Austin

# MEMORANDUM

**To:** Mayor and City Council

**Through:** Mike Rogers, Assistant City Manager & Capital Delivery Services Interim Director MR

**From:** Richard V. Mendoza, P.E. Director, Austin Transportation & Public Works

**Date:** April 13, 2026

**Subject:** **State of Austin Bridges Report**

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The purpose of this memorandum is to report on the current condition of the City of Austin's bridge infrastructure and outline anticipated operating and capital funding needs to maintain public safety and system reliability.

**OVERVIEW**

The Office of the City Engineer within Austin Transportation & Public Works (TPW) manages the City of Austin's bridge inventory, which includes:

- Major bridges which have span greater than 20 feet
- Small bridges which have a span of 20 feet or less and culverts
- Pedestrian and bicycle bridges

Bridge preservation activities are categorized as:

- **Routine maintenance**, such as concrete patching and other minor repairs
- **Rehabilitation**, including the replacement or reinforcement of major structural elements
- **Replacement**

TPW coordinates with the Texas Department of Transportation (TxDOT) and relies on TxDOT inspection results to assess bridge conditions and identify bridges requiring repair, rehabilitation, or replacement among Austin's 466 major bridges. Routine bridge repairs are funded through TPW's annual operating budget, while rehabilitation and replacement projects are supported through capital funding sources, including bonds and grants.

**BRIDGE CONDITION AND FUNDING OUTLOOK**

Overall, Austin's bridges are currently in satisfactory or better condition. However, as indicated in the attached report, several bridges are past or are approaching the end of their service life and/ or

require replacement, rehabilitation, or repairs. As a result, increased capital and operating investments will be needed in the coming years to avoid load restrictions or potential closures.

While the timing of rehabilitation or replacement for individual bridges cannot be predicted with precision, current projections indicate that approximately $83.5 million in capital funding will be needed over the next five years. Capital needs are estimated at $30 million annually thereafter.

Currently, $1.8 million is allocated in TPW's FY 2026 operating budget for routine bridge maintenance. Additional maintenance funding will be needed in FY 2027. TPW will continue to prioritize funding strategies to address bridge safety concerns as they arise and will continue to strengthen its bridge asset management program as new inspection data and analyses become available.

The next State of Austin Bridges report is expected in 2028. Should you have any questions, please contact Amica Bose, P.E., Assistant Director, Civil Engineering Services, TPW, at: amica.bose@austintexas.gov.

cc: T.C. Broadnax, City Manager
Erika Brady, City Clerk
Jason Hadavi, City Auditor
Judge Sherry Statman, Presiding Judge
Mary Jane Grubb, Municipal Court Clerk
CMO Executive Team
Department Directors
Jim Dale, P.E., ATPW Deputy Director
Amica Bose, P.E., ATPW Assistant Director

Attachment: State of Austin Bridges Report 2025

# STATE OF AUSTIN BRIDGES

## February 2026

Austin
Transportation
and Public Works

# Table of Contents

# Executive Summary

The following report describes the state of Austin's bridges and discusses the needs and funding requirements to preserve them. This report is produced every two years with the next one expected towards the end of 2027.

Austin Transportation and Public Works (TPW) manages the City's bridges in the public right-of-way (ROW) which are categorized as follows:

- Major bridges
- Small bridges/culverts
- Pedestrian/bike bridges

There are three basic treatments when it comes to preserving bridges:

- Routine maintenance and repair (e.g., patching concrete, repairing damage)
- Rehabilitation (e.g., replacing or reinforcing major structural elements)
- Replacement

Routine maintenance and repair are funded by annual operating funds. Rehabilitation and replacement require capital funds (e.g., bonds, grants). Bridges in need of rehabilitation and replacement are listed in Table 1.

Overall, Austin's bridges need increased funding (capital and operating) in the coming years to avoid load limits or possible closures. It is difficult to predict when a bridge needs rehabilitation or replacement. Given what we know today, approximately $89,500,000 in capital funds is likely needed over the next 5 years, with $30,000,000 annually thereafter. Additional funds for routine maintenance are also needed. Currently, $1,800,000 is provided in TPW's FY26 operating budget for routine maintenance. Additional maintenance funds are anticipated in FY27.

TPW will continue to pursue and prioritize funding to address bridge safety issues as they arise. TPW will also continue to build out its bridge asset management program as new inspections and analyses occur.

*Table 1. Bridge Rehabilitation/Replacement Needs*

| No. | Bridge | Need | Potential Capital Funding Need |
|---|---|---|---|
| **Major Bridges** | | | |
| 1 | Redbud Trail Bridge #1 over Colorado River | Rehabilitation | - |
| 2 | Redbud Trail Bridge #2 over Colorado River | | |
| 3 | Barton Springs Road Bridge over Barton Creek | Replacement | ~$20M |
| 4 | William Cannon Drive Bridge over UPRR | Rehabilitation | ~$8M |
| 5 | Slaughter Lane Bridge over UPRR | Rehabilitation | ~$16M |
| 6 | E 7th St at Tillery and CAPMETRO RR (Eastbound) | Rehabilitation | ~$5M |
| 7 | E 7th St at Tillery and CAPMETRO RR (Westbound) | | |
| 8 | Delwau Lane Bridge over Boggy Creek | Replacement | ~$14M |
| 9 | River Plantation Dr Bridge over Onion Creek | Stabilize Bank | ~$3M |
| **Subtotal =** | | | **~$66M** |
| **Small Bridges/Culverts** | | | |
| 1 | Pearce Ln at Dry Creek East[1] | Replacement | **~16.5M** |
| 2 | Balcones Dr at Lake Austin[1] | Replacement | |
| 3 | Johnny Morris Rd at Walnut Creek[1] | Replacement | |
| 4 | Manchaca Rd at Williamson Creek[1] | Rehabilitation | |
| 5 | Delwau Ln at Boggy Creek[1] | Replacement | |
| 6 | Wood Hollow Dr at Shoal Creek[1] | Replacement | |
| 7 | Wood Cliff Dr at South Boggy Creek[1] | Replacement | |
| 8 | Westlake Dr at Lake Austin[1] | Replacement | |
| 9 | Stratford Dr at Town Lake[1] | Replacement | |
| 10 | Leyton St at Lake Creek[2] | Replacement | |
| 11 | Scout Island Cir S at Bull Creek[2] | Replacement | |
| 12 | Ladera Vista Dr at Walnut Creek[1] | Replacement | |
| 13 | Stillwater Ln at Lake Creek[2] | Replacement | |
| 14 | Riverside Farms Rd at Country Club West[1] | Replacement | |
| 15 | Tedford St at Walnut Creek[1] | Replacement | |
| 16 | City Park Rd at West Bull Creek[1] | Rehabilitation | |
| 17 | Granada Dr at Country Club West[1] | Rehab / Replace | |
| 18 | Davis Ln at South Boggy Creek[1] | Rehab / Replace | |
| **Pedestrian/Bike Bridges** | | | |
| 1 | Landon Ln at Waller Creek (Lee Elementary) | Replacement | **~$7M** |
| 2 | Sparks Ave and 31st St at Waller Creek | Replacement | |
| 3 | W 49th St and Woodview Ave at Shoal Creek | Replacement | |

| No. | Bridge | Need | Potential Capital Funding Need |
|---|---|---|---|
| 4 | Pecan Grove Rd and Alameda Drive at Blunn Creek | Replacement | |
| 5 | Barton Pkwy at Barton Creek | Replacement | |
| 6 | Arroyo Seco at Dry Creek | Replacement | |
| 7 | S Meadows Dr to Golden Quail Dr at Little Walnut Creek | Replacement | |
| 8 | Mt Bonnell Rd | Rehabilitation | |
| **Total (all bridges) =** | | | **~$89.5M** |

1. Structural issue.
2. Hydraulic or hydrologic issue.

# 1. Introduction

The following report describes the state of bridges maintained by TPW – major bridges, small bridges/culverts, and pedestrian/bike bridges. This report summarizes the condition and age of all bridges and outlines funding needs.

## 1.1 Bridge Inventory

*Major Bridges*

A major bridge is a bridge with a span greater than 20 feet (Figure 1). The City of Austin has 466 major bridges. The average age of our major bridge inventory is 45.4 years old (Figure 2). Furthermore, 164 of these structures (35%) are past their anticipated design life of 50 years. Fortunately, many of them are still performing quite well. With increasing age and ever-increasing traffic levels and loadings, however, these bridges will experience an accelerating rate of deterioration and will soon need rehabilitation or replacement.

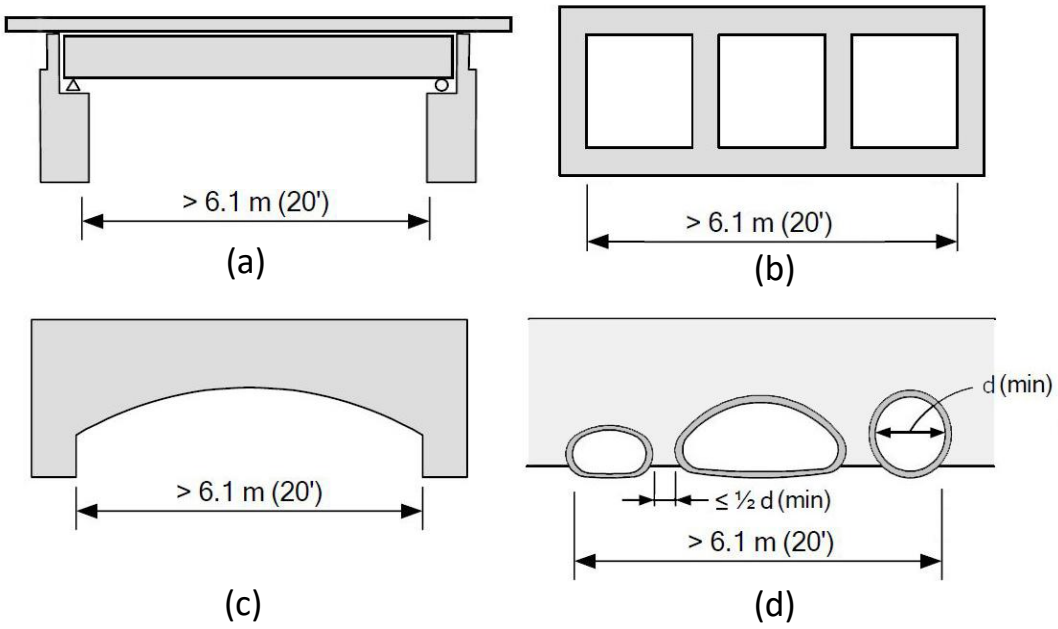



*Figure 1. Major Bridge Examples*

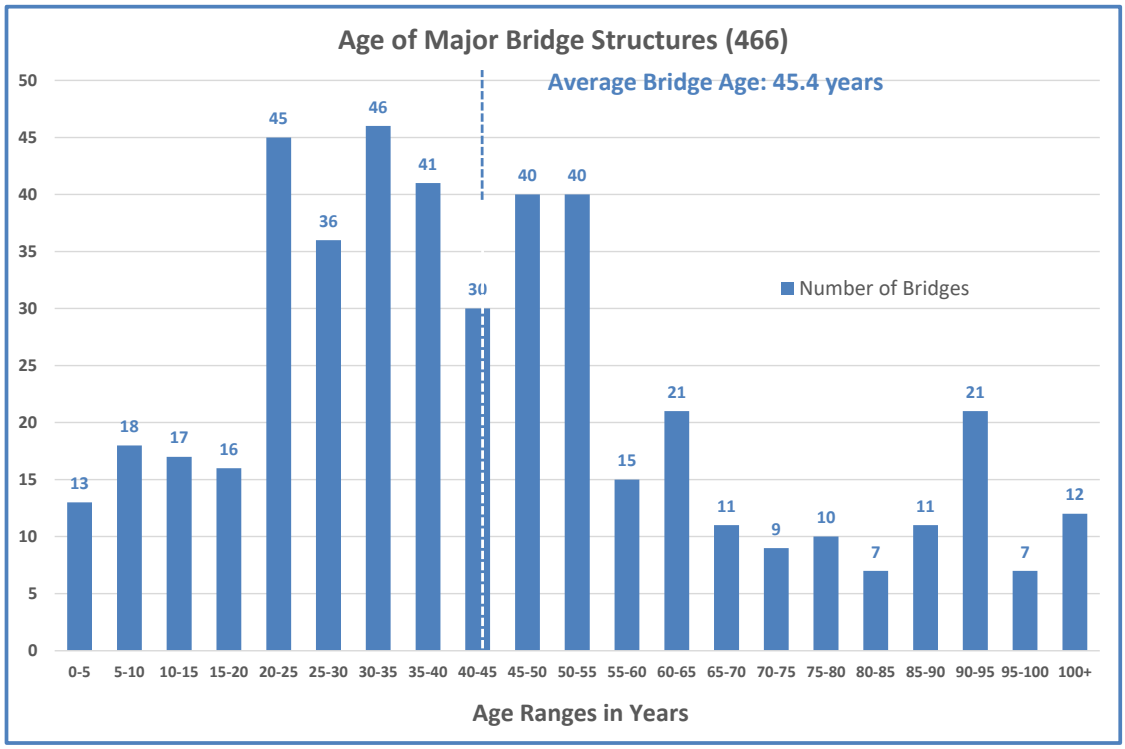



*Figure 2. Age of Major Bridges*

These larger bridges involve more complex structures and carry higher safety risks if they fail. Thus, the National Bridge Inspection System (NBIS) requires all structures that are longer than 20 feet in length (as defined in Figure 1) to be inspected at least once every two years. A few may require more frequent inspection depending upon conditions. Some structures may need special inspections, such as underwater or fracture-critical inspections. In Texas, these visual inspections are performed every two years by highly trained, qualified Texas Department of Transportation (TxDOT)- approved bridge inspectors. TxDOT gathers this federally mandated information for the entire state to ensure consistency across the numerous agencies and jurisdictions involved.

TxDOT forwards the inspection records and data to the Office of the City Engineer in TPW. These reports include assessments of the primary bridge components and possible recommendations for maintenance and repairs.

Recently, the Federal Highway Administration (FHWA) developed new specifications for reporting data to the National Bridge Inventory (NBI) to align with updates to the NBIS regulation and the American Association of State Highway and Transportation Officials (AASHTO) Manuals. The new specifications, referred to as “the Specifications for the National Bridge Inventory” (SNBI), include changes to bridge inspection intervals and additional bridge components and will be fully implemented in 2028.

### *Small Bridges/Culverts*

Smaller bridges have spans of 20 feet or less. Figure 3 and Figure 4 show examples of typical small bridges and culverts. There are about 810 locations where water crosses the right-of-way

(ROW) under small structures, including small bridges or in culverts and pipes. These bridges have far fewer elements than major bridges and are much easier to inspect.

*Figure 3. Small Bridge Examples – Box Culverts*

*Figure 4. Small Bridge Examples – Pipe Culverts*

These small bridges or structures are typically comprised of one or more buried pipes/culverts, minor safety systems (guardrail) and small entrance and exit headwalls/aprons. These structures have no decks, superstructures, substructures or underlying channels. Conveyance of water under the roadway is entirely contained within the pipes. Also, no bridge signage, approach slabs or any other special roadway elements are usually needed. The roadway pavement is typically separate and maintained as part of the street preventive maintenance program. It will not be considered part of the small bridge structure – unless it has a true deck and superstructure which very few do.

The City contracts with engineering firms to inspect the smaller bridges every five years. The initial inventory and condition assessment project was conducted in 2018. A supplementary project was completed in 2023 for newly identified structures and a portion that were no longer inaccessible.

TPW maintains the structural integrity of smaller bridges, for example, the culvert or pipe itself including headwalls, railing and pavement. Austin Watershed Protection (AWP) cleans and removes vegetation and debris from the creek and the culverts/pipe structures to ensure proper drainage.

*Pedestrian/Bike Bridges*

TPW is also responsible for maintaining pedestrian and bike bridges (1) in the public ROW and (2) on the Urban Trails network outside of parks. An example of a pedestrian/bike bridge is presented in Figure 5. There are 20 pedestrian bridges in the ROW. Routine inspections of these structures were completed in 2023. TPW is currently updating the inventory of trail bridges. The inspection of Urban Trail bridges is scheduled for completion in FY27. The inspection interval follows a 5-year cycle.

*Figure 5. Pedestrian/Bike Bridge*

## 1.2 Bridge Condition Scoring Procedures

TPW developed a Composite Structural Rating (CSR), a weighted average from 0 to 10, to evaluate and rank the structural condition of bridges (Table 2). CSR provides an overall condition rating for each bridge. For major bridges, the CSR is the average of the TxDOT structural evaluation rating, deck rating, superstructure rating, substructure rating, culvert rating, and channel rating. For smaller bridges (e.g., culverts, pipes), the CSR is the average for the inlet/outlet protection and pipe barrel ratings. For pedestrian/bike bridges, the CSR is the average of the deck rating, superstructure rating, substructure rating, approach rating, and channel rating.

Although the CSR scores are valuable and provide a preliminary assessment of bridge conditions, it is important to mention that it does not always detect underlying structure issues or deterioration since it is based on visual inspections. Even if structural components fall into the Fair CSR condition category, further investigation—including in-depth inspections and studies—is needed for those exhibiting repeated maintenance needs, recurring or accelerating deterioration, or potential risk to public safety. Decisions to do further investigations are driven by functionality, age, and other factors.

Table 2. Structural Condition

| Condition Category | Composite Structural Rating (CSR) |
|---|---|
| Poor* | Rating < 5 |
| Fair | 5 ≤ Rating < 6 |
| Satisfactory | 6 ≤ Rating < 7 |
| Good | 7 ≤ Rating < 8 |
| Excellent | 8 ≤ Rating < 10 |

*Any bridges in need of rehabilitation or replacement are reclassified as Poor

This shortcoming in the CSR scoring process can result in a bridge with a Satisfactory or better CSR score, BUT it needs to be replaced or rehabilitated based on more in-depth inspections. Therefore, to reflect this shortcoming, the Office of the City Engineer (OCE) reclassifies any bridges with a CSR score of Fair or better AND in need of rehabilitation or replacement as Poor.

Bridges with serious structural problems would be technically categorized as “deficient” (CSR < 5, Poor). Those that do not completely comply with today’s more rigorous functional standards are technically categorized as “obsolete”. A fair amount of obsolescence exists in structures built 40 or more years ago.

## 1.3 Bridge Management Process

TPW bridge management mission is to “Improve organized knowledge of the condition of our bridge system which can be used to prioritize or optimize a plan for bridges needing preventive or repair maintenance, rehabilitation or replacement in order to keep the City of Austin’s bridges in good serviceable condition for our community.”

Prior to 1988, the City managed its bridge inventory on a “repair as needed” basis. This method had limited ability to forecast future rehabilitation or replacement needs or schedule preventive maintenance which would extend the useful life of these structures. Today, OCE maintains detailed inspection files for each bridge, with biennial ratings dating back to 1988. OCE engineers use this data to determine maintenance priorities.

Current bridge management is primarily guided by bridge condition and load capacity—two key indicators in risk assessment, along with other factors. For over two decades, low ratings on critical structural components have driven the prioritization of repairs in the annual maintenance program. Evaluations and project rankings inherently reflect the relative risk and importance of each structure. Notably, the CSR scores place greater emphasis on elements with the highest failure risk. Other essential factors, such as structure age and size, traffic volume, and the strategic importance of the route, are also involved in the prioritization process.

TPW is developing the business case to upgrade its existing Bridge Management and Information System (BMIS) – to take current bridge management practices to the next level. A BMIS facilitates planning and optimizing the allocation of funds for bridge maintenance. BMIS is a set of methodologies and procedures for managing information about bridges and helps

proactively manage bridge maintenance, repair and rehabilitation needs based on the current condition of individual bridge elements.

Upgrading the existing BMIS will greatly bolster our capability, and the system will provide a more robust tool to integrate into our bridge asset management program. The system will enable modeling, analysis, and planning for this ageing infrastructure. Future bridge needs can then be more accurately forecast and projected for maintenance, rehabilitation, and replacement through long-term capital planning and robust annual maintenance budgeting.

TPW will continue assessing the feasibility of upgrading the existing BMIS by evaluating options that are both effective and affordable. With the expected transition to the updated federal specification (SNBI) by 2028, any BMIS must be upgraded to comply with revised data requirements. TPW plans to more rigorously review commercially available BMIS platforms after the updated specifications are implemented.

## 2. Goals

TPW's mission is to build and maintain mobility infrastructure that is safe and reliable for the community. The following goals are established to achieve this mission:

1. All bridges rated in structurally Fair or better condition (CSR ≥ 5).
2. To reduce the financial risk of unexpected, high-cost maintenance needs occurring simultaneously for many bridges, maintain the following percentage of City bridges in a Satisfactory or better structural rating:
    a. 90% Major Bridges with CSR ≥ 6
    b. 80% Smaller Bridges and Pedestrian/Bike Bridges with CSR ≥ 6

If any structural components are rated as Poor, or present safety concerns or critical findings, TPW will address the issue promptly to prevent further deterioration. Furthermore, TPW will evaluate the most cost-effective solutions to ensure the continued safety and functionality of City bridges.

# 3. Condition Assessment

## 3.1 Major Bridges

### 3.1.1 Overall

Out of 466 major bridges, 94% of the major bridges are in Satisfactory or better condition (Table 3, Figure 6**Error! Reference source not found.**). Also, nine bridges need rehabilitation or replacement and are categorized as Poor.

Table 3. Condition – Major Bridges

| Condition Category | # of Bridges | % |
|---|---|---|
| Poor | 9 | 2 |
| Fair | 20 | 4 |
| Satisfactory | 391 | 84 |
| Good | 46 | 10 |
| Excellent | 0 | 0 |

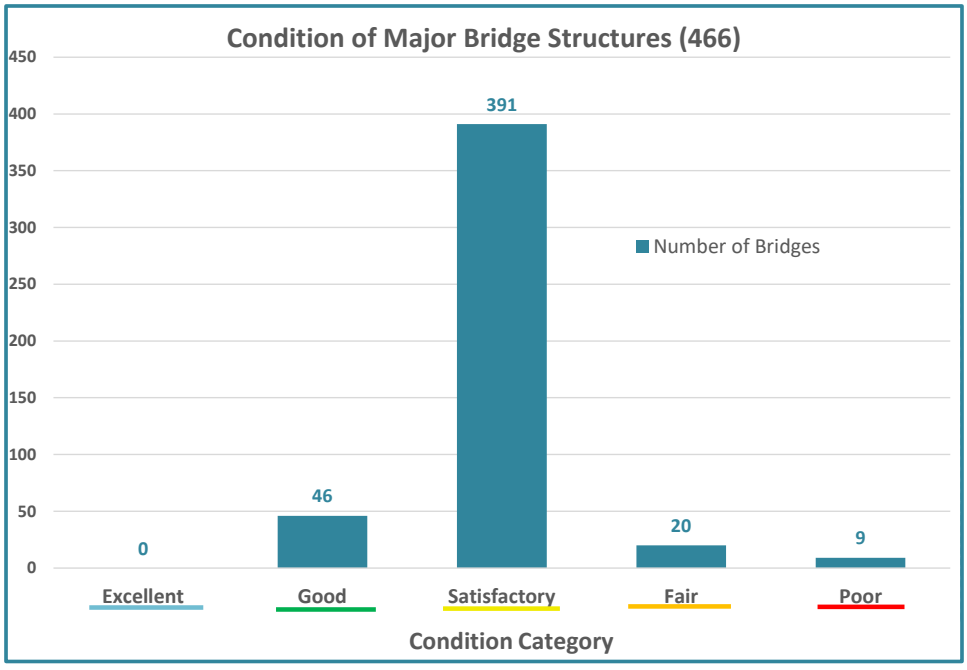



*Figure 6. Condition – Major Bridges*

As shown in Table 4, major bridges achieve one of the two goals. The nine bridges rated as Poor prevent achieving Goal 1 – all bridges in fair or better structural condition. Goal 2, however, is achieved with 94% of the major bridges in Satisfactory or better structural condition.

*Table 4. Bridge Condition Goals – Major Bridges*

| Goals | | Outcome<br>Yes: ✅; No: ❌ |
|---|---|---|
| 1 | All Bridges in Fair or Better Structural Condition | ❌ |
| 2 | 90% of Major Bridges in Satisfactory or Better Structural Condition | ✅ |

### 3.1.2 Rehabilitation and Replacement Needs

It is important to reiterate that TxDOT inspections, while valuable, are brief visual assessments and may not detect all underlying structure issues or deterioration. Based on more in-depth inspections, TPW has identified nine bridges (Table 5, Figure 7) that likely need major rehabilitation, complete replacement, or extensive bank stabilization in the next 5 years. If not, these bridges may need to be load rated to prevent heavier vehicular loads that accelerate deterioration. Background on each bridge is provided in the Appendix. TPW will continue to investigate critical findings for all bridges that may deteriorate into Poor condition if left unaddressed and identify bridge assets that may require more in-depth inspection and analysis.

*Table 5. Major Bridge Rehabilitation/Replacement Needs*

| No. | Bridge | Need |
|---|---|---|
| 1 | Redbud Trail Bridge #1 over Colorado River | Rehabilitation |
| 2 | Redbud Trail Bridge #2 over Colorado River | |
| 3 | Barton Springs Road Bridge over Barton Creek | Replacement |
| 4 | William Cannon Drive Bridge over UPRR | Rehabilitation |
| 5 | Slaughter Lane Bridge over UPRR | Rehabilitation |
| 6 | E 7th St at Tillery and CAPMETRO RR (Eastbound) | Rehabilitation |
| 7 | E 7th St at Tillery and CAPMETRO RR (Westbound) | |
| 8 | Delwau Lane Bridge over Boggy Creek | Replacement |
| 9 | River Plantation Dr Bridge over Onion Creek | Bank Stabilization |

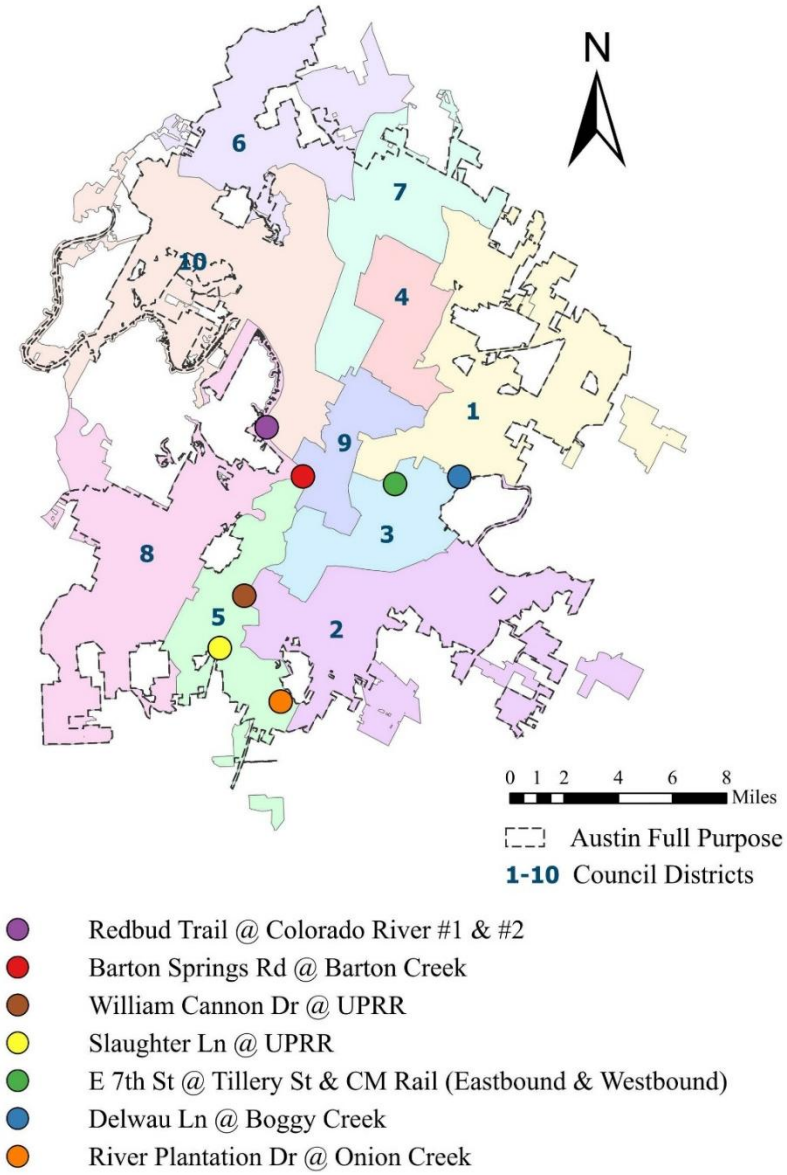



*Figure 7. Major Bridge Rehabilitation/Replacement Needs*

### 3.1.3 Obsolete Bridges

In Austin, two major bridges, Circle S Rd Bridge at Boggy Creek and W Mary St Bridge at W Bouldin Creek, are currently posted for weight restrictions. Both were built in the 1910s and 1920s, when design loads were lower than modern standards. The Circle S Rd Bridge at Boggy Creek is a single-lane structure in Fair condition, and it is planned for replacement through a TxDOT-funded program. The W Mary St Bridge at W Bouldin Creek is in Satisfactory condition, and it is not currently being considered for replacement.

## 3.2 Small Bridges/Culverts

### 3.2.1 Overall

Of the 840 small bridges and culverts, 97% are in Satisfactory or better condition (Table 6, Figure 8**Error! Reference source not found.**). Two structures are rated as Poor based on their CSR score. Another 16 have structural elements in poor enough condition to require rehabilitation or replacement. Therefore, a total of 18 small bridges/culverts need rehabilitation or replacement and are categorized as Poor. These structures are safe for public use.

Approximately 4% of the small bridges/culverts could not be rated due to other factors such as high water or other access issues, but they are scheduled for inspection during the next inspection cycle, FY28.

*Table 6. Condition – Small Bridges/Culverts*

| Condition Category | # of Bridges | % |
|---|---|---|
| Poor | 18 | 2 |
| Fair | 3 | <1 |
| Satisfactory | 17 | 2 |
| Good | 285 | 35 |
| Excellent | 456 | 56 |
| NA/CNR | 31 | 4 |

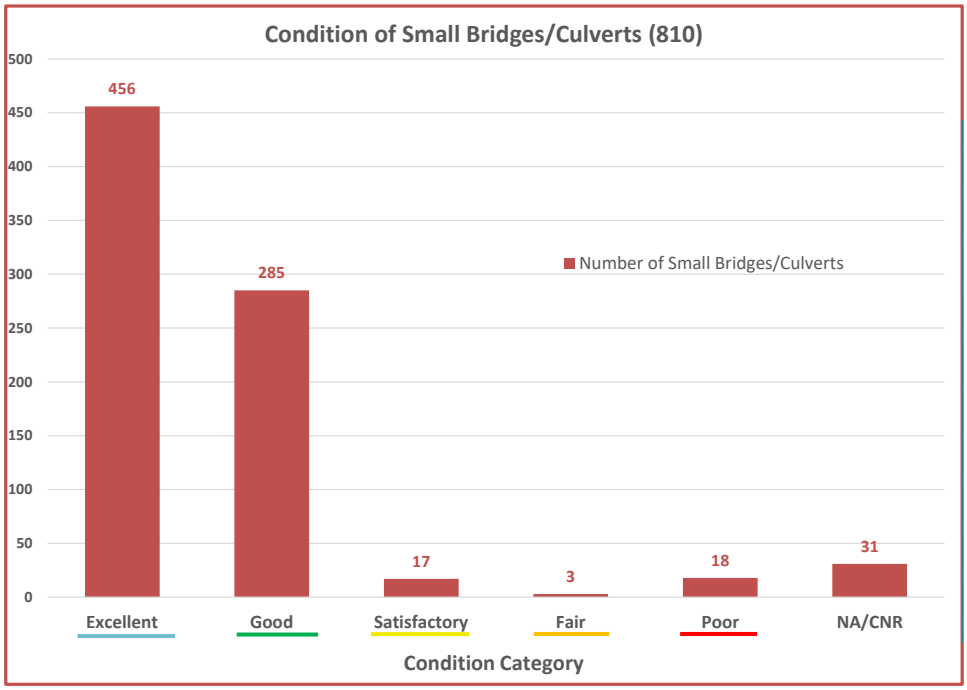



*Figure 8. Condition – Small Bridges/Culverts*

Goal 1 of having all bridges in Fair or better condition was not achieved with 18 small bridges/culverts in Poor condition. Goal 2, however, was met with 97% of small bridges/culverts in Satisfactory or better condition.

*Table 7. Bridge Condition Goals – Small Bridges/Culverts*

| Goals | | Outcome<br>Yes: ✅; No: ❌ |
|---|---|---|
| 1 | All Bridges Fair or Better Structural Condition | ❌ |
| 2 | 80% of Small Bridges in Satisfactory or Better Structural Condition | ✅ |

### 3.2.2 Rehabilitation and Replacement Needs

Table 8 and Figure 9 show locations of 18 small bridges/culverts identified for rehabilitation or full replacement within the next 10 years, including two rated in Poor condition and several others selected from structures with components in poor condition. Of these, 3 structures (marked with a half-black symbol in Figure 9) are associated with hydrologic or hydraulic issues. TPW will collaborate with AWP and help address these issues. The remaining 15 structures (marked with a regular symbol in Figure 9) exhibit structural deficiencies such as cracking in barrels, bank and embankment erosion, and joint failure.

Although these poorly conditioned structures are safe for use, they will be considered in the next bond program for rehabilitation or replacement. TPW will continue to monitor their condition and coordinate with AWP to request necessary cleanup work.

*Table 8. Small Bridge Rehabilitation/Replacement Needs*

| No. | Bridge | Project |
|---|---|---|
| 1 | Pearce Ln at Dry Creek East[1] | Replacement |
| 2 | Balcones Dr at Lake Austin[1] | Replacement |
| 3 | Johnny Morris Rd at Walnut Creek[1] | Replacement |
| 4 | Manchaca Rd at Williamson Creek[1] | Rehabilitation |
| 5 | Delwau Ln at Boggy Creek[1] | Replacement |
| 6 | Wood Hollow Dr at Shoal Creek[1] | Replacement |
| 7 | Wood Cliff Dr at South Boggy Creek[1] | Replacement |
| 8 | Westlake Dr at Lake Austin[1] | Replacement |
| 9 | Stratford Dr at Town Lake[1] | Replacement |
| 10 | Leyton St at Lake Creek[2] | Replacement |
| 11 | Scout Island Cir S at Bull Creek[2] | Replacement |
| 12 | Ladera Vista Dr at Walnut Creek[1] | Replacement |
| 13 | Stillwater Ln at Lake Creek[2] | Replacement |
| 14 | Riverside Farms Rd at Country Club West[1] | Replacement |
| 15 | Tedford St at Walnut Creek[1] | Replacement |
| 16 | City Park Rd at West Bull Creek[1] | Rehabilitation |
| 17 | Granada Dr at Country Club West[1] | Rehabilitation / Replacement |
| 18 | Davis Ln at South Boggy Creek[1] | Rehabilitation / Replacement |

1. Structural issue.
2. Hydraulic or hydrologic issue.

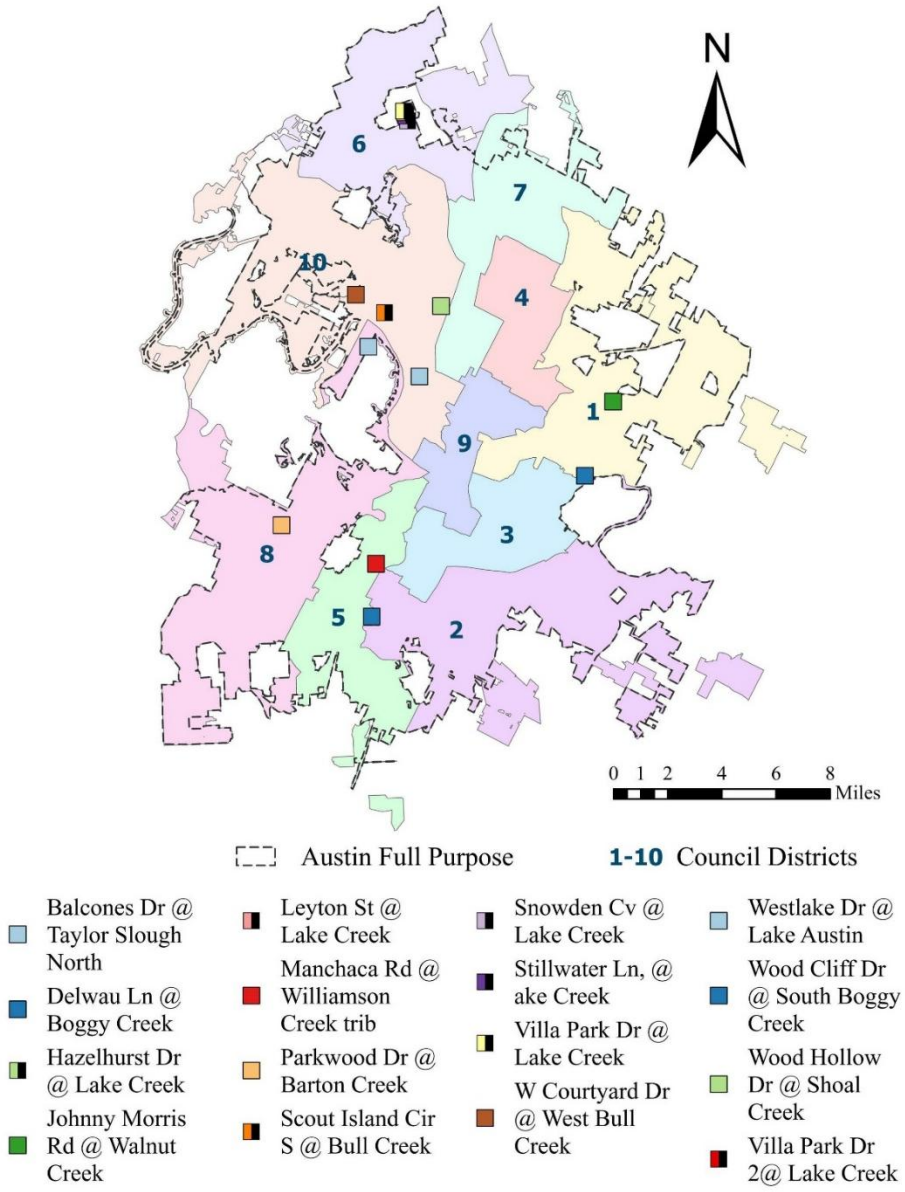



*Figure 9. Small Bridges/Culverts Rehabilitation/Replacement Needs*

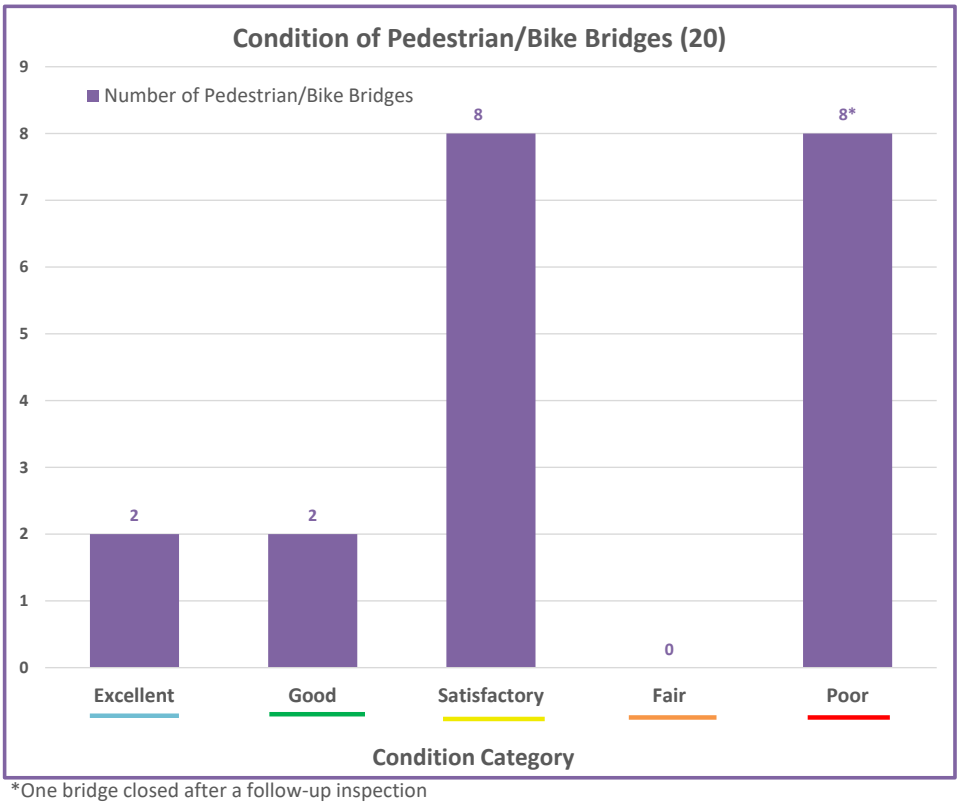
## 3.3 Pedestrian/Bike Bridges

### 3.3.1 Overall

Of 20 pedestrian/bike bridges, 60% are rated as in Satisfactory or better condition (Table 9, Figure 10**Error! Reference source not found.**). Eight pedestrian/bike bridges need rehabilitation or replacement and are categorized as Poor. Among these, Landon Ln. bridge at Lee Elementary (Poor condition) was closed after a follow-up inspection due to safety concerns; however, an alternate route is available for school access. These assessment results do not include the Urban Trail bridges.

*Table 9.* Condition – *Pedestrian/Bike Bridges*

| Condition Category | # of Bridges | % |
|---|---|---|
| Poor | 8 | 40 |
| Fair | 0 | 0 |
| Satisfactory | 8 | 40 |
| Good | 2 | 10 |
| Excellent | 2 | 10 |




*One bridge closed after a follow-up inspection

*Figure 10. Condition – Pedestrian/Bike bridges*

Goal 1 (Table 10) of having all bridges in Fair or better condition was not met since eight bridges were rated below Fair condition. Goal 2 was also not met, as 60% were in Satisfactory condition, whereas the goal called for 80%.

*Table 10. Bridge Condition Goals – Pedestrian/Bike Bridges*

| Goals | | Outcome<br>Yes: ✅; No: ❌ |
|---|---|---|
| 1 | All Bridges Fair or Better Structural Condition | ❌ |
| 2 | 80% of Pedestrian/Bike Bridges in Satisfactory or Better Structural Condition | ❌ |

### 3.3.2 Rehabilitation and Replacement Needs

Table 11 and Figure 11 show locations of 8 pedestrian/bike bridges in need of major rehabilitation or replacement within the next 10 years.

Aside from the Landon Ln. bridge, which is closed, all pedestrian and bike bridges within the City's ROW remain safe for public use. However, 8 pedestrian/bike bridges are listed for rehabilitation and replacement because they are constructed with timber elements or have corroded steel in the deck, superstructure, or substructure, which are highly vulnerable to accelerated deterioration from weather exposure and flooding. These materials require consistent and intensive maintenance to ensure continued safety and functionality. Replacing these timber structures with durable, prefabricated alternatives would be a worthwhile investment, significantly reducing future maintenance costs and ensuring long-term performance.

TPW will prioritize and promptly address any structural deterioration that poses a safety risk. In the long term, TPW is actively pursuing opportunities to replace pedestrian and bike bridges or materials that require frequent and costly maintenance.

As mentioned earlier, TPW plans to inventory pedestrian/bike bridges on the Urban Trail network in FY26 and conduct inspections in FY27; the results will be included in the 2029 report.

*Table 11. Pedestrian/Bike Bridge Rehabilitation/Replacement Needs*

| No. | Bridge | Project |
|---|---|---|
| 1 | Landon Ln at Waller Creek (Lee Elementary) | Replacement |
| 2 | Sparks Ave and 31st St at Waller Creek | Replacement |
| 3 | W 49th St and Woodview Ave at Shoal Creek | Replacement |
| 4 | Pecan Grove Rd and Alameda Drive at Blunn Creek | Replacement |
| 5 | Barton Pkwy at Barton Creek | Replacement |
| 6 | Arroyo Seco at Dry Creek | Replacement |
| 7 | S Meadows Dr to Golden Quail Dr at Little Walnut Creek | Replacement |
| 8 | Mt Bonnell Rd | Rehabilitation |

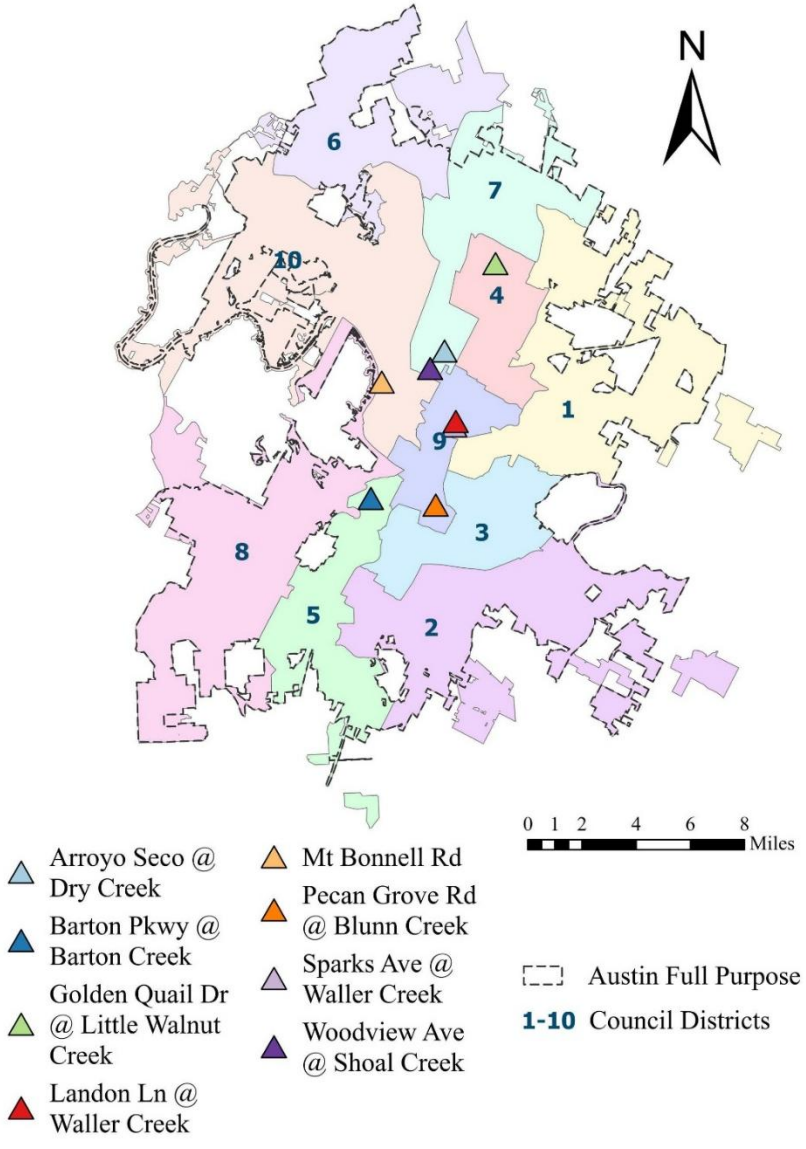



*Figure 11. Pedestrian/Bike Bridges Rehabilitation/Replacement Needs*

# 4. Funding Needs

Capital funds are used to rehabilitate and replace bridges. Operating funds are used for maintenance (localized repairs, occasional damage). Both funding sources need to increase in the coming years to avoid load restrictions and possible bridge closures. This section describes those funding needs.

By way of background, since 1998, $73 Million in dedicated bridge funding has been provided through bond programs. This results in an average of $3,000,000 per year over 26 years. Additionally, annual operating funds have averaged just over $1,000,000 for the maintenance of all bridge and culvert structures. This results in an average annual total of $4,000,000 dedicated to bridge renewal and maintenance.

## 4.1 Capital

The following sections discuss specific capital funding needs for the three bridge categories – major bridge, small bridge/culverts, pedestrian/bike bridge. A fourth section is added to provide visibility into the amount of funding that may be needed over the next 20 years for the entire bridge inventory.

### 4.1.1 Major Bridges

Nine major bridge structures that need major rehabilitation, complete replacement, or extensive channel stabilization are shown in Table 12. If they are not addressed within the next 5 years, they will likely accelerate deterioration and may require restricting heavier vehicles (e.g., semi-tractors, buses) from using them. Table 12 also shows an approximate funding gap of $66,000,000 to deliver these rehabilitation or replacement projects. TPW is pursuing capital and grant funding to close these funding gaps.

*Table 12. Potential Funding Gap for Major Bridge Rehabilitation/Replacement*

| Bridge | Project | Potential Capital Funding Gap[1] |
|---|---|---|
| Redbud Trail Bridge #1 over Colorado River | Rehabilitation | - |
| Redbud Trail Bridge #2 over Colorado River | | |
| Barton Springs Road Bridge over Barton Creek | Replace | ~$20M |
| William Cannon Drive Bridge over UPRR[2] | Rehabilitation | ~$8M |
| Slaughter Lane Bridge over UPRR[2] | Rehabilitation | ~$16M |
| E 7th St at Tillery and CAPMETRO RR[2] (Eastbound) | Rehabilitation | ~$5M |
| E 7th St at Tillery and CAPMETRO RR[2] (Westbound) | | |
| Delwau Lane Bridge over Boggy Creek[2] | Replace | ~$14M |
| River Plantation Dr Bridge over Onion Creek[2] | Channel Stabilization | ~$3M |
| **Total** | | **~$66M** |

1. Funding gap reflects additional funds needed to rehab/replace bridges.
2. Further design work is needed to estimate capital costs. Potential capital funding gaps are approximate.

### 4.1.2 Small Bridges/Culverts

Compared to major bridges, small bridges and culverts pose a much lower risk than larger bridges. They are less likely to undergo severe flood damage, and the consequences of any failure are lower.

The preliminary cost estimate for rehabilitation or replacement of the 18 small structures is about $15,000,000. However, Preliminary Engineering Reports (PERs) are needed to develop detailed cost estimates and proper design approaches. The total funding needed for PERs on all 18 bridges is $1,500,000. TPW is working to identify funding opportunities through the upcoming bond program and grants.

### 4.1.3 Pedestrian/Bike Bridges

A preliminary estimated replacement cost for a typical pedestrian/bike bridge ranges from $800,000 to $2,000,000, depending on span length and foundation depth. Based on current condition assessments, a rough estimate is about $6,000,000 in total funding is needed to address these 8 pedestrian/bike bridges. Like the small bridges, however, a PER is needed to more accurately estimate construction costs. Total funding needed to prepare PERs for all 8 bridges is ~$1,000,000. TPW will pursue bond and grant funding opportunities to rehabilitate or replace these bridges.

### 4.1.4 Long-Term Capital Renewal Needs

The above capital funding sections identify specific bridges with funding needs in the next 5 to 10 years. Estimates beyond this time frame are also needed to plan for future bond cycles. Two methods to estimate future needs are presented below.

#### *Age-Based Annualized Approximation – Approach 1*

There are approximately $3 Billion worth of bridge structures within the ROW. Optimistically, assuming a full 100-year life span for all structures, on average, 1/100$^{th}$ or 1% of our bridges would need to be replaced every year. At today's value, that equates to spending upwards of $30 Million (1% of $3 Billion) every year to replace our oldest structures.

#### *Condition-Based Project Estimation – Approach 2*

Based on the current major bridge condition data and immediate, mid-term and long-term needs to replace or rehabilitate bridge structures, the estimated cost for these three groups is:

- $ 275,000,000 Immediate Need (Group 1) – needed within 0 to10 years
- $ 185,000,000 Mid-term Need (Group 2) – needed from 11 to 15 years
- $ 150,000,000 Long-term Need (Group 3) – needed from 16 to 20 years

Groups 1 and 2 are based on a list of specific projects with Group 1 having a higher transit or mobility need than Group 2. Group 3 represents the long-term capital bridge needs for years 16 through 20 and beyond, and is based on average rehabilitation/replacement costs. This approach also results in approximately $30,000,000 of annual need.

Both approaches produce similar long-term capital need estimates. **It is likely that the City faces an annual capital funding gap for bridges of approximately $30,000,000**. This would equate to approximately $180,000,000 and likely more for each 6-year bond cycle to adequately address the projected replacement and rehabilitation needs of our existing major bridge assets. As our condition history grows for small and pedestrian/bike bridges, TPW will develop similar estimates for these assets in the coming years, which will likely further increase the funding needed from each bond cycle.

## 4.2 Operating

Most bridge maintenance is funded through the annual operating budget. This maintenance primarily focuses on localized repairs and the restoration of minor damage (as opposed to renewal and replacement, which are funded through bonds and grants). Currently, $1,800,000 is allocated annually for bridge maintenance through the operating budget. This level of funding is adequate today. To ensure the safety and longevity of our infrastructure, annual maintenance funds will need to increase to address not only reactive repairs but also the critical proactive maintenance necessary to preserve and extend the life of existing bridges and structures. For this reason, additional funding will be requested in FY27.

## 4.3 Summary of Funding Needs

Funding needs are summarized in Table 13. Within the next five years, approximately $89,500,000 in capital funding is likely needed to address known bridge rehabilitation and replacement needs. Funding will be pursued through upcoming bond cycles and grant opportunities.

It is important to reiterate that predicting when a bridge will need rehabilitation or replacement is difficult. It is possible that instead of needing the funds in the next five years, some bridges may perform well and delay the need for expenditures. If funding is not available and these bridges continue to degrade, they may reach a point where load limits are needed or possible closures depending on severity.

*Table 13. Summary of Funding Needs*

| **Funding Category** | **Estimate Need + Timing** | |
|---|---|---|
| **Capital** *(rehab/replacement)* | **Years 0 – 5** | **Year 6 + Beyond** |
| Major Bridges | ~$66M | |
| Small Bridges/Culverts | ~$16.5M[1] | |
| Pedestrian/Bike Bridges | ~$7M[2] | |
| **Total** | **~$89.5M** | **~$30M/yr** |
| **Operating** *(maintenance)* | **FY27** | **FY28 + Beyond** |
| All Bridges | **$1.8M+** | *to be determined* |

1. $1.5M for Project Engineering Reports (PERs) to estimate construction cost, rough construction cost estimate of $15M.
2. $1M for PERs to estimate construction cost, rough construction cost estimate of $6M.

## 6. 5-Year Work Plan

This section highlights TPW's Office of City Engineer's work plan for the next 5 years. Items will likely be added as the program evolves and bridge conditions change.

*General*

- Continue to prioritize available funding to address bridge safety issues as they arise.

*FY26*

- Complete an inventory of pedestrian/bike bridges on the Urban Trail network.
- Explore a partnership with Austin Parks and Recreation to combine all bridges in one asset management program.
- Explore alternative deck materials (i.e., composite decking) to extend the service life of pedestrian/bike bridges.

*FY27*

- Complete a condition assessment of all pedestrian/bike bridges on the Urban Trail network.
- Conduct a PER for the other 4 CIP projects: Slaughter Lane Bridge over UPRR, E 7th Street Bridges at Tillery and CAPMETRO RR, Delwau Lane Bridge over Boggy Creek, and River Plantation Drive Bridge over Onion Creek if funding is available.
- Conduct PERs for high-priority smaller bridges and pedestrian/bike bridges in need of rehabilitation or replacement if funding is available.
- Collaborate with AWP to develop plans to address the 3 smaller bridges that experience scour, debris build-up, or other issues related to water flow.
- Deliver the next State of the Bridges report.

*FY28*

- Complete routine inspections of small bridges/culverts.
- Develop a procurement plan for an upgraded BMIS implementation.

*FY29/FY30*

- Continue or complete the 3 ongoing CIP projects: Redbud Trail Bridge over Colorado River, Barton Springs Road Bridge over Barton Creek, and William Cannon Drive Bridge over UPRR if funding is available.

## Appendix – Major Bridge Rehabilitation and Replacement Details

## Redbud Trail Bridge over Colorado River

| | | | |
|---|---|---|---|
| **Council District(s):** | 8, 10 | **Funding:** | |
| **Bridge Age[1]:** | 77 years *(2 bridges)* | Total[2] | ~$16M[3] |
| **Inspection Ratings:** | | Current Gap[4] | $0 |
| CSR *(structural):* 5.8 *fair* / 6.3 *satisfactory* | | Cost Basis Year | 2025 |
| **Why does the bridge need work?**<br>• Structural repairs to extend service life.<br>• No shoulders for emergency vehicle access.<br>• Limited space & no safety barrier for walking and biking.<br>• Critical route b/w Austin and Westlake Hills, and for Ullrich WTP facility. | | **Project Status:**<br>• Structural capacity analysis to determine whether to rehab or reconstruct is completed.<br>• Rehabilitation is recommended per the study.<br>• Design and construction funding available. | |

1. Bridge age as of 2025.
2. Total cost includes design and construction.
3. Estimated cost for Option 3 — Rehabilitation.
4. Gap is the amount of funding needing to be identified to complete the project.

Background: The two bridge structures at this location are now 77 years old, well beyond their expected lifespan. It is a critical link between Austin and Westlake Hills and for servicing and operating the City of Austin Ullrich Water Treatment Plant (WTP) facility. Many bridges constructed in this era were designed for the much lighter truck loadings of that time and a 50-year design life. The Ullrich WTP traffic has substantially increased the truck loadings beyond the normally expected traffic and well beyond these design expectations – possibly more than twice the anticipated design loadings and well beyond its anticipated design life. In addition, the bridges are expected to be underwater if all gates on the upstream Tom Miller Dam are opened.

When a bridge will begin to fail is impossible to predict. Therefore, a cautious approach must be taken when replacing bridges. A very detailed analysis and load testing by CFX Engineering and the University of Texas was performed in 1997 to estimate the bridge's remaining service life (RSL). The CFX report showed that this structure was very close to the end of its useful design life at that time. As a result, the bridge deck was structurally modified to enhance its load-carrying capacity to theoretically increase the bridge's RSL by another 8 to 10 years through the planned Ullrich WTP expansion project. Although the bridge continues to perform adequately to avoid prohibiting certain vehicles from using it, steps need to be taken to address its structural needs.

Funding: Three options have been considered to address the bridge condition. **Option 1**: Full bridge replacement. The design is at 100% and complete. It would include a new 100-year structure outside the 100-year flood plain, wide sidewalks and bike lanes, and safety improvements. The cost to design and build the project is approximately $117M with a total of $53M allocated across the 2006, 2012, and 2018 bonds. A $64M funding gap currently exists. Given this gap, the design team was asked to look at two options to reduce costs. **Option 2**: Full bridge replacement with a reduced scope. A value engineering project that would retain the existing bridge for active transportation and utilities, and build a new, slimmer bridge for vehicular traffic outside the 100-year flood plain. The total project cost was estimated at $79M and would require an additional two years for redesign and permitting. This option, however,

reduces the funding gap to about $26M. **Option 3**: Rehabilitation. Major concerns over the extremely high cost of replacing this bridge led to consideration of the Rehabilitation option. Recently, a consulting firm conducted a structural capacity analysis to evaluate the feasibility of rehabilitating and modestly widening the existing bridge. The analysis concluded that structural repairs, in addition to routine maintenance, would extend the service life of the existing bridge by approximately 50 years. It was also determined that the existing bridge can safely accommodate 6-ft-wide bike/pedestrian lane on the south side of the bridge, allowing travel from Lake Austin Blvd to the Red Bud Isle. The total estimated cost of the rehabilitation project—including structural repairs, the addition of bike/pedestrian lane, and intersection improvements at Redbud Trail and Lake Austin Blvd—is approximately $16M. Funding for both design and construction is available within the existing bridge bond program.

## Barton Springs Road Bridge over Barton Creek

| | | | |
|---|---|---|---|
| **Council District(s):** | 5, 8, 9 | **Funding:** | |
| **Bridge Age[1]:** | 100 years | Total[2] | ~$64M |
| **Inspection Ratings:** | | Current Gap[3] | ~$20M |
| CSR *(structural):* 6.1 *satisfactory* | | Cost Basis Year | 2025 |
| **Why does the bridge need work?**<br>• Deteriorating structurally.<br>• Avoid restricting trucks and buses by prohibiting them in right-most eastbound lane.<br>• Narrow sidewalks.<br>• Poor vehicle approach angle.<br>• Bridge and intersection congestion.<br>• Instability of retaining wall east of Azie Morton Rd at intersection.<br>• Main access to Zilker Park and a key link from MoPac to downtown. | | **Project Status:**<br>• Council approved a recommended alternative that will replace the bridge.<br>• $32M federal bridge grant awarded.<br>• 60% design complete.<br>• Final design expected late 2026/early 2027. | |

1. Bridge age as of 2025.
2. Total cost includes design and construction.
3. Gap is the amount of funding needing to be identified to complete the project.

Background: This bridge is a key connection for vehicular, bike and pedestrian access to Zilker Park and linking MoPac to downtown and the South Lamar Boulevard /Congress Avenue Corridors. It is also the primary northern entrance to the Zilker and Barton Hills neighborhoods via Azie Morton Road immediately east of the bridge. This is a 100-year-old bridge that is deteriorating structurally, and is functionally obsolete (e.g., poor vehicle approach angle, narrow sidewalks). The biennial visual inspections done by TxDOT have shown that the bridge is reportedly in “Satisfactory” condition overall; however, upon more detailed material testing, this bridge is much more deteriorated than the routine inspections had revealed. In fact, our bridge design consultant determined in August 2023 that the bridge should be load posted to restrict extremely heavy truck traffic. Fortunately, we were able to avoid load posting the bridge by setting up lane restrictions instead, forcing all heavy truck traffic onto one specific lane in each direction. This keeps trucks and buses off the older, weaker areas of the bridge. Besides, the bridge is currently a bottleneck, causing congestion at the Barton Springs Road/Azie Morton Road intersection. Additionally, the retaining wall on the east of Azie Morton Road at the Azie Morton Road/Barton Springs Road intersection has exhibited instability.

Funding: In December 2023, the City Council approved the recommended alternative in the Preliminary Engineering Report (PER) to replace the bridge. The 2020 bond provided $8M that is being used as a 20% match for a recently awarded $32M grant under the 2024 Bridge Investment Program by the Federal Highway Administration (FHWA). FHWA has requested that the design be completed and NEPA (environmental) clearance finalized prior to execution. As a result, we anticipate finalizing the grant agreement in late 2026 or early 2027. Currently, the 60% design phase is complete, with an estimated total cost of $64M for design and construction. A potential funding gap of roughly $20M (total cost) may exist. We have asked the

design team to review the project scope to minimize this gap. The team also continues to coordinate with other departments, aiming to reduce the cost while meeting their requirements.

## William Cannon Drive Bridge over UPRR

| | | | |
|---|---|---|---|
| **Council District(s):** | 2, 5 | **Funding:** | |
| **Bridge Age[1]:** | 43 years | Total[2] | ~$8M |
| **Inspection Ratings:** | | Current Gap[3] | ~$8M |
| CSR *(structural):* 6.7 *satisfactory* | | Cost Basis Year | 2025 |
| **Why does the bridge need work?**<br>• Curb offset and MSE wall leaning at East & West ends since 2003, due to fill materials.<br>• Aggressive movements of wall at west end.<br>• Cave-in reported on the west approach roadway in 2022.<br>• Major arterial & railroad overpass. | | **Project Status:**<br>• Emergency project for western approach completed in 2024.<br>• Eastern approach project on hold due to insufficient funding.<br>• 100% design for eastern approach almost complete.<br>• $8M needed for final design + construction. | |

1. Bridge age as of 2025.
2. Total cost includes design and construction.
3. Gap is the amount of funding needing to be identified to complete the project.

Background: This bridge was built in 1982 to overpass the railroad. Mechanically Stabilized Earth (MSE) walls at both bridge approaches have exhibited structural problems since 2003. We began carefully monitoring wall movement and performed temporary fixes until rehabilitation project funding became available in 2016. The pavement damage was repaired in 2004, and the curb lateral offset caused by the leaning wall was patched in 2013. Design and construction on the west approach took precedence over the east end due to the aggressive movements observed there. Preliminary design for the east and west ends began in 2016 and was completed in late 2018. Stability monitoring continued, and in 2022, a cave-in was reported on the west end bridge approach, requiring closure of several traffic lanes. Temporary street repairs, design, and finally execution of an emergency project in 2024 for the west end expended most of the available funding. Final design on the east end also began in 2022 and is now almost complete. However, additional funding is pending to finalize the design and begin construction.

Funding: An additional $8M is required to finalize the design and initiate construction of the eastern approach. TPW is exploring capital funding options to complete the rehabilitation of the MSE wall on the eastern approach.

## Slaughter Lane Bridge over UPRR

| | | | |
|---|---|---|---|
| **Council District(s):** | 5 | **Funding:** | |
| **Bridge Age[1]:** | 32 years | Total[2] | ~$16M |
| **Inspection Ratings:** | | Current Gap[3] | ~$16M |
| CSR *(structural): 6.3 satisfactory* | | Cost Basis Year | 2025 |
| **Why does the bridge need work?**<br>• Curb offset and MSE wall leaning at East & West ends — similar issue as William Cannon Drive Bridge.<br>• Ongoing movement and deflection of wall.<br>• Major arterial & railroad overpass. | | **Project Status:**<br>• Temporary fix at all corners of MSE walls in 2021.<br>• Forensic study and PER needed.<br>• 0% design.<br>• $16M needed, subject to change based on the rehabilitation design. | |

1. Bridge age as of 2025.
2. Total cost includes design and construction.
3. Gap is the amount of funding needing to be identified to complete the project.

Background: This bridge was constructed in 1993 to overpass the railroad — like the William Cannon Bridge. As with MSE walls at the William Cannon Bridge, the MSE walls supporting the bridge approach have shown ongoing movement and deflection over the years. A moderate gap has developed along the approach curb due to the wall's outward lean. In 2021, TPW installed limestone blocks at four corners to reinforce the MSE wall. Still, a design for a permanent solution is needed to prevent further deterioration.

Funding: Currently, no funding has been identified for the design and rehabilitation of this bridge. A detailed structural assessment and Preliminary Engineering Report (PER) are needed to develop the design approach for a permanent solution and to provide a cost estimate. The preliminary total project cost is approximately $16M. TPW is exploring capital funding options to support both the design and construction phases of the project.

## Seventh Street at Tillery Street and CapMetro RR

| | | | |
|---|---|---|---|
| **Council District(s):** | 3 | **Funding:** | |
| **Bridge Age[1]:** | 77 years *(2 bridges)* | Total[2] | ~$5M |
| **Inspection Ratings:** | | Current Gap[3] | ~$5M |
| CSR *(structural): 6.3 satisfactory / 5.8 fair* | | Cost Basis Year | 2025 |
| **Why does the bridge need work?**<br>• Widespread paint failure at steel I-beams.<br>• Cracking at steel bent caps.<br>• Plumbness and cracking at columns.<br>• TxDOT's recommendation: COA to follow up on the bent cap crack after engineering study in FY26. | | **Project Status:**<br>• Forensic investigation completed on steel bent caps and columns.<br>• Retrofit/rehabilitation recommended.<br>• 0% design.<br>• $5M needed, subject to change based on the retrofit design. | |

1. Bridge age as of 2025.
2. Total cost includes design and construction.
3. Gap is the amount of funding needing to be identified to complete the project.

Background: Two bridges (eastbound and westbound) are each 1,022 feet long and cross the Capital Metro Transit Authority right of way. They consist of simple steel I-beams supported by concrete and steel caps. Originally constructed in 1948, the structures were rehabilitated in 2007, which included repairing cracks in the plate caps and replacing select bearings. The recent TxDOT inspection report noted widespread paint failure throughout the beams and steel plate caps. Additionally, localized failures were identified at the steel caps, adversely impacting the load-carrying capacity and structural integrity. Furthermore, columns at several bents are leaning away from abutments.

In early 2025, an outside consultant completed a forensic investigation of the fracture-critical bent caps and column plumbness. The investigation recommended installing a new protective coating system and retrofitting the bent cap through welding. Additionally, it was suggested that the plumbness and flexural cracking of the columns be monitored to determine whether the condition is progressing or has stabilized. Retrofit/rehabilitation is considered the most effective strategy to address the observed localized failures.

Funding: Currently, no funding has been identified for the design or construction of the retrofit. The preliminary cost is estimated at approximately $5M and is subject to change based on the selected retrofit method. TPW is exploring capital funding options to support both the design and construction phases of the project.

## Delwau Lane Bridge over Boggy Creek

| | | | |
|---|---|---|---|
| **Council District(s):** | 1,3 | **Funding:** | |
| **Bridge Age[1]:** | 38 years | Total[2] | ~$14M |
| **Inspection Ratings:** | | Current Gap[3] | ~$14M |
| CSR *(structural): 6.6 satisfactory* | | Cost Basis Year | 2025 |
| **Why does the bridge need work?**<br>• Frequent flooding events.<br>• Short span causing a bottleneck and severe scour.<br>• Ongoing scour issues despite repeated major repairs.<br>• Only access route to a limited number of properties. | | **Project Status:**<br>• PER needed.<br>• 0% design.<br>• $14M needs, subject to change based on design. | |

1. Bridge age as of 2025.
2. Total cost includes design and construction.
3. Gap is the amount of funding needing to be identified to complete the project.

Background: This bridge was built in 1987 and is 43 feet long. It is located along Boggy Creek, very close to the Colorado River, where heavy rainfall and creek inflows during flood events result in excessive volumes of water. This frequently creates a bottleneck situation, increasing hydraulic loading on the structure. The abutments have been severely scoured during past flood events, and the approach embankment has been washed out multiple times, requiring repeated major repairs. Although there are only a few properties along this road, the bridge serves as the sole access route for both routine and emergency use. While the bridge condition is Satisfactory and does not require immediate action, it remains a high priority for TPW due to its vulnerability and critical access role.

Funding: Any replacement options or alternatives will be determined following the PER. Funding for both the design and construction is to come from a future bond program. The preliminary cost estimate for this project is $14M.

## River Plantation Drive Bridge over Onion Creek

| | | | |
|---|---|---|---|
| **Council District(s):** | 5 | **Funding:** | |
| **Bridge Age[1]:** | 30 years | Total[2] | ~$3M |
| **Inspection Ratings:** | | Current Gap[3] | ~$3M |
| CSR *(structural): 6.5 satisfactory* | | Cost Basis Year | 2025 |
| **Why does the bridge need work?**<br>• Frequent flooding events along onion creek.<br>• Southwest MSE wall failed after 2013 flood.<br>• Ongoing erosion/scour issue at channel bank and bed.<br>• Longer detour routes in case of bridge closure. | | **Project Status:**<br>• PER for bank stabilization and scour projection needed.<br>• 0% design.<br>• $3M needs, subject to change based on design. | |

1. Bridge age as of 2025.
2. Total cost includes design and construction.
3. Gap is the amount of funding needing to be identified to complete the project.

Background: This four-span bridge, built in 1995, is 431 feet long. The bridge crosses Onion Creek, which is subject to severe flooding events. Thus, the bridge has experienced multiple significant floods and is subject to severe scouring and erosion. If this bridge were to be closed, detour routes via IH-35 would significantly increase travel distances.

Most notably, in October 2013, the MSE wall at the southwest corner failed after floodwaters washed out the leveling pad and surrounding fill material, both at the corner and behind the wall. The resulting scour was extremely deep (> 10 feet) and extensive involving approximately 1,500 CY of material. In June 2014, a contractor backfilled the scoured area in front of the toe-in wall, reconstructed the damaged golf cart path, and placed stone riprap. Additionally, the void beneath the approach slab was filled with controlled low strength material (CLSM).

Issues and Concerns – while the deck and superstructure components are currently rated in good condition, the substructure and channel are noted to need repairs and restoration due to the ongoing scour issues. Active erosion and scour concerns are present at the north bank, channel bed, and south bank.

North Bank – the north bank is nearly vertical (no protective slope) and highly eroded. A 10-foot section of stone riprap has been lost due to erosion. If additional heavy flooding were to occur and erosion continues, the 25-foot-long drilled shafts at the north abutment are likely to be exposed risking abutment failure. Coordination with AWP is required to explore bank stabilization measures along Onion Creek.

Channel Bed – scour is one of the leading causes of bridge failure due to flooding. A scour analysis and engineering assessment are needed to determine appropriate scour countermeasures. The drilled shafts supporting the bridge are exposed at multiple bents: bent #2 has ~7.5 ft exposed and bent #3 has ~6 ft exposed.

South Bank – significant erosion is present on the south bank with some of the protective rock rubble displaced. Installation of a new mortared riprap or another durable protection is necessary to prevent further erosion.

Funding: Proper bank stabilization and scour protection will be determined following the PER. The preliminary cost estimate for this project is $3M.