



TEXAS PENSION REVIEW BOARD

BOARD MEETING OCTOBER 6, 2022

TEXAS PENSION REVIEW BOARD

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**TEXAS PENSION REVIEW BOARD
MEETING AGENDA**

Thursday, October 6, 2022 – 10:00 AM

Capitol Extension, Committee Room E2.028

1100 N. Congress Avenue, Austin, TX, 78701

Board members may attend this meeting by videoconference pursuant to Texas Government Code §551.127. The officer presiding over the meeting will be physically present at the physical location of the meeting listed above and will preside over the meeting at that location. Members of the public may attend the meeting in person at the physical location listed above, or by e-mailing Lindsay.Seymour@prb.texas.gov to obtain the Zoom link prior to the meeting. Members of the public may address the board during the public comment portion of the meeting only. Access to a livestream of this meeting, agenda materials of the meeting, and a recording of the meeting will be made available at www.prb.texas.gov.

The board may discuss or take action regarding any of the items on this agenda.

1. Meeting called to order
2. Roll call of board members
3. Administrative matters
 - a. July 14, 2022, board meeting minutes
4. Invitation for public comment
5. Update on the intensive review of Midland Firemen's Relief and Retirement Fund
6. Intensive review of Wichita Falls Firemen's Relief and Retirement Fund
7. Actuarial Committee
 - a. Actuarial valuation report
 - b. Systems subject to the Funding Soundness Restoration Plan (FSRP) requirement, including compliance
 - c. Consideration and potential action on adoption of proposed new rules, Chapter 610, Funding Soundness Restoration Plans
 - d. Policy for Promoting Compliance with Funding Soundness Restoration Plan Requirements

- e. Public retirement system reporting and compliance, including noncompliant retirement systems under Section 801.209 of the Texas Government Code
- 8. Investment Committee
 - a. Updated Guidance for Conducting Investment Practices and Performance (IPPE)
- 9. Education Committee
 - a. Learning management system transition update
- 10. Update on database rewrite project
- 11. Executive Director Report
 - a. Legislative update
 - b. Governance study
 - c. Staff update
 - d. TEXPERS and TLFFRA conference updates
 - e. TLFFRA Trustee Manual 2022 update
 - f. 2021-2022 Biennial Report
 - g. Updated fiscal year 2023 Operating Budget
- 12. Future meetings: agenda items, dates, locations, and other arrangements
- 13. Adjournment

NOTE: The board may go into closed session concerning any item on this agenda if authorized under the Texas Open Meetings Act, Government Code, Code Ch. 551. Persons with disabilities who plan to attend this meeting and who may need special assistance are requested to contact Lindsay Seymour at (800) 213-9425/ (512) 463-1736 three to five (3-5) working days prior to the meeting date so that appropriate arrangements can be made.

Item 3a. July 14, 2022, board meeting minutes



**Board Meeting Minutes
July 14, 2022**

1. Meeting called to order (0:11)

The fourth meeting of 2022 of the Pension Review Board was called to order Thursday, July 14, 2022, at 10:00 a.m. in the Reagan Building, room 120, 1400 Congress Avenue, Austin, Texas, 78701.

2. Roll call of board members (0:22)

Board members present:

Chair Stephanie Leibe
Keith Brainard
Marcia Dush
Robert "Rob" Ries
Christopher Zook
Christopher "Chris" Gonzales, via videoconference

A quorum being present, the meeting was called to order by Chair Leibe.

3. Administrative matters (0:37)

a. May 12, 2022, board meeting minutes

Chair Leibe entertained a motion to suspend the reading of minutes of the September 29, 2020, meeting and approve them as circulated.

The motion was made by Mr. Gonzales and seconded by Mr. Ries.

The motion passed unanimously.

b. Excusing the board member absence from the May 12, 2022, meeting

Chair Leibe entertained a motion excuse the absence of Christopher Zook from the May 12, 2022, meeting.

The motion was made by Mr. Gonzales and seconded by Mr. Ries.

The motion passed unanimously.

4. Recognition of past executive staff (2:15)

The board recognized Kenny Herbold, Michelle Downie Kranes, and Anumeha Kumar for their many contributions to the Pension Review Board. A statement from Mr. Brainard can be found at the end of these minutes.

5. Actuarial Committee (13:34)

a. Actuarial Valuation Report

David Fee presented notable changes made by systems before showing those who made

significant economic assumption changes. He discussed the median expected return rates, amortization periods, and funded ratios of systems. Ms. Dush noted the local firefighter plans had the highest median expected return rate paired with the lowest median funded ratio. Mr. Fee stated the national average median expected return for public pensions was 7.06 percent.

The board discussed amortization rates along with the effects member benefits and unfunded liability can have on a plan. Mr. Fee presented on twelve systems' fund exhaustion years which projected six systems depleting their assets by 2052.

Mr. Fee presented on thirteen systems with funded ratios below 50 percent. Ms. Dush noted she felt that the thirteen systems should be subject to intensive reviews in the near future. Mr. Zook stressed the need for plans to have good fiscal policies that involve the plan and sponsor working together to improve funding ratios. The board discussed what information is legally required to be shared with plan participants. Mr. Gonzales asked how the twelve plans compared to other Texas systems and Mr. Fee responded he would present that information at the next board meeting. The board discussed how the data is derived and noted their preference on how the information should be presented.

Mr. Fee discussed member portion of normal cost and employer contribution percentages for systems. He highlighted twelve systems whose members pay over 90 percent of normal cost. Ms. Dush commented on the importance of reasonable actuarial assumptions over the course of a member's lifetime. Mr. Brainard pointed out that the members of the twelve systems are paying the benefits for that system's retirees and that the members may not have realized it. The board discussed how or if members of the twelve systems were made aware of the data.

b. Systems subject to the Funding Soundness Restoration Plan (FSRP) requirement, including compliance

Mr. Fee updated the board on FSRP status changes recently made by seven systems before presenting on systems immediately subject to, or at risk of become subject to a 30-year FSRP. He discussed how five systems had progressed on their previously submitted Legacy FSRPs. Mr. Fee ended the presentation with data from three systems who had submitted an FSRP or subsequent actuarial valuation that had lowered their amortization period to below 30 years.

c. Rulemaking relating to the updated FSRP requirements under Texas Government Code Sections 802.2015 and 802.2016

Madilyn Jarman presented the stakeholder feedback and updated board policy for new FSRP statute and rules. Ms. Jarman informed the board that once the board approved the draft, the materials would be submitted to the *Texas Register* for posting. The board discussed preferred changes. Ms. Jarman noted that FSRP guidance would be updated as well to reflect any changes. She stated that staff will send a notice out to stakeholders with the public comment period information once the *Texas Register* issue was posted.

Mr. Brainard entertained a motion to authorize the executive director to publish the rules, after incorporating comments from the board, proposed in Texas Administrative Code, Title 40, Part 17, Chapter 610, relating to Funding Soundness Restoration Plans, in the

Texas Register for public comment pending final approval by the assistant attorney general counsel, and the board chair.

The motion was made by Ms. Leibe and seconded by Ms. Dush.

The motion passed unanimously.

d. Public retirement system reporting and compliance, including noncompliant retirement systems under Section 801.209 of the Texas Government Code

Matthew Featherston provided the annual compliance overview for the board. He discussed seventeen noncompliant systems, including five systems that were over 60 days noncompliant with reporting requirements. The board discussed the lack of ability it had to enforce compliance.

e. Update on the intensive review of the Midland Firemen's Relief and Retirement Fund

Robert Munter provided an update on Midland Firemen's Relief and Retirement Fund (Midland Fire) forensic and governance audit that stated:

- Midland Fire and Midland City (the City) council's board voted to move forward with the audit.
- A request for quotation had been issued and completed in January 2022.
- Midland Fire and the City selected Weaver for both forensic and governance audits.
- August 2022 was the competition target date but work on an annual audit may cause a delay.
- The scope of what the audits would encompass.

The board discussed the fact that Midland Fire's regular auditing firm, Weaver, would also conduct the forensic and governance audits of its fund. Mr. Brainard asked Mr. Munter to ascertain the auditing firm the City employed and if Weaver would be using the same team for the forensic and governance audits that it used for Midland Fire's regular financial audits.

Mr. Munter noted that Midland Fire had not recently updated the PRB on any recent milestones reached since the intensive review process. The board discussed a reasonable timeline of completion for the intensive review recommendations before it requested that Midland Fire and the City be invited to the October 6, 2022, board meeting to provide an update on the forensic and governance audits to the full board. Mr. Brainard noted that if the same auditing team is being used for both the regular and recommended audits, that the audit firm should be invited to provide an update at the same meeting.

6. Investment Committee (1:57:00)

a. Update on Investment Committee activities

Mr. Zook updated the board on the recent investment committee meeting and what the committee had planned moving forward. He discussed how systems were now required to disclose investment expenses and conduct investment practices and performance evaluations on a regular basis. Mr. Zook stated the committee's next

step was to work with staff to draft guidelines that would reflect best practices for systems.

Mr. Zook entertained a motion to direct staff to work with the committee to identify best practices and develop guidelines to assist systems with investment matters as laid out under the Investment Practices and Performance Evaluation provisions, Section 802.109 of the Texas Government Code.

The motion was made by Mr. Ries and seconded by Ms. Dush.

The motion passed unanimously.

7. Education Committee (2:02:58)

a. Update on PRB Core and Continuing Education course offerings

Ashley Rendon informed the board that updates to PRB's actuarial course had been completed and that staff had started editing the governance and benefits administration courses. She reminded the board that the investment course would be updated last, with the goal of all four courses being completed and available on PRB's website by the end of the year. Ms. Rendon stated staff was looking into new formats of providing continuing education (CE) to system trustees.

b. Learning Management System transition update

Ms. Rendon updated the board on the migration to move the agency's CE courses and materials from the current platform to Lifter Learning Management System. Amy Cardona noted that future CE courses could involve seminars or recordings of presentations. Mr. Zook discussed supplementary educational tools that could be provided in addition to CE courses for the benefit of trustees.

8. 2022 Customer Service Survey (2:09:50)

Ms. Rendon presented the results and feedback from the 2022 Customer Service Survey, which had a 12 percent response rate. She stated the action items staff derived from the survey included:

- Creating a new method for systems to provide reports and information
- Updating existing educational courses
- Developing an approach to deliver continuing education, such as using a webinar format
- Improving online learning user experience through transitioning to a new learning management system
- Expanding communication methods, such as using social media
- Improving the online data center
- Conducting more research and developing more educational materials, such as the governance study and FSRP educational materials

9. Executive Director Report (2:18:37)

a. Update on IT projects for 2022-23 biennium

Ms. Cardona updated the board of the one-time appropriation received by the agency to rebuild PRB's database and to build a reporting portal for systems to utilize. She elaborated on the agency's recent other IT projects, which included moving to cloud-based storage on Box.com.

b. 2023-2027 Strategic Plan

Ms. Cardona informed the board that the agency's 2023-2027 Strategic Plan had been submitted to the Legislative Budget Board and the Office of the Governor. She stated that submitting the Strategic Plan allowed the agency to communicate its long-term goals and the projects it's engaged in to achieve those goals.

c. 2022 TLFFRA Pension Report

Ms. Cardona stated the biennial TLFFRA Pension Report had been published and could be found on the PRB's website.

d. TEXPERS update

Ms. Cardona summarized the experience of staff at the TEXPERS Annual Conference in Fort Worth and stated that she and Ms. Rendon would be attending and presenting at the annual TEXPERS Summer Educational Forum in August 2022 in El Paso.

e. Staff update

Ms. Cardona introduced Matthew Featherston, the PRB's new Financial Analyst and John Goodell, who would be joining the PRB as Deputy Director of Policy and General Counsel. She informed the board that an Educational Program Specialist position had been posted and could be found on the PRB website.

f. Updated fiscal year 2022 Operating Budget

Ms. Cardona presented and updated fiscal year operating budget for the board's review.

g. Approval of fiscal year 2023 Operating Budget

Chair Leibe entertained a motion to approve the fiscal year 2023 Operating Budget as presented.

The motion was made by Mr. Ries and seconded by Ms. Dush.

The motion passed unanimously.

h. 2024-2025 Legislative Appropriations Request

Ms. Cardona stated staff had identified the need for additional funds to increase staff salaries and planned to request unexpended balance authority as exceptional items to the agency's appropriations request. The board discussed adding a third exceptional item requesting a salary increase for the executive director.

Chair Leibe entertained a motion to direct staff to work with the Chair and Vice Chair to finalize the 2024-2025 Legislative Appropriations Request, which would include the three exceptional items that were discussed during this item.

The motion was made by Mr. Gonzales and seconded by Ms. Dush.

The motion passed unanimously.

i. 88th Legislative Session update

Ms. Cardona updated the board on House and Senate interim charges related to pensions. She stated that there was one House Pensions, Investments & Financial Services Committee charge related to the PRB that involved TLFFRA system governance and the PRB's enforcement abilities.

10. Remembrance of Bob May, former board member (2:49:08)

Items 10 and 11 were taken out of order. Mr. May was a greatly respected and admired former board member whose compelling influence on the PRB could not be overstated. Mark Fenlaw and Rebecca Morris honored Mr. May's memory by reading a touching tribute detailing Mr. May's life and many contributions as an actuary, mentor, and beloved friend.

11. Future meetings: agenda items, dates, locations, and other arrangements (2:48:36)

The next board meeting is scheduled for 10 a.m. on October 6, 2022, at Capitol Extension room E2.028, 1100 Congress Avenue, Austin, TX, 78701.

12. Invitation for public comment (2:57:20)

There were no public comments.

13. Adjournment (2:59:47)

The meeting was adjourned at 1:00 p.m.

PRB staff in attendance:

Matthew Featherston	David Fee	Mariah Miller	Westley Allen
Amy Cardona	Robert Munter	Madilyn Jarman	
Bryan Burnham	Ashley Rendon	Lindsay Seymour	

Chair Stephanie Leibe

Remarks submitted by Keith Brainard

Texas Pension Review Board Meeting

July 14, 2022

It is easy to take for granted that the people who are needed to do the job will be there, but that is not always true. Fortunately, this was the case for the Pension Review Board over the last decade.

The tenure of these three individuals coincided with a significant expansion in the role and responsibility of the PRB; expansion that was created by the Legislature as it looked to strengthen the actuarial soundness of public pensions in Texas.

The Minimum Educational Training program, the Funding Soundness & Restoration Plan requirements, requirements for retirement systems to report on their investment policies, fees, and experience, establishment of pension funding guidelines, and more, all came about during the tenure of these three individuals.

Each of these programs is serving to strengthen public retirement systems and to increase their transparency and accountability. And Anu, Michelle, and Kenny were there. They were there to provide reliable, fact-based information and guidance to this board and to the Legislature. They were there to analyze legislative proposals, to suggest alternative approaches, and to bring together ideas and changes to strengthen the integrity of public pensions in this state. They accomplished this by understanding the actuarial, legal, practical, and political realities at work among multiple stakeholder groups.

We should always remember that the Pension Review Board is a unique institution. No other state has a model like this. It is not a coincidence that the stature and reputation of the Texas Pension Review Board has expanded so much over the past decade while these three were there.

Kenny's actuarial expertise; Anu's legal mind; and Michelle's understanding of pensions and public policy each contributed to a Pension Review Board that is recognized and respected as an objective and authoritative resource dedicated to promoting the actuarial soundness of public retirement systems in this state. I am honored to know and to have worked with each of these individuals, and we and all Texans owe them a debt of gratitude.

Item 5. Update on the intensive review of Midland Firemen's Relief and Retirement Fund

Item 6: Intensive Review of the Wichita Falls Firemen's Relief and Retirement Fund

David Fee

Summary

- **Background**

- Data used and key metrics

- **Findings**

- Funded status has steadily deteriorated over the last 20 years despite above average investment returns.
- Insufficient contributions are by far the main source of unfunded liability.
- \$100,000 benefit cap used to decrease its amortization period does not appear sustainable and creates intergenerational inequity.
- Actuarial assumptions and methods need to be reevaluated to align with actual experience and realistically assess the system's contribution needs.
- Investment program has consistently met the return assumption but will need to prepare for changes based on maturing demographic trends.

- **Recommendations**

- Consider options to increase contributions to offset previous underfunding.
- Adjust or remove the \$100,000 benefit cap.
- Incorporate an experience study and asset/liability study.
- Submit a new FSRP.
- Consider using a smoothed value of assets.





Background



- Data used
- Key metrics used to select Wichita Falls Fire



Data used

- First draft of report used 2020 valuation only
- Received 2022 valuation toward end of process
- Received updated assets reflecting 2022 bear market
- Final data used
 - Kept 2020 information for comparisons with peer systems
 - Updated charts and discussion to reflect 2022 information
 - Updated projections to use
 - January 1, 2022, liability, normal cost, payroll
 - July 31, 2022, assets with generous expected return through end of year

Key metrics used to select Wichita Falls Fire

- Fund exhaustion date and finite funding period
 - One of 12 Texas public retirement systems with fund exhaustion date, one of two peers
 - Most systems with fund exhaustion dates have **infinite** funding periods
 - Fund exhaustion date calculated assuming no future new entrants
 - Future entrants key to closing funding gap
- Optimistic expected returns and payroll growth
 - Both assumptions among highest three in the state
 - The two systems with higher expected returns had expected payroll growths closer to state average.
 - Wichita Falls Fire was the only Texas public retirement system to appear among the most aggressive for both assumptions.





Findings



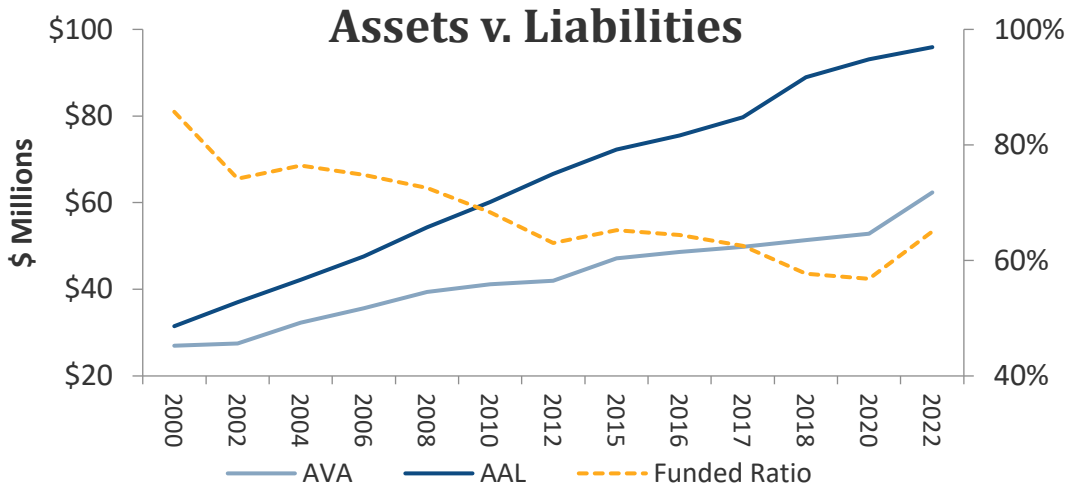
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4. Actuarial assumptions and methods need to be reevaluated to align with actual experience and realistically assess the system's contribution needs.
5. Investment program has consistently met the return assumption but will need to prepare for changes based on maturing demographic trends.



Finding 1: Funded status has steadily deteriorated over the last 20 years.

Funded ratio decreased from nearly fully funded to severely underfunded

- 86 percent in 2000
- 65 percent in 2022



Asset/liability gap widens after 2008

- Contributions not adjusted to reflect higher actuarially determined contribution (ADC) for Wichita Falls Fire

City contributions based on ADC for Wichita Falls TMRS through 2019

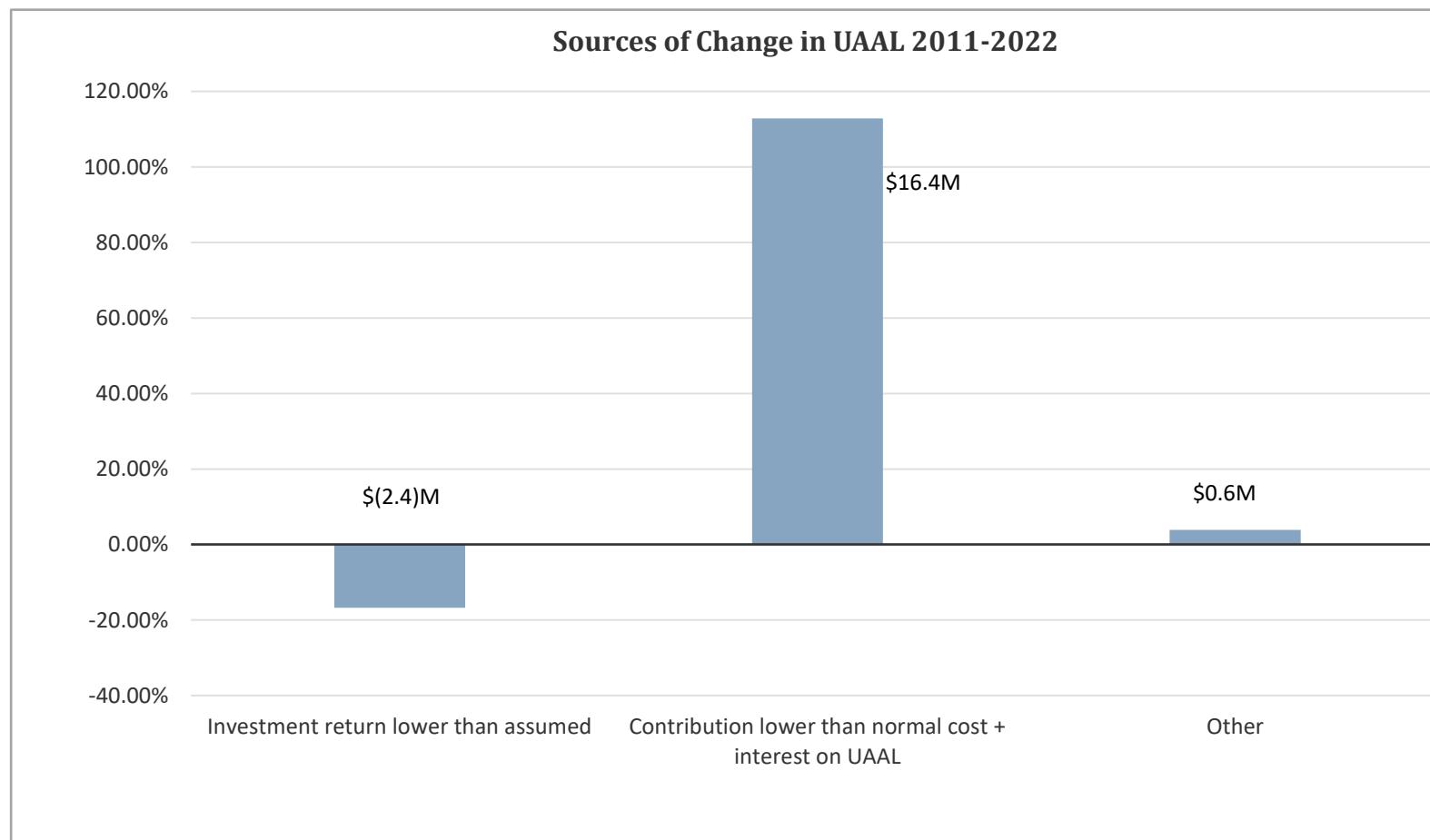
- Wichita Falls TMRS ADC not an appropriate benchmark (see upcoming slide)

City contributed less to Wichita Falls Fire than to TMRS starting 2020

- Matching the Wichita Falls TMRS rate at this point would have helped put Wichita Falls Fire back on a path to full funding



Finding 2: Insufficient contributions are by far the main source of unfunded liability.



Finding 2 (cont.): City contribution levels have not been based on actual funding needs.

Firefighter careers differ from other municipal employees

- Lower turnover rates → more firefighters receive retirement benefits
- Higher physical demands → firefighters retire earlier
- A 57-year-old firefighter with long service will retire immediately
- A municipal employee with the same service may work into their seventies

TMRS and Fire plans differ substantially

- Governing statute
- Plan structure
- Membership
- Investment history
- Assumptions

	TMRS	Fire
Total Normal Cost	13.89%	13.38%
Employee Contributions	(7.00%)	(13.00%)
Employer Portion of Normal Cost	6.89%	0.38%

Completely different asset allocations at financial crisis

- TMRS not invested in equities
- 2008 return was more than 12 percent lower for Fire than TMRS

2008 Asset Returns for Wichita Falls Fire and TMRS



Finding 2 (cont.): City contributions compared to peers

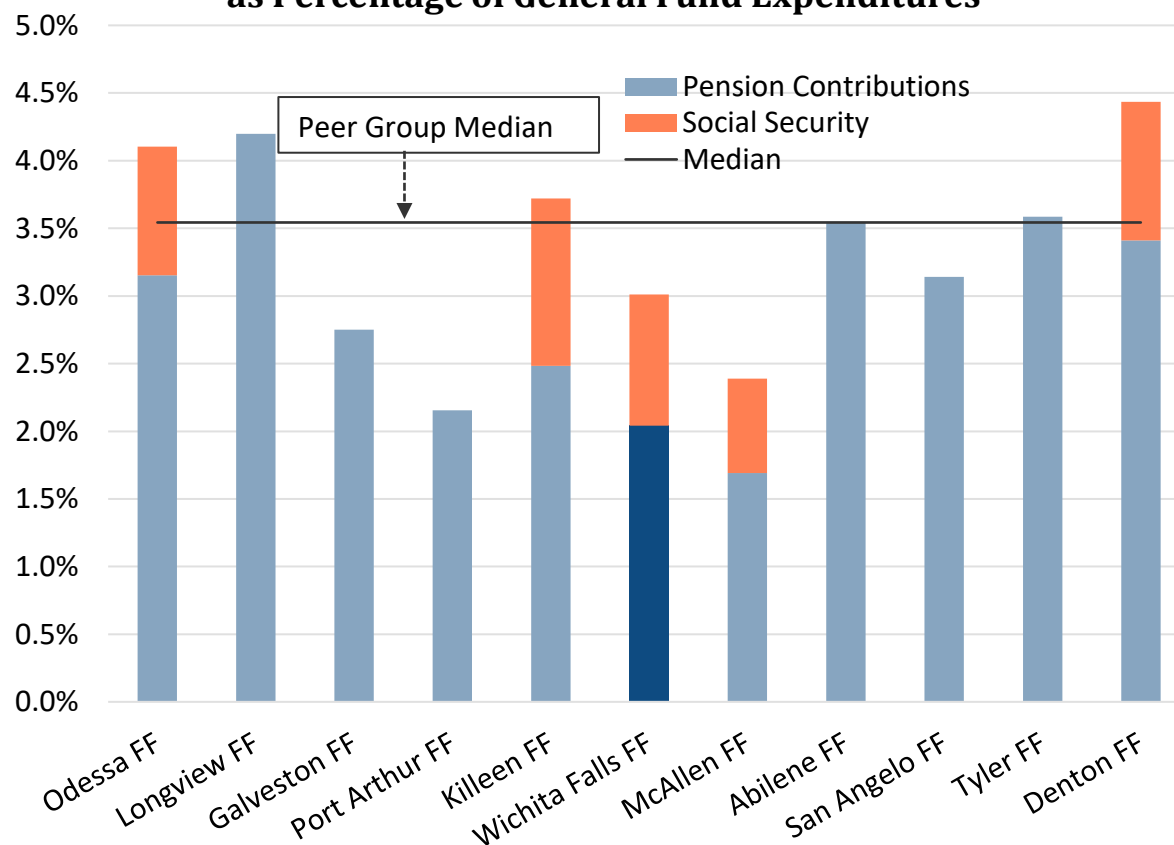
City Funding Considerations

Increase funding to above peer group median

Further increase contributions to make up for past underfunding

Avoid requiring firefighters to contribute more than the normal cost

City Contributions Plus Social Security
as Percentage of General Fund Expenditures

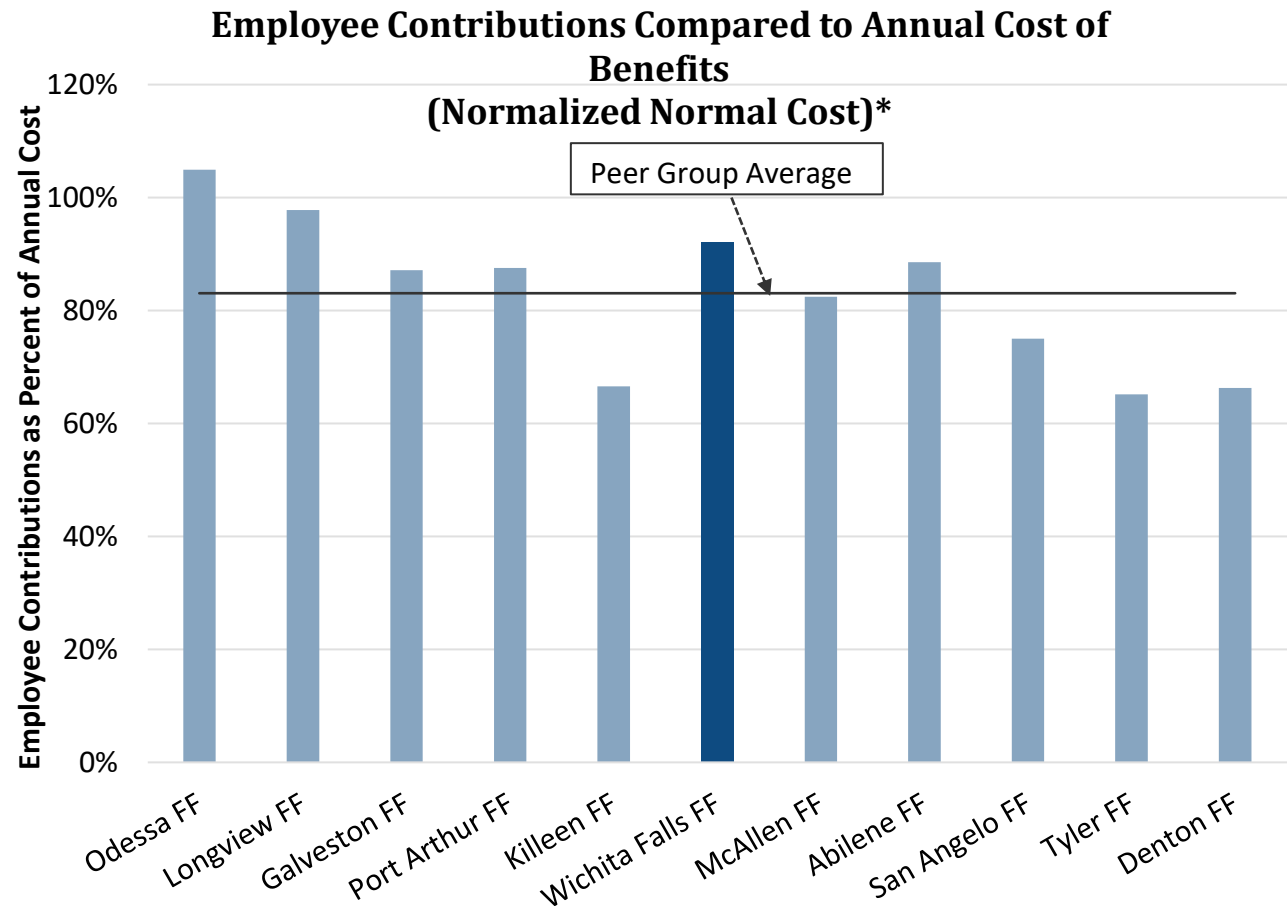


Finding 2 (cont.): Members already contribute 92 percent of normal cost.

Member funding considerations

Wichita Falls firefighters pay 92 percent of normal cost. Peer system firefighters pay 83 percent of normal cost on average.

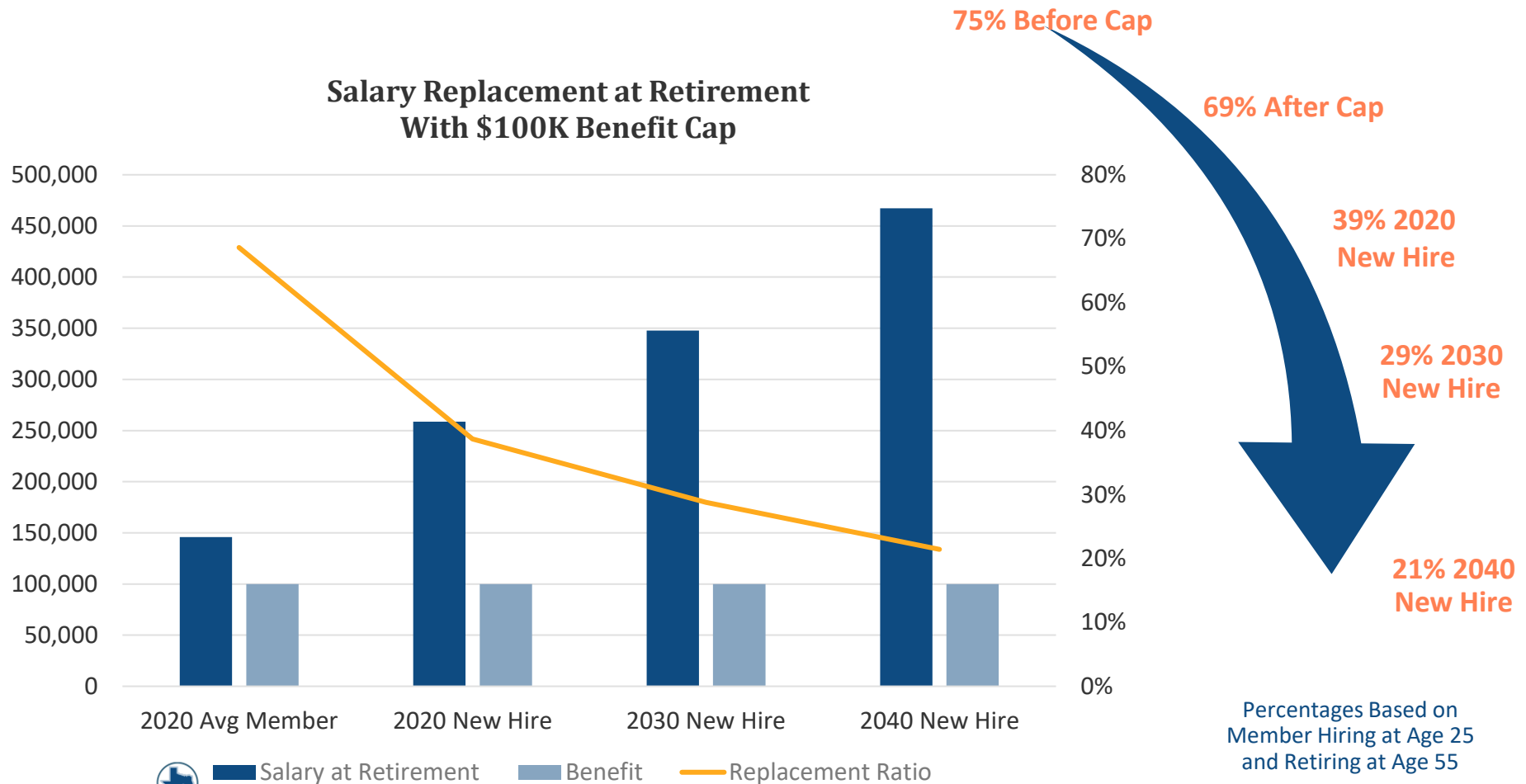
Paying more than 100 percent of benefit cost (using normal cost as the proxy) would create intergenerational equity issues.



*Estimated Normal Cost at 7.50% for All Systems



Finding 3: \$100,000 benefit cap does not appear sustainable



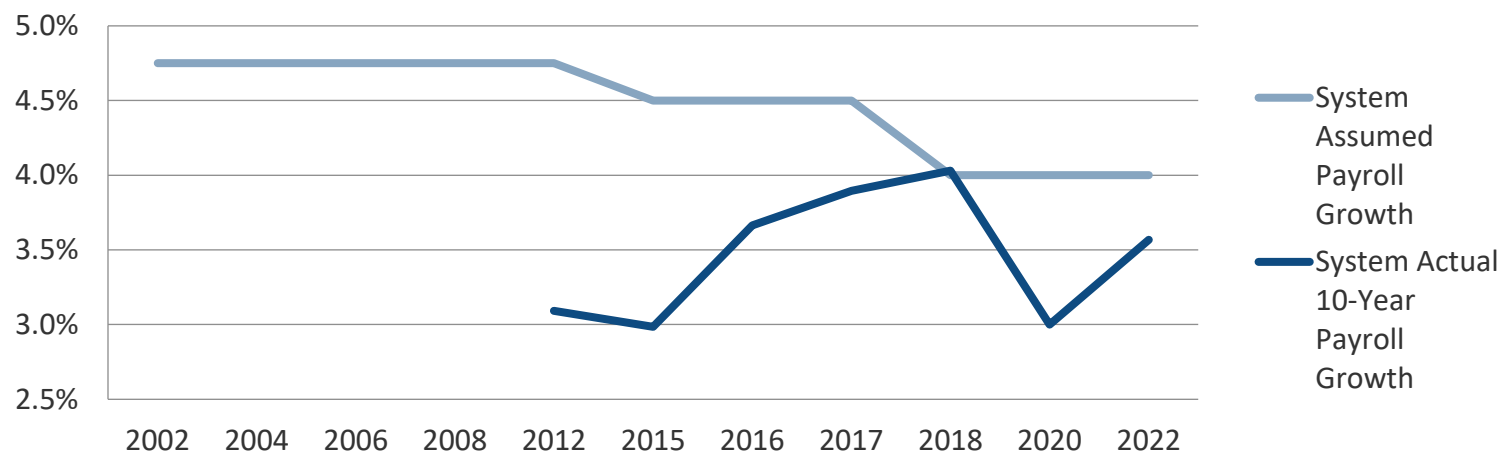
Finding 4: Actuarial assumptions need to align with experience and reflect true contribution needs.

- Payroll grown assumption is not supported by plan experience or city demographics.
- Mortality improvement assumption underestimates normal cost.
- Demographic assumptions should be updated to reflect expectations based on current plan provisions including the \$100,000 benefit cap.



Finding 4 (cont.): Payroll growth assumption not supported by experience or city demographics

Payroll Growth Rate Assumption vs Actual



Plan experience

- Active firefighter count has remained steady between 150 and 160 since 2000.
- System 10-Year payroll growth has generally lagged the assumption.

City demographics

- Wichita Falls' census showed decrease in population from 104,000 in 2010 to 102,000 in 2020.

Comparison to other 4% assumptions

- Another TLFFRA system with a 4% payroll growth assumption showed population growth from 56,000 in 2010 to 90,000 in 2020.



Finding 4 (cont.): Mortality improvement assumption underestimates normal cost.

Mortality improvement measures the increased likelihood from one year to the next that a member or retiree at a given age will live another year

Mortality improvement assumptions are commonplace due to steadily increasing retiree longevity



Life Expectancies for a 65-Year-Old Male Retiree From Select Mortality Tables

Mortality Table	Year	Life Expectancy
UP	1984	15
UP	1994	17
RP	2006	19
PubG	2010	20

Life Expectancies for a 25-Year-Old Male Firefighter Projected to Retire at 65

Mortality Table	Improvements	Life Expectancy
PubG2010	None	20
PubG2010	5-Year-Static	21
PubG2010	Generational	24

Wichita Falls Fire is one of few systems to use five-year static improvements rather than generational improvements



More years of mortality improvements mean a retiree is expected to continue receiving payments for a longer time period



Finding 4 (cont.): Best practices for setting assumptions

- **If no benefit changes**
 - Review demographic and economic experience every 3-5 years.
 - Reset assumptions considering actual experience, employer expectations, investment consultant expectations.
- **After benefit changes**
 - May need to reset assumptions without an experience study.
 - ASOP 35 lists factors an actuary should consider when setting demographic assumptions including “any features of the plan design or change in the plan design that may influence the assumption.”

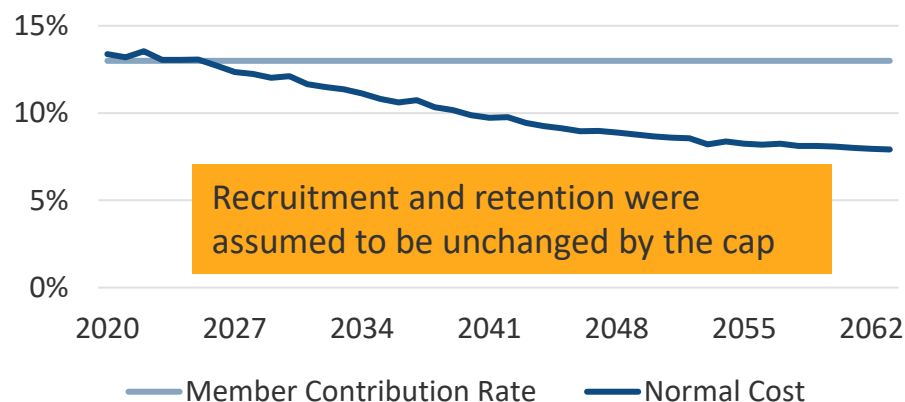
Example of Plan Change Requiring New Assumption Without Experience Study

- Earliest retirement age is increased from 50 to 55
- Currently assume 25% of 50-year-olds will retire from active service
- Now unreasonable to assume retirements prior to age 55



Finding 4 (cont.): Potential improvements to projections incorporating benefit cap

**Contribution Rates vs Future Normal Cost
After \$100,000 Cap**



Amortization period improvement dependent on future members paying more than benefit is worth

- Paying full value in 2020
- Paying additional five percent in future



Closed group projection*

- Normal cost remains level in all years
- Members not projected to pay more than benefit is worth

Assume more pre-retirement terminations

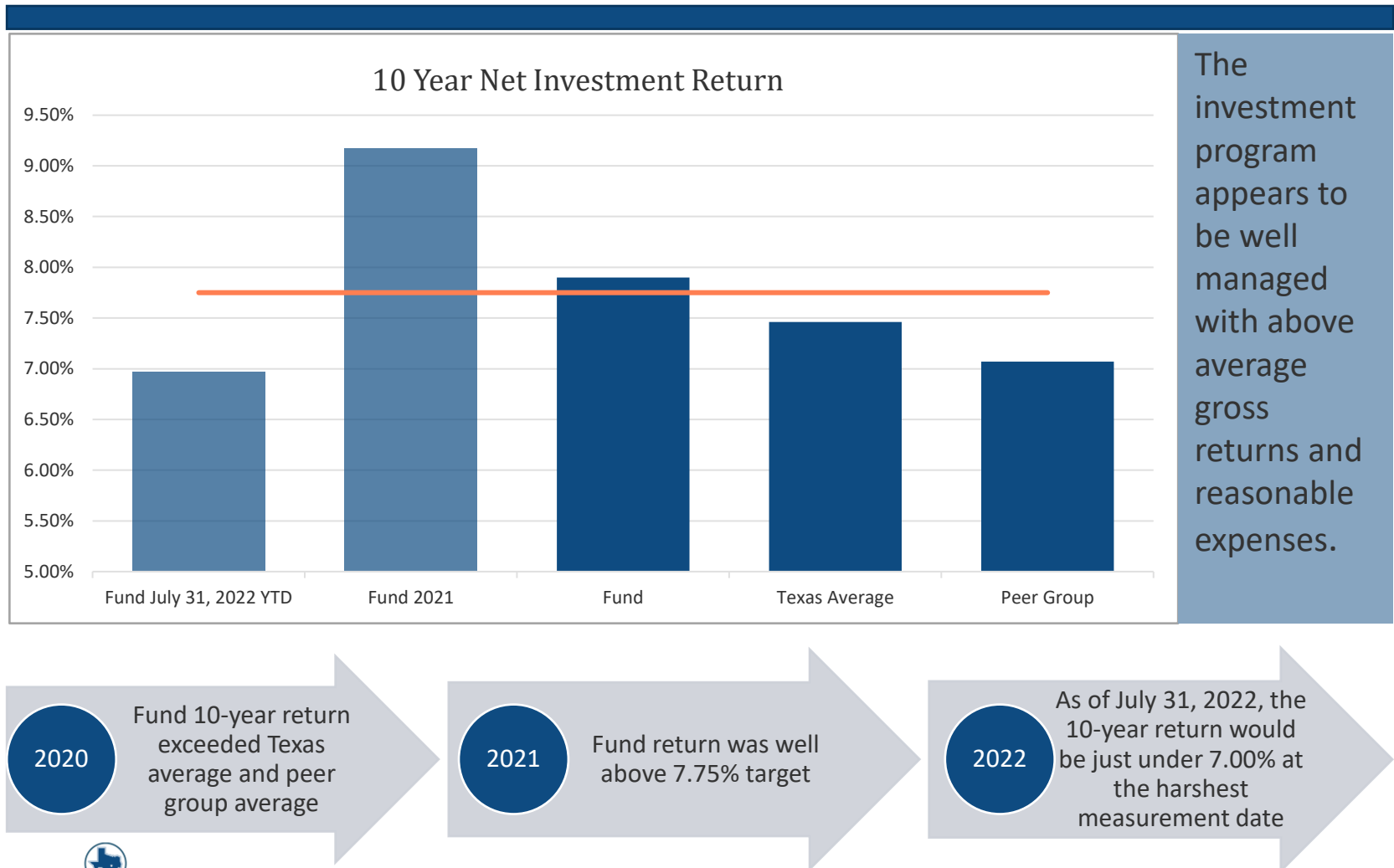
- Members will realize accumulated contributions worth more than benefit
- Members would then request refund of contributions

Decrease payroll growth assumption

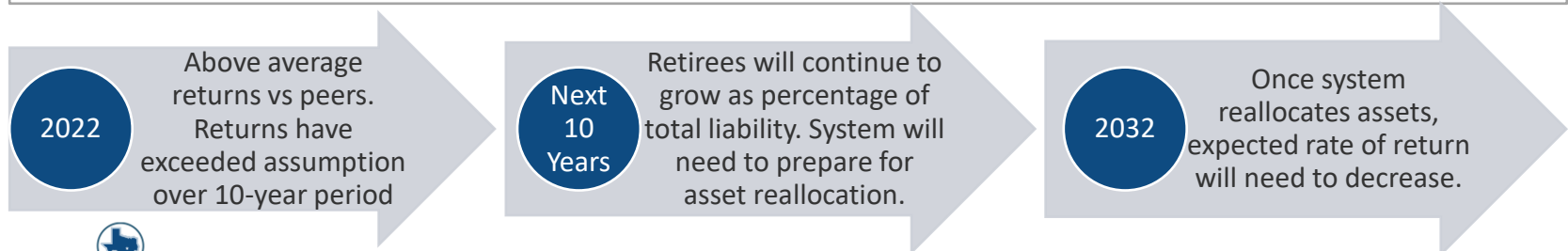
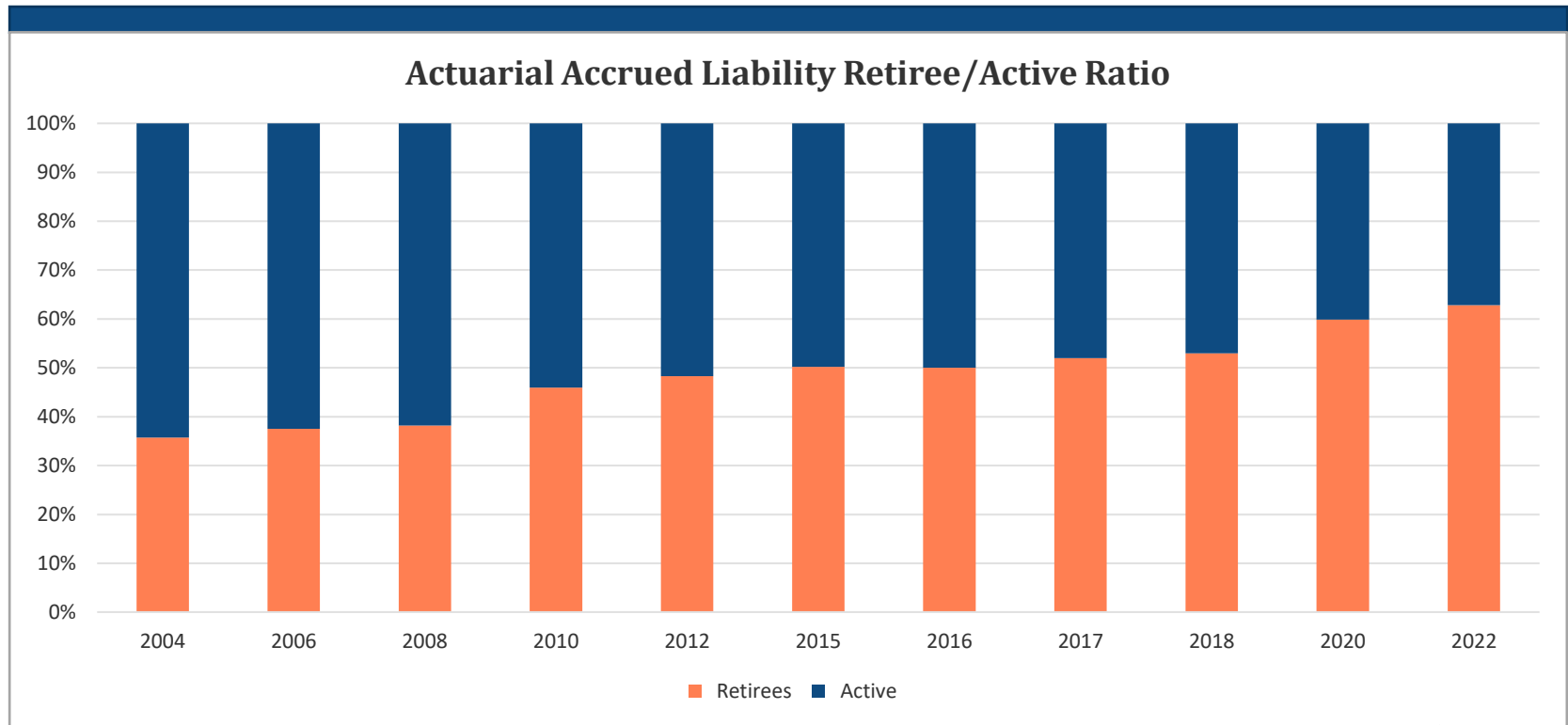
- Unlikely city can maintain current headcount as salary replacement ratio decreases



Finding 5: Investment program has consistently met the return assumption but needs to prepare for demographic changes.



Finding 5 (cont.): Return assumption may soon need adjustment due to maturing demographics.





Recommendations



1. Consider options to increase contributions to offset previous underfunding.
2. Adjust or remove the \$100,000 benefit cap.
3. Incorporate an experience study and asset/liability study.
4. Submit a new FSRP.
5. Consider using a smoothed value of assets.



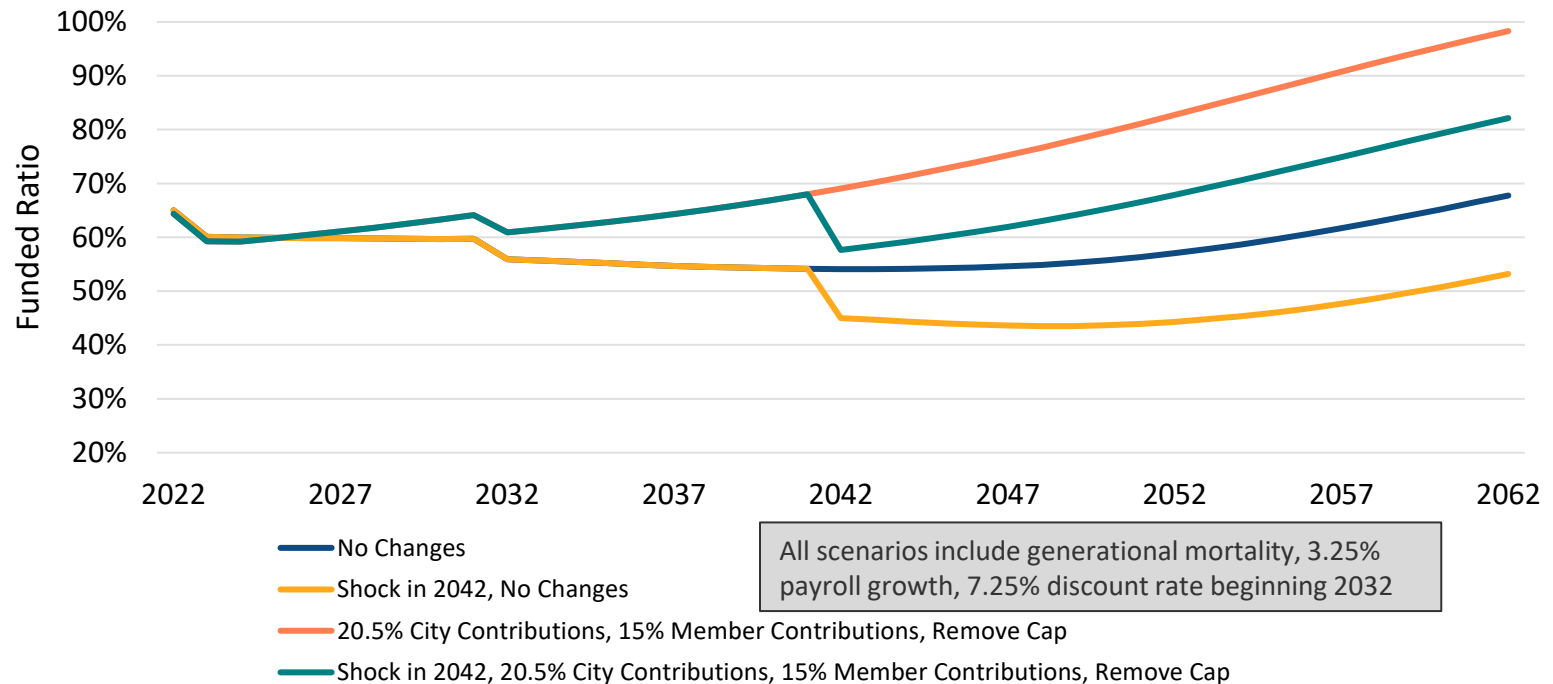
Rec. 1: Consider options to increase contributions.

Four Potential Funded Status Outcomes Taking Into Account Expected Future Changes

Scenario	20% City Contributions	15% Member Contributions	Remove \$100,000 Cap	Asset Decrease in 2042	Generational Mortality	3.25% Payroll Growth	7.25% Discount Rate in 2032
Blue					✓	✓	✓
Yellow				✓	✓	✓	✓
Orange	✓	✓	✓		✓	✓	✓
Teal	✓	✓	✓	✓	✓	✓	✓

Rec. 1 (cont.): Consider options to increase contributions.

Funded Ratio Projections Under Four Potential Scenarios



The system and city should work together to set a funding policy that will work now and in the future.

The orange line in the graph depicts a potential funding policy to achieve a 30-year amortization in 2032 after reducing the discount rate to 7.25%.



Rec. 2: Adjust or remove the \$100,000 benefit cap.

- Remove the cap entirely from the plan provisions.
- Amend the plan provisions to index the cap to increase with inflation.
- Amend the cap to be a level percentage of compensation rather than a flat dollar amount.



Rec. 3: Adjust assumptions, estimate future changes and determine necessary long-term contribution level.

- Consider decreasing payroll growth assumption.
- Consider using a generational mortality improvement assumption.
- Adjust assumptions to reflect benefit cap.
 - Assume more pre-retirement terminations.
 - Decrease the payroll growth assumption.
 - Use a closed group projection.

Rec. 4 and 5: New FSRP and asset smoothing

- **Submit a new FSRP.**
 - Start preparing now for an upcoming valuation that shows an amortization period above 30 based on updated assumptions and plan provisions.
 - Submitting a new FSRP prior to September 1, 2025, will qualify Wichita Falls Fire for an exemption from the stricter revised FSRP requirements.
- **Incorporate a smoothed value of assets.**
 - New FSRP rules allow a system to use the greater of market value of assets and actuarial value of assets to determine funding period.



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Intensive Review:

Wichita Falls Firemen's Relief and Retirement Fund

October 2022



PENSION REVIEW BOARD

Table of Contents

Executive Summary.....	1
Introduction	1
Overview	1
Conclusion.....	2
Background	3
Findings	5
Wichita Falls Fire’s funded status has steadily deteriorated over the last 20 years despite above average investment returns.....	5
Insufficient contributions are by far the main source of Wichita Falls Fire’s unfunded liability.	7
Wichita Falls Fire’s \$100,000 benefit cap used to decrease its amortization period does not appear sustainable and creates intergenerational inequity.	12
Actuarial assumptions and methods need to be reevaluated to align with actual experience and realistically assess Wichita Falls Fire’s contribution needs.....	14
Wichita Falls Fire’s investment program has consistently met the system’s return assumption but will need to prepare for changes based on maturing demographic trends.....	17
Recommendations	22
Consider options to increase contributions to offset previous underfunding.	22
Adjust or remove the \$100,000 benefit cap as part of determining the necessary long-term contribution level.....	25
Use an experience study and asset-liability study to adjust assumptions, estimate future changes, and determine necessary long-term contribution level.	25
Submit a new FSRP prior to September 1, 2025, to avoid the stricter revised FSRP requirements.....	26
Consider using a smoothed actuarial value of assets.	27
Appendix	28
Key Metrics Used to Select Wichita Falls Fire	29
Plan Summary	32
Historical Trends	33
Peer Group Key Metric Comparison	35
Peer Group Sponsor Funding Comparison.....	36
Peer Group Expense Comparison	37
Peer Group Value of Benefits Comparison	38
Comments from Wichita Falls Firemen’s Relief and Retirement Fund.....	39
Comments from the City of Wichita Falls	40

Executive Summary

Introduction

The Texas Pension Review Board selected Wichita Falls Firemen's Relief and Retirement Fund (Wichita Falls Fire) as the next Texas public retirement system for intensive review. This intensive review is intended to assist the retirement system's board of trustees and the City of Wichita Falls in assessing the system's ability to meet its long-term pension obligation. Despite above average investment returns, the funded status has steadily deteriorated over the last twenty years. As the system's funding status deteriorated, it became subject to the funding soundness restoration plan (FSRP) requirement to create a plan to improve funding and reduce the funding period. The primary source of these funding problems were insufficient contributions, but without a commitment from the sponsor to increase contributions and members already paying nearly the full cost of their benefits, the system was left with few options to address the problems at their source. Instead, the system established a collection of unsustainable benefit changes and aggressive assumptions. Without an increase in contributions, the troubling funding reality remains, and the unsustainable changes will eventually exacerbate funding problems rather than improve them.

Overview

The system should consider adjusting assumptions and plan provisions to align with reasonable expectations, and the city should consider increasing contributions based on those future expectations. Several findings illustrate the challenges both face:

- In 2000, the Wichita Falls Fire total liability was 86 percent funded. As of 2020, there were not enough assets to fully fund the liability for current retirees.
- The city's method to determine contribution levels has led to insufficient contributions, which created the bulk of the unfunded liability. As actuarial assumptions were slow to react to changing demographics and plan provisions, the full extent of the funding problems was obscured by an artificially low funding period.
- As part of the 2018 FSRP, the system implemented a \$100,000 benefit cap not indexed with inflation. The cap erodes the salary replacement level for future members, but the system did not change assumptions or methods as would normally be expected despite the cap representing a reduction in the value of benefits.
- The system's actuarial assumptions are aggressive compared to peers. Projections based on more sustainable plan provisions and moderate assumptions show that funding will not be adequate without substantial contribution increases.
- Even an investment program that is performing well must be adequately funded to allow contributions to grow and meet benefit obligations. The investment return assumption likely will need to be lowered as the retiree member group becomes the majority, requiring safer assets.

Conclusion

Increased contributions are key to reaching a sustainable funded status. The city has taken steps to address this mismatch with a planned contribution increase to 16.18 percent of payroll in fiscal year 2022 – 2023. However, this would still be slightly below the median contribution level for sponsors of peer systems. The city should consider contributing well above the median to make up for past years when contributions were below the actuarially determined contribution. Given that many of the system's assumptions will likely need to be adjusted in the near future, the PRB recommends the system and city continue working together to ensure appropriate assumptions, funding, and plan design for an equitable, sustainable retirement system to serve all stakeholders.

Background

The Texas Pension Review Board (PRB) selected Wichita Falls Firemen's Relief and Retirement Fund (Wichita Falls Fire) for an intensive review to examine challenges the retirement system is facing and to serve as a starting point to find solutions to those challenges. Wichita Falls Fire's projected fund exhaustion date and relatively aggressive actuarial valuation assumptions were the primary reasons the system was selected for review. This review is intended to assist the system's board and sponsor, the City of Wichita Falls, in assessing the system's ability to pay promised benefits for the firefighters serving the city. The review also serves as an educational resource and case study for other Texas public retirement systems and stakeholders that may be facing similar challenges.

Key Metrics

Intensive reviews assess issues regarding a system's actuarial soundness and equitable distribution of benefits.¹ Since financial health is dependent on a system's liabilities in relation to its assets, intensive reviews focus on both liabilities and assets, as well as funded status, actuarial methods and assumptions, and investment management practices and performance. To address equitable distribution of benefits, intensive reviews may also focus on the structure of benefits provided to different member groups and the quality of benefits provided for the level of employee contributions. The PRB uses nine key metrics to determine and prioritize retirement systems for intensive review. The PRB selected Wichita Falls Fire for review based on the 2020 actuarial valuation data before the 2022 information was available. Where appropriate, information from the January 1, 2022, actuarial valuation is included in the analysis.

Plan Profile (2020 AV)	
Actuarial Accrued Liability:	\$93,066,282
Market Value of Assets:	\$52,839,714
Normal Cost:	13.38% of payroll
Contributions:	13% employee 13% employer
Membership:	159 active 146 annuitants
Social Security Participation:	Yes
Assumptions:	4% payroll growth 7.75% rate of return
Most Recent FSRP:	2018

Amort. Period (Years)	Funded Ratio	UAAL as % of Payroll	Assumed Rate of Return	Payroll Growth Rate	Actual Cont. as % of ADC ²	Non-Investment Cash Flow as % of FNP ³	DROP as % of FNP ³	Fund Exhaustion Date
43.3	56.78%	326%	7.75%	4%	78.69%	-5.68%	N/A	2051

Contribution, cash flow and fund exhaustion data are from the system's 12/31/2020 financial audit.

¹ §801.202(2), Texas Government Code.

² For systems with fixed rate contributions, based on statutory or contractual requirements, the ADC for this purpose is the contribution needed to fund the benefits accrued in the current year and maintain an amortization period that does not exceed 30 years, as required to be reported under §802.101(a), Texas Government Code.

³ Financial net position

Wichita Falls Fire is one of a small number of Texas public retirement systems with a fund exhaustion date.

Public retirement systems are required to perform two periodic actuarial valuations. The accounting valuation must be completed in compliance with Governmental Accounting Standards Board (GASB) No. 67 and is used in the city's annual financial report. A fund exhaustion date, if applicable, will be included in the accounting valuation. The funding valuation is used to determine the funding needs of the plan. The amortization period, which signifies when the pension liability is projected to become fully funded, is included in the funding valuation.

Wichita Falls Fire is one of 12 Texas public retirement systems and two in its peer group with a fund exhaustion date in its accounting valuation.⁴ At the fund exhaustion date, the system is projected to have no remaining assets available to pay monthly pension benefits. This means the city might have to begin a pay-as-you-go method where pension benefits are paid as part of the annual budget or risk defaulting on its obligations to Wichita Falls Fire retirees. The first option could potentially require a large portion of the city's budget, restricting its ability to pay for other necessary operations and services. The second option would undermine the retirement security of both active members and retirees who have served the community with the understanding they would be supported in retirement. Both options would likely affect the city's credit rating. It is possible that some middle ground could be reached by reducing a portion of retiree benefits to prevent the benefits being paid from exceeding the available amount of contributions without becoming insolvent,⁵ but that outcome would still affect the retirement security of the members.

Unusually, the system has a finite amortization period in the funding valuation, while most plans with fund exhaustion dates have infinite amortization periods. The 2020 funding valuation projected the system to reach 100 percent funded status within 43 years using an open group projection, while the 2020 accounting valuation projected Wichita Falls Fire to exhaust all funds in 31 years and thereafter be unable to pay the promised monthly benefits. This dichotomy between the two valuations is likely due to the different approaches used in each calculation. The calculation of the accounting valuation fund exhaustion date excludes future new entrants from consideration, while the calculation of the funding valuation amortization period includes the impact of future new entrants. If future firefighters are the key to moving from fund depletion to full funding, it would likely cause intergenerational equity issues by placing significant burden on future firefighters.

Overall, Wichita Falls Fire's assumptions are among the most aggressive in the state.

Two valuation assumptions, the expected rate of return and payroll growth, are among the nine metrics the PRB uses to select systems for intensive review. Wichita Falls Fire's assumptions are among the most aggressive with both the expected rate of return and payroll growth assumptions measuring among the highest three in its metric in the state. Two other systems had a higher expected rate of return, but those assumptions were somewhat balanced by payroll growth rates significantly closer to the state average.

⁴ The selected peer group includes TLFFRA systems with payroll amounts between \$8.8 million and \$20.2 million and liabilities between \$67.1 million and \$121.4 million. See the appendix for additional peer system data.

⁵ Section 16, Article 6243e, Vernon's Texas Civil Statutes.

Because contributions are paid as a percentage of payroll, higher payroll growth rate assumptions lead to higher assumed contributions, which in turn leads to a lower amortization period.

Findings

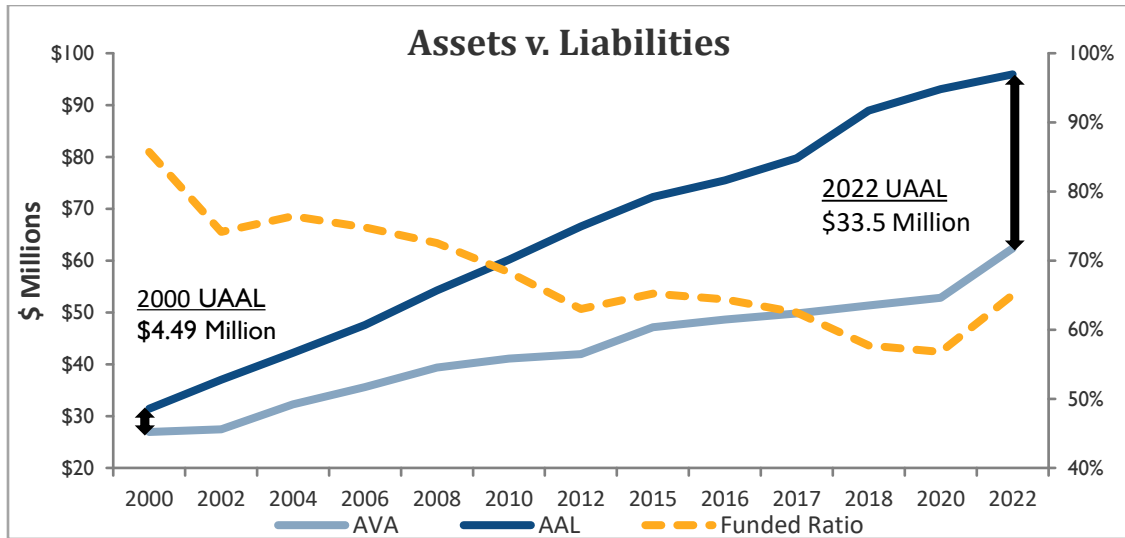
Wichita Falls Fire's funded status has steadily deteriorated over the last 20 years despite above average investment returns.

The graph, *Assets v. Liabilities*, depicts the system's growing unfunded liability and declining funded ratio over the last two decades. As of December 31, 2000, the system was projected to reach 100 percent funded status by January 1, 2017. However, by January 1, 2018, the funded status had steadily declined as illustrated by the following measures:

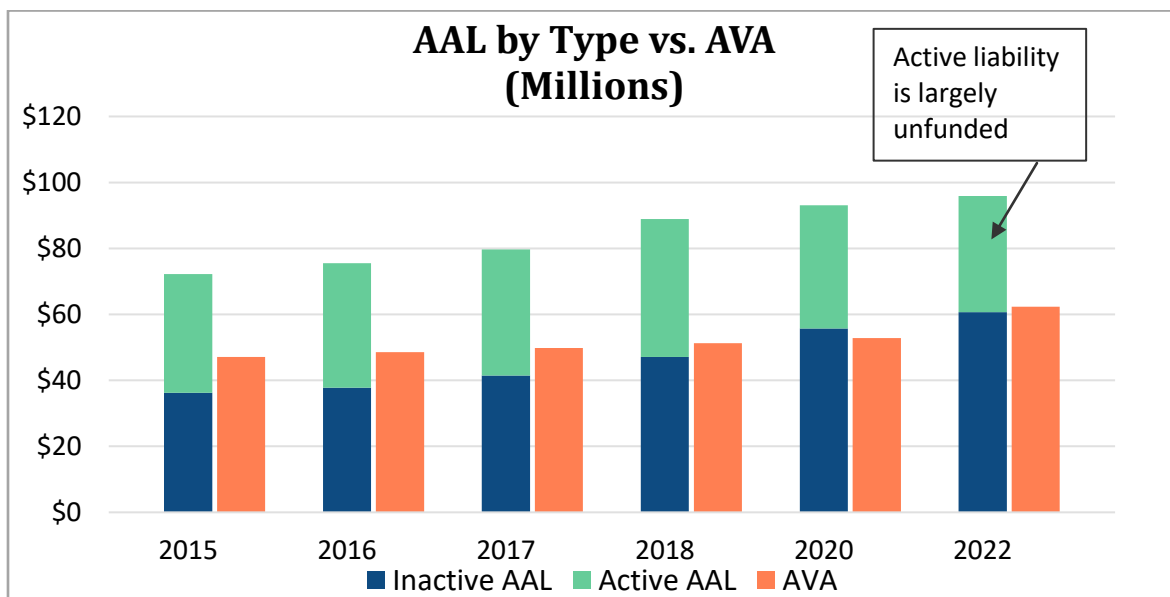
- Funded ratio decreased from 86 percent to 58 percent.
- Unfunded liability as a percentage of payroll increased from 77 percent to 317 percent.
- Amortization period increased from 16.9 years to infinite.
- Assets were projected to be depleted, meaning there would be no assets left in the trust to pay promised benefits by the depletion date.

Wichita Falls Fire submitted a Funding Soundness Restoration Plan (FSRP) in 2016 that included a new tier of reduced benefits for members hired after April 20, 2016. Mainly due to unfavorable demographic experience compared to assumptions, the amortization period increased from 43.7 in 2016 to 56.1 in 2018 prior to adopting more conservative assumptions. The amortization period then increased to infinite once these revised assumptions were adopted. As a result, the system fell out of compliance with its FSRP and became subject to a revised FSRP in 2018. This revised plan, completed in 2019, included more extensive changes than the 2016 FSRP. These changes decreased the amortization period sufficiently to remain under the allowable threshold at the time but did not improve the funded status. From 2018, when the system became subject to the revised FSRP, to January 1, 2022, the funded status decreased for a time before improving after robust asset returns in 2021 such that:

- Funded ratio increased from 58 percent to 65 percent.
- Unfunded liability as a percentage of payroll decreased from 317 percent to 268 percent.
- Amortization period decreased from infinite to 32.1 years.
- System continued to have a projected depletion date according to the latest available audit report based on the January 2020 actuarial valuation.



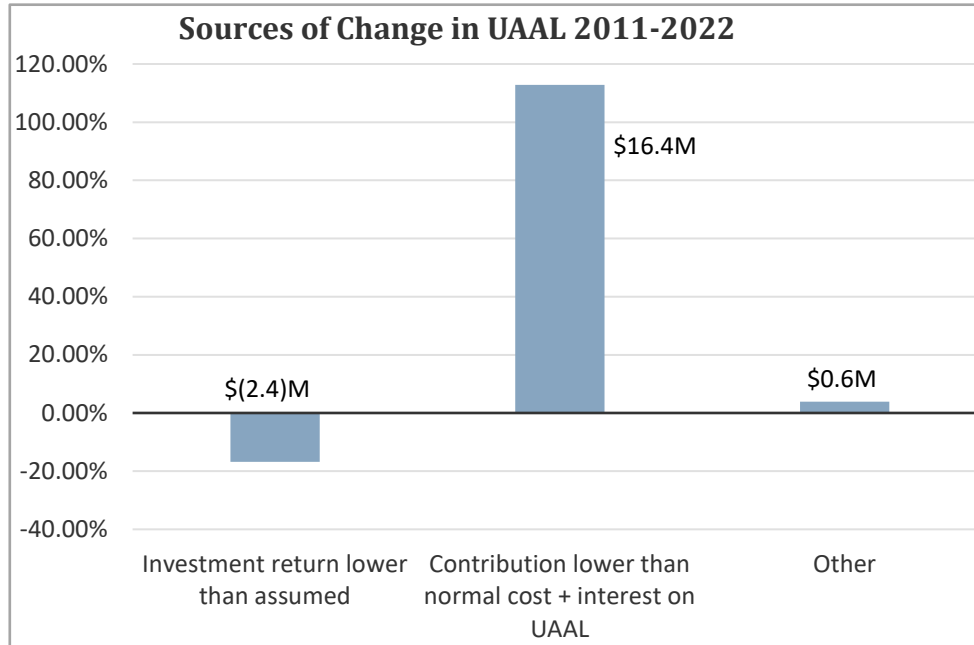
As of 2020, there were not enough assets to fully cover the retiree liability. After the sizable 2021 asset return, there were just enough assets, as of January 1, 2022, to cover the retiree liability as well as 5 percent of the active liability. Based on nationwide trends for early 2022, that percentage will likely drop back down to zero percent once the 2022 returns are reflected in the next actuarial valuation.⁶ Retiree liabilities are typically prioritized because they must be paid the soonest, so little to no assets remain to cover the liability for active members. Actuarial methods are designed to fully fund liabilities for active firefighters by the time they retire. Otherwise, the city and active members will become responsible for funding both the remaining unfunded retiree liability on top of the liability for active members. The chart, *AAL by Type vs. AVA (Millions)*, shows funding trends for both active and inactive liabilities compared with the actuarial value of assets over time.



⁶ Anthony Randazzo and Jonathan Moody, *State of Pensions 2022: Equable Institute's Annual Report*, Accessed July 26, 2022, <https://equable.org/wp-content/uploads/2022/07/Equable-Institute-State-of-Pensions-2022-Final.pdf>.

Insufficient contributions are by far the main source of Wichita Falls Fire's unfunded liability.

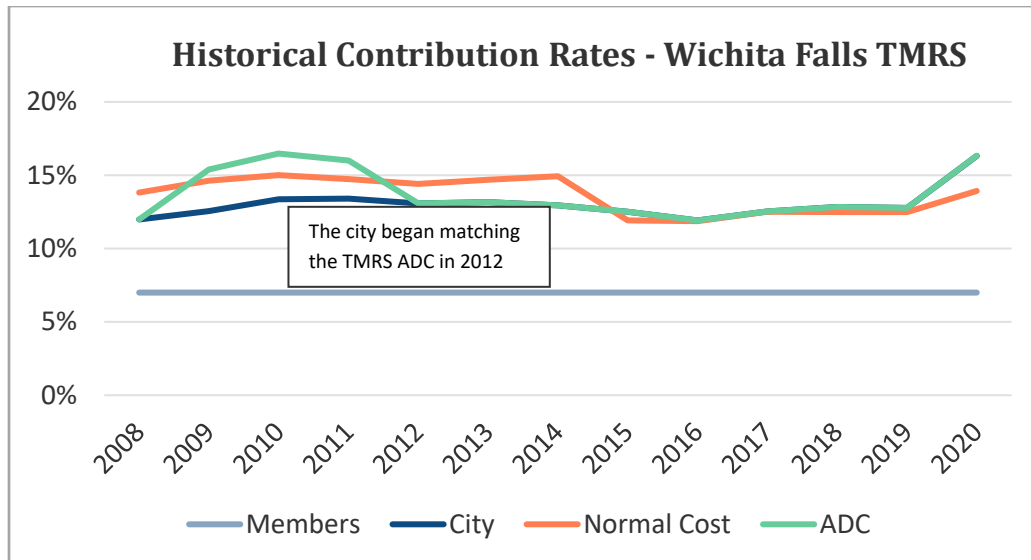
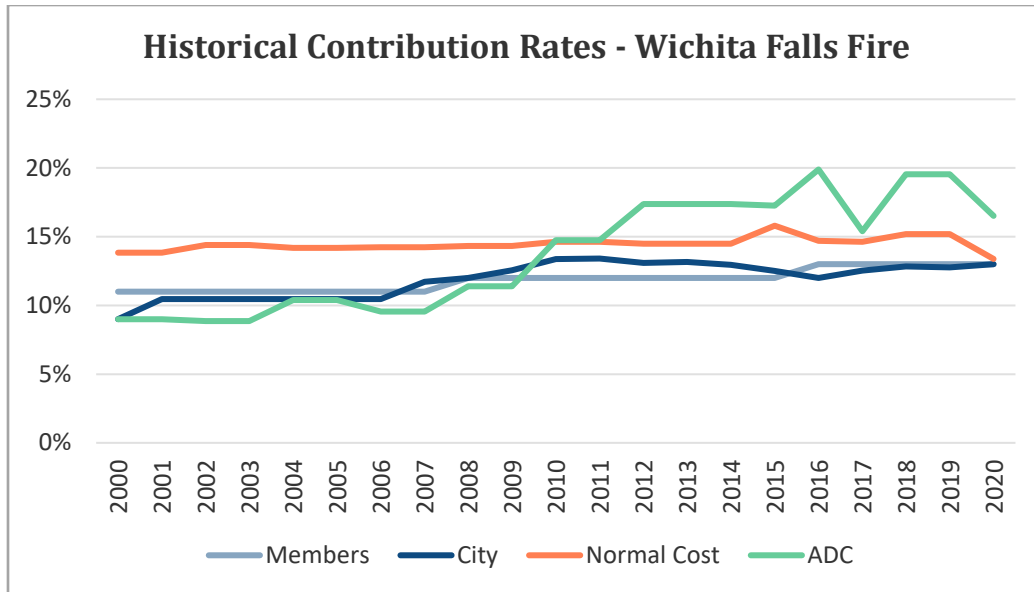
While investment returns have kept pace with assumptions, contributions have not kept pace with Wichita Falls Fire's funding needs. The PRB analyzed the annual changes in unfunded liability to allocate



the changes into three categories, as shown in the graph, *Sources of Change in UAAL 2011-2022*. The first category, *investment return lower than assumed*, was calculated by comparing the actuarial value of assets to the prior year assets, contributions, disbursements and expected returns. The second category, *contributions lower than normal cost + interest on UAAL*, was calculated by comparing the actual contributions to the amount that would have been necessary to have no expected increase in the unfunded liability. Any remaining changes in unfunded liability during the period, such as assumption changes and demographic experience different than assumed, were labeled as *Other*.

City contribution levels have not been based on the system's actual funding needs.

From 2001 to 2019, the city matched its contribution to the Wichita Falls Fire fund to the Texas Municipal Retirement System (TMRS) contribution rate for Wichita Falls municipal employees. Until the 2008-2009 financial crisis, city contributions kept pace with the actuarially determined contribution (ADC) necessary to fully fund the plan within 30 years. When the TMRS contribution rate increased substantially in 2020, the city stopped matching the TMRS contribution rate for Wichita Falls Fire. The next two graphs show contribution rate trends for both members and the city over the last 20 years for both Wichita Falls Fire and for municipal employees covered through the city's TMRS plan.



This failure to adjust contribution rates for Wichita Falls Fire exacerbated the gap between actual contributions and the system's ADC value, but matching contribution rates for firefighters to the contribution rates for municipal employees is not a prudent methodology for funding a pension benefit. Firefighters in general have lower turnover than municipal employees resulting in a larger portion of the membership ultimately receiving retirement benefits. Due to the physical demands of the job, firefighters typically retire at earlier ages than municipal employees, allowing a longer time to fund a municipal employee benefit that will be paid over a shorter period. For example, a long-service firefighter would

likely retire by 57 years old, while a municipal employee with the same years of service may work into their seventies.⁷

As a result, for each dollar of monthly retirement benefits at expected retirement age, the city can pay less per year for municipal and police employees than firefighters to fund the same benefit. Additionally, the structure makes the TMRS contribution rate unsuitable as a proxy to determine contributions for a retirement system with a completely different governing statute, plan structure, membership population, and investment history.

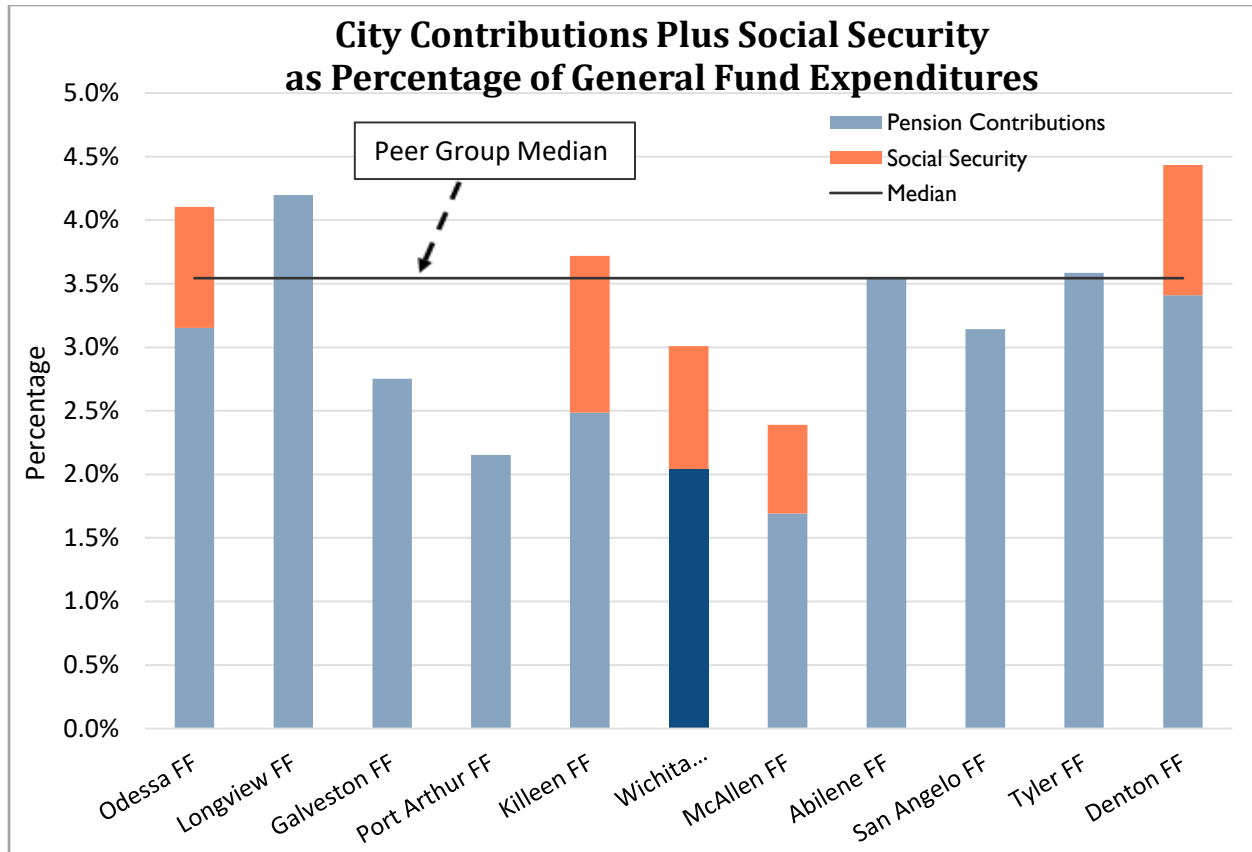
TMRS uses an actuarially determined contribution based on its own funded status and plan provisions. The actuarially determined contribution is calculated as the sum of the normal cost and an amortization of the unfunded liability. Since Wichita Falls' TMRS plan is better funded than the Wichita Falls Fire plan, with a roughly 84 percent funded ratio, its ADC is based on an amortization of a small unfunded amount. An ADC for Wichita Falls Fire would also have to fund the amortization of a larger unfunded amount since the funded ratio is only 65 percent.

The 2008-2009 financial crisis also had a relatively minimal impact on TMRS and its member plans since the fund was not invested in equities at that time, while the Wichita Falls Fire plan had a substantial weight in equities. With those two vastly different allocations, the 2008 return was more than 12 percent lower for Wichita Falls Fire than for TMRS. Prior to the 2008 financial crisis, the Wichita Falls Fire plan ADC and Wichita Falls TMRS plan ADC were roughly equal. Afterwards, the city continued providing the same contribution rate to the two funds despite the ADC disparities from 2008 to 2019. Because the city continued to contribute far less than the Wichita Falls Fire ADC each year, the ADC continued to increase as a percentage of payroll. Then in 2020, when the Wichita Falls Fire plan ADC converged again with the Wichita Falls TMRS plan ADC, the city paid the ADC for its TMRS plan but did not pay the same for the Fire plan.

⁷ A Wichita Falls firefighter aged 57 with 25 years of service is assumed to retire with 100 percent probability based on the assumptions included in the 2022 actuarial valuation. A similarly situated municipal or police employee benefitting from TMRS has only a 13 percent chance to retire, leaving a high likelihood the member will retire at a later age. In fact, even a 74-year-old employee with TMRS benefits has only a 30 percent chance to retire that year. TMRS benefits for Wichita Falls apply to both municipal employees and police. Police officers in the TMRS may share many retirement characteristics, such as average retirement age, with firefighters since they are also public safety employees. However, the civilian municipal employees in the same retirement system will affect the average characteristics of the Wichita Falls TMRS plan membership compared to Wichita Falls Fire.



The City of Wichita Falls allocates a similar percentage of the general fund expenditures to firefighter payroll, but the city contributes substantially less than peer firefighter pensions. If the city raised the pension contributions from its current 2 percent of general fund expenditures to the peer average of roughly 3 percent, the new city contribution rate as a percent of payroll would increase from 13 percent to 19.5 percent. The graph, *City Contributions Plus Social Security as Percentage of General Fund Expenditures*, accounts for differences among cities in terms of Social Security participation. Wichita Falls Fire and four peer systems participate in Social Security. Adding the 6.2 percent of Social Security payroll contribution for Wichita Falls Fire and its peer systems — Odessa Fire, Killeen Fire, McAllen Fire, and Denton Fire — brings the total city contribution closer to the peer median — 3 percent of general fund expenditures for Wichita Falls Fire versus 3.5 percent for the peer group median. Even factoring in Social Security payments, Wichita Falls still pays less into the fire pension fund than peer cities.



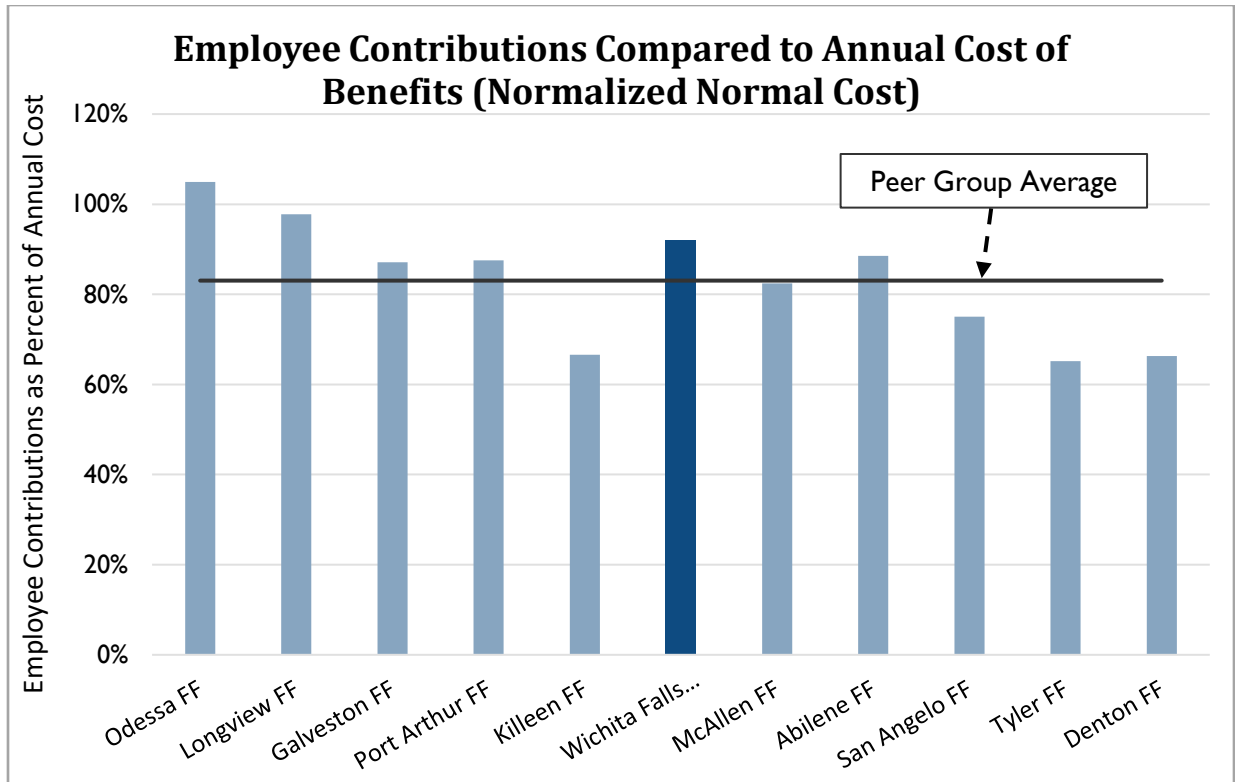
Wichita Falls Fire members already contribute 92 percent of the normal cost of their benefits.

Since pension benefits are a form of non-wage employer-sponsored compensation used to supplement salary, it is expected that members will pay a portion, but not all, of the cost to fund their benefits.⁸ The normal cost is a good proxy for the expected annual cost of the pension benefit. The graph, *Employee Contributions Compared to Annual Cost of Benefits*, below compares the normal costs of peer systems to compare the annual cost of benefits, which were normalized to all use a 7.5 percent discount rate.⁹ On average, members in peer plans pay 83 percent of the normal cost, while Wichita Falls Fire members pay 92 percent.

Although contributions must be increased to meet the system's funding needs, members should not be expected to pay more than the full cost of their benefits. Doing so creates intergenerational equity issues since current members would be paying for the benefits of past members in addition to full cost of their own. To mitigate this intergenerational equity issue, the city will likely need to consider paying the bulk of the additional contributions.

⁸ "Glossary," United States Bureau of Labor Statistics, Accessed July 26, 2022, <https://www.bls.gov/bls/glossary.htm>

⁹ Based on the present value sensitivity of a 38-year-old active member retiring at eligibility age, PubS_2010 mortality table with generational improvements based on scale MP2020 using factors calculated on the Annuity Factor Calculator on the Society of Actuaries website. Accessed July 26, 2022, <https://afc.soa.org/#Calculator>.



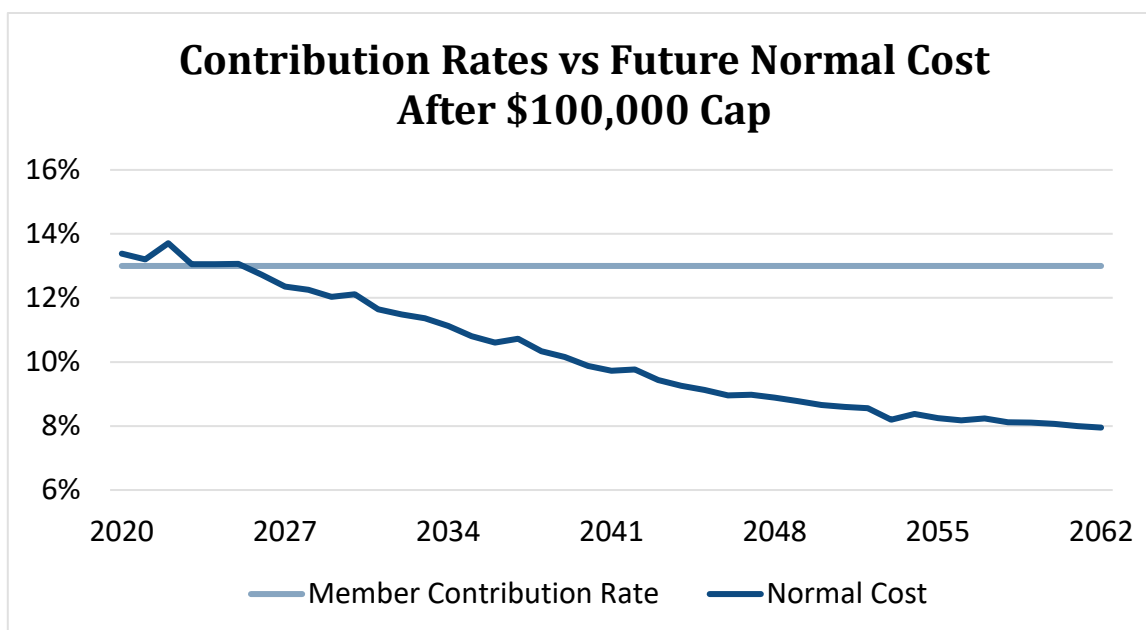
Wichita Falls Fire's \$100,000 benefit cap used to decrease its amortization period does not appear sustainable and creates intergenerational inequity.

Following the original FSRP submitted in 2016, the system submitted a revised FSRP in 2019 consisting of three plan changes:

- Changed the normal retirement benefit to no longer continue partial payment to the surviving spouse after the retiree's death.
- Increased the period of final average compensation from three years to five years for members hired prior to April 21, 2016.
- Implemented a maximum accrued benefit cap of \$100,000 per year, not indexed to inflation.

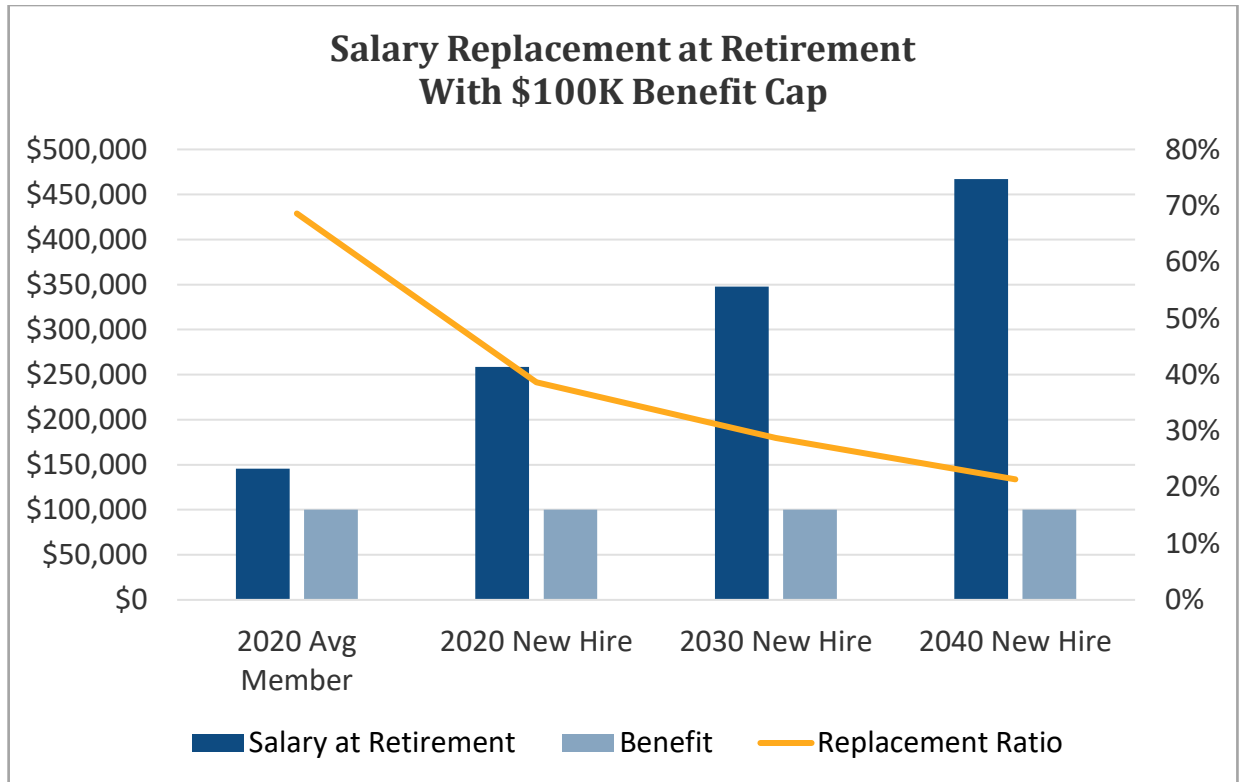
The main provision that decreased the amortization period from infinite to 43 was the \$100,000 benefit cap. The cap is unlikely to be sustainable for two main reasons: the benefit for future hires will be worth less than the accumulated member contributions and the benefit will no longer replace a substantial percentage of a member's salary in their retirement years.

Members are already paying nearly the full value of their benefits. Now that the cap has been implemented, future hires are projected to pay 8 percent of salary to fund their own retirement benefits, plus an additional 5 percent toward assets to fund the plan's unfunded liability, which for Wichita Falls Fire is generally the cost of benefits for firefighters already retired. The graph, *Contribution Rates vs. Future Normal Cost After \$100,000 Cap*, shows this trend over time because the amount of pay future members receive is assumed to continue increasing even as their benefits remain capped. In essence, the future members will be paying for their own benefits plus the benefits of the previous generation.



A defined benefit pension plan with a final average pay formula such as Wichita Falls Fire is typically designed to provide a reliable salary replacement in the member's retirement years. Under the Wichita Falls Fire formula prior to the 2018 changes, a member who worked 30 years from age 25 to 55 would receive 75 percent of their final average compensation in each year of retirement. The average current member in the 2020 actuarial valuation was 41 years old with 16 years of service, making \$85,000. They would be projected to earn \$146,000 at age 55 based on the valuation individual pay increase assumption. With the cap, they would be paid 68 percent since their benefits cannot exceed \$100,000.

A 2020 new hire, on average, earns \$55,000 at age 25 and would be projected to earn \$259,000 at retirement based on the valuation individual pay increase assumption. Rather than receiving 75 percent of their final average salary, which would be \$194,250, they would receive only 39 percent per year at retirement due to the cap. As shown in the graph below, the current plan design and assumptions mean the value of a member's benefit will decrease significantly over time. Indeed, the benefit cap degrades the salary replacement level for future members to just over 20 percent for a new hire in 2040.



This plan design appears to be unsustainable — as the replacement ratio decreases over time, the city will find it more and more difficult to hire and retain firefighters. At least one other Texas Local Fire Fighter Retirement Act (TLFFRA) system within a similar distance to the Dallas-Fort Worth metroplex recently had to consider benefit increases in response to current and prospective firefighters choosing to work for nearby fire departments where they could expect better benefits for lower contributions.

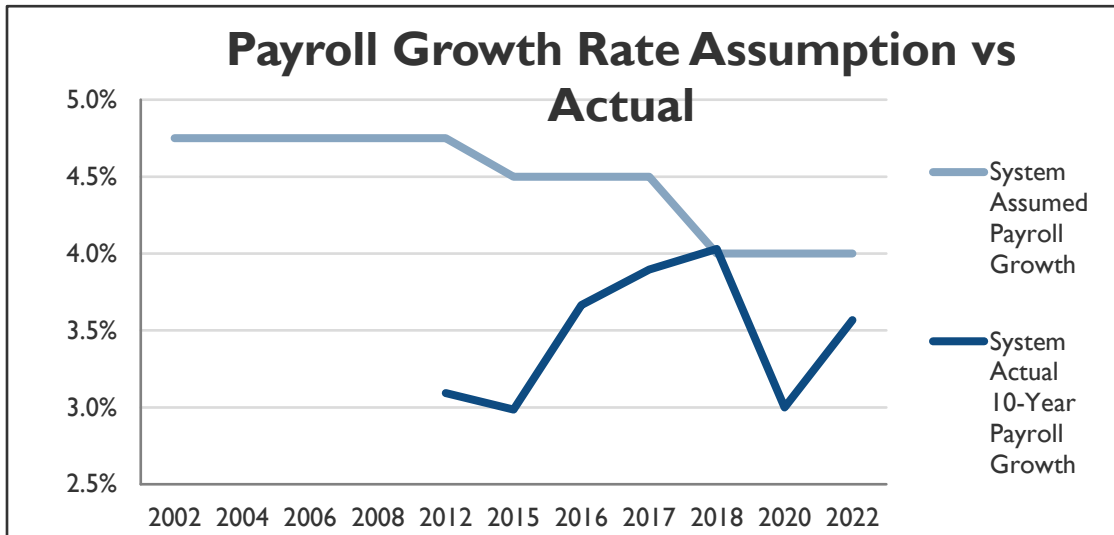
Actuarial assumptions and methods need to be reevaluated to align with actual experience and realistically assess Wichita Falls Fire's contribution needs.

To accurately forecast pension funding needs, assumptions used should be realistic. The following discussion describes multiple assumptions and methods Wichita Falls Fire should reevaluate to ensure these assumptions are updated based on plan experience, benefit changes, city demographics, and other relevant factors.

Payroll growth assumption is not supported by plan experience or city demographics.

The 2010 U.S. Census estimated that Wichita Falls, Texas had a population of 104,553 and had grown 0.3 percent in the previous decade.¹⁰ The 2020 Census showed a population of 102,316, a decrease of 2.1 percent. This data suggests the city is not growing enough to support a growing fire department, which is demonstrated by the number of active firefighters since 2000. The active firefighter counts between 2000 and 2020 has steadily remained between 150 and 160 individuals.

¹⁰ "Quick Facts: Wichita Falls city, Texas," United States Census Bureau, Accessed July 26, 2022, <https://www.census.gov/quickfacts/wichitafallscitytexas>.



Since the payroll growth assumption combines individual salary increases with future headcount projections, such a steady headcount does not support an aggressive payroll growth assumption. Given the population trends, it is reasonable to assume Wichita Falls Fire will experience future payroll growth lower than its current assumption. The payroll growth assumption was decreased twice in the last ten years, from 4.75 percent to 4.5 percent in 2015 and from 4.5 percent to 4 percent in 2018; the assumption remains, however, almost a full 100 basis points above the average for Texas public retirement systems. Nonetheless, the assumed growth rate continues to appear unreachable given that the 10-year payroll growth experience has reached 4 percent only once since 2010.¹¹ The graph below shows how the plan's payroll growth experience compares with actual growth over time.

An assumed payroll growth rate of 4 percent would generally imply an expected steady future increase in the number of firefighters. If the city were growing and supporting that population growth with new fire stations, a greater-than-average growth assumption would make sense. The census, however, showed no population increase from 2000 to 2020.¹² The city is unlikely to face a significant need for additional

Actuarial assumptions that appear as outliers when compared to other systems are not necessarily unreasonable.

For example, another TLFFRA system also has a payroll growth assumption of 4 percent, which is higher than most other Texas public retirement system's assumptions. The city's population growth is also much higher than most other Texas cities. Its population grew from 56,000 in 2010 to 90,000 in 2020. As long as the city's population growth is expected to continue and additional firefighters will be needed, such a payroll growth assumption may continue to be reasonable in the future.

¹¹ When a 10-year period was unavailable, 11 years were used.

¹² "Quick Facts: Wichita Falls city, Texas," United States Census Bureau, Accessed July 26, 2022, <https://www.census.gov/quickfacts/wichitafallscitytexas>.

firefighters without an increase in the city's population.

Demographic assumptions should be updated to reflect expectations based on current plan provisions including the \$100,000 benefit cap.

Actuarial Standard of Practice (ASOP) 35 states that the actuary should account for certain factors when setting demographic assumptions, including "any features of the plan design or change in the plan design that may influence the assumption."

Wichita Falls Fire did not change the assumptions after implementing the \$100,000 cap. As the pension benefit decreases in value from replacing 68 percent of salary to 21 percent of salary over time, the system has assumed that most firefighters will continue to be willing to work a long career in Wichita Falls, contributing a level of salary far exceeding the value of the benefits they will receive.

By keeping each of the payroll growth assumption and pre-retirement termination assumption level in the open group projection, the system has effectively assumed that the level of pension benefits plays no role in the recruitment and retention of firefighters. Nonetheless, these firefighters have other options for employment and can easily choose to either join a fire department in another city with more valuable benefits or accept a position in a different industry in Wichita Falls and the surrounding area. Even if the job required moving to a new location, it is reasonable to assume the Wichita Falls firefighters could be enticed by employment opportunities that came with a pension benefit worth three to four times the value of what they could expect from Wichita Falls Fire for the same level of contributions. Furthermore, the 20-year vesting requirement is unlikely to discourage early termination since, by terminating, the firefighters could take a refund of contributions worth more than the benefit they would receive after vesting.

Accordingly, the system's plan design appears unsustainable. Eventually, the system and city will likely need to modify the plan's benefits and financing arrangements.

Mortality improvement assumption underestimates the normal cost.

The system's mortality improvement assumption is one of the most aggressive among Texas public retirement systems. A mortality improvement measures the increased likelihood from one year to the next that a member or retiree at a given age will live another year. The more years of mortality improvements that are built into the valuation, the longer a retiree is expected to continue receiving monthly pension payments from the system.

Life Expectancies for a 65-Year-Old Male Retiree From Select Mortality Tables		
Mortality Table ¹³	Year	Life Expectancy
UP	1984	15
UP	1994	17
RP	2006	19
PubG	2010	20

¹³ These are abbreviations for mortality tables commonly used by actuaries in the past.

As shown in the table, *Life Expectancy table for a 65-year-Old Male Retiree*, the expected lifetime of a 65-year-old male retiree has steadily increased since the 1980s, from 15 years in the 1984 table to 20 years in the 2010 table, a 33 percent increase. Actuaries have responded to this trend by including a mortality improvement assumption in actuarial valuations.

Life Expectancies for a 25-Year-Old Male Firefighter Projected to Retire at 65		
Mortality Table ¹³	Improvements	Life Expectancy
PubG2010	None	20
PubG2010	5-Year Static	21
PubG2010	Generational	24

While most other systems used generational mortality improvements, Wichita Falls Fire used a static improvement over five years. In the 2010 table shown, a 25-year-old firefighter projected to retire at 65 would be expected to receive benefits for 24 years with generational improvements but only 21 years with the Wichita Falls Fire approach. The expected lifetime would be 20 years with no mortality improvements assumed.

As the table, *Mortality Improvements for a 40-Year-Old Firefighter Generational Approach vs. Wichita Falls Fire Approach*, demonstrates, with 40 fewer years of improvements for the 85-year-old, the Wichita Falls Fire valuation assumes a shorter lifespan and significantly fewer payments to the retiree. This produces a materially lower normal cost than the generational approach. The normal cost is estimated to be 2 percent of pay lower for a 40-year-old active firefighter and 4 percent of pay lower for a 25-year-old due to this approach.

Mortality Improvements For a 40-Year-Old Firefighter Generational Approach vs. Wichita Falls Fire Approach			
Age	Years to Reach Age	Generational Years of Improvement	Wichita Falls Years of Improvement
55	15	15	5
60	20	20	5
65	25	25	5
70	30	30	5
75	35	35	5
80	40	40	5
85	45	45	5

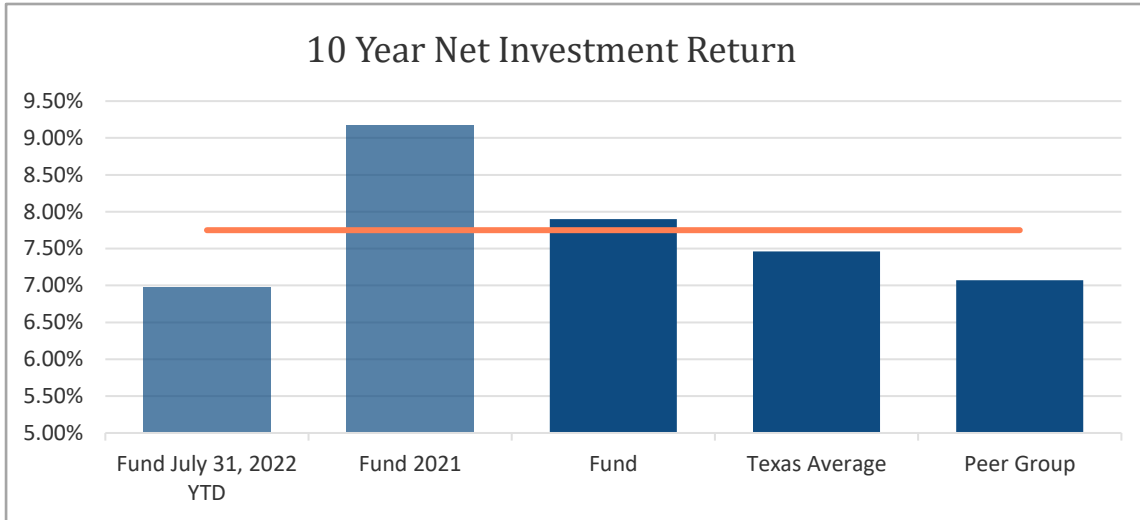
Wichita Falls Fire uses market value of assets instead of smoothing.

Wichita Falls Fire currently uses fair market valuation method, which means that the actuarial value of assets equals the market value of assets. The smoothing method would enable Wichita Falls Fire to phase in investment gains and losses over a fixed period, which is typically five years. Smoothing assets has the effect of leveling out sharp changes in the plan's funding level and required cost, and would also make the system less susceptible to falling out of compliance with their FSRP due to a market event.

Wichita Falls Fire's investment program has consistently met the system's return assumption but will need to prepare for changes based on maturing demographic trends.

Overall, the system's investment program has performed well while keeping investment expenses reasonable. Consistent investment performance with small drawdowns have provided stability to the assets by meeting its 7.75 percent assumption over time.

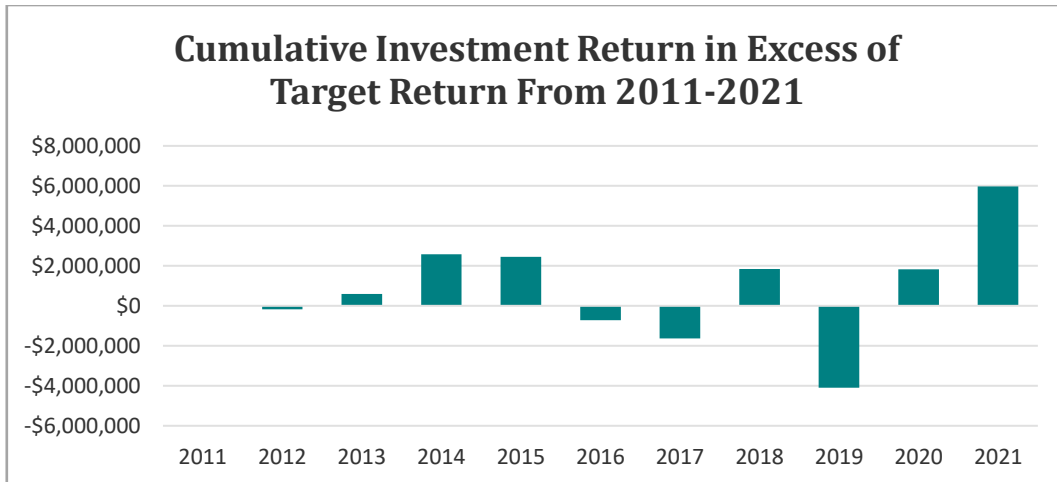
The system has even exceeded the average returns of both its peer group and Texas public retirement systems, as shown in the graph, *10-Year Net Investment Return*. Meeting return assumptions over the long term benefits the fund as investment returns typically provide roughly 60 percent of pension revenues, which makes it a crucial source for paying benefits.¹⁴



The Fund, Texas average, and peer group 10-year net investment returns use only 2020 data. The Fund 2021 is the fund's return for 2021. The Fund July 31, 2022, YTD is what the funds 10-year net investment return would be if nothing changes from that last date.

Consistent returns with minimal drawdowns are more important in the long run than having a handful of high return years. Pensions rely on the assumption that investments will, over a market cycle, meet their target return. Any year they return less than expected requires that missed gain in assets to be made up in the future, including the compounding growth that would have come from the missed gain. Over the past decade, Wichita Falls Fire has six times either met or drastically exceeded its return assumption. Otherwise, it had two years with positive returns with small underperformance compared to the target return, one year with less than 1 percent in returns, and only one negative-return drawdown year, as shown in the accompanying graph.

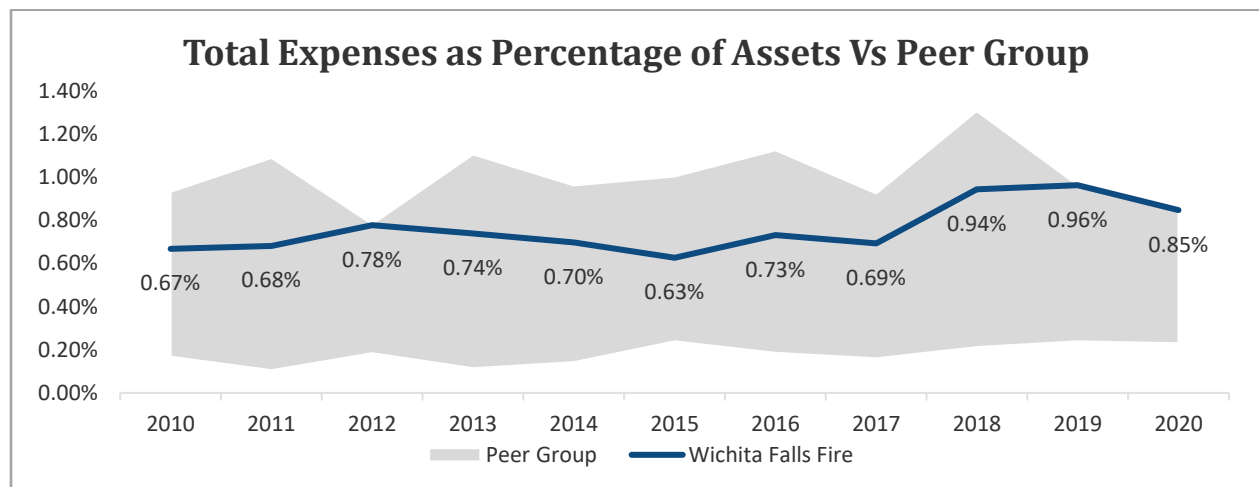
¹⁴ "Investment," National Association of State Retirement System Administrators, Accessed July 26, 2022, <https://www.nasra.org/investment>.



The system's investment performance has remained consistent, with minimal downside, and has generally kept asset returns in a surplus over assumptions. This excess gives the system more assets capable of growing and supporting benefits and contributes to its ability to reach a fully funded status.

Wichita Falls Fire's total investment expenses, while at the top of its peer group, are still reasonable.

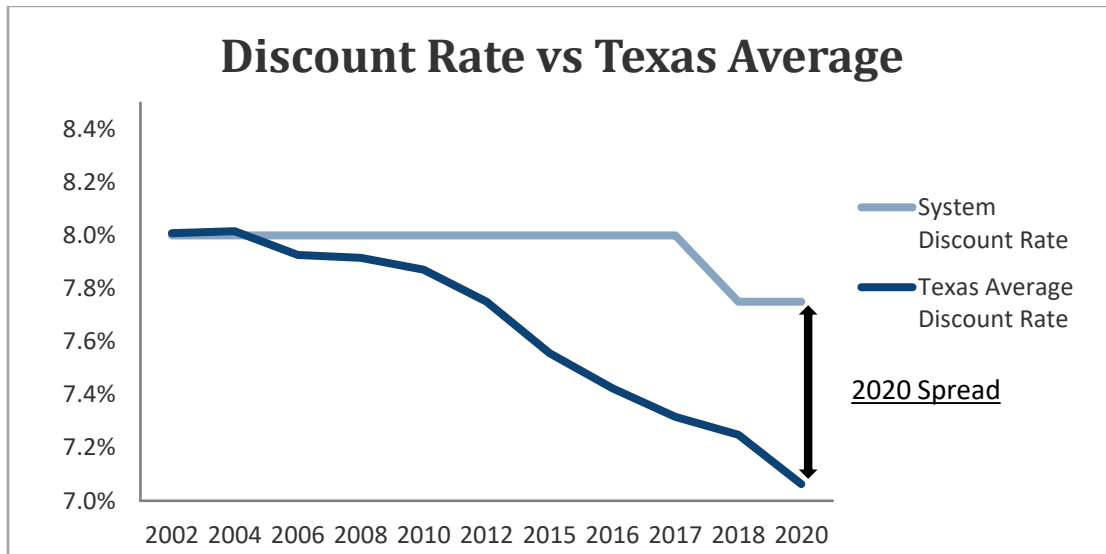
It is evident that the system has, over the years, made investment decisions that have kept expenses in line with peers and the national averages, which is usually around 0.6 percent.¹⁵ The accompanying graph, *Total Expenses as Percentage of Assets Vs. Peer Group*, shows the system's investment expenses compared with peers. Low investment expenses help maximize investment returns and make it easier to meet return assumptions. Investment expenses are one of the few factors over which a pension fund has considerable control, and Wichita Falls Fire's management of fees suggests the overall investment program is following best practices by actively monitoring fees.



¹⁵ 2021 NCPERS Public Retirement System Study, National Conference on Public Employee Retirement Systems and Cobalt Community Research (February 2022), Accessed July 26, 2022, <https://www.ncpers.org/files/ncpers-public-retirement-systems-study-2021.pdf>

The system has kept fees in a narrow range over the past decade with elevated fees only beginning in 2018. The elevated fees are a result of allocations into alternative investments, such as private equity, that include performance fees. These performance fees generate higher expenses but are justified by the performance rates; the system is paying larger fees only because of the investments' large out-performance. Additionally, the system allocates 17.75 percent of their equity investments into a passive index fund with a very low net expense ratio of 0.03 percent. The asset allocation balance of returns, risk, and fees is an important design factor that needs to fit a system if it is to be properly managed. Wichita Falls Fire's allocation is in line with the average Texas retirement system as the alternative and real estate investments, which normally are more expensive, do not represent an overweight proportion of the assets.¹⁶ In addition, the balance of passive investments compared to high fee alternatives allows the system to participate in the equity market, invest in higher expense active investments that are more likely to provide alpha, and keep the overall portfolio expenses at a reasonable level.

The system's return assumption may soon need adjustment due to shifting membership demographics, including a growing retiree headcount, demanding more conservative investments.

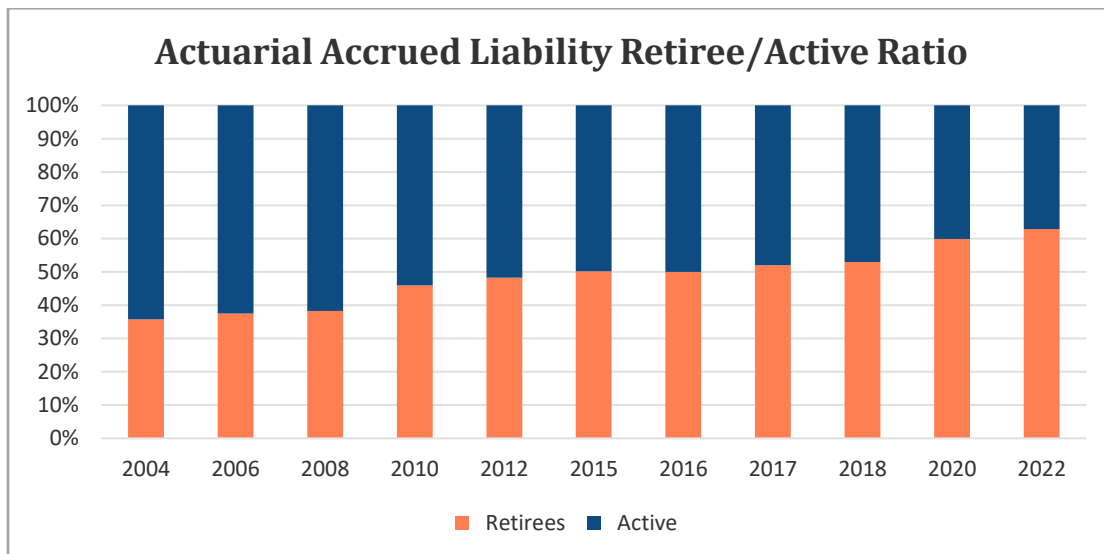
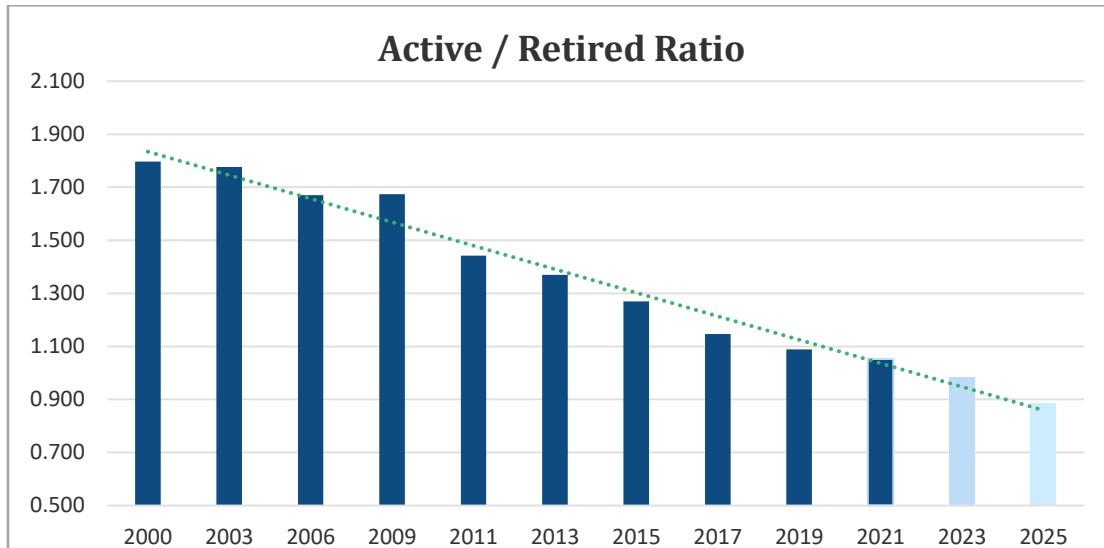


Wichita Falls Fire uses a 7.75 percent investment return assumption, which is somewhat aggressive for current capital market conditions that assume a rate closer to 7 to 7.25 percent.¹⁷ The graph, *Discount Rate vs Texas Average*, compares the system's return assumption with the overall Texas pension system average since 2002. The current assumption is still reasonable as the system targets a 60/40 portfolio with its "safer" 40 percent of investments partially replaced by investments in alternatives. Additionally, the system's membership is largely younger, with a relatively high proportion of recently retired or active

¹⁶ See appendix for Wichita Falls Fire's and peer group systems asset allocations.

¹⁷ *Survey of Capital Market Assumptions: 2021 Edition*, Horizon Actuarial Services, LLC, Accessed July 26, 2022, https://www.horizonactuarial.com/uploads/3/0/4/9/30499196/rpt_cma_survey_2021_v0804.pdf; *2021 NCPERS Public Retirement System Study*, National Conference on Public Employee Retirement Systems and Cobalt Community Research (February 2022), Accessed July 26, 2022, <https://www.ncpers.org/files/ncpers-public-retirement-systems-study-2021.pdf>.

members; this lower membership age temporarily allows a more risk-aggressive allocation. However, demographic trends show that the predominately younger, active membership is aging, and the retired membership is quickly becoming the largest group.



The previous two charts show that the age of the average member grows with the ratio of active to retiree members. This means the actuarial accrued liability (AAL) of retirees further eclipses that of the younger active members, which will in turn impact investment decisions.

Investment portfolio allocation adjustments are a normal aspect of how pension funds mature, but it does mean that the current Wichita Falls Fire investment strategy is not likely to be sustainable in the long term. The system's AAL is currently 62 percent attributable to the retirees of the plan, and the retiree portion is likely to continue growing as shifting demographics make current assumptions less suitable. With all things being the same, every year that the active-to-retiree ratio remains below one, aging retirees will represent a larger portion of the AAL and assets. For the portion of assets supporting active

member liabilities, there is time to allow aggressive investment in assets seeking long-term growth because benefit payments for active firefighters will begin years or decades in the future. However, benefits for retirees are already in payment. The assets used to support those payments should be allocated to provide more consistent near-term returns or risk liquidity issues. This typically means a greater share of a system's portfolio should be invested in more conservative asset classes as retirees become a greater share of the liability; ensuring money is available to pay benefits each month takes priority over higher returns. This shift would necessitate more conservative investment decisions, which would most likely lead to lower investment return assumptions.

The growth in average membership age may be slowed or reversed in the future by additional hiring or local population growth, but the census results discussed previously in this report suggest this scenario is unlikely. Instead, the trend could likely be compounded by difficulty with hiring and retention related to the benefit cap, which could potentially necessitate investment changes sooner. The corresponding lower expected investment return would be exacerbated by forecasted capital market returns of roughly 7 percent for the next decade.¹⁸

Between the natural shift in priorities as average membership age increases, an uncertain stock market, and potential difficulty hiring, the system will likely find it necessary to reallocate its assets to a more conservatively invested portfolio with a decreased expected return on assets within the next 10 years, which will further increase the contribution needs. Fortunately, the investment program has shown it can meet current return objectives and manage expenses appropriately. This knowledge will be useful to navigate unpredictable markets and the changing needs of the system as membership ages, but it cannot replace sufficient contributions in the long term. An investment program needs to be adequately funded to provide the benefits that are promised. If benefits are not being prefunded appropriately, the investment program is starting with a disadvantage. Rather than contributions being given the time to generate returns, they will go towards backfilling the hole left by missed growth on past contributions or paying retiree benefits that were not prefunded.

Recommendations

Consider options to increase contributions to offset previous underfunding.

In general terms, the City of Wichita Falls and Wichita Falls Fire need to work together to determine how to address the system's deteriorating funded status, which should include increased contributions. The PRB has developed multiple scenarios as a resource for the city and the system that incorporate other relevant factors, such as potentially removing the benefit cap and modifying assumptions. These scenarios are for informational purposes only and are not meant as recommendations for specific contribution levels or assumptions.¹⁹

¹⁸ *Survey of Capital Market Assumptions: 2021 Edition*, Horizon Actuarial Services, LLC.

¹⁹ The projections shown in this section are meant to demonstrate the types of future events to consider when developing a contribution strategy, and how contributions may need to increase when such future events are considered. They are not intended for any other purpose. The projections are estimates based on limited information available including but not limited to a projection of normal costs from the January 1, 2020, actuarial

It is important to consider potential future decreases in assets and increases in liabilities when evaluating the effectiveness of a potential contribution level. With that in mind, four scenarios illustrate projected changes to assets and liabilities, with the following changes considered:

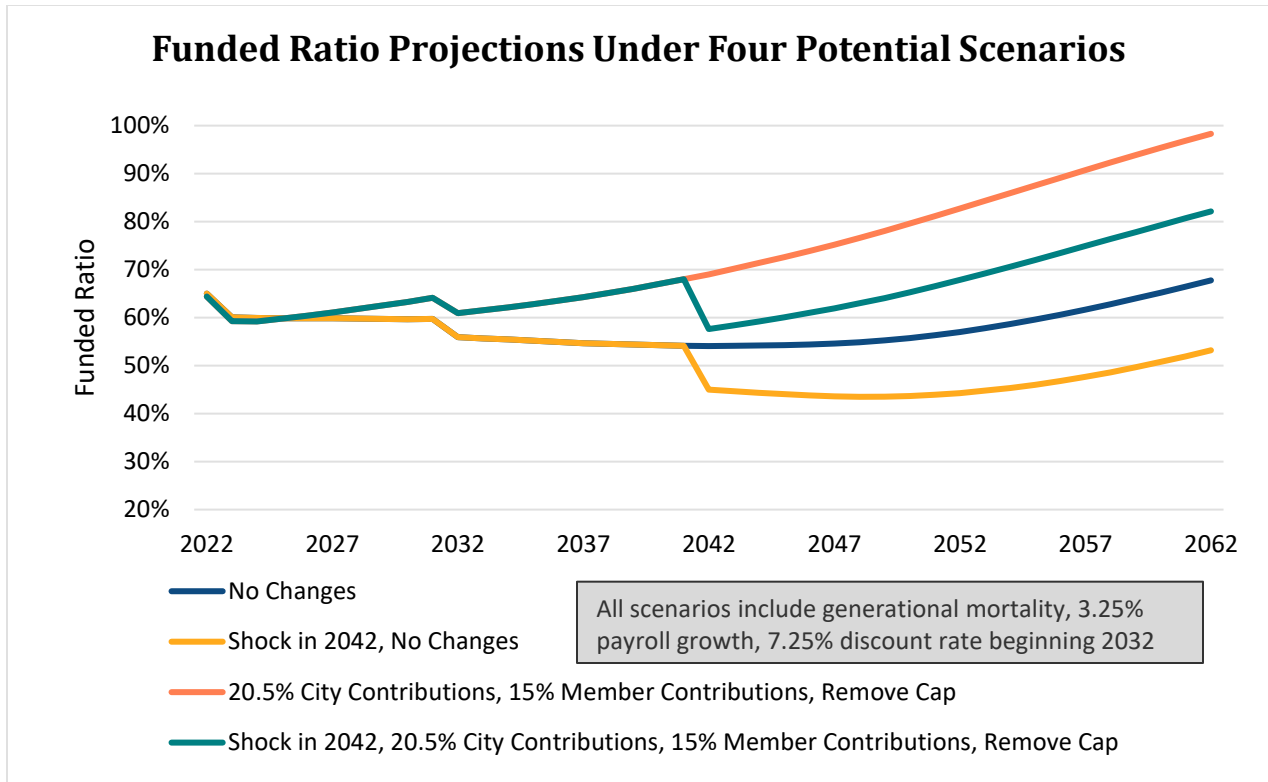
- Decrease in assets from \$62.4 million on January 1, 2022, to \$59 million on January 1, 2023, to reflect known bear market based on assets as of July 31, 2022.
- Observation of a 10 percent decrease in assets in 2042 because of a possible market event.
- Increases to city and member contributions.
- Removal of the \$100,000 cap on benefits.
- Reducing the payroll growth assumption to 3.25 percent.
- Changing asset allocation in 2032 resulting in a 7.25 percent expected return thereafter.
- Changing the mortality improvement assumption to reflect generational mortality improvements.

Four Potential Funded Status Outcomes Taking Into Account Expected Future Changes							
Scenario	20% City Contributions	15% Member Contributions	Remove \$100,000 Cap	Asset Decrease in 2042	Generational Mortality	3.25% Payroll Growth	7.25% Discount Rate in 2032
Blue					✓	✓	✓
Yellow				✓	✓	✓	✓
Orange	✓	✓	✓		✓	✓	✓
Teal	✓	✓	✓	✓	✓	✓	✓

Due to the rapid maturing of the plan toward liabilities skewed heavily toward retirees, the system is expected to reallocate assets and reduce the discount rate by 2032. To meet the new statutory requirements and avoid preparing a new FSRP, the system must have an amortization period of 30 or fewer years when the discount rate is reduced.²⁰ Therefore, the system should develop a funding policy that would fully fund the liability by 2062 under those conditions. The orange line in the graph above depicts a scenario that would meet these criteria.

valuation provided by the system's actuary and the assets and liabilities shown in the January 1, 2022, actuarial valuation. The ultimate level of contributions should be determined based on projections and analysis provided by the system's actuary.

²⁰ If the system's funding period is above 30 years but below 40 years, the system would not trigger an FSRP immediately unless the funded ratio at that time was below 65 percent. If the system is not affected by the immediate triggers, it will have two or three actuarial valuations before triggering an FSRP. Depending on the system's valuation schedule, the system would have an additional three to six years to reduce the funding period before triggering an FSRP under the new requirements. More information can be found on the PRB website: <https://www.prb.texas.gov/actuarial/funding-soundness-restoration-plan-fsrp/>.



The two scenarios with additional contributions, orange and teal, reach funding levels between 80 percent and 100 percent even with the \$100,000 cap removed. The city alerted staff that current budget discussions for fiscal year 2022-2023 includes a planned contribution increase from 13.25 to 16.18 percent. The two scenarios represented by the yellow and blue lines reflect contribution levels after the city's upcoming increase to 16.18 percent of payroll and reach funding levels between 50 percent and 70 percent when the normal cost remains at the level shown in the 2022 actuarial valuation.

The adequacy of potential contribution rates must be tested with funded status projections based on reasonable future expectations. All scenarios include a change to generational mortality, actual payroll growth of 3.25 percent per year, and an asset allocation change in 2032 causing the expected rate of return to decrease 50 basis points.

While the above scenarios reflect one potential asset shock in 2042, it is recommended that the system perform regular stress testing reflecting multiple potential iterations of economic, demographic and contribution conditions. Stress testing should be a regular part of reviewing portfolio performance and should be used as a gauge to help assess and manage the level of risk. The Society of Actuaries Blue Ribbon Panel on Public Pension Plan Funding recommends the use of stress testing to measure investment and contribution risks over a 30-year period.¹⁸

Adjust or remove the \$100,000 benefit cap as part of determining the necessary long-term contribution level.

The benefit cap as currently valued makes the plan appear to be better funded than it is. By reflecting the current plan provisions with no future increases to the cap and no changes to the demographic assumptions, the funding period is not adequately representative of the system's funding needs.

To address these concerns, the system should consider implementing one of three options:

1. Remove the cap entirely from the plan provisions.
2. Amend the plan provisions to index the cap to increase with inflation.
3. Amend the cap to be a level percentage of compensation rather than a flat dollar amount.

Use an experience study and asset-liability study to adjust assumptions, estimate future changes, and determine necessary long-term contribution level.

The system is already planning to perform an experience study in late 2022. This will be a valuable step since the results of this study can provide a starting point to reevaluate the actuarial assumptions and determine what adjustments are necessary. Determining the most reasonable actuarial assumptions is necessary to establish the contribution levels needed to improve funding. The PRB encourages the system to specifically consider adjustments to certain assumptions as part of this process, as follows.

Consider decreasing payroll growth assumption.

Because the city population, the number of fire stations, and the city's firefighter headcount have remained constant for years, the system should consider amending the payroll growth assumption to reflect current demographic trends. This change would result in a contribution rate that is more closely aligned with the plan's actual cost.

Consider using a generational mortality improvement assumption.

The system is underestimating the normal cost compared to most other Texas systems using generational mortality improvements by assuming only five years of mortality improvements even for a 25-year-old new hire, who will likely live for 60 or more years. The system should consider moving to a generational mortality improvement assumption.

Adjust assumptions to reflect benefit cap.

If the \$100,000 benefit cap continues to be modeled in the valuation as is with an open group projection, then demographic assumptions should reflect likely member behavior as the cap decreases in value each year. Such a change is in line with ASOP 35. Two potential changes can serve as a starting point to resolve this issue:

- Assume more pre-retirement terminations at each age, as some members may request a refund of contributions as they realize the accumulated contributions are worth more than the retirement benefit.

- Decrease the payroll growth assumption, as it is unlikely the city will be able to maintain the current firefighter headcount with pension provisions that replace only about 25 percent of a member's salary at retirement. The city could find it difficult to hire new firefighters, and even more difficult to retain the ones they do manage to hire.

Alternatively, the system could determine the amortization period using a closed group projection in which the normal cost is assumed to remain level in all years. This method would ensure the current normal cost of roughly 13 percent of payroll continues to be valued in the future rather than an ultimate rate of less than 8 percent. A closed group projection based on the current normal cost would resolve any need to model changing behaviors as the normal cost decreased in the future.

Evaluate need to adjust the return assumption by periodically performing asset-liability studies.

The system should consider conducting asset-liability studies, which model future asset and liability cash flows under various scenarios and determine if the asset allocation is sufficient to support the future benefit payment stream. These studies can be used occasionally to help the system evaluate its asset allocation and investment risks, which will help the system evaluate the appropriate investment return assumption. Specifically, the system is encouraged to perform a study focused on the demographic challenges the system is facing, which may include more conservative actuarial assumptions, lower capital market expectations, and an examination of the effects growing retiree liabilities will have on investment return assumptions and allocation.

Case Study: Closed vs. Open Group Projection

The only other Texas public pension system with a dollar cap similar to Wichita Falls Fire uses a closed group projection, which eliminates the decreasing normal cost. In a closed group projection, the current normal cost is used to determine the amortization period. Had that system used an open group projection, the normal cost likely would have decreased in every future year, like Wichita Falls Fire.

Submit a new FSRP prior to September 1, 2025, to avoid the stricter revised FSRP requirements.

Developing reasonable expectations of upcoming assumptions and plan provisions is imperative for the future actuarial soundness of the fund. However, changing these assumptions makes it likely Wichita Falls Fire will fall out of compliance with its legacy FSRP, so the system and sponsor would be required to prepare a new FSRP under the current law. This new FSRP could include all the necessary contribution increases or other plan changes to create a sustainable and equitable pension plan.

The FSRP requirement would not officially take effect until an actuarial valuation demonstrates that the system is no longer compliant with the legacy FSRP. Accordingly, the system and sponsor may find it advantageous to begin preparing an FSRP before triggering the requirement. This would allow them more time to evaluate the best options to improve funding and educate the membership in preparation for any necessary votes to adjust benefits or contributions as required by TLFFRA statute.

Additionally, completing an FSRP before September 1, 2025, would provide an opportunity to qualify for the exemption that would allow the system and its sponsoring city to prepare another standard FSRP

rather than a revised FSRP with stricter requirements if the system's funding period exceeded 30 years during the 10 years after the new FSRP was completed.²¹ If the FSRP was submitted after that date, they would need to use an actuarially determined contribution structure and be projected to reach full funding to qualify for the exemption.

The system and city also could take advantage of this option even without first triggering an FSRP by submitting a voluntary FSRP. And, if they triggered the FSRP requirement during the preparations, they could already have significant portions of the work completed.

Regardless of FSRP type completed, the system and sponsor must update the system's funding policy to reflect those changes. The goals of a funding policy are threefold: to establish clear and concrete funding objectives, to set boundaries on what is allowable for actuarial calculations, and to develop plans for both positive and negative experiences. The funding policy should strive to balance these goals to ensure member benefits are secure, contributions are predictable from year to year, and future taxpayers are not burdened with the costs of previous generations.²²

Consider using a smoothed actuarial value of assets.

Since the PRB's new FSRP rules allow the amortization period to be calculated using the greater of the market value of assets or the actuarial value of assets, the system should strongly consider adding a smoothed actuarial value of assets. This method could help the system avoid a revised FSRP with no disadvantage.

²¹ More information about the current FSRP statute and rules can be found on the PRB website: <https://www.prb.texas.gov/actuarial/funding-soundness-restoration-plan-fsrp/>.

²² *Interim Study: Funding Policies for Fixed-Rate Pension Plans*, Texas Pension Review Board, January 2019, <https://www.prb.texas.gov/txpen/wp-content/uploads/2019/02/Funding-Policy-Paper.pdf>.

Appendix

Key Metrics Used to Select Wichita Falls Fire

Metric	Amortization period (43.3 years in 2020)
What it measures	Approximately how long it would take to fully fund the unfunded actuarial accrued liability (UAAL) based on the current funding policy.
Why it is important	Given the Fund's current assumptions, an amortization period above 17 years indicates the contributions to the Fund in the coming year are less than the interest accumulated for that same period and therefore the total UAAL is expected to grow over the near term. In addition, for a plan that contributes on a fixed-rate basis such as Wichita Falls Fire, the higher the amortization period, the more sensitive it is to small changes in the UAAL. This remains true given the information in the 2022 valuation.
Peer comparison	Wichita Falls Fire currently ranks third highest amongst its peer TLFFRA plans (TLFFRA plans between \$8.8M and \$20.2M payroll with liabilities between \$67.1M and \$121.4M).

Metric	Funded ratio (56.8% in 2020)
What it measures	The percent of a system's actuarially accrued liabilities covered by its actuarial value of assets.
Why it is important	The lower the funded ratio, the fewer assets a system has to pay its current and future benefit payments.
Peer comparison	Wichita Falls Fire's funded ratio is the fourth lowest in its peer group.

Metric	UAAL as a percent of payroll (326.0%)
What it measures	The size of a system's unfunded liability compared to the annual payroll of its active members.
Why it is important	Provides a way to compare systems of various sizes and expresses the outstanding "pension debt" relative to current personnel costs.
Peer comparison	The system's UAAL as a percent of payroll is the fifth highest in its peer group.

Metric	Assumed rate of return (7.75%)
What it measures	The estimated annual rate of return on the Fund's assets.
Why it is important	If actual future returns are lower than the assumed rate of return, future contributions will need to increase significantly, especially for a poorly funded plan. Wichita Falls Fire's assumed rate of return is 7.75%.
Peer comparison	Wichita Falls Fire's assumed rate of return is third highest in the state.

Metric	Payroll growth rate (4.00%)
What it measures	The estimated annual growth in the total payroll of active members contributing into the fund.
Why it is important	Contributions are calculated as a percent of active members' pay and are back-loaded based on the expected growth in total payroll. If payroll does not increase at this rate, actual contributions will not meet those expected in the Fund's actuarial valuations. Given the system's inactive and active liabilities are not fully funded; contributions below expected levels will have serious consequences on the Fund's long-term solvency.
Peer comparison	The Fund's payroll growth rate of 4.00% percent is the second highest in the state.

Metric	Actual contributions as a percent of actuarially determined contributions (78.69%)
What it measures	Whether the current employer contributions have met a theoretical minimum threshold. ²³
Why it is important	The employer's portion of the contribution is less than 79% of the amount needed to fund the system on a rolling 30-year amortization period. The PRB's 2014 Study of the Financial Health of Texas Public Retirement Systems found that plans that have consistently received adequate funding are in a better position to meet their long-term obligations.
Peer comparison	This is the third largest shortfall percentage in its peer group.

Metric	Non-investment cash flow as a percent of fiduciary net position (-5.68%)
What it measures	Non-investment cash flow shows how much the system is receiving through contributions in relation to its outflows: benefit payments, withdrawals and expenses.

²³ The theoretical minimum threshold, or actuarially determined contribution (ADC), is a target or recommended contribution "to the Fund as determined by the actuary using a contribution allocation procedure," as defined in Actuarial Standards of Practice No 4. If contributions to the Fund are made as a fixed rate based on statutory or contractual requirements, the ADC for this purpose is the contribution needed to fund the benefits accrued in the current year and maintain an amortization period that does not exceed 30 years, as required to be reported under Texas Government Code §802.101(a).

Why it is important	Viewing this metric as a percent of total net assets (or fiduciary net position (FNP)), in conjunction with the funded ratio and recognition of the relative maturity of a plan, provides information about the stability of a plan's funding arrangement.
Peer comparison	Wichita Falls Fire's non-investment cash flow as a percent of FNP is the second lowest in its peer group. If this trend continues, the system could face the potential risk of needing to prematurely liquidate a portion of existing assets to pay current benefits and/or expenses.

Metric	Fund exhaustion date (2051)
What it measures	The date upon which there are projected to be no assets remaining to pay retiree monthly benefits.
Why it is important	Ensuring adequate assets are available to pay monthly benefits when due is the primary concern of any pension fund.
Peer comparison	Wichita Falls Fire is one of only two plans in its peer group with a projected fund exhaustion date.

Plan Summary

The Wichita Falls Firemen's Relief and Retirement Fund (Wichita Falls Fire) is established in the Texas Local Fire Fighter's Retirement Act (TLFFRA). TLFFRA provides general guidelines for fund management, but leaves administration, plan design, contributions, and specific investments to the discretion of the board of trustees. Wichita Falls Fire, as with all TLFFRA systems, is entirely locally funded.

Benefits

Retirement Eligibility	Hired Prior to 4/21/16 – Age 50 with 20 Years of Credited Service Hired After 4/20/16 – Age 55 with 20 Years of Credited Service
Vesting	20 Years of Service
Benefit Multiplier	Hired Prior to 4/21/16 – 2.55% Hired After 4/20/16 – 2.50%
Average Salary	Average Compensation over the 130 consecutive pay periods of service which produces the highest average, multiplied by 2.167
Benefit Formula	Benefit Multiplier x Average Salary x Credited Service Limited to \$100,000 not indexed with Inflation
Retroactive DROP Eligibility	Hired Prior to 4/21/16 – Age 55 with 25 Years of Credited Service Hired After 4/20/16 – Age 57 with 25 Years of Credited Service
Retroactive DROP Period	Maximum 24 Months

Contributions

As of the January 1, 2020, actuarial valuation, active members of Wichita Falls Fire contribute 13 percent of pay while the City of Wichita Falls contributes 13 percent of pay.

Membership

Total Active Members	Members/Beneficiaries in Pay	Terminated	Total Members	Active-to-Annuitant Ratio
159	147	5	311	1.08

TLFFRA Board Structure

Active Members	3 - Members of the retirement system; elected by fund members. Three-year terms.
Sponsor Government	1 - Mayor or designated representative, or the political subdivision's Chief Operating Officer or designated representative. 1 - Chief Financial Officer of the political subdivision, or designated representative. Terms correspond to term of office.
Taxpayer, Not Affiliated With Fund/Sponsor Govt.	2 - Residents of the State of Texas, must not be officers/employees of the political subdivision; elected by other Board of Trustee members. Two-year terms.

Contribution and Benefit Decision-Making

TLFFRA authorizes members of the retirement systems to determine their contribution rates by voting. The statute requires cities to make contributions at the same rate paid by employees or 12 percent, whichever is smaller. TLFFRA also allows a city to contribute at a higher rate than employees do through a change in city ordinance.

TLFFRA allows the board of trustees for each system to modify the benefits (increases and reductions). However, a proposed addition or change must be approved by the actuary and a majority of participating plan members before taking effect. Benefit changes cannot deprive a member, retiree, or beneficiary of the right to receive vested accrued benefits.

Asset Allocation

Asset Allocation (as of 12/31/2020)					
Asset Class	Equities	Fixed Income	Alternatives	Real Estate	Other*
Current Allocation	58.72%	25.91%	5.87%	8.81%	0.69%
Target Allocation	50.00%	30.00%	10.00%	10.00%	0.00%

*Other includes capital assets, receivables and cash

System	2020	Cash	Equity	Fixed Income	Real Estate	Alternatives	RE+AI
Odessa Firemen's Relief & Retirement Fund	\$47,736,104	0.87%	70.60%	17.39%	11.11%	0.00%	11.11%
Longview Firemen's Relief & Retirement Fund	\$49,440,856	3.84%	45.02%	9.97%	8.51%	29.12%	37.62%
Galveston Firefighter's Relief & Retirement Fund	\$53,548,434	1.90%	64.24%	19.61%	2.68%	11.48%	14.16%
Port Arthur Firemen's Relief & Retirement Fund	\$55,702,890	1.46%	65.32%	33.03%	0.00%	0.00%	0.00%
Killeen Firemen's Relief & Retirement Fund	\$50,912,600	5.89%	57.35%	28.19%	4.28%	4.42%	8.70%
Wichita Falls Firemen's Relief & Retirement Fund	\$57,828,760	0.00%	58.75%	26.51%	8.85%	5.94%	14.79%
McAllen Firemen's Relief & Retirement Fund	\$57,956,228	0.43%	68.56%	5.10%	0.00%	25.88%	25.88%
Abilene Firemen's Relief & Retirement Fund	\$56,393,440	6.14%	73.27%	20.24%	0.00%	0.93%	0.93%
San Angelo Firemen's Relief & Retirement Fund	\$77,329,058	1.61%	67.21%	19.42%	0.22%	11.54%	11.76%
Tyler Firefighters' Relief & Retirement Fund	\$81,054,656	3.17%	73.15%	22.17%	1.29%	0.00%	1.29%
Denton Firemen's Relief & Retirement Fund	\$117,198,139	10.57%	60.88%	14.46%	11.22%	2.85%	14.06%

Investment Returns

Rates of Return (as of 12/31/2021)				
Time Period	1-year	3-year	10-year	Since 1995
Gross Return	15.22%	17.30%	9.84%	8.56%
Net Return	14.10%	16.34%	9.17%	8.02%

Historical Trends

It is important to analyze trends across several metrics to conduct an intensive review of risks associated with the long-term funding of a public retirement system. A system with an asset level lower than its

accrued liability has insufficient funds to cover benefits. A system can experience an increase in unfunded liability due to various factors, including insufficient investment returns, inadequate contributions, and inaccurate or overly aggressive assumptions. Hence, a single metric cannot effectively capture the different drivers contributing to the increase of a system's unfunded pension obligation. This section analyzes historical trends in various metrics identified by the PRB and makes comparisons to understand the sources of growth in unfunded liability for Wichita Falls Fire.

Wichita Falls Fire's funded status has been steadily declining since 2000. Inadequate contributions have been the main cause of this decline.

Assets and Liabilities

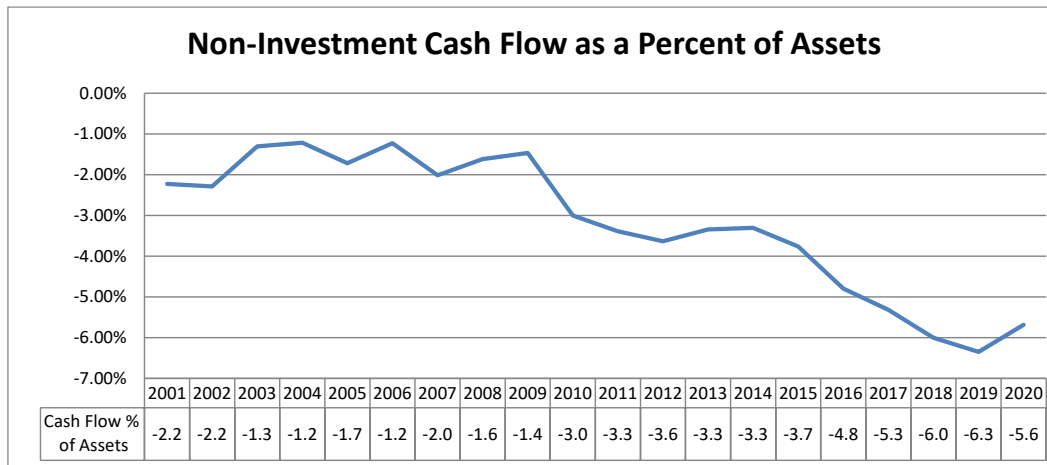
Funding Trends									
Funded Ratio, Amortization Period and Unfunded Liability as Percent of Payroll									
Valuation Year	2006	2008	2010	2012	2015	2016	2017	2018	2020
Funded Ratio	74.79%	72.54%	68.34%	63.00%	65.24%	64.38%	62.48%	57.70%	56.78%
Am Period (years)	34.6	24.8	38.9	63.2	105.9	43.7	49.4	Infinite	43.3
UAAL (% of payroll)	155.87%	167.15%	223.34%	274.94%	260.85%	252.24%	265.13%	316.54%	326.00%

The system was 86 percent funded in 2000 but fell to 57 percent in 2020.

Cash Flow

Wichita Falls Fire had the second lowest non-investment cash flow in its peer group. It has significantly decreased since 2015. Benefit disbursements and contribution refunds are worth more than double the value of contributions the fund receives.

A negative non-investment cash flow is not abnormal for mature defined benefit pension plans. However, a cash flow percentage this low is likely to be a drag on potential investment returns because a plan must either invest in a higher proportion of income-producing investments, which traditionally provide lower returns, or must liquidate existing assets to pay out current benefits or expenses. Moreover, a cash flow percentage this low also increases the likelihood of the system being required to prematurely liquidate its assets.



Peer Group Key Metric Comparison

		Funding Val Metrics						Fiscal Year End Metrics				
Peer Group Plans	MVA	Am Period Date	Am Period	Funded Ratio	UAAL as % of Payroll	Assumed Interest	Payroll Growth	FYE	Actual Cont. as % of ADC	DROP as % of FNP	Non-Investment Cash Flow as % of FNP	Fund Exhaustion Date
Odessa Firemen's Relief & Retirement Fund	\$47,736,104	1/1/2021	27.7	37.18%	461.24%	7.50%	3.50%	12/31/2020	89.14%	0.73%	-8.12%	N/A
Longview Firemen's Relief & Retirement Fund	\$49,440,856	12/31/2020	Infinity	40.02%	509.76%	7.50%	3.00%	12/31/2020	64.37%	N/A	-4.66%	2039
Galveston Firefighter's Relief & Retirement Fund	\$49,030,850	12/31/2019	57.6	64.90%	294.44%	7.50%	2.85%	12/31/2020	80.19%	N/A	-2.98%	N/A
Port Arthur Firemen's Relief & Retirement Fund	\$51,911,828	12/31/2019	27.3	74.99%	180.33%	7.50%	3.00%	12/31/2019	92.60%	N/A	-3.14%	N/A
Killeen Firemen's Relief & Retirement Fund	\$43,947,220	9/30/2018	39.8	69.35%	131.39%	7.50%	3.00%	9/30/2020	93.23%	N/A	0.36%	N/A
Wichita Falls Firemen's Relief & Retirement Fund	\$52,839,710	1/1/2020	43.3	56.78%	326.00%	7.75%	4.00%	12/31/2020	78.69%	N/A	-5.68%	2051
McAllen Firemen's Relief & Retirement Fund	\$57,956,229	9/30/2020	27.7	69.50%	192.05%	7.50%	3.00%	9/30/2020	75.68%	N/A	-2.97%	N/A
Abilene Firemen's Relief & Retirement Fund	\$55,688,060	10/1/2019	31.4	49.07%	393.82%	7.50%	3.00%	9/30/2020	96.76%	0.00%	-4.39%	N/A
San Angelo Firemen's Relief & Retirement Fund	\$71,755,780	12/31/2019	37.6	61.97%	339.34%	7.80%	3.50%	12/31/2019	95.30%	N/A	-2.25%	N/A
Tyler Firefighters' Relief & Retirement Fund	\$74,572,570	12/31/2019	29.0	71.13%	240.14%	7.25%	3.00%	12/31/2020	94.83%	N/A	-4.95%	N/A
Denton Firemen's Relief & Retirement Fund	\$103,815,790	12/31/2019	18.3	80.79%	115.79%	6.75%	3.00%	12/31/2020	107.37%	N/A	0.76%	N/A

Peer Group Sponsor Funding Comparison

Peer Group Plans	General Fund Expenditures (GFE)	Expected Employer Contributions	Payroll (\$Millions)	Contributions/ GFE	Payroll/ GFE
Odessa Firemen's Relief & Retirement Fund	\$89,247,303	\$2,814,543	\$13.67	3.2%	15%
Longview Firemen's Relief & Retirement Fund	\$60,795,056	\$2,551,945	\$13.85	4.2%	23%
Galveston Firefighter's Relief & Retirement Fund	\$53,481,911	\$1,471,714	\$8.78	2.8%	16%
Port Arthur Firemen's Relief & Retirement Fund	\$62,108,297	\$1,337,739	\$9.30	2.2%	15%
Killeen Firemen's Relief & Retirement Fund	\$77,239,242	\$1,919,225	\$15.39	2.5%	20%
Wichita Falls Firemen's Relief & Retirement Fund	\$79,087,357	\$1,615,395	\$12.34	2.0%	16%
McAllen Firemen's Relief & Retirement Fund	\$116,400,08	\$1,969,448	\$13.11	1.7%	11%
Abilene Firemen's Relief & Retirement Fund	\$96,343,197	\$3,414,114	\$15.31	3.5%	16%
San Angelo Firemen's Relief & Retirement Fund	\$82,050,627	\$2,577,835	\$12.64	3.1%	15%
Tyler Firefighters' Relief & Retirement Fund	\$75,556,716	\$2,708,618	\$12.26	3.6%	16%
Denton Firemen's Relief & Retirement Fund	\$121,963,673	\$4,158,368	\$20.15	3.4%	17%

Peer Group Size (\$Millions)			
Fund	Payroll	Actuarial Accrued Liability	Actuarial Value of Assets
Wichita Falls Fire	\$12.3	\$93.1	\$52.8
Average	\$13.3	\$98.0	\$58.9

Peer Group Expense Comparison

Peer Group Plans	10 yr. return (Net)	Active/ Annuitants	Average Benefit	NPL	Admin Expenses	Admin Exp as % of Assets	Investment Expenses	Inv Exp as % of Assets	Other Expenses	Total Expenses	Exp as % of Assets
Odessa Firemen's Relief & Retirement Fund	7.12%	1.09	\$51,139	\$69,999,260	\$196,147	0.41%	\$89,937	0.19%	0	\$286,084	0.60%
Longview Firemen's Relief & Retirement Fund	5.84%	1.11	\$43,394	\$162,570,306	\$73,839	0.15%	\$128,154	0.26%	0	\$201,993	0.41%
Galveston Firefighter's Relief & Retirement Fund	6.89%	1.25	\$40,485	\$18,974,664	\$112,582	0.21%	\$236,383	0.44%	0	\$348,965	0.65%
Port Arthur Firemen's Relief & Retirement Fund	7.84%	1.20	\$60,772	\$12,248,220	\$56,747	0.10%	\$71,589	0.13%	0	\$128,336	0.23%
Killeen Firemen's Relief & Retirement Fund	5.87%	2.95	\$38,843	\$19,243,744	\$107,111	0.21%	\$149,812	0.29%	0	\$256,923	0.50%
Wichita Falls Firemen's Relief & Retirement Fund	7.90%	1.08	\$36,789	\$80,142,060	\$115,915	0.20%	\$373,910	0.65%	0	\$489,825	0.85%
McAllen Firemen's Relief & Retirement Fund	7.39%	1.51	\$38,613	\$25,544,808	\$38,950	0.07%	\$387,842	0.67%	0	\$426,792	0.74%
Abilene Firemen's Relief & Retirement Fund	5.83%	1.00	\$38,277	\$65,975,348	\$101,730	0.18%	\$196,365	0.35%	0	\$298,095	0.53%
San Angelo Firemen's Relief & Retirement Fund	7.50%	1.16	\$42,334	\$39,991,102	\$83,876	0.11%	\$304,226	0.39%	0	\$388,102	0.50%
Tyler Firefighters' Relief & Retirement Fund	7.65%	1.27	\$43,079	\$22,996,310	\$46,062	0.06%	\$628,582	0.78%	0	\$674,644	0.83%
Denton Firemen's Relief & Retirement Fund	7.96%	2.21	\$61,473	\$11,134,689	\$116,909	0.10%	\$182,906	0.16%	0	\$299,815	0.26%

Peer Group Value of Benefits Comparison

Peer Group Plans	Retirement Age	YCS	Multiplier as % of FAS	Normal Form of Payment	COLA	Social Security?	Normal Cost at Plan Discount Rate	Normalized Normal Cost at 7.50%
Odessa Firemen's Relief & Retirement Fund	55.0	25.0	0.72	Life Annuity	None	Yes	15.25%	15.25%
Longview Firemen's Relief & Retirement Fund	55.0	20.0	0.60	Life Annuity	None	No	17.01%	17.01%
Galveston Firefighter's Relief & Retirement Fund	50.0	20.0	0.60	Life Annuity with J/S 66%	None	No	20.66%	20.66%
Port Arthur Firemen's Relief & Retirement Fund	50.0	20.0	0.54	Life Annuity with J/S 66%	None	No	15.42%	15.42%
Killeen Firemen's Relief & Retirement Fund	50.0	25.0	0.70	Life Annuity with J/S 66%	None	Yes	17.43%	16.52%
Wichita Falls Firemen's Relief & Retirement Fund	55.0	20.0	0.50	Life Annuity	None	Yes	13.38%	14.12%
McAllen Firemen's Relief & Retirement Fund	50.0	20.0	0.58	Life Annuity with J/S 66%	None	Yes	16.98%	16.98%
Abilene Firemen's Relief & Retirement Fund	53.0	20.0	0.55	Life Annuity	None	No	17.17%	17.17%
San Angelo Firemen's Relief & Retirement Fund	55.0	25.0	0.66	Life Annuity with J/S 72%	1.2% after age 65	No	22.81%	24.65%
Tyler Firefighters' Relief & Retirement Fund	50.0	25.0	0.72	Life Annuity with J/S 66%	None	No	21.85%	20.71%
Denton Firemen's Relief & Retirement Fund	50.0	20.0	0.52	Life Annuity with J/S 66%	None	Yes	22.33%	19.01%

Comments from Wichita Falls Firemen's Relief and Retirement Fund

The PRB did not receive any comments on the initial draft from the Wichita Falls Firemen's Relief and Retirement Fund.

Comments from the City of Wichita Falls



Jessica Williams, MPA, CPFO
Chief Financial Officer
City of Wichita Falls
1300 7th Street,
Wichita Falls, TX 76301
940-761-7476

September 8, 2022

Pension Review Board
P.O. Box 13498
Austin, TX 78711
512-463-3399

City of Wichita Falls Intensive Review

To Whom It May Concern,

In review of the draft Intensive Review, the City of Wichita Falls (City) thanks the Pension Review Board (PRB) for their review and recognizes the PRB's recommendations are for informational purposes only. The City provides the following comments.

The document presents data from both the 2020 Valuation and the 2022 Valuation creating confusion for the reader. At the onset of this project, the City indicated to the PRB that both a new valuation and an experience study were underway. The valuation, when complete, was presented to the PRB. It would be consistent to update the entirety of the report using the most recent valuation.


During the current budget process, the City of Wichita Falls increased the City contribution to the Wichita Falls Firefighters Pension Fund (fund) from 13.25% in fiscal year 2021-22 to 16.18% in fiscal year 2022-23. The City has worked closely with the Fund, the Fund's Actuary, and the Firefighters Association to make changes to improve the plan. In review of the 2022 valuation and considering recommendations from the PRB, it is the belief of the City and the Fund's Actuary that City contribution rates at 16.18% will decrease the total amortization period from 32.1 years to 24.5 years. The City therefore sees no need for further action at this time. The City and all affected parties will continue to work together to see that the funding of the plan increases and the amortization period decreases.

Neither the taxpayer, nor the City, may make changes to the Firefighters Pension Fund's self-determined benefits. Changes may only be made by a vote of the membership. This allows for an inequitable distribution of governance for all plan sponsors throughout the state. Plan sponsors are governed by representatives chosen by the people, through the election process, to represent the needs of their constituents. Any additional tax burden placed on taxpayers, due to the choices of these independent plans, must be both the responsibility of the member and, by agreement, the responsibility of the taxpayer.

The plan has consistently met or exceeded its benchmark returns, however, as noted in the Intensive Review, the fund lost considerable ground during the Great Recession. Following the Great Recession, the City of Wichita Falls entered into a historic drought, spanning over five years, which resulted in a decrease in population, stagnant growth and considerable financial challenges. As funds have been available, the City has made increases to the Fire Pension fund. The firefighters have voted to changed their benefits and have reduced the richness of the plan for some incoming members.

The City again thanks the PRB for their review and will consider the suggestions contained therein.

Sincerely,

A handwritten signature in blue ink, appearing to read "Jessica Williams", with a stylized flourish at the end.

Jessica Williams
Chief Financial Officer

Item 7a: AV Report and Item 7b: FSRP Report

David Fee

Summary

- AV report
 - Changes since July board meeting
 - System news
 - Major assumption changes
 - System overview
 - Summary analysis
 - Discount rate
 - Amortization period
 - Funded ratio
 - Fund exhaustion
 - Contributions
- FSRP Report
 - FSRP status changes since July board meeting
 - FSRP status by category





Actuarial Valuation Report



Texas Public Pension System News

- **Atlanta Fire**
 - Increased city contributions 2% each year in 2022, 2023, 2024
 - From 13% to 19% over the period
- **Beaumont Fire**
 - Increased city/member contributions from 16.5%/17.25% to 20.0%/18.0% by 2023
 - New tier for employees hired after January 1, 2022
- **Denton Fire**
 - Provided ad hoc COLA July 1, 2022, while maintaining amortization period below 10 years
 - Allocated 75% to equities/alternatives with a 6.75% expected return on assets
- **Irving Fire**
 - \$80M pension obligation bonds sold, graduated from Legacy FSRP
 - Members will contribute up to 13% of pay toward ADC, with city paying remainder
 - Increases to ADC due to benefit enhancements will be paid by the members
- **Lower Neches Valley**
 - Changed “actuarial equivalence” definition to provide larger lump sums
 - Updated mortality from 1983 GAM to table for lump sums updated annually by IRS
 - Lowered interest rate to equal valuation expected return on assets
- **Paris Fire**
 - All future accruals in TMRS beginning October 1, 2022
 - Will issue \$12M pension obligation bond to pay off UAAL



Significant Economic Assumption Changes

System	Decreased Discount Rate 7/14/22 → 10/6/22		Decreased Payroll Growth Rate 7/14/22 → 10/6/22	
	Current Rate	Prior Rate	Current Rate	Prior Rate
Amarillo Fire			2.50%	2.75%
Dallas Ft. Worth Airport Board	7.00%	7.25%		
Dallas Ft. Worth Airport DPS	7.00%	7.25%	3.50%	3.75%
El Paso Fire			2.75%	3.00%
El Paso Police			2.75%	3.00%
El Paso Staff			2.75%	3.00%
Harris County Hospital District	5.75%	6.25%		
Texarkana Fire	7.50%	7.60%	2.90%	3.00%

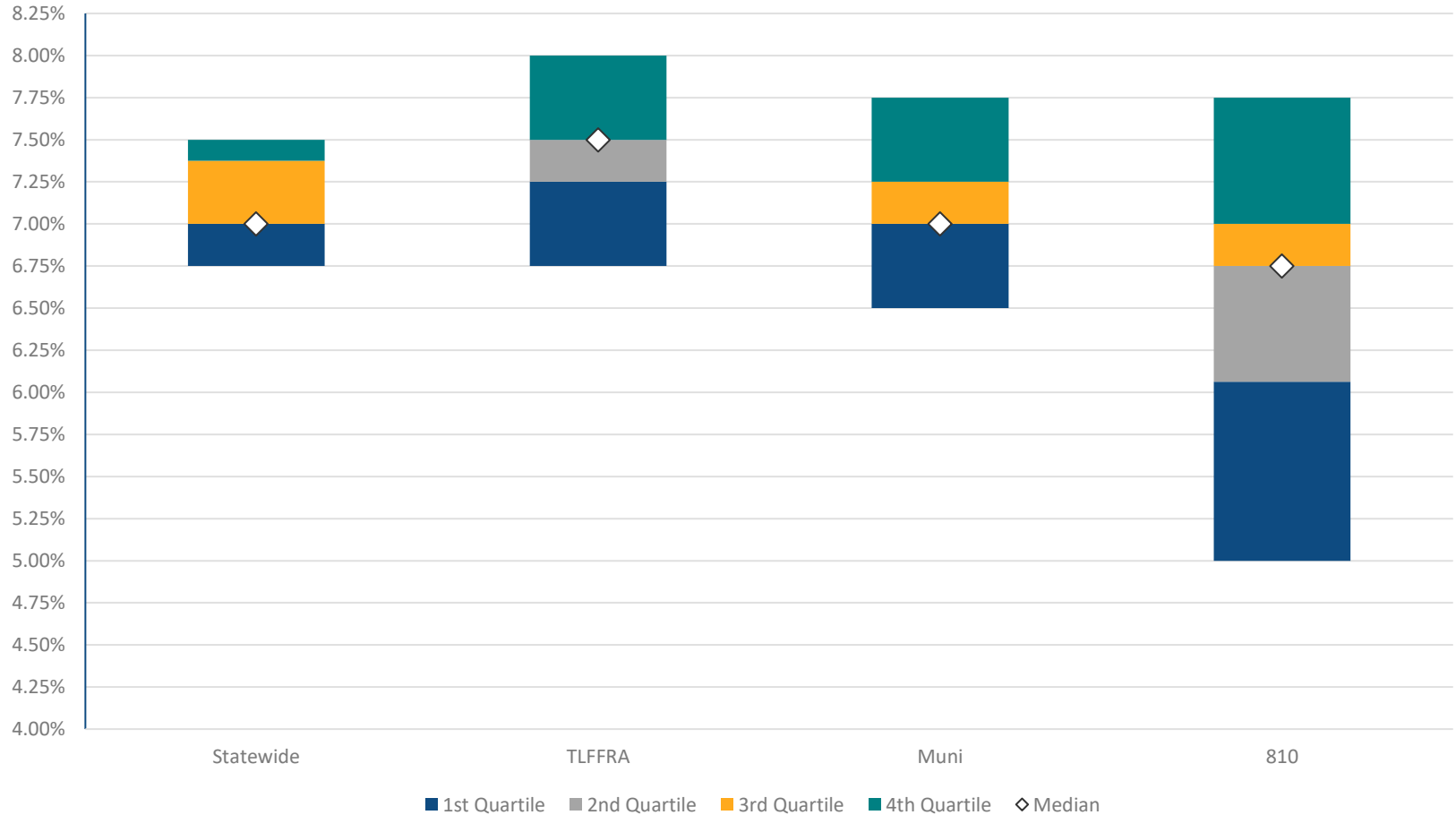


System Overview By Type

System Type	System Count	Median Expected Return	Median Amortization Period	Median Funded Ratio
Statewide	7	7.00%	23	83%
TLFFRA	42	7.50%	31	62%
Muni	17	7.00%	27	76%
810	34	6.75%	11	86%
Total	100	7.00%	23	73%

Numbers in teal denote improvements from the previous report

Expected Return on Assets (Discount Rate)

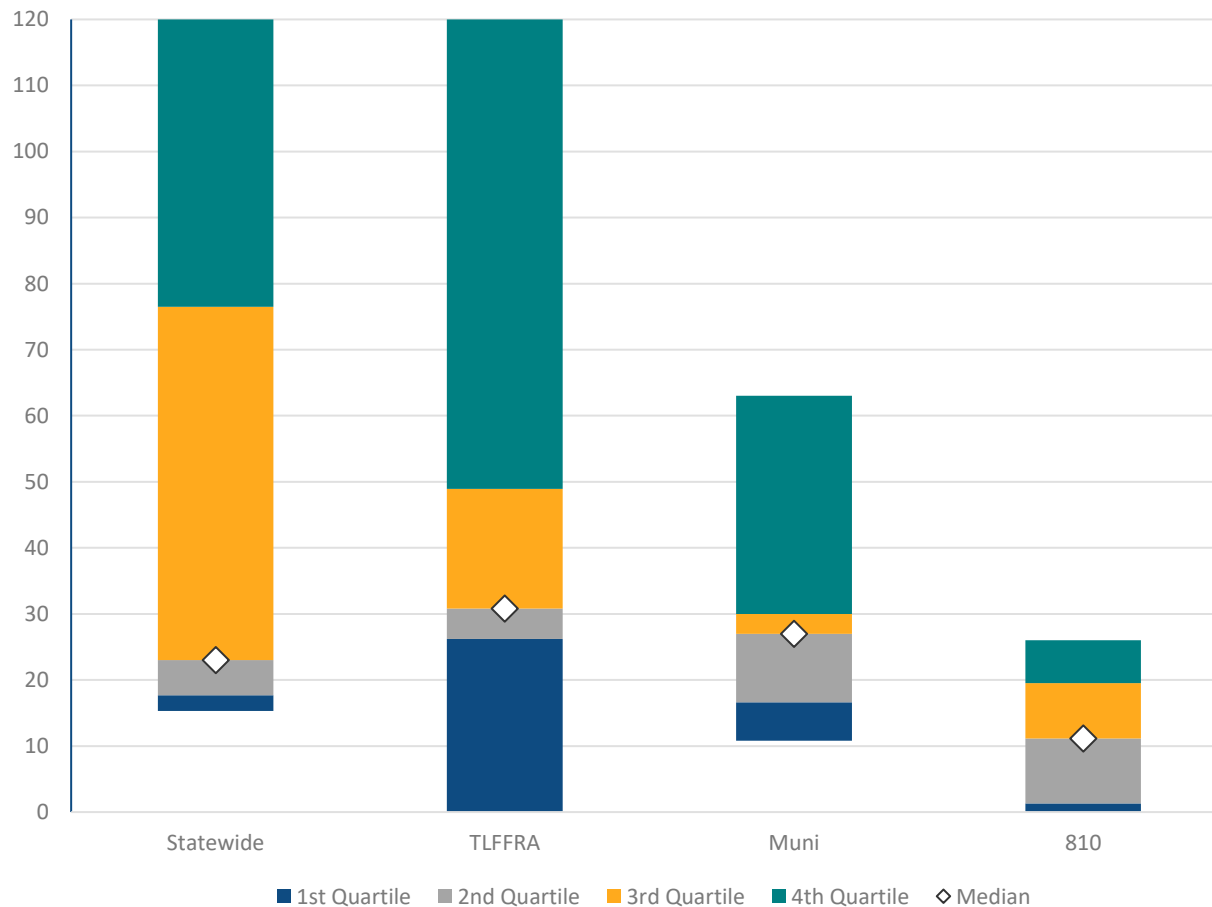


Systems with Discount Rate Above 7.50%

System Name	Discount Rate	System Type
Sweetwater Firemen's Relief & Retirement Fund	8.00%	TLFFRA
San Angelo Firemen's Relief & Retirement Fund	7.80%	TLFFRA
Big Spring Firemen's Relief & Retirement Fund	7.75%	TLFFRA
El Paso Firemen & Policemen's Pension Staff Plan	7.75%	810
El Paso Firemen's Pension Fund	7.75%	Muni
El Paso Police Pension Fund	7.75%	Muni
Harlingen Firemen's Relief & Retirement Fund	7.75%	TLFFRA
Orange Firemen's Relief & Retirement Fund	7.75%	TLFFRA
Temple Firemen's Relief & Retirement Fund	7.75%	TLFFRA
Wichita Falls Firemen's Relief & Retirement Fund	7.75%	TLFFRA

Texarkana Fire was removed from the list since the previous report. No systems were added to the list.

Amortization Period



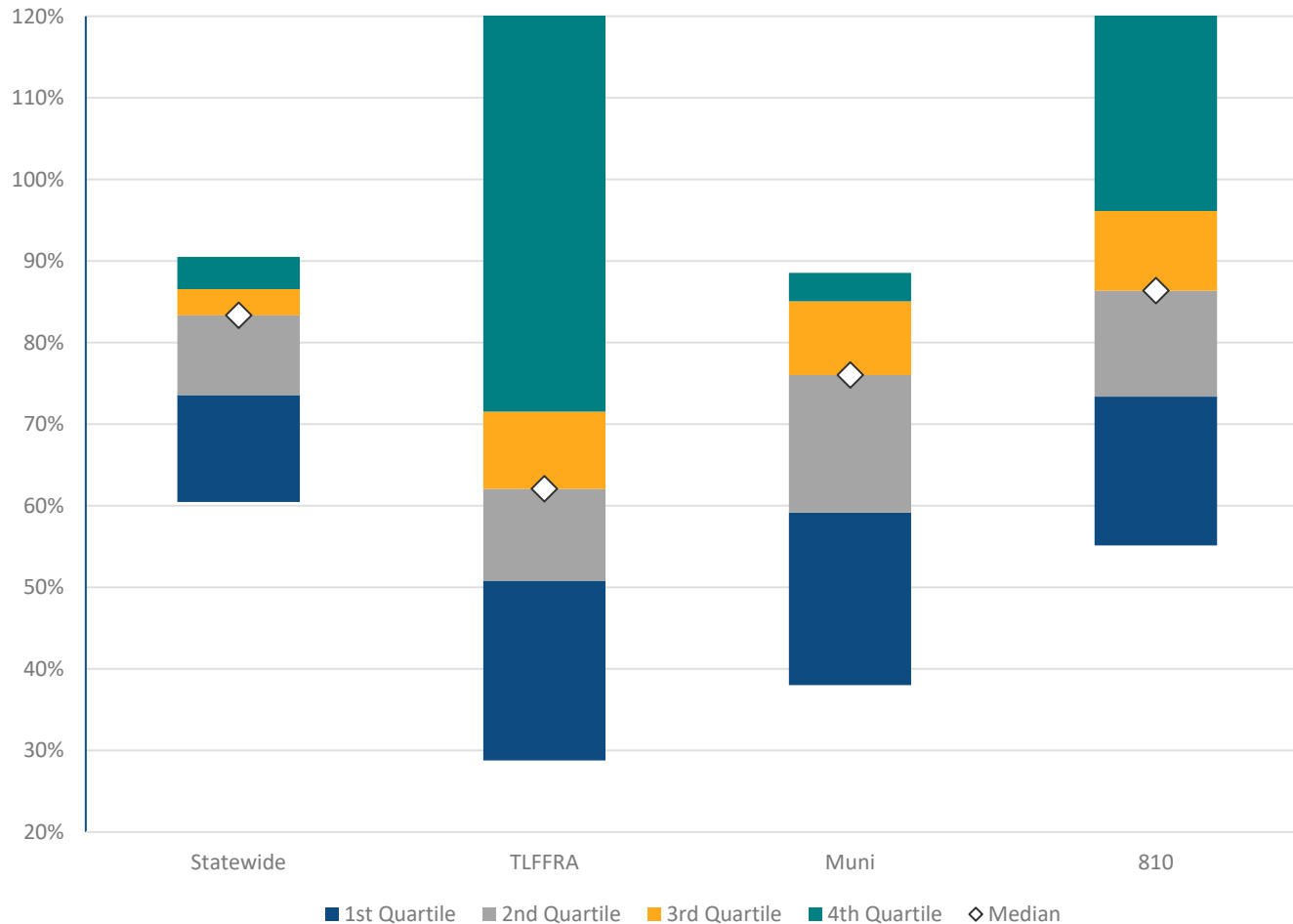
Systems With Funding Periods > 50 Years

System Name	Funding Period	System Type	Notes
Law Enforcement & Custodial Off Sup. Ret. Fund	Infinite	Statewide	
Judicial Retirement System of Texas Plan Two	Infinite	Statewide	
Beaumont Firemen's Relief & Retirement Fund	Infinite	TLFFRA	New Tier. Contributions ↑
Midland Firemen's Relief & Retirement Fund	Infinite	TLFFRA	
Longview Firemen's Relief & Retirement Fund	Infinite	TLFFRA	\$46M POB sold
Conroe Fire Fighters' Retirement Fund	Infinite	TLFFRA	
Atlanta Firemen's Relief & Retirement Fund	Infinite	TLFFRA	40 after city contributions ↑
Brownwood Firemen's Relief & Retirement Fund	94.7	TLFFRA	
Plainview Firemen's Relief & Retirement Fund	79.7	TLFFRA	35 under legacy FSRP
Sweetwater Firemen's Relief & Retirement Fund	68.9	TLFFRA	
Dallas Police & Fire Pension System-Combined Plan	63.0	Muni	
Laredo Firefighters Retirement System	56.8	TLFFRA	
Corsicana Firemen's Relief & Retirement Fund	52.2	TLFFRA	
Galveston Firefighter's Relief & Retirement Fund	51.6	TLFFRA	Upcoming FSRP submission

Texarkana Fire and Dallas Employees were removed from the list since the previous report. No systems were added to the list.



Funded Ratio



Systems with Funded Ratios < 50%

System Name	Total Funded Ratio	Retiree Funded Ratio	System Type
Paris Firefighters' Relief & Retirement Fund*	28.8	43.0	TLFFRA
Plainview Firemen's Relief & Retirement Fund	34.0	58.4	TLFFRA
Odessa Firemen's Relief & Retirement Fund*	36.5	49.1	TLFFRA
Galveston Employees' Retirement Plan for Police*	38.0	61.3	Muni
Longview Firemen's Relief & Retirement Fund	40.0	72.3	TLFFRA
Marshall Firemen's Relief & Retirement Fund	40.2	67.1	TLFFRA
Dallas Police & Fire Pension System-Combined Plan	41.6	61.0	Muni
University Park Firemen's Relief & Retirement Fund*	42.3	67.0	TLFFRA
Greenville Firemen's Relief & Retirement Fund*	42.6	72.2	TLFFRA
Brownwood Firemen's Relief & Retirement Fund	42.8	86.6	TLFFRA
Dallas Police & Fire Pension System-Supplemental*	43.7	49.9	Muni
Texas City Firemen's Relief & Retirement Fund*	45.4	67.8	TLFFRA
Abilene Firemen's Relief & Retirement Fund*	49.4	75.7	TLFFRA

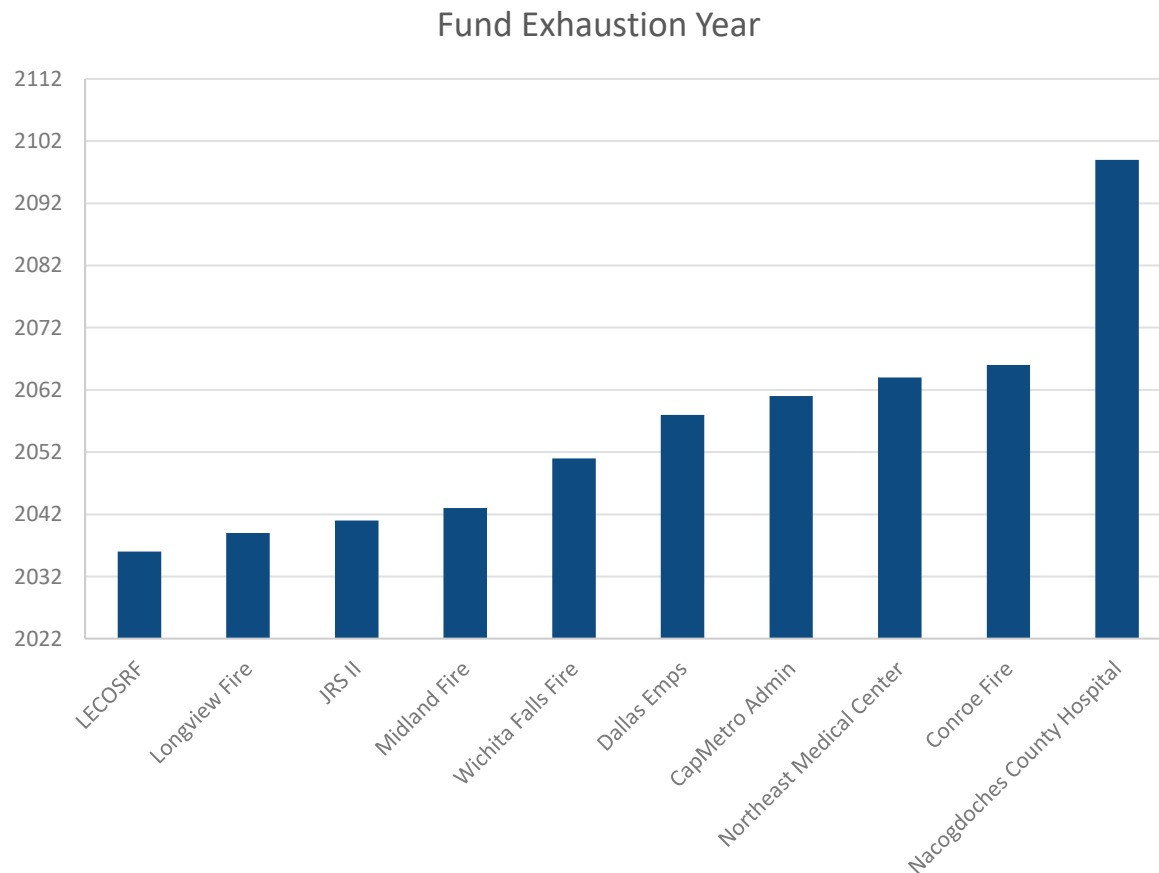


Additional Systems with Retiree Funded Ratios < 100%

System Name	Total Funded Ratio	Retiree Funded Ratio	System Type
Capital MTA Bargaining	55.2	72.8	810
Beaumont Firemen's Relief & Retirement Fund	55.4	84.8	TLFFRA
Orange Firemen's Relief & Retirement Fund	56.6	89.3	TLFFRA
Corsicana Firemen's Relief & Retirement Fund	54.7	91.3	TLFFRA
Fort Worth Employees' Retirement Fund	53.2	92.4	TLFFRA
Midland Firemen's Relief & Retirement Fund	51.1	99.0	TLFFRA
Cleburne Firemen's Relief & Retirement Fund	59.6	99.4	TLFFRA



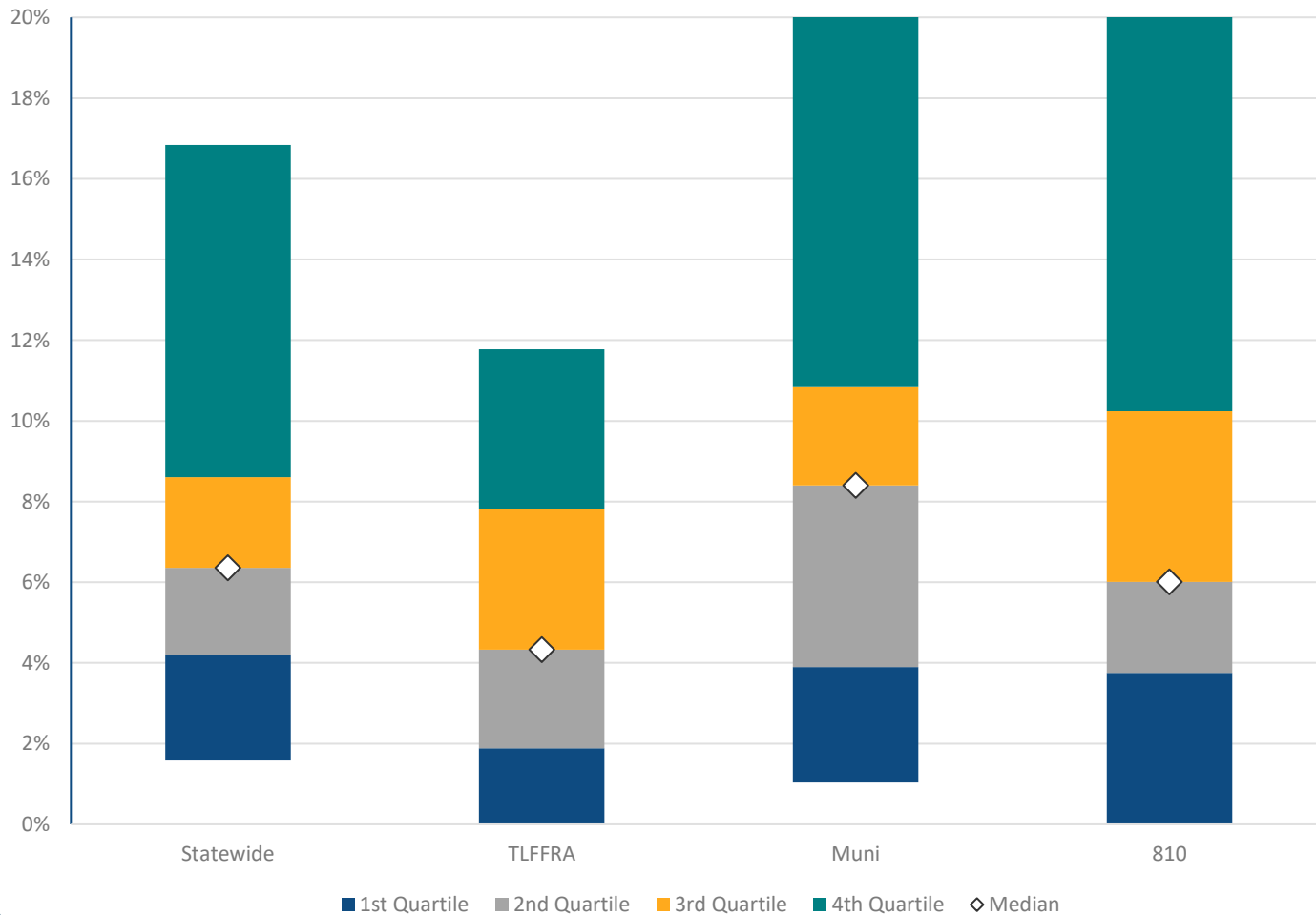
Systems with Fund Exhaustion Year



Atlanta Fire and Beaumont Fire were removed from the list since the previous report. The exhaustion years for CapMetro Admin and Northeast Medical Center were extended into the future. No systems were added to the list.



Employer Normal Cost



Systems Whose Members Pay > 90% of Normal Cost

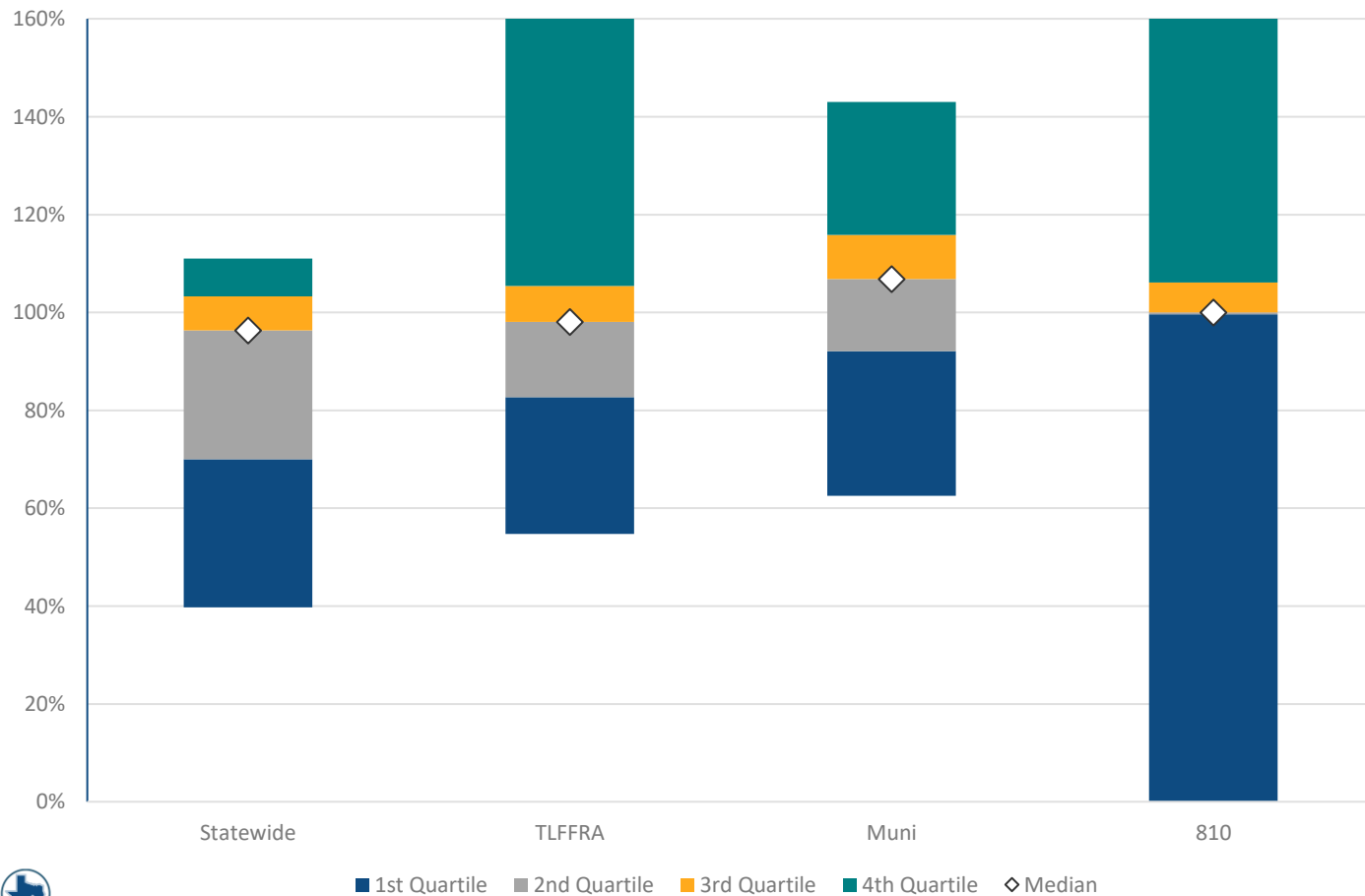
System Name	Member Portion	System Type
Paris Firefighters' Relief & Retirement Fund	166%	TLFFRA
Texas City Firemen's Relief & Retirement Fund	113%	TLFFRA
Odessa Firemen's Relief & Retirement Fund	105%	TLFFRA
Denison Firemen's Relief & Retirement Fund	103%	TLFFRA
Orange Firemen's Relief & Retirement Fund	102%	TLFFRA
Plainview Firemen's Relief & Retirement Fund	100%	TLFFRA
Longview Firemen's Relief & Retirement Fund	97%	TLFFRA
Wichita Falls Firemen's Relief & Retirement Fund	97%	TLFFRA
El Paso Police Pension Fund	95%	Muni
Corsicana Firemen's Relief & Retirement Fund	94%	TLFFRA
El Paso Firemen's Pension Fund	94%	Muni
San Benito Firemen Relief & Retirement Fund	91%	TLFFRA

List is unchanged since the previous report.



Employer Percent of Recommended Contribution

Employer Actual Contribution Compared to Recommended Contribution



Employers Contributing < 80% of Recommended Contribution

System Name	Employer Portion	System Type
Law Enforcement & Custodial Off Sup. Ret. Fund	40%	Statewide
Beaumont Firemen's Relief & Retirement Fund	55%	TLFFRA
Austin Police Retirement System	63%	Muni
Dallas Employees' Retirement Fund	64%	Muni
Longview Firemen's Relief & Retirement Fund	65%	TLFFRA
Judicial Retirement System of Texas Plan Two	66%	Statewide
University Park Firemen's Relief & Retirement Fund	70%	TLFFRA
Employees Retirement System of Texas	74%	Statewide
Irving Firemen's Relief & Retirement Fund	74%	TLFFRA
Wichita Falls Firemen's Relief & Retirement Fund	76%	TLFFRA
Orange Firemen's Relief & Retirement Fund	77%	TLFFRA
Sweetwater Firemen's Relief & Retirement Fund	77%	TLFFRA
Colorado River Municipal Water District	78%	810
Galveston Firefighter's Relief & Retirement Fund	79%	TLFFRA
Atlanta Firemen's Relief & Retirement Fund	79%	TLFFRA
Marshall Firemen's Relief & Retirement Fund	79%	TLFFRA





FSRP Updates



FSRP Status Changes

- Removed from Systems at Risk
 - **Texarkana Fire**
 - 27.5 amortization period in 12/31/2021 valuation
- Removed from Systems with Amortization Periods between 30-40 Years (not yet at risk)
 - **Amarillo Fire**
 - 6.0 amortization period in 12/31/2021 valuation
 - **San Angelo Fire**
 - 29.7 amortization period in 12/31/2021 valuation
- Removed from Legacy FSRPs
 - **Irving Fire**
 - 27.3 amortization period in 12/31/2021 valuation using MVA



Systems Immediately Subject to 30-Year FSRP Formulation Requirement

These plans had amortization periods over 40 years for three consecutive annual actuarial valuations, or two consecutive actuarial valuations if the systems conduct the valuations every two or three years. This was the triggering mechanism prior to Sept. 1, 2021. However, the FSRPs were not submitted before Sept. 1, 2021, so the FSRP must now be developed under the new law, **targeting 30 years by Sept. 1, 2025.**

Systems Immediately Subject to an FSRP Formulation Requirement

Retirement System	Am Period	Date of AV	Am Period	Date of AV	Am Period	Date of most recent AV	FSRP Due Date
Midland Firemen's Relief & Retirement Fund ¹	44.7	12/31/2015	Infinite	12/31/2017	Infinite	12/31/2019	9/1/2025
Longview Firemen's Relief & Retirement Fund ²	Infinite	12/31/2018	Infinite	12/31/2019	Infinite	12/31/2020	9/1/2025
Beaumont Firemen's Relief & Retirement Fund ¹	104.0	12/31/2016	Infinite	12/31/2018	Infinite	12/31/2020	9/1/2025
Dallas Employees' Retirement Fund ¹	65	12/31/2019	51	12/31/2020	50	12/31/2021	9/1/2025
Laredo Firefighters Retirement System	28.0	9/30/2016	43.0	9/30/2018	56.8	9/30/2020	9/1/2025
Sweetwater Firemen's Relief & Retirement Fund ³	27.5	12/31/2016	63.3	12/31/2018	68.9	12/31/2020	9/1/2025
Atlanta Firemen's Relief & Retirement Fund	28.4	12/31/2016	Infinite	12/31/2018	Infinite	12/31/2020	9/1/2025
Galveston Firefighter's Relief & Retirement Fund ¹	26.8	12/31/2017	57.6	12/31/2019	51.6	12/31/2021	9/1/2025

¹ Plan previously submitted an FSRP or Revised FSRP under previous law.

² \$46 million pension obligation bond has been passed but not yet sold.

³ Plan previously completed an FSRP or Revised FSRP under previous law.

Orange font indicates the triggering valuation.



Systems at Risk of 30-Year FSRP Formulation Requirement

These at-risk systems' most recent actuarial valuation shows an amortization period that exceeds the applicable threshold but does not yet trigger the FSRP requirement.

Systems at Risk of an FSRP - <u>Not Yet Subject to FSRP Requirement</u>							
Retirement System	Am Period	Date of AV	Am Period	Date of AV	Am Period	Date of AV	Funded Ratio
Austin Employees Retirement System	40	12/31/2019	32	12/31/2020	33	12/31/2021	66.0%
Brownwood Firemen's Relief & Retirement Fund	36.1	12/31/2015	38.6	12/31/2017	94.7	12/31/2019	42.8%
Corsicana Firemen's Relief & Retirement Fund	28.9	12/31/2016	28.9	12/31/2018	52.2	12/31/2020	54.7%
Conroe Fire Fighter's Retirement Fund	39.0	12/31/2017	Infinite	12/31/2018	Infinite	12/31/2019	58.4%
Dallas Police & Fire Pension System (Combined Plan)	38.0	1/1/2019	55.0	1/1/2020	63.0	1/1/2021	41.6%
Odessa Firemen's Relief & Retirement Fund ¹	37.5	1/1/2020	27.7	1/1/2021	34.3	1/1/2022	36.5%

¹ Plan previously completed an FSRP or Revised FSRP under previous law.

Orange font indicates the amortization period above the applicable threshold.

Teal font indicates funded ratio less than 65%

Systems with Amortization Periods between 30-40 Years (not yet at risk)

These systems have not yet triggered the requirement to notify their sponsors that the plan's amortization period is above the FSRP threshold of 30 years. This list is intended to keep the committee apprised of plans that may receive a subsequent AV showing an amortization period above 30 years, thus becoming at-risk of triggering the FSRP requirement.

Systems not yet at Risk of an FSRP - Not Subject to FSRP Requirement

Retirement System	Am Period	Date of AV	Am Period	Date of AV	Am Period	Date of AV	Funded Ratio
Big Spring Firemen's Relief & Retirement Fund	36.2	12/31/2017	38.3	1/1/2019	33.7	1/1/2021	54.7%
Cleburne Firemen's Relief & Retirement Fund	28.8	12/31/2016	48.6	12/31/2018	37.3	12/31/2020	59.6%
Greenville Firemen's Relief & Retirement Fund ¹	55.0	12/31/2016	40.7	12/31/2018	36.6	12/31/2020	42.6%
Lubbock Fire Pension Fund	33.5	12/31/2016	52.9	12/31/2018	33.7	12/31/2020	69.5%
Lufkin Firemen's Relief & Retirement Fund ¹	33.1	12/31/2016	30.7	12/31/2018	31.9	12/31/2020	50.7%
Paris Firefighters' Relief & Retirement Fund	41.9	12/31/2016	32.1	12/31/2018	33.6	12/31/2020	28.8%

¹ Previously completed an FSRP or Revised FSRP under previous law. These plans would not be considered grandfathered with L-FSRPs.

Teal font indicates funded ratio less than 65%



Progress Report on Previously Submitted FSRPs – Legacy FSRPs

The following systems formulated and submitted an FSRP before Sept. 1, 2021. The table below outlines their progress towards the FSRP requirement.

Systems Still Working Towards Meeting the Target Amortization Period Requirement						
Retirement System	FSRP Trigger		Current Progress ¹		Target Date ²	Next AV Expected
	Am Period	Date	Am Period	Date		
Plainview Firemen's Relief & Retirement Fund	79.7	12/31/2019	35.0 ³	12/31/2019	2031	2022
Fort Worth Employees' Retirement Fund	72.5	12/31/2015	42.0	12/31/2020	2029	2022
Wichita Falls Firemen's Relief & Retirement Fund – Revised FSRP	Infinite	1/1/2015	32.1	1/1/2022	2026	2024
Marshall Firemen's Relief & Retirement Fund – Revised FSRP	59.0	12/31/2018	41.0	12/31/2020	2028	2023

¹ Based on the most recent actuarial valuation or FSRP.

² The year in which a system must reach an amortization period target.

³ FSRP submitted in Feb. 2021 shows additional city contributions through 2023, lowering the amortization period to 35 years.

Systems That Previously Completed FSRP Requirement

The following systems have submitted an FSRP or subsequent actuarial valuation that has lowered their amortization period below 30 years.

Systems that Have Submitted Post-FSRP Actuarial Valuations Showing Amortization Period at or Below 30 Years

Retirement System	FSRP Trigger		Completed Progress ¹		Target Date ²
	Am Period	Date	Am Period	Date	
Galveston Employees' Retirement Plan for Police	55.1	1/1/2014	30	1/1/2019	2026
Irving Firemen's Relief & Retirement Fund - Revised FSRP	63.4	1/1/2014	27.3 ³	12/31/2021	2026
Orange Firemen's Relief & Retirement Fund – Second Revised FSRP	Infinite	1/1/2019	20.7	1/1/2021	2026
University Park Firemen's Relief & Retirement Fund – Revised FSRP	81.3	12/31/2012	28.8	12/31/2018	2026

¹ Based on the valuation in which the system completed its FSRP requirement.

² The year in which a system was originally expected to reach an amortization period of 40 years or less.

³ Based on the market value of assets

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Actuarial Valuation Report
October 6, 2022

Summary of Key Statistics

Assets and Liabilities

	Current Actuarial Valuation		Prior Actuarial Valuation
	10/6/2022	7/14/2022	
Market Value of Assets (MVA)	\$ 367,579,910,824	\$ 357,637,792,391	\$ 308,683,694,214
Actuarial Value of Assets (AVA)	\$ 331,626,885,505	\$ 327,819,515,843	\$ 308,946,016,023
Actuarial Accrued Liability (AAL)	\$ 420,363,914,545	\$ 416,924,416,736	\$ 401,468,428,743
Unfunded Actuarial Accrued Liability (UAAL = AAL - AVA)	\$ 88,737,029,040	\$ 89,104,900,893	\$ 92,522,412,720

Funded Ratios

	Current Actuarial Valuation		Prior Actuarial Valuation
	10/6/2022	7/14/2022	
Aggregate	78.9%	78.6%	77.0%
Low	28.8%	28.8%	30.5%
High	129.3%	113.7%	113.7%
Average	73.4%	71.6%	71.3%
National Average ¹	73.7%	73.8%	70.8%

Amortization Periods

	Current Actuarial Valuation		Prior Actuarial Valuation
	10/6/2022	7/14/2022	
Infinite	7	7	10
>= 40 years, but not infinite	10	13	14
> 30 years, < 40 years	11	12	12
> 25 years, <= 30 years	18	17	15
>= 10 years, <= 25 years	36	38	38
> 0 years, < 10 years	8	6	6
0 years	10	7	5
Total Plans Registered	100	100	100

System Discount Rates

	Current Actuarial Valuation		Prior Actuarial Valuation
	10/6/2022	7/14/2022	
>=8%	1	1	1
> 7.50%, < 8.00%	9	10	14
7.50%	17	16	24
> 7.00%, < 7.50%	22	24	17
7.00%	22	20	22
> 6.50%, < 7.00%	11	12	9
<= 6.50%	18	17	13
Total Plans Registered	100	100	100

	Current Actuarial Valuation		Prior Actuarial Valuation
	10/6/2022	7/14/2022	
Average	7.03%	7.05%	7.14%
Standard Deviation	0.55%	0.54%	0.53%
Median	7.00%	7.25%	7.25%
National Average ¹	7.05%	7.06%	7.18%

¹ Source: <https://publicplansdata.org/>

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Actuarial Valuation Report
October 6, 2022

Plan Name	Plan Status (1)	Current Actuarial Valuation								Prior Actuarial Valuation		
		Effective Date	Discount Rate	Effective Amort Period (2)	Funded Ratio %	Market Value of Assets (MVA)	Actuarial Value of Assets (AVA)	Unfunded Actuarial Accrued Liability (UAAL = AAL - AVA)	UAAL as % of Payroll	Effective Date	Prior Effective Amort Period (2)	Funded Ratio %
Law Enforcement & Custodial Off Sup. Ret. Fund	Active	8/31/2021	7.00%	Infinite	60.5	\$ 1,116,041,411	\$ 997,651,850	\$ 652,701,151	41.16%	8/31/2020	Infinite	60.1
Judicial Retirement System of Texas Plan Two	Active	8/31/2021	7.00%	Infinite	84.6	\$ 585,179,731	\$ 523,026,487	\$ 95,021,008	104.57%	8/31/2020	Infinite	82.3
Beaumont Firemen's Relief & Retirement Fund	Active	12/31/2020	7.50%	Infinite	55.4	\$ 132,500,871	\$ 119,785,254	\$ 96,272,026	448.65%	12/31/2018	Infinite	55.8
Midland Firemen's Relief & Retirement Fund	Active	12/31/2019	7.50%	Infinite	51.1	\$ 84,848,970	\$ 90,753,400	\$ 86,848,664	432.24%	12/31/2017	Infinite	60.9
Longview Firemen's Relief & Retirement Fund	Active	12/31/2020	7.50%	Infinite	40.0	\$ 49,440,856	\$ 47,120,577	\$ 70,626,618	509.76%	12/31/2019	Infinite	39.4
Conroe Fire Fighters' Retirement Fund	Active	12/31/2019	7.50%	Infinite	58.4	\$ 29,561,208	\$ 29,523,182	\$ 21,025,244	200.13%	12/31/2018	Infinite	58.1
Atlanta Firemen's Relief & Retirement Fund	Active	12/31/2020	7.00%	Infinite	77.4	\$ 4,743,624	\$ 4,551,940	\$ 1,331,994	219.25%	12/31/2018	Infinite	80.0
Brownwood Firemen's Relief & Retirement Fund	Active	12/31/2019	7.00%	94.7	42.8	\$ 4,655,263	\$ 4,461,500	\$ 5,975,941	297.83%	12/31/2017	38.6	45.0
Plainview Firemen's Relief & Retirement Fund	Active	12/31/2019	7.50%	79.7	34.0	\$ 6,238,767	\$ 5,989,437	\$ 11,633,150	576.43%	12/31/2017	44.8	37.7
Sweetwater Firemen's Relief & Retirement Fund	Active	12/31/2020	8.00%	68.9	63.2	\$ 9,741,932	\$ 9,435,391	\$ 5,495,558	321.03%	12/31/2018	63.3	63.9
Dallas Police & Fire Pension System-Combined Plan	Active	1/1/2021	6.50%	63.0	41.6	\$ 1,943,700,593	\$ 2,127,834,406	\$ 2,988,132,186	699.08%	1/1/2020	55.0	45.7
Laredo Firefighters Retirement System	Active	9/30/2020	7.40%	56.8	59.6	\$ 167,670,600	\$ 176,451,340	\$ 119,630,160	298.61%	9/30/2018	43.0	59.9
Corsicana Firemen's Relief & Retirement Fund	Active	12/31/2020	7.00%	52.2	54.7	\$ 11,310,922	\$ 10,419,140	\$ 8,632,452	275.61%	12/31/2018	28.9	50.7
Galveston Firefighter's Relief & Retirement Fund	Active	12/31/2021	7.50%	51.6	68.3	\$ 59,034,607	\$ 55,183,147	\$ 25,619,877	269.26%	12/31/2019	57.6	64.9
Dallas Employees' Retirement Fund	Active	12/31/2021	7.25%	50.0	76.0	\$ 4,093,215,000	\$ 3,872,601,000	\$ 1,221,761,000	275.88%	12/31/2020	51.0	76.0
Fort Worth Employees' Retirement Fund	Active	12/31/2020	7.00%	42.0	53.2	\$ 2,576,119,427	\$ 2,522,727,631	\$ 2,223,073,395	434.26%	12/31/2019	43.0	52.3
Marshall Firemen's Relief & Retirement Fund	Active	12/31/2020	7.25%	41.0	40.2	\$ 8,905,327	\$ 8,905,327	\$ 13,252,936	457.07%	12/31/2018	59.0	36.7
Cleburne Firemen's Relief & Retirement Fund	Active	12/31/2020	7.35%	37.3	59.6	\$ 22,869,250	\$ 22,795,644	\$ 15,462,493	310.03%	12/31/2018	48.6	59.6
Irving Firemen's Relief & Retirement Fund	Active	12/31/2021	7.00%	37.0	63.8	\$ 199,989,985	\$ 182,966,914	\$ 103,704,760	256.81%	12/31/2019	43.6	65.4
Greenville Firemen's Relief & Retirement Fund	Active	12/31/2020	7.50%	36.6	42.6	\$ 15,098,320	\$ 14,545,855	\$ 19,565,009	403.83%	12/31/2018	40.7	46.6
Odessa Firemen's Relief & Retirement Fund	Active	1/1/2022	7.00%	34.3	36.5	\$ 52,810,233	\$ 47,301,343	\$ 82,366,642	487.08%	1/1/2021	27.7	37.2
Lubbock Fire Pension Fund (5)	Active	12/31/2020	7.50%	33.7	69.5	\$ 224,469,634	\$ 216,774,365	\$ 94,995,833	264.07%	12/31/2018	33.0	70.8
Big Spring Firemen's Relief & Retirement Fund	Active	1/1/2021	7.75%	33.7	54.7	\$ 15,021,388	\$ 13,874,163	\$ 11,496,272	255.37%	1/1/2019	38.3	53.2
Paris Firefighters' Relief & Retirement Fund	Active	12/31/2020	7.25%	33.6	28.8	\$ 4,771,104	\$ 4,567,572	\$ 11,295,163	393.40%	12/31/2018	32.1	30.5
Employees Retirement System of Texas	Active	8/31/2021	7.00%	33.0	68.1	\$ 33,608,244,434	\$ 30,065,356,135	\$ 14,118,331,031	197.61%	8/31/2020	Infinite	66.0
Austin Employees' Retirement System	Active	12/31/2021	6.75%	33.0	66.0	\$ 3,565,139,844	\$ 3,320,288,049	\$ 1,711,755,152	227.57%	12/31/2020	32.0	65.3
Wichita Falls Firemen's Relief & Retirement Fund	Active	1/1/2022	7.75%	32.1	65.0	\$ 62,360,750	\$ 62,360,750	\$ 33,563,000	267.68%	1/1/2020	43.3	56.8
Lufkin Firemen's Relief & Retirement Fund	Active	12/31/2020	7.25%	31.9	50.7	\$ 21,466,554	\$ 20,424,423	\$ 19,870,831	351.21%	12/31/2018	30.7	48.8
Austin Police Retirement System	Active	12/31/2021	7.25%	30.0	60.2	\$ 1,080,733,988	\$ 977,909,434	\$ 645,425,286	397.05%	12/31/2020	31.0	58.7

This report is a compilation of pension data reported by retirement systems in their most recent AVs, sorted by amortization period.

**Actuarial Valuation Report
October 6, 2022**

Plan Name	Plan Status (1)	Current Actuarial Valuation								Prior Actuarial Valuation		
		Effective Date	Discount Rate	Effective Amort Period (2)	Funded Ratio %	Market Value of Assets (MVA)	Actuarial Value of Assets (AVA)	Unfunded Actuarial Accrued Liability (UAAL = AAL - AVA)	UAAL as % of Payroll	Effective Date	Prior Effective Amort Period (2)	Funded Ratio %
San Angelo Firemen's Relief & Retirement Fund	Active	12/31/2021	7.80%	29.7	65.0	\$ 83,445,130	\$ 79,696,498	\$ 42,942,341	301.55%	12/31/2019	37.6	62.0
Abilene Firemen's Relief & Retirement Fund	Active	10/1/2021	7.50%	29.4	49.4	\$ 64,944,840	\$ 61,480,455	\$ 63,021,397	377.55%	10/1/2019	31.4	49.1
Tyler Firefighters' Relief & Retirement Fund	Active	12/31/2019	7.25%	29.0	71.1	\$ 74,572,570	\$ 72,534,800	\$ 29,442,082	240.14%	12/31/2017	25.5	76.2
Killeen Firemen's Relief & Retirement Fund	Active	9/30/2020	7.25%	28.4	70.3	\$ 50,912,599	\$ 50,538,707	\$ 21,330,802	138.63%	9/30/2018	39.8	69.4
Texas City Firemen's Relief & Retirement Fund	Active	12/31/2020	7.25%	28.2	45.4	\$ 17,624,355	\$ 16,853,934	\$ 20,312,835	347.51%	12/31/2018	41.1	45.9
McAllen Firemen's Relief & Retirement Fund	Active	9/30/2020	7.50%	27.7	69.5	\$ 57,956,229	\$ 57,383,124	\$ 25,178,277	192.05%	9/30/2018	Infinite	68.2
Texarkana Firemen's Relief & Retirement Fund	Active	12/31/2021	7.50%	27.5	84.6	\$ 43,910,070	\$ 40,273,543	\$ 7,320,444	156.60%	12/31/2019	58.3	80.0
Port Arthur Firemen's Relief & Retirement Fund	Active	12/31/2019	7.50%	27.3	75.0	\$ 51,911,828	\$ 50,280,560	\$ 16,771,865	180.33%	12/31/2017	23.7	74.2
Houston Municipal Employees Pension System	Active	7/1/2020	7.00%	27.1	59.2	\$ 2,881,788,000	\$ 3,074,339,000	\$ 2,122,008,000	330.40%	7/1/2019	28.0	59.3
Houston Firefighters' Relief & Retirement Fund	Active	7/1/2020	7.00%	27.0	86.2	\$ 4,102,932,000	\$ 4,251,851,000	\$ 680,456,000	261.15%	7/1/2019	28.0	82.9
Galveston Employees' Retirement Plan for Police	Active	1/1/2021	7.00%	27.0	38.0	\$ 22,771,572	\$ 22,845,332	\$ 37,256,436	290.39%	1/1/2020	28.0	36.4
Fort Worth Employees' Retirement Fund Staff Plan (4)	Active	12/31/2021	7.00%	27.0	75.7	\$ 8,518,005	\$ 7,848,613	\$ 2,526,442	119.45%	12/31/2020	28.2	70.7
University Park Firemen's Relief & Retirement Fund	Closed	12/31/2020	7.25%	26.8	42.3	\$ 11,856,807	\$ 11,317,536	\$ 15,469,293	463.40%	12/31/2018	28.8	43.4
Temple Firemen's Relief & Retirement Fund	Active	9/30/2020	7.75%	26.6	70.5	\$ 48,418,256	\$ 47,731,470	\$ 19,976,864	205.23%	9/30/2018	28.6	73.0
San Benito Firemen Relief & Retirement Fund	Active	9/30/2019	7.50%	26.1	60.9	\$ 3,927,895	\$ 3,927,895	\$ 2,523,394	184.91%	9/30/2017	21.8	60.7
Houston Police Officers' Pension System	Active	7/1/2021	7.00%	26.0	85.4	\$ 7,137,251,000	\$ 6,082,317,000	\$ 1,038,643,000	217.05%	7/1/2020	27.0	82.4
CPS Energy Pension Plan	Active	1/1/2021	7.00%	26.0	85.4	\$ 1,919,633,747	\$ 1,838,240,037	\$ 313,194,769	106.65%	1/1/2020	27.0	82.7
Austin Fire Fighters Relief & Retirement Fund	Active	12/31/2020	7.30%	23.3	87.5	\$ 1,162,023,673	\$ 1,079,202,794	\$ 154,536,781	157.33%	12/31/2019	21.9	86.8
Teacher Retirement System of Texas	Active	8/31/2021	7.25%	23.0	79.1	\$ 201,807,045,133	\$ 180,598,980,455	\$ 47,647,699,308	92.78%	8/31/2020	27.0	76.8
Dallas Co. Hospital Dist. Retirement Income Plan	Active	1/1/2021	6.00%	23.0	68.8	\$ 1,375,274,272	\$ 1,270,644,363	\$ 576,569,005	81.56%	1/1/2020	24.0	64.8
University Health System Pension Plan	Active	1/1/2021	7.00%	23.0	74.4	\$ 513,920,307	\$ 469,590,036	\$ 161,482,245	35.25%	1/1/2020	24.0	71.1
Harlingen Firemen's Relief & Retirement Fund	Active	9/30/2021	7.75%	23.0	71.7	\$ 40,775,588	\$ 40,775,588	\$ 16,097,875	206.06%	9/30/2019	38.0	64.5
San Antonio Metropolitan Transit Retirement Plan	Active	10/1/2019	7.25%	22.0	65.7	\$ 303,012,960	\$ 299,221,000	\$ 156,144,880	260.73%	10/1/2018	23.0	64.1
Corpus Christi Fire Fighters' Retirement System	Active	12/31/2020	7.25%	21.5	60.9	\$ 176,686,804	\$ 167,695,254	\$ 107,525,430	300.15%	12/31/2018	29.8	60.2
Houston MTA Workers Union Pension Plan	Closed	1/1/2022	6.25%	21.0	70.5	\$ 350,728,554	\$ 323,630,642	\$ 135,234,937	170.51%	1/1/2021	22.0	67.7
Houston MTA Non-Union Pension Plan	Closed	1/1/2022	6.25%	21.0	64.5	\$ 211,156,385	\$ 195,283,822	\$ 107,619,754	334.56%	1/1/2021	22.0	62.9
Orange Firemen's Relief & Retirement Fund	Active	1/1/2021	7.75%	20.7	56.6	\$ 9,765,510	\$ 9,765,510	\$ 7,491,921	263.60%	1/1/2019	Infinite	46.3
Nacogdoches County Hospital District	Frozen	7/1/2020	7.25%	20.0	93.6	\$ 44,391,126	\$ 45,649,682	\$ 3,102,425	N/A	7/1/2019	22.0	96.8
Capital MTA Admin Employees (6)	Active	1/1/2021	6.75%	20.0	80.0	\$ 45,554,310	\$ 41,549,498	\$ 10,368,628	36.79%	1/1/2020	11.7	77.8

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**Actuarial Valuation Report
October 6, 2022**

Plan Name	Plan Status (1)	Current Actuarial Valuation								Prior Actuarial Valuation		
		Effective Date	Discount Rate	Effective Amort Period (2)	Funded Ratio %	Market Value of Assets (MVA)	Actuarial Value of Assets (AVA)	Unfunded Actuarial Accrued Liability (UAAL = AAL - AVA)	UAAL as % of Payroll	Effective Date	Prior Effective Amort Period (2)	Funded Ratio %
Galveston Wharves Pension Plan	Closed	1/1/2021	7.25%	20.0	93.2	\$ 15,560,833	\$ 15,560,833	\$ 1,143,704	110.84%	1/1/2020	21.0	89.9
Texas Emergency Services Retirement System	Active	8/31/2020	7.50%	19.0	83.3	\$ 125,229,660	\$ 125,366,910	\$ 25,073,628	N/A	8/31/2018	24.0	83.4
Dallas Police & Fire Pension System-Supplemental (6)	Active	1/1/2021	6.50%	19.0	43.7	\$ 16,374,184	\$ 16,374,184	\$ 21,106,549	3284.64%	1/1/2020	20.0	48.3
Lower Colorado River Authority Retirement Plan	Closed	1/1/2022	7.00%	18.0	74.4	\$ 517,931,333	\$ 475,075,890	\$ 163,576,646	169.87%	1/1/2021	19.0	69.6
Waxahachie Firemen's Relief & Retirement Fund	Active	10/1/2020	7.00%	17.5	74.9	\$ 19,854,398	\$ 19,854,398	\$ 6,666,173	123.55%	10/1/2018	18.9	73.1
El Paso Firemen's Pension Fund	Active	1/1/2022	7.75%	16.6	82.6	\$ 795,068,511	\$ 720,058,987	\$ 151,696,510	211.21%	1/1/2020	26.6	76.5
Texas County & District Retirement System (3)	Active	12/31/2021	7.50%	16.4	88.5	\$ 44,892,275,531	\$ 38,598,242,535	\$ 5,014,180,747	61.83%	12/31/2020	18.7	87.2
El Paso Police Pension Fund	Active	1/1/2022	7.75%	16.4	81.8	\$ 1,146,703,603	\$ 1,033,540,265	\$ 230,787,866	238.96%	1/1/2020	29.9	76.3
Weslaco Firemen's Relief & Retirement Fund	Active	9/30/2020	7.25%	16.3	73.3	\$ 12,832,351	\$ 13,554,752	\$ 4,945,699	100.10%	9/30/2018	14.1	72.0
City of El Paso Employees Retirement Trust	Active	9/1/2020	7.25%	16.0	80.0	\$ 877,989,400	\$ 867,570,240	\$ 217,451,970	129.60%	9/1/2018	14.0	80.3
Sweeny Community Hospital	Closed	1/1/2022	5.75%	16.0	95.2	\$ 3,943,867	\$ 3,626,796	\$ 184,935	32.91%	1/1/2021	17.0	85.7
Texas Municipal Retirement System (3)	Active	12/31/2021	6.75%	15.3	90.5	\$ 38,593,014,384	\$ 36,281,686,544	\$ 3,799,854,974	50.45%	12/31/2020	16.2	89.5
Harris County Hospital District Pension Plan (4)	Closed	1/1/2022	5.75%	14.3	76.1	\$ 966,372,944	\$ 878,504,524	\$ 275,330,622	182.92%	1/1/2021	14.9	75.4
Corpus Christi Regional Transportation Authority	Active	1/1/2020	7.30%	14.0	92.1	\$ 42,170,050	\$ 41,116,800	\$ 3,508,696	31.97%	1/1/2019	15.0	91.8
DFW Airport Board	Active	1/1/2022	7.00%	13.6	84.5	\$ 651,080,013	\$ 606,279,339	\$ 111,351,626	365.07%	1/1/2021	15.0	88.9
Employees of Brownsville Navigation District	Active	1/1/2021	6.00%	13.6	72.9	\$ 7,292,575	\$ 6,880,535	\$ 2,553,375	57.66%	1/1/2020	15.3	64.5
San Antonio Fire & Police Pension Fund	Active	1/1/2022	7.25%	13.6	88.6	\$ 4,150,928,708	\$ 3,837,389,315	\$ 495,940,411	136.90%	1/1/2021	12.1	88.9
DFW Airport Board DPS	Active	1/1/2022	7.00%	12.7	87.2	\$ 271,569,789	\$ 253,346,612	\$ 37,250,524	113.60%	1/1/2021	15.0	84.6
DART Employees (4)	Closed	10/1/2019	6.75%	12.3	80.5	\$ 185,583,660	\$ 190,481,840	\$ 46,127,290	366.26%	10/1/2018	12.8	79.2
Denison Firemen's Relief & Retirement Fund	Active	12/31/2019	7.50%	12.2	75.3	\$ 20,225,140	\$ 17,982,600	\$ 5,901,574	169.53%	12/31/2017	15.8	77.3
Galveston Employees' Retirement Fund	Active	12/31/2021	7.25%	10.8	85.1	\$ 71,465,323	\$ 65,178,020	\$ 11,428,992	41.73%	12/31/2020	16.4	79.5
Brazos River Authority Retirement Plan	Frozen	3/1/2022	6.50%	10.0	72.3	\$ 24,414,644	\$ 22,539,914	\$ 8,638,586	N/A	3/1/2021	11.0	66.4
Lower Neches Valley	Frozen	1/1/2022	6.50%	10.0	73.1	\$ 13,742,325	\$ 13,742,325	\$ 5,067,527	134.66%	1/1/2021	10.0	65.4
Northeast Medical Center Hospital Retirement Plan (6)	Frozen	7/1/2020	6.75%	10.0	72.5	\$ 8,895,538	\$ 8,895,538	\$ 3,379,266	N/A	7/1/2019	10.0	82.7
Denton Firemen's Relief & Retirement Fund	Active	12/31/2021	6.75%	9.1	88.8	\$ 140,537,577	\$ 126,483,819	\$ 15,955,827	67.52%	12/31/2019	18.3	80.8
Capital MTA Bargaining	Frozen	1/1/2021	6.50%	9.0	55.2	\$ 39,382,730	\$ 36,132,059	\$ 29,380,666	N/A	1/1/2020	12.0	52.1
Guadalupe-Blanco River Authority	Frozen	1/1/2021	6.50%	8.0	85.6	\$ 37,947,141	\$ 33,993,324	\$ 5,738,207	N/A	1/1/2020	9.0	84.2
JPS - Tarrant County Hospital District	Active	10/1/2020	6.75%	6.3	94.0	\$ 341,507,272	\$ 343,376,929	\$ 22,076,080	6.85%	10/1/2019	3.5	95.3
Colorado River Municipal Water Dist. (4)	Active	1/1/2022	5.50%	6.1	87.2	\$ 11,320,102	\$ 11,320,102	\$ 1,658,680	44.23%	1/1/2021	6.8	85.7

This report is a compilation of pension data reported by retirement systems in their most recent AVs, sorted by amortization period.

**Actuarial Valuation Report
October 6, 2022**

Plan Name	Plan Status (1)	Current Actuarial Valuation								Prior Actuarial Valuation		
		Effective Date	Discount Rate	Effective Amort Period (2)	Funded Ratio %	Market Value of Assets (MVA)	Actuarial Value of Assets (AVA)	Unfunded Actuarial Accrued Liability (UAAL = AAL - AVA)	UAAL as % of Payroll	Effective Date	Prior Effective Amort Period (2)	Funded Ratio %
Amarillo Firemen's Relief & Retirement Fund	Active	12/31/2021	7.50%	6.0	94.8	\$ 262,228,770	\$ 219,849,119	\$ 12,112,114	53.42%	12/31/2019	38.1	82.0
Refugio County Memorial Hospital (4)	Frozen	11/1/2019	6.00%	5.2	96.5	\$ 1,861,692	\$ 1,861,692	\$ 68,240	N/A	11/1/2018	7.0	97.8
Travis County ESD #6 FRRF	Active	12/31/2019	7.00%	4.6	88.6	\$ 28,086,052	\$ 26,598,292	\$ 3,417,649	48.47%	12/31/2017	3.3	87.2
Port of Houston Authority Retirement Plan	Closed	8/1/2021	6.25%	0.0	107.6	\$ 225,894,734	\$ 225,894,734	\$ (15,895,482)	-55.98%	8/1/2020	11.0	93.4
Plano Retirement Security Plan	Active	12/31/2021	6.75%	0.0	103.6	\$ 220,324,460	\$ 196,126,576	\$ (6,770,744)	-4.06%	12/31/2019	15.0	95.4
Citizens Medical Center	Active	3/1/2021	6.75%	0.0	109.2	\$ 140,079,128	\$ 126,771,248	\$ (10,635,291)	-17.68%	3/1/2020	0.0	106.1
Irving Supplemental Benefit Plan	Active	1/1/2022	6.75%	0.0	107.0	\$ 115,548,499	\$ 105,993,779	\$ (6,898,615)	-5.76%	1/1/2021	19.0	77.3
Guadalupe Regional Medical Center	Active	1/1/2022	6.75%	0.0	100.1	\$ 110,428,984	\$ 97,561,050	\$ (58,164)	-0.17%	1/1/2021	12.0	98.5
The Woodlands Firefighters' Retirement System	Active	1/1/2022	7.00%	0.0	129.3	\$ 63,441,626	\$ 63,441,626	\$ (14,382,997)	-108.87%	1/1/2020	0.0	107.0
Northwest Texas Healthcare System Retirement Plan	Frozen	10/1/2020	6.00%	0.0	94.3	\$ 26,266,705	\$ 25,786,645	\$ 1,558,652	N/A	10/1/2019	1.0	96.2
Arlington Employees Deferred Income Plan	Active	6/30/2019	5.00%	0.0	107.2	\$ 2,999,905	\$ 2,999,905	\$ (200,717)	-5.33%	6/30/2018	0.0	106.2
Anson General Hospital	Frozen	7/1/2020	6.00%	0.0	110.9	\$ 1,806,754	\$ 1,771,758	\$ (174,509)	-172.71%	7/1/2019	0.0	110.1
El Paso Firemen & Policemen's Pension Staff Plan	Active	1/1/2022	7.75%	0.0	121.1	\$ 1,135,811	\$ 1,039,348	\$ (180,708)	-20.22%	1/1/2020	0.0	113.7
Grand Totals:					78.9%	\$ 367,579,910,824	\$ 331,626,885,505	\$ 88,737,029,040				77.0%

Notes

- (1) Plan status indicates whether a plan is active (admitting new hires), closed to new hires (but still accruing benefits), or frozen (not accruing benefits).
- (2) The effective amortization period is the time it would take to theoretically eliminate the UAAL assuming no future gains or losses and taking into account both the plan's stated and historical contribution policy.
- (3) Amortization period is calculated using system-wide aggregate UAAL and payroll amounts.
- (4) Amortization period is calculated by the PRB.
- (5) 12/31/2018 AV was updated due to a benefit change.
- (6) Reported amortization period is based on an open amortization funding policy.

This report is a compilation of pension data reported by retirement systems in their most recent AVs, sorted by amortization period.

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**AV Supplemental Report
October 6, 2022
(Dollars in Millions)**

Plan Name	Fiscal Year End	Discount Rate	(a) Total Pension Liability (TPL) (1)	(b) Fiduciary Net Position (2)	(a) - (b) Net Pension Liability (NPL) (3)	(b) / (a) NPL Funded Ratio %	NPL at Disc. Rate -1% (4)	NPL -1% Funded Ratio %	10 Year Net Return (5)	Expected Depletion Date (6)
Law Enforcement & Custodial Off Sup. Ret. Fund	8/31/2020	2.87%	\$ 2,862.46	\$ 947.32	\$ 1,915.13	33.0	\$ 2,448.88	27.9	8.12%	2036
Longview Firemen's Relief & Retirement Fund	12/31/2020	2.90%	\$ 212.01	\$ 49.44	\$ 162.57	23.3	\$ 198.75	19.9	5.84%	2039
Judicial Retirement System of Texas Plan Two	8/31/2020	4.19%	\$ 781.67	\$ 477.33	\$ 304.34	61.0	\$ 396.59	54.6	8.12%	2041
Midland Firemen's Relief & Retirement Fund	12/31/2019	4.37%	\$ 237.69	\$ 84.85	\$ 152.84	36.0	\$ 185.57	31.4	5.10%	2043
Wichita Falls Firemen's Relief & Retirement Fund	12/31/2021	5.80%	\$ 117.48	\$ 62.36	\$ 55.12	53.1	\$ 70.08	47.1	9.17%	2058
Dallas Employees' Retirement Fund	12/31/2020	5.27%	\$ 6,209.86	\$ 3,706.75	\$ 2,503.10	59.7	\$ 3,357.78	52.5	7.58%	2058
Northeast Medical Center Hospital Retirement Plan	6/30/2021	5.70%	\$ 12.25	\$ 10.89	\$ 1.36	88.9	\$ 2.40	81.9	8.42%	2061
Capital MTA Admin Employees	12/31/2020	5.39%	\$ 64.92	\$ 45.55	\$ 19.36	70.2	\$ 29.42	60.8	8.79%	2064
Conroe Fire Fighters' Retirement Fund	12/31/2020	4.89%	\$ 81.77	\$ 33.27	\$ 48.51	40.7	\$ 61.67	35.0	5.48%	2066
Nacogdoches County Hospital District (9)	6/30/2020	7.17%	\$ 49.14	\$ 44.39	\$ 4.74	90.3	\$ 9.89	81.8	8.82%	2099
Abilene Firemen's Relief & Retirement Fund	9/30/2021	7.50%	\$ 124.50	\$ 64.97	\$ 59.53	52.2	\$ 73.50	46.9	8.04%	N/A
Amarillo Firemen's Relief & Retirement Fund	12/31/2021	7.50%	\$ 231.96	\$ 262.23	\$ (30.27)	113.0	\$ (2.00)	100.8	12.19%	N/A
Anson General Hospital	6/30/2021	6.00%	\$ 1.58	\$ 1.92	\$ (0.34)	121.5	\$ (0.21)	112.3	7.32%	N/A
Arlington Employees Deferred Income Plan	6/30/2020	5.00%	\$ 2.99	\$ 3.27	\$ (0.28)	109.0	\$ (0.00)	100.1	3.95%	N/A
Atlanta Firemen's Relief & Retirement Fund	12/31/2021	7.00%	\$ 6.08	\$ 5.07	\$ 1.01	83.4	\$ 1.76	74.3	7.69%	N/A
Austin Employees' Retirement System	12/31/2021	6.75%	\$ 5,032.04	\$ 3,565.14	\$ 1,466.90	70.9	\$ 2,110.56	62.8	9.19%	N/A
Austin Fire Fighters Relief & Retirement Fund	12/31/2021	7.30%	\$ 1,315.38	\$ 1,303.54	\$ 11.83	99.1	\$ 135.57	90.6	10.17%	N/A
Austin Police Retirement System	12/31/2021	7.25%	\$ 1,625.19	\$ 1,080.73	\$ 544.45	66.5	\$ 737.78	59.4	8.49%	N/A
Beaumont Firemen's Relief & Retirement Fund	12/31/2021	7.50%	\$ 207.23	\$ 126.82	\$ 80.41	61.2	\$ 100.18	55.9	9.60%	N/A
Big Spring Firemen's Relief & Retirement Fund	12/31/2020	7.75%	\$ 25.37	\$ 15.02	\$ 10.36	59.2	\$ 13.55	52.6	7.36%	N/A
Brazos River Authority Retirement Plan	2/28/2021	6.50%	\$ 32.34	\$ 23.57	\$ 8.77	72.9	\$ 12.04	66.2	7.09%	N/A
Brownwood Firemen's Relief & Retirement Fund	12/31/2020	7.00%	\$ 10.98	\$ 5.41	\$ 5.57	49.2	\$ 6.97	43.7	6.14%	N/A
CPS Energy Pension Plan	12/31/2021	7.00%	\$ 2,228.38	\$ 2,190.96	\$ 37.43	98.3	\$ 313.57	87.5	9.68%	N/A
Capital MTA Bargaining	12/31/2020	6.50%	\$ 65.51	\$ 39.38	\$ 26.13	60.1	\$ 32.38	54.9	8.73%	N/A
Citizens Medical Center	2/28/2021	6.75%	\$ 115.23	\$ 140.07	\$ (24.84)	121.6	\$ (9.63)	107.4	9.14%	N/A
City of El Paso Employees Retirement Trust	8/31/2021	7.25%	\$ 1,108.08	\$ 1,038.68	\$ 69.39	93.7	\$ 178.42	85.3	9.43%	N/A
Cleburne Firemen's Relief & Retirement Fund	12/31/2020	7.35%	\$ 38.26	\$ 22.87	\$ 15.39	59.8	\$ 19.90	53.5	6.66%	N/A
Colorado River Municipal Water Dist.	12/31/2021	5.50%	\$ 12.60	\$ 11.32	\$ 1.28	89.9	\$ 2.14	84.1	7.89%	N/A
Corpus Christi Fire Fighters' Retirement System	12/31/2021	7.25%	\$ 285.19	\$ 193.38	\$ 91.81	67.8	\$ 124.01	60.9	8.83%	N/A
Corpus Christi Regional Transportation Authority	12/31/2020	7.20%	\$ 47.29	\$ 46.55	\$ 0.73	98.5	\$ 6.26	88.1	7.94%	N/A
Corsicana Firemen's Relief & Retirement Fund	12/31/2021	7.00%	\$ 19.46	\$ 13.35	\$ 6.11	68.6	\$ 8.59	60.8	8.28%	N/A
DART Employees	9/30/2021	6.75%	\$ 238.67	\$ 218.96	\$ 19.71	91.7	\$ 42.29	83.8	8.92%	N/A
DFW Airport Board	12/31/2021	7.00%	\$ 717.63	\$ 651.08	\$ 66.55	90.7	\$ 157.14	80.6	8.60%	N/A
DFW Airport Board DPS	12/31/2021	7.00%	\$ 290.60	\$ 271.57	\$ 19.03	93.5	\$ 61.20	81.6	8.60%	N/A
Dallas Co. Hospital Dist. Retirement Income Plan	12/31/2020	6.00%	\$ 1,847.21	\$ 1,374.70	\$ 472.52	74.0	\$ 740.60	65.0	7.83%	N/A
Dallas Police & Fire Pension System-Combined Plan	12/31/2020	6.50%	\$ 5.12	\$ 1.94	\$ 3.18	38.0	\$ 3.79	33.9	2.45%	N/A
Dallas Police & Fire Pension System-Supplemental	12/31/2020	6.50%	\$ 37.48	\$ 16.37	\$ 21.11	43.7	\$ 24.65	39.9	2.45%	N/A
Denison Firemen's Relief & Retirement Fund	12/31/2020	7.50%	\$ 25.79	\$ 21.08	\$ 4.71	81.7	\$ 7.91	72.7	8.61%	N/A
Denton Firemen's Relief & Retirement Fund	12/31/2021	6.75%	\$ 142.44	\$ 140.54	\$ 1.90	98.7	\$ 20.59	87.2	9.01%	N/A

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**AV Supplemental Report
October 6, 2022
(Dollars in Millions)**

Plan Name	Fiscal Year End	Discount Rate	(a) Total Pension Liability (TPL) (1)	(b) Fiduciary Net Position (2)	(a) - (b) Net Pension Liability (NPL) (3)	(b) / (a) NPL Funded Ratio %	NPL at Disc. Rate -1% (4)	NPL -1% Funded Ratio %	10 Year Net Return (5)	Expected Depletion Date (6)
El Paso Firemen & Policemen's Pension Staff Plan (7)	12/31/2021	7.75%	\$ 0.83	\$ 1.14	\$ (0.31)	137.7	\$ (0.20)	120.9	0.00%	N/A
El Paso Firemen's Pension Fund	12/31/2021	7.75%	\$ 864.87	\$ 795.07	\$ 69.80	91.9	\$ 187.29	80.9	9.77%	N/A
El Paso Police Pension Fund	12/31/2021	7.75%	\$ 1,246.26	\$ 1,146.70	\$ 99.55	92.0	\$ 268.01	81.1	9.77%	N/A
Employees Retirement System of Texas	8/31/2021	7.00%	\$ 44,183.69	\$ 33,608.24	\$ 10,575.44	76.1	\$ 15,868.66	67.9	9.32%	N/A
Employees of Brownsville Navigation District	12/31/2021	6.00%	\$ 9.70	\$ 9.17	\$ 0.53	94.5	\$ 1.71	84.3	9.02%	N/A
Fort Worth Employees' Retirement Fund	9/30/2021	7.00%	\$ 4,892.87	\$ 2,830.44	\$ 2,062.44	57.9	\$ 2,662.33	51.5	8.65%	N/A
Fort Worth Employees' Retirement Fund Staff Plan	9/30/2021	7.00%	\$ 9.97	\$ 8.02	\$ 1.95	80.5	\$ 3.43	70.0	8.65%	N/A
Galveston Employees' Retirement Fund	12/31/2021	7.25%	\$ 76.61	\$ 71.47	\$ 5.14	93.3	\$ 13.79	83.8	8.35%	N/A
Galveston Employees' Retirement Plan for Police	12/31/2021	7.00%	\$ 57.15	\$ 26.66	\$ 30.48	46.7	\$ 37.43	41.6	7.20%	N/A
Galveston Firefighter's Relief & Retirement Fund	12/31/2020	7.50%	\$ 72.52	\$ 53.55	\$ 18.97	73.8	\$ 31.93	62.6	6.89%	N/A
Galveston Wharves Pension Plan	12/31/2021	7.50%	\$ 16.61	\$ 16.82	\$ (0.21)	101.0	\$ 1.46	92.0	11.03%	N/A
Greenville Firemen's Relief & Retirement Fund	12/31/2021	7.50%	\$ 35.10	\$ 16.18	\$ 18.92	46.1	\$ 23.01	41.3	8.16%	N/A
Guadalupe Regional Medical Center	12/31/2021	6.75%	\$ 94.13	\$ 110.43	\$ (16.30)	117.3	\$ 3.62	96.8	11.27%	N/A
Guadalupe-Blanco River Authority	12/31/2021	6.50%	\$ 39.83	\$ 39.96	\$ (0.13)	100.3	\$ 4.17	90.5	8.34%	N/A
Harlingen Firemen's Relief & Retirement Fund	9/30/2021	7.75%	\$ 58.09	\$ 40.78	\$ 17.32	70.0	\$ 23.87	63.1	9.27%	N/A
Harris County Hospital District Pension Plan	12/31/2021	5.75%	\$ 1,121.56	\$ 966.37	\$ 155.19	86.2	\$ 289.72	76.9	10.49%	N/A
Houston Firefighters' Relief & Retirement Fund	6/30/2021	7.25%	\$ 4,965.76	\$ 5,256.76	\$ (291.00)	105.9	\$ 232.15	95.8	8.78%	N/A
Houston MTA Non-Union Pension Plan	12/31/2021	6.25%	\$ 300.68	\$ 211.16	\$ 89.52	70.2	\$ 120.58	63.7	8.60%	N/A
Houston MTA Workers Union Pension Plan	12/31/2021	6.25%	\$ 453.95	\$ 350.73	\$ 103.22	77.3	\$ 151.86	69.8	8.80%	N/A
Houston Municipal Employees Pension System	6/30/2021	7.00%	\$ 5,440.06	\$ 3,867.09	\$ 1,572.97	71.1	\$ 2,143.09	64.3	9.42%	N/A
Houston Police Officers' Pension System	6/30/2021	7.00%	\$ 7,343.84	\$ 7,137.25	\$ 206.59	97.2	\$ 989.88	87.8	8.80%	N/A
Irving Firemen's Relief & Retirement Fund	12/31/2021	7.00%	\$ 286.67	\$ 199.99	\$ 86.68	69.8	\$ 122.17	62.1	9.20%	N/A
Irving Supplemental Benefit Plan	12/31/2021	6.75%	\$ 99.10	\$ 115.55	\$ (16.45)	116.6	\$ (3.64)	103.2	7.92%	N/A
JPS - Tarrant County Hospital District	9/30/2021	6.75%	\$ 395.01	\$ 431.85	\$ (36.85)	109.3	\$ 13.73	96.9	11.05%	N/A
Killeen Firemen's Relief & Retirement Fund	9/30/2021	7.25%	\$ 76.35	\$ 61.49	\$ 14.86	80.5	\$ 26.40	70.0	7.67%	N/A
Laredo Firefighters Retirement System	9/30/2020	7.50%	\$ 291.37	\$ 167.67	\$ 123.70	58.0	\$ 162.15	50.8	5.89%	N/A
Lower Colorado River Authority Retirement Plan	12/31/2020	7.00%	\$ 646.66	\$ 478.42	\$ 168.24	74.0	\$ 233.74	67.2	7.30%	N/A
Lower Neches Valley (8)	12/31/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00%	N/A
Lubbock Fire Pension Fund	12/31/2021	7.50%	\$ 322.93	\$ 257.05	\$ 65.88	79.6	\$ 106.10	70.8	8.14%	N/A
Lufkin Firemen's Relief & Retirement Fund	12/31/2021	7.25%	\$ 41.72	\$ 23.56	\$ 18.17	56.5	\$ 22.75	50.9	8.01%	N/A
Marshall Firemen's Relief & Retirement Fund	12/31/2020	7.25%	\$ 22.16	\$ 8.91	\$ 13.25	40.0	\$ 16.18	35.5	7.00%	N/A
McAllen Firemen's Relief & Retirement Fund	9/30/2021	7.50%	\$ 86.06	\$ 66.34	\$ 19.72	77.1	\$ 30.35	68.6	8.71%	N/A
Northwest Texas Healthcare System Retirement Plan	6/30/2021	6.00%	\$ 26.76	\$ 28.78	\$ (2.02)	107.6	\$ 0.24	99.2	0.00%	N/A
Odessa Firemen's Relief & Retirement Fund	12/31/2021	7.00%	\$ 128.62	\$ 52.81	\$ 75.81	41.1	\$ 92.14	36.4	0.00%	N/A
Orange Firemen's Relief & Retirement Fund	12/31/2020	7.75%	\$ 17.03	\$ 9.73	\$ 7.30	57.1	\$ 9.20	51.4	6.95%	N/A
Paris Firefighters' Relief & Retirement Fund	12/31/2020	7.25%	\$ 15.86	\$ 4.77	\$ 11.09	30.1	\$ 12.80	27.2	4.78%	N/A
Plainview Firemen's Relief & Retirement Fund	12/31/2021	7.50%	\$ 17.54	\$ 8.11	\$ 9.44	46.2	\$ 11.44	41.5	7.48%	N/A
Plano Retirement Security Plan	12/31/2021	6.75%	\$ 189.36	\$ 220.32	\$ (30.97)	116.4	\$ (3.31)	101.5	0.00%	N/A
Port Arthur Firemen's Relief & Retirement Fund	12/31/2020	7.50%	\$ 67.95	\$ 55.70	\$ 12.25	82.0	\$ 19.76	73.8	7.84%	N/A

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**AV Supplemental Report
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(Dollars in Millions)**

Plan Name	Fiscal Year End	Discount Rate	(a) Total Pension Liability (TPL) (1)	(b) Fiduciary Net Position (2)	(a) - (b) Net Pension Liability (NPL) (3)	(b) / (a) NPL Funded Ratio %	NPL at Disc. Rate -1% (4)	NPL -1% Funded Ratio %	10 Year Net Return (5)	Expected Depletion Date (6)
Port of Houston Authority Retirement Plan	7/31/2021	6.25%	\$ 208.74	\$ 225.89	\$ (17.16)	108.2	\$ 7.03	97.0	7.88%	N/A
Refugio County Memorial Hospital	10/31/2019	6.00%	\$ 1.94	\$ 1.86	\$ 0.08	96.0	\$ 0.35	84.1	6.53%	N/A
San Angelo Firemen's Relief & Retirement Fund	12/31/2020	7.80%	\$ 117.41	\$ 77.42	\$ 39.99	65.9	\$ 53.51	59.1	7.50%	N/A
San Antonio Fire & Police Pension Fund	12/31/2021	7.25%	\$ 4,208.48	\$ 4,150.93	\$ 57.55	98.6	\$ 652.85	86.4	9.00%	N/A
San Antonio Metropolitan Transit Retirement Plan	9/30/2021	7.25%	\$ 478.10	\$ 392.69	\$ 85.41	82.1	\$ 135.99	74.3	12.10%	N/A
San Benito Firemen Relief & Retirement Fund	9/30/2020	7.50%	\$ 6.75	\$ 4.03	\$ 2.72	60.0	\$ 3.59	52.9	4.54%	N/A
Sweeny Community Hospital	12/31/2021	5.75%	\$ 3.82	\$ 3.94	\$ (0.12)	103.3	\$ 0.23	94.6	10.41%	N/A
Sweetwater Firemen's Relief & Retirement Fund	12/31/2020	8.00%	\$ 14.93	\$ 9.74	\$ 5.19	65.3	\$ 6.91	58.5	6.78%	N/A
Teacher Retirement System of Texas	8/31/2021	7.25%	\$ 227,273.46	\$ 201,807.00	\$ 25,466.46	88.8	\$ 55,648.26	78.4	9.69%	N/A
Temple Firemen's Relief & Retirement Fund	9/30/2021	7.75%	\$ 70.40	\$ 57.65	\$ 12.75	81.9	\$ 20.98	73.3	11.76%	N/A
Texarkana Firemen's Relief & Retirement Fund	12/31/2021	7.50%	\$ 47.59	\$ 43.91	\$ 3.68	92.3	\$ 8.91	83.1	8.78%	N/A
Texas City Firemen's Relief & Retirement Fund	12/31/2021	7.25%	\$ 37.36	\$ 18.21	\$ 19.15	48.7	\$ 23.25	43.9	7.96%	N/A
Texas County & District Retirement System (10)	12/31/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	10.22%	N/A
Texas Emergency Services Retirement System	8/31/2021	7.50%	\$ 155.68	\$ 144.97	\$ 10.71	93.1	\$ 35.02	80.5	9.34%	N/A
Texas Municipal Retirement System (10)	12/31/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.76%	N/A
The Woodlands Firefighters' Retirement System (7)	12/31/2021	7.00%	\$ 49.06	\$ 63.44	\$ (14.38)	129.3	\$ (7.05)	112.5	0.00%	N/A
Travis County ESD #6 FRRF	12/31/2021	7.00%	\$ 38.46	\$ 43.12	\$ (4.67)	112.1	\$ 1.27	97.1	9.36%	N/A
Tyler Firefighters' Relief & Retirement Fund	12/31/2021	7.25%	\$ 107.91	\$ 89.30	\$ 18.61	82.8	\$ 31.28	74.1	9.03%	N/A
University Health System Pension Plan	12/31/2021	7.00%	\$ 669.25	\$ 605.04	\$ 64.22	90.4	\$ 144.14	80.8	10.68%	N/A
University Park Firemen's Relief & Retirement Fund	12/31/2020	7.50%	\$ 25.55	\$ 11.86	\$ 13.69	46.4	\$ 16.70	41.5	6.79%	N/A
Waxahachie Firemen's Relief & Retirement Fund	9/30/2020	7.00%	\$ 26.52	\$ 19.85	\$ 6.67	75.0	\$ 9.87	66.8	6.78%	N/A
Weslaco Firemen's Relief & Retirement Fund	9/30/2021	7.25%	\$ 19.61	\$ 15.95	\$ 3.66	81.4	\$ 6.81	70.1	7.47%	N/A
Grand Totals:			\$ 334,046.09	\$ 284,854.54	\$ 49,191.55	0.9	\$ 92,414.40	0.8		

Notes

- (1) Total Pension Liability is the actuarial accrued liability calculated in accordance with GASB 67, as reported in the system's Annual Financial Report.
- (2) Fiduciary Net Position is the market value of assets as of the Fiscal Year End, as reported in the system's Annual Financial Report.
- (3) Net Pension Liability is measured as the Total Pension Liability less the amount of the pension plan's Fiduciary Net Position.
- (4) Net Pension Liability measured using a discount rate 1% lower than the stated discount rate.
- (5) 10 Year Net Return (gross return net of investment expenses) as reported for the Fiscal Year on the PRB-1000 Investment Returns and Assumptions Report.
- (6) Expected Depletion date is reported in GASB 67 when applicable.
- (7) The plan is less than 10 years old; return is calculated since date of inception.
- (8) NPL at Disc Rate - 1% not provided
- (9) Expected depletion date not provided. 2099 used as placeholder.
- (10) Plan is an Agent Multiple Employer Defined Benefit Plan and is not subject to the majority of GASB 67 reporting requirements.

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Contribution Report
October 6, 2022

Plan Name	Plan Status (1)	Fiscal Year End	Covered Payroll	(a) Total NC (% of Pay) (2), (3)	(b) EE Cont (% of Pay) (3)	(c) = (a) - (b) ER Normal Cost (% of Pay) (3)	(d) Amort Pmt (% of Pay) (3)	(e) = (c) + (d) ER Rec Cont (% of Pay) (3), (4)	(f) Actual ER Cont (% of Pay) (5)	Actual ER Cont Type	(f) / (e) Percent of Rec Cont Paid
Nacogdoches County Hospital District	Frozen	6/30/2020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Actuarial	0%
Northwest Texas Healthcare System Retirement Plan (6)	Frozen	6/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Actuarial	0%
Refugio County Memorial Hospital	Frozen	10/31/2019	\$ 2,928,887	0.00%	0.00%	0.00%	0.25%	0.25%	0.00%	Actuarial	0%
Law Enforcement & Custodial Off Sup. Ret. Fund	Active	8/31/2020	\$ 1,644,391,700	2.08%	0.50%	1.58%	1.83%	3.41%	1.36%	Other	40%
Beaumont Firemen's Relief & Retirement Fund	Active	12/31/2021	\$ 21,458,382	20.83%	16.50%	4.33%	24.77%	29.10%	15.93%	Fixed	55%
Austin Police Retirement System	Active	12/31/2021	\$ 169,910,542	25.10%	13.00%	12.10%	21.23%	33.33%	20.85%	Fixed	63%
Dallas Employees' Retirement Fund	Active	12/31/2020	\$ 433,890,000	22.23%	13.32%	8.91%	13.15%	22.06%	14.20%	Other	64%
Longview Firemen's Relief & Retirement Fund	Active	12/31/2020	\$ 13,550,559	17.14%	16.69%	0.45%	29.24%	29.69%	19.24%	Fixed	65%
Judicial Retirement System of Texas Plan Two	Active	8/31/2020	\$ 89,810,664	26.26%	9.42%	16.84%	7.03%	23.87%	15.80%	Fixed	66%
University Park Firemen's Relief & Retirement Fund	Closed	12/31/2020	\$ 3,095,821	15.45%	10.00%	5.45%	38.64%	44.09%	30.74%	Actuarial	70%
Employees Retirement System of Texas (7)	Active	8/31/2021	\$ 7,221,559,000	14.16%	9.50%	4.66%	11.32%	15.98%	11.80%	Fixed	74%
Lower Neches Valley	Frozen	12/31/2020	\$ 3,827,982	7.46%	0.00%	7.46%	21.83%	29.29%	21.94%	Actuarial	75%
Orange Firemen's Relief & Retirement Fund	Active	12/31/2020	\$ 2,562,631	12.24%	12.50%	0.00%	23.45%	23.19%	17.85%	Fixed	77%
Sweetwater Firemen's Relief & Retirement Fund	Active	12/31/2020	\$ 1,678,539	23.01%	17.00%	6.01%	17.64%	23.65%	18.29%	Fixed	77%
Colorado River Municipal Water Dist.	Active	12/31/2021	\$ 3,613,254	11.93%	0.00%	11.93%	9.10%	21.03%	16.46%	Actuarial	78%
Atlanta Firemen's Relief & Retirement Fund	Active	12/31/2021	\$ 607,518	21.05%	13.00%	8.05%	11.58%	19.63%	15.41%	Fixed	79%
Atlanta Firemen's Relief & Retirement Fund	Active	12/31/2021	\$ 607,518	21.05%	13.00%	8.05%	11.58%	19.63%	15.41%	Fixed	79%
Galveston Firefighter's Relief & Retirement Fund	Active	12/31/2020	\$ 8,777,846	20.66%	18.00%	2.66%	18.54%	21.20%	16.77%	Fixed	79%
Wichita Falls Firemen's Relief & Retirement Fund	Active	12/31/2021	\$ 12,339,595	13.38%	13.00%	0.38%	16.14%	16.52%	13.09%	Fixed	79%
Marshall Firemen's Relief & Retirement Fund	Active	12/31/2020	\$ 2,899,527	18.38%	16.00%	2.38%	23.01%	25.39%	20.13%	Fixed	79%
Fort Worth Employees' Retirement Fund	Active	9/30/2021	\$ 504,398,240	17.36%	11.09%	6.27%	25.41%	31.68%	25.39%	Actuarial	80%
Brownwood Firemen's Relief & Retirement Fund	Active	12/31/2020	\$ 2,006,471	16.15%	8.00%	8.15%	16.93%	25.08%	20.62%	Fixed	82%
Midland Firemen's Relief & Retirement Fund	Active	12/31/2019	\$ 16,260,968	25.98%	14.20%	11.78%	20.08%	31.86%	26.49%	Fixed	83%
Dallas Police & Fire Pension System-Combined Plan	Active	12/31/2020	\$ 396,954,750	17.40%	13.50%	3.90%	42.81%	46.71%	40.80%	Other	87%
Irving Firemen's Relief & Retirement Fund	Active	12/31/2021	\$ 37,714,120	22.16%	13.00%	9.16%	13.78%	22.94%	20.34%	Fixed	89%
Cleburne Firemen's Relief & Retirement Fund	Active	12/31/2020	\$ 4,987,401	20.22%	14.50%	5.72%	18.05%	23.77%	21.13%	Other	89%
Texarkana Firemen's Relief & Retirement Fund	Active	12/31/2021	\$ 4,380,137	23.26%	13.50%	9.76%	12.29%	22.05%	20.24%	Fixed	92%
Austin Employees' Retirement System	Active	12/31/2021	\$ 729,252,030	17.04%	8.00%	9.04%	11.98%	21.02%	19.36%	Fixed	92%

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Contribution Report
October 6, 2022

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San Angelo Firemen's Relief & Retirement Fund	Active	12/31/2020	\$ 12,637,998	22.81%	18.28%	4.53%	17.87%	22.40%	20.71%	Fixed	92%
Conroe Fire Fighters' Retirement Fund	Active	12/31/2020	\$ 10,505,724	21.87%	13.24%	8.63%	10.74%	19.37%	18.09%	Fixed	93%
Laredo Firefighters Retirement System	Active	9/30/2020	\$ 36,904,230	20.90%	15.00%	5.90%	17.65%	23.55%	22.07%	Fixed	94%
Corpus Christi Regional Transportation Authority	Active	12/31/2020	\$ 10,975,562	8.44%	0.00%	8.44%	3.47%	11.91%	11.19%	Actuarial	94%
Greenville Firemen's Relief & Retirement Fund	Active	12/31/2021	\$ 4,844,917	18.15%	16.30%	1.85%	21.68%	23.53%	22.12%	Fixed	94%
Paris Firefighters' Relief & Retirement Fund	Active	12/31/2020	\$ 2,778,015	9.63%	16.00%	0.00%	21.11%	14.74%	14.00%	Fixed	95%
Teacher Retirement System of Texas	Active	8/31/2021	\$ 49,986,800,000	11.76%	7.70%	4.06%	5.01%	9.07%	8.74%	Fixed	96%
Houston Firefighters' Relief & Retirement Fund	Active	6/30/2021	\$ 260,562,000	14.89%	10.50%	4.39%	26.41%	30.80%	29.74%	Actuarial	97%
Harlingen Firemen's Relief & Retirement Fund	Active	9/30/2021	\$ 6,675,326	19.06%	15.00%	4.06%	14.68%	18.74%	18.20%	Fixed	97%
San Benito Firemen Relief & Retirement Fund	Active	9/30/2020	\$ 1,364,654	13.14%	12.00%	1.14%	9.96%	11.10%	10.89%	Fixed	98%
The Woodlands Firefighters' Retirement System	Active	12/31/2021	\$ 12,462,053	22.81%	12.00%	10.81%	1.19%	12.00%	11.82%	Fixed	98%
DFW Airport Board DPS	Active	12/31/2021	\$ 33,802,073	23.68%	7.00%	16.68%	11.78%	28.46%	28.03%	Actuarial	99%
Houston Municipal Employees Pension System	Active	6/30/2021	\$ 631,349,000	11.40%	3.00%	8.40%	21.50%	29.90%	29.58%	Actuarial	99%
Lubbock Fire Pension Fund	Active	12/31/2021	\$ 35,973,408	22.15%	14.98%	7.17%	15.44%	22.61%	22.42%	Other	99%
CPS Energy Pension Plan	Active	12/31/2021	\$ 286,959,230	15.76%	5.00%	10.76%	10.86%	21.62%	21.47%	Actuarial	99%
Odessa Firemen's Relief & Retirement Fund	Active	12/31/2021	\$ 16,096,804	15.25%	16.00%	0.00%	25.57%	24.82%	24.72%	Fixed	100%
Tyler Firefighters' Relief & Retirement Fund	Active	12/31/2021	\$ 12,260,544	21.85%	13.50%	8.35%	14.04%	22.39%	22.35%	Fixed	100%
Dallas Co. Hospital Dist. Retirement Income Plan	Active	12/31/2020	\$ 685,520,300	9.95%	6.20%	3.75%	4.87%	8.62%	8.62%	Actuarial	100%
Sweeny Community Hospital	Closed	12/31/2021	\$ 650,990	10.24%	0.00%	10.24%	8.30%	18.54%	18.54%	Actuarial	100%
Houston MTA Workers Union Pension Plan	Closed	12/31/2021	\$ 81,505,000	4.39%	0.00%	4.39%	15.04%	19.43%	19.43%	Actuarial	100%
San Antonio Metropolitan Transit Retirement Plan	Active	9/30/2021	\$ 59,888,154	12.56%	6.55%	6.01%	17.79%	23.80%	23.80%	Actuarial	100%
Capital MTA Bargaining (6)	Frozen	12/31/2020	\$ 6,851,646	0.00%	0.00%	0.00%	0.00%	0.00%	58.38%	Actuarial	100%
Brazos River Authority Retirement Plan (6)	Frozen	2/28/2021	\$ 6,603,887	0.00%	0.00%	0.00%	0.00%	0.00%	21.06%	Actuarial	100%
Northeast Medical Center Hospital Retirement Plan (6)	Frozen	6/30/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Actuarial	100%
Dallas Police & Fire Pension System-Supplemental	Active	12/31/2020	\$ 599,187	74.76%	13.96%	60.80%	235.82%	296.62%	296.62%	Actuarial	100%
Port of Houston Authority Retirement Plan	Closed	7/31/2021	\$ 29,688,380	13.23%	0.00%	13.23%	6.42%	19.65%	19.65%	Actuarial	100%
University Health System Pension Plan	Active	12/31/2021	\$ 424,119,000	5.30%	2.54%	2.76%	2.36%	5.12%	5.12%	Actuarial	100%
Houston MTA Non-Union Pension Plan	Closed	12/31/2021	\$ 38,043,136	9.25%	0.00%	9.25%	26.05%	35.30%	35.35%	Actuarial	100%

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Contribution Report
October 6, 2022

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Lufkin Firemen's Relief & Retirement Fund	Active	12/31/2021	\$ 5,657,886	16.69%	14.20%	2.49%	21.11%	23.60%	23.64%	Fixed	100%
Big Spring Firemen's Relief & Retirement Fund	Active	12/31/2020	\$ 4,259,859	17.53%	13.00%	4.53%	11.97%	16.50%	16.67%	Fixed	101%
Texas Emergency Services Retirement System (6)	Active	8/31/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Other	102%
Abilene Firemen's Relief & Retirement Fund	Active	9/30/2021	\$ 15,310,993	17.17%	15.20%	1.97%	19.86%	21.83%	22.30%	Fixed	102%
Guadalupe Regional Medical Center	Active	12/31/2021	\$ 32,434,983	10.74%	4.00%	6.74%	0.68%	7.42%	7.58%	Other	102%
Plano Retirement Security Plan	Active	12/31/2021	\$ 158,364,750	3.47%	0.00%	3.47%	0.43%	3.90%	3.99%	Actuarial	102%
Temple Firemen's Relief & Retirement Fund	Active	9/30/2021	\$ 9,733,785	19.77%	16.00%	3.77%	11.67%	15.44%	15.84%	Fixed	103%
Texas City Firemen's Relief & Retirement Fund	Active	12/31/2021	\$ 5,845,298	15.00%	17.00%	0.00%	20.32%	18.32%	18.80%	Fixed	103%
Citizens Medical Center	Active	2/28/2021	\$ 57,127,068	8.10%	3.96%	4.14%	-1.09%	3.05%	3.15%	Other	103%
McAllen Firemen's Relief & Retirement Fund	Active	9/30/2021	\$ 13,110,143	16.98%	14.00%	2.98%	11.55%	14.53%	15.02%	Fixed	103%
Guadalupe-Blanco River Authority (6)	Frozen	12/31/2021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Actuarial	104%
Texas County & District Retirement System	Active	12/31/2021	\$ 7,908,800,000	14.84%	6.78%	8.06%	4.88%	12.94%	13.57%	Actuarial	105%
Galveston Wharves Pension Plan	Closed	12/31/2021	\$ 1,031,885	12.74%	0.00%	12.74%	10.75%	23.49%	24.78%	Actuarial	105%
Capital MTA Admin Employees	Active	12/31/2020	\$ 24,700,472	8.19%	0.00%	8.19%	4.18%	12.37%	13.20%	Actuarial	107%
El Paso Police Pension Fund	Active	12/31/2021	\$ 92,308,590	19.04%	18.00%	1.04%	17.89%	18.93%	20.22%	Fixed	107%
Killeen Firemen's Relief & Retirement Fund	Active	9/30/2021	\$ 15,387,077	17.43%	11.00%	6.43%	8.33%	14.76%	15.86%	Fixed	107%
Denison Firemen's Relief & Retirement Fund	Active	12/31/2020	\$ 3,481,241	12.90%	13.25%	0.00%	18.35%	18.00%	19.36%	Fixed	108%
Austin Fire Fighters Relief & Retirement Fund	Active	12/31/2021	\$ 98,222,771	28.60%	18.70%	9.90%	10.80%	20.70%	22.44%	Fixed	108%
JPS - Tarrant County Hospital District	Active	9/30/2021	\$ 291,597,120	6.32%	1.94%	4.38%	1.87%	6.25%	6.91%	Other	111%
Texas Municipal Retirement System	Active	12/31/2021	\$ 7,283,000,000	15.48%	6.69%	8.79%	4.53%	13.32%	14.79%	Actuarial	111%
El Paso Firemen's Pension Fund	Active	12/31/2021	\$ 67,407,300	19.25%	18.00%	1.25%	17.93%	19.18%	21.38%	Fixed	111%
Houston Police Officers' Pension System	Active	6/30/2021	\$ 454,696,000	23.97%	10.50%	13.47%	16.14%	29.61%	33.23%	Actuarial	112%
Galveston Employees' Retirement Plan for Police	Active	12/31/2021	\$ 12,829,898	14.26%	12.00%	2.26%	15.70%	17.96%	20.81%	Actuarial	116%
Corsicana Firemen's Relief & Retirement Fund	Active	12/31/2021	\$ 3,132,131	15.11%	14.00%	1.11%	16.11%	17.22%	20.20%	Fixed	117%
San Antonio Fire & Police Pension Fund	Active	12/31/2021	\$ 348,902,880	23.16%	12.32%	10.84%	9.62%	20.46%	24.74%	Fixed	121%
Galveston Employees' Retirement Fund	Active	12/31/2021	\$ 27,184,326	10.13%	6.00%	4.13%	3.45%	7.58%	9.28%	Fixed	122%
Denton Firemen's Relief & Retirement Fund	Active	12/31/2021	\$ 20,151,688	22.33%	12.60%	9.73%	7.50%	17.23%	21.09%	Actuarial	122%
Corpus Christi Fire Fighters' Retirement System	Active	12/31/2021	\$ 35,823,542	16.70%	13.10%	3.60%	18.04%	21.64%	26.49%	Fixed	122%

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Lower Colorado River Authority Retirement Plan	Closed	12/31/2020	\$ 101,791,730	5.66%	0.00%	5.66%	18.48%	24.14%	30.45%	Actuarial	126%
Waxahachie Firemen's Relief & Retirement Fund	Active	9/30/2020	\$ 4,869,681	17.92%	12.00%	5.92%	6.70%	12.62%	16.25%	Other	129%
City of El Paso Employees Retirement Trust	Active	8/31/2021	\$ 167,790,370	11.94%	8.95%	2.99%	8.53%	11.52%	15.26%	Fixed	132%
Weslaco Firemen's Relief & Retirement Fund	Active	9/30/2021	\$ 4,938,442	15.61%	12.00%	3.61%	5.69%	9.30%	12.45%	Fixed	134%
Port Arthur Firemen's Relief & Retirement Fund	Active	12/31/2020	\$ 9,300,617	15.42%	13.50%	1.92%	10.84%	12.76%	17.19%	Other	135%
Amarillo Firemen's Relief & Retirement Fund	Active	12/31/2021	\$ 22,673,309	24.45%	14.00%	10.45%	3.41%	13.86%	19.78%	Fixed	143%
Fort Worth Employees' Retirement Fund Staff Plan	Active	9/30/2021	\$ 1,494,667	21.58%	10.50%	11.08%	12.21%	23.29%	33.31%	Actuarial	143%
DART Employees	Closed	9/30/2021	\$ 12,594,032	7.28%	0.02%	7.26%	45.34%	52.60%	79.40%	Actuarial	151%
Harris County Hospital District Pension Plan	Closed	12/31/2021	\$ 148,657,136	5.79%	0.00%	5.79%	18.58%	24.37%	38.34%	Actuarial	157%
DFW Airport Board	Active	12/31/2021	\$ 47,901,590	17.55%	0.00%	17.55%	17.56%	35.11%	55.99%	Actuarial	159%
El Paso Firemen & Policemen's Pension Staff Plan	Active	12/31/2021	\$ 833,685	10.30%	5.00%	5.30%	-0.59%	4.71%	8.04%	Actuarial	171%
Travis County ESD #6 FRRF	Active	12/31/2021	\$ 7,050,634	27.59%	20.00%	7.59%	2.75%	10.34%	22.58%	Fixed	218%
Plainview Firemen's Relief & Retirement Fund	Active	12/31/2021	\$ 2,018,139	15.06%	15.00%	0.06%	33.67%	33.73%	75.46%	Fixed	224%
Employees of Brownsville Navigation District	Active	12/31/2021	\$ 4,428,078	5.94%	4.00%	1.94%	6.51%	8.45%	26.40%	Actuarial	312%
Arlington Employees Deferred Income Plan	Active	6/30/2020	\$ 3,766,744	5.67%	3.00%	2.67%	-2.67%	0.00%	2.04%	Actuarial	N/A
Anson General Hospital	Frozen	6/30/2021	\$ 101,039	89.05%	4.00%	85.05%	-85.05%	0.00%	0.00%	Actuarial	N/A

- Notes
- (1) Plan status indicates whether a plan is active (admitting new hires), closed to new hires (but still accruing benefits), or frozen (not accruing benefits).
 - (2) Normal Cost includes any explicit provisions for administrative expenses.
 - (3) Values may differ from that reported by the system due to differences in timing and/or rounding. For systems that do not indicate the fiscal year associated with this value (or the requisite valuation has not been provided to t
 - (4) Recommended Contribution needed for the system to achieve and maintain an amortization period that does not exceed 30 years, in accordance with Texas Code §802.101(a).
 - (5) Actual contribution rate is determined as the employer contributions made to the plan during the fiscal year divided by the covered payroll shown. This may differ from the plan's stated contribution rate due to differences bet
 - (6) Covered payroll is not reported for this plan.
 - (7) According to the statute, the plan will contribute 100% of ADC going forward

Item 7c. Consideration and potential action on adoption of proposed new rules, Chapter 610, Funding Soundness Restoration Plan

Madilyn Jarman

Adopted Preamble—Title 40 Social Services and Assistance > Part 17 State Pension Review Board > new Chapter 610

Introduction

40 TAC Chapter 610

The Texas Pension Review Board (PRB) adopts new 40 TAC Chapter 610, concerning Funding Soundness Restoration Plans (FSRPs).

BACKGROUND AND PURPOSE

The PRB adopts new 40 TAC Chapter 610, concerning Funding Soundness Restoration Plans to implement the new statutory requirements following the 87th Legislative Session in 2021. Sections 610.11, 610.13, 610.14, 610.15, 610.20, 610.21, 610.22, 610.30, 610.31, and 610.32 are adopted without changes to the text as published in the July 29, 2022, issue of the *Texas Register* (47 TexReg 4450). The rules will not be republished.

The PRB has been approaching the rule process with three primary goals:

To provide guidance and clarify reporting requirements for FSRPs after the changes took effect.

To preserve the work of public retirement systems and their sponsors that have previously submitted effective FSRPs and are committed to following their plans to achieve full funding.

To support retirement systems in unusual situations due to when they became subject to the new FSRP requirement and provide guidance as they navigate the new statutory requirements.

The original FSRP requirement was put in place during the 2015 Legislative Session to bring Texas public retirement systems in line with the PRB's *Guidelines for Actuarial Soundness* and improve the funding conditions of retirement systems with amortization periods exceeding 40 years. As systems submitted their FSRPs and began the 10-year process of completing their plans, it became clear that several aspects of the requirement needed refinement to ensure effectiveness. Additionally, the PRB revised the *Guidelines for Actuarial Soundness*, now *Pension Funding Guidelines*, in 2017 to ensure they were more consistent with current actuarial standards and best practices.

For these reasons, the PRB's 2020 Recommendations to the 87th Legislature included several potential changes to FSRP statute, most of which were eventually incorporated into House Bill 3898 (87R), which took effect on September 1, 2021. These recommendations were developed over the course of a year based on stakeholder feedback at board and committee meetings and other opportunities for public input. Many of the areas of improvement were identified based on recommendations from systems that were preparing FSRPs and research on best practices from other states. Additionally, the PRB has implemented the new law through educational materials and presentations about the new law, further engagement with stakeholders, and several calls for public comment and participation throughout development of the rule language.

While preparing these recommendations to the legislature, the PRB frequently stated the desire to balance ensuring the FSRP requirements were effective in improving the funding conditions of Texas public retirement systems while with preserving the work of systems and associated governmental entities that implemented effective FSRPs under the previous statute. The PRB wished to ensure that

systems adhering to their existing FSRPs were able to finish the term of their existing plans without having to start over due to the updated requirements. This intent applies to the current rulemaking process as one of the goals established to guide the development of the rules.

Additionally, because the new statutory requirements are different from the previous statute in a variety of ways, the rules are intended to clarify different aspects of the documentation and reporting requirements while still maintaining the flexibility needed for systems and sponsors to create an effective FSRP based on their unique situation. This approach allows for the centralized oversight and local accountability the statute while acknowledging the variety of statutes and plan provisions governing retirement systems in Texas.

The adopted rules also clarify an existing statutory requirement that a public retirement system notify its members if the system's financing arrangement is inadequate. The existing disclosure requirement under Texas Government Code §802.106(d) was established in Texas law in 1981 during the 67th Legislative Session, first called session. Since then, some systems have submitted actuarial valuations to the PRB with a note from their actuary that the system's funding arrangement is considered inadequate. However, since the FSRP requirement requires a system to make a plan sufficient to amortize the unfunded actuarial accrued liability within 30 years, it follows that triggering the FSRP requirement is an indication that a system's funding arrangement is inadequate. Further, transparency and membership education are important to the health of a system, and many systems will require participation from their members through elections to modify benefits or contributions to successfully create an effective FSRP. Therefore, this rule is necessary to clarify existing statutory requirements for communication with system members in the context of the laws that now include the FSRP process.

Summary of Public Comments

The agency did not receive any comments on the proposed rules during the public comment period.

Statutory Authority

The adopted rules are authorized by the Texas Government Code §802.201(a), which grants specific authority to the board to adopt rules for the conduct of its business; and §§802.2015(h) and 802.2016(h), which allow the PRB to adopt rules necessary to implement requirements related to funding soundness restoration plans.

<rule>

Chapter 610 Funding Soundness Restoration Plans

§610.11. Authority & Purpose.

These rules implement and are authorized by Texas Government Code §§801.201, 802.2011, 802.2015, and 802.2016.

§610.13. Definitions.

When used in this chapter, the terms listed below shall have the following meanings:

(1) "Board" means State Pension Review Board.

- (2) "Compliance corridor" means the acceptable range of variation from a system's baseline for the system's funding period or funded ratio, as further described in board rules that concern a system's adherence to a funding soundness restoration plan, and related figures.
- (3) "Formulated" means finalized and approved by the appropriate decision-making bodies.
- (4) "Funded ratio" has the meaning assigned by Texas Government Code §802.2011.
- (5) "Funding period" means the length of time it would take to fully fund the unfunded actuarial accrued liability under the current actuarial assumption based on the greater of the actuarial value of assets or the market value of assets.
- (6) "Governmental entity" has the meaning assigned by §802.1012, Texas Government Code.
- (7) "Legacy funding soundness restoration plan" or "L-FSRP" means a funding soundness restoration plan formulated prior to September 1, 2021, accepted by the board, and governed by the law as it existed immediately before that date.
- (8) "Public retirement system" has a meaning as defined by §801.001(2) and §802.001(3), Texas Government Code but shall not include defined contribution plans as defined by §802.001(1-a), Texas Government Code or retirement systems consisting exclusively of volunteers organized under the Texas Local Fire Fighters' Retirement Act as defined by §802.002(d), Texas Government Code.
- (9) "Revised funding soundness restoration plan" or "R-FSRP" means a funding soundness restoration plan prepared under §802.2015(e-1) or §802.2016(e-1), Texas Government Code, which includes additional components compared to a funding soundness restoration plan prepared under §802.2015(e) or §802.2016(e), Texas Government Code.
- (10) "Revised funding soundness restoration plan exemption" or "revision exemption" means the applicable section of either Texas Government Code §§802.2015(d-1) or 802.2016(d-1) under which qualifying systems prepare a funding soundness restoration plan under Texas Government Code §§802.2015(e) or 802.2016(e) rather than a revised funding soundness restoration plan.
- (11) "Target date" means the 10th anniversary of the date on which the final version of a legacy funding soundness restoration plan was agreed to as required by law as it existed immediately before September 1, 2021.
- (12) "Valuation date" means the date as of which the actuarial accrued liability and the actuarial value of assets are determined, often the first or last day of the plan year as specified in the valuation.
- (13) "Voluntary funding soundness restoration plan" or "V-FSRP" means a funding soundness restoration plan formulated submitted, and completed under either Texas Government Code §802.2015 or §802.2016 as it stands after September 1, 2021, without the system or associated governmental entity first becoming subject to the requirement.

§610.14. Applicability.

This chapter applies to every public retirement system and its associated governmental entity that is subject to Texas Government Code §802.2015 or §802.2016 and to a system or associated governmental entity that choose to submit a voluntary funding soundness restoration plan.

§610.15. Required disclosure of inadequate financing arrangement to plan members.

(a) A notification to the associated governmental entity under Texas Government Code §802.2015(c) or §802.2016(c) regarding an actuarial valuation that indicates the public retirement system's actual contributions are not sufficient to amortize the unfunded liability within 30 years, means that the financing of the system is inadequate for the purposes of §802.106(d), Texas Government Code.

(b) The disclosure to members of an actuarial determination of an inadequate financing arrangement required under Texas Government Code §802.106(d) shall be accompanied by a notice that the system is subject to the funding soundness restoration plan requirement under Texas Government Code §802.2015(c) or §802.2016(c) when a system becomes subject to the requirement.

§610.20. Criteria for Determining Adherence to a Legacy Funding Soundness Restoration Plan.

(a) A public retirement system is adhering to a legacy funding soundness restoration plan if the system's actuarial valuation shows:

(1) the funding period is expected to fall within 40 years by the target date and so long as the system's funding period continues to shorten while the system's funding period is above 40 years and does not increase to a length of time greater than 40 years after falling below 40 years; or

(2) an increase in funding period compared to the previous valuation, and the system's actuarial valuation shows that, between the valuation date and the system's target date, the system's funding period or funded ratio remains within the compliance corridor adopted in board rule. If the system's funding period is infinite, only the funded ratio will be evaluated to determine compliance for the purposes of §610.20(a)(2).

(b) A public retirement system with a legacy funding soundness restoration plan may submit a projection to serve as the baseline for the purpose of this subsection. This projection must show the projected funded ratio and funding period for each year beginning with the current date until the target date. For any years the system's funding period is projected to be above 40 years, the corridor will be based on the baseline. For any years the system's funding period is projected to be below 40 years, the compliance corridor will be based on a minimum of 40 years. If the system does not submit such a projection to the board for this purpose, the board will determine adherence to the legacy funding soundness restoration plan using a baseline in which a system's funding period must decrease by one year every consecutive year as measured on the anniversary of the date on which the final version of the funding soundness restoration plan was agreed to as required by law.

(c) The allowable degree of variation from the baseline will begin at five percent for a funded ratio corridor or ten years for a funding period corridor and will decrease over period between the current date and the target date as described by Figure: 40 TAC §610.20(c). A system would be considered compliant if plan experience exceeds a corridor in a favorable way. The board will use each system's baseline to provide a compliance corridor unique to that system based on their funding period and funded ratio, using the corridor sizes specified in these rules.

Figure: 40 TAC §610.20(c)

§610.21. Completion of a Legacy Funding Soundness Restoration Plan.

(a) A public retirement system adhering to a legacy funding soundness restoration plan may continue following that plan until the earlier of:

(1) the target date; or,

(2) the date of an actuarial valuation that indicates the system's funding period is at or below 30 years.

(b) actuarial valuations with valuation dates during a time that a system is adhering to a legacy funding soundness restoration plan shall not be counted towards triggering a funding soundness restoration plan under Texas Government Code §802.2015(c) or §802.2016(c) as it stands after September 1, 2021, until after the applicable date described in Subsection (a) when the system completes the legacy funding soundness restoration plan.

§610.22. Application of Revised Funding Soundness Restoration Plan Exemption.

(a) A public retirement system's actuarial valuation must be dated after September 1, 2025, to qualify for the revision exemption under Texas Government Code §802.2015(d-1)(1) or §802.2016(d-1)(1).

(b) The revision exemption does not apply to a system adhering to a legacy funding soundness restoration plan before the date prescribed by §610.21.

§610.30 Submission and Completion Criteria for the Funding Soundness Restoration Plan Requirement

(a) The board will consider a retirement system to have submitted a funding soundness restoration plan when the board receives:

(1) a completed form approved by the board for this purpose;

(2) any supplementary or explanatory documents necessary to illustrate how the system's funding period will be within the maximum by the prescribed date, including a revised funding policy; and

(3) documentation of the date the plan was adopted by both the governing body of the system and of the governmental entity. Documentation may include the minutes or other record of an open meeting when each adoption occurred.

(b) The board will consider a retirement system to have completed the funding soundness restoration plan requirement when the board receives an actuarial valuation or separate analysis under Texas Government Code §§802.2015(e-2) or 802.2016(e-2) and the staff actuary or board actuary determines the actuarial valuation or separate analysis complies with actuarial standards of practice. An actuarial valuation and separate analysis are equivalent for the purposes of Texas Government Code §§802.2015(e-2) or 802.2016(e-2) and either may be submitted in lieu of the other during the respective submission periods, provided it includes the components required by the applicable subsection.

(c) For a system submitting a revised funding soundness restoration plan with specific changes required by statute, "automatic risk-sharing mechanisms" means changes to plan provisions, including adjustments to benefit levels or contribution amounts, upon meeting or exceeding certain criteria established beforehand without needing additional approval at the time of the change. The plan shall specify how the changes to the contribution amounts are split between the employer and members. At least one of the automatic risk-sharing mechanisms included in the plan must be an adjustable benefit or contribution mechanism.

(d) A system or associated governmental entity shall submit to the board the materials related to a funding soundness restoration plan that adequately fulfill the analysis and documentation requirements in statute and rules to be considered compliant. If the board determines the materials are inadequate, the board will notify the system of the determination with an explanation of the reason and may request additional information. The system shall submit additional materials consistent with the board's instructions. The board would consider a system noncompliant if the board does not receive the system's funding soundness restoration plan; if the system fails to comply with an approved funding soundness restoration plan, revised funding soundness restoration plan, or other type of funding soundness restoration plan; or if the system fails to submit to the board the funding soundness restoration plan materials that adequately satisfy the requirements in statute and board rules within the appropriate time periods for those materials.

§610.31. Compliance with Progress Updates.

(a) A system adhering to a legacy funding soundness restoration plan shall continue providing progress updates every two years rather than submitting progress updates in accordance with this section.

(b) The first draft of a plan submitted as a part of a progress update under Texas Government Code §§802.2015(f) or 802.2016(f) must, at minimum, include a projected timeline for enactment of the plan, and identify the action that various entities must take to approve or enact the plan, such as votes that may be necessary in accordance with the system's governing statute. Each subsequent progress update should include a draft plan that contains updated information and that demonstrates movement toward a complete and finalized plan.

(c) A description of changes submitted as part of a progress update to fulfill the requirements of Texas Government Code §§802.2015(f) or 802.2016(f) must include the projected actuarial impact of each change under consideration on the retirement system's funding period and funded ratio.

(d) A system must submit updates consistent with Subsections (b) and (c) of this section to the board starting September 1, 2023, and every six months thereafter until the system submits a funding soundness restoration plan to the board and the board determines it is compliant if the system:

(1) received an actuarial valuation dated prior to September 1, 2021, that triggered a funding soundness restoration plan requirement; and

(2) does not have a board-approved legacy funding soundness restoration plan.

(e) A system or associated governmental entity that receives an actuarial valuation dated after September 1, 2021, that triggers a funding soundness restoration plan, including a revised funding soundness restoration plan, must submit updates to the board beginning not later than the first anniversary of the valuation date of the actuarial valuation that required formulation of the plan and every subsequent six-month period until the plan is submitted as described in Texas Government Code §§802.2015(f) or 802.2016(f).

(f) A system or associated governmental entity preparing a voluntary funding soundness restoration plan is not required to submit progress updates to the board.

§610.32. Revised Funding Soundness Restoration Plan Exemption.

(a) A public retirement system is adhering to a funding soundness restoration plan formulated between September 1, 2021, and September 1, 2025, if, during the period between the date the funding soundness restoration plan is adopted by the system and governmental entity and the 10th anniversary of the applicable date for the funding soundness restoration plan to be formulated and the system to be within the maximum funding period prescribed by Texas Government Code §§802.2015(e)(2) or 802.2016(e)(2), the system's actuarial valuation shows the system's funding period or funded ratio remain within the applicable compliance corridors established in this section. If the system's funding period is infinite, only the funded ratio will be evaluated to determine compliance for the purposes of this subsection.

(b) The baseline for a system's funding period compliance corridor will be 30 years, and the baseline for the funded ratio corridor will be the actuarial projection of the system's expected future actuarial value of assets and liabilities submitted as part of an actuarial valuation or separate analysis in accordance with either Texas Government Code §§802.2015(e-2)(1) or 802.2016(e-2)(1).

(c) The allowable degree of variation from the baseline will begin at five percent for a funded ratio corridor or ten years for a funding period corridor and will decrease over the 10-year period as described by Figure: 40 TAC §610.32(c). A system would be considered compliant if plan experience exceeds the corridor in a favorable way. The board will use each system's baseline to provide a compliance corridor unique to that system based on their amortization period and funded ratio, using the corridor sizes specified in these rules.

Figure: 40 TAC §610.32(c)

(d) A system may submit a voluntary funding soundness restoration plan without first becoming subject to the requirement, for the purposes of qualifying for the revision exemption, provided the V-FSRP is consistent with all applicable submission requirements in statute and rules.

Figure: 40 TAC §610.20(c)

Legacy FSRP Compliance Corridors		
Year	Funded Ratio Corridor Size	Funding Period Corridor Size (years)
1	5.00%	10.0
2	4.75%	9.0
3	4.50%	8.0
4	4.25%	7.0
5	4.00%	6.0
6	3.75%	5.0
7	3.50%	4.0
8	3.25%	3.0
9	3.00%	2.0
10	Target Date—L-FSRP complete	

Figure: 40 TAC 610.32(c).

FSRP Compliance Corridors		
Year	Funded Ratio Corridor Size	Funding Period Corridor Size (years)
1	5.00%	10.0
2	4.75%	9.0
3	4.50%	8.0
4	4.25%	7.0
5	4.00%	6.0
6	3.75%	5.0
7	3.50%	4.0
8	3.25%	3.0
9	3.00%	2.0
10	No longer possible to trigger an R-FSRP	

Item 7d. Policy for Promoting Compliance with Funding Soundness Restoration Plan Requirements

Madilyn Jarman

Policy for Promoting Compliance with Funding Soundness Restoration Plan Requirements

1. Purpose. This policy communicates the Pension Review Board's (PRB) approach to promoting compliance with the requirements and standards in the Funding Soundness Restoration Plan (FSRP) statute and rules.¹ This policy describes how the PRB will assist systems in complying with the requirements and the tools PRB will use to ensure the systems, sponsors, the legislature, and the public are aware of instances of noncompliance with FSRP requirements.

2. Notifications. Most FSRP deadlines are outlined in statute. As a courtesy, the PRB will notify each system after becoming aware the system meets certain conditions, as follows:

- a. Notification of at-risk status when a system has one or more actuarial valuations with a funding period above the maximum.
- b. Notification of actuarial valuation triggering FSRP or revised FSRP (R-FSRP) when a system's most recent actuarial valuation has made them subject to the requirement.
- c. Acknowledgement of receipt of FSRP materials from a retirement system when the PRB receives a system's FSRP materials.
- d. Notice of inadequate materials when the PRB determines that a system's FSRP materials are missing or do not meet the standards necessary to be considered compliant with the requirements.
- e. Notice when a progress update is due or late as outlined in §§802.2015(f) or 802.2016(f), Texas Government Code.
- f. Notice when FSRP is due or late as outlined in §§802.2015(2) or 802.2016(2), Texas Government Code.

3. Regular reports. Staff will regularly report the FSRP status of systems subject to the FSRP requirements and systems at risk of becoming subject to the requirements based on a system's most recent actuarial valuation. Staff will provide these regular reports to the Actuarial Committee, the board, and as part of the agency's Biennial Report to the Legislature.

4. Late notification. If a system does not submit materials within 15 days after the deadline, the PRB will notify the system of its noncompliant status and will request submission of the required materials.

5. Staff action. If the PRB does not receive the requested materials within 30 days after the notification, staff will contact the system and attempt to resolve the compliance matter.

6. Executive director action. If the plan is still noncompliant 60 days after the deadline and staff has been unable to reach a resolution with the system, the names of the system and sponsor will be included on the list of noncompliant public retirement systems posted on the PRB website. The executive director will contact the system and sponsor to notify them of the noncompliant status and that the issue may be addressed at an upcoming board meeting.

7. Role of the board. At each board meeting, staff may provide a list of noncompliant systems to the board. The list will indicate the severity of noncompliance for each plan, including the amount of time that

¹ Sections 802.2015 and 802.2016, Texas Government Code and Title 40 Chapter 610, Texas Administrative Code

each plan has been noncompliant, and efforts by staff to bring the plan into compliance. The board will determine whether to place the noncompliant system(s) on the agenda for the next board meeting. If the board so determines, the PRB staff will notify the system, advising them that they will be placed on the agenda for formal discussion as a noncompliant plan at the next board meeting. The board will designate a specific time frame that the plan must submit their materials. If the system does not submit the required materials timely, representatives of the system and sponsor will be requested to appear at a board meeting to formally address the noncompliant status.

8. Notifications to legislative and governor's offices. In addition to the PRB's regular reports to the legislature and governor's office, if a retirement system is noncompliant and has not responded to the board's efforts to resolve the issue, the PRB may notify the senator and house member representing the districts where the retirement system is located, the presiding officer of the committees responsible for retirement legislation, and any other offices if necessary.

9. Further action. To address the noncompliance of a plan, the board may conduct inspections, issue subpoenas, and seek other legal action, as set forth in §§801.204, 802.205, and 802.003(d) of the Texas Government Code.

Item 7e. Reporting Compliance

Matt Featherston



Compliance

- Fiscal year 2021 annual reports are now due for all plans.
- Total Net Assets
 - Current Board Meeting: \$371,074,697,350
 - 7.14.2022 Meeting: \$368,573,852,535
- Have started to receive 2022 reports for FYE February
 - Will receive FYE March 31 at the end of October



Annual Compliance Overview

	Current Board Meeting	7.14.2022 Meeting
Noncompliant Plans	23	18
Compliant Plans	77	81
Total Plans Registered	100	99

Report Type	Noncompliant
Financial Audit*	17
Membership (PRB-200)	13
RoR (PRB-1000)	13

*Includes three plans with investment expense data that needs additional information or needs to be submitted for the system's financial audit to be compliant.

Noncompliant - Waiting For Reports From Auditors

Retirement System	Due Date
Capital MTA Retirement Plan for Bargaining Unit Employees	7/30/2022
Capital MTA Retirement Plan for Administrative Employees	7/30/2022
Cleburne Firemen's Relief & Retirement	7/30/2022
Corsicana Firemen's Relief & Retirement Fund	7/30/2022
Port Arthur Firemen's Relief & Retirement Fund	7/30/2022
San Angelo Firemen's Relief & Retirement Fund	7/30/2022
Sweetwater Firemen's Relief & Retirement Fund	7/30/2022



Plans Noncompliant Over 60 Days

§801.209(b), Texas Government Code: this list includes all plans that have not submitted one or more of the following reports to the PRB by the 60th day after the date the reports are due: annual financial report, membership report (PRB-200), or investment returns and assumptions report (PRB-1000).

Fiscal Year	Retirement System	Due Date
2020	Capital MTA Retirement Plan for Bargaining Unit Employees	7/30/2021
2020	Capital MTA Retirement Plan for Administrative Employees	7/30/2021
2020	Midland Firemen's Relief & Retirement Fund	7/30/2021
2021	Nacogdoches County Hospital District Retirement Fund	1/27/2022
2021	Refugio County Memorial Hospital District Retirement Plan	5/30/2022
2021	San Antonio Metropolitan Transit Retirement Plan	4/29/2022
2021	San Benito Firemen Retirement & Relief Plan	4/29/2022
2021	Waxahachie Firemen's Relief & Retirement Plan	4/29/2022

Plans Noncompliant Over 60 Days (cont.)

- All annual reports
 - Capital MTA Retirement for Bargaining Unit Employees
 - Capital MTA Retirement for Administrative Employees
- Membership
 - Nacogdoches County Hospital District Retirement Plan
 - San Antonio Metropolitan Transit Retirement Plan
- Annual financial report
 - Nacogdoches County Hospital District Retirement Plan
 - Waxahachie (Investment Expense & GASB)
- PRB-1000
 - Midland Firemen's Relief & Retirement Fund
 - Refugio County Memorial Hospital District Retirement Plan
 - San Benito Firemen Relief & Retirement Fund



Investment Committee

Item 8a. Updated IPPE Guidance

Robert Munter



PRB IPPE Guidance Background

- Senate Bill 322 (86R) required systems to conduct an Investment Practices and Performance Evaluation (IPPE).
- Staff created a guidance document to assist systems in complying with the new law.
- The board adopted the guidance document on October 17, 2019.
- The legislature modified the statute during the 87R session based on PRB recommendations.



PRB IPPE Recommendations to Legislature

1. Require evaluations to detail how the evaluator determined the need, or lack thereof, for any recommendations.
2. Require a formal review-and-comment process prior to publication of evaluation reports.
3. Review and consider the feasibility of whether an independent firm conducting the evaluation should be a different firm from the one that helped the system develop its existing investment policies, procedures, and practices.
4. Require evaluators to identify its qualifications and potential conflicts-of-interest; codifying existing PRB informal guidance.



IPPE Statute Update

- IPPEs completed after September 1, 2021, are subject to new disclosure requirements:
 - Statement that independent firm meets experience requirement.
 - Statement for identifying any conflict of interest and relationship with the system.
 - Explanation for a firm's determination regarding whether to include a recommendation or not on each evaluated matter.
- Added formal review-and-comment process to evaluations.
- Sponsor may pay all or part of the cost to prepare the evaluation; system is responsible for the remainder of the cost.
- Systems may continue to use current investment consultants to prepare IPPEs.



Subsequent IPPE reports

- Systems with assets of at least \$100 million must complete an evaluation once every three years.
- Systems with assets of at least \$30 million but less than \$100 million must complete an evaluation once every six years.
- Subsequent evaluations are not required to be comprehensive and can focus on one asset class.



Updated IPPE Guidance



Draft IPPE Guidance Update Feedback

- The PRB requested feedback until **September 16, 2022**, and received four responses.

Questions



☐ Must the evaluations focus on a specific fiscal year?

☐ What type of disclosure is required for the new requirement regarding recommendations?

☐ Is the “Governmental Entity’s Ability to Cover Evaluation Costs” needed in this document?

☐ The review and comment deadlines make it more complicated and what if we start reviewing drafts earlier in the process?

☐ If we submit a subsequent evaluation in 2023, do we need to do another for 2024?

Feedback



☐ The example timeline for subsequent evaluations is confusing. Which systems need to report and when?

☐ The report submission due date is a lot wider than the 2020 report window.

☐ When systems that have assets less than \$30mil become a system with assets of at least \$30mil, it would be easier if they just report whenever the next group of reports are due.



IPPE Guidance Document Changes

- Full document with changes in appendix.
- Summary of updates:
 - 1) Added example timeline of deadlines and updated language.
 - 2) Added language and deadline details for early completion.
 - 3) Added formal review-and-comment process guidance.
 - 4) Updated required disclosures.
 - 5) Added that governmental entity may cover some or all evaluation costs.
 - 6) Differentiated first and subsequent evaluations



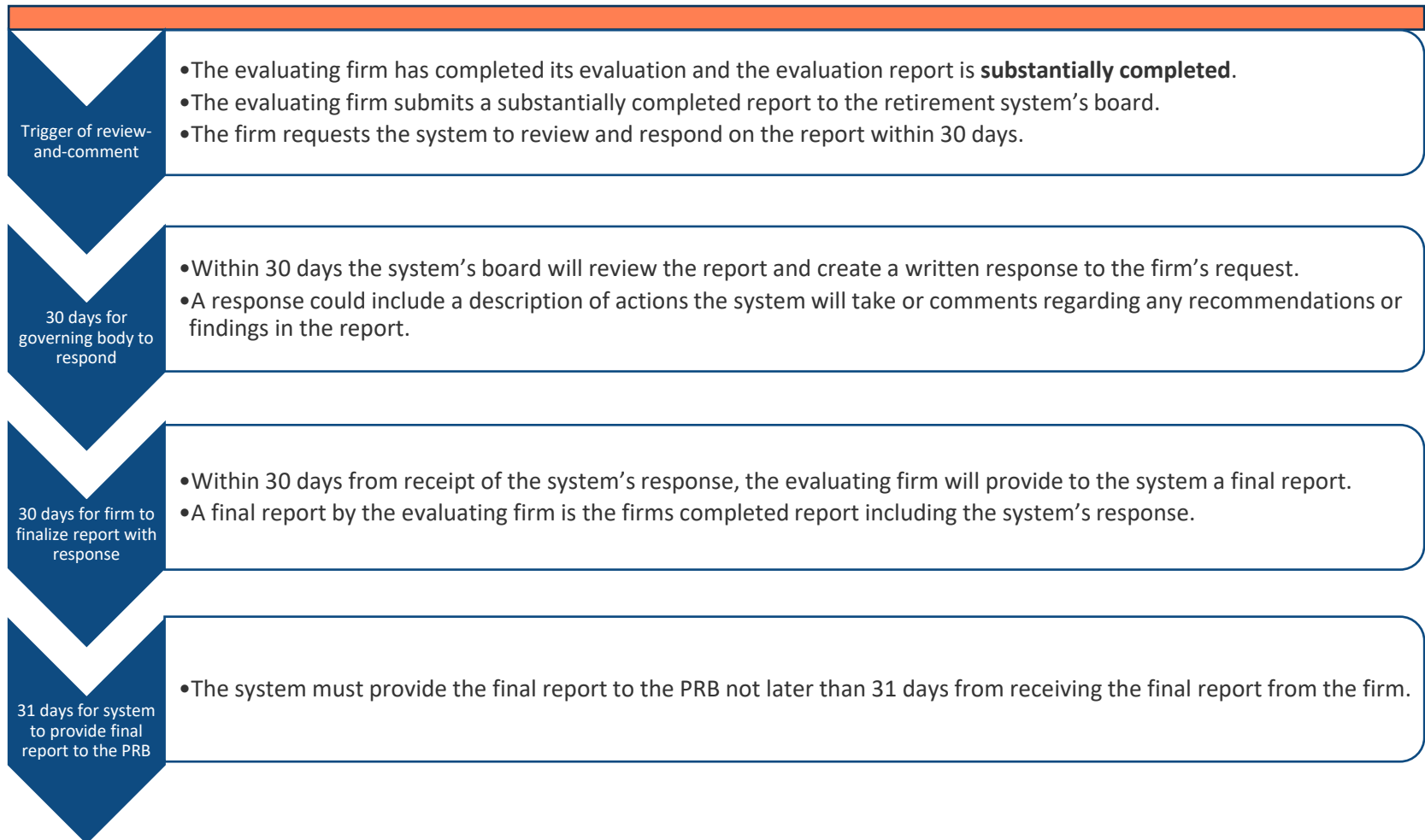
Deadline updates

- Example timeline and deadlines

Applicable Systems	Preparation Recommended Start Date	Evaluation Process Completion Year	Submission to Governing Body and Request Review-and-Comment Target Date	Governing Body Response to Review-and-Comment Due	Final Report to a System's Governing Body Due	Report Due to the PRB
At Least \$100 Million	October 2022	2023	March 2, 2024	April 1, 2024	May 1, 2024	June 1, 2024
	October 2025	2026	March 2, 2027	April 1, 2027	May 1, 2027	June 1, 2027
At Least \$30 Million But Less Than \$100 Million	October 2025	2026	March 2, 2027	April 1, 2027	May 1, 2027	June 1, 2027

- Deadline for early completion before June 1, 2024
 - Triggered by a **substantially** completed evaluation report being submitted to the system's governing body.
 - Deadlines then are based on the formal review-and-comment process

Formal Review-And-Comment Process



Updated Disclosures

The evaluation **must** include the following disclosures by the independent firm:

- 1) a summary outlining the qualifications of the firm in evaluating institutional investment practices and performances;
- 2) a statement that the firm meets the experience requirements;
- 3) a statement indicating the nature of any existing relationship between the firm and the system being evaluated;
- 4) a statement acknowledging that the firm, or its related entities, is not involved in directly or indirectly managing investments of the system;
- 5) a statement identifying any potential conflict of interest or any appearance of a conflict of interest that could impact the analysis between the independent firm and the system or any current/former member of the system's governing body;
- 6) a list of the types of remuneration received by the firm from sources other than the retirement system for services provided to the system; and
- 7) an explanation of the firm's determination regarding whether to include a recommendation for each of the evaluated matters in the report or a lack thereof.

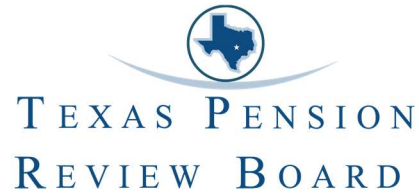


Governmental Entity's Ability to Cover Evaluation Cost and Subsequent Evaluations

- A governmental entity that is the employer of the active members for a public retirement system being evaluated may pay for all of part of the costs resulting from the evaluation.
- Any remaining cost not covered by the governmental entity shall be paid by the system.
- Added language in the IPPE guidance so systems and governmental entities are aware.
- Added language in the IPPE guidance to inform systems that the statute allows subsequent evaluations to focus on specific asset classes and does not require all assets to be reviewed.



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Guidance for Investment Practices and Performance Evaluations (§802.109, Texas Government Code)

[Texas Government Code §802.109](#) requires Texas public retirement systems with at least \$30 million in assets to complete an Investment Practices and Performance Evaluation. The Pension Review Board (PRB) is providing this informal guidance to assist systems in defining the scope and content of the evaluation.

The following provides guidance on the different areas required by statute to be reviewed by the independent firm performing the evaluation. The PRB recognizes that evaluations should and will vary significantly based on the specific characteristics of each system's size, governance structure, and investment program. Therefore, this guidance is intended to inform systems and their stakeholders on the basic aspects of the evaluations and associated reports and is not an exhaustive list of all items that should be reviewed.

A thorough evaluation would include the following elements:

- 1) Identify and review existing investment policies, procedures, and practices. This should include any formally established policies (e.g. Investment Policy Statement) as well any informal procedures and practices used to carry out the investment activities of the system. It is not necessary to review past policies, procedures, and practices that are no longer applicable unless they are deemed helpful to understand current policy or practice.
- 2) Compare the existing policies and procedures to industry best practices.
- 3) Generally, assess whether the board, internal staff, and external consultants are adhering to the established policies.
- 4) Identify the strengths and weaknesses of the current policies, procedures, and practices and make recommendations for improvement.
- 5) Include a detailed description of the criteria considered and methodology used to perform the evaluation, including an explanation of any metrics used and associated calculations.

Applicability

Systems with assets of **at least \$100 million** must complete an evaluation **once every 3 years**.ⁱ Systems with assets of **at least \$30 million but less than \$100 million** must complete an evaluation **once every 6 years**. Systems with assets **less than \$30 million** are **not required**, but are encouraged, to conduct an evaluation. Systems that have not voluntarily completed an evaluation and have assets less than \$30 million will be required to complete an evaluation if, as of the last day of their preceding fiscal year, their assets exceed \$30 million. Systems completing their first evaluations must conduct a comprehensive review of all invested asset classes while systems conducting subsequent evaluations may select specific asset classes to focus on.

Deadlines

Systems that have not completed an evaluation

A report of the first evaluation must be filed with the governing body of the system not later than May 1 the following year in which the system is either required to be or voluntarily evaluated.

Example timeline and deadlines for a system with assets that first exceed \$30 million in 2022 or a system that decides to voluntarily complete an evaluation in 2023.

Fiscal Year Assets Exceed \$30 Million	Preparation Recommended Start Date	Evaluation Process Completion Year	Submission to Governing Body and Request Review-and-Comment Target Date	Governing Body Response to Review-and-Comment Due	Final Report to a System's Governing Body Due	Report Due to the PRB
2022	February 2023	2023	March 2, 2024	April 1, 2024	May 1, 2024	June 1, 2024

Systems that completed an evaluation

Reports of subsequent evaluations must be filed with the governing body of the system not later than May 1 the following year in which the system is evaluated.

Example timeline and deadlines for subsequent evaluations after an evaluation was first completed in 2020

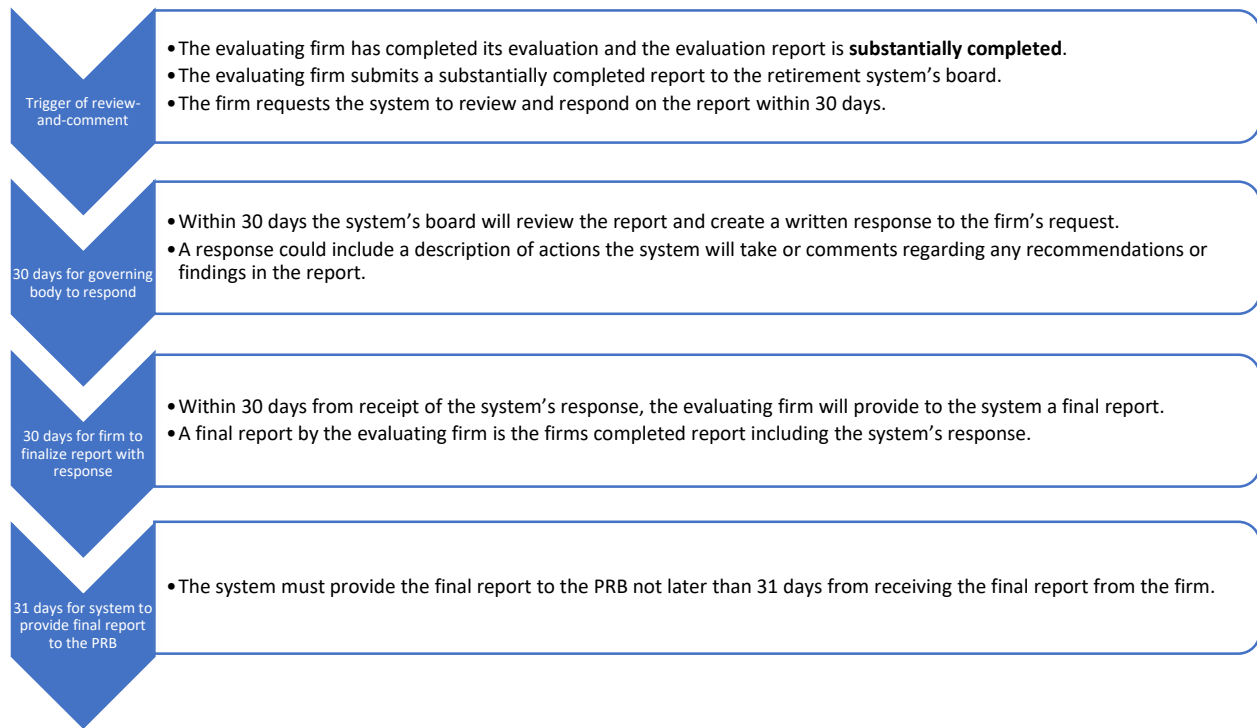
Applicable Systems	Preparation Recommended Start Date	Evaluation Process Completion Year	Submission to Governing Body and Request Review-and-Comment Target Date	Governing Body Response to Review-and-Comment Due	Final Report to a System's Governing Body Due	Report Due to the PRB
At Least \$100 Million	October 2022	2023	March 2, 2024	April 1, 2024	May 1, 2024	June 1, 2024
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At Least \$30 Million but less than \$100 Million	October 2025	2026	March 2, 2027	April 1, 2027	May 1, 2027	June 1, 2027

Deadline for submission before June 1, 2024

If a substantially completed report is submitted to a retirement system's governing body in accordance with the formal review-and-comment process before March 2, 2024, a final report is **due to the PRB not later than 91 days after the governing body first receives the substantially completed report.**¹

¹ [§802.109 \(e-1\), Texas Government Code](#)

Formal review-and-comment process



Independent firm

(a) ... A public retirement system shall select an **independent firm** with substantial experience in evaluating institutional investment practices and performance...

(c) Provides that a public retirement system, in selecting an **independent firm** to conduct the evaluation described by Subsection (a):

(1) subject to Subdivision (2), is authorized to select a firm regardless of whether the firm has an existing relationship with the retirement system; and

(2) is **prohibited** from selecting a firm that **directly or indirectly manages investments** of the retirement system.

Directly or Indirectly Managing Investments

A firm is considered to be directly or indirectly managing investments if the firm, a subsidiary, or its parent company, has assets of the system under management, or is solely responsible for selecting or terminating investment managers.

Restriction on Performing the Evaluation

If a firm is identified as directly or indirectly managing investments of the system, the firm is not considered an independent firm and is not eligible to perform the evaluation.

Required Disclosure by Independent Firm

The evaluation must include the following disclosures by the independent firm:

- 1) a summary outlining the qualifications of the firm in evaluating institutional investment practices and performance;
- 2) a statement that the firm meets the experience requirements;
- 3) a statement indicating the nature of any existing relationship between the firm and the system being evaluated;
- 4) a statement acknowledging that the firm, or its related entities, is not involved in directly or indirectly managing investments of the system;
- 5) a statement identifying any potential conflict of interest or any appearance of a conflict of interest that could impact the analysis between the independent firm and the system or any current/former member of the system's governing body;
- 6) a list of the types of remuneration received by the firm from sources other than the retirement system for services provided to the system; and
- 7) an explanation of the firm's determination regarding whether to include a recommendation for each of the evaluated matters in the report or a lack thereof.

Governmental Entity's Ability to Cover Evaluation Costs

A public retirement system's associated governmental entity may pay for all of part of the costs resulting from the evaluation. Any remaining cost not covered by the governmental entity shall be paid by the system.

Components of Evaluation

This section provides suggested questions and topics for consideration under each of the five areas required to be covered in each evaluation.ⁱⁱ The questions below are intended to help systems identify the types of information an evaluation may include. Additionally, these questions may be helpful to systems that will use a request for proposal (RFP) to select a firm to perform the evaluation.

Each evaluation must include:

*(1) an analysis of any **investment policy or strategic investment plan** adopted by the retirement system and the retirement system 's compliance with that policy or plan;*

- Does the system have a written investment policy statement (IPS)?
- Are the roles and responsibilities of those involved in governance, investing, consulting, monitoring and custody clearly outlined?
- Is the policy carefully designed to meet the real needs and objectives of the retirement plan? Is it integrated with any existing funding or benefit policies? (i.e. does the policy take into account the current funded status of the plan, the specific liquidity needs associated with the difference between expected short-term inflows and outflows, the underlying nature of the liabilities being supported [e.g. pay-based vs. flat \$ benefit, automatic COLAs, DROP, etc.]?)
- Is the policy written so clearly and explicitly that anyone could manage a portfolio and conform to the desired intentions?
- Does the policy follow industry best practices? If not, what are the differences?
- Does the IPS contain measurable outcomes for managers? Does the IPS outline over what time periods performance is to be considered?
- Is there evidence that the system is following its IPS? Is there evidence that the system is not following its IPS?
- What practices are being followed that are not in, or are counter to, written investment policies and procedures?
- Are stated investment objectives being met?
- Will the retirement fund be able to sustain a commitment to the policies under stress test scenarios, including those based on the capital markets that have actually been experienced over the past ten, twenty, or thirty years?
- Will the investment managers be able to maintain fidelity to the policy under the same scenarios?
- Will the policy achieve the stated investment objectives under the same scenarios?
- How often is the policy reviewed and/or updated? When was the most recent substantial change to the policy and why was this change made?

Resources

[PRB - Developing an Investment Policy](#)

[GFOA - A Guide for Establishing A Pension Investment Policy](#)

[CFA - A Primer for Investment Trustees](#)

*(2) a detailed review of the retirement system's **investment asset allocation**, including:*

(A) the process for determining target allocations;

- Does the system have a formal and/or written policy for determining and evaluating its asset allocation? Is the system following this policy?
- If no formal policy exists, what is occurring in practice?
- Who is responsible for making the decisions regarding strategic asset allocation?
- How is the system's overall risk tolerance expressed and measured? What methodology is used to determine and evaluate the strategic asset allocation?
- How often is the strategic asset allocation reviewed?
- Do the system's investment consultants and actuaries communicate regarding their respective future expectations?
- How does the current assumed rate of return used for discounting plan liabilities factor into the discussion and decision-making associated with setting the asset allocation? Is the actuarial expected return on assets a function of the asset allocation or has the asset allocation been chosen to meet the desired actuarial expected return on assets?
- Is the asset allocation approach used by the system based on a specific methodology? Is this methodology prudent, recognized as best practice, and consistently applied?
- Does the system implement a tactical asset allocation? If so, what methodology is used to determine the tactical asset allocation? Who is responsible for making decisions regarding the tactical asset allocation?
- How does the asset allocation compare to peer systems?

(B) the expected risk and expected rate of return, categorized by asset class;

- What are the strategic and tactical allocations?
- What is the expected risk and expected rate of return of each asset class?
- How is this risk measured and how are the expected rates of return determined? What is the time horizon?
- What mix of assets is necessary to achieve the plan's investment return and risk objectives?
- What consideration is given to active vs. passive management?
- Is the approach used by the system to formulate asset allocation strategies sound, consistent with best practices, and does it result in a well-diversified portfolio?
- How often are the strategic and tactical allocations reviewed?

(C) the appropriateness of selection and valuation methodologies of alternative and illiquid assets; and

- How are alternative and illiquid assets selected, measured and evaluated?

- Are the system's alternative investments appropriate given its size and level of investment expertise? Does the IPS outline the specific types of alternative and illiquid investments allowed, as well as the maximum allocation allowable?
- What valuation methodologies are used to measure alternative and illiquid assets? What alternative valuation methodologies exist and what makes the chosen method most appropriate?

(D) future cash flow and liquidity needs;

- What are the plan's anticipated future cash flow and liquidity needs? Is this based on an open or closed group projection?
- When was the last time an asset-liability study was performed?
- How are system-specific issues incorporated in the asset allocation process? What is the current funded status of the plan and what impact does it have? What changes should be considered when the plan is severely underfunded, approaching full funding, or in a surplus? How does the difference between expected short-term inflows (contributions, dividends, interest, etc.) and outflows (distributions and expenses) impact the allocation? How does the underlying nature of the liabilities impact the allocation (e.g. pay-based vs. flat \$ benefit, automatic COLAs, DROP, etc.)?
- What types of stress testing are incorporated in the process?

Resources

[GFOA – Asset Allocation for Defined Benefit Plans](#)

[CFA – A Primer for Investment Trustees](#)

*(3) a review of the **appropriateness of investment fees and commissions paid** by the retirement system;*

- Do the system's policies describe the management and monitoring of direct and indirect compensation paid to investment managers and other service providers? What direct and indirect investment fees and commissions are paid by the system?
- Who is responsible for monitoring and reporting fees to the board? Is this responsibility clearly defined in the system's investment policies?
- Are all forms of manager compensation included in reported fees?
- How do these fees compare to peer group and industry averages for similar services? How are the fee benchmarks determined?
- Does the system have appropriate policies and procedures in place to account for and control investment expenses and other asset management fees?
- What other fees are incurred by the system that are not directly related to the management of the portfolio?
- How often are the fees reviewed for reasonableness?
- Is an attorney reviewing any investment fee arrangements for alternative investments?

Resources

[GFOA - Investment Fee Guidelines for External Management of Defined Benefit Plans](#)

[CFA - A Primer for Investment Trustees](#)

(4) *a review of the retirement system's **governance processes related to investment activities**, including investment decision-making processes, delegation of investment authority, and board investment expertise and education;*

Transparency

- Does the system have a written governance policy statement outlining the governance structure? Is it a stand-alone document or part of the IPS?
- Are all investment-related policy statements easily accessible by the plan members and the public (e.g. posted to system website)?
- How often are board meetings? What are the primary topics of discussion? How much time, detail, and discussion are devoted to investment issues?
- Are meeting agendas and minutes available to the public? How detailed are the minutes?

Investment Knowledge/Expertise

- What are the backgrounds of the board members? Are there any investment-related educational requirements for board members?
- What training is provided and/or required of new board members? How frequently are board members provided investment-related education?
- What are the minimum ethics, governance, and investment education requirements? Have all board members satisfied these minimum requirements?
- Does the system apply adequate policies and/or procedures to help ensure that all board members understand their fiduciary responsibilities?
- What is the investment management model (i.e. internal vs. external investment managers)?
- Does the board receive impartial investment advice and guidance?
- How frequently is an RFP issued for investment consultant services?

Accountability

- How is the leadership of the board and committee(s), if any, selected?
- Who is responsible for making decisions regarding investments, including manager selection and asset allocation? How is authority allocated between the full board, a portion of the board (e.g. an investment committee), and internal staff members and/or outside consultants? Does the IPS clearly outline this information? Is the board consistent in its use of this structure/delegation of authority?
- Does the system have policies in place to review the effectiveness of its investment program, including the roles of the board, internal staff and outside consultants?
- Is the current governance structure striking a good balance between risk and efficiency?
- What controls are in place to ensure policies are being followed?
- How is overall portfolio performance monitored by the board?
- How often are the investment governance processes reviewed for continued appropriateness?

Resources[NASRA - Public Pension Governance](#)[PEW - Making State Pension Investments More Transparent](#)[CFA - Investment Governance for Fiduciaries](#)[CFA - A Primer for Investment Trustees](#)

(5) *a review of the retirement system 's **investment manager selection and monitoring process.***

- Who is responsible for selecting investment managers?
- How are the managers identified as potential candidates?
- What are the selection criteria for including potential candidates?
- What are the selection criteria when deciding between multiple candidates?
- How does the selection process address ethical considerations and potential conflicts of interest for both investment managers and board members?
- Who is responsible for developing and/or reviewing investment consultant and/or manager contracts?
- What is the process for monitoring individual and overall fund performance?
- Who is responsible for measuring the performance?
- What benchmarks are used to evaluate performance?
- What types of performance evaluation reports are provided to the board? Are they provided in a digestible format accessible to trustees with differing levels of investment knowledge/expertise?
- How frequently is net-of-fee and gross-of-fee investment manager performance reviewed? Is net-of-fee and gross-of-fee manager performance compared against benchmarks and/or peers?
- What is the process for determining when an investment manager should be replaced?
- How is individual performance evaluation integrated with other investment decisions such as asset allocation and investment risk decisions?

Resources[GFOA - Investment Fee Guidelines for External Management of Defined Benefit Plans](#)[GFOA - Selecting Third-Party Investment Professionals for Pension Fund Assets](#)[CFA - A Primer for Investment Trustees](#)

ⁱ The Houston Firefighters Relief & Retirement Fund, the Houston Municipal Employees Pension System, and the Houston Police Officers' Pension System may submit the investment evaluation reports in Vernon's Civil Statutes to satisfy the requirements of §802.109.

ⁱⁱ The first evaluation "must be a comprehensive analysis of the retirement system's investment program that covers all asset classes" while subsequent evaluations "may select particular asset classes on which to focus."



Item 9a. Learning management system transition update



Mariah Miller

Item 10. Update on database rewrite project

Ashley Rendon

Background

- 87th Legislature - HB 2 appropriated \$600,000 for two major IT projects this biennium
 - **Project 1: database rewrite** (current biennium) – migrating data from multiple servers to the cloud and creating a new web-based interface for the current internal databases
 - **Project 2: reporting portal** (2024-25 biennium) – creating a portal to allow retirement systems to access a self-service portal to upload their reports and to complete and submit required forms online

Database rewrite

- Replacing current Access databases - data analysis database (DAD) and minimum educational training (MET)
 - DAD began losing functionality in 2021
 - Moved all databases to the cloud
 - IT contractor/programmer had to develop alternative temporary DAD database after it crashed

Database rewrite

- Meetings with IT consultant beginning in 2021
 - Staff outlined and developed mockups of new DAD database, to incorporate MET
 - Staff also began programming training to assist with development of reports from new database
 - SQL
 - Python

Database rewrite

- Months of delay in finding a programmer, due to market demands
- Programming contractor hired July 2022
 - Twice weekly meetings with project team to monitor progress
- On schedule to be completed by or before June 2023
- Request sent to LBB to extend one-time IT appropriation through 2025 to accommodate difficulty hiring IT contractor and resulting delay.



Item 11. Executive Director's Report



Amy Cardona

11a: Legislative Update

- 2024-2025 PRB Legislative Appropriations Request
 - [LAR submitted July 29, 2022](#)
 - Two exceptional items for salary increases
 - Item 1: \$260,000 over two years for staff salary increases
 - Item 2: \$45,020 over two years for ED salary increase
 - Joint Budget Hearing held on September 12, 2022
 - Extension of one-time IT appropriation requested through supplemental appropriations bill, not LAR.
- House Pensions, Investments & Financial Services Committee
 - August 16, 2022, hearing on interim charges related to the PRB
 - PRB provided invited testimony on two charges:
 - HB 3898 implementation (ED)
 - TLFFRA governance and PRB authority (ED and Vice Chair Brainard)

11b: Governance Study

- The board directed PRB staff to conduct a governance study to take a deep dive on issues identified during the 2020 process to develop legislative recommendations on the FSRP and funding policy requirements.
- On September 6, 2022, staff presented this policy study opportunity to students at the LBJ School of Public Affairs at the University of Texas.
 - See attachment 11b for presentation slides.
- Three students chose the pensions governance study as their policy research project for the 2022-2023 academic year.
- Staff is working closely with the student team to assist them and facilitate their research and recommendations to improve pensions governance in Texas, with a report to be completed by May 2023.

11c-11e: Staff update, conference updates and TLFFRA Trustee Manual

- 11c: Staff update
 - Deputy Director of Policy and General Counsel started August 1, 2022
 - Educational Program Specialist position pending
- 11d:
 - TEXPERS Summer Educational Forum in El Paso (August 2022)
 - [PRB educational presentation on FSRP rules and policy](#) by Ashley Rendon
 - TLFFRA Conference in Lakeway (October 2022)
 - Presentation by Mr. Zook (October 4)
 - Presentation by John Goodell, PRB General Counsel, on the Texas Open Meetings Act (October 5)
- 11e: [TLFFRA Trustee Manual](#) updated for the first time since 2013 and made available through the PRB website

11f: 2021-2022 Biennial Report

- Due in November to the Legislature and the Governor
- Will include major PRB accomplishments and activities in 2021-2022, such as:
 - Legislative implementation, such as FSRP rulemaking
 - Major IT projects
 - Reporting requirements and compliance
 - Intensive reviews, including updates on past reviews
 - Data and reporting updates, such as website revamp
 - MET program, including compliance
 - Technical assistance and improvements in delivering information
 - TLFFRA assistance efforts
 - 87th legislative session summary

11g: Updated FY 2023 Operating Budget

	LBB Obj. Code	GAA BUDGETED	ADJUSTED BUDGETED	TOTAL BUDGETED	TOTAL EXPENDED	ENCUMBRANCES	PERCENT EXPENDED	REMAINING BALANCE	PERCENT REMAINING
METHOD OF FINANCING									
General Revenue		\$1,128,749.00		\$1,128,749.00					
Total Method of Financing		\$1,128,749.00	\$0.00	\$1,128,749.00					
OBJECT OF EXPENSE									
Exempt Salaries	1001A	\$126,730.00		\$126,730.00	\$0.00		0.00%	\$126,730.00	100.00%
Classified Salaries	1001B	\$899,228.00		\$899,228.00	\$0.00		0.00%	\$899,228.00	100.00%
Other Personal Exp / Longevity Pay	1002A	\$19,600.00		\$19,600.00	\$0.00		0.00%	\$19,600.00	100.00%
Retirement Deduction .5% Salary	1002B	\$0.00		\$0.00	\$0.00		0.00%	\$0.00	100.00%
Benefit Replacement Pay	1004	\$0.00		\$0.00	\$0.00		0.00%	\$0.00	100.00%
Non-Overnight Meals	1001C	\$0.00		\$0.00	\$0.00		0.00%	\$0.00	100.00%
Sub-Total Salaries & Wages		\$1,045,558.00	\$0.00	\$1,045,558.00	\$0.00	\$0.00	0.00%	\$1,045,558.00	100.00%
Professional Fees and Services	2001	\$12,500.00		\$12,500.00	\$0.00	\$0.00	0.00%	\$12,500.00	100.00%
Consumable Supplies	2003	\$3,500.00		\$3,500.00	\$0.00	\$0.00	0.00%	\$3,500.00	100.00%
Travel	2005A	\$26,000.00		\$26,000.00	\$0.00	\$0.00	0.00%	\$26,000.00	100.00%
Rent-Building (Record Storage)	2006	\$1,000.00		\$1,000.00	\$0.00	\$0.00	0.00%	\$1,000.00	100.00%
Rent-Machine & Other (Copier/Software)	2007	\$15,000.00		\$15,000.00	\$0.00	\$0.00	0.00%	\$15,000.00	100.00%
Operating Costs (Miscellaneous)	2009A	\$6,214.25		\$6,214.25	\$0.00	\$0.00	0.00%	\$6,214.25	100.00%
Telecommunication Services	2009D	\$2,000.00		\$2,000.00	\$0.00	\$0.00	0.00%	\$2,000.00	100.00%
Education and Training	2009B	\$2,500.00		\$2,500.00	\$0.00	\$0.00	0.00%	\$2,500.00	100.00%
Postage	2009C	\$500.00		\$500.00	\$0.00	\$0.00	0.00%	\$500.00	100.00%
Printing	2009E	\$1,000.00		\$1,000.00	\$0.00	\$0.00	0.00%	\$1,000.00	100.00%
Subscription/Publications	2009G	\$2,000.00		\$2,000.00	\$0.00	\$0.00	0.00%	\$2,000.00	100.00%
PHC Deduction 1% Salary	2009H	\$8,476.75		\$8,476.75	\$0.00		0.00%	\$8,476.75	100.00%
Hardware & Software	2009F	\$2,500.00		\$2,500.00	\$0.00	\$0.00	0.00%	\$2,500.00	100.00%
Sub-Total Operating Cost		\$25,191.00	\$0.00	\$25,191.00	\$0.00	\$0.00	0.00%	\$25,191.00	100.00%
Total Object of Expense		\$1,128,749.00	\$0.00	\$1,128,749.00	\$0.00	\$0.00	0.00%	\$1,128,749.00	100.00%



Item 11b. Governance Study





Policy Research Project Proposal: Public Pension Governance



Texas Pension Review Board
September 6, 2022



Summary

- PRB Overview
 - Board Composition
- Background: Public Pension Governance
 - What is a pension?
 - Why does this research matter?
 - Texas Public Retirement System Landscape
 - What is Governance?
 - Governance Study
 - House PIFS Interim Charge
- PRP Proposal: Pension Governance Study
 - Potential Research Questions
 - Resources Available
 - Impact and Expected Deliverables
 - Potential Opportunities





PRB Overview



PRB Overview

- The PRB provides information and recommendations to help ensure that Texas public retirement systems are properly managed and actuarially sound.
- Oversight vs regulatory: PRB is an oversight entity
 - Provides technical assistance, collects and reviews reports, and provides data and research to stakeholders.
 - Prepares actuarial impact statements for pending legislation (i.e. How bills affect retirement systems?).
 - Creates and administers educational resources and programming for retirement system trustees and administrators.
 - Recommends policies, practices, and legislation to public retirement systems and governmental entities.



Staff and Board Composition

- 11 staff, many with technical specialties to support agency mission (actuary, investment & financial analysts, etc.)
- Board Composition—Seven members appointed by the governor:
 - Three members with backgrounds in securities investment, pension administration, or pension law
 - One member who is an actuary
 - One member who is an expert in governmental finance
 - One active member of a public retirement system
 - One retired member of a public retirement system



Background: Public Pension Governance

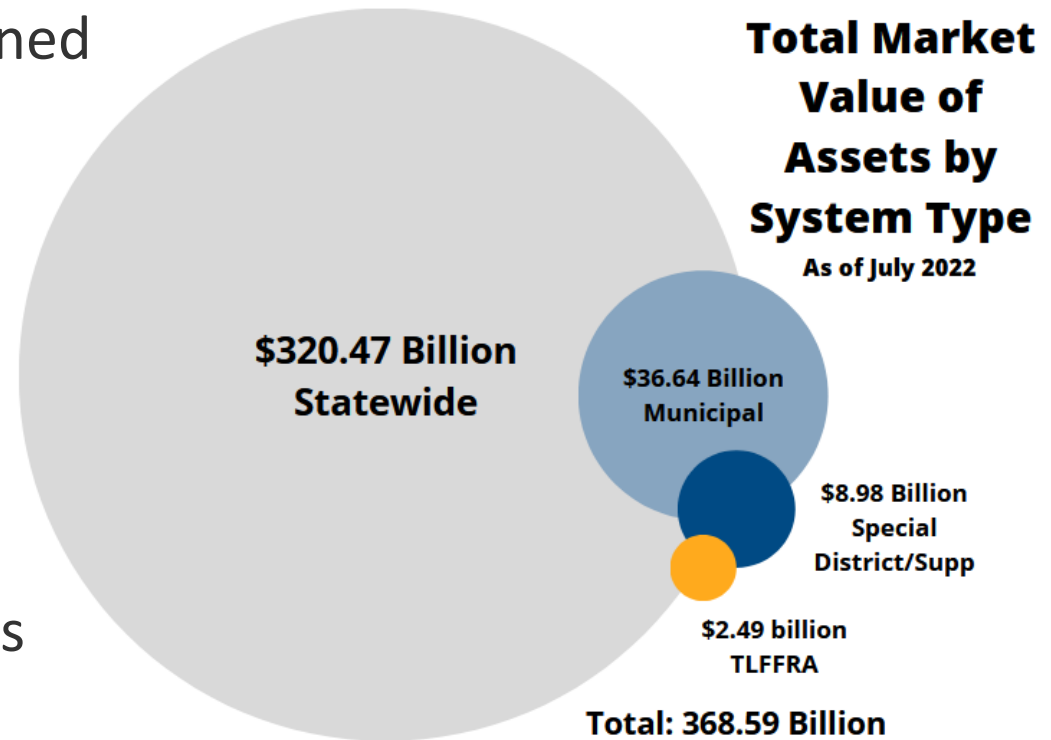


What is a pension?

- “Pension” typically refers to a *defined benefit* retirement plan that pays retirees a set amount every month after retirement.
- The amount of a person’s benefit payment is usually determined by a formula that includes how long someone worked and their salary.
- Benefits are paid for with contributions from the members and employer, plus income from investing the pooled contributions.

Texas Public Retirement System Landscape

- 347 public retirement systems
 - 100 actuarially funded defined benefit plans (2.95 million members)
 - 7 statewide
 - 17 municipal
 - 42 local firefighter (TLFFRA)
 - 34 district/supplemental
 - 166 defined contribution plans
 - 81—volunteer TLFFRA plans



Why does this matter?

- **Public pensions are a big deal:** In Texas, 100 DB pension systems hold \$369 billion in assets and 2.95 million members and their families are impacted.
- **Prevent a broken promise:** Members and retirees rely on these benefits and sacrificed higher pay in order to serve the public.
- **Help the “little guy”:** Largest impacts are felt by the small, local systems with few or unspecialized staff.
- **Impacts the whole community:** Poorly managed and funded retirement systems can drain government budgets.



Texas House committee hopes to make changes to deal with teacher shortage

Crypto plunge a cautionary tale for public pension funds like Houston's firefighters

By Lori Brown | Published July 25, 2022 | Texas | FOX 4

15 Local Texas Pensions Are Less Than 50% Funded, Total \$2.9 Billion in Unfunded Liabilities

Dallas Police and Fire Pension System Is in Deeper Trouble Than Expected

Texas and Louisiana rank lowest in teacher retirement benefits, study finds

Texas Employees catches flak for proxy votes against financing fossil fuel projects

If You Sell a House These Days, the Buyer Might Be a Pension Fund

TEXAS LEGISLATURE 2021

Texas Senate approves overhaul of pension plans for new state employees



What is plan governance?

- Governance determines how decisions are made.
- Good governance is important to many aspects of pension management.
 - Ensures trustees understand their board's authority and are informed about relevant statutes and best practices.
 - Establishes accountability and clear responsibilities for trustees, administrators, and third-party services.
 - Builds the confidence of pension members and other stakeholders.
 - Reduces the risks of fiduciary breach, litigation, and other risks to the system.
 - May improve long-term investment returns.

Background: Governance Study

- PRB's 2020 legislative recommendations revealed several governance issues that have created challenges for systems, especially TLFFRA systems.
 - Decisions about benefits and contributions are often not made by the same groups—no reason or inclination to cooperate
 - Statutory provisions have made it difficult to make changes.
 - Statewide and Municipal: Plan changes often require legislation
 - TLFFRA: Membership votes, Contribution minimums
 - Governing statutes are scattered and variable, plan design within those statutes are even less consistent.
- Board directed staff to conduct a governance study.

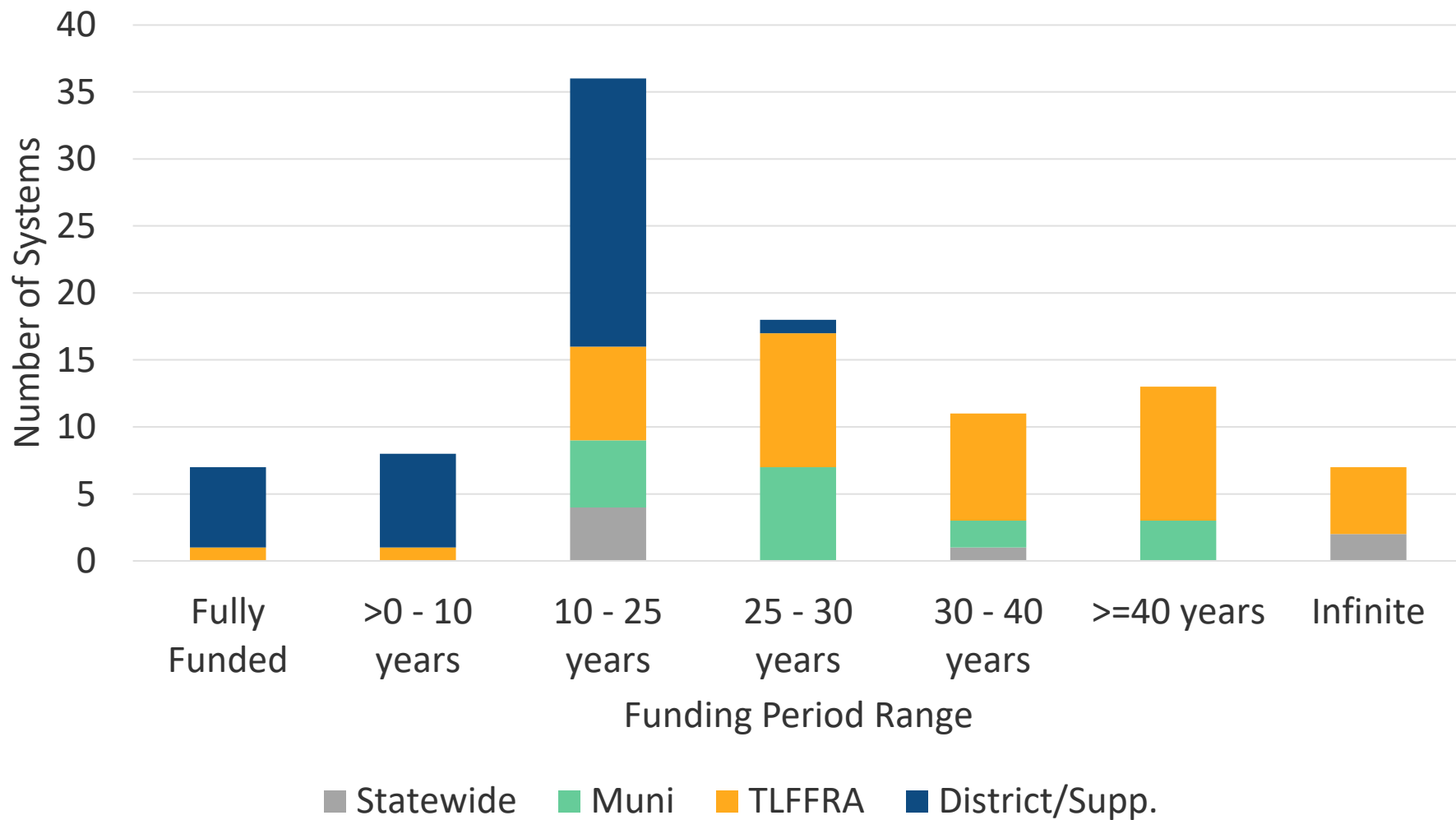
House Committee on Pensions, Investments, and Financial Services: Interim Charge #3

- Review the Texas Local Fire Fighters Retirement Act (TLFFRA) to ensure proper governance and financial oversight. Examine whether the Pension Review Board has proper oversight and authority to implement necessary corrective measures.
- PRB testified at Aug. 16 committee meeting about governance issues specifically related to local fire systems.
 - City officials and trustees from different systems spoke about how it has impacted them locally.



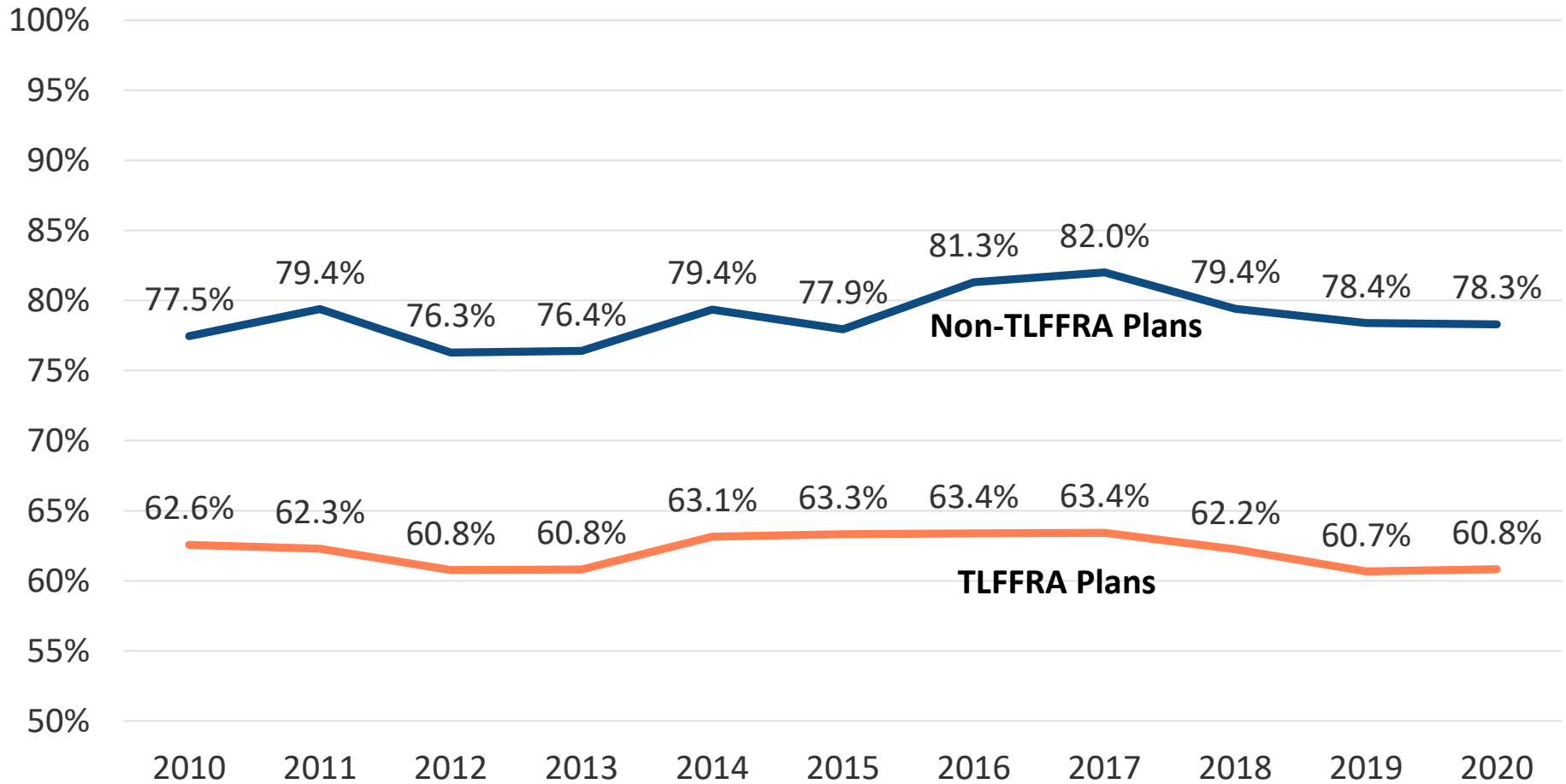


Latest Funding Period By Plan Type





Average Funded Ratio for Texas Retirement Systems by Year



PRP Proposal: Pension Governance Study



Potential Research Questions

- What constitutes good public pension governance?
 - Texas public retirement systems
 - Systems in other states
- What factors influence the way a system is governed?
 - Structural and statutory factors
 - Governing statute
 - Relationships between system, sponsor, and membership
 - Alignment of stakeholder interests
 - Expertise of decision makers
 - Use of policies to govern decision making (i.e. funding policies, investment policies, etc.)

Available Resources

- PRB Resources
 - Minimum Education Training (MET) program to quickly learn the pension basics
 - Past research, reports, whitepapers, board and committee meetings, and presentations
 - Texas Public Pension Data Center
 - Staff expertise and reference guides to assist you navigating statute, technical components, etc.
 - Meetings with board members
- Connections to stakeholders and national and statewide organizations



Impact and Expected Deliverables

1. Presentation of your findings to the board in summer 2023
2. Final research report with recommendations and/or best practices, including potential changes to state statute
 - Recommendations could potentially become part of the PRB Biennial Report to the Texas Legislature or PRB Informal Guidance after further research by staff and approval by the board.



Potential Benefits for Students

- **Staff working with LBJ faculty to have the project qualify as an elective for Dean's Certificate in State and Local Finance**
- Potential to see your recommendations turn into legislation
- Practical experience with statute and pension policy—complex and important topic
 - Work in state and local government—budgeting, pension administration, or **understanding your own employment benefits**; relevant around the country
 - Work in private industries—finance, government relations, consulting, and research
 - Work in advocacy—education policy, fiscal reform, labor rights



Resources

- PRB studies: <https://www.prb.texas.gov/additional-resources/prb-studies/>
- Contribution and Benefit Decision-Making for Texas Public Retirement Systems: <https://prb.box.com/shared/static/exw7omb4suws3vsf74sw01je40si63xb.pdf>
- Intensive Reviews of public retirement systems: <https://www.prb.texas.gov/intensive-reviews/>
- PRB Public Pension Data Center: <https://data.prb.texas.gov/>
- Funding policy information: <https://www.prb.texas.gov/actuarial/funding-policy/>
- Investment Practices and Performance Evaluations: <https://www.prb.texas.gov/investments/ippe/>
- House PIFS Interim Hearing Recording: https://tlchouse.granicus.com/MediaPlayer.php?view_id=46&clip_id=23419; PRB slides: <https://prb.box.com/shared/static/jx24x2anrd7phoj92rpsxtitsw9rym6f.pdf>

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