this publication are those of the authors and not necessarily those of the Missouri Highways and Transportation Commission, the Federal Highway Administration, or the Federal Transit Administration.

INTRODUCTION

PURPOSE

The Transportation Improvement Program (TIP) is a program and schedule of intended transportation improvements (or a continuation of current activities) covering a four (4) year period, including projects utilizing funding from the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA). The Columbia Area Transportation Study Organization (CATSO), the designated Metropolitan Planning Organization (MPO) for the Columbia metropolitan area, develops the TIP in cooperation with the Missouri Department of Transportation (MoDOT) and affected transit operators.

The TIP shall cover a period of no less than four years, be updated at least every four years, and be approved by the MPO and the Governor of Missouri. CATSO's policy is to update it every year unless circumstances require a less frequent schedule. It is then incorporated into Missouri's respective Statewide Transportation Improvement Program (STIP) by reference. It shall contain a priority list of projects to be carried out within each 4-year period or at least be grouped by year. Also, it shall provide a constrained financial plan that is capable of being implemented. The incorporation of the TIP into the STIP by reference occurs through a MoDOT STIP amendment modification that is reviewed and approved by FHWA and FTA (ONE DOT).

The TIP should also be considered the implementation tool of the Long Range Transportation Plan (LRTP): *CATSO 2050 Long-Range Transportation Plan* adopted by the CATSO Coordinating Committee on December 5, 2019.

The FY 2020-2023 TIP translates the policies, strategies, and directions of the LRTP into specific projects and related investments during the short-term four year TIP time horizon.

The CATSO planning process is done in accordance with the federal 3-C process of continuing, cooperative, and comprehensive planning.

Included in the FY 2020-2023 document is the planned Program of Projects (POP) for Go COMO (formerly Columbia Transit), the transit provider for the Columbia metropolitan planning area. The public notification for the public hearing to be held for consideration and potential approval of the TIP includes a reference to the POP. The public notice is part of the CATSO process established for public review of the TIP, and also meets the public involvement requirements for the POP.

REGIONAL TRANSPORTATION PRIORITIES

The priorities and challenges for the Columbia metropolitan planning area continue recent trends. A need to provide a variety of transportation options for area residents is an ongoing issue. The increased public demand for facilitation of non-motorized transportation options has continued and has been addressed with the federal funding through the Non-Motorized Pilot Project, locally called GetAbout Columbia. Continuing to maintain, improve, and expand as

necessary the regional roadway network to serve both motorized and non-motorized travel is a financial and management challenge.

Listed below are the goals from the current CATSO 2040 Long-range Transportation Plan (LRTP). The projects listed in this TIP address the implementation of these goals, with a priority focus on Goals 1, 2, 3, 4, and 7.

Goal 1: The Columbia Metro Area will have a first class street, highway and non-motorized network that meets the short and long-term needs of the Metro Area

Goal 2: The Metro Area transportation system will integrate and connect all travel modes

Goal 3: The public transportation system will be a viable transportation option throughout the Metro Area

Goal 4: Long-range land use and transportation planning will be coordinated on a regional and local basis

Goal 5: Encourage compact and infill development and redevelopment in under-invested areas

Goal 6: Integrate land use planning with infrastructure development

Goal 7: Provide safe and secure facilities and transportation infrastructure for residents, visitors and commerce in the Columbia Metro Area

PROJECT SELECTION

Projects to be funded/implemented shall be selected by the Missouri Department of Transportation (MoDOT), Boone County, the City of Columbia (including the transit operator), and private transportation providers in cooperation with the MPO.

Programs covered via the Coordinated Public Transit Human Services Transportation Plan, for which CATSO does not have a direct role in project selection, have been included. Project selection and priority criteria are applied by each of the individual public jurisdictions within the metropolitan area; MoDOT, Boone County, and the City of Columbia. Project selection is done by staff recommendations, the Missouri Highways and Transportation Commission, Boone County Commission, and the Columbia City Council.

The City of Columbia's public involvement process for transportation capital improvement projects is extensive, and is described at the link below.

<https://www.como.gov/publicworks/public/>

TIP DEVELOPMENT PROCEDURES

The Columbia MPO has adopted a procedure which produces an updated and approved TIP at least every other year. The procedure is initiated cyclically through continual review of the transportation system's operational character. Each improvement type found in this program has a project selection procedure in which projects are ranked according to some criteria by the agency having jurisdiction over the project area.

The prioritization of recommended transportation improvement modifications begins at the basic level of management. The local units of government responsible for the provision and maintenance of transportation facilities and the local transit operators determine their own individual priorities without major influence from outside agencies. CATSO considers those projects listed in the first year of the TIP to be first priority, and those in the following years to be second, third, and fourth priority, respectively.

In the public transportation component of this document, respective transit providers are listed, with subsequent programming areas and priorities reflected. This TIP, and subsequent amendments, as approved by the Coordinating Committee of the Columbia MPO and the Governor of the State of Missouri, constitutes the selection document for project implementation. The first year of projects listed in the TIP represent the agreed to list of projects eligible for implementation.

TIP FORMAT

This TIP is broken into eight categories by project (improvement) type and jurisdiction: MoDOT Roadway Projects; MoDOT Scoping; Boone County; City of Columbia Streets; City of Columbia Sidewalks; GetAbout Columbia (Non-Motorized Transportation Pilot Project); Rail-Highway; and Transit. Financial summaries demonstrating fiscal constraint are in the financial summary section.

The TIP project listing, beginning on page 24 of the PDF document, consists of a series of datasheets describing specific improvement types and providing the following project information:

- a. Name, location, and description of the proposed improvement.
- b. A schedule of expenditures in current dollars by fiscal year, including the funding source.
- c. Monitoring Progress in Implementing the Transportation Plan (23 CFR 450.324(n) (2)).
(Project status report)

In addition, a self-certification document signed by CATSO and MoDOT signifying that federal transportation planning process requirements are being met in the Columbia metropolitan planning area (MPA) is required. (23 CFR 450.334) This may be included internally in the TIP or processed separately. This document has been included in the Appendices.

The source documents for items within the TIP include, but are not limited to, the short-range element of the CATSO 2050 LRTP (adopted December 5, 2019), the Capital Improvement Program (CIP) for the City of Columbia (FY 2020), and the current MoDOT FY 2020-2024 STIP.

AIR QUALITY DESIGNATION

At the present time, the United States Environmental Protection Agency has designated Columbia as being in attainment for Ozone, Carbon Monoxide (CO), Nitrogen Dioxide (NO₂), Small Particulate Matter (PM-2.5), Lead, and Sulfur Dioxide.

TIP MODIFICATIONS

Modifications to the TIP are classified into two categories, defined as follows:

1. Administrative Modifications:

Such a modification is defined as a minor revision to the TIP, including minor changes to project costs, funding sources of previously programmed projects, and project initiation years. Such modifications do not require public review or comment; however, if the revision includes a cost increase, demonstration of fiscal constraint to ensure the LPA project sponsor has the financial capacity to deliver the project is required. Errors, project changes, or omissions in the final, approved TIP will be addressed administratively (without the need for Coordinating Committee approval or public comment) if the following conditions apply:

- a. The project budget change does not exceed 15 percent of the amount programmed (up to \$2,000,000).
- b. The project is already listed in the current year and does not require a move from an out-year of the TIP forward to the current year.
- c. A material change to the project is not required (in terms of scope).

The following procedure is used for processing an administrative modification for the TIP:

- a. The agency requesting administrative modification will notify the CATSO staff of the proposed modification.
- b. The CATSO staff will notify/consult with MoDOT, FHWA, and FTA representatives that the proposed modification is forthcoming.
- c. Once ensured fiscal constraint has been confirmed, the CATSO staff will make the appropriate TIP document revisions to reflect the requested modification.
- d. The revised section(s) of the TIP will be forwarded to MoDOT, FHWA, and FTA for their review and files.
- e. The revised section(s) of the TIP will be forwarded to the CATSO Coordinating Committee for information purposes.

2. Amendments

Formal amendments involve major changes to the TIP, including the addition or deletion of a project, a major change in project scope, which includes a major cost change (+/-15 percent or +/- \$2,000,000), or a change in project schedule that moves the project to a different year.

The following procedure is used for processing an amendment modification for the TIP:

- a. The agency requesting amendment will notify the CATSO staff of the proposed amendment.
- b. Once ensured fiscal constraint has been confirmed, the CATSO staff will make the appropriate TIP document amendment to reflect the requested modification.
- c. The MPO will publish a public notice allowing a 15 day comment period on the proposed amendment, as well as utilizing the MPO public notification website.
- d. Comments will be directed to the CATSO staff. Comments and responses will be documented by means of an addendum to the TIP Appendices.
- e. The proposed amendment is then placed on the agenda for the next meeting of the Coordinating Committee for discussion and modification. If timing allows, the Technical Committee will review and make recommendation to the Coordinating Committee. A majority of the quorum in attendance is required to approve said amendment.
- f. If the proposed amendment is approved by the Coordinating Committee, the approved amendment action is forwarded to MoDOT with a request that the STIP be amended to reflect the TIP amendment modification. MoDOT will then forward the STIP amendment request to the Governor for approval, and then to the FHWA Missouri Division and FTA Region VII (ONE DOT) for their approval.
- g. MoDOT and CATSO's receipt of ONE DOT's approval and its formal documentation of the STIP amendment for the TIP modification must occur prior to letting of the project.

PUBLIC PARTICIPATION PLAN

The CATSO Coordinating Committee adopted a revised Public Participation Plan on December 4, 2014 that is available at the following link under the Programs and Plans section:

<https://www.como.gov/community-development/wp-content/uploads/sites/14/2015/09/CATSO-Public-Participation-Plan-2014.pdf>

This document sets forth the public participation procedures for the MPO in general, including the procedure for the annual TIP, including language as follows:

Transportation Improvement Program

Procedure and Schedule for Preparation of the TIP. The TIP is reviewed annually between May and August. CATSO staff begins the process by soliciting transportation providers in writing for projects and programs and their anticipated funding amounts to include in each year's TIP. CATSO staff then reviews the requests in consultation with all local jurisdictions and public agencies and prepares a draft TIP. Upon completion of this review, the draft TIP is posted for general public comment for a minimum period of thirty (30) calendar days. During this period, the TIP is circulated to members of the Technical Committee, who review the document and provide a recommendation to the Coordinating Committee. The Coordinating Committee then convenes a public hearing. Upon conclusion of the hearing, the Coordinating Committee may a) Approve the TIP as presented; 2) Approve the TIP with documented modifications; or 3) Table the TIP to a date certain for further consideration. After its approval, the TIP is transmitted to the MoDOT Central Office to secure approval from the Governor of the State of Missouri and FHWA-FTA.

Inter-Agency Consultation. As required by MAP-21/FAST Act, CATSO will consult with local jurisdictions and public agencies during the development of the TIP. A copy of the draft TIP will be provided to appropriate agency staff and a period of 30 days will be allowed for their review and comment. CATSO responses to each agency's comments will be provided to the Technical and Coordinating Committees.

Annual Listing of Obligated Federally Funded Projects. This is a listing of federally funded projects for which funding was obligated in the previous year. An Annual Listing of Obligated Projects is not incorporated in this document. CATSO staff will develop and publish this listing within 90 days following the close of the CATSO fiscal year. The listing will be made available in accordance with CATSO's public participation plan for the TIP.

The listing will include the identification for each project, the amount of Federal funds requested in the TIP, the Federal funding that was obligated during the preceding fiscal year, and the Federal funding remaining and available for subsequent years.

Public Participation Process. To develop a more effective TIP, the MPO will have an open public involvement process that provides for the continuing and early involvement of the public in the development and amendment of the TIP.

1. The MPO will provide annual notice by June 1st of the calendar year to agencies that have previously submitted projects to the MPO, or other entities that have requested information. The notice shall include information concerning the transportation issues and processes used in developing a TIP submittal. This notice will provide the information required to propose projects for inclusion in the TIP and the timetable to be followed. MPO staff will be available to give these agencies and groups any assistance they might require in developing projects for submittal for the TIP.

2. Agencies submitting projects for inclusion in the TIP will include written documentation of the public involvement procedures used by that agency in selecting projects to include in the TIP and/or for federal funding, e.g., projects for which FTA Section 5307 funding is sought. If written or oral comments that question the need, scope or scheduling of TIP projects or that propose alternative projects are received during the TIP preparation process, the submitting agency will submit a summary, analysis and report on the disposition of the comments which will be made a part of the approved TIP.

The regulation concerning public participation reads as follows:

§ 450.316 Interested parties, participation, and consultation.

(a) The MPO shall develop and use a documented participation plan that defines a process for providing citizens, affected public agencies, representatives of public transportation employees, freight shippers, providers of freight transportation services, private providers of transportation, representatives of users of public transportation, representatives of users of pedestrian walkways and bicycle transportation facilities,

representatives of the disabled, and other interested parties with reasonable opportunities to be involved in the metropolitan transportation planning process.

CATSO solicited public comments on the proposed FY 2020-2023 Transportation Improvement Program. The public comment period began on July 15, 2019, the time when the draft TIP was initially posted to the CATSO website page. The draft TIP was made available for public viewing and comment via newspaper advertisement in the Columbia Daily Tribune and document posting on CATSO's website page at:

<http://www.como.gov/community-development/public-notifications-2/>

All public comments will be considered in finalizing the FY 2020-2023 project programming. The final document and amendments will be maintained and available for public access on the web, as well as the related documents referenced herein.

FEDERAL PERFORMANCE MEASURES

In the passage of the Moving Ahead for Progress in the 21st Century Act (MAP-21), and continuing into the FAST Act, Congress established Transportation Performance Management (TPM). FHWA defines TPM as a strategic approach that uses system information to make investment and policy decisions to achieve national performance goals.

Another new requirement is Performance Based Planning and Programming (PBPP) which impacts the TIP and the MTP. PBPP refers to the application of performance management principles within the planning and programming processes of transportation agencies to achieve desired performance outcomes for the multimodal transportation system.

As of mid-2019, CATSO has adopted performance measures in all four required areas: Safety, Transit Asset Management, Pavement & Bridge, and Systems Performance.

Safety Performance Measures

At their November 7, 2018 meeting the CATSO Technical Committee reviewed the statewide safety targets. At their December 6, 2018 meeting, the Columbia Area Transportation Study Organization's Coordinating Committee unanimously voted to adopt the statewide safety targets.

There are nine projects specifically programmed and budgeted using safety funding in the MoDOT section of this TIP, totaling \$9,858,000 for program years FY 2020-2023, all are sponsored and will be administered by the Central District of MoDOT. These projects will help the CATSO MPA and the State towards achieving these targets. Examples include intersection safety improvements, curve improvements, and on-call work zone enforcement to improve the safety of MoDOT workers as well as roadway users.

The City of Columbia also has a number of projects programmed which are intended to increase safety. These include three roundabout projects that will be implemented at problematic intersections for traffic speeds, sight distance, and related factors and will facilitate a smoother safer transit through the intersections for all vehicles. In addition, four sidewalk projects are listed in the TIP document which are in the implementation stages.

Bridge & Pavement Performance Measures

At their August 1, 2018 meeting the CATSO Technical Committee reviewed the statewide bridge and pavement performance measures-targets. They voted to recommend that the CATSO Coordinating Committee adopt the Bridge & Pavement performance measures that have been established by MoDOT.

At their August 23, 2018 meeting, the CATSO Coordinating Committee unanimously voted to adopt the statewide bridge and pavement performance measure targets.

The draft FY 2020-2023 TIP includes a number of projects focused on maintaining conditions in the existing transportation system.

Of the twenty-five projects listed in the MoDOT Construction section, fifteen are funded from the “Taking Care of the System” MoDOT funding category. Most are described as being pavement or bridge improvements. The only projects which could be regarded as a system upgrade in terms of being a new facility would be the roundabout projects at Route K/Sinclair and at I-70 Drive SE/Keene Street in the Columbia area.

These projects will help the CATSO MPA and the State towards achieving these targets.

System Performance Measures

At their August 1, 2018 meeting the CATSO Technical Committee reviewed the statewide system performance measure targets established by MoDOT. They voted to recommend that the CATSO Coordinating Committee adopt those System performance measures.

At their August 23, 2018 meeting, the Coordinating Committee approved the adoption of the MoDOT System Performance targets.

There are no projects currently listed in the draft FY 2020-2023 TIP that directly address either Interstate Travel Time Reliability or Freight Reliability as the project’s focus. However current projects may indirectly help move towards these targets.

In the category of Non-Interstate Travel Time Reliability, the two City of Columbia intersection roundabout projects, both are which are cost share projects in cooperation with MoDOT, indirectly address the issue of improving travel time and reducing the possibilities of delays. There is also another intersection roundabout project, at the Sinclair/Old Mill Creek/Nifong

location that also addresses the issue indirectly. All three of the projects also address safety concerns at their respective intersections.

Transit Asset Management Performance Measures

Transit Asset Management is a performance area for which targets must be set. MoDOT evaluated the existing vehicles and facilities to be included in the State Transit Asset Management (TAM) Plan. Accordingly, Go COMO was required to set transit targets for their public transportation assets, including vehicles, facilities, equipment and other infrastructure. Go COMO decided to prepare its own TAM Plan and set its own targets.

At their February 6, 2019 meeting, the CATSO Technical Committee reviewed this item. It was recognized that adoption of the TAM Plan targets contained in the Columbia Transit TAM Plan was the appropriate action. The Technical Committee passed a motion to recommend the Coordinating Committee give formal approval to the Columbia Transit TAM Plan targets.

At their February 28, 2019 meeting, the CATSO Coordinating Committee voted to adopt the Go COMO TAM Plan transit targets as proposed.

Go COMO has its list of fiscally constrained projects and Program of Projects in this document. The transit agency has identified \$587,056 in local funding that may be used as match for federal grant funds for vehicle replacement and other capital projects to help move towards these asset management performance targets.

MONITORING PROGRESS IN IMPLEMENTING THE TRANSPORTATION PLAN
(23 CFR 450.324(l) (2)).

STATUS OF FY 2019-2022 TIP PROJECTS

Project

Status

MoDOT	
2019-1: Interstate 70 bridge improvements (5I3366)	Feb. 2021 Letting
2018-1: (5S3227) Route PP pavement & shoulder improvements	Payment Project
2018-13: (5S3253) Outer Roadway I-70 Bridge improvements	Feb. 2021 Letting
2019-2: (5S3318) MO 740 Pavement improvements	Nov. 2020 Letting
2019-3: (5P3313) Various Work Zone Enforcement	
2019-4: (5B0800T) Various Safe & Sound bridges	Payback
2019-5: (5S3360) Payment for Rte. K/Sinclair/Old Plank	Payment Project
2019-6: (0I3005I) Interstate 70 Job Order Contracting	Removed from STIP/No Bids
2019-7: (5S3319) Various Locations – Pavement Improvement	Dec. 2020 Letting
2019-8: (0I3005Z) Interstate 70 Pavement Repair	Ongoing
2019-9: (0X3121F) Various Locations – Curve Improvements	Split to 5I3408
2019-10: (5S3159B) MO 763 Pavement Resurfacing	Ongoing
2017-2: (5S3159) MO 763 Sidewalk Upgrade	Ongoing
2017-16 (5P3217) Various Routes – Work Zone Enforcement	Ongoing
2018-24: (5S3304) Payment to Columbia for Keene/I-70 Dr SE	Complete
2018-25: (5I3303) Various Routes – Safety improvements at ramps	Ongoing
2018-2: (5S3257) Various Routes – Pavement & Shoulder	Ongoing
2018-5: (5S3218) MO 163 ADA Improvements	Ongoing
2018-6: (5P3235) US 63 Pavement Improvements	Ongoing
2018-7: (5P3287) US 63 Bridge Improvements	Ongoing
2018-8: (5S3249) Route HH Bridge Improvements	Ongoing
2018-9: (0P3021F) Various Routes – Safety Projects	Split to 5S3317 & 5S3384
2018-10: (0S3021F) Various Routes – ADA Transition Plan	Split to 5S3369
2018-11: (5P3274) Various Routes – Guardrail or Guard Cable	Ongoing
2018-12: (5P3224) Various Routes – Work Zone Enforcement	Ongoing

Project***Status***

Boone County	
No projects listed	

City of Columbia- Streets	
2017-17: Ballenger (Route PP) Improvement Project	Construction
2017-18: Discovery Parkway Extension – Gans to New Haven	Final Design
2017-19: Nifong Widening/Improvement Project	Final Design
2018-16: Forum & Green Meadows Intersection Improvement	Final Design
2018-17: Sinclair-Old Mill Creek-Nifong Intersection Improvement	Final Design

City of Columbia - Sidewalks	
2017-20: Ninth & Elm Pedestrian Scramble	On hold
2018-18: Chapel Hill Road at Scott Boulevard	Ongoing
2018-19: Carter Lane Sidewalk	Construction

Transit - COMO Connect	
2015-18: Maintenance of existing operations & facilities	Ongoing
2018-20: Low Emission No Emission Grant	Rollover
2018-21: Bus Replacement FY 13 Sec. 5339	Rollover
2018-22: Bus & Van Replacement FY 2014-17 Sec. 5339	Rollover
2010-17 Bus Priority System, Traffic Signal Control	Rollover
Transit - OATS, Inc.	
2017-23: Purchase of two lift-equipped vehicles	Grant received, rollover
2017-26: Elderly & Disable & Beyond ADA	Received \$78,000 in funds, rollover
2018-23: Bus and Bus Facilities	Received two vehicles, rollover
2015-22: Funding for general public transportation	Received \$57,000 in funding, rollover
Transit – Alternative Community Training, Inc.	
2017-22: Purchase of four lift-equipped mini-vans	Grant received for one (1), rollover

GetAbout Columbia – Non-Motorized Pilot Program	
2013-23: Shepard to Rollins Trail connection	Construction

FINANCIAL SUMMARY

PROJECT LISTINGS

TIP project listings were provided by the individual agencies from each of CATSO's member jurisdictions: MoDOT, Boone County, and the City of Columbia. Specific financial information on MoDOT projects was provided by the MoDOT Central District Office. For Boone County projects, data was provided by Boone County Public Works and the Auditor's Office. For the City of Columbia, the following departments contributed project financial information: Finance, Public Works (including COMO Connect), GetAbout Columbia, and the Community Development Department.

FORECASTED REVENUE ESTIMATES

Revenue forecasts for future funding for the TIP were derived from consultation with specific CATSO member departments such as Boone County Auditor's Office and Public Works Department, City of Columbia Finance Department and Public Works Department, and MoDOT Transportation Planning. These projections are reflected in the Financial Summary section for each project.

Federal Revenue

The Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) publish notices in the Federal Register that estimates the federal fiscal year allocations by program year for each urbanized area. These estimates are used as the anticipated federal funding amount. Assumptions for federal funding availability are based on MoDOT projections for the state system. For Boone County, federal funding for projects is intermittent and no assumptions are made for federal funding availability in the future. For other City of Columbia project categories using federal funds such as Transportation Alternatives (TAP) and Traffic Engineering Assistance Program (TEAP), no specific future funding projections are made given the lack of a specific allocation, as well as the competitive nature of this funding source.

MoDOT combines FHWA and FTA funding estimates with state transportation revenue projections to estimate funding for transportation and includes them in the Statewide Transportation Improvement Program (STIP). CATSO uses these projections to determine fiscal constraint relative to the projects programmed in the TIP.

CATSO is responsible for programming projects within the federal revenue categories of Off-System Bridge (BRO) and Non-Motorized Pilot Program (GetAbout Columbia). Please note that

all fiscal years included in the revenue tables refer to the federal fiscal year, which runs from October 1 to September 30 annually.

Table 1 – Anticipated Federal Funding FY 2020 through 2023

Anticipated Federal Funds	FY 2020	FY 2021	FY 2022	FY 2023	Total
<i>FHWA Revenues</i>					
BRO – Boone County	\$0	\$0	\$0	\$0	\$0
Rail-Highway	\$0	\$0	\$0	\$0	\$0
Non-Motorized Project	\$1,840,000	\$0	\$0	\$0	\$1,840,000
Transportation Alternatives	\$279,896	\$171,396	\$0	\$0	\$451,292
City of Columbia STBG	\$0	\$0	\$735,000	\$0	\$735,000
MoDOT STBG	\$1,000	\$1,000	\$0	\$0	\$2,000
MoDOT Safety	\$1,152,300	\$7,273,700	\$1,432,000	\$0	\$9,858,000
MoDOT NHFP (Freight)	\$70,200	\$2,295,800	\$0	\$0	\$2,366,000
MoDOT NHPP	\$3,786,200	\$3,397,400	\$1,028,800	\$0	\$8,212,400
<i>FHWA Sub-Total</i>	\$7,129,596	\$13,139,296	\$3,195,000	\$0	\$23,464,692
<i>FTA Revenues</i>					
FTA Section 5307 Operating	\$2,600,000	\$2,600,000	\$2,600,000	\$2,600,000	\$10,400,000
FTA Section 5339 Capital	\$2,870,484	\$60,000	\$140,000	\$0	\$3,070,484
FTA Section 5310	\$214,600	\$219,600	\$224,600	\$168,800	\$827,600
FTA Section 5311	\$58,000	\$60,000	\$60,000	\$60,000	\$238,000
<i>FTA Sub-Total</i>	\$5,743,084	\$2,939,600	\$3,024,600	\$2,828,800	\$14,536,084
<i>Federal Totals</i>	\$12,872,680	\$16,078,896	\$6,220,400	\$2,828,800	\$38,000,776

State Revenue

MoDOT's principal sources of state revenue for road maintenance are motor vehicle fuel taxes, licenses and fees and 71 percent of motor vehicle sales tax collected statewide. It is expected that these sources of revenue will continue, though potentially at a lesser level of funding, and MoDOT's maintenance obligations in the CATSO MPA will be funded.

Local Revenue

The majority of local funding for transportation projects in the Columbia MPA is derived from sales taxes.

Boone County receives revenue from several sources, including a dedicated one-half cent sales tax. This sales tax revenue is used, in part, to replace a portion of dedicated property tax revenue: the dedicated property tax levy was reduced, but not eliminated, in conjunction with voter approval of the sales tax. In addition, a portion of the sales tax revenue is distributed to entities within the county (cities and special road district). The net amount retained by Boone County is used to pay for maintenance and improvement of the County's roadway infrastructure. In 2017, this sales tax was renewed by voters and is authorized through September 2028. In

addition to the one-half cent sales tax, Boone County receives revenue from a dedicated property tax levy (reduced, as described above), revenues from the state-wide fuel tax, revenues from motor vehicle licensing fees, and a portion of the state's sales taxes derived from the sale of motor vehicles. Some, but not all, of Boone County's infrastructure assets are located within the CATSO area; accordingly, revenue amounts shown in the table below have been pro-rated. Amounts shown in the table below have also been reduced by the amounts distributed to other entities. Boone County also receives federal funding for bridge projects; this funding is received on an intermittent basis and there is no funding currently shown in Table 1.

The City of Columbia has a dedicated ½ cent transportation sales tax. This tax is utilized for airport operations, transit system operations, street and sidewalk maintenance, and system improvement projects. This is a permanent sales tax. In addition, the City has a ¼ cent capital improvement sales tax, which is used in part for street and sidewalk construction projects. This tax was renewed by voters in August 2015. Other revenues for transportation projects come from development charges, user fees, special assessments, and the sale of general obligation bonds. Transportation development districts (TDDs) are another source of revenue for transportation projects; although not included in this discussion given they are not administered by the political jurisdictions within the CATSO MPA. Total revenues received from the two City sales tax sources over the four-year TIP period are estimated at \$65,407,678.

The City also receives revenue from Boone County as part of a County rebate program, and funds through MoDOT from revenue derived from motor vehicle tax, gasoline tax, sales and use tax, and licenses and fees. Total revenues received from these specific sources over the four-year TIP period are estimated at \$33,756,943.

Revenue estimates in Table 3A were provided by the Boone County Auditor's office. The revenue estimates in Table 3B were provided by the City of Columbia Finance Department. Tables 3A and 3B provide a summary of local tax revenue sources. For the Boone County ½ cent sales tax and dedicated property tax, an annual inflation factor of 1.5 percent was generally employed. An annual reduction factor of 1 percent was applied for the City of Columbia ½ cent transportation sales tax and ¼ cent capital improvement sales tax revenue projections. Other revenue sources are projected to be flat across the FY 2020-2023 TIP scope period.

Table 2A - Boone County Projected Local Revenues 2020 through 2023

Anticipated Local Revenue	2020	2021	2022	2023	Total
Boone County ½ cent sales tax	\$3,952,596	\$4,011,885	\$4,072,064	\$4,133,145	\$16,169,690
Boone County dedicated property tax	\$430,851	\$439,469	\$448,258	\$457,223	\$1,775,801
Boone County gas tax	\$383,040	\$383,040	\$383,040	\$383,040	\$1,532,160
Boone County motor vehicle fees & sales tax	\$143,640	\$143,640	\$143,640	\$143,640	\$574,560
TOTALS	\$4,910,128	\$4,978,034	\$5,047,002	\$5,117,048	\$20,052,211

Table 2B – City of Columbia Projected Local Revenues 2020 through 2023

Anticipated Local Revenue	2020	2021	2022	2023	Total
City of Columbia Boone County Rebate tax	\$2,000,000	\$2,000,000	\$2,000,000	\$2,000,000	\$8,000,000
City of Columbia ½ cent sales tax	\$11,191,764	\$10,995,908	\$10,803,480	\$10,614,419	\$43,605,571
City of Columbia 1/4 cent sales tax	\$5,595,708	\$5,497,783	\$5,401,572	\$5,307,044	\$21,802,107
Public Imp. Fund (4.1% of 1% General sales tax)	\$958,960	\$942,178	\$925,690	\$909,491	\$3,736,319
Gasoline Tax (City)	\$2,937,565	\$2,937,565	\$2,937,565	\$2,937,565	\$11,750,260
Motor Vehicle Tax (City)	\$973,552	\$973,552	\$973,552	\$973,552	\$3,894,208
Public Improvement Fund/Dev. Fees	\$1,200,000	\$1,200,000	\$1,200,000	\$1,200,000	\$4,800,000
TOTALS	\$24,857,549	\$24,546,986	\$24,241,859	\$23,942,071	\$97,588,465

Table 3 - Summary of Forecasted Federal, State & Local Revenue 2020 Through 2023

Anticipated Revenue Source	2020	2021	2022	2023	Total
Federal	\$12,872,680	\$16,078,896	\$6,220,400	\$2,828,800	\$38,000,776
State (MoDOT)	\$21,629,800	\$17,270,400	\$23,587,000	\$6,413,000	\$68,900,200
Boone County	\$4,910,128	\$4,978,034	\$5,047,002	\$5,117,048	\$20,052,211
City of Columbia	\$24,857,549	\$24,546,986	\$24,241,859	\$23,942,071	\$97,588,465
TOTALS	\$64,270,157	\$62,874,316	\$59,096,260	\$38,300,918	\$224,541,652

Note: Above includes state funding for operations and maintenance, capital projects, and transit operations.

- Revenue estimates for state funding were received directly from MoDOT. Please refer to the (state fiscal year) 2020-2024 STIP for more information.

MoDOT Operations and Maintenance

Maintenance costs include MoDOT's salaries, materials and equipment needed to deliver the roadway and bridge maintenance programs. This category includes basic maintenance activities like 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.

Calculations are \$398,294,000 / 77,541 lane miles.

This makes MoDOT's cost, \$5,137 per lane mile

Assumptions:

Maintenance Operations	\$503,302,000 *
Fleet Investments	<u>\$ 26,452,000 *</u>
Total	\$529,754,000
Minus Maintenance Fringe Benefits	<u>\$131,460,000 *</u>
Total	\$398,294,000

Lane miles 77,541 **

*Source: FY 2020 Budget approved 6/5/2019

** Source: Official 2018 State System Mileage

Local Jurisdictions

The City of Columbia and Boone County were asked to furnish an estimate of annual operation and maintenance costs for locally owned roadways within the CATSO MPA.

This information is used in conjunction with financial estimates, including projected growth rates, to determine the balance between maintaining the existing roadway system and programming for system expansion/reconstruction. Local jurisdictions within the Columbia metropolitan planning area are able to give greater consideration to these matters knowing how the projected operation and maintenance costs may impact funding for expansion projects.

Table 4 - Estimated Maintenance Costs for Federal Aid Road Mileage in CATSO MPA

Maintenance Costs-Federal Aid System	Lane Miles	Cost Per Mile*	2020	2021	2022	2023	Total
State System MoDOT	365.991	\$5,137	\$1,880,096	\$1,908,297	\$1,936,922	\$1,965,975	\$7,691,290
Boone County	35.128	\$8,324	\$292,405	\$301,178	\$310,213	\$319,519	\$1,223,315
City of Columbia	194.018	\$6,500	\$1,261,117	\$1,298,951	\$1,337,919	\$1,378,057	\$5,276,043
TOTAL	595.137	_	\$3,433,618	\$3,508,425	\$3,585,054	\$3,663,551	\$14,190,649

* - Base cost per mile for FY 2020 is in CY 2019 dollars, 3 percent inflation factor per year added for out years for City of Columbia and Boone County, and 1.5 percent inflation factor for MoDOT.

Maintenance and operations for only federal-aid public roadways in the CATSO MPA are accounted for in the chart above. All jurisdictional maintenance costs per lane mile are updated figures for FY 2020. These figures were revised based on previous document numbers and an inflation factor applied. For MPA roadways that are not part of the federal-aid system, the maintenance cost per centerline mile is generally lower due to multiple factors, including lower traffic volumes.

The lane per mile cost figures above could also be utilized to calculate the maintenance costs for all roadways maintained by the local jurisdictions within the MPA, beyond the federal aid system. The annual City of Columbia operations and maintenance costs depicted in Table 5 is based on the cost of maintaining the entire roadway network under its jurisdiction, not just the federal-aid miles. Similarly, Table 6 illustrates the cost to Boone County of maintaining all streets under its jurisdiction within the Columbia MPA, not just federal-aid miles.

The City of Columbia maintains 1,150 lane miles of roadway, while Boone County maintains 558.6 lane miles of roadway within the CATSO MPA. The anticipated total street maintenance budget for Columbia for FY 2020 is \$7,475,000 which divided by the roadway miles gives an overall lane mile cost of \$6,500.

Tables 5 and 6 illustrate the total revenues projected to be available for the City of Columbia and Boone County, respectively, for both operations and maintenance and capital projects over the four-year TIP period.

Table 5 – City of Columbia Funding Summary – Roadway Network Projects

City of Columbia	2020	2021	2022	2023	Total
Total Estimated Revenue	\$24,857,549	\$24,546,986	\$24,241,859	\$23,942,071	\$97,588,465
Estimated Operations & Maintenance Costs	\$7,475,000	\$7,699,250	\$7,930,228	\$8,168,134	\$31,272,612
Transfers to Go COMO Operations/Maintenance	\$4,770,113	\$4,625,421	\$4,625,421	\$4,625,421	\$18,646,376
Other Transfers to Go COMO for Project Match	\$567,056	\$0	\$20,000	\$0	\$587,056
Funds Available for Capital Projects	\$12,728,095	\$13,034,968	\$12,605,171	\$12,210,234	\$50,578,467
Local Share of TIP Projects with Federal Funds	\$113,216	\$42,849	\$0	\$0	\$156,065
Funds Available for Additional TIP Projects	\$12,614,879	\$12,992,119	\$12,605,171	\$12,210,234	\$50,422,402
Programmed Street Projects 100% City Funded	\$6,557,705	\$3,849,247	\$5,400,000	\$0	\$15,806,952
Programmed Sidewalk Projects 100% City Funded	\$204,781	\$518,649	\$0	\$0	\$723,430
Funds Available* for Additional TIP Projects	\$5,331,031	\$7,689,968	\$6,002,198	\$10,737,821	\$29,761,018

* Operations and maintenance for Go COMO will also be taken from funding balance (½ cent TST revenues) as is an annual capital projects amount. Go COMO also has additional funding sources not available for roadway projects. Further funding for capital projects could potentially be available from City of Columbia previous year allocations and reserve funds.

Table 6 – Boone County Funding Summary – Roadway Network Projects (CATSO MPA)

Boone County	2020	2021	2022	2023	Total
Total Estimated Revenue (CATSO MPA only)	\$4,910,128	\$4,978,034	\$5,046,731	\$5,116,376	\$20,051,269
Estimated Operations & Maintenance Costs	\$4,244,661	\$4,372,001	\$4,503,161	\$4,638,256	\$17,758,078
Funds Available for Capital Projects	\$665,467	\$606,033	\$543,570	\$478,120	\$2,293,191
Local Share of TIP Projects with Federal Funds	\$0	\$0	\$0	\$0	\$0
Funds Available for Local Projects	\$665,467	\$606,033	\$543,570	\$478,120	\$2,293,191

The City of Columbia and Boone County ½ cent sales taxes, plus additional City funding sources, produce adequate revenue that demonstrates that local jurisdictions within the CATSO MPA boundary are able to fund the local share of federally-funded projects programmed in the TIP as well as maintain the local roadway system, including the portions of the federal-aid system maintained by said jurisdictions, over the TIP horizon period.

TRANSIT

The transit operations and maintenance expenses include the salaries and fringe benefits of bus operators, fleet mechanics and administrative staff. It also contains the expenses for maintenance staff of system facilities.

Table 7 – City of Columbia Funding Summary – Go COMO Projects

City of Columbia	2020	2021	2022	2023	Total
Estimated Federal, State, Transfers for Go COMO Operations/Maintenance	\$2,632,000	\$2,632,000	\$2,632,000	\$2,632,000	\$10,528,000
City of Columbia 1/2 cent Transportation Sales Tax Revenue Transfers	\$2,670,043	\$2,516,872	\$2,516,872	\$2,516,872	\$10,220,659
Other Local Revenues – Fees, etc.	\$1,525,925	\$1,525,925	\$1,525,925	\$1,525,925	\$6,103,700
CIST & TST Transfers for Capital Projects	\$291,872	\$300,351	\$300,351	\$300,351	\$1,192,925
Other Transfers (Reserves, etc.) as Needed	\$282,273	\$282,273	\$282,273	\$282,273	\$1,129,092
Transfers for Capital Project Match	\$0	\$0	\$0	\$0	\$0
Total Estimated Revenue	\$7,402,113	\$7,257,421	\$7,257,421	\$7,257,421	\$29,174,376
Estimated Operations & Maintenance Costs	\$6,779,023	\$6,914,603	\$7,052,896	\$7,193,953	\$27,940,475
Funds Available for Capital Projects	\$623,090	\$342,818	\$204,525	\$63,468	\$1,233,901
Local Share of TIP Capital Projects	\$567,056	\$0	\$20,000	\$0	\$607,056
Financial Capacity for Funding Additional TIP Projects*	\$56,034	\$342,818	\$184,525	\$63,468	\$646,845

*Additional funding for capital projects could potentially be available from City of Columbia previous year allocations and reserve funds.

PROJECT COST ESTIMATES

General cost estimates are utilized for projects in out years, and other projects for which detailed construction plans are not yet available. As an example, for street projects, the City of Columbia utilizes per lineal foot (plf) cost estimates of \$1,712 plf for major arterials, \$1,401 plf for minor arterials, \$933 plf for major collectors, and \$779 plf for neighborhood collector streets. It is assumed that 10 percent of the total project cost will be for design/engineering, plus a general figure of \$100 plf for right-of-way is utilized.

Detailed project cost estimates are made using methodologies which include the cost of right-of-way acquisition, utility relocation, design, and construction. There is a large degree of variability; given not all of the factors noted apply for each project. Given the unique nature of each street project, additional construction money may be added for bridge construction, culverts, and other necessary features. Project costs are done in accordance with the construction cost data for the mid-Missouri area. Total cost figures shown for each roadway project represent the estimated cost of constructing the roadway to the adopted design standard for its classification. For other projects, such as sidewalks and trails, the figures reflect the total cost of building the project to the general adopted standard, e.g. 5-foot width for sidewalks.

Note: Individual project listings by jurisdiction and transportation type, financial summaries spreadsheets, and appendices are attached in separate documents.

FINANCIAL CONSTRAINT

The FY 2020-2023 TIP includes a total of \$136,944,054 in capital projects, with \$34,020,329 in federal funds, \$68,099,000 in state funds, and \$34,824,725 in local funding applied to those projects. Total anticipated revenue available for transportation purposes over the four-year TIP period is approximately \$38,000,776 in federal dollars, \$68,900,200 in state funds and \$117,640,676 in local funds. This is a total of \$224,541,652.

Depending upon future federal legislation, additional funds for Transportation Alternatives and other programs might be anticipated in the out years of the TIP period. It should be noted that \$3,922,626 of the estimated federal funding shown is FTA capital and other non-operating transit funding, e.g. Section 5339. The receipt of these categories of funding is competitive and not assured. Applications for this funding must be submitted on an annual basis and due to the funding limitations grant awards may not be realized.

Operations and Maintenance (O & M) needs are accounted for in the revenue forecasts and in the programming of projects. The projected numbers below are for those roadways in the Federal-aid roadway system.

For the City of Columbia, a total of \$5,276,043 in streets and sidewalks O & M is projected to be programmed for the federal-aid system (194.018 lane miles) over the four-year TIP period.

And \$17,412,475 in local (City of Columbia 1/2 cent transportation sales tax and other) funds, \$128,000 in state (MoDOT transit operating) funds, and \$10,400,000 in Federal (FTA Section 5307) funds are projected to be programmed for Go COMO (bus) O & M. This is a total of \$27,940,475. Unlike the other O & M categories, the transit funds are included in the TIP's list of programmed capital projects.

For Boone County, a total of \$1,223,315 is projected to be programmed for streets O & M for the federal-aid system (35.128 lane miles) in the Columbia MPA.

For MoDOT, a total of \$7,691,290 is projected to be programmed for O & M for the federal-aid system (365.991 lane miles) in the Columbia MPA.

Total maintenance costs for the federal-aid system anticipated among all jurisdictions are \$14,190,649. As noted, this does not include transit O & M costs, which are included in the capital cost totals. Nor does it include the remainder of the street system in the Columbia MPA (the non-federal-aid mileage), or Columbia Regional Airport maintenance and operation costs, which are covered by the same City of Columbia sources of revenue utilized for surface transportation.

For maintenance and capital projects, a total of \$136,944,054 in costs is anticipated. The anticipated revenue of \$224,541,652 is adequate to fund those projected costs. Additional projected revenue not shown as programmed in the FY 2020-2023 TIP is dedicated to other transportation responsibilities of Boone County and the City of Columbia, a major part of which is the maintenance of the non-federal aid roadway system. Projected revenue to be received will also be programmed for future transportation projects as prioritized by the individual jurisdictions, and as new needs arise.