

section 6: revenue forecasts

Federal law requires projects identified within the Metropolitan Transportation Plan to be constrained by a reasonable projection of funds which governments within McLennan County anticipate receiving during the planning period. Project costs beyond the anticipated revenues are unfunded and cannot be identified as a recommended priority within the MTP. This section outlines the anticipated revenues for the Waco Metropolitan Area through the year 2045.

6.1 – highways and bridges

6.1.1 – federal and state revenue projections

The State of Texas divides its federal and state highway dollars into 13 separate categories of funding. Each category contains both state and federal dollars. Table 6.1 identifies each category and their intended use. The Waco Metropolitan Area is not eligible to receive funds from categories 2, 5 or 7. The Waco District of TxDOT receives funds from seven of the remaining categories based on allocation formulas adopted by the Texas Transportation Commission. Category 2U funds are allocated specifically for use within the Waco Metropolitan Area, however project selection requires final approval by the Texas Transportation Commission.

In 2009, TxDOT and the Texas Association of MPOs developed a model to estimate future state & federal highway revenues based upon user defined assumptions. The model, called 'TRENDS' (Transportation Revenue Estimation and Needs Determination System), was refined in 2013 and later in 2018 to forecast revenues by TxDOT funding categories through the year 2050. In addition to requiring the user to estimate the magnitude and timing of various tax and revenue changes, the model also requires users to estimate possible population growth and fuel economy scenarios. To estimate revenues available for the Waco Metropolitan Area through the MTP planning period, the MPO utilized this model and identified 3 possible funding scenarios: Baseline, Adopted Scenario, and High. The baseline scenario assumes no changes in tax rates or revenues through 2045 and is provided as a point of comparison. Similarly, the high scenario identifies the tax rates and revenues required to fully fund all

priorities identified within the MTP regardless of political reality. As such, the high scenario is intended only to provide a point of comparison. The adopted scenario is the best approximation of a politically realistic estimate of future revenues. The assumptions for each scenario are identified in Tables 6.2A and 6.2B.

table 6.1 – txdot highway funding categories

Category	Purpose	Waco MPO Eligibility
1	Preventative Maintenance & Rehabilitation	Yes
2M	Metropolitan Mobility Projects (Urban Pop > 200,000)	No
2U	Urban Mobility Projects (Urban Pop between 50,000 and 200,000)	Yes
3	Non-Traditionally Funded Projects	Conditional*
4	Statewide Mobility Projects	Conditional*
5	Congestion Mitigation & Air Quality (Air Quality Non-Attainment Areas)	No
6	Structures Replacement & Rehabilitation	Yes
7	Surface Transportation Program Metropolitan Mobility & Rehabilitation	No
8	Surface Transportation Program - Safety	Yes
9	Transportation Enhancements	Yes
10	Supplemental Transportation Projects	Conditional*
11	District Discretionary	Yes
12	State Strategic Priority	Conditional*

*Conditional based upon project specific approval from the Texas Transportation Commission.

table 6.2a – trends revenue model assumptions by scenario for motor fuel taxes

Scenario	Baseline	Adopted Scenario	High Enhancement
Future fuel efficiency scenario for personal vehicles	Average	Average	Low Average
Future fuel efficiency scenario for commercial vehicles	Average	Average	Low Average
State Gas Tax Increase #1	\$0.00	\$0.05	\$0.25
Year of Increase	n/a	2025	2021
State Gas Tax Increase #2	\$0.00	\$0.05	\$0.50
Year of Increase	n/a	2035	2025
State Diesel Tax Increase #1	\$0.00	\$0.05	\$0.25
Year of Increase	n/a	2025	2021
State Diesel Tax Increase #2	\$0.00	\$0.05	\$0.50
Year of Increase	n/a	2035	2025
Federal Gas Tax Increase #1	\$0.00	\$0.05	\$0.25
Year of Increase	n/a	2030	2025
Federal Gas Tax Increase #2	\$0.00	\$0.00	\$0.25
Year of Increase	n/a	n/a	2035
Federal Diesel Tax Increase #1	\$0.00	\$0.05	\$0.25
Year of Increase	n/a	2030	2025
Federal Diesel Tax Increase #2	\$0.00	\$0.00	\$0.25
Year of Increase	n/a	n/a	2035
State Gas Tax Indexing	No	Yes - CPI*	Yes - FER**
Year Indexing Begins	n/a	2030	2025
State Fuel Tax to Transportation	75%	75%	100%
Rate of Federal Tax Return to Texas	74%	80%	90%

*CPI = Rate of inflation indexed to the Consumer Price Index

**FER = Rate of inflation indexed to the improvement in fleet fuel efficiency

table 6.2b – trends revenue model assumptions by scenario for other federal or state transportation revenues

Scenario	Baseline	Adopted Scenario	High Enhancement
Fund 6 Diversion Elimination	80%	100%	100%
Year of Elimination	2021	2023	2021
Registration Fee Increase #1	\$0.00	\$20.00	\$50.00
Year of Increase	n/a	2025	2021
Registration Fee Increase #2	\$0.00	\$10.00	\$50.00
Year of Increase	n/a	2035	2025
Commercial Registration Fee Increase #1	\$0.00	\$30.00	\$100.00
Year of Increase	n/a	2025	2021
Commercial Registration Fee Increase #1	\$0.00	\$20.00	\$50.00
Year of Increase	n/a	2035	2025
VMT Fee	\$0.00	\$0.02	\$0.04
Year Implemented	n/a	2040	2040
VMT Fee Commercial	\$0.00	\$0.02	\$0.04
Year Implemented	n/a	2040	2040
Local Registration Fee	\$0.00	\$15.00	\$30.00
Year Implemented	n/a	2030	2025
Local Commercial Registration Fee	\$0.00	\$15.00	\$30.00
Year Implemented	n/a	2030	2025
Percent of New Revenue to Maintenance	n/a	50%	40%
Proposition 1 continue beyond 2035	No	Yes	Yes
Prop 1 mobility percent	60%	70%	80%
Proposition 7 continue beyond 2025	No	Yes to 2035	Yes to 2045
Prop 7 mobility percent	50%	65%	80%

revenue distribution assumptions

The TRENDS model provides revenue estimates for the State of Texas by TxDOT Funding Category and local option revenues by County. To estimate state and federal funds for the Waco Metropolitan Area, the MPO needed to make several assumptions on how funds would be distributed to Waco.

Maintenance, bridge replacement and safety funds (categories 1, 6 and 8 respectively) are generally distributed based upon need. Since it is impossible to estimate the precise location of need for the entire state over a 25 year period, the MPO made the assumption that over time, the amount of funds received by a region will generally equal the same amount if distributed based upon population. For 2017, the population of McLennan County was estimated to be 0.925% of the state population. Thus the Waco Metropolitan Area is estimated to receive this percentage of the estimated statewide total for categories 1, 6 and 8.

To estimate mobility funds, the MPO first subtracted funds which are committed to Categories 5, 7, 9, 10 and 12 which are statutorily determined by formulas or distributions from either the State Legislature or Congress. The MPO assumed that these amounts would increase each year by the standard inflation rate accepted for the MTP, 4% per year.

Of the 4 mobility categories (2M, 2U, 3 and 4) Waco receives distributions of mobility funds only through category 2U and limited amounts of category 4 for projects the Waco District of TxDOT determine are important for statewide connectivity. The Texas Transportation Commission has adopted a formula which generally provides the Waco Region approximately 9.0% of category 2U funds. Although this level may fluctuate some based upon traffic and population levels, the MPO assumed that the average distribution would remain relatively constant near the 9.0% level.

In addition to these funds, the MPO also generally receives a portion of Category 11 funds which the Waco District of TxDOT receives for projects of district wide importance. As a general rule, the Waco Region receives approximately the same proportion of Category 11 funds as its share of the Waco District's population – approximately 32%. This is the amount of future district 11 funds the region is estimated to receive for the planning horizon of this plan.

A final assumption made involves revenues from Propositions 1 and 7. Proposition 1 permits the Texas Legislature to draw down funds from the state rainy day fund for transportation projects. Proposition 7 permits the Texas Legislature to transfer up to \$2.5 billion from the general fund and up to an additional \$2.0 billion in sales taxes from motor vehicle sales each biennium for transportation projects. Under the baseline scenario, the assumption was that Proposition 1 would terminate after FY 2035 and Proposition 7 would terminate after FY 2025. Table 6.2B shows that the MPO assumes both propositions would continue past these dates under the adopted scenario, but only the high enhancement scenario would extend Proposition 7 through the entire planning horizon of FY 2045.

Tables 6.3A through 6.3C identify the estimated highway revenues by scenario for the Waco region.

table 6.3a – estimated state & federal highway revenues by scenario in millions: 2020 through 2030

Scenario	Baseline	Adopted Scenario	High Enhancement
Maintenance	\$119.0	\$148.8	\$151.8
Cat 2U	\$111.1	\$177.2	\$379.9
Local Registration Fee	\$0	\$0	\$36.3
Other Mobility	\$39.0	\$65.7	\$105.6
Total Mobility	\$150.1	\$242.9	\$521.8

table 6.3b – estimated state & federal highway revenues by scenario in millions: 2031 through 2045

Scenario	Baseline	Adopted Scenario	High Enhancement
Maintenance	\$89.8	\$315.3	\$486.0
Cat 2U	\$15.3	\$167.3	\$724.4
Local Registration Fee	\$0	\$59.1	\$118.5
Other Mobility	\$5.4	\$56.1	\$184.4
Total Mobility	\$20.7	\$282.5	\$1,027.3

table 6.3c – estimated state & federal highway revenues by scenario in millions: 2020 through 2045

Scenario	Baseline	Adopted Scenario	High Enhancement
Maintenance	\$208.8	\$464.1	\$637.8
Cat 2U	\$126.4	\$344.5	\$1,104.3
Local Registration Fee	\$0	\$59.1	\$154.8
Other Mobility	\$44.4	\$121.8	\$290.0
Total Mobility	\$170.8	\$525.4	\$1,549.1

6.1.2 – local revenue projections

Most local revenue for highway construction and significant rehabilitation projects come from the various capital improvement programs (CIP) of the individual cities and McLennan County. Some cities do dedicate general fund revenues primarily for highway maintenance purposes. In instances where local governments

must provide local match for state or federal highway projects, the local governments usually provide funds from one of these two sources to meet the match requirements

At the time of publication, McLennan County is the only local government to have issued general obligation bonds for roadway construction. These bonds have been targeted to reconstruction of specific roadways which are identified within Section 7, Recommendations. Outside of this effort by McLennan County, the City of Waco is the only other local government to have earmarked additional funding for highway reconstruction or improvements. In 2018, Waco implemented the Better Streets Waco program which budgeted \$42.0 million during fiscal years 2018 & 2019 for roadway preventative maintenance and reconstruction. This program provides funding over and above the funds previously identified within the CIP for roadway maintenance. While the Better Streets Waco program is forecasted to continue through the year 2025 at around \$20 million per year, the McLennan County roadway bond is not forecasted to repeat. Beyond these two programs, it is anticipated that only revenues through the CIP programs, general funds, or revenues to meet local match requirements for state or federal projects will be available for local highway projects.

In terms of year to year transportation spending, local governments consistently provide little to no increases or at best a very modest increase over the past two decades. The City of Waco and many suburban cities traditionally increase their spending at a rate fractionally higher than that of other municipal governments. For forecasting future revenues, an annual inflation rate of 1.0% has been used for spending by the City of Waco and suburban cities. For all other government entities, an annual rate of 0.5% per year has been used. The estimated revenues local and county governments are projected to spend for highway maintenance can be found in Section 7, Strategy 1.

6.1.3 – engineering & right of way costs

Statewide, engineering costs for any given highway project are typically between 8% and 12% of the construction cost. For budgeting purposes, TxDOT typically uses 10% of the construction cost to estimate engineering costs. Actual engineering costs for highway projects let within the past 10 years within the Waco

District are reasonably close to this estimate. In addition, TxDOT has typically only funded engineering costs for projects which have sufficient funds for construction. For these reasons, the MPO has estimated engineering costs to be 10% of the construction cost and that if sufficient funds exist for construction, then sufficient funds will exist to provide for the engineering costs.

Right of way costs, unlike engineering costs, are highly variable and dependent upon factors such as land usage, location, accessibility, and zoning. Statewide, right of way costs average 12% of the construction costs. This figure, however, varies from no right of way costs for certain projects to as much as 100% or more of the construction cost for projects in the Dallas or Houston districts. Similar to engineering costs, however, TxDOT has typically only funded right of way costs for projects which have sufficient funds for construction. For these reasons, the MPO has assumed that for federally and state funded projects, if sufficient funds exist for construction, then sufficient funds will exist to provide for the right of way costs. For locally funded projects, however, the total available revenues must also cover all necessary right of way & engineering costs.

6.1.4 – no toll revenue

Several regions throughout Texas have established various mechanisms to generate additional transportation revenue through user fees. Some regions, such as Dallas / Fort Worth, have adopted policies that all future expressway expansions must be at least partially funded by user fees. These efforts have been fueled by the fact that motor fuel tax revenues are currently and will continue to be insufficient to fund most large highway mobility projects.

There are several drawbacks to the use of user fees for highway construction. The primary issue is that instead of the pay as you go method used previously, the funds for initial construction are borrowed from some entity, usually from private capital and must be paid back with interest over time. In addition fees must be collected by some mechanism which adds additional cost to the project. As a result, generally only those projects with significant traffic volumes generate sufficient revenues to cover these additional costs without making the user fees prohibitively expensive.

In 2018, the Texas Transportation Commission initiated a policy that state or federal funds could not be used to support development of new toll facilities within the State of Texas. MPO staff analysis conducted for the 2045 MTP concluded that there are no roadways within the Waco MPO region that could generate sufficient traffic volumes to avoid requiring at least some state or federal funding assistance. As a result of the new policy and MPO analysis, toll revenue has been removed as a possible funding mechanism for highway projects within the Waco Metropolitan Area.

6.1.5 – category 12: texas transportation commission discretionary funds

The Texas Transportation Commission sets aside approximately 10% of funds received by TxDOT to be used for projects the Commission determines are of significant importance to the State of Texas. Project selection begins with recommendations from the TxDOT districts, in coordination with the regional MPO. Those projects are then evaluated by TxDOT staff against how well they address specific problem areas. In 2019, projects addressing severe traffic congestion and fatal crashes were considered a high priority for category 12 funding.

For the Waco Metropolitan Area, the widening and reconstruction of Interstate 35 from North Loop 340 to South 12th Street was awarded \$115 million by the Commission in category 12 funding in 2017. This amount was approximately one-third of the total funding package for the construction phase. For fiscal constraint purposes, it is anticipated that a similar amount, up to \$120 million, would be awarded for the final phase of Interstate 35 widening and reconstruction between South 12th Street and West Loop 340 (Project ID: S-022G). As such, MPO staff included \$120 million of category 12 funding to the mobility funds identified in Tables 6.3A and 6.3C. These funds, however, are specifically earmarked to the aforementioned phase of IH-35 construction and is not applicable to other mobility projects within the MTP.

6.2 – public transportation

6.2.1 – projected urban public transportation revenues

The TRENDS model, which the MPO used to estimate future highway revenues, also provides an estimate of federal funds

available to the State of Texas for Public Transportation. These funds are distributed to the various urban and rural transit operators by formula. The MPO assumed that this formula would remain unchanged during the MTP planning period. Similar to highways, the MPO staff made several assumptions regarding future public transportation revenues.

The first assumption was that federal motor fuel tax forecasts made for highway revenues would be identical for public transportation. Second, and most importantly, the proportion of federal and state motor fuel tax revenues dedicated to transit would remain identical during the planning horizon. The third assumption was that annual ridership would increase at 1% per year for each scenario. Table 6.4 outlines the other assumptions made for public transportation revenues that differ by scenario.

table 6.4 – urban public transportation revenue assumptions by scenario

Scenario	Baseline	Adopted	High Enhancement
State Funds as a percent of required Federal Match	70%	80%	110%
Local Contributions*	None	\$300,000	\$500,000
Increase local contributions at 4% per year	N/A	No	Yes
Fare Increase 1 (Year)	None	25% (2021)	50% (2021)
Fare Increase 2 (Year)	None	25% (2030)	50% (2030)
Revenue from private sector contracts / charter operations*	\$1,000,000	\$1,500,000	\$2,000,000

*Annually

Identical to the highway scenarios, the MPO identified three possible funding scenarios for public transportation: Baseline, Adopted and High Enhancement. The baseline scenario assumes no changes in tax rates or revenues through 2045 and is provided as a point of comparison. Similarly, the high enhancement scenario identifies the tax rates and revenues required to fully fund all priorities identified within the MTP regardless of political reality. As such, the high enhancement scenario is intended only to provide a point of comparison.

table 6.5 – estimated urban public transportation revenues by scenario in millions

Short-Range (2020 to 2030)			
Category	Baseline	Adopted	High Enhancement
Federal	\$43.4	\$43.4	\$110.9
State	\$6.1	\$7.0	\$24.4
Farebox	\$4.1	\$5.1	\$6.4
Local	\$0	\$3.0	\$6.0
Contracts / Other	\$10.0	\$15.0	\$20.0
Total	\$63.6	\$73.5	\$167.7
Long-Range (2031 to 2045)			
Category	Baseline	Adopted	High Enhancement
Federal	\$68.2	\$90.4	\$330.8
State	\$9.6	\$14.5	\$72.7
Farebox	\$6.9	\$10.7	\$15.5
Local	\$0	\$4.5	\$14.9
Contracts / Other	\$15.0	\$22.5	\$30.0
Total	\$99.7	\$142.6	\$463.9
Total Plan (2020 to 2045)			
Category	Baseline	Adopted	High Enhancement
Federal	\$111.6	\$133.8	\$441.7
State	\$15.7	\$21.5	\$97.1
Farebox	\$11.0	\$15.8	\$21.9
Local	\$0	\$7.5	\$20.9
Contracts / Other	\$25.0	\$37.5	\$50.0
Total	\$163.3	\$216.1	\$631.6

In 2019, the Federal Transit Administration gave project development approval for the Waco Transit Bus Rapid Transit project (Project ID: T-016) within the Capital Improvement Grant

Small Starts Program. This approval confers eligibility status for this project within the program and gives Waco Transit a green light to begin the design and engineering phase of project development. For purposes of fiscal constraint, MPO staff concluded that this project will successfully compete for the capital costs for this project. As such MPO staff included \$20 million of capital funding to the federal revenues identified in Table 6.5 along with an additional \$4 million of local funds as required match. These funds, however, are specifically earmarked to the Bus Rapid Transit project and is not applicable to other projects within the MTP.

6.2.2 – projected rural public transportation revenues

Unlike urban public transportation, funding for the elderly / disabled and rural programs (FTA Sections 5310 & 5311 respectively) have been consistently flat during the recent past. This trend is anticipated to continue for the foreseeable future and as such only a modest increase of 5% is added to both programs to the adopted forecast from the 2040 plan (see Table 6.6). Note that in both cases a gradual decrease in funding is forecasted beyond FY 2030 as these services are forecasted to migrate more towards private sector mobility on demand services.

table 6.6 – estimated future rural & elderly/disabled public transportation revenues

Program	Short Range (2020 to 2030)	Long Range (2031 to 2045)	Total Plan (2020 to 2045)
Sec 5310 Elderly / Disabled	\$1,000,000	\$1,500,000	\$2,500,000
Section 5311 Rural	\$1,400,000	\$2,100,000	\$3,500,000
Total	\$2,400,000	\$3,600,000	\$6,000,000

6.3 – rail transportation

The State of Texas has little history in providing public funding for either passenger or freight rail services within the Waco Metropolitan Area. Nearly all previous funding has been for signal upgrades at-grade crossings with high numbers of train / vehicle

collisions. Federal spending has generally been limited to operational costs for the Texas Eagle Amtrak service through McGregor, although those costs are generally incurred outside of the Waco Region.

There are efforts underway to implement high speed passenger rail through the Waco Region with a Tier 1 service level environmental impact study being completed by TxDOT. As of the date of this plan update, initial phases of a Tier 2 EIS were underway to refine corridor alignments, station location, and technological considerations for a potential future service through Waco. As such, the MPO staff anticipates some revenues for implementation of high speed rail services within the Waco Region connecting to other MPO regions along the IH-35 corridor. While private sector funding is anticipated to provide a majority of the resources, especially for operational costs, some limited capital funding, 50% or less of the total capital costs, are anticipated to come from the Federal Railroad Administration. It is anticipated that any such service, however, would not be implemented until sometime after the year 2030.

In addition to these efforts, the City of Waco is in development of a quiet zone study for the portion of the Union Pacific rail line through downtown Waco. As of publication, the recommendations of that study have yet to be released but it is anticipated that several signal and crossing infrastructure upgrades will be identified along this corridor. As such, MPO staff anticipates up to \$500,000 in such improvements will be funded by the City of Waco shortly after fiscal year 2020.

6.4 – note regarding aviation funding

The Metropolitan Transportation Plan identifies significant regional aviation projects proposed during the MTP planning horizon, especially those that directly impact other transportation modes. Aviation funding and project prioritization, however, are generally addressed at the state or national level and not at the metropolitan scale. As such, the MPO does not estimate future aviation funding for projects within the Waco Metropolitan Area. Projects identified in the MTP are generally for informational purposes only and are fiscally constrained at the state level.