

Table 3. State Funding Programs

FUNDING PROGRAM	STATE/LOCAL MATCH REQUIREMENTS	ELIGIBLE ACTIVITIES
<b>IMPROVE ACT</b>	100 % / 0%	Signed into law in 2017, the IMPROVE Act identifies over 900 roadway and bridge projects to be funded using revenues from increased fuel taxes. Projects are funded entirely by TDOT.
<b>STATE AID</b>	98% / 2%	Funded directly by gas tax revenues, State Aid funding is provided to county governments for the improvements or rehabilitation of roads and bridges on the State Aid System, which is a network of local selected county roads.
<b>STATE INDUSTRIAL ACCESS (SIA)</b>	Varies	Authorized by the State in 1959, the SIA program improves accessibility to industrial areas by providing highway access. With specific criteria in place, TDOT reviews applications for SIA projects based on their eligibility, economic impact, and physical constraints.
<b>LOCAL INTERSTATE CONNECTOR (LIC)</b>	50% / 50%	Authorized by the State in 1965, the LIC program provides funding for new roadways that provide residents with adequate access to the interstate system from existing local facilities. Local municipalities must submit applications for LIC projects to TDOT for approval.
<b>MULTIMODAL ACCESS GRANT (MMAG)</b>	95% / 5%	The MMAG program provides funding for addressing gaps in the multimodal infrastructure along state routes with improvements such as sidewalks, safe pedestrian crossings, shared use paths, park-and-ride facilities, and bus shelters. Grant applications are accepted annually with projects selected by TDOT.
<b>URBAN OPERATING PROGRAM (UROP)</b>	80% / 20% ( $\leq$ \$500,000) 50% / 50% ( $>$ \$500,000)	UROP funding is provided to fixed route providers and can be used for both transit capital expenditures and operations. With the allocation based on urban population, these funds supplement the federal transit programs. The local match required is 20% for the first \$500,000 of expenses and 50% for all expenses over \$500,000.
<b>CRITICAL TRIPS PROGRAM</b>	100% / 0%	Critical Trip funding is allocated annually and designated for transit services outside a fixed-route provider's service area. In the Knoxville region, Knox County CAC Transit, ETHRA, and the City of Oak Ridge receive Critical Trip funding from TDOT, which can be used for both matching other federal funds and/or entirely for transit operations.

**Table 3. State Funding Programs**

FUNDING PROGRAM	STATE/LOCAL MATCH REQUIREMENTS	ELIGIBLE ACTIVITIES
<b>STATE AID</b>	98% / 2%	Funded directly by gas tax revenues, State Aid funding is provided to county governments for the improvements or rehabilitation of roads and bridges on the State Aid System, which is a network of local selected county roads.
<b>STATE INDUSTRIAL ACCESS (SIA)</b>	Varies	Authorized by the State in 1959, the SIA program improves accessibility to industrial areas by providing highway access. With specific criteria in place, TDOT reviews applications for SIA projects based on their eligibility, economic impact, and physical constraints.
<b>LOCAL INTERSTATE CONNECTOR (LIC)</b>	50% / 50%	Authorized by the State in 1965, the LIC program provides funding for new roadways that provide residents with adequate access to the interstate system from existing local facilities. Local municipalities must submit applications for LIC projects to TDOT for approval.
<b>MULTIMODAL ACCESS GRANT (MMAG)</b>	95% / 5%	The MMAG program provides funding for addressing gaps in the multimodal infrastructure along state routes with improvements such as sidewalks, safe pedestrian crossings, shared use paths, park-and-ride facilities, and bus shelters. Grant applications are accepted annually with projects selected by TDOT.
<b>URBAN OPERATING PROGRAM (UROP)</b>	80% / 20% ( $\leq$ \$500,000) 50% / 50% ( $>$ \$500,000)	UROP funding is provided to fixed route providers and can be used for both transit capital expenditures and operations. With the allocation based on urban population, these funds supplement the federal transit programs. The local match required is 20% for the first \$500,000 of expenses and 50% for all expenses over \$500,000.
<b>CRITICAL TRIPS PROGRAM</b>	100% / 0%	Critical Trip funding is allocated annually and designated for transit services outside a fixed-route provider's service area. In the Knoxville region, Knox County CAC Transit, ETHRA, and the City of Oak Ridge receive Critical Trip funding from TDOT, which can be used for both matching other federal funds and/or entirely for transit operations.

## Available Revenues and Expenditures

### Roadway and Active Transportation

Using historical funding allocations in both the regional Transportation Improvement Program (TIP) and the FAST Act, the TPO first developed revenue projections to estimate how much federal, state, and local funding would be available over the next 25 years. For this analysis, highway revenue sources are anticipated to grow by 2.2% annually, providing approximately \$6.6 billion in new revenues for operating and maintaining the transportation system, making capital improvements to the roadway system, and addressing the mobility needs of pedestrians and bicyclists. These revenues are balanced against project costs using a 3.3% annual inflation rate for both capital and maintenance expenditures.

To determine which projects to fund and when, the TPO considers the year of expenditure cost, project scoring, funding eligibility, and local priority based on public and stakeholder input. The result is the funding of 134 roadway, bicycle, pedestrian, and transit projects, totaling \$4.5 billion, over the next 25 years. The TPO has also established programs for funding safety and resurfacing projects over the life of the plan. These ‘groupings’ reserve funds to address needs as they

Long range transportation plans like Mobility Plan 2045 consider project funding in three timeframes called horizons. Breaking down the 25-year plan into these smaller horizons helps to better align available revenues and project needs.

arise without identifying specific projects in advance. Table 4 shows how the expected expenditures and revenues balance out to meet the federal requirements for fiscal constraint in each of the three time horizons of Mobility Plan 2045. The project expenditures in this table reflect the full project list detailed in the Appendix and shown in Figure 1 through Figure 6. In addition, the Appendix also contains a list of unfunded projects that residents and stakeholders believe would benefit the Knoxville region but that do not yet have a dedicated source of funding. If new funding becomes available or priorities shift, these projects can be moved into one of the plan horizons with a corresponding fiscal constraint analysis.

## Available Revenues and Expenditures

### Roadway and Active Transportation

Using historical funding allocations in both the regional Transportation Improvement Program (TIP) and the FAST Act, the TPO first developed revenue projections to estimate how much federal, state, and local funding would be available over the next 25 years. For this analysis, highway revenue sources are anticipated to grow by 2.2% annually, providing approximately \$5.1 billion in new revenues for operating and maintaining the transportation system, making capital improvements to the roadway system, and addressing the mobility needs of pedestrians and bicyclists. These revenues are balanced against project costs using a 3.3% annual inflation rate for both capital and maintenance expenditures.

To determine which projects to fund and when, the TPO considers the year of expenditure cost, project scoring, funding eligibility, and local priority based on public and stakeholder input. The result is the funding of 134 roadway, bicycle, pedestrian, and transit projects, totaling \$4.5 billion, over the next 25 years. The TPO has also established programs for funding safety and resurfacing projects over the life of the plan. These ‘groupings’ reserve funds to address needs as they

Long range transportation plans like Mobility Plan 2045 consider project funding in three timeframes called horizons. Breaking down the 25-year plan into these smaller horizons helps to better align available revenues and project needs.

arise without identifying specific projects in advance. Table 4 shows how the expected expenditures and revenues balance out to meet the federal requirements for fiscal constraint in each of the three time horizons of Mobility Plan 2045. The project expenditures in this table reflect the full project list detailed in the Appendix and shown in Figure 1 through Figure 6. In addition, the Appendix also contains a list of unfunded projects that residents and stakeholders believe would benefit the Knoxville region but that do not yet have a dedicated source of funding. If new funding becomes available or priorities shift, these projects can be moved into one of the plan horizons with a corresponding fiscal constraint analysis.

Table 4. Balance of Revenues and Expenditures

2021 – 2026 HORIZON					
FUNDING SOURCE	CARRY OVER FUNDS	NEW REVENUES	TOTAL REVENUES	EXPENDITURES	REMAINING BALANCE
CMAQ	\$40,749,751	\$16,768,291	\$57,518,043	\$48,998,358	\$8,519,685
HSIP	\$0	\$76,869,490	\$76,869,490	\$76,869,490	\$0
LOCAL	\$17,526,617	\$0	\$17,526,617	\$13,148,706	\$4,377,911
L-STBG	\$48,829,019	\$75,593,583	\$124,422,602	\$121,948,751	\$2,473,851
NHPP	\$0	\$508,638,641	\$508,638,641	\$393,498,932	\$115,139,709
S-STBG	\$0	\$47,500,900	\$47,500,900	\$5,356,850	\$42,144,049
TA	\$4,901,506	\$12,600,290	\$17,501,796	\$13,371,475	\$4,130,321
IMPROVE ACT	\$0	\$154,862,540	\$154,862,540	\$154,862,540	\$0
OTHER STATE	\$0	\$6,707,260	\$6,707,260	\$5,423,330	\$1,283,929
STATE/LOCAL MATCH	\$23,620,069	\$173,816,481	\$197,436,550	\$154,334,646	\$43,101,904
2027 – 2035 HORIZON					
FUNDING SOURCE	CARRY OVER FUNDS	NEW REVENUES	TOTAL REVENUES	EXPENDITURES	REMAINING BALANCE
CMAQ	\$8,519,685	\$29,637,887	\$38,157,571	\$7,986,993	\$30,170,579
HSIP	\$0	\$135,866,511	\$135,866,511	\$111,355,867	\$24,510,644
LOCAL	\$4,377,911	\$0	\$4,377,911	\$0	\$4,377,911
L-STBG	\$2,473,851	\$133,611,351	\$136,085,202	\$130,106,691	\$5,978,511
NHPP	\$115,139,709	\$899,016,729	\$1,014,156,438	\$492,876,898	\$521,279,540
S-STBG	\$42,144,049	\$83,957,647	\$126,101,696	\$110,052,701	\$16,048,996
TA	\$4,130,321	\$22,270,962	\$26,401,283	\$10,514,721	\$15,886,561
IMPROVE ACT	\$0	\$927,597,338	\$927,597,338	\$927,597,338	\$0
OTHER STATE	\$1,283,929	\$11,855,054	\$13,138,983	\$0	\$13,138,983
STATE/LOCAL MATCH	\$43,101,904	\$307,219,923	\$350,321,827	\$200,257,375	\$150,064,452
2036 – 2045 HORIZON					
FUNDING SOURCE	CARRY OVER FUNDS	NEW REVENUES	TOTAL REVENUES	EXPENDITURES	REMAINING BALANCE
CMAQ	\$30,170,579	\$40,508,946	\$70,679,524	\$0	\$70,679,524
HSIP	\$24,510,644	\$185,701,806	\$210,212,450	\$163,580,232	\$46,632,218
LOCAL	\$4,377,911	\$0	\$4,377,911	\$0	\$4,377,911
L-STBG	\$5,978,511	\$182,619,462	\$188,597,973	\$182,727,387	\$5,870,586
NHPP	\$521,279,540	\$1,228,772,480	\$1,750,052,020	\$383,923,181	\$1,366,128,839
S-STBG	\$16,048,996	\$114,752,977	\$130,801,973	\$130,729,541	\$72,432
TA	\$15,886,561	\$30,439,861	\$46,326,423	\$11,552,917	\$34,773,506
IMPROVE ACT	\$0	\$463,014,724	\$463,014,724	\$463,014,724	\$0
OTHER STATE	\$13,138,983	\$16,203,441	\$29,342,424	\$0	\$29,342,424
STATE/LOCAL MATCH	\$150,064,452	\$419,906,965	\$569,971,417	\$195,408,838	\$374,562,579

Table 4. Balance of Revenues and Expenditures

2021 – 2026 HORIZON					
FUNDING SOURCE	CARRY OVER FUNDS	NEW REVENUES	TOTAL REVENUES	EXPENDITURES	REMAINING BALANCE
CMAQ	\$40,749,751	\$16,768,291	\$57,518,043	\$48,998,358	\$8,519,685
HSIP	\$0	\$76,869,490	\$76,869,490	\$75,381,381	\$1,488,109
LOCAL	\$24,171,735	\$0	\$24,171,735	\$24,171,735	\$0
L-STBG	\$48,829,019	\$78,106,948	\$126,935,967	\$112,834,426	\$14,101,541
NHPP	\$0	\$508,638,641	\$508,638,641	\$273,197,023	\$235,441,618
S-STBG	\$0	\$47,500,900	\$47,500,900	\$5,356,850	\$42,144,049
TA	\$4,901,506	\$16,112,867	\$21,014,373	\$18,740,490	\$2,273,883
OTHER STATE	\$0	\$21,707,260	\$21,707,260	\$16,443,058	\$5,264,201
STATE/LOCAL MATCH	\$23,620,069	\$175,322,966	\$198,943,035	\$123,157,496	\$75,785,539
2027 – 2035 HORIZON					
FUNDING SOURCE	CARRY OVER FUNDS	NEW REVENUES	TOTAL REVENUES	EXPENDITURES	REMAINING BALANCE
CMAQ	\$8,519,685	\$29,637,887	\$38,157,571	\$7,986,993	\$30,170,579
HSIP	\$1,488,109	\$135,866,511	\$137,354,620	\$111,355,867	\$25,998,753
LOCAL	\$0	\$0	\$0	\$0	\$0
L-STBG	\$14,101,541	\$139,589,413	\$153,690,953	\$138,724,345	\$14,966,608
NHPP	\$235,441,618	\$899,016,729	\$1,134,458,347	\$1,134,458,347	\$0
S-STBG	\$42,144,049	\$197,557,647	\$239,701,696	\$239,206,975	\$494,722
TA	\$2,273,883	\$29,642,096	\$31,915,978	\$10,514,721	\$21,401,257
OTHER STATE	\$5,264,201	\$113,755,054	\$119,019,255	\$113,845,556	\$5,173,699
STATE/LOCAL MATCH	\$75,785,539	\$338,957,222	\$414,742,761	\$395,095,719	\$19,647,042
2036 – 2045 HORIZON					
FUNDING SOURCE	CARRY OVER FUNDS	NEW REVENUES	TOTAL REVENUES	EXPENDITURES	REMAINING BALANCE
CMAQ	\$30,170,579	\$40,508,946	\$70,679,524	\$0	\$70,679,524
HSIP	\$25,998,753	\$185,701,806	\$211,700,559	\$163,580,232	\$48,120,327
LOCAL	\$0	\$0	\$0	\$0	\$0
L-STBG	\$14,966,608	\$190,790,252	\$205,756,861	\$182,727,387	\$23,029,474
NHPP	\$0	\$1,228,772,480	\$1,228,772,480	\$754,334,960	\$474,437,520
S-STBG	\$494,722	\$114,752,977	\$115,247,699	\$99,455,547	\$15,792,152
TA	\$21,401,257	\$40,514,698	\$61,915,955	\$11,552,917	\$50,363,038
OTHER STATE	\$5,173,699	\$16,203,441	\$21,377,140	\$0	\$21,377,140
STATE/LOCAL MATCH	\$19,647,042	\$424,468,372	\$444,115,414	\$280,193,284	\$163,922,130



## Wheel Taxes

Counties are authorized under Section 5-8-102 of the Tennessee Code Annotated to impose a local motor vehicle tax to provide revenue for county purposes. Imposition of the tax requires a majority vote in public referendum, or a two-thirds vote from the county legislators at two consecutive meetings.

## Special Assessment Districts

Special Assessment Districts are designated areas within which commercial and residential property is assessed a charge sufficient to defray the costs of capital improvements that benefit the property within the district. Transportation Development Districts (TDDs) are one example of these districts used to finance transportation improvements.

## Impact and Utility Fees

This one-time fee is imposed by local governments on new developments to help pay for the capital facilities that serve it. A fee is typically assessed on the square footage of the planned development and in some cases, the granting of a building permit is made contingent on payment of the fee.

## Bond Financing

Bond financing helps local government pay for projects by establishing a type of payment plan that allows capital costs to be spread out over a number of years.

## Revenue Projections

In developing the highway element of the Mobility Plan 2045 financial plan, the Knoxville Regional TPO Transportation Improvement Program (TIP) and the FAST Act were reviewed. Summary financial data was used to determine historic funding levels for various federal, state, and local funding sources and programs as shown in Table E-1. Funds sub-allocated to the TPO (L-STBG and L-STBG-TA) reflect annual allocations, while TDOT managed federal funds reflect annual obligations in the TPO planning area.



## Wheel Taxes

Counties are authorized under Section 5-8-102 of the Tennessee Code Annotated to impose a local motor vehicle tax to provide revenue for county purposes. Imposition of the tax requires a majority vote in public referendum, or a two-thirds vote from the county legislators at two consecutive meetings.

## Special Assessment Districts

Special Assessment Districts are designated areas within which commercial and residential property is assessed a charge sufficient to defray the costs of capital improvements that benefit the property within the district. Transportation Development Districts (TDDs) are one example of these districts used to finance transportation improvements.

## Impact and Utility Fees

This one-time fee is imposed by local governments on new developments to help pay for the capital facilities that serve it. A fee is typically assessed on the square footage of the planned development and in some cases, the granting of a building permit is made contingent on payment of the fee.

## Bond Financing

Bond financing helps local government pay for projects by establishing a type of payment plan that allows capital costs to be spread out over a number of years.

## Revenue Projections

In developing the highway element of the Mobility Plan 2045 financial plan, the Knoxville Regional TPO Transportation Improvement Program (TIP) and the FAST Act were reviewed. Summary financial data was used to determine historic funding levels for various federal, state, and local funding sources and programs as shown in Table E-1. Funds sub-allocated to the TPO (L-STBG and L-STBG-TA) reflect annual allocations, while TDOT managed federal funds reflect annual obligations in the TPO planning area.

*Amendment #1 Revenue Note: Additional consultation with TDOT resulted in the removal of remaining Improve Act revenue and revisions to projected S-STBG and state funds to reflect legislative priorities and most state budget information as of August, 2022.*

Table E-1. Historic Highway Capital Revenues

FUNDING SOURCE	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
CMAQ	\$1,381,372	\$993,236	\$426,066	\$1,712,951	\$10,532,793
HSIP	\$13,123,931	\$6,805,621	\$9,016,950	\$10,417,160	\$19,955,462
NHPP	\$23,418,622	\$100,208,165	\$75,266,231	\$60,016,540	\$133,599,863
S-STBG	\$7,703,776	\$5,569,684	\$8,231,039	\$7,669,905	\$7,481,385
L-STBG	\$9,556,129	\$9,954,081	\$10,334,493	\$10,779,523	\$11,235,865
L-STBG-TA	\$736,374	\$751,265	\$751,265	\$766,059	\$766,059
S-STBG-TA	\$0	\$0	\$0	\$986,503	\$2,561,403
OTHER STATE (SIA, LIC, MMAG)	\$1,256,936	\$435,984	\$538,651	\$1,176,750	\$1,767,579
STATE/LOCAL MATCH	\$12,157,283	\$30,125,288	\$24,754,157	\$21,393,707	\$43,121,265
<b>TOTAL</b>	<b>\$69,334,423</b>	<b>\$154,843,324</b>	<b>\$129,318,850</b>	<b>\$115,165,723</b>	<b>\$231,662,024</b>

Using this data and in consultation with TDOT and the Federal Highway Administration (FHWA), an average annual growth rate was developed. This rate was used to project highway revenue sources over the life of the Mobility Plan 2045. Projected highway revenues increase at a rate of 2.2% annually, matching the annual growth rate of FAST Act apportionments to Tennessee. In consultation with TDOT, revenues legislated for specific projects in the TPO area through the IMPROVE Act are included in the applicable horizon year. This results in the new revenues shown in Table E-2 by program for each plan horizon, which equates to approximately **\$6.3 billion** available over the life of the plan.

Table E-2. Projected Highway Capital Revenues

FUNDING SOURCE	2021-2026	2027-2035	2036-2045	TOTAL
CMAQ	\$16,768,291	\$29,637,887	\$40,508,946	\$86,915,124
HSIP	\$76,869,490	\$135,866,511	\$185,701,806	\$398,437,807
L-STBG	\$75,593,583	\$133,611,351	\$182,619,462	\$391,824,396
NHPP	\$508,638,641	\$899,016,729	\$1,228,772,480	\$2,636,427,850
S-STBG	\$47,500,900	\$83,957,647	\$114,752,977	\$246,211,524
L-STBG-TA, S-STBG-TA	\$12,600,290	\$22,270,962	\$30,439,861	\$65,311,113
IMPROVE ACT	\$154,862,540	\$927,597,338	\$463,014,724	\$1,545,474,602
OTHER STATE (SIA, LIC, MMAG)	\$6,707,260	\$11,855,054	\$16,203,441	\$34,765,754
STATE/LOCAL MATCH	\$173,816,481	\$307,219,923	\$419,906,965	\$900,943,369
<b>TOTAL</b>	<b>\$1,073,357,476</b>	<b>\$2,551,033,401</b>	<b>\$2,681,920,661</b>	<b>\$6,306,311,539</b>

To develop the capital costs for projects in the Mobility Plan 2045, an annual inflation rate of 3.3% was used. The inflation rate, approved at the March 2020 TPO Executive Board meeting, is based on annual increases in FHWA's National Highway Construction Cost Index and the Engineering News Record

Table E-1. Historic Highway Capital Revenues

FUNDING SOURCE	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
CMAQ	\$1,381,372	\$993,236	\$426,066	\$1,712,951	\$10,532,793
HSIP	\$13,123,931	\$6,805,621	\$9,016,950	\$10,417,160	\$19,955,462
NHPP	\$23,418,622	\$100,208,165	\$75,266,231	\$60,016,540	\$133,599,863
S-STBG	\$7,703,776	\$5,569,684	\$8,231,039	\$7,669,905	\$7,481,385
L-STBG	\$9,556,129	\$9,954,081	\$10,334,493	\$10,779,523	\$11,235,865
L-STBG-TA	\$736,374	\$751,265	\$751,265	\$766,059	\$766,059
S-STBG-TA	\$0	\$0	\$0	\$986,503	\$2,561,403
OTHER STATE (SIA, LIC, MMAG)	\$1,256,936	\$435,984	\$538,651	\$1,176,750	\$1,767,579
STATE/LOCAL MATCH	\$12,157,283	\$30,125,288	\$24,754,157	\$21,393,707	\$43,121,265
<b>TOTAL</b>	<b>\$69,334,423</b>	<b>\$154,843,324</b>	<b>\$129,318,850</b>	<b>\$115,165,723</b>	<b>\$231,662,024</b>

Using this data and in consultation with TDOT and the Federal Highway Administration (FHWA), an average annual growth rate was developed. This rate was used to project highway revenue sources over the life of the Mobility Plan 2045. Projected highway revenues increase at a rate of 2.2% annually, matching the annual growth rate of FAST Act apportionments to Tennessee. In consultation with TDOT, revenues legislated for specific projects in the TPO area through the IMPROVE Act are included in the applicable horizon year. This results in the new revenues shown in Table E-2 by program for each plan horizon, which equates to approximately **\$5.1 billion** available over the life of the plan.

Table E-2. Projected Highway Capital Revenues

FUNDING SOURCE	2021-2026	2027-2035	2036-2045	TOTAL
CMAQ	\$16,768,291	\$29,637,887	\$40,508,946	\$86,915,124
HSIP	\$76,869,490	\$135,866,511	\$185,701,806	\$398,437,807
<b>L-STBG</b>	<b>\$78,106,948</b>	<b>\$139,589,413</b>	<b>\$190,790,252</b>	<b>\$408,486,613</b>
NHPP	\$508,638,641	\$899,016,729	\$1,228,772,480	\$2,636,427,850
<b>S-STBG</b>	<b>\$47,500,900</b>	<b>\$197,557,647</b>	<b>\$114,752,977</b>	<b>\$359,811,524</b>
L-STBG-TA, S-STBG-TA	\$16,112,867	\$29,642,096	\$40,514,698	\$86,269,661
OTHER STATE (SIA, LIC, <b>GENERAL FUND</b> <b>SUBSIDY</b> , MMAG)	<b>\$21,707,260</b>	<b>\$113,755,054</b>	<b>\$16,203,441</b>	<b>\$151,665,754</b>
STATE/LOCAL MATCH	\$175,322,966	\$338,957,222	\$424,468,372	\$938,748,560
<b>TOTAL</b>	<b>\$941,027,363</b>	<b>\$1,884,022,558</b>	<b>\$2,241,712,971</b>	<b>\$5,066,762,892</b>