

section 7: 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 2040.

7.1 – highways and bridges

7.1.1 – 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 7.1 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 3 funds are allocated specifically for the Waco Metropolitan Area. Category 4 funds are project specific and are determined by the Texas Transportation Commission. Category 10 includes all federal earmarks as well as funds for landscaping projects.

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 to forecast revenues by TxDOT funding categories and by year through the year 2040. 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 5 possible funding scenarios: Baseline, Low, Low Medium, Medium and High. The baseline scenario assumes no changes in tax rates or revenues through 2040 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 'Low', 'Low Medium' and 'Medium' scenarios provide the most politically realistic estimates of future revenues. The assumptions for each scenario are identified in tables 7.2A and 7.2B.

table 7.1 – 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 7.2a – trends revenue model assumptions by scenario for motor fuel taxes

Scenario	Baseline	Low Enhancement	Low Medium Enhancement*	Medium Enhancement	High Enhancement
State Gas Tax Increase #1	\$0.00	\$0.00	\$0.00	\$0.02	\$0.10
Year of Increase	n/a	n/a	n/a	2020	2020
State Gas Tax Increase #2	\$0.00	\$0.00	\$0.00	\$0.00	\$0.05
Year of Increase	n/a	n/a	n/a	n/a	2030
State Diesel Tax Increase #1	\$0.00	\$0.00	\$0.00	\$0.02	\$0.10
Year of Increase	n/a	n/a	n/a	2020	2020
State Diesel Tax Increase #2	\$0.00	\$0.00	\$0.00	\$0.00	\$0.05
Year of Increase	n/a	n/a	n/a	n/a	2030
Federal Gas Tax Increase #1	\$0.00	\$0.00	\$0.00	\$0.05	\$0.10
Year of Increase	n/a	n/a	n/a	2015	2020
Federal Gas Tax Increase #2	\$0.00	\$0.00	\$0.00	\$0.00	\$0.05
Year of Increase	n/a	n/a	n/a	n/a	2030
Federal Diesel Tax Increase #1	\$0.00	\$0.00	\$0.00	\$0.05	\$0.10
Year of Increase	n/a	n/a	n/a	2015	2020
Federal Diesel Tax Increase #2	\$0.00	\$0.00	\$0.00	\$0.00	\$0.05
Year of Increase	n/a	n/a	n/a	n/a	2030
State Gas Tax Indexing	No	CPI	CPI	CPI	FER
Year Indexing Begins	n/a	2030	2030	2020	2020
State Fuel Tax to Transportation	75%	75%	75%	85%	100%

*Scenario adopted by the MPO Policy Board.

table 7.2b – trends revenue model assumptions by scenario for other federal or state transportation revenues

Scenario	Baseline	Low Enhancement	Low Medium Enhancement*	Medium Enhancement	High Enhancement
Fund 6 Diversion Elimination	50%	75%	75%	100%	100%
Year of Elimination	2026	2020	2020	2020	2016
Registration Fee Increase #1	\$0.00	\$10.00	\$10.00	\$20.00	\$50.00
Year of Increase	n/a	2020	2020	2020	2015
Registration Fee Increase #2	\$0.00	\$0.00	\$0.00	\$10.00	\$50.00
Year of Increase	n/a	n/a	n/a	2030	2030
Commercial Registration Fee Increase #1	\$0.00	\$10.00	\$10.00	\$30.00	\$100.00
Year of Increase	n/a	2020	2020	2020	2015
Commercial Registration Fee Increase #1	\$0.00	\$0.00	\$0.00	\$20.00	\$50.00
Year of Increase	n/a	n/a	n/a	2030	2030
VMT Fee	\$0.00	\$0.00	\$0.00	\$0.00	\$0.01
Year Implemented	n/a	n/a	n/a	n/a	2030
VMT Fee Commercial	\$0.00	\$0.00	\$0.00	\$0.00	\$0.015
Year Implemented	n/a	n/a	n/a	n/a	2030
Local Registration Fee	\$0.00	\$5.00	\$5.00	\$15.00	\$25.00
Year Implemented	n/a	2020	2020	2020	2015
Local Commercial Registration Fee	\$0.00	\$5.00	\$5.00	\$15.00	\$25.00
Year Implemented	n/a	2020	2020	2020	2015
Percent of New Revenue to Maintenance	n/a	75%	75%	50%	50%
Proposition 1 approved by voters - 11/2014	No	No	Yes	Yes	Yes
Prop 1 mobility through 2025	n/a	n/a	\$30 million	\$50 million	\$70 million
Prop 1 mobility 2026 to 2040	n/a	n/a	\$0	\$50 million	\$105 million
Prop 1 maintenance through 2025	n/a	n/a	\$40 million	\$20 million	\$0
Prop 1 maintenance 2026 to 2040	n/a	n/a	\$105 million	\$55 million	\$0

*Scenario adopted by the MPO Policy Board.

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 the period of 2010 to 2020, the population of McLennan County was estimated to be 0.93944% of the state population. Thus the Waco Metropolitan Area is estimated to receive this percentage of the estimated statewide total for categories 1 and 6. As the state population is estimated to grow at a much faster rate than the population of McLennan County, it is estimated that this percentage will decrease to 0.65482% for the period of 2026 to 2040.

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. The MPO also assumed that each district would continue to receive \$2.5 million per year from Category 11 and that this amount would not change. The MPO assumed that the remaining funds (if any) would be distributed to Categories 2, 3 and 4 based upon previously accepted formulas: 65% to category 2, 10% to category 3 and 25% to category 4.

Of the 4 mobility categories (2M, 2U, 3 and 4) Waco receives distributions of mobility funds only through category 2U. The Texas Transportation Commission has adopted a formula which generally provides the Waco Region approximately 9.5% of category 3 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 9.5% 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 that would be made possible by Proposition 1. This proposition proposed to permit the Texas Legislature to draw down funds from the state rainy day fund for transportation projects. These funds would then be required to be distributed by existing formulas to cover mobility and maintenance needs across the state. Proposition 1 was approved by voters in November, 2014. It is anticipated that some mobility dollars would be made available through this proposition. Long-term, however, (beyond 2025) it is anticipated that the state's maintenance needs will become important enough that nearly all monies drawn down from the rainy day fund will be needed to maintain the existing highway system.

Tables 7.3A through 7.3C identify the estimated revenues by scenario the Waco region can expect during the MTP planning period.

table 7.3a – estimated state & federal highway revenues by scenario in millions: 2015 through 2025

Scenario	Baseline	Low Enhancement	Low Medium Enhancement*	Medium Enhancement	High Enhancement
Maintenance	\$130.0	\$150.5	\$190.5	\$222.5	\$292.9
Cat 2U	\$14.2	\$28.6	\$28.6	\$85.6	\$205.1
Local Mobility	\$0.0	\$6.7	\$6.7	\$20.4	\$61.4
Other Mobility	\$6.2	\$8.3	\$38.3	\$59.3	\$79.3
Total Mobility	\$20.4	\$43.6	\$73.6	\$165.3	\$345.8

*Scenario adopted by the MPO Policy Board.

table 7.3b – estimated state & federal highway revenues by scenario in millions: 2026 through 2040

Scenario	Baseline	Low Enhancement	Low Medium Enhancement*	Medium Enhancement	High Enhancement
Maintenance	\$201.1	\$206.0	\$311.0	\$373.2	\$605.0
Cat 2U	\$3.4	\$50.2	\$50.2	\$200.0	\$553.5
Local Mobility	\$0.0	\$18.3	\$18.3	\$54.7	\$91.1
Other Mobility	\$5.4	\$14.7	\$14.7	\$64.7	\$119.7
Total Mobility	\$8.8	\$83.2	\$83.2	\$319.4	\$764.3

*Scenario adopted by the MPO Policy Board.

table 7.3c – estimated state & federal highway revenues by scenario in millions: mtp planning horizon: 2015 through 2040

Scenario	Baseline	Low Enhancement	Low Medium Enhancement*	Medium Enhancement	High Enhancement
Maintenance	\$331.1	\$356.5	\$501.5	\$595.7	\$897.9
Cat 2U	\$17.6	\$78.8	\$78.8	\$285.6	\$758.6
Local Mobility	\$0.0	\$25.0	\$25.0	\$75.1	\$152.5
Other Mobility	\$11.6	\$23.0	\$53.0	\$124.0	\$199.0
Total Mobility	\$29.2	\$126.8	\$156.8	\$484.7	\$1,110.1

*Scenario adopted by the MPO Policy Board.

congressional earmarks

The Waco Metropolitan Area has been the recipient of federal earmarks in the past in order to construct / improve highways such as Loop 574, FM 1637 or Ritchie Rd. As with other earmarks, the amount was only a fraction of the amount necessary to complete these projects. As of the adoption of MAP-21, Congress has eliminated the use of earmarks to partially fund transportation projects. As of the publication of this plan, only one previously approved earmark remains unobligated, \$1.6 million for FM 1637 or China Spring Rd. No further Congressional earmarks are forecasted for this plan.

7.1.2 – 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, no major bond measures for highway construction were being considered by the MPO member cities or McLennan County. 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.

Spending by local governments on transportation has been consistently flat or with extremely modest increases over the past decade. The City of Waco and many suburban cities have increased their spending at a rate fractionally higher than that of other municipal governments or McLennan County. 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 8, Strategy 2.

7.1.3 – 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.

7.1.4 – 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, only those projects with significant traffic volumes generally generate sufficient revenues to cover these additional costs without making the user fees prohibitively expensive.

In the previous MTP, Connections 2035, the MPO staff performed an initial scan of toll feasibility for several expressway corridors within the region. It was concluded at that time that the only corridor that had sufficient volume to be considered toll feasible was Interstate 35. Updated traffic volume forecasts for 2040 suggest that these conclusions have not changed for the current plan. Additionally, during the public involvement phase of Connections 2035 the MPO staff received considerable feedback in opposition to the use of toll revenue for any projects within the Waco Metropolitan Area. The MPO Policy Board thus directed staff to use toll revenue as only a last and final option for critical mobility projects that cannot be financed using any other method. Since the one mobility project identified as toll feasible is anticipated being funded without the need for user fees, the MPO staff does not include toll revenue as a financing option for highway mobility projects within this plan.

7.2 – public transportation

7.2.1 – 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. Unlike highways, the MPO staff did not generate a 'low medium' scenario and thus those assumptions did not carry over for public transportation.

The first assumption was that the 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. Table 7.4 outlines the other assumptions made for public transportation revenues that differ by scenario.

table 7.4 – urban public transportation revenue assumptions by scenario

Scenario	Baseline	Low	Medium	High
State Funds as a percent of required Federal Match	95%	95% Short 100% Long*	100%	110%
Local Contributions**	None	\$100,000	\$150,000	\$200,000
Fare Increase 1 (Year)	None	25% (2025)	25% (2015)	50% (2015)
Fare Increase 2 (Year)	None	None	25% (2025)	50% (2025)

*95% of federal match requirement for 2015 to 2025, 100% thereafter.

**Annually

Unlike the highway scenarios, the MPO identified 4 possible funding scenarios: Baseline, Low, Medium and High. The baseline scenario assumes no changes in tax rates or revenues through 2040 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 MPO Policy Board adopted the medium scenario as the most realistic.

table 7.5 – estimated urban public transportation revenues by scenario in millions

Short-Range (2015 to 2025)				
Category	Baseline	Low	Medium*	High
Federal	\$17.5	\$17.5	\$22.5	\$27.6
State	\$3.3	\$3.3	\$4.5	\$6.1
Farebox	\$6.4	\$6.7	\$10.9	\$16.4
Local	\$0.0	\$1.0	\$1.5	\$2.0
Other	\$9.4	\$9.9	\$12.9	\$16.2
Total	\$36.6	\$38.4	\$52.3	\$68.2
Long-Range (2026 to 2040)				
Category	Baseline	Low	Medium*	High
Federal	\$25.1	\$36.5	\$67.4	\$133.6
State	\$4.5	\$4.5	\$5.4	\$9.3
Farebox	\$6.9	\$8.7	\$14.2	\$24.3
Local	\$20.7	\$20.7	\$20.7	\$36.6
Total	\$57.2	\$70.4	\$106.3	\$203.8
Total Plan (2015 to 2040)				
Category	Baseline	Low	Medium*	High
Federal	\$52.9	\$67.8	\$103.6	\$201.1
State	\$7.8	\$7.8	\$8.9	\$13.3
Farebox	\$12.1	\$14.4	\$21.9	\$35.7
Local	\$29.8	\$29.8	\$29.8	\$54.7
Total	\$102.6	\$119.8	\$164.2	\$304.8

*Scenario adopted by the MPO Policy Board.

Table 7.6 identifies the spending necessary by Waco Transit to maintain the same level of service provided during FY 2014 through the MTP planning period. When compared to the 'Medium' scenario of revenues, it is apparent that future state and federal revenues will be insufficient to maintain FY 2014 levels of service beyond 2025. Additionally, even the most optimistic projections of revenues are forecasted to be insufficient to maintain current service levels beyond 2025. The result is that in addition to significant increases in farebox revenue and local contributions, transit services will need to also operate very differently in order to serve similar areas with reduced revenues. Strategy 3 in Section 8 discusses the MPO recommendation regarding the future structure of public transportation services in order to meet this challenge.

table 7.6 – percent of urban public transportation revenues necessary to maintain 2014 service levels

Scenario	Baseline	Low	Medium*	High
Short Range (2015 to 2025)	77.6%	81.3%	110.8%	144.5%
Long Range (2026 to 2040)	34.0%	39.1%	51.8%	77.8%
Total	47.3%	51.9%	69.8%	98.1%

*Scenario adopted by the MPO Policy Board.

7.2.2 –projected rural public transportation revenues

The same scenarios used for urban public transportation were also used to estimate revenues for the rural public transportation services. As with their urban counterparts, the revenues for rural services identified with the 'Medium' scenario are projected to fall far short of the amounts necessary to maintain FY 2014 levels of service beyond 2026. This condition is true even for the most optimistic revenue projections identified in the 'High' scenario. Similar to the urban services, rural services will require significant increases in farebox revenue, local contributions and operational changes in order to meet the transportation needs of rural McLennan County.

table 7.7 – estimated rural public transportation revenues by scenario in thousands

Short-Range (2015 to 2025)				
Category	Baseline	Low	Medium*	High
Sec 5310 Elderly / Disabled	\$488	\$488	\$630	\$773
Section 5311 Rural	\$568	\$568	\$735	\$900
Total	\$1,056	\$1,056	\$1,365	\$1,673
Long-Range (2026 to 2040)				
Category	Baseline	Low	Medium*	High
Sec 5310 Elderly / Disabled	\$490	\$490	\$628	\$865
Section 5311 Rural	\$570	\$570	\$731	\$1,005
Total	\$1,060	\$1,060	\$1,359	\$1,870
Total Plan (2015 to 2040)				
Category	Baseline	Low	Medium*	High
Sec 5310 Elderly / Disabled	\$978	\$978	\$1,258	\$1,638
Section 5311 Rural	\$1,138	\$1,138	\$1,466	\$1,905
Total	\$1,708	\$1,708	\$2,724	\$3,543

*Scenario adopted by the MPO Policy Board.

table 7.8 – percent of rural public transportation revenues necessary to maintain 2014 service levels*

Scenario	Baseline	Low	Medium**	High
Short Range (2015 to 2025)	77.8%	77.8%	100.7%	123.5%
Long Range (2026 to 2040)	34.4%	34.4%	44.1%	60.6%
Total	38.4%	38.4%	61.2%	79.6%

*Includes both Section 5310 & 5311 funds.

**Scenario adopted by the MPO Policy Board.

7.3 – rail transportation

The State of Texas has little to no history in providing public funding for either passenger or freight rail services outside of the large metropolitan areas such as Dallas / Fort Worth or Houston. Additionally, the federal government has traditionally provided few resources for the rail mode outside of 'Amtrak', the national passenger rail service. Although recent discussions have proposed to provide substantial revenues to fund various passenger rail services, at the time of publication of this document it is unclear as to what funding levels, if any, are realistic for passenger rail beyond the normal appropriations for Amtrak. As a result, the MPO has chosen to identify rail projects as unfunded needs until a more clearly defined state and national role for passenger rail is identified.

7.4 – 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.

section 8: recommendations

The Waco MPO has identified the following strategies in order to make progress towards the guiding principles identified in Section 3. Each of these strategies is constrained against the financial projections identified in Section 7. Each strategy is considered equally important and therefore not prioritized.

Project recommendations identified within this plan are considered regionally significant and are intended to address national priorities identified by the US Congress within MAP-21 (described in Section 2.5). Project recommendations are prioritized within each strategy based on their estimated efficacy in making progress towards the strategy's primary guiding principle. Additional prioritization for each project is based upon the anticipated implementation timeframe for the project: 1.) Short-term representing fiscal years 2015 through 2025, or 2.) Long-term representing fiscal years 2026 through 2040. **Due to the anticipated limited nature of available funding, implementation is projected to be based upon when funds are available rather than timing of need, which is immediate for nearly all identified recommendations.**

strategy 1: strategic highway expansions to address increases in mobility demand

Since 2000, suburban development has continued at a greater pace than the redevelopment of the urban core. The result has been significant mobility demand in corridors never designed to accommodate such demand. In addition, Waco's position midway between the Dallas / Fort Worth metroplex and the Austin / San Antonio regions continue to place significant demands on IH-35 and other through transportation facilities within the region. The following projects represent previous commitments made by the MPO to address these mobility needs. Map 8.1 shows the location of project recommendations for strategy 1.

short term priorities (2015 to 2025)

Priority 1

Project ID: S-022B

Facility: Interstate Highway 35
 Extent: North Loop 340 to SH 6 / West Loop 340
 Current: 6 main lanes with discontinuous frontage rds
 Scope of Work: 1) Reconstruct and widen main lanes to 8 lanes
 2) Reconstruct frontage roads
 3) Extend frontage roads where discontinuous
 4) Realign on and off ramps
 Purpose and Need: 1) Address congestion resulting from increasing traffic between DFW, Austin and San Antonio metro areas
 2) Address obsolete freeway design
 3) Reconstruct facility that will be older than design life by 2040
 Fiscal Constraint: Projected allocations of formula funds to the Waco Region will be insufficient to fund this project prior to 2040. As such, this project will require commitment of discretionary funds from the Texas Transportation Commission.

Work Phase	Cost*
Engineering	\$33.0**
Right of Way	\$50.0**
Construction	\$330.0
Total	\$413.0

*In Millions

**Phase complete or underway

Priority 2

Project ID: S-003A

Facility: FM 1637 (China Spring Rd)
 Extent: FM 2490 (Wortham Bend Rd) to FM 3051 (Steinbeck Bend Dr)

Current: 2 lane rural FM road
 Scope of Work: Widen to 4 lanes divided
 Purpose and Need: Address congestion resulting from suburban development
 Fiscal Constraint: \$1.6 million from federal earmark. Remainder from short-term mobility funds identified in Section 7

Work Phase	Cost*
Engineering	\$0.8**
Right of Way	\$10.5**
Construction	\$26.0
Total	\$37.3

*In Millions

**Phase complete or underway

Priority 3

Project ID: S-036A

Facility: SH 6 / South Loop 340
 Extent: Brazos River to Spur 484 / SH 6 (Marlin Hwy)
 Current: 2 lane principal arterial
 Scope of Work: Widen to 4 lanes divided
 Purpose and Need: Address system gap and extend 4 lane section to logical termini
 Fiscal Constraint: Short-term mobility funds identified in Section 7

Work Phase	Cost*
Engineering	\$0.8**
Right of Way	\$0.0
Construction	\$15.8
Total	\$16.6

*In Millions

**Phase complete or underway

long term priorities (2026 to 2040)

Priority 4

Project ID: S-035

Facility: SH 6 / South Loop 340
 Extent: IH-35 to US 77 (Robinson Dr)
 Current: 4 lane divided principal arterial
 Scope of Work: 1) Extend frontage roads
 2) Construct overpass at Old Robinson Rd
 Purpose and Need: Address safety concern at Old Robinson Rd intersection
 Fiscal Constraint: Long-term mobility funds identified in Section 7

Work Phase	Cost*
Engineering	\$0.8**
Right of Way	\$0.0
Construction	\$19.7
Total	\$20.5

*In Millions
 **Phase complete or underway

Priority 5

Project ID: S-003B

Facility: FM 1637 (China Spring Rd)
 Extent: FM 185 (North River Crossing) to FM 2490 (Wortham Bend Rd)
 Current: 2 lane rural FM road
 Scope of Work: Widen to 4 lanes divided
 Purpose and Need: Address congestion resulting from suburban development
 Fiscal Constraint: Long-term mobility funds identified in Section 7

Work Phase	Cost*
Engineering	\$0.8**
Right of Way	\$8.0**
Construction	\$11.5
Total	\$20.3

*In Millions
 **Phase complete or underway

Priority 6

Project ID: S-046

Facility: US 84 (George W Bush Pkwy)
 Extent: Harris Creek Rd to South Bosque River
 Current: 4 lane divided principal arterial
 Scope of Work: 1) Extend frontage roads
 2) Construct overpass at FM 2837 / Speegleville Rd
 Purpose and Need: Address safety concern at FM 2837 intersection
 Fiscal Constraint: Long-term mobility funds identified in Section 7

Work Phase	Cost*
Engineering	\$2.0**
Right of Way	\$13.1**
Construction	\$31.7
Total	\$46.8

*In Millions
 **Phase complete or underway

Priority 7

Project ID: S-031A

Facility: SH 6
 Extent: Spur 412 (McLaughlin Rd) to FM 185
 Current: 2 lane principal arterial
 Scope of Work: Widen to 4 lanes divided

Purpose and Need: Address system gap and extend 4 lane section to logical termini

Fiscal Constraint: Long-term mobility funds identified in Section 7

Work Phase	Cost*
Engineering	\$0.5
Right of Way	\$1.0
Construction	\$4.8
Total	\$6.3

*In Millions

table 8.1 – total costs* for strategy 1

Mode	Short-Term Cost	Long-Term Cost	Total Cost
Highways	\$466.9	\$93.9	\$560.8
Total All Modes	\$466.9	\$93.9	\$560.8

*In Millions

strategy 2: maintain existing infrastructure in state of good repair

Preserving existing infrastructure at current quality levels or better is identified as the primary goal of this plan. With transportation revenue levels forecasted at historic lows, proper maintenance of existing infrastructure has never been more important as the cost of rebuilding or replacing infrastructure is considerably more expensive.

The MPO explored the question of whether to shift funds traditionally dedicated to mobility projects (system expansion) to preservation and rehabilitation projects. This plan does not go so far as to make that recommendation. **The plan does, however, recommend no diversions of resources from preservation and rehabilitation categories in order to further expand the transportation system.**

Projects identified within strategy 2 are not identified individually but are instead grouped into categories. Projects funded with either state or federal funds are grouped into categories consistent with TxDOT funding categories. Local preventative maintenance or rehabilitation projects are grouped into two categories based upon either short-term or long-term work.

table 8.2 – highway preventative maintenance and rehabilitation categorical projects

Category	System	Project ID	Short-Term Cost*	Long-Term Cost*	Total Cost*
Maintenance & Rehab	State	S-PMR	\$142.1	\$232.0	\$374.1
Bridge Replacement & Rehab	State	S-BRI	\$29.1	\$47.6	\$76.7
Maintenance & Rehab	County / Municipal	L-PMR	\$117.7	\$200.0	\$317.7

*In Millions

Preventative maintenance is also important for public transportation vehicles as route schedules are more reliable when vehicles are properly maintained. Similar to physical infrastructure, the long term operational cost of transit vehicles is less with proper maintenance with fewer major and costly repairs. Similar to highway maintenance, transit vehicle maintenance for Waco Transit is grouped into a single category of work instead of individual projects.

table 8.3 – public transportation preventative maintenance categorical project

Category	System	Project ID	Short-Term Cost*	Long-Term Cost*	Total Cost*
Preventative Maintenance	Waco Transit	CT-1	\$10.7	\$22.7	\$33.4

*In Millions

table 8.4 – total costs* for strategy 2

Mode	Short-Term Cost	Long-Term Cost	Total Cost
Highways	\$288.9	\$459.6	\$748.5
Public Transportation	\$10.7	\$22.7	\$33.4
Total All Modes	\$299.6	\$482.3	\$781.9

*In Millions

strategy 3: improve connectivity to essential services

Poverty has been identified as a pervasive issue for the Waco region by numerous plans dating back to the 1950s. A consistent theme is that the areas with most extreme poverty and the lowest incomes are physically separated from the region’s most significant centers of employment. The physical separation in miles is further exacerbated by barriers such as the Brazos River, the Loop 340 and IH-35 expressways as well as a transit system with infrequent service that has up to 2 hour one-way trip times.

The focus of this strategy is to overcome the physical barriers to employment or other opportunities out of poverty and thus provide those in poverty reasonable access to those opportunities. The primary recommendations of strategy 3 focus on significantly reducing transit trip times, increasing transit frequency, and significantly improving pedestrian access to and from the transit system. Map 8.2 shows a conceptual model of the priorities identified in strategy 3.

short term priorities (2015 to 2025)

Priority 1

Project ID: T-016

Service: Bus Rapid Transit

Extent: Texas Central Industrial Park to Bellmead

Scope of Work: 1) Operate express transit service with limited stops generally following US 84 and/or Franklin / Elm Ave corridor

- 2) Construct 8 bus stop facilities consistent with Thoroughfare Plan design guidelines for transfer points
- 3) Refurbish Downtown Intermodal Center
- 4) Construct pedestrian sidewalks and crosswalks at appropriate locations to connect stops with significant destinations

Operations:

- 1) 15 to 20 minute service frequency with 3 or 4 buses
- 2) Service hours from 6 am to 11 pm
- 3) Estimated service initiation in year 2020

Purpose and Need:

- 1) Address need for more frequent transit service
- 2) Address need for more rapid transit access to and from limits of urbanized area
- 3) Address need for longer operation times

Fiscal Constraint:

Project to pursue capital funds from TIGER or similar grant program with anticipated 30% local match requirement. Operational costs anticipated from regional allocation of FTA 5307 and additional local funds

Note:

Project will require additional feasibility study to identify details such as route alignment, stop locations, transfer points and costs

Phase of Work or Service	Short-Term Cost*	Long-Term Cost*	Total Cost*
Route / Feasibility Studies	\$1.5	\$0.0	\$1.5
Capital – Bus Stops / Downtown Center	\$9.5	\$0.0	\$9.5
Capital – Rolling Stock	\$5.0	\$7.0	\$12.0
Capital – Pedestrian Infrastructure	\$1.5	\$0.0	\$1.5
Operations	\$9.0	\$22.2	\$31.2
Total	\$26.5	\$29.2	\$55.7

*In Millions

Priority 2

Project ID: T-017

Service: Realignment of Waco Transit Fixed Routes

Extent: Waco Urbanized Area

- Scope of Work:
- 1) Realign routes to 20 or 30 minute loops and connect with Bus Rapid Transit route at major stops. Estimated 12 to 14 new routes
 - 2) Convert system from flag stops to dedicated bus stops. Bus stops to be constructed consistent with Thoroughfare Plan design guidelines based on estimated daily boardings
 - 3) Construct pedestrian sidewalks and crosswalks at appropriate locations to connect stops with significant destinations

- Operations:
- 1) 20 to 30 minute service frequency
 - 2) Service hours from 6 am to 11 pm
 - 3) Begin transition for high volume routes in 2020. Other routes to be converted by 2025

- Purpose and Need:
- 1) Address need for more frequent transit service
 - 2) Address need for more rapid transit access to and from limits of urbanized area
 - 3) Address need for longer operation times

Fiscal Constraint: Project to pursue capital funds from TIGER or similar grant program with anticipated 30% local match requirement. Operational costs anticipated from regional allocation of FTA 5307 and additional local funds

Note: Project will require additional feasibility study to identify details such as route alignment, stop locations, transfer points and costs

Phase of Work or Service	Short-Term Cost*	Long-Term Cost*	Total Cost*
Route / Feasibility Studies	\$1.0	\$0.0	\$1.5
Capital – Bus Stops	\$45.0	\$16.0	\$61.0
Capital – Rolling Stock	\$5.0	\$14.0	\$12.0
Capital – Pedestrian Infrastructure	\$8.0	\$2.5	\$10.5
Operations	\$42.0	\$103.6	\$145.6
Total	\$101.0	\$136.1	\$237.1

*In Millions

long term priorities (2026 to 2040)

Priority 3

Project ID: T-018

Service: Commuter Bus Service

Extent: Downtown Waco to McGregor Industrial Park

- Scope of Work:
- 1) Operate commuter bus service during peak hours between Downtown Intermodal Center to McGregor Industrial Park within stops at bus rapid transit stations
 - 2) Construct 2 stops in McGregor consistent with Thoroughfare Plan design guidelines based on estimated daily boardings
 - 3) Construct pedestrian sidewalks and crosswalks at appropriate locations to connect stops with significant destinations

- Operations:
- 1) 6 daily round trips Monday through Friday
 - 2) 3 round trips each during AM and PM peak

- Purpose and Need:
- 1) Provide replacement intercity connection to McGregor in the event Amtrak service discontinued
 - 2) Provide access to employment opportunities in McGregor Industrial Park

Fiscal Constraint: 50% fare box revenue, 50% private sector

Phase of Work or Service	Short-Term Cost*	Long-Term Cost*	Total Cost*
Capital – Bus Stops	\$0.0	\$0.5	\$0.5
Capital – Rolling Stock	\$0.0	\$1.0	\$1.0
Capital – Pedestrian Infrastructure	\$0.0	\$0.5	\$0.5
Operations	\$0.0	\$2.0	\$2.0
Total	\$0.0	\$4.0	\$4.0

*In Millions

In addition to these projects, there are 3 transit services provided to address mobility needs for those unable to use traditional fixed route transit services or reside outside of the Waco Urbanized Area. The ADA service is a door to door demand response service operated within the Waco Urbanized Area for those unable to use the urban fixed route service. Persons utilizing this service must qualify based upon their disability status. Waco Transit, the urban transit provider, operates this service.

rural public transportation and elderly / disabled services

For portions of the metropolitan area beyond the Waco Urbanized Area, public transportation is provided under the rural transportation program (FTA section 5311) and the elderly and disabled program (FTA section 5310). These services are curb to curb and similar to the ADA service are provided based upon demand response. At the time of publication, the Heart of Texas Council of Governments was the provider of these services. The McLennan County Commission, however, was conducting public hearings into whether to take over operations of these services beginning in fiscal year 2016.

Table 8.5 identifies the approximate costs for these services.

table 8.5 – ADA paratransit, rural transportation and elderly / disabled services

Transit Service	Short-Term Cost*	Long-Term Cost*	Total Cost*
ADA Paratransit	\$4.8	\$11.9	\$16.7
Rural Transportation	\$1.4	\$3.3	\$4.7
Elderly & Disabled Transportation	\$1.0	\$2.5	\$3.5
Total	\$7.2	\$17.7	\$24.9

*In Millions

table 8.6 – total costs* for strategy 3

Mode	Short-Term Cost	Long-Term Cost	Total Cost
Public Transportation	\$125.2	\$184.0	\$309.2
Pedestrian	\$9.5	\$3.0	\$12.5
Total All Modes	\$134.7	\$187.0	\$321.7

*In Millions

strategy 4: reduce transportation related injuries and fatalities

One fatality or serious injury is unacceptable. In 2013, 31 persons died and nearly 1,100 persons were seriously injured as a direct result of motor vehicle crashes within the Waco Metropolitan Area. Although it is estimated that 80 to 90 percent of all crashes are the result of driver error, there are a number of design features which, if implemented, can either reduce the total number of crashes or their severity.

The Waco Metropolitan Area Thoroughfare Plan, adopted by the MPO Policy Board in 2012, identifies appropriate design treatments for thoroughfares with the intent to reduce crashes and their severity. **The final designs of highway projects identified as a part of this plan and consequently included within the Transportation Improvement Program are intended to be consistent with those**

identified by the Thoroughfare Plan. Furthermore, when highways are resurfaced or reconstructed, the intent is that they be reconstructed or restriped in a manner consistent with these same design guidelines.

The Texas Department of Transportation identifies projects on the state highway system intended to reduce crashes and their severity. These projects include work to remove hazardous objects from the right of way, adding shoulders where none are present, adding left or right turn bays, etc. Referred to as category 8 funds, these funds are targeted to these projects and similar to preventative maintenance and rehabilitation projects, are not listed individually within the plan but grouped together into a single category (see Table 8.4). The exception is that \$1.7 million is removed from short-term costs in order to fund priority 4.

table 8.7 – highway safety categorical project

Category	System	Project ID	Short-Term Cost*	Long-Term Cost*	Total Cost*
Safety	State	S-STY	\$17.5	\$31.4	\$50.6

*In Millions

In addition to this work, the MPO has identified several significant projects that are targeted to specific concerns. These concerns are identified within the purpose and need statement for each project. Map 8.3 identifies the location and extent for each of these projects.

short term priorities (2015 to 2025)

Priority 1

Project ID: S-030

Facility: SH 6
 Extent: FM 185 to McLennan / Bosque County Line
 Current: 2 lane rural principal arterial
 Scope of Work: Construct alternating, continuous passing lane

Purpose and Need: SH 6 has become a route of choice for oversize vehicles traveling west to avoid the DFW Metroplex. The number of these vehicles, combined with a traffic volume of 7,000 vehicles per day, makes it difficult for other vehicles to pass safely

Fiscal Constraint: Safety funds from TxDOT Category 8

Work Phase	Cost*
Engineering	\$0.8
Right of Way	\$0.0
Construction	\$9.0
Total	\$9.8

*In Millions

Priority 2

Project ID: L-038

Facility: Sanger Ave
 Extent: Valley Mills Dr to Harvey Dr
 Current: 4 lane minor arterial
 Scope of Work: Resurface roadway and restripe as 2 lanes with center turn lane and bike lanes
 Purpose and Need: Sanger Ave has a large number of rear-end collisions to due turning traffic often stopping in the lane of travel. This corridor is also the most preferable corridor for bicycle access between Downtown Waco and Woodway across SH 6

Fiscal Constraint: City of Waco local funds

Work Phase	Cost*
Engineering	\$0.01
Right of Way	\$0.0
Construction	\$0.1
Total	\$0.11

*In Millions

Priority 3

Project ID: L-016

Facility: N 18th St / N 19th St
 Extent: Live Oak Ave to College Dr
 Current: 4 lane minor arterial
 Scope of Work: Resurface roadway and restripe as 2 lanes with center turn lane and bike lanes
 Purpose and Need: N 18th and N 19th Streets have a large number of rear-end collisions to due turning traffic often stopping in the lane of travel. This corridor is also the most direct corridor for bicycle access between Downtown Waco and McLennan Community College
 Fiscal Constraint: City of Waco local funds

Work Phase	Cost*
Engineering	\$0.02
Right of Way	\$0.0
Construction	\$0.2
Total	\$0.22

*In Millions

Priority 4

Project ID: S-048C

Facility: US 84 WB Frontage Rd and Main Lanes
 Extent: Texas Central Pkwy to FM 1695 (Hewitt Dr)
 Current: 4 lane divided arterial with frontage roads
 Scope of Work: Realign on and off-ramps from diamond to 'X' configuration
 Purpose and Need: Traffic during PM peak backs up from FM 1695 interchange onto the main lanes. Project converts existing off-ramp for FM 1695 to on-ramp from Texas Central Pkwy thus requiring exiting traffic for FM 1695 to utilize existing off-ramp for Old McGregor Rd. This provides an additional ¾ mile of storage on

the frontage roads to prevent backed up traffic on the main lanes. Relocation of Texas Central on-ramp eliminates insufficient weave distance with Old McGregor off-ramp

Fiscal Constraint: Safety funds from TxDOT Category 8

Work Phase	Cost*
Engineering	\$0.2
Right of Way	\$0.0
Construction	\$1.5
Total	\$1.7

*In Millions

long term priorities (2026 to 2040)

Priority 5

Project ID: S-039A

Facility: Franklin Ave (Spur 298)
 Extent: Lake Air Dr to New Rd
 Current: 4 lane divided arterial with frontage roads
 Scope of Work: 1) Relocate main lanes to frontage roads
 2) Widen to 6 lanes divided
 3) Construct dual left turn lanes for both Franklin Ave and New Rd in each direction
 4) Construct u-turn lanes for Franklin Ave
 Purpose and Need: Significant number of turning and u-turn movements at Franklin and New Rd intersection resulting in delays during peak hours. Frontage roads rarely used and create driver confusion for traffic crossing Franklin
 Fiscal Constraint: Long-term mobility funds identified in Section 7

Work Phase	Cost*
Engineering	\$0.8
Right of Way	\$0.0
Construction	\$8.0
Total	\$8.8

*In Millions

Priority 6

Project ID: S-060

Facility: North Loop 340 at IH-35 Frontage Roads
 Current: At-grade intersection controlled by traffic signals
 Scope of Work: Intersection redesign study
 Purpose and Need: Intersection identified as the worst within metropolitan area for both total number of crashes and crashes per million vehicles. Rear-end and sideswipe crashes are the primary manners of collision suggesting inadequate signage and problems with excessive speed. New interchange designs may improve safety concerns while helping interchange operate more efficiently
 Fiscal Constraint: TxDOT Interstate 35 corridor study funds

Work Phase	Cost*
Engineering	\$0.2
Right of Way	\$0.0
Construction	\$0.0
Total	\$0.2

*In Millions

table 8.8 – total costs* for strategy 4

Mode	Short-Term Cost	Long-Term Cost	Total Cost
Highways	\$29.3	\$40.4	\$69.7
Bicycle	\$0.1	\$0.0	\$0.1
Total All Modes	\$29.4	\$40.4	\$69.8

*In Millions

strategy 5: maximize system efficiency

Highway expansion has been the traditional method of choice to address projected increases in mobility demand. A primary reason for this has been population and employment moving to areas with inadequate highway infrastructure to accommodate this increased demand. This population and employment shift has had the effect of creating a number of highway facilities with significant excess capacity, capacity that must be maintained regardless of its usage. **With transportation funding at historic lows, highway capacity expansion has become a luxury that is difficult for the region to afford.** The goal of this 5th strategy is threefold:

- 1) Use as much of the excess capacity of existing highways as possible
- 2) For those corridors with remaining excess capacity, downsize such that future mobility needs are still accommodated, but that future maintenance expenses are minimized
- 3) Implement operational strategies and designs that accommodate projected traffic demand along congested corridors as efficiently as possible to avoid the need for highway widening.

Map 8.4 identifies ITS corridor recommendations identified as priority 1. Other priorities for strategy 5 can be found on Map 8.5.

short term priorities (2015 to 2025)

Priority 1

Services: Intelligent Transportation Systems Implementation

Extent: See Table 8.9 below. Corridors are prioritized from top to bottom. Map 8.4 identifies the corridor extents

Scope of Work: Since technology is changing at a rapid pace, this recommendation does not specify equipment or infrastructure but rather identifies corridors that would benefit from ITS implementation

Purpose and Need: Provide real-time information regarding the performance of the transportation system to users and those charged with maintaining and operating the system

table 8.9 – corridor priorities for intelligent transportation system (ITS) implementation

Corridor	Project ID	Short-Term Cost*	Long-Term Cost*	Total Cost*
IH-35	S-ITS-1	\$1.0	\$1.0	\$2.0
Loop 340	S-ITS-2	\$1.5	\$0.0	\$1.5
SH 6 / W Loop 340	S-ITS-3	\$1.0	\$0.0	\$1.0
US 84 West	S-ITS-4	\$0.5	\$1.0	\$1.5
US 84 East / SH 31	S-ITS-5	\$1.0	\$0.5	\$1.5
SH 6 East	S-ITS-6	\$1.0	\$0.5	\$1.5
Total		\$6.0	\$3.0	\$9.0

*In Millions

Priority 2

Project ID: L-035
Facility: Franklin Ave
Extent: S 4th St to S 17th St

Current: 4 lane one-way street with parallel parking
Scope of Work: Convert to 2 lane street with 2-way operations, parallel parking and bicycle lanes
Purpose and Need: Reduce speeds and improve corridor for bicycle and pedestrian modes. Additionally, a possible corridor for bus rapid transit (see strategy 3, priority 1)
Fiscal Constraint: City of Waco local funds

Work Phase	Cost*
Engineering	\$0.2
Right of Way	\$0.0
Construction	\$1.6
Total	\$1.8

*In Millions

Priority 3

Project ID: L-036
Facility: Washington Ave
Extent: S 5th St to S 18th St
Current: 4 lane one-way street with parallel parking
Scope of Work: Convert to 2 lane street with 2-way operations, parallel parking and bicycle lanes
Purpose and Need: Reduce speeds and improve corridor for bicycle and pedestrian modes
Fiscal Constraint: City of Waco local funds

Work Phase	Cost*
Engineering	\$0.05
Right of Way	\$0.0
Construction	\$1.6
Total	\$1.65

*In Millions

Priority 4

Project ID: L-037

Facility: 4th and 5th Streets
 Extent: Herring Ave to IH-35
 Current: 2 and 3 lane one-way street with parallel parking and periodic bicycle lanes
 Scope of Work: Convert to 2 lane street with 2-way operations, parallel parking and bicycle lanes
 Purpose and Need: Reduce speeds and improve corridor for bicycle and pedestrian modes
 Fiscal Constraint: City of Waco local funds

Work Phase	Cost*
Engineering	\$0.05
Right of Way	\$0.0
Construction	\$2.4
Total	\$2.45

*In Millions

Priority 5

Project ID: S-051

Facility: US Business 77
 Extent: IH-35 in Lacy-Lakeview to Brazos River
 Current: 1) IH-35 to US 84: 4 lane minor arterial with discontinuous frontage roads
 2) US 84 to Brazos River: 4 lane expressway
 Scope of Work: Conduct corridor study
 Purpose and Need: Facility will be 80 to 90 years old by 2040 and will be older than its design life. Traffic demand is less than 20% of capacity. Corridor study to determine whether facility should be reconstructed in current design or as a boulevard design
 Fiscal Constraint: FHWA PL-112 planning funds allocated to MPO

Work Phase	Cost*
Planning	\$0.2
Engineering	\$0.0
Right of Way	\$0.0
Construction	\$0.0
Total	\$0.2

*In Millions

table 8.10 – total costs* for strategy 5

Mode	Short-Term Cost	Long-Term Cost	Total Cost
Highways	\$11.7	\$3.0	\$14.7
Bicycle	\$0.5	\$0.0	\$0.5
Total All Modes	\$12.2	\$3.0	\$15.2

*In Millions

strategy 6: improve regional livability

Transportation has an enormous impact on people and their quality of life. Planners often employ the term “livability” to quantify the impact that a transportation network has on a community. A livable transportation network provides viable mode choices beyond the automobile without excluding it. We can improve our regional livability by providing transportation infrastructure which facilitates safe travel for pedestrians, cyclists, and transit users. The MPO has identified short term and long term bicycle and pedestrian facility projects to strengthen the livability of our community. We have identified these projects in the table below and illustrated them in Map 8.6 for bicycle corridors and Map 8.7 for pedestrian corridors. Map 8.8 identifies the locations of other strategy 6 projects.

table 8.11 – bicycle and pedestrian categorical project

Mode	Project ID	Short-Term Cost*	Long-Term Cost*	Total Cost*
Bicycle Priority Corridors	L-BP-1	\$6.6	\$9.8	\$16.4
Pedestrian Priority Corridors	L-BP-2	\$5.8	\$8.8	\$14.6
Total		\$12.4	\$18.6	\$31.0

*In Millions

short term priorities (2015 to 2025)

Priority 1

Project ID: BRW-4.

Facility: Brazos Riverwalk
 Extent: M L King Jr Park to IH-35
 Scope of Work: Construct multi-purpose bicycle and pedestrian trail adjacent to the Brazos River
 Purpose and Need: Provide pedestrian connection from McLane Stadium to Downtown Waco via M L King Jr Park and Waco Suspension Bridge
 Fiscal Constraint: USDOT Transportation Alternatives Program (TAP)

Work Phase	Cost*
Engineering	\$0.3**
Right of Way	\$0.0
Construction	\$3.0
Total	\$3.3

*In Millions

**Phase complete or underway

long term priorities (2026 to 2040)

Priority 2

Project ID: BRW-3

Facility: Brazos Riverwalk

Extent: Brazos Park East to Riverbend Park

Scope of Work: 1) Construct multi-purpose bicycle and pedestrian trail adjacent to the Brazos / Bosque Rivers
2) Construct bicycle and pedestrian bridge across Brazos River either adjacent to or attached to the M L King Drive bridge

Purpose and Need: Extend bicycle and pedestrian access via riverwalk to several recreational facilities and McLennan Community College

Fiscal Constraint: USDOT Transportation Alternatives Program (TAP)

Work Phase	Cost*
Engineering	\$0.4
Right of Way	\$0.5
Construction	\$7.0
Total	\$7.9

*In Millions

Priority 3

Project ID: R-001

Service: Interregional Passenger Rail

Extent: Oklahoma to Mexico

Scope of Work: 1) Construct passenger rail station adjacent to Intermodal Transfer Station for Waco Transit
2) Implement passenger rail services with stop in Downtown Waco (see note below)

Purpose and Need: Provide connections to Dallas / Fort Worth, Austin, San Antonio and beyond as additional

method to address interregional mobility demand

Fiscal Constraint: TxDOT / USDOT passenger rail development funds, farebox revenue

Notes: TxDOT study underway to determine feasibility of different service options, speeds, and stop locations. This project does not identify specifics with regards to these and other factors such as proposed alignments or grade separation as they are unknown as of publication of this plan. The project is a placeholder; however, indicating MPO support for the eventual recommendations of the TxDOT study provided any proposed service stops in Downtown Waco. The costs identified below are only for the construction of the Downtown Waco station.

Work Phase	Cost*
Engineering	\$0.4
Right of Way	\$0.5
Construction	\$4.0
Total	\$4.9

*In Millions

table 8.12 – total costs* for strategy 6

Mode	Short-Term Cost	Long-Term Cost	Total Cost
Highway	\$0.0	\$0.0	\$0.0
Public Transportation	\$0.3	\$0.0	\$0.3
Pedestrian	\$7.5	\$12.8	\$20.3
Bicycle	\$8.2	\$13.7	\$21.9
Passenger Rail	\$0.0	\$4.9	\$4.9
Total All Modes	\$16.0	\$31.4	\$47.4

*In Millions

summary of recommendations

The MPO targeted these strategies and projects specifically to address the transportation needs of our community as well as the livability needs which transportation services and infrastructure can significantly impact, such as poverty and community health. Furthermore, the MPO made great effort to accommodate in these strategies both the federal goals of MAP-21 and the expressed interest and desires from citizens in public meetings. While our fiscal constraints represent our greatest limitations to implementing these strategies, we believe the plan outlined in this document presents a reasonable strategy to make the most significant improvements to our transportation network despite those constraints.

table 8.13 – total costs* of plan recommendations by strategy

Strategy	Short-Term Cost	Long-Term Cost	Total Cost	Percent of Plan
1 – Highway Mobility	\$466.9	\$93.9	\$560.8	31.2%
2 - Maintenance	\$299.6	\$482.3	\$781.9	43.5%
3 – Access to Opportunity	\$134.7	\$187.0	\$321.7	17.9%
4 - Safety	\$29.4	\$40.4	\$69.8	3.9%
5 - Efficiency	\$12.2	\$3.0	\$15.2	0.8%
6 – Livability	\$16.0	\$31.4	\$47.4	2.6%
Total Plan	\$958.8	\$838.0	\$1,796.8	100.0%

*In Millions

table 8.14 – total costs* of plan recommendations by transportation mode

Mode	Short-Term Cost	Long-Term Cost	Total Cost	Percent of Plan
Highway	\$796.8	\$596.9	\$1,393.7	77.6%
Public Transportation	\$136.2	\$206.7	\$342.9	19.1%
Bicycle	\$8.8	\$13.7	\$22.5	1.3%
Pedestrian	\$17.0	\$15.8	\$32.8	1.8%
Passenger Rail	\$0.0	\$4.9	\$4.9	0.3%
Total Plan	\$958.8	\$838.0	\$1,796.8	100.0%

*In Millions

table 8.15 – total costs* of recommended new infrastructure or services by transportation mode

Mode	Short-Term Cost	Long-Term Cost	Total Cost	Percent of Plan
Highway	\$507.9	\$137.3	\$645.2	63.6%
Public Transportation	\$125.5	\$184.0	\$309.5	30.5%
Bicycle	\$8.8	\$13.7	\$22.5	2.2%
Pedestrian	\$17.0	\$15.8	\$32.8	3.2%
Passenger Rail	\$0.0	\$4.9	\$4.9	0.5%
Total Plan	\$659.2	\$355.7	\$1,014.9	100.0%

*In Millions

Table 8.16 Potential Environmental Mitigation for Project Recommendations - Waco Metropolitan Transportation Plan

Project Description			Hazardous Materials		
Project ID	Facility & Project Extent	ROW Needed?	Underground Storage Tanks	Generator	Transporter
Strategy 2					
S-030	SH 6: FM 185 to Bosque County Line	Yes			
L-038	Sanger Ave: Valley Mills Dr to Harvey Ln	No			
L-016	N 18th / 19th Sts: Live Oak Ave to College Dr	No			
S-048C	US 84: Tx Central Pkwy to FM 1695	No			
S-039A	Franklin Ave: New Rd to Lake Air Dr	No			
Strategy 3					
L-036	Washington Ave: 5th St to 18th St	No			
L-037	4th / 5th Sts: Herring Ave to IH-35	No			
Strategy 4					
L-035	Franklin Ave: 4th St to 17th St	No			
BRW-4	Brazos Riverwalk: MLK Park to IH-35	Yes			
BRW-3	Brazos Riverwalk: Brazos Park E to Riverbend Park	Yes			
R-001	Interregional Passenger Rail	Unknown			
Strategy 5					
T-016	Bus Rapid Transit	Yes			
T-017	Bus Fixed Route Realignment	Yes			
T-018	McGregor Commuter Bus	Yes			
Strategy 6					
S-022B	IH-35: SH 6 / W LP 340 to N LP 340	Yes			
S-003A	FM 1637: FM 3051 to FM 2490	Yes			
S-036A	SH 6 / S LP 340: Brazos River to SP 484 / SH 6	No			
S-035	SH 6 / S LP 340: IH-35 to US 77	No			
S-003B	FM 1637: FM 2490 to FM 185	Yes			
S-046	US 84: Ritchie Rd to Harris Creek Rd	Yes			
S-031A	SH 6: Spur 412 to FM 185	Yes			

Chance that mitigation activities may be necessary

	Likely
	Somewhat Likely depending upon the alternative chosen
	Unlikely

Table 8.17 Potential Environmental Mitigation for Project Recommendations - Waco Metropolitan Transportation Plan

Project Description			4F Lands					
Project ID	Facility & Project Extent	ROW Needed?	Parks / Recreation Areas	National / Local Historic Register	Cemeteries	Religious Sites	100 Year Flood Zone	Endangered or Threatened Species Habitat
Strategy 2								
S-030	SH 6: FM 185 to Bosque County Line	Yes						
L-038	Sanger Ave: Valley Mills Dr to Harvey Ln	No						
L-016	N 18th / 19th Sts: Live Oak Ave to College Dr	No						
S-048C	US 84: Tx Central Pkwy to FM 1695	No						
S-039A	Franklin Ave: New Rd to Lake Air Dr	No						
Strategy 3								
L-036	Washington Ave: 5th St to 18th St	No						
L-037	4th / 5th Sts: Herring Ave to IH-35	No						
Strategy 4								
L-035	Franklin Ave: 4th St to 17th St	No						
BRW-4	Brazos Riverwalk: MLK Park to IH-35	Yes						
BRW-3	Brazos Riverwalk: Brazos Park E to Riverbend Park	Yes						
R-001	Interregional Passenger Rail	Unknown						
Strategy 5								
T-016	Bus Rapid Transit	Yes						
T-017	Bus Fixed Route Realignment	Yes						
T-018	McGregor Commuter Bus	Yes						
Strategy 6								
S-022B	IH-35: SH 6 / W LP 340 to N LP 340	Yes						
S-003A	FM 1637: FM 3051 to FM 2490	Yes						
S-036A	SH 6 / S LP 340: Brazos River to SP 484 / SH 6	No						
S-035	SH 6 / S LP 340: IH-35 to US 77	No						
S-003B	FM 1637: FM 2490 to FM 185	Yes						
S-046	US 84: Ritchie Rd to Harris Creek Rd	Yes						
S-031A	SH 6: Spur 412 to FM 185	Yes						

Chance that mitigation activities may be necessary

	Likely
	Somewhat Likely depending upon the alternative chosen
	Unlikely

Table 8.18 Potential Environmental Mitigation for Project Recommendations - Waco Metropolitan Transportation Plan

Project Description			Landuse Acquisition		
Project ID	Facility & Project Extent	ROW Needed?	Residential	Commercial / Industrial	Agricultural
Strategy 2					
S-030	SH 6: FM 185 to Bosque County Line	Yes			
L-038	Sanger Ave: Valley Mills Dr to Harvey Ln	No			
L-016	N 18th / 19th Sts: Live Oak Ave to College Dr	No			
S-048C	US 84: Tx Central Pkwy to FM 1695	No			
S-039A	Franklin Ave: New Rd to Lake Air Dr	No			
Strategy 3					
L-036	Washington Ave: 5th St to 18th St	No			
L-037	4th / 5th Sts: Herring Ave to IH-35	No			
Strategy 4					
L-035	Franklin Ave: 4th St to 17th St	No			
BRW-4	Brazos Riverwalk: MLK Park to IH-35	Yes			
BRW-3	Brazos Riverwalk: Brazos Park E to Riverbend Park	Yes			
R-001	Interregional Passenger Rail	Unknown			
Strategy 5					
T-016	Bus Rapid Transit	Yes			
T-017	Bus Fixed Route Realignment	Yes			
T-018	McGregor Commuter Bus	Yes			
Strategy 6					
S-022B	IH-35: SH 6 / W LP 340 to N LP 340	Yes			
S-003A	FM 1637: FM 3051 to FM 2490	Yes			
S-036A	SH 6 / S LP 340: Brazos River to SP 484 / SH 6	No			
S-035	SH 6 / S Lp 340: IH-35 to US 77	No			
S-003B	FM 1637: FM 2490 to FM 185	Yes			
S-046	US 84: Ritchie Rd to Harris Creek Rd	Yes			
S-031A	SH 6: Spur 412 to FM 185	Yes			

Chance that mitigation activities may be necessary

	Likely
	Somewhat Likely depending upon the alternative chosen
	Unlikely

**Table 8.18 Potential Environmental Mitigation for
Project Recommendations - Waco Metropolitan Transportation Plan**

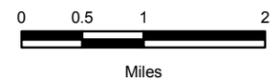
Project Description			Landuse Acquisition				
Project ID	Facility & Project Extent	ROW Needed?	Residential	Structures	Commercial / Industrial	Structures	Agricultural
S-022 Part 1	IH-35: Falls County Line to FM 2063 / FM 2113	Yes		20		89	
S-022 Part 2	IH-35: N LP 340 to Hill County Line	Yes		73		84	
S-022 Part 3	IH-35: SH 6 / W LP 340 to N LP 340	Yes		59		81	
S-022 Part 4	IH-35 Toll Lanes: SH 6 / W LP 340 to FM 308	No		0		0	
S-025	Valley Mills Dr: Cobbs Dr to Bagby Ave	No		0		0	
S-004	Hewitt Dr: US 84 to FM 2063	Yes		0		5	
S-034	SH 6 / W Lp 340: US 84 to IH-35	Yes		0		7	
S-036A	SH 6 / S LP 340: Brazos River to SP 484 / SH 6	Yes		2		0	
S-037	SH 6: Roadrunner Trail to Falls County Line	No		0		0	
S-035	SH 6 / S Lp 340: IH-35 to US 77	No		0		0	
S-003	FM 1637: FM 3051 to FM 185	Yes		71		18	
S-005	Hewitt Dr: FM 2063 to Ritchie Rd	Yes		0		3	
S-018	FM 3476: Tx Central Pkwy to FM 2063	No		0		0	
S-026	Lp 574: IH-35 to SH 6 / E Lp 340	Yes		0		2	
S-046	US 84: Ritchie Rd to Harris Creek Rd	Yes		26		3	
S-039A	Franklin Ave: New Rd to Lake Air Dr	No		0		0	

Chance that mitigation activities may be necessary

	Likely
	Somewhat Likely depending upon the alternative chosen
	Unlikely

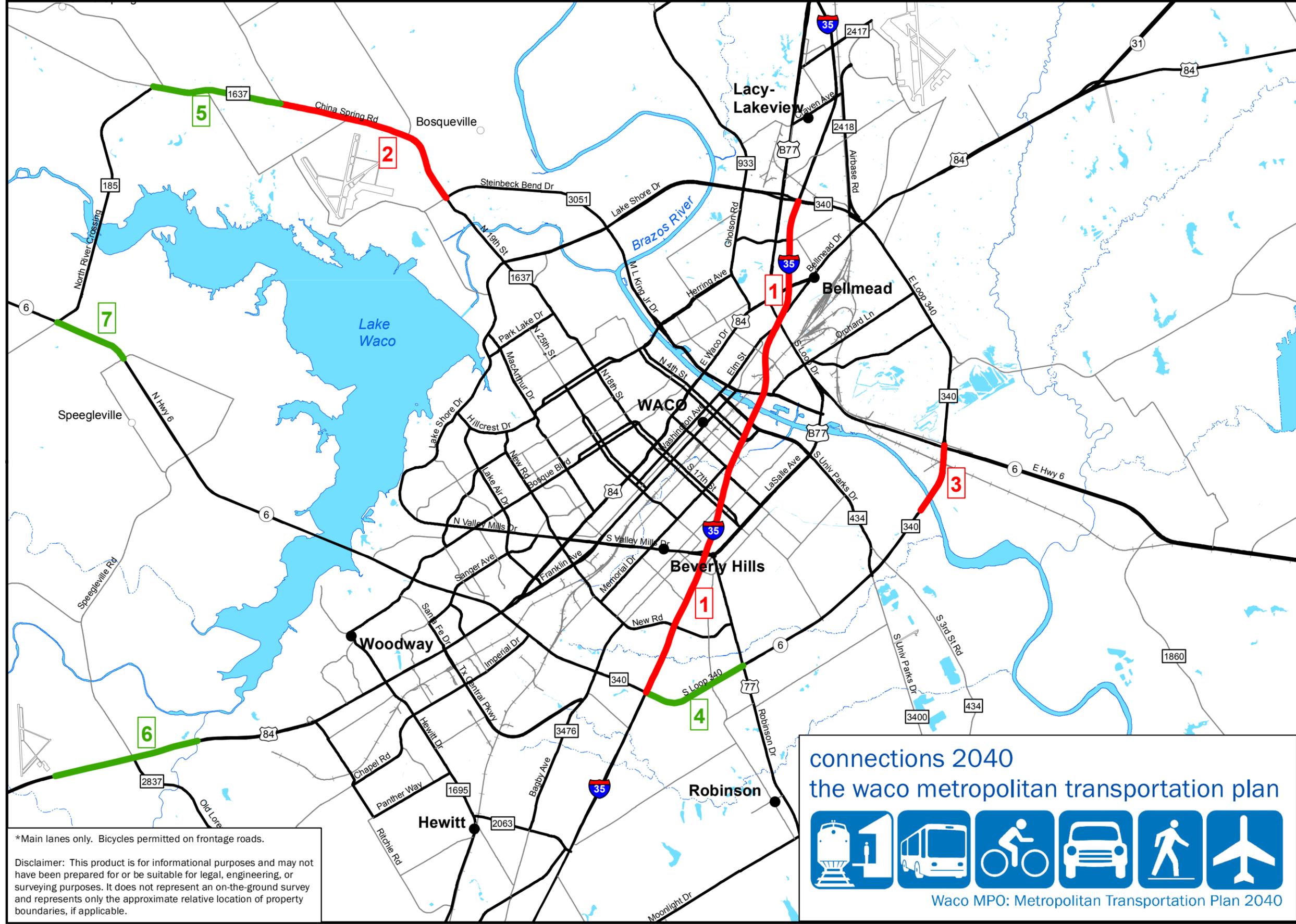
IMPORTANT! - Structures indicated do not necessarily equal takings!

- recommended timeframe
- short range
 - long range
 - waco metropolitan area
 - 1 priority ranking



november, 2014

map 8.1
strategy 1: highway mobility
project recommendations



*Main lanes only. Bicycles permitted on frontage roads.

Disclaimer: This product is for informational purposes and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. It does not represent an on-the-ground survey and represents only the approximate relative location of property boundaries, if applicable.

connections 2040
the waco metropolitan transportation plan

Waco MPO: Metropolitan Transportation Plan 2040

- Central Corridor
- satellite routes**
- East Waco
- Hewitt
- Hillcrest
- MCC / North Waco
- McGregor
- North Industrial
- Robinson
- South Loop 340
- South Waco
- Sanger Heights
- Texas Central
- TSTC
- Western Heights
- University

- stop type**
- Basic
- Transfer



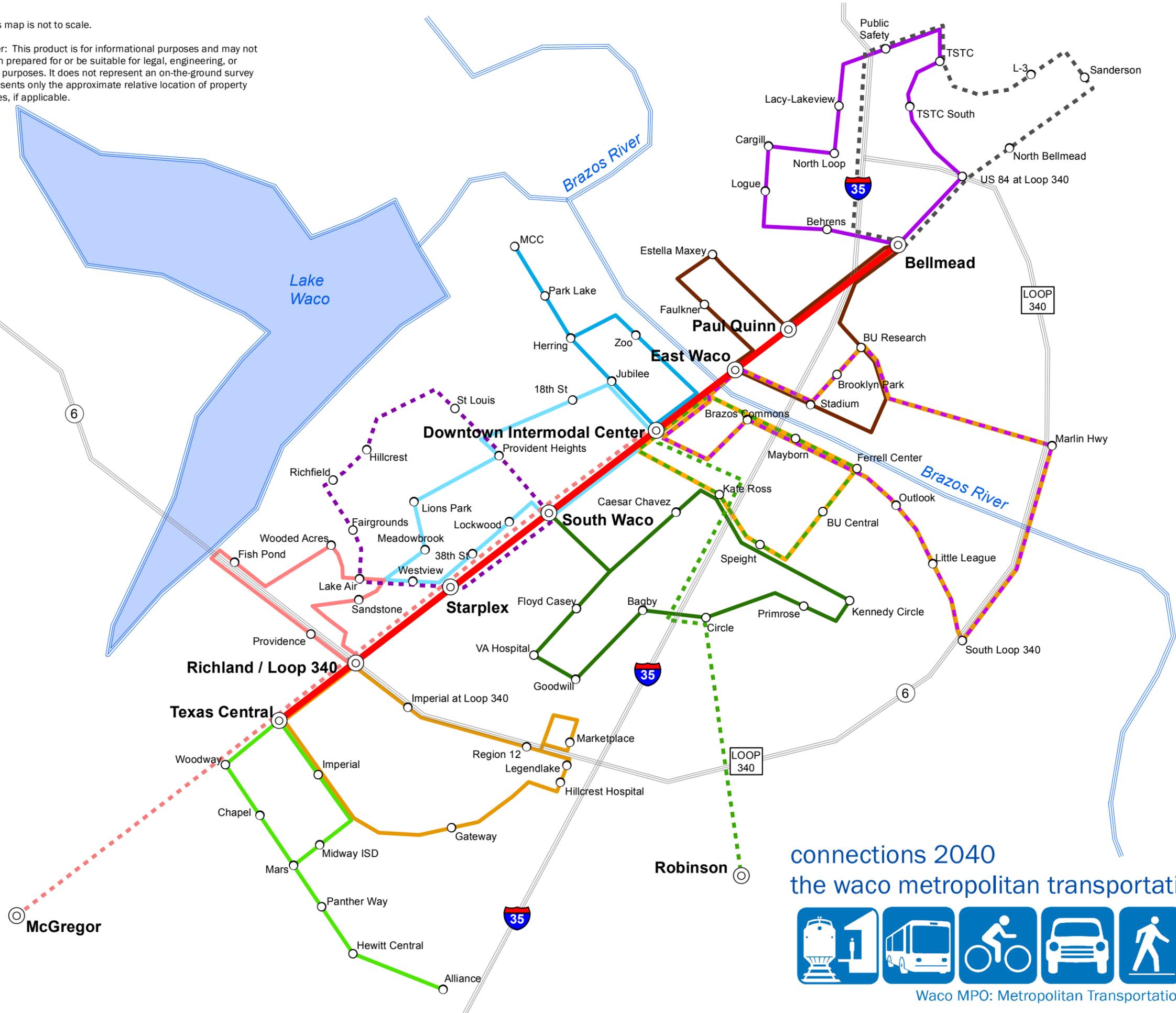
september, 2014

map 8.2
conceptual realignment of
waco transit fixed route system



Note: This map is not to scale.

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connections 2040
the waco metropolitan transportation plan



Waco MPO: Metropolitan Transportation Plan 2040