



MOVING TOGETHER

2 0 5 0

REGIONAL TRANSPORTATION PLAN

TECHNICAL REPORT #5

Revenue Projections and Forecast Methodology

August 2023

Prepared by:



Memphis MPO
METROPOLITAN PLANNING ORGANIZATION

Table of Contents

| | | |
|-----|---|---|
| 1.0 | Introduction | 1 |
| 2.0 | Summary of Revenues..... | 2 |
| 3.0 | Revenue Forecast Methodology..... | 3 |
| 3.1 | Methodology | 3 |
| 3.2 | Comparison to Previous RTP Revenue Projection | 5 |
| 4.0 | Roadway Revenues | 6 |
| 5.0 | Transit Revenues..... | 8 |

List of Tables

| | |
|--|---|
| Table 2.1: MOVING TOGETHER 2050 Revenue Summary | 2 |
| Table 3.1: Different Assumptions Between Livability 2050 and MOVING TOGETHER 2050..... | 5 |
| Table 4.1: Tennessee Roadway Revenues..... | 6 |
| Table 4.2: Mississippi Roadway Revenues | 7 |
| Table 5.1: Transit Revenues | 8 |

1.0 Introduction

This document provides a detailed summary of the process and assumptions used to generate revenue projections for the Memphis Urban Area MOVING TOGETHER: Regional Transportation Plan (RTP) and resulting future revenue estimates.

Title 23 United States Code (U.S.C.) Section 134 requires that a long-range transportation plan contain a financial plan that demonstrates:

- how the adopted plan can be implemented,
- indicate resources from public and private sources that are reasonably expected to be made available to carry out the plan, and
- recommend any additional financing strategies for needed projects and programs.

The purpose of the financial plan is to demonstrate fiscal constraint, which ensures that the transportation plan reflects realistic assumptions about future revenues for investment.

Revenue forecasts are based on current Federal, state, and local funding programs that support highway and transit-related investments. The historical funding sources that have been utilized (or programmed) by the Memphis Urbanized Area Metropolitan Planning Organization (Memphis MPO) between FY 2017 and FY 2026 are described in the following sections. Revenue forecasts are presented in three (3) programming tiers: 2026-2035, 2036-2045, and 2046-2050.

2.0 Summary of Revenues

Table 2.1 summarizes the financially constrained revenue estimates for roadway and transit transportation expenditures over the life of the transportation plan. All revenues are expressed in year-of-expenditure dollars. **The funding estimated to be available from Federal, state, and local sources for the RTP 2050 update is \$11.3 billion.** Within this estimate, 2026 to 2050 funding for roadway revenue is estimated at \$9.26 billion and funding for public transportation is estimated at \$2.08 billion.

Table 2.1: MOVING TOGETHER 2050 Revenue Summary

| Cost Band | Roadways | Transit | Total |
|----------------------------|------------------------|------------------------|-------------------------|
| | Tennessee | | |
| 2026 - 2035 | \$2,310,976,248 | \$712,154,645 | \$3,023,130,893 |
| 2036 - 2045 | \$2,633,162,743 | \$868,112,538 | \$3,501,275,281 |
| 2046 - 2050 | \$1,503,912,121 | \$502,939,021 | \$2,006,851,142 |
| Total Tennessee | \$6,448,051,112 | \$2,083,206,204 | \$8,531,257,316 |
| | Mississippi | | |
| 2026 - 2035 | \$972,953,092 | \$ - | \$972,953,092 |
| 2036 - 2045 | \$1,165,247,590 | \$ - | \$1,165,247,590 |
| 2046 - 2050 | \$675,083,537 | \$ - | \$675,083,537 |
| Total Mississippi | \$2,813,284,219 | \$ - | \$2,813,284,219 |
| 2026-2050 MPO Total | \$9,261,335,331 | \$2,083,206,204 | \$11,344,541,534 |

3.0 Revenue Forecast Methodology

3.1 Methodology

This Chapter describes the process used to generate the transportation revenue projections for the Memphis MPO.

Step 1: Calculated annual average revenues using FY 2017-2020, FY 2020-2023, and FY2023-2026 TIPs.

Annual revenues for each program were estimated using the three (3) most recent TIPs (FY 2017-2020, FY 2020-2023, and FY 2023-2026), maintaining consistency with federal legislation under the previous FAST Act and current IIJA funding programs. Average annual discretionary funds were calculated based on the three (3) previously mentioned TIPs.

Step 1a: Applied debt service obligations for Mississippi.

In addition to Federal funds, the state of Mississippi uses bond proceeds to finance transportation projects in DeSoto and Marshall Counties. The outstanding GARVEE bonds issued by the Mississippi Department of Transportation (MDOT) are being paid from Federal grant revenues and state revenue sources. The outstanding debt service estimates were provided by MDOT to refine revenue projections. Currently, debt service payments extend through FY 2040. Debt service is assumed to be funded through NHPP, STBG-S, and SFP funds.

Step 1b: Accounted for funds from Tennessee's IMPROVE Act

The State of Tennessee passed the IMPROVE Act on April 26, 2017, which provides additional funding for transportation infrastructure projects. IMPROVE Act includes additional funding at the state, county, and municipal levels through a 3-year phased increase in the state fuel tax and annual vehicle registration fees through FY 2020, with no increase after FY 2020. There is no legislative sunset, so 2020 funding levels are projected to continue through the life of the plan.

Step 1c: Accounted for increase in funding from IIJA

On November 15, 2021, the federal Infrastructure Investment and Jobs Act (IIJA) was signed into law, providing for a spending package of 1.2 trillion dollars to advance various infrastructure projects across the nation. The Federal-aid Highway Program portion of this new bill added new funding programs such as the Carbon Reduction Program (CRP), Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation (PROTECT) Formula Program, and the Bridge Formula Program (BFP), which is part of the Highway Improvement Program (HIP)

that began with the previous FAST Act. These programs were included in the overall apportionment schedule for FY 2022 as well as the forecasted projections for the remaining 4 years of the 5-year bill that began funding in FY 2022 through FY 2026. For FY 2022, at the state level, the BRP funding makes up 6.7 percent for Tennessee, and 6.6 percent for Mississippi. CRP funding makes up 2.2 percent for Tennessee and 2.3 percent for MS. PROTECT funding makes up 2.5 percent for Tennessee and 2.6 percent for Mississippi.

Step 2: Calculated annual growth rates.

An average annual growth rate of 2 percent was applied, for both Tennessee and Mississippi, based on values obtained from the FHWA IIJA FY 2022 Estimated Apportionment and subsequent projected years. This average rate excludes the first year of the IIJA bill because of the initial 21 percent increase in funding within the first year. This information can be accessed on the USDOT Bipartisan Infrastructure Law Dashboard using the link below:

<https://www.transportation.gov/mission/budget/bipartisan-infrastructure-law-dashboard>

3.2 Comparison to Previous RTP Revenue Projection

Differences were noted between the projection- adopted in the previous Livability: 2050 RTP and the proposed projections in the MOVING TOGETHER: 2050 RTP. **Table 3.1** highlights some of the main differences for non-transit capital revenues.

Table 3.1: Different Assumptions Between Livability 2050 and MOVING TOGETHER 2050

| | Previous Plan (Livability 2050) | Current Plan (MOVING TOGETHER 2050) |
|---|--|--|
| Annual average revenue for base year | Used FY 2014-2017 and FY 2017-2020 TIP for Memphis MPO | Uses FY 2017-2020, FY 2020-2023, and FY 2023-26 TIPs for Memphis MPO |
| Average annual growth rate for revenues | Static approach using values obtained from FHWA FAST Act 2016-2020 Estimated Apportionment document (2.2%). This value was consistent with FAST Act appropriations. | Static approach using values obtained from FHWA IJJA 2022-2026 Estimated Apportionment projections (2%). This value was consistent with IJJA projections. |
| Discretionary funding | Averaged annual discretionary funding levels from FY 2014-2017 and FY 2017-2020 TIPs, excluding TIGER funds in FY 2014 of \$32 million, and excluding INFRA grant funding in FY 2019 of \$71.1 million plus a 20% state match. | Averaged annual discretionary funding levels from FY 2017-2020 FY 2020-2023, and FY 2023-26 TIPs, with an initial increase in 30% (approximately) to account for IJJA increased funding from previous FAST Act funding levels. Similar to the previous RTP, INFRA funds were excluded from the discretionary revenue projection. |
| IMPROVE Funding | Applies the anticipated funding for statewide, county, and municipal levels from IMPROVE, for a total of \$817 million between 2021-2050. | Applies the anticipated funding for statewide, county, and municipal levels from IMPROVE, for a total of \$680 million between 2026-2050. |

4.0 Roadway Revenues

Federal funds are the main source of revenue for roadway projects in the MPO region. Based on funding allocations shown in the FY 2017-2020 TIP, FY 2020-2023 TIP, and FY 2023-2026 TIP, most projects are funded using an 80/20 split, with 80 percent in federal funds and the remaining 20 percent in state or local matching funds. There are, of course, some exceptions from funding sources that require less than 20 percent match or are 100 percent federally funded. Federal funds are available through various programs administered by the States for roadway construction and other multimodal projects including, but not limited to, pedestrian, bicycle, and major planning and/or environmental studies. Local agencies and state DOTs provide the local matching funds for the Federal funding programs, when required. **Tables 4.1 and 4.2** show the anticipated total roadway revenues by funding program and cost band.

Table 4.1: Tennessee Roadway Revenues

| | 2026-2035 | 2036-2045 | 2046-2050 | Total |
|---------------------|------------------------|------------------------|------------------------|------------------------|
| NHPP | \$845,657,996 | \$1,030,852,378 | \$597,221,977 | \$2,473,732,351 |
| HSIP | \$44,982,066 | \$54,832,887 | \$31,767,308 | \$131,582,261 |
| STBG-S | \$400,456,138 | \$488,153,797 | \$282,810,790 | \$1,171,420,725 |
| STBG-U | \$443,138,351 | \$415,906,344 | \$240,954,393 | \$1,099,999,088 |
| CMAQ | \$238,210,876 | \$290,377,728 | \$168,229,675 | \$696,818,279 |
| TA | \$45,243,292 | \$55,151,320 | \$31,951,792 | \$132,346,404 |
| IMPROVE (State) | \$156,010,303 | \$156,010,303 | \$78,005,152 | \$390,025,758 |
| IMPROVE (County) | \$34,813,258 | \$34,813,258 | \$17,406,629 | \$87,033,145 |
| IMPROVE (Municipal) | \$81,455,410 | \$81,455,410 | \$40,727,705 | \$203,638,525 |
| Discretionary Funds | \$21,008,560 | \$25,609,318 | \$14,836,700 | \$61,454,578 |
| Total | \$2,310,976,250 | \$2,633,162,743 | \$1,503,912,121 | \$6,448,051,114 |

Table 4.2: Mississippi Roadway Revenues

| | 2026-2035 | 2036-2045 | 2046-2050 | Total |
|---------------------------------------|----------------------|------------------------|----------------------|------------------------|
| NHPP/STBG-S/NHS/HSIP/SFP/Earmark | \$802,792,075 | \$978,599,059 | \$566,949,136 | \$2,348,340,269 |
| TA-S/TE/STBG-S/SFP/Earmark/SRTS/Local | \$6,199,596 | \$7,557,273 | \$4,378,289 | \$18,135,158 |
| CMAQ | \$40,741,660 | \$49,663,856 | \$28,772,642 | \$119,178,158 |
| STBG-Metropolitan | \$76,765,575 | \$72,800,009 | \$42,176,519 | \$191,742,103 |
| TA | \$7,809,010 | \$9,519,140 | \$5,514,892 | \$22,843,042 |
| Discretionary Funds | \$38,645,176 | \$47,108,253 | \$27,292,059 | \$113,045,488 |
| Total | \$972,953,091 | \$1,165,247,590 | \$675,083,537 | \$2,813,284,218 |

5.0 Transit Revenues

Transit capital, operations, and maintenance projects are funded through a combination of federal formula funding programs, including the following:

- Urbanized Areas (Section 5307)
- Enhanced Mobility of Seniors and Individuals with Disabilities (Section 5310)
- State of Good Repair (Section 5337)
- Bus and Bus Facilities (Section 5339)

In addition, the following funding sources are allocated through a competitive process that are also available for use in transit capital projects.

- Bus and Bus Facilities Program – Ladders of Opportunity Initiatives (Section 5309)
- Congestion Mitigation and Air Quality (CMAQ)

Section 5309 funds are discretionary, while CMAQ funds are apportioned to states via formula but awarded competitively at the state level.

Federal programs that do not allow operating expenses as eligible (such as 5307, 5309, 5337, and 5339) specify an 80% funding share through federal sources, 10% from state sources, and 10% from local sources. Federal programs that allow operating expenses as eligible (like CMAQ and 5310) use a 50/50 federal/non-federal matching formula for those activities. **Table 5.1** shows the anticipated transit capital, operations, and maintenance revenues broken out by funding program and cost band.

Table 5.1: Transit Revenues

| | 2026-2035 | 2036-2045 | 2046-2050 | Total |
|--------------|----------------------|----------------------|----------------------|------------------------|
| 5307 | \$236,659,970 | \$288,487,183 | \$167,134,392 | \$692,281,545 |
| 5309 | \$159,362,132 | \$194,261,549 | \$112,544,986 | \$466,168,667 |
| 5310 | \$14,422,106 | \$17,580,466 | \$10,185,203 | \$42,187,775 |
| 5337 | \$27,191,807 | \$33,146,661 | \$19,203,443 | \$79,541,911 |
| 5339 | \$274,518,630 | \$334,636,678 | \$193,870,997 | \$803,026,306 |
| Total | \$712,154,645 | \$868,112,538 | \$502,939,021 | \$2,083,206,204 |