CHEIRON *Classic Values, Innovative Advice*

Austin Firefighters Retirement Fund

Actuarial Valuation Report as of December 31, 2024

Produced by Cheiron

July 2025

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Via Electronic Mail

July 22, 2025

Board of Trustees
Austin Firefighters Retirement Fund
4101 Parkstone Heights Drive, Suite 270
Austin, Texas 78746

Dear Trustees of the Board:

We are pleased to submit the December 31, 2024 Actuarial Valuation Report of the Austin Firefighters Retirement Fund ("Fund"). This report contains information on Fund assets, liabilities, and contributions. Financial disclosures are provided in a separate Governmental Accounting Standards Board (GASB) Statement Nos. 67 and 68 report.

In preparing our report, we relied on information, some oral and some written, supplied by the Fund's staff. This information includes, but is not limited to, Fund provisions, member data, and financial information. We performed an informal examination of the data's obvious characteristics for reasonableness and consistency, in accordance with Actuarial Standard of Practice No. 23, Data Quality.

The actuarial assumptions reflect our understanding of the likely future experience of the Fund and represent our best estimate, in collaboration with the views of the Board of Trustees (Board), for the Fund's future experience. These assumptions are based on the most recent experience study, dated March 25, 2024, reflecting census data through December 31, 2022, and the updated COLA assumptions required by statute. The liability and contributions developed in this report rely on future Fund experience conforming to the underlying assumptions. Future results may differ significantly from the current results presented in this report due to factors such as: Fund experience differing from that anticipated by the assumptions, changes in assumptions, and changes in plan provisions or applicable law. To the extent that actual Fund experience deviates from the underlying assumptions, the results will vary accordingly.

This report and its contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices and our understanding of the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board, as well as applicable laws and regulations, including Texas pension statutes. Furthermore, as credentialed actuaries, we meet the Qualification Standards of the American Academy of Actuaries to render the opinion contained in this report. This report does not address any contractual or legal issues. We are not attorneys, and our firm does not provide any legal services or advice.

This actuarial valuation report was prepared exclusively for the Austin Firefighters Retirement Fund and the Fund's auditors for the purposes described herein and in preparing financial reports in accordance with applicable law and annual report requirements. Other users of this report are not intended users as defined in the Actuarial Standards of Practice, and Cheiron assumes no duty or liability to such other users.

Sincerely,
Cheiron

Elizabeth Wiley, FSA, EA, MAAA, FCA
Consulting Actuary

Heath Merlak, FSA, EA, MAAA, FCA
Principal Consulting Actuary

FOREWORD

Cheiron is pleased to provide the annual actuarial valuation report of the **Austin Firefighters Retirement Fund (Fund)** as of December 31, 2024. The purpose of this report is to:

1) **Measure and disclose** the Fund's financial condition as of the valuation date.
2) **Report** on past and expected financial trends.
3) **Determine** the Actuarially Determined Contribution for the 2026 calendar year.
4) **Assess** risks to the Fund's financial condition.

An actuarial valuation establishes and analyzes Fund assets and liabilities on a consistent basis and traces the progress of both from one year to the next. It includes measurement of the Fund's investment performance and an analysis of actuarial liability gains and losses. This valuation report is organized as follows:

Section I summarizes the valuation and compares this year's results to those of last year.

Section II provides the results of the Risk Sharing Valuation Study.

Section III identifies the primary risks to the Fund, including background information and an assessment of these risks.

Section IV contains exhibits relating to the valuation of assets.

Section V presents various measures of liabilities and analyzes the experience gains and losses over the past year, including the sources of change in UAL.

Section VI shows the development of the Actuarially Determined Contribution Benchmark.

The appendices to this report contain a summary of the Fund's membership at the valuation date, a summary of the major provisions of the Fund, the actuarial methods and assumptions used in developing the valuation, and a glossary.

SECTION I – SUMMARY

General Comments

This is the third actuarial valuation report prepared for the Fund by Cheiron. The results before December 31, 2022 in the historical trend charts are those produced by the Fund's former actuary.

With the passage of HB 2802/SB 2345 ("HB 2802"), the City of Austin's contribution to AFRF changes from a fixed rate contribution of 22.05% of pay to a modified Actuarially Determined Contribution (ADC). The ADC will include the cost of all benefits accrued annually and administrative expenses, reduced by the standard 18.70% of pensionable payroll paid by AFRF's active members, plus an amount to amortize AFRF's unfunded actuarial liability (UAL) over fixed periods. The City of Austin's total contribution rate thus adjusts annually as needed to reflect AFRF's experience, subject to the City of Austin's maximum and minimum contributions, as described in Vernon's Texas Civil Statutes, Article 6243e.1. Section II provides a summary of the ADC parameters.

HB 2802 also categorized members into two groups: Group A (hired before January 1, 2026) and Group B (hired on or after January 1, 2026). Group A benefits are largely the same as the Fund's structure before HB 2802, with changes limited to eliminating interest on non-vested contribution refunds and altering cost-of-living adjustment (COLA) provisions. Group B members have a similar structure, but with different parameters. Detailed summaries of these benefits are provided in Appendix B.

The key results of this December 31, 2024 actuarial valuation are as follows:

- Investments earned 4.7% on a Market Value of Assets (MVA) basis for the year ending December 31, 2024, resulting in an investment loss of $29.3 million on an MVA basis.
- HB 2802 increased the Unfunded Actuarial Liability (UAL) by $113.1 million due to the following changes:
    - The Fund's Actuarial Value of Assets (AVA) was reset to match the MVA as of December 31, 2024, as required by HB 2802, increasing the Unfunded Actuarial Liability (UAL) by $97.6 million.
    - Group A future COLA assumption was increased from 0.00% to 0.25% per year, increasing the UAL by $15.9 million
    - Eliminating interest on contribution refunds after January 1, 2026 reduced the UAL by $0.4 million.
- The Fund experienced a liability gain of $3.5 million. The sources of the liability gain are listed in Table V-3.
- The Fund's MVA funded ratio decreased from 79.6% as of December 31, 2023 to 76.9% as of December 31, 2024. Reflecting the AVA reset, the AVA funded ratio decreased from 85.6% as of December 31, 2023 to 76.9% as of December 31, 2024.
- The UAL based on AVA [actuarial liability (AL) – AVA] increased from $210.5 million as of December 31, 2023 to $349.5 million on December 31, 2024.

SECTION I – SUMMARY

The contribution amounts to the Fund for the 2s026 calendar year, developed by this December 31, 2024 actuarial valuation, consist of the following:

1) Firefighter contributions are 18.70% of pay,
2) The City's Municipal Contribution Rate for the 2026 calendar year contribution is 12.62% of payroll, and
3) The City's Legacy Payment is $15,430,983, estimated to 12.64% of expected payroll.

Therefore, the City's total contribution for the 2026 calendar year is estimated to be 25.26% (12.62% + 12.64%) of expected payroll. Section II provides additional detail on these amounts.

In addition to the ADC as defined by HB 2802, this report provides two other contribution rates to assess the contributions for the Fund:

1. A Tread Water Contribution Rate: This contribution rate represents the contribution level required to cover the cost of benefits accruing during the year and interest on the Unfunded Actuarial Liability (UAL) and thus is anticipated to maintain the UAL at the same dollar amount if all assumptions are exactly met.
2. An Actuarially Determined Contribution Benchmark ("ADC Benchmark") based on the Funding Policy adopted by the Board as of December 16, 2019. In our opinion, the ADC Benchmark outlined in the Funding Policy does not meet the definition of a reasonable ADC, as it employs a 30-year open amortization method that does not fully amortize the Unfunded Actuarial Liability within a reasonable time period.

The table below provides a summary of the actuarial valuation. The prior year's valuation results are shown for comparison purposes, as well as a column looking at the change in each value as a percentage of the prior year's values.

SECTION I – SUMMARY

Table I-1
Austin Firefighters Retirement Fund
Summary of Principal Results

	December 31, 2024	December 31, 2023	% Change
Assets and Liabilities			
Actuarial Liability (AL)	$1,514,813,506	$1,460,581,730	3.7%
Actuarial Value of Assets (AVA)	1,165,347,238	1,250,115,476	(6.8%)
Unfunded Actuarial Liability (UAL)	$349,466,268	$210,466,254	66.0%
Funded Ratio (AVA basis)	76.9%	85.6%	(8.7%)
Market Value of Assets (MVA)	$1,165,347,238	$1,162,694,392	0.2%
Funded Ratio (MVA basis)	76.9%	79.6%	(2.7%)
Funding Period[1]	30.0[2]	48.6	
Statutory Contribution Rates	Year Ending December 31, 2026	Year Ending December 31, 2025	
Normal Cost as % of expected payroll	31.32%	31.21%	0.3%
Member Contribution Rate	18.70%	18.70%	0.0%
City Normal Cost Rate	12.62%	12.51%	0.9%
City Amortization Cost Rate	0.00%	0.00%	N/A
Estimated Municipal Contribution Rate	12.62%	12.51%	0.9%
Minimum Municipal Contribution Rate	7.62%	N/A	N/A
Maximum Municipal Contribution Rate	17.62%	N/A	N/A
Municipal Contribution Rate	12.62%	N/A	N/A
City Legacy Liability Payment[3]	$15,430,983	$10,937,950	41.1%
- as a % of Projected Pensionable Payroll	12.44%	*9.54%*	30.4%
Total City Contribution as % of expected payroll	25.06%	22.05%	13.7%
Treadwater City Contribution Rate	34.04%	25.91%	31.4%
City Rate Surplus/(Deficit)	*(8.98%)*	*(3.86%)*	132.7%
Participant Information			
Actives	1,249	1,246	0.2%
Service Retirees, including DROP	834	809	3.1%
Beneficiaries	184	171	7.6%
Disability Retirees	14	15	(6.7%)
Terminated Vested	36	36	0.0%
Total Participants	2,317	2,277	1.8%
Expected Payroll at Valuation Date	$119,063,835	$114,653,245	3.8%
Projected Pensionable Payroll[4]	$124,002,162	N/A	

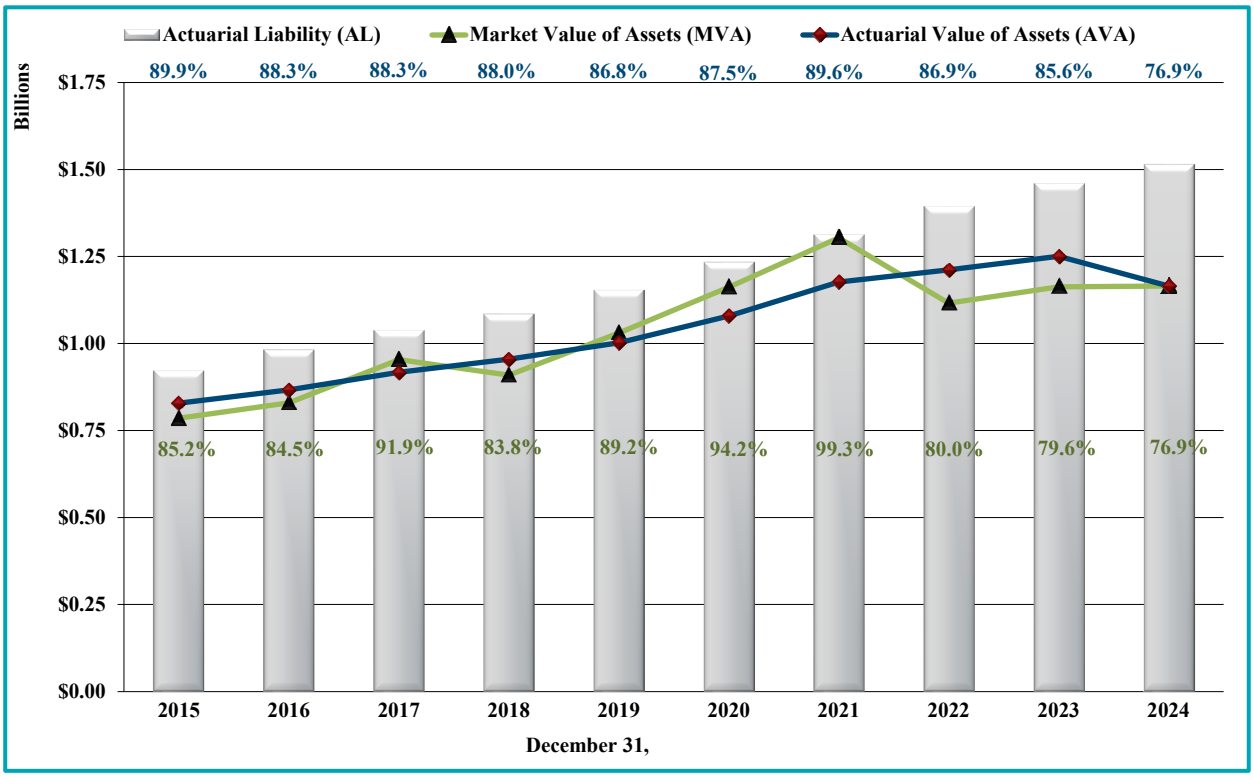
[1] Beginning in 2024, the funding period is calculated as of the date the contribution, as actuarially determined by each valuation, is first effective.
[2] For V-FSRP purposes, the funding period is determined based on the greater of AVA and MVA, in accordance with PRB requirements. Reflecting the $1.263 billion AVA calculated before the HB 2802 reset, this funding period is 17.9 years.
[3] For December 31, 2023, reflects fixed contribution rate above City Normal Cost Rate available to pay down UAL.
[4] Prior year pensionable payroll projected two years with the payroll growth assumption.

SECTION I – SUMMARY

Historical Trends

It is important to take a step back from these latest results and view them in the context of the Fund's recent history. Below, we present a series of charts displaying key factors in the valuations since 2015.

Assets and Liabilities



The bars represent the Actuarial Liability (AL) as measured for funding purposes in the valuations. The lines represent the Fund's assets, with the green line showing the Market Value of Assets (MVA) that is reported in the Fund's financials and the blue line showing the smoothed Actuarial Value of Assets (AVA). The liabilities are compared to the assets to develop funding ratios for each valuation date. The ratio of the AL to the AVA is the AVA funded ratio, which is represented by the blue percentages shown along the top of each bar in the chart. Similarly, the ratio of the AL to the MVA is the MVA funded ratio, the green percentages shown on the bars. With AVA being set to MVA for the December 31, 2024 valuation as required by HB 2802, the AVA and MVA funded ratios are the same for 2024.

The MVA funded ratio can be volatile as shown in the graph and has ranged from a high of 99.3% as of 2021 to a low of the current 76.9%. The AVA funded ratio is less volatile than the MVA funded ratio as assets gains and losses are recognized over five years. Note the MVA and AVA funded ratio are the same in 2024, with AVA being reset to MVA as required by HB 2802.

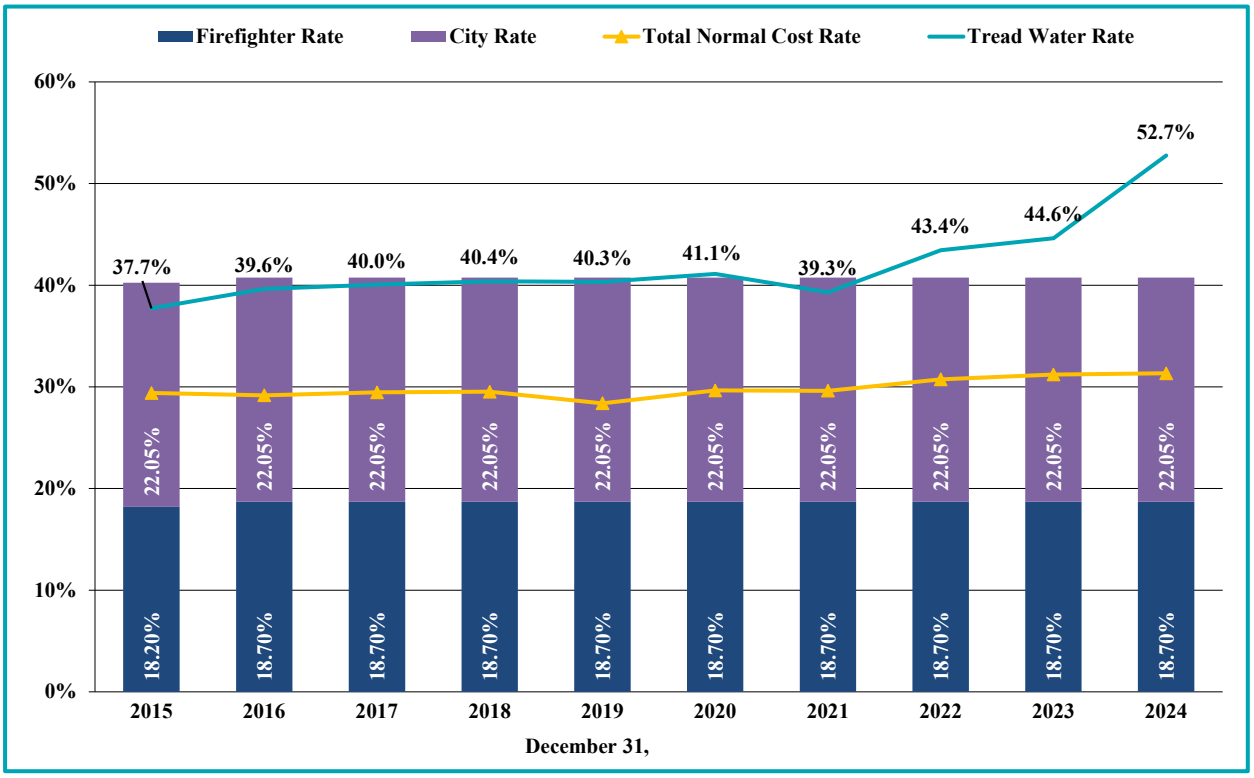
SECTION I – SUMMARY

Contributions Versus Tread Water

The next chart compares the city and member contribution rates, as shown by the bars, to the normal cost and tread-water rates, shown by the lines, as of each valuation date. The normal cost rate, the orange line, is the percentage of salary needed to fund the benefits earned in a year for the active members. The Tread Water Contribution Rate, the teal line, is the rate of payroll by the City and members in total, which, if contributed, would result in the UAL remaining the same in the following year if all experience exactly matched the assumptions. The Tread Water Contribution Rate is equal to the normal cost rate plus interest on the UAL.

As shown below, the total contributions exceed the normal cost rate for all years shown. The difference between the tops of the bars and the orange line represents the portion of contributions that are available to fund the UAL. The chart also shows that the normal cost rate has been relatively stable over this period, staying within approximately one percentage point of 30%.

The stacked bars show that the sum of the city's and members' contribution rates has been greater than the Tread Water Contribution Rate by a small margin for most years over this period. However, since the 2022 asset loss began being recognized, the Tread Water Contribution Rate has been higher than the fixed contribution rates for 2022 and 2023. In 2024, this shortfall increased further with AVA being reset to MVA as required by HB 2802.

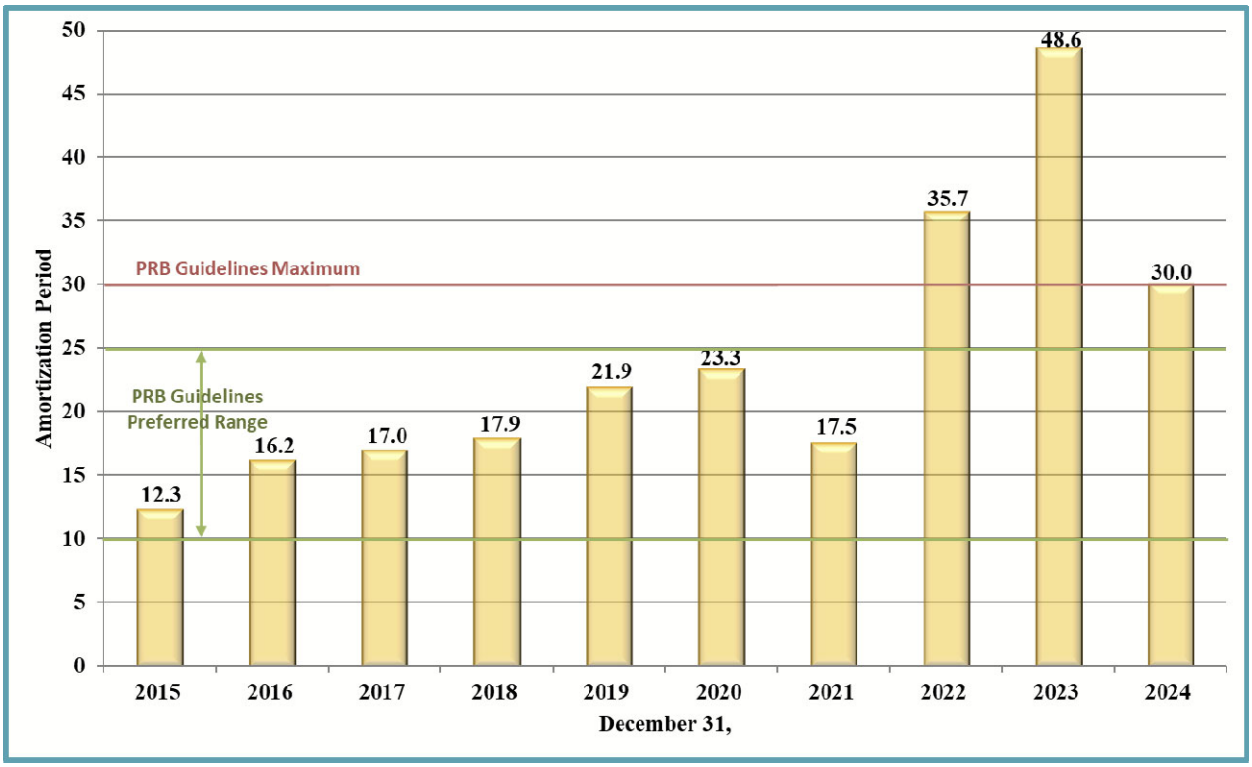


SECTION I – SUMMARY

Amortization Periods

The chart below shows the effective amortization period for funding the UAL based on the AVA as of each valuation date from 2015 through 2023. Beginning in 2024, the amortization period, also referred to as the funding period, is calculated as of the date the contribution, as actuarially determined by each valuation, becomes effective. Due to leveraging and how compound interest operates, the funding period can vary significantly from year to year.

The Pension Review Board (PRB) provides funding guidelines for public pensions in Texas, including that the contributions received by funds should be sufficient to pay the normal cost each year as well as amortize the fund's UAL over a period not to exceed 30 years, with 10-25 years being the preferred range. Without the passage of HB 2802, the amortization period would have increased to 69.3 years. With the passage of HB 2802, the amortization period as of the effective date of the contributions determined by this December 31, 2024 valuation is 30.0 years.

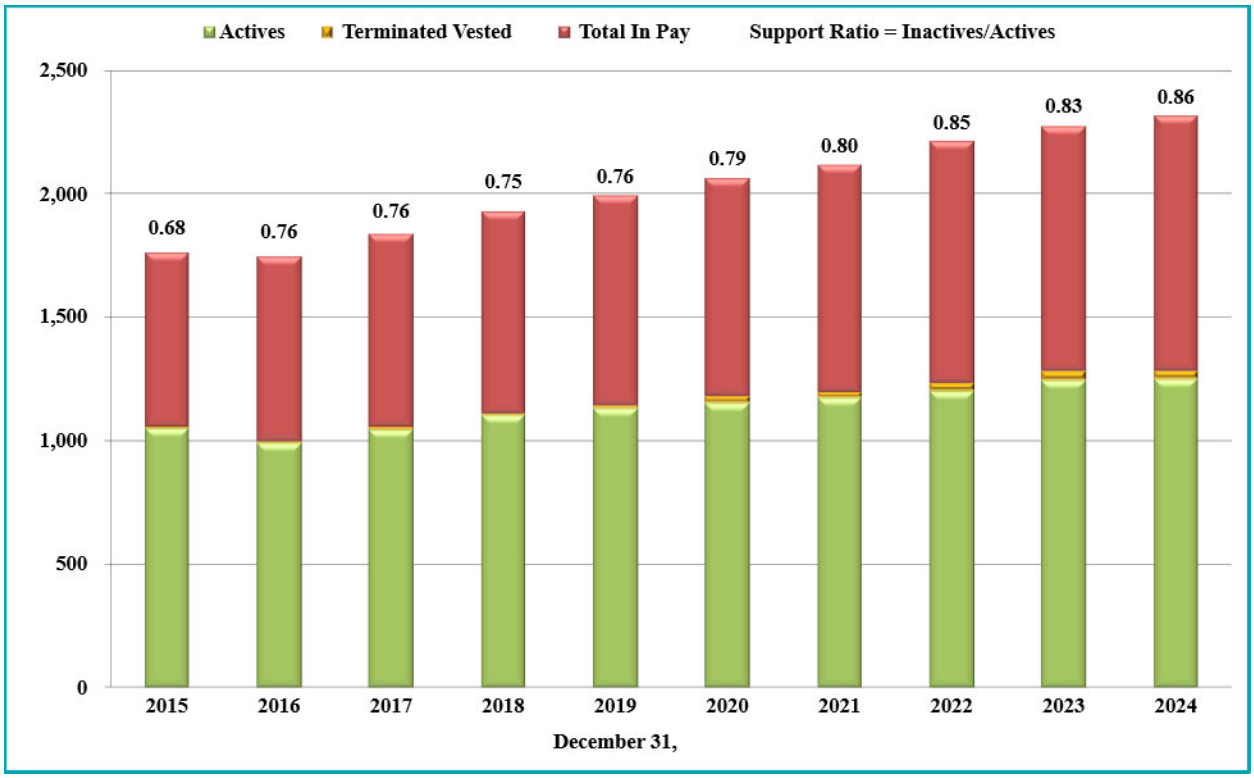


SECTION I – SUMMARY

Member Trends

The following chart shows the membership counts of the Fund at successive valuations. The numbers above each bar represent the ratio of inactive members, those currently receiving benefits (red bars), and terminated vested members (yellow bars) to active members (green bars) as of each valuation date, referred to as the support ratio.

The number of inactives per active has generally steadily increased during the period shown. An increasing ratio is a sign of plan maturity and should continue to be monitored. As a plan becomes more mature, the assets backing the retiree benefits become large relative to the contribution base, i.e., the active member payroll. As assets grow relative to the pensionable payroll, any experience gain or loss can significantly impact the actuarial valuation results. This maturity risk is discussed further in Section III of this report.



All active members as of the current December 31, 2024 valuation date are Group A members. Group B members will first be reflected in the December 31, 2026 actuarial valuation.

SECTION I – SUMMARY

Projections

This baseline projection is based on the December 31, 2024 valuation, including the 7.30% rate of return assumption. It is important to note that the Fund's actual experience will not conform exactly to the assumptions every year. As a result, in addition to the baseline projection of 7.30% investment returns, we provide additional projections, or stress testing, in Section III based on varying returns in the future, as variation in this assumption is typically the most significant driver of variation in valuation results.

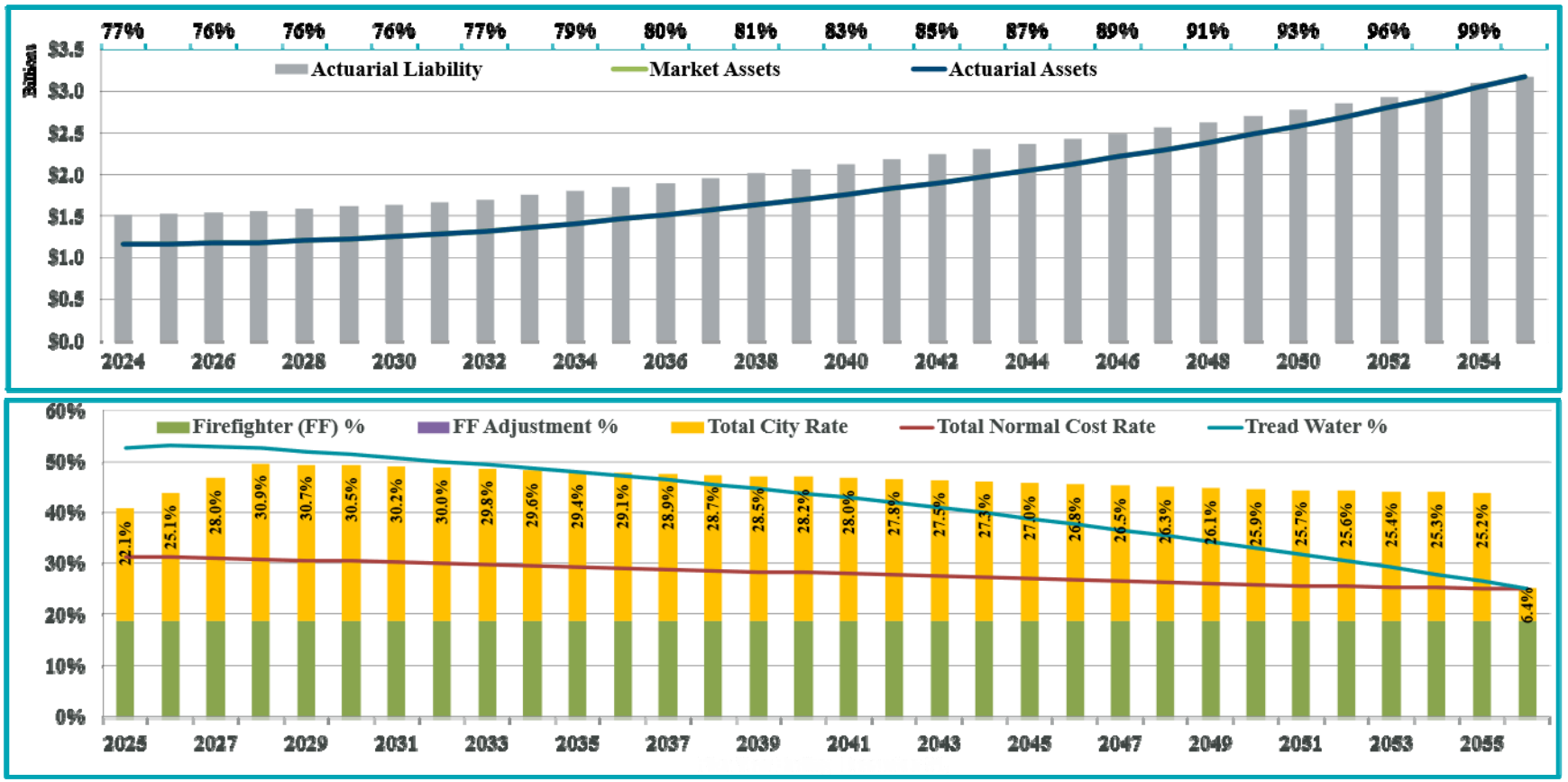
The projections, both the baseline in this section and the varying returns in Section III, assume there will be no future gains or losses on the liability and that the Fund receives the statutory contribution rates each year. As such, these projections assume that all valuation assumptions are exactly met, including the long-term rates of return specified and assumed for each scenario, as well as the covered payroll increasing by 2.50% annually in all scenarios.

This first chart compares the Market Value of Assets (MVA) (blue line) and the Actuarial or Smoothed Value of Assets (AVA) (green line) to the Fund's actuarial liabilities (AL) (gray bars). Additionally, at the top of each chart, we display the Fund's AVA funded ratio (the ratio of AVA to AL). The years shown in the chart represent the valuation date as of December 31 for each labeled year.

The baseline chart below shows that if all actuarial assumptions, including the current 7.3% rate of investment return assumption, are exactly met, the Fund's AVA funded ratio, shown along the top of the chart, is projected to slightly decrease initially from the current level of 77% then gradually increase to 100% by 2055.

The second chart provides information related to the expected contributions to the Fund. The green bars represent the expected firefighter contributions, which are 18.7% in all years in this baseline projection. The yellow bars reflect the City of Austin contributions, including the Legacy Contribution Amount. As shown in the graph, the City's contribution is expected to increase as the ADC is fully phased-in through 2028, and then it is expected to decrease as Group B members enter the Fund upon the retirement of Group A members. The red line is the total normal cost rate based on an open projection reflecting Group B's lower normal cost. The teal line provides the treadwater percentage. Expected contributions are below the Tread Water Contribution Rate until 2032, meaning the UAL is expected to increase in dollar terms until this point due to negative amortization. Beginning in 2033, the contributions are projected to be large enough to begin paying down the UAL. Although not shown in the graph below, the purple bars represent the increase in firefighter contributions required to ensure the Fund receives the full ADC in years when the City's contribution hits the corridor maximum.

SECTION I – SUMMARY



SECTION II – RISK SHARING VALUATION STUDY

Passage of HB 2802

With the passage of HB 2802, AFRF must have its actuary perform an Initial Risk Sharing Valuation Study (RSVS) as of December 31, 2024. The results of this RVSV will determine the City of Austin's contribution requirement for the 2026 calendar year.

Before HB 2802, AFRF was financed through fixed contribution rates as a percentage of compensation of 18.70% for members and 22.05% for the City of Austin. HB 2802 changed the employer portion of AFRF's financing from a fixed rate to an Actuarially Determined Contribution (ADC), subject to an annual corridor. HB 2802 changed the firefighter portion of AFRF's funding from a fixed rate to a fixed rate subject to adjustment as necessary to ensure AFRF receives the full ADC in years where the corridor limits the City of Austin rate. This firefighter adjustment is similarly subject to a maximum increase of 2% from the 18.70% rate, for a total maximum rate of 20.70% for firefighters.

The ADC will include the cost of all benefits accrued annually and administrative expenses, reduced by 18.70% of pensionable payroll contributions paid by active members before any applicable adjustment required by the funding policy, plus an amount to amortize UAL over fixed periods. The City of Austin's total contribution rate thus adjusts annually as needed to reflect the Fund's experience, subject to the City of Austin's maximum contribution, as discussed in the contribution corridors section that follows. While AFRF's total firefighter contribution, equal to the standard 18.70% plus any necessary ADC adjustment, is similarly calculated annually, the rate paid by firefighters only adjusts from the 18.70% in years in which the maximum corridor limits the City of Austin's contribution.

City of Austin Contribution Calculations

The City's ADC, before the application of the corridor, consists of three components established through annual Risk-Sharing Valuation Studies (RSVS).

- **Municipal Legacy Contribution Amount:** Fixed dollar amortization payments for the Legacy Liability. The Legacy Liability is determined in this Initial RSVS, dated December 31, 2024, based on the assumptions and methods adopted by the AFRF Board for the December 31, 2023 valuation, except for using the Market Value of Assets as of December 31, 2024 as the Actuarial Value of Assets and assuming a 0.25% future COLA annually for Group A members.

  The Legacy Liability will be amortized over 30 years, starting in 2026, using the level-percent-of-pay method with a 2.5% payroll growth assumption after a three-year phase-in. After the phase-in, this results in a schedule of annual dollar payments that

increase by 2.5% each year (keeping pace with expected payroll) and are designed to eliminate the Legacy Liability by December 31, 2055.

The 30-year schedule of Municipal Legacy Contribution Amounts are set in the initial RSVS and **do not change with** experience—it is a fixed plan for retiring the Legacy Liability (unless the City of Austin elects to contribute extra at any time to accelerate payoff, in which case a revised schedule would be calculated).

- **Employer Normal Cost Rate:** Each year's valuation will calculate the normal cost for benefit accruals for active firefighters as a salary-weighted average plus the necessary percentage to fund administrative expenses. The standard 18.7% member contribution rate reduces this total normal cost to produce the Employer Normal Cost Rate. Because this normal cost is an average of the active population, as Group A members retire and new firefighters are hired into Group B, with a reduced benefit structure but the same member contributions, the Employer Normal Cost Rate will gradually decline over time. While the initial RSVS projects a 30-year schedule of Employer Normal Cost Rates for use as the corridor midpoints, the actual normal cost rate and resulting employer normal cost rate will be recalculated annually based on the actual active membership characteristics and payroll.

- **Amortization Rate:** New actuarial gains or losses recognized in each subsequent RSVS will be amortized as Liability Layers with a layered amortization approach.
    - Liability Loss Layers (new UAL due to unfavorable experience or changes increasing liabilities) are amortized over individual, 20-year periods as a level percentage of payroll.
    - Liability Gain Layers (reduction in UAL due to favorable experience or changes) are amortized over the same period as the largest outstanding loss layer, or 20 years if no loss layers exist.
    - The amortization payments for each layer start one year after the valuation in which they are recognized.

By amortizing each year's experience as an individual layer, it is ensured that all new shortfalls are paid off within a reasonable period.

The City's Actuarially Determined Contribution (ADC) in a given year is the sum of: (1) the applicable Municipal Legacy Contribution (fixed dollar from the initial RSVS), converted to a percentage using the Projected Pensionable Payroll from the applicable subsequent RSVS, plus (2) the Estimated Municipal Contribution Rate, which is the Employer Normal Cost Rate (including administrative expenses) plus the Amortization Rate. The Estimated Municipal Contribution Rate is designed to cover the City's portion of normal costs and address any new unfunded liabilities that arise after the Legacy Liability is established. The final Municipal

Contribution Rate, the basis on which the City of Austin pays it is non-Legacy Liability contributions, is determined by applying the contribution corridors discussed in the following section to the Estimated Municipal Contribution Rate.

Contribution Corridors

HB 2802 established a corridor for the City of Austin's Municipal Contribution Rate around the Employer Normal Cost Rates projected in the initial RSVS, referred to as Corridor Midpoints, with a ±5% margin. Each year, the Minimum Municipal Contribution Rate equals the Corridor Midpoint minus 5%, and the Maximum Municipal Contribution Rate equals the Corridor Midpoint plus 5%. The final Municipal Contribution Rate that the City of Austin will pay in addition to its Municipal Legacy Contribution Amount will be determined in each subsequent RSVS on the following basis:

- If the calculated rate would drop below the corridor minimum, the City of Austin's rate is held at the minimum (the floor) – except that until the Fund is at least 90% funded, the City will not reduce its rate below the corridor midpoint (meaning early gains are retained in the Fund and used to bolster funded status and dampen the impact of later losses instead of being used to reduce the City of Austin's funding requirements).
- If the calculated City rate rises above the corridor maximum, the City will pay the maximum rate, and the firefighters' contribution rate will increase as necessary to cover the contributions required beyond the Corridor Midpoint plus 5%, up to a maximum of an additional 2% of pensionable payroll (to a maximum of 20.7%). If the maximum 20.7% from members is insufficient to cover the required cost, the City of Austin and the AFRF Board are required to meet and determine additional funding solutions.
- These **"contribution corridors"** are designed to allow contribution rates for both the City of Austin and members to automatically adjust to a degree as needed to ensure the Fund receives adequate and appropriate funding while limiting the magnitude of these automatic adjustments and ensuring the parties are brought together to adjust and address AFRF's funding when needed.

Initial Risk Sharing Valuation Study Results

First, we present the Legacy Liability and Legacy Liability Payments. The amortization of the Legacy Liability has been adjusted to account for the 3-year phase-in and the one-year delay-in contributions from the valuation date. This adjustment includes interest on the UAL plus a credit for the estimated contributions to be received towards the payment of the UAL in AFRF for the calendar year ending December 31, 2025. The Legacy Liability Payments are fixed dollar amounts as noted in the schedule below and are based on a closed 30-year amortization period and a level percent of payroll method using a 2.5% of payroll growth assumption.

SECTION II – RISK SHARING VALUATION STUDY

Projection of Remaining Legacy Liability and Legacy Liability Payments

Fiscal Year Ending	Remaining Legacy Liability	Fiscal Year Payment
12/31/2024	$ 349,466,268	$ -
12/31/2025	363,346,992	-
12/31/2026	373,887,029	15,430,983
12/31/2027	380,644,615	19,825,290
12/31/2028	383,138,405	24,417,717
12/31/2029	385,181,910	25,028,160
12/31/2030	386,726,451	25,653,864
12/31/2031	387,719,400	26,295,211
12/31/2032	388,103,882	26,952,591
12/31/2033	387,818,456	27,626,406
12/31/2034	386,796,768	28,317,066
12/31/2035	384,967,187	29,024,993
12/31/2036	382,252,402	29,750,618
12/31/2037	378,569,003	30,494,383
12/31/2038	373,827,020	31,256,743
12/31/2039	367,929,435	32,038,161
12/31/2040	360,771,652	32,839,115
12/31/2041	352,240,935	33,660,093
12/31/2042	342,215,799	34,501,595
12/31/2043	330,565,361	35,364,135
12/31/2044	317,148,636	36,248,239
12/31/2045	301,813,789	37,154,445
12/31/2046	284,397,332	38,083,306
12/31/2047	264,723,252	39,035,388
12/31/2048	242,602,086	40,011,273
12/31/2049	217,829,927	41,011,555
12/31/2050	190,187,347	42,036,844
12/31/2051	159,438,255	43,087,765
12/31/2052	125,328,659	44,164,959
12/31/2053	87,585,349	45,269,083
12/31/2054	45,914,469	46,400,810
12/31/2055	-	47,560,830

SECTION II – RISK SHARING VALUATION STUDY

Next, we present the corridor minimum, midpoint, and maximum rates related to the non-Legacy Liability portion of the City of Austin's contributions based on the Initial Risk Sharing Valuation Study as of December 31, 2024.

Actuarially Determined Contribution Corridor				
Fiscal Year Ending	Corridor Minimum	Corridor Midpoint	Corridor Maximum	Actual City Contribution Rate
12/31/2026	7.62%	12.62%	17.62%	12.62%
12/31/2027	7.41%	12.41%	17.41%	
12/31/2028	7.18%	12.18%	17.18%	
12/31/2029	6.96%	11.96%	16.96%	
12/31/2030	6.73%	11.73%	16.73%	
12/31/2031	6.50%	11.50%	16.50%	
12/31/2032	6.30%	11.30%	16.30%	
12/31/2033	6.07%	11.07%	16.07%	
12/31/2034	5.85%	10.85%	15.85%	
12/31/2035	5.63%	10.63%	15.63%	
12/31/2036	5.40%	10.40%	15.40%	
12/31/2037	5.18%	10.18%	15.18%	
12/31/2038	4.95%	9.95%	14.95%	
12/31/2039	4.71%	9.71%	14.71%	
12/31/2040	4.48%	9.48%	14.48%	
12/31/2041	4.25%	9.25%	14.25%	
12/31/2042	4.01%	9.01%	14.01%	
12/31/2043	3.77%	8.77%	13.77%	
12/31/2044	3.52%	8.52%	13.52%	
12/31/2045	3.27%	8.27%	13.27%	
12/31/2046	3.03%	8.03%	13.03%	
12/31/2047	2.79%	7.79%	12.79%	
12/31/2048	2.57%	7.57%	12.57%	
12/31/2049	2.35%	7.35%	12.35%	
12/31/2050	2.16%	7.16%	12.16%	
12/31/2051	1.99%	6.99%	11.99%	
12/31/2052	1.83%	6.83%	11.83%	
12/31/2053	1.69%	6.69%	11.69%	
12/31/2054	1.57%	6.57%	11.57%	
12/31/2055	1.47%	6.47%	11.47%	

SECTION II – RISK SHARING VALUATION STUDY

In summary, for the 2026 calendar year, the City's total contribution is 12.62% of payroll for the employer's normal cost plus $15,430,983 for the Legacy Liability Payment. The Legacy Liability Payment for 2026 is estimated to represent 12.44% of the 2026 projected pensionable payroll of $124,002,162 resulting in a total contribution rate of 25.06%.

SECTION III – IDENTIFICATION AND ASSESMENT OF RISK

Actuarial valuations are dependent on assumptions about future economic and demographic experience. Based on actuarial standards of practice, these assumptions represent a reasonable estimate of future experience. However, actual future experience will never conform exactly to the assumptions and may differ significantly. This deviation is the risk that pension plan sponsors undertake in relying on a pension plan's actuarial valuation results.

This section of the report is intended to identify the primary drivers of these risks to the Fund, provide background information and assessments about these risks and drivers, and communicate the significance of these risks to the Fund and its sponsors.

Identification of Risks

As we have discussed with the Board, the fundamental risk to the Fund is that the contributions needed to pay the desired benefits become insufficient. While there are many factors that could lead to current contribution rates becoming insufficient, we believe the primary risks are:

- Investment risk
- Interest rate risk
- Longevity and other demographic risks
- Assumption change risk
- Plan change risk
- Contribution risk

Other risks that we have not identified may also turn out to be important.

Investment Risk is the potential for investment returns to deviate from what is expected. When actual investment returns are lower than the investment return assumption used in the actuarial valuation, the Unfunded Actuarial Liability will increase from what was expected and will require higher contributions than otherwise anticipated. However, when actual returns exceed the assumption, the resulting unfunded liability measurements and Actuarially Determined Contributions will be lower than anticipated. The Fund's asset allocation determines the potential volatility of future investment returns. The affordability of the investment risk is determined by the amount of assets invested relative to the size of the plan sponsor or other contribution base. As seen in the following historical section, this risk has been a significant driver of deviations in the actual measurements for this Fund from those expected by the prior valuations.

Interest Rate Risk has the potential for interest rates to be different than expected. For public plans, short-term fluctuations in interest rates have little or no effect, as the Fund's liability is usually measured based on the expected return on assets. Longer-term trends in interest rates, however, can have a powerful effect.

Longevity and Other Demographic Risks are the potential for mortality or other demographic experience to be different than expected. Generally, longevity and other demographic risks emerge slowly over time as the actual experience deviates from what is expected. In addition, the extensive number of assumptions related to longevity and other demographic experience often

result in offsetting factors contributing to the Fund's overall liability experience. As such, these risks are often dwarfed by other risks, particularly those due to investment returns.

Assumption Change Risk is the potential for the environment to change such that future valuation assumptions are adjusted to be different from the current assumptions. For example, declines in interest rates over time due to economic factors may result in a change in the assumed investment rates of return used in the valuations. In terms of demographic factors, a healthier workforce may result in changes in employee behavior such that retirement rates are adjusted to reflect employees working longer. In addition, mortality rates are adjusted to account for members living longer and receiving more years of their retirement benefits. Assumption change risk is an extension of the risks previously identified, but rather than capturing the risk as it is experienced, it captures the cost of recognizing a change in environment resulting in the current assumption no longer being reasonable.

Plan Change Risk represents the possibility of legislated changes made to the statutes governing the Fund. This includes any changes to the benefits paid by the Fund or the contributions that must be paid by the city and the members to the Fund. Over the history of this Fund, these changes have included granting cost-of-living adjustments (COLAs), which increase the benefits paid to members designed to provide purchasing power protection from inflation, changes to the multipliers and minimums used to determine the amount of member benefits, and changes to the contributions that the city and members must pay. As shown in the chart that follows, plan changes, principally the granting of COLAs, have been a significant driver of liability changes for the Fund over the last ten years.

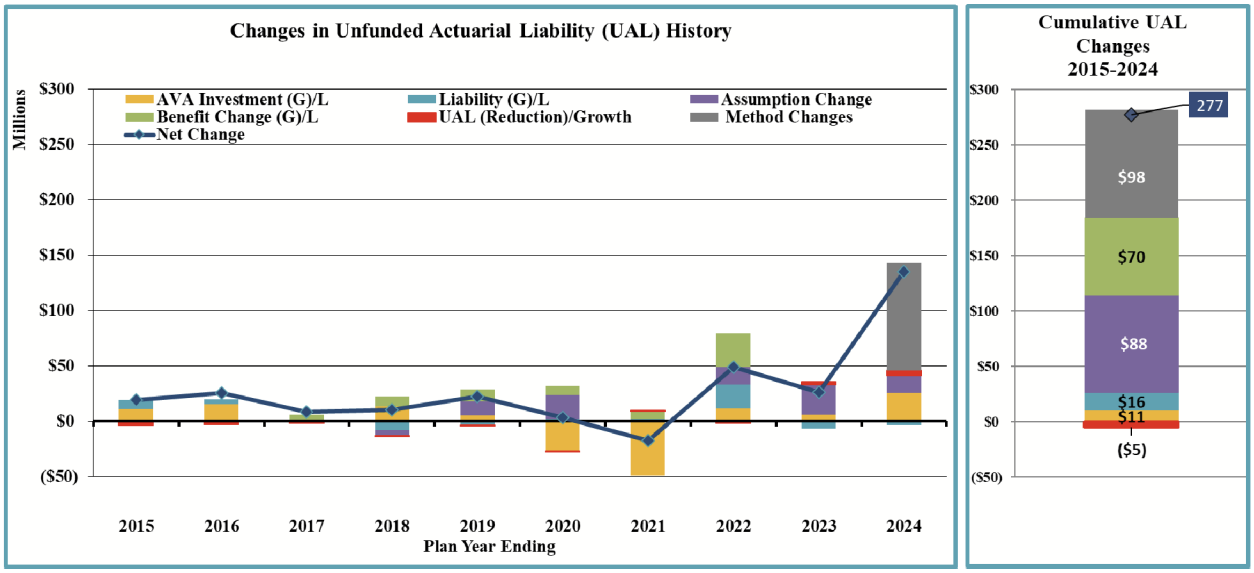
Contribution risk refers to the possibility that actual contributions will differ from those expected. For example, contributions may not align with the plan's funding policy or may be constrained by the maximum contribution corridor, resulting in total contributions falling below a reasonable Actuarially Determined Contribution level.

Historical UAL Changes

The chart below shows the components of changes in the Unfunded Actuarial Liability (UAL) for the Fund over the last ten years, including investment gains and losses on the Actuarial Value of Assets, liability gains and losses, assumption and method changes, and the paying down of the UAL. Amounts below the horizontal axis are gains or decreases to the UAL, while amounts above the axis are losses or increases to the UAL. The dark blue line shows the net UAL change.

SECTION III – IDENTIFICATION AND ASSESMENT OF RISK

Historical Changes in UAL 2015-2024



On a smoothed asset basis, the investment gains and losses (gold bars) from 2015 to 2024 reflect investment losses on a smoothed or AVA basis in seven of the ten years shown. However, two of these years, 2020 and 2021, had significant gains such that over the 10-year period, in aggregate, investment losses only increased the UAL by approximately $11 million. Method changes (gray bar) increased the UAL by approximately $98 million. The method change captures resetting AVA to MVA as required by HB 2802.

On the liability side (teal bars), the Fund has experienced a net liability experience loss that increased the UAL by approximately $16 million over this period. Assumption changes (purple bars) have increased the UAL by approximately $88 million over the 10-year period. The assumption changes have included lowering the discount rate from 7.75% to 7.30%, updating the mortality assumptions, and updating other demographic assumptions. Reflecting the 0.25% per year COLA assumption as required by HB 2802 increased the UAL by approximately $15 million. Benefit changes noted by the green bar reflect the increase in liability for COLAs granted in the last ten years. Over this period, the granted COLAs have added $70 million to the UAL.

Finally, each year, the UAL is expected to decrease/(increase) as the total contributions received by the Fund exceed/(are less than) the contributions needed to pay the normal cost for the benefits earned in the current year. In aggregate, the contributions received by the Fund in excess of normal cost have decreased the UAL by approximately $5 million over the last ten years. Most of these amounts are below the x-axis, meaning the contributions were sufficient to pay the normal cost and reduce the UAL by some amount. With the 2022 asset loss, the 2024 total fixed contributions were less than the tread water contribution, so the UAL increased for 2024 by $4 million.

SECTION III – IDENTIFICATION AND ASSESMENT OF RISK

Plan Maturity Measures

The future financial condition of a mature pension plan is more sensitive to each of the risks identified above than a less mature plan. Before assessing each of these risks, it is important to understand the maturity of this Fund compared to other plans and how the maturity has changed over time.

Plan maturity can be measured in various ways. Still, all focus on one basic dynamic: the larger the plan is compared to the contribution or revenue base that supports it, the more sensitive the plan will be to risk. The measures below have been selected as the most important in understanding the primary risks identified for this Fund.

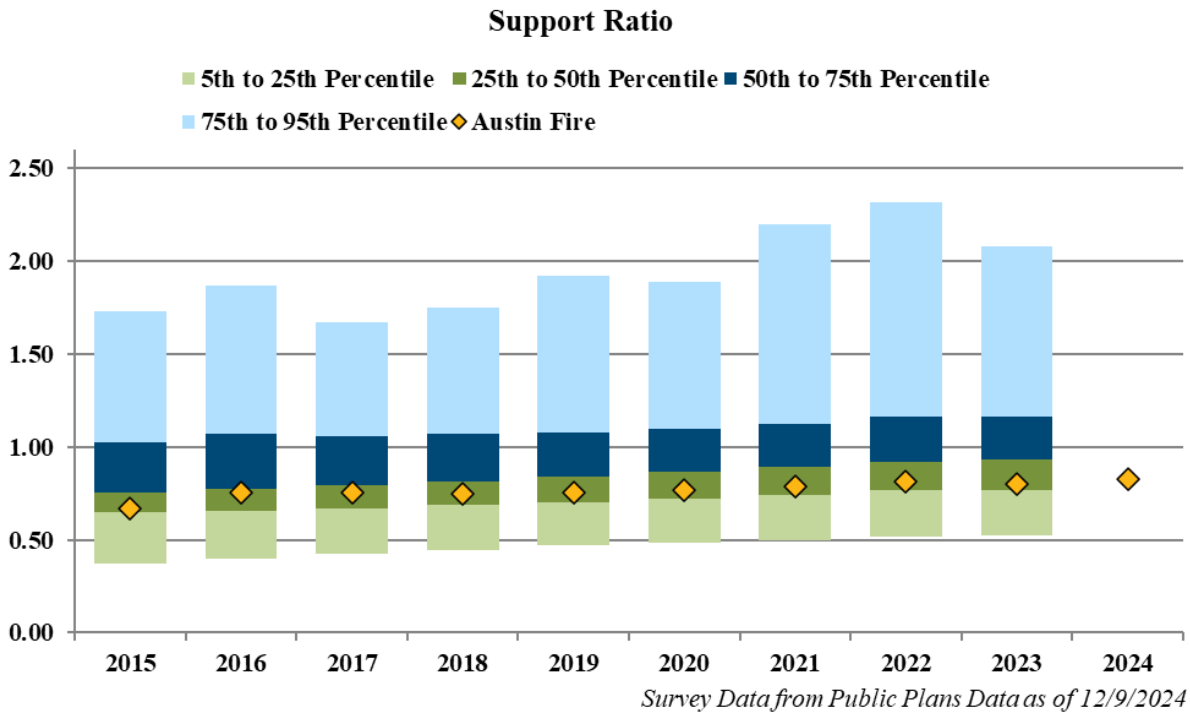
Inactives per Active (Support Ratio)

One simple measure of plan maturity is the ratio of the number of inactive members, those currently receiving benefits and terminated vested members, to the number of active members. The revenue base supporting the plan is usually proportional to the number of active members, so a relatively high number of inactives compared to actives indicates a larger plan relative to its revenue base as well.

The Boston College's Center for Retirement Research, the National Association of State Retirement Administrators (NASRA), MissionSquare, and the Government Finance Officers Association (GFOA) maintain the Public Plan Database, which contains the majority of state plans (121) and many (108) large municipal plans. It covers over 95% of the membership in public plans and over 95% of the assets held by public pension plans.

The following chart shows the support ratio for all plans in this database since 2015. The colored bars represent the central 90% of the support ratios for the plans in the database. The Austin Firefighters Retirement Fund is represented in the chart by gold diamonds.

SECTION III – IDENTIFICATION AND ASSESMENT OF RISK

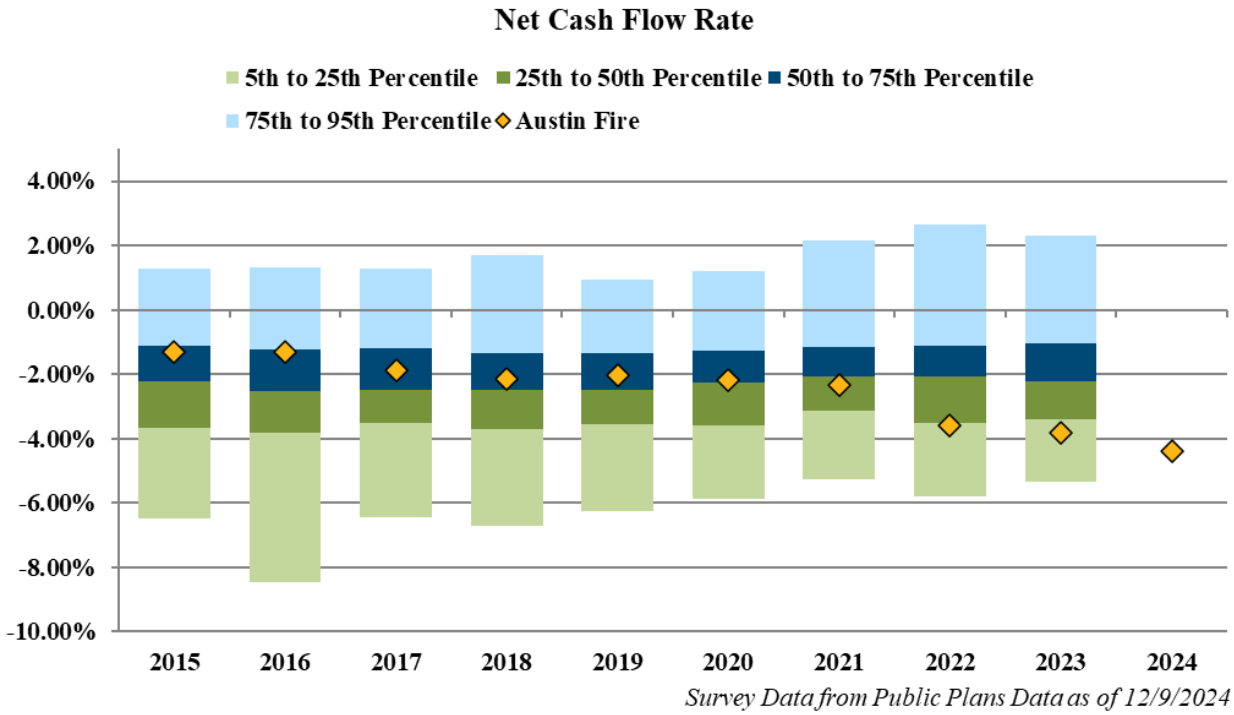


This chart shows that the Fund is not as mature as other plans in this database. The support ratios for the universe of public plans shown have increased over the period as they mature, with the Fund's support ratio increasing at a similar pace. The Fund has remained below the 50th percentile for the entire period.

SECTION III – IDENTIFICATION AND ASSESMENT OF RISK

Net Cash Flow

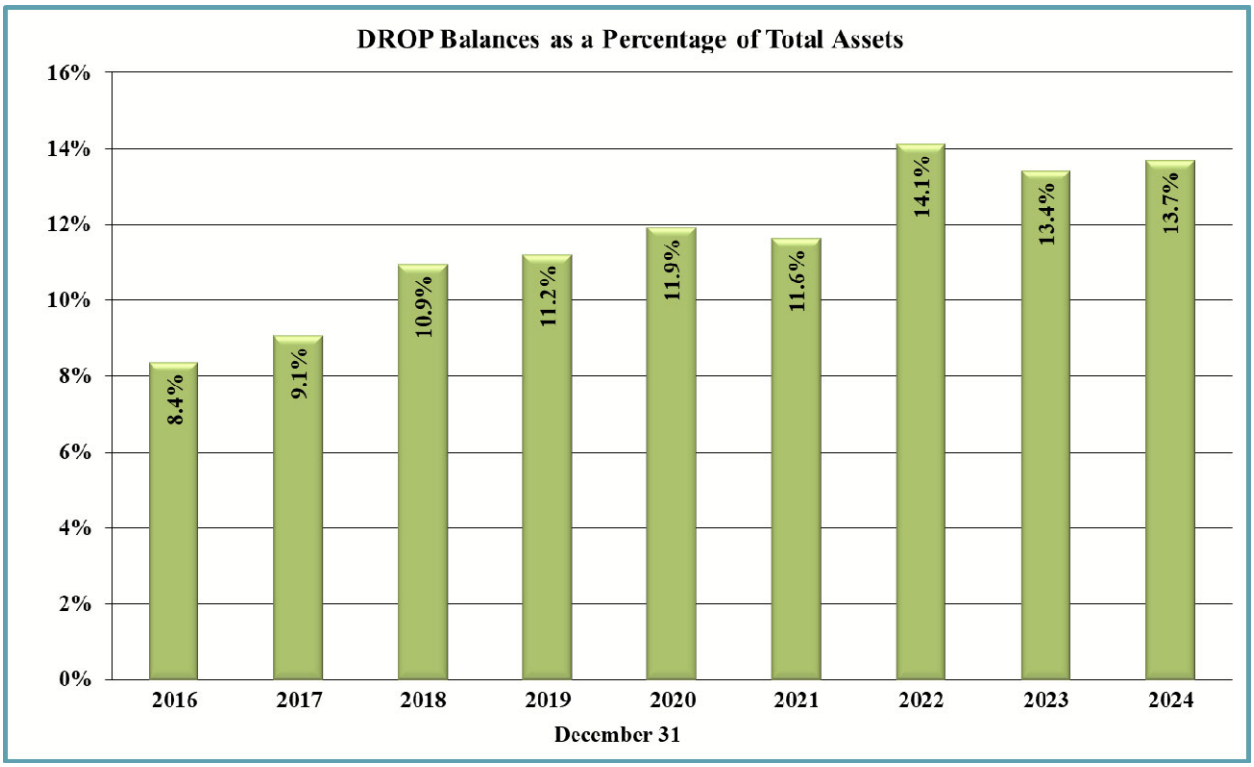
The net cash flow of the plan as a percentage of the beginning-of-year assets indicates the Fund's sensitivity to short-term investment returns. Net cash flow is equal to contributions less benefit payments and administrative expenses. Mature plans can have large amounts of benefit payments compared to contributions, particularly if they are well-funded. Investment losses in the short-term are compounded by the net withdrawal from the plan, leaving a smaller asset base to try to recover from the investment losses. Large negative cash flows can also create liquidity issues.



The chart above shows the distribution of net cash flow as a percent of assets, again with the bars showing the 5th to 95th percentile for the plans in the Public Plans Database. The gold diamonds show the Fund's experience for this metric, allowing comparison to the other plans. Up until 2020, the Fund was consistently above the 50th percentile. However, in 2021, the Fund's cash flow as a percentage of assets decreased, putting the Fund in the 25th to 50th percentile. The decrease in this percentage is primarily due to the Fund maturing.

Additionally, as DROP payments increase relative to the size of the Fund, this will likely create additional volatility in this measurement from year to year. The chart that follows shows the percentage of assets attributable to DROP balances since this information was first reported with the 2015 valuation.

SECTION III – IDENTIFICATION AND ASSESMENT OF RISK



This graph is provided because the Fund's assets must be invested considering the liquidity needed to pay out DROP accounts to members. This is a specific risk applicable to this Fund due to the structure of the benefits provided.

SECTION III – IDENTIFICATION AND ASSESMENT OF RISK

Actuarial Standards of Practice No. 4 – Disclosures

Low Default Risk Obligation Measure (LDROM)

The Fund invests in a diversified portfolio to maximize investment returns at a reasonable level of risk. The lowest risk portfolio for a pension plan would be composed entirely of low-default-risk fixed income securities whose cash flows match the benefit cash flows of the Fund. Such a portfolio, however, would have a lower expected rate of return than the diversified portfolio. The Low-Default-Risk Obligation Measure (LDROM) represents the funding liability if the Fund invested its assets in such a portfolio. As of December 31, 2024, we estimate that such a portfolio based on the FTSE Pension Liability Index would have an expected return of 5.51% compared to the Fund's discount rate of 7.30%, and the LDROM would be $1,800,455,219 compared to the Actuarial Liability of $1,514,813,506. The $285,641,713 difference represents the expected savings from bearing the risk of investing in the diversified portfolio. Alternatively, it also represents the cost of eliminating the investment risk.

If the Fund were to invest in the LDROM portfolio, the reported funded status would decrease, and employer contributions would need to increase. Benefit security for Fund members relies on a combination of the assets in the Fund, the investment returns generated from those assets, and the promise of future contributions. If the Fund were to invest in the LDROM portfolio, it would not alter the amount of assets currently in the Fund; however, it would reduce the expected future investment returns and decrease the Fund's funded ratio. However, the variability of future investment returns would narrow significantly.

Implications of Contribution Allocation Procedure on Funded Status

Based on the December 31, 2024 actuarial valuation, it is expected that:

- The Unfunded Actuarial Liability (UAL) will increase from $349 million as of December 31, 2024, to $388 million as of December 31, 2032, then gradually decrease until the UAL is fully amortized as of December 31, 2055.
- The Fund's funded status will remain relatively level until 2032 and then gradually improve to 100% as of December 31, 2055.

Reasonable Actuarially Determined Contribution ("Reasonable ADC")

Actuarial Standards of Practice No. 4 (ASOP 4) requires the actuary to calculate and disclose a reasonable Actuarially Determined Contribution. In our professional opinion, the contribution required by HB 2802 as described in Section II is a "Reasonable ADC" since it pays off the UAL over a reasonable time period with the Legacy Liability fully retired by December 31, 2055, and any new UAL established after December 31, 2024 amortized within 20 years.

SECTION III – IDENTIFICATION AND ASSESMENT OF RISK

Deterministic Scenarios/Stress Testing

We developed four hypothetical scenarios to illustrate how deviations from the assumed investment returns may impact future funded ratios and contributions. The scenarios presented are illustrative and intentionally balanced between positive and negative scenarios. They are intended to illustrate the importance of both the return itself and the timing of such returns.

The charts on the following pages show the projections under each of these theoretical scenarios:

Scenario	Description
A	Asset returns that are 1% higher than the expected return of 7.3% annually
B	Asset returns that are 1% lower than the expected return of 7.3% annually
C	Asset return for 2025 that is 10% higher than the expected return of 7.3% and then equal to the expected 7.3% for each year thereafter
D	Asset return for 2025 that is 10% lower than the expected return of 7.3% and then equal to the expected 7.3% for each year thereafter

The following pages provide the individual scenario projection charts in the same format as those included for the baseline scenario in Section I. The top projection chart compares the Market Value of Assets (MVA) (gold line) and the Actuarial or Smoothed Value of Assets (AVA) (blue line) to the Fund's actuarial liabilities (AL) (gray bars). In addition, at the top of each chart, we show the Fund's AVA funded ratio (ratio of AVA to AL). The second chart provides contribution information based on the selected economic scenarios.

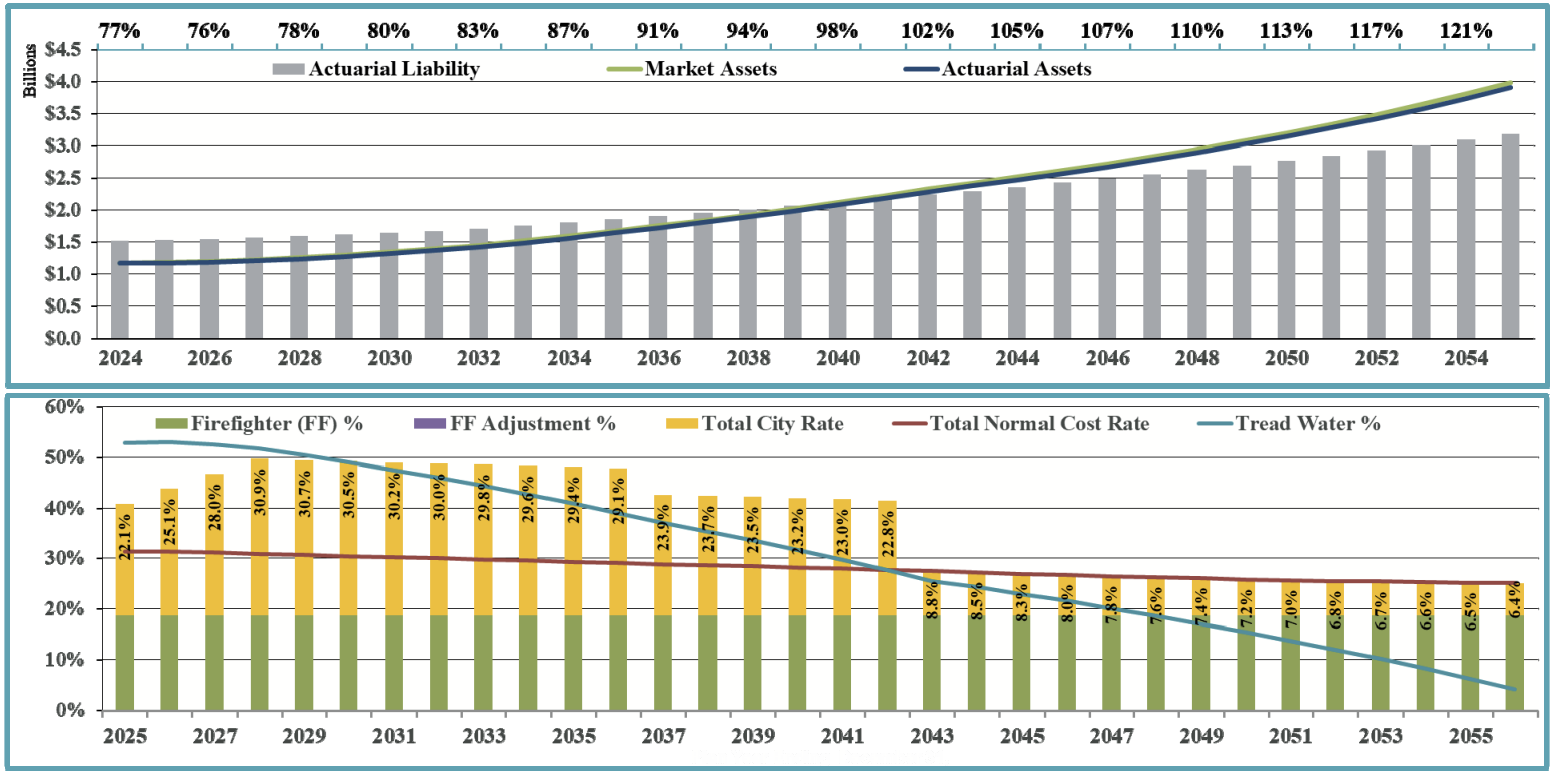
The projected Actuarial Value of Assets (AVA) assumes the continued use of the 5-year asset smoothing method, as described in Appendix C. The projections also assume that both the City and firefighters make the required contributions outlined in HB 2802. These contributions are subject to the maximum corridor and a 2% of pay cap on increases for firefighters.

In the pessimistic scenarios, these contribution limits may result in total contributions from the City and firefighters falling short of the Actuarially Determined Contribution (ADC). In such cases, the City and AFRF would need to identify additional funding solutions, which are not reflected in the projections presented. Conversely, in optimistic scenarios, the potential for granting cost-of-living adjustments (COLAs) may increase. This may warrant revisiting the COLA assumption in future valuations – an adjustment that is also not reflected the projections.

SECTION III – IDENTIFICATION AND ASSESMENT OF RISK

Scenario A – Fund Earns 8.3% for Each Year Over the Projection Period

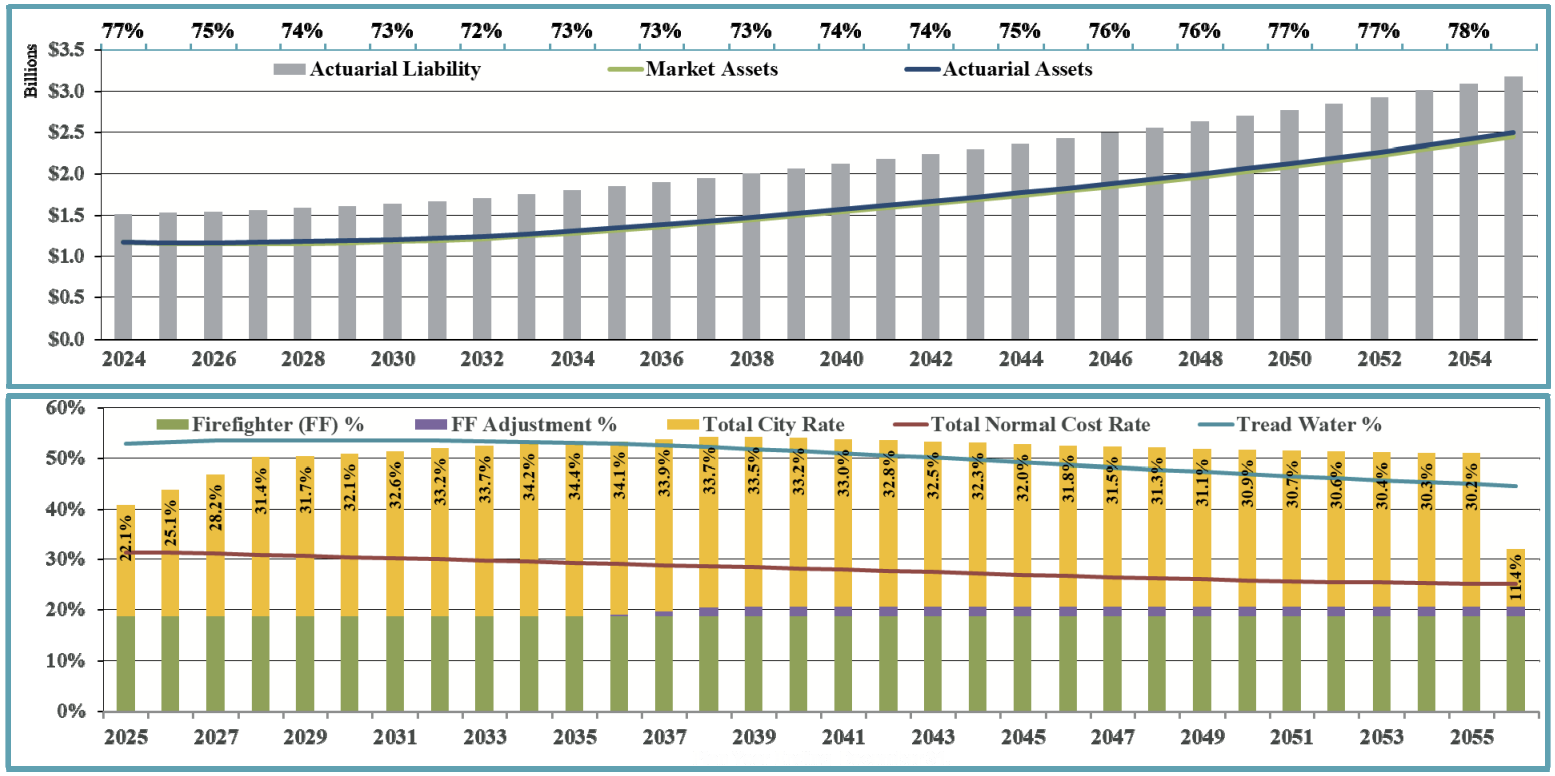
In this scenario, earning an additional 1% investment return each year over the projection period accelerates the Fund's path to full funding, reaching 100% funded status by December 31, 2041—approximately 14 years earlier than if returns were 7.3% annually. Once the funded ratio reaches 90%, the City is permitted to contribute below the corridor midpoint, resulting in reduced contributions between 2036 and 2037. After the Fund reaches full funding, it is assumed the City will continue to contribute the employer normal cost. This projection does not incorporate any changes to the COLA assumptions for either Group A or Group B. However, under more favorable investment return scenarios, the likelihood of granting COLAs increases. If COLAs are granted at a higher level than assumed, the assumptions may need to be updated, which would raise the actuarial liability and offset some of the projected improvement in the funded ratio.



SECTION III – IDENTIFICATION AND ASSESMENT OF RISK

Scenario B – Fund Earns 6.3% for Each Year Over the Projection

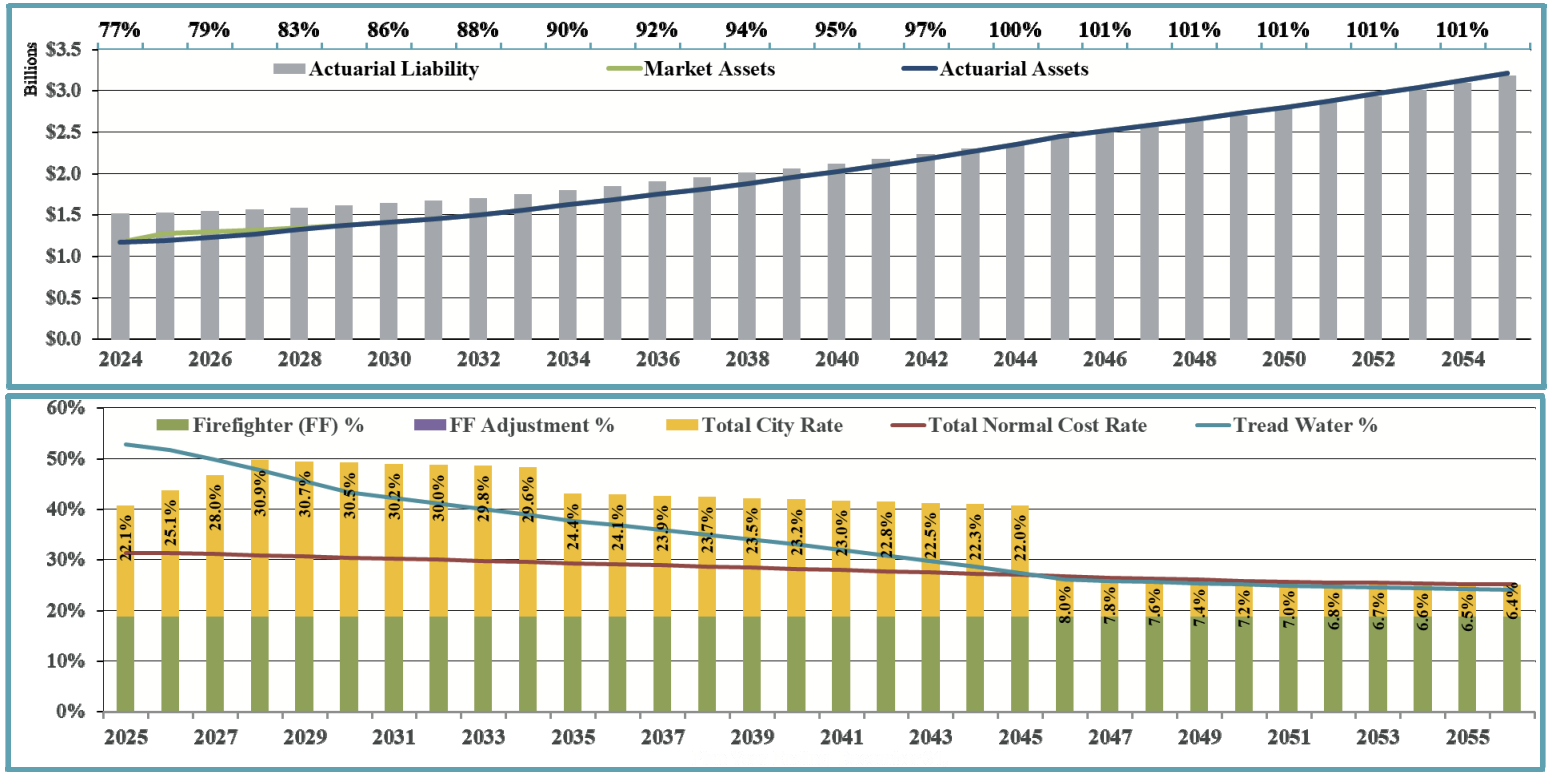
Under this scenario, the asset return shortfall of 1% per year causes the City to reach the corridor maximum in the 2034 RVSV and the additional 2% firefighter contributions are reached three years later in 2037. At that point, HB 2802 requires the Fund and the City to identify funding solutions. Because total contributions fall short of the Actuarially Determined Contribution (ADC), the funded ratio does not reach 100% by December 31, 2055.



SECTION III – IDENTIFICATION AND ASSESMENT OF RISK

Scenario C – Fund Earns 17.3% for 2025 (10% above the expected return), then 7.3% per year each year thereafter

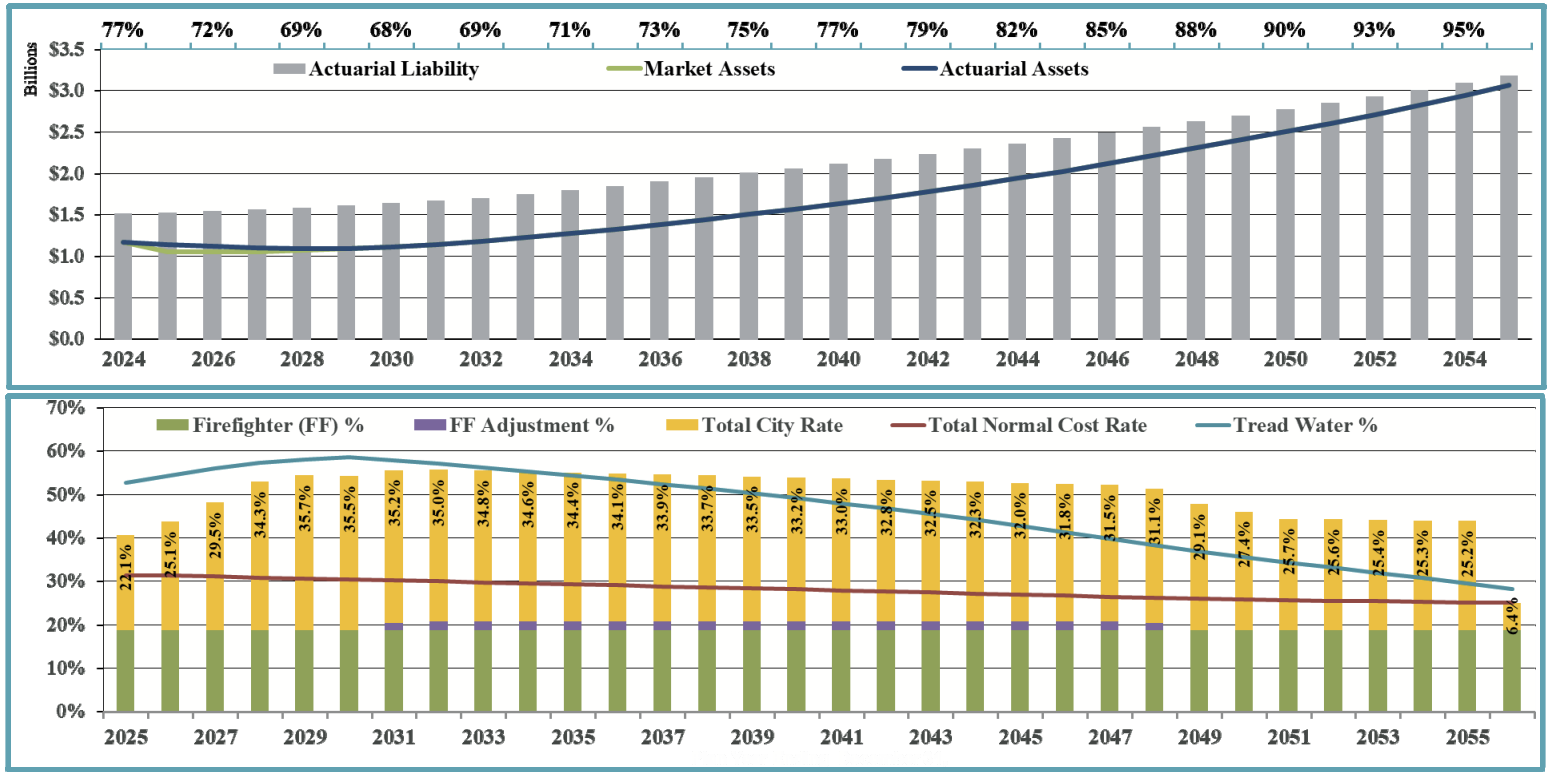
Similar to Scenario A, the additional investment return significantly accelerates the timeline for the Fund to reach 100% funded status, which is projected by December 31, 2044 in this scenario. Once the funded ratio reaches 90%, the City is permitted to contribute below the corridor midpoint, resulting in lower contributions between 2034 and 2035. After the Fund achieves full funding, it is assumed that the City will continue contributing the employer normal cost. This projection does not reflect any changes to the COLA assumptions for either Group A or Group B. However, under optimistic return scenarios, the likelihood of granting COLAs increases. Should COLAs be granted at a higher level than assumed, the assumptions may need to be revised, which would increase the actuarial liability and offset some of the projected improvement in the funded ratio.



SECTION III – IDENTIFICATION AND ASSESMENT OF RISK

Scenario D – Fund Earns -2.7% for 2025 (10% below the expected return), then 7.3% per year each year thereafter

Under this scenario, the asset return shortfall in 2025 results in the City reaching the corridor maximum in the 2028 RVSV and the additional 2% firefighter contributions are reached two years later in 2030. At that point, HB 2802 requires the Fund and the City to identify funding solutions. With total contributions not meeting the ADC, the funded ratio does not reach 100% by December 31, 2055.



SECTION IV – ASSETS

Assets play a key role in the Fund's financial operation and in the decisions that the Board of Trustees may make regarding future deployment of those assets. The level of assets, the allocation of assets among asset classes, and the methodology used to measure assets will likely impact benefit levels, employer contributions, and the ultimate security of members' benefits.

In this section, we present detailed information on the Fund's assets, including:

- Disclosure of the Fund's assets as of December 31, 2024
- Statement of the changes in market values during the year
- Development of the Actuarial Value of Assets
- A comparison of the year's investment performance to the return assumption

Disclosure

The Market Values of Assets represent "snap-shot" or "cash-out" values, which provide the principal basis for measuring financial performance from one year to the next. However, market values can fluctuate widely with corresponding swings in the marketplace. As a result, smoothed market values are usually used when reviewing a plan's financial condition,

The Actuarial Value of Assets (AVA) is based on market values that have been adjusted for investment gains and losses. Prior to HB 2802, the methods employed by this Fund set the actuarial value equal to the market value, adjusted for a five-year phase-in of investment experience gains and losses. Under HB 2802, the AVA is required to be set equal to the Market Value of Assets (MVA) for this December 31, 2024 valuation. While the Board has not adopted the methods applicable for future valuations, it is anticipated that use of a smoothed value balancing volatility with accuracy will be resumed with future valuations.

SECTION IV – ASSETS

The assets below are based upon audited financial data furnished by the Fund's staff. The components of the market value of assets as of the current and immediately prior valuation year, as well as the change in these categories and the total market value of assets during the valuation year ending December 31, 2024 is summarized below.

Table IV-1
Statement of Market Value of Assets as of December 31,

	2024	2023	% Change
Assets			
Cash & Short-Term Investments	$ 10,257,895	$ 9,926,468	3.34%
Receivables	203,099	253,269	(19.81%)
Fixed Income	342,930,024	331,716,446	3.38%
Domestic Equities	271,048,604	254,473,069	6.51%
International Equities	251,441,589	237,993,931	5.65%
Real Estate	86,712,059	91,280,409	(5.00%)
Natural Resources	29,268,041	33,647,743	(13.02%)
Private Equities	173,844,153	203,403,057	(14.53%)
Total Assets	**$ 1,165,705,464**	**$ 1,162,694,392**	0.26%
Liabilities			
Due to broker	$ 358,226	$ 0	0.00%
Accrued Expenses and Other Liabilities	0	0	0.00%
Total Liabilities	**$ 358,226**	**$ 0**	0.00%
Market Value of Assets	**$ 1,165,347,238**	**$ 1,162,694,392**	**100.23%**

Numbers may not add due to rounding

SECTION IV – ASSETS

The chart below shows the calculation of the investment gain/loss. On a market value basis, the Fund earned a 4.73% return during 2024, a total investment return of $53.7 million, resulting in a net Fund asset loss on a market value of assets basis of $29.3 million. On an Actuarial Value of Assets basis before reflecting setting the Actuarial Value of Assets to Market Value of Assets, the Fund had a return for the year of 5.22% which is below the 7.30% return assumed in the prior year's valuation, producing a loss of $25.6 million to the Fund on that basis. With the passage of HB 2802, the Actuarial Value of Assets was set to the Market Value of Assets, resulting in a reduction of $97.6 million and a net actuarial asset return of -2.75%.

Table IV-2
Changes in Value of Assets

	Market Value of Assets	Actuarial Value of Assets
1. **Value of Assets - December 31, 2023**	**$ 1,162,694,392**	**$ 1,250,115,476**
2. Calculation of Net Cash Flow		
(a) Member Contributions	$ 22,071,057	$ 22,071,057
(b) Employer Contributions	26,024,963	26,024,963
(c) Benefit Payments and Refunds	(96,508,820)	(96,508,820)
(d) Administration Expenses	(2,668,345)	(2,668,345)
(d) **Net Cash Flow**	**$ (51,081,145)**	**$ (51,081,145)**
3. **Value of Assets - December 31, 2024**	**$ 1,165,347,238**	**$ 1,262,938,038**
4. Net Investment Income [3. - 1. - 2.(d)]	$ 53,733,991	$ 63,903,707
5. Average Value of Assets [1. + 1/2 x 2.(d)]	$ 1,137,153,820	$ 1,224,574,904
6. Rate of Return [4. / 6.]	4.73%	5.22%
7. Assumed Rate of Return	7.30%	7.30%
8. Expected Net Investment Income	$ 83,045,067	$ 89,522,486
9. Investment Gain/(Loss) [4. - 8.]	$ (29,311,076)	$ (25,618,779)
10. AVA set to MVA Adjustment	N/A	$ (97,590,800)
11. Final Value of Assets - December 31, 2024 [3+10]	**$ 1,165,347,238**	**$ 1,165,347,238**
12. Rate of Return Reflecting Final Assets	4.73%	-2.75%

SECTION IV – ASSETS

The following table illustrates the development of the Actuarial Value of Assets prior to reflecting the HB 2802 required reset to Market Value of Assets. The Actuarial Value of Assets represents a "smoothed" value developed by the actuary to reduce or eliminate erratic results that could develop from short-term fluctuations in the Market Value of Assets.

The Fund's Actuarial Value of Assets is based on the Market Value of Assets adjusted by a five-year smoothing of gains and losses on a market value basis. Additional details regarding this methodology are included in Appendix C of the report.

Table IV-3
Development of Actuarial Value of Assets

	Original Gain/(Loss)	Deferred Portion
Defer 0% of 2020 Gain	$ 79,891,968	$ 0
Defer 20% of 2021 Gain	87,212,015	17,442,403
Defer 40% of 2022 Gain	(242,577,437)	(97,030,975)
Defer 60% of 2023 Loss	9,077,722	5,446,633
Defer 80% of 2024 Gain	(29,311,076)	(23,448,861)
Total Deferred Gain/(Loss) for AVA Calculation		$ (97,590,800)
Market Value of Assets at December 31, 2024		$ 1,165,347,238
Total Unrecognized Gain/(Loss)		(97,590,800)
Original Actuarial Value of Assets at December 31, 2024		$ 1,262,938,038
Actuarial Value as a Percent of Market Value		108.4%
Actuarial Value of Assets at December 31, 2024		
AVA set to MVA as required by pension reform		$ 1,165,347,238
Actuarial Value as a Percent of Market Value		100.0%

SECTION IV – ASSETS

The final table in this section summarizes the annual returns on both a Market and Actuarial Value of Assets value for the last ten years and provides averages over the last five and ten years for these two metrics.

Table IV-4
Historic Investment Return

Year Ending December 31,	Market Value	Actuarial Value *
2024	4.7%	-2.8%
2023	8.1%	6.8%
2022	-11.6%	6.3%
2021	14.9%	12.0%
2020	15.4%	10.2%
2019	15.7%	7.1%
2018	-2.7%	6.2%
2017	17.1%	7.8%
2016	7.0%	5.8%
2015	0.7%	6.3%
Average Returns		
Last 5 years:	5.8%	6.4%
Last 10 years:	6.5%	6.5%

* The 2024 return reflects impact of pension reform. Prior to pension reform the investment return on an actuarial value basis was 5.22%.

SECTION V – LIABILITIES AND EXPERIENCE GAINS/(LOSSES)

In this section, we provide detailed information related to the Fund's liability measurements, including:

- Disclosure of the Fund's liabilities,
- Development of the experience gains and losses from liabilities; and
- Detailed development of the sources of the liability gains and losses during the year.

The table that follows presents the present value of future benefits and the actuarial liabilities by membership status for the current and immediately preceding valuations. It also includes the normal cost for both valuations, as a dollar amount and as a percentage of the total pensionable payroll.

Table V-1
Present Value of Future Benefits (PVFB) Detail and Liability Allocations

	December 31, 2024	December 31, 2023
Present Value of Future Benefits (PVFB)		
Active Member Benefits	$ 950,570,347	$ 929,544,905
Service Retirees, including DROP	845,837,429	809,962,511
Beneficiaries	59,784,854	55,478,855
Disability Retirees	7,037,235	7,371,979
Terminated Vested	4,727,230	4,240,326
Total Present Value of Future Benefits	**$ 1,867,957,095**	**$ 1,806,598,576**
Actuarial Liability		
Active Member Benefits	$ 597,426,758	$ 583,528,059
Service Retirees, including DROP	845,837,429	809,962,511
Beneficiaries	59,784,854	55,478,855
Disability Retirees	7,037,235	7,371,979
Terminated Vested	4,727,230	4,240,326
Total Actuarial Liability (AL)	**$ 1,514,813,506**	**$ 1,460,581,730**
Total Normal Cost, middle of year	$ 35,799,396	$ 34,350,082
Total Normal Cost as a % of Expected Payroll	30.07%	29.96%
Administration Expenses	1.25%	1.25%
Total Normal Cost Plus Admin. Expenses as a % of Expected Payroll	**31.32%**	**31.21%**
Expected Payroll	**$ 119,063,835**	**$ 114,653,245**

SECTION V – LIABILITIES AND EXPERIENCE GAINS/(LOSSES)

The table below presents the changes in actuarial liability during the plan year. In general, the actuarial liability of any retirement Fund is expected to change at each subsequent valuation for various reasons. In each valuation, we report on those elements of the change in liabilities that are of particular significance, potentially affecting the Fund's long-term financial outlook. The first table summarizes the expected and actual liability as of December 31, 2024. The second table provides more details on the year's liability (gain)/loss components.

Table V-2
Changes in Actuarial Liability

Actuarial Liability as of December 31, 2023	$	1,460,581,730
Normal Cost		33,161,023
Benefit Payments		(96,508,820)
Interest		105,582,691
Assumption Changes		15,855,915
Benefit Changes		(380,510)
Expected Actuarial Liability as of December 31, 2024	$	1,518,292,029
Actual Actuarial Liability as of December 31, 2024	$	1,514,813,506
Actuarial Liability (Gain)/Loss	$	(3,478,523)

Table V-3
Actuarial Liability (Gain)/Loss by Source as of December 31, 2024

Salary/Service Increase	$	(2,189,211)
Retirement		(149,035)
Termination		(61,703)
Disability		(182,743)
Retiree Mortality		1,615,733
Other Experience		(2,511,564)
Experience (Gain)/Loss	$	(3,478,523)

SECTION VI – ACTUARIALLY DETERMINED CONTRIBUTION BENCHMARK

Actuarially Determined Contribution Benchmark ("ADC Benchmark")

Because the city and members each contributed to the Fund at a fixed rate before HB 2802 under Vernon's Texas Civil Statute, Article 6243e.1, the Board developed an Actuarially Determined Contribution (ADC) benchmark for comparative purposes in the Fund's Funding Policy dated December 16, 2019. This ADC benchmark is developed using the actuarial assumptions and methods identical to those disclosed in this report, except as follows:

Amortization Period—The ADC benchmark is the contribution rate that, if in effect as of the valuation date, would amortize the UAL as of the valuation date in 30 years. Note that while the Fund's Funding Policy only specifies this 30-year open amortization period benchmark, a similar benchmark based on amortizing the UAL as of the valuation date fully over 20 years is provided for informational purposes.

Payroll Growth Assumption—The ADC benchmark will be calculated using a payroll growth assumption of the lesser of 3.0% and the Austin Fire Department's average payroll growth over the last ten (10) years. This assumption is specified in the Fund's Funding Policy. Since the 10-year average as of December 31, 2024 is 3.08%, a payroll growth assumption of 3.0% is used for this valuation's ADC Benchmark calculations.

This Funding Policy has not yet been updated to reflect HB 2802. As such, we have provided the ADC Benchmark as required in this Funding Policy. See Section II for further discussion of the funding changes effective with HB 2802.

SECTION VI – ACTUARIALLY DETERMINED CONTRIBUTION BENCHMARK

Table VI-1
Development of Actuarially Determined Contribution Benchmark (ADC)

For Plan Year Beginning 12/31 of:	2024	2023
Valuation Results		
Actuarial Liability	$ 1,514,813,506	$ 1,460,581,730
Actuarial Value of Assets	1,165,347,238	1,250,115,476
Unfunded Actuarial Liability (UAL)	$ 349,466,268	$ 210,466,254
Total Normal Cost[1]	$ 37,287,694	$ 34,350,082
Expected Payroll	$ 119,063,835	$ 114,653,245
Member Contribution Rate	18.70%	18.70%
Current City Contribution Rate	22.05%	22.05%
Total Statutory Contribution Rate	40.75%	40.75%
ADC Benchmark		
Normal Cost Rate[1]	31.32%	31.21%
Amortization of UAL Rate	17.24%	10.78%
Total Cost Rate	48.56%	41.99%
City Contribution Rate Based on ADC Benchmark	29.86%	23.29%
City Rate Surplus/(Deficit)	*(7.81%)*	*(1.24%)*

[1] Middle of the year and includes 1.25% of payroll for administration expenses effective December 31, 2023.

If determined to amortize the UAL fully over 20 years instead of the 30 years specified in the Fund's Funding Policy, the city contribution rate based on the "ADC Benchmark" as of December 31, 2024 would be 34.43%, producing a (12.38%) deficit relative to the current 22.05% statutory city contribution rate.

APPENDIX A – FUND MEMBERSHIP

The data for this valuation was provided electronically in Excel format by the Fund's office. Cheiron did not audit any of the data, but we did perform an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23, Data Quality. The data for active and inactive members is as of December 31, 2024.

The following pages contain a summary of the data provided:

- Member status reconciliation from December 31, 2023 to December 31, 2024
- Active member statistics, including age, service, and salary
- Age and service distribution for active members as of December 31, 2024
- Inactive member statistics, including age and average benefit amounts
- DROP statistics and DROP balance reconciliation

APPENDIX A – FUND MEMBERSHIP

Table A-1
Member Status Reconciliation

		Actives	Term Vested Or Awaiting Refund	Retirees	Disability Retirees	Beneficiaries and Alt Payees	Total
1.	December 31, 2023 Valuation	**1,246**	**36**	**809**	**15**	**171**	**2,277**
2.	Additions						
a.	New Entrants	48				6	54
b.	Total	48	-	-	-	6	54
3.	Reductions						
a.	Benefits Expired						-
b.	Refunds	(2)				(1)	(3)
c.	Deaths with no Beneficiaries			(3)		(4)	(7)
d.	Total	(2)	-	(3)	-	(5)	(10)
4.	Changes in Status						
a.	Disabled						-
b.	Non Vested Termination	(5)	5				-
c.	Retired	(36)		36			-
d.	Terminated Vested						-
e.	Death with Beneficiaries	(2)		(8)	(1)	11	-
f.	Rehire						-
g.	Data Corrections		(5)			1	(4)
h.	Total	(43)	-	28	(1)	12	(4)
5.	December 31, 2024 Valuation	**1,249**	**36**	**834**	**14**	**184**	**2,317**

APPENDIX A – FUND MEMBERSHIP

Table A-2
Active Members Statistics

	December 31, 2024	December 31, 2023	% Change
Active Members in Valuation			
Count			
Total	1,249	1,246	0.24%
Average Current Age			
Total	41.2	41.1	0.17%
Average Service			
Total	11.9	11.9	0.00%
Average Reported Pay			
Total	$92,725	$85,943	7.89%

APPENDIX A – FUND MEMBERSHIP

AGE/SERVICE DISTRIBUTION OF ACTIVE MEMBERS
ACTIVE MEMBERS AS OF DECEMBER 31, 2024

COUNTS BY AGE/SERVICE

	Service										
Age	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up	Total
Under 25	10	28	0	0	0	0	0	0	0	0	38
25 to 29	20	69	7	0	0	0	0	0	0	0	96
30 to 34	16	105	74	2	0	0	0	0	0	0	197
35 to 39	2	83	129	44	4	0	0	0	0	0	262
41 to 44	0	4	88	61	46	10	0	0	0	0	209
45 to 49	0	0	8	55	54	71	12	0	0	0	200
50 to 54	0	0	0	2	22	74	44	8	0	0	150
55 to 59	0	0	0	1	0	22	41	18	1	0	83
60 to 64	0	0	0	0	0	1	6	7	0	0	14
65 to 69	0	0	0	0	0	0	0	0	0	0	0
70 & up	0	0	0	0	0	0	0	0	0	0	0
Total	48	289	306	165	126	178	103	33	1	0	1,249

Average Age = 41.2 Average Service = 11.9

APPENDIX A – FUND MEMBERSHIP

Table A-3
Inactive Member Statistics

	December 31, 2024	December 31, 2023	% Change
Vested Terminated Members and Awaiting Refund			
Count			
Total	36	36	0.00%
Average Current Age			
Total	39.4	39.1	0.91%
Retirees, including DROP Members			
Count			
Total	834	809	3.09%
Average Current Age			
Total	66.5	66.0	0.67%
Average Monthly Benefit			
Total	$6,059	$6,004	0.91%
Disability Retirees			
Count			
Total	14	15	-6.67%
Average Current Age			
Total	64.6	64.5	0.14%
Average Monthly Benefit			
Total	$3,854	$3,820	0.89%
Beneficiaries and Alternate Payees			
Count			
Total	184	171	7.60%
Average Current Age			
Total	68.3	68.7	-0.70%
Average Monthly Benefit			
Total	$2,907	$2,940	-1.13%

APPENDIX A – FUND MEMBERSHIP

Table A-4
DROP Statistics and DROP Balance Reconciliation

	December 31, 2024	December 31, 2023	% Change
Number of DROP	326	330	-1.20%
Total DROP Balance	$159,436,132	$155,823,975	2.30%
As a % of Trust Assets	13.68%	13.40%	2.10%
Average DROP Balance	$489,068	$472,194	3.60%
Reconciliation of DROP Balances			
12/31/2023 Balance		$155,823,975	
Deposits		26,281,926	
Interest		7,801,389	
Withdrawals		(30,471,158)	
12/31/2024 Balance		$159,436,132	

APPENDIX B – SUMMARY OF PLAN PROVISIONS

Group A Members

1. Membership Requirement

All commissioned civil service and Texas state-certified firefighters with at least six months of service employed by the City of Austin fire department that were hired before January 1, 2026.

2. Salary

Salary (compensation) means base pay and longevity pay. No other forms of pay are included within the pensionable salaries.

3. Average Monthly Compensation

The average of the member's compensation for the 36 months of highest compensation.

4. Service Credit

One month of service credit is earned for each month the member makes the required contribution to the Fund.

5. Member Contributions

18.70% of Salary; subject to increase as needed to ensure the Fund receives the full ADC if City's maximum corridor is reached up to a maximum of 2%.

6. Normal Retirement

Eligibility:	Age 50 with 10 years of service or 25 years of service, regardless of age.
Amount:	3.3% of average monthly compensation for each year of service with a minimum of $2,000 per month.
Normal Form of Payment:	Life Annuity with 75% continued to the Surviving Spouse (or designated beneficiary if the participant is unmarried).

7. Early Retirement

Eligibility:	Age 45 with 10 years of service or 20 years of service regardless of age.
Amount:	3.3% of average monthly compensation for each year of service.

APPENDIX B – SUMMARY OF PLAN PROVISIONS

8. Disability Retirement

Eligibility:	Upon approval of disability by the Board of Trustees.
Amount:	3.3% of average monthly compensation for each year of service (but not less than 20 years).

9. Death while an Active Employee

Eligibility:	Termination of employment due to death.
Amount:	The surviving spouse or designated beneficiary will receive 75% of the member's accrued benefit based on the greater of their service at death or 20 years of service. Each dependent child of a surviving spouse will receive 15% of the Member's accrued benefit, but not less than 9.9% of Average Monthly Compensation, with a reduction if there are more than five surviving dependent children.

10. Deferred Retirement

Eligibility:	Ten years of service. Must also elect to leave their member contributions in the Fund.
Amount:	The accrued benefit is payable at Normal Retirement eligibility, with such eligibility determined as if the member had remained employed.

11. Non-Vested Termination

Eligibility:	Less than ten years of service.
Amount:	A lump sum of member contributions with accumulated interest through December 31, 2025. Effective January 1, 2026, interest will not be earned on contributions.

12. Deferred Retirement Option Plan (DROP)

Under this program, a member eligible for service retirement may elect to continue in active service as a firefighter but have the fund begin crediting "payments" to a deferred retirement option plan (DROP) account. The monthly "payments" would be an amount equal to what the member's monthly annuity would have been if the member had retired as of that eligible DROP date. Any eligible cost-of-living adjustments (COLAS) would be applied to the monthly annuity during this DROP period. During the DROP period, the member would have all their pension contributions and applicable annual interest of 5%. When the member retires, by terminating their active service in the fire department, an accumulated lump sum

balance may be available to be distributed (all or part) to the member from the DROP account. After termination, the DROP account continues to earn interest at 5% per year until withdrawn.

In lieu of electing to participate in the DROP before actual retirement, a member who is eligible for normal service retirement may elect to terminate active service as a firefighter and establish the DROP account at termination. Under this "RETRO or BACK DROP," the firefighter's DROP account reflects the accrual from the actual termination date back to a date on or after the date they become eligible for normal service retirement.

The maximum period under which a firefighter can participate in a DROP is seven years. A firefighter may elect to establish a DROP account after reaching normal or early service retirement eligibility. Twelve total withdrawals are allowed while the retiree's DROP account balance remains in the pension plan, with a maximum of four withdrawals in any year. These limits on withdrawals can be altered by board policy as long as such change is determined to be feasible. The withdrawals can either be in the form of a distribution to the retiree (provided the retiree reaches age 50 before retiring) or a rollover into a qualified IRA. The entire DROP balance must be withdrawn from the fund by April 1st of the calendar year following the year the retiree reaches age 70½.

13. Cost of Living Adjustments (COLA)

Prior to January 1, 2026

When deemed affordable, eligible pension recipients are entitled to annual cost-of-living adjustments (COLA). COLAs are approved only when the fund's actuary has advised the Board that such adjustment would not impair the fund's financial stability based on the COLA Adjustment Policy approved by the Board. The COLAs are to be based on the annual percentage increase in the Consumer Price Index (CPI-U).

Members who retire under Early Retirement are only eligible for COLAs once they would have reached Normal Service Retirement eligibility had they continued their employment. The COLAs provided over the last ten years are as follows:

APPENDIX B – SUMMARY OF PLAN PROVISIONS

Effective Date	COLA
12/31/2024	0.00%
12/31/2023	0.00%
12/31/2022	0.00%
12/31/2021	5.40%
12/31/2020	1.40%
12/31/2019	1.70%
12/31/2018	2.30%
12/31/2017	2.20%
12/31/2016	1.50%
12/31/2015	0.00%

Effective January 1, 2026

The COLA amount, up to 1.5% per year, may be approved by the Board if the financial stability tests described below are met. Participants are eligible for any approved COLA upon reaching the later of age 67 and 5 years after retirement (age 69 if retired under early retirement).

The financial stability tests that must be satisfied, including the liability of the proposed COLA are:

1. Funded ratio on an AVA basis ≥ 80% for years 2024 – 2039, 85% for years 2040–2044, and 90% for 2045 and later
2. Amortization period ≤ 25 years for years 2024 – 2034, 20 years for years 2035–2039, and 15 years for 2040 and later
3. City's contribution rate ≤ corridor midpoint + 4%
4. No COLAs may be granted in any year beginning a year and a day after the Fund reports:
   a. A negative investment return
   b. A five-year investment return below the assumed return

Note that the Austin City Council may approve a COLA in any format it deems appropriate when one or more requirements prohibit the AFRF Board from granting one.

14. Changes Since Last Valuation

With the passage of HB 2802 / SB 2345, non-vested terminations no longer receive interest on their contributions after January 1, 2026 and COLA eligibility, COLA amount, and financial stability tests were changed.

APPENDIX B – SUMMARY OF PLAN PROVISIONS

Group B Members

1. Membership Requirement

All commissioned civil service and Texas state-certified firefighters with at least six months of service employed by the City of Austin fire department that were hired on or after January 1, 2026.

2. Salary

Salary (compensation) means base pay and longevity pay. No other forms of pay are included within the pensionable salaries.

3. Average Monthly Compensation

The average of the member's compensation for the 60 months of highest compensation.

4. Service Credit

One month of service credit is earned for each month the member makes the required contribution to the Fund.

5. Member Contributions

18.70% of Salary; subject to increase as needed to ensure the Fund receives the full ADC if City's maximum corridor is reached up to a maximum of 2%.

6. Normal Retirement

Eligibility:	Age 50 with 10 years of service or 25 years of service regardless of age.
Amount:	3.0% of average monthly compensation for each year of service with a minimum of $2,000 per month.
Normal Form of Payment:	Life Annuity

7. Disability Retirement

Eligibility:	Upon approval of disability by the Board of Trustees.
Amount:	3.0% of average monthly compensation for each year of service (but not less than 20 years).

8. Death while an Active Employee

Eligibility:	Termination of employment due to death

APPENDIX B – SUMMARY OF PLAN PROVISIONS

Amount:	The surviving spouse or designated beneficiary will receive 75% of the member's accrued benefit based on the greater of their service at death or 20 years of service. Each dependent child of a surviving spouse will receive 15% of the Member's accrued benefit, but not less than 9.9% of Average Monthly Compensation, with a reduction if there are more than five surviving dependent children.

9. Deferred Retirement

Eligibility:	Ten years of service. Must also elect to leave their member contributions in the Fund.
Amount:	The accrued benefit is payable at Normal Retirement eligibility, with such eligibility determined as if the member had remained employed.

10. Non-Vested Termination

Eligibility:	Less than ten years of service.
Amount:	A lump sum of member contributions.

11. Deferred Retirement Option Plan (DROP)

Under this program, a member eligible for service retirement may elect to continue in active service as a firefighter but have the fund begin crediting "payments" to a deferred retirement option plan (DROP) account. The monthly "payments" would be an amount equal to what the member's monthly annuity would have been if the member had retired as of that eligible DROP date. During the DROP period, the member would have 50% of their pension contributions and applicable annual interest of 4%. When the member retires, by terminating their active service in the fire department, an accumulated lump sum balance may be available to be distributed (all or part) to the member from the DROP account. After termination, the DROP account continues to earn interest until withdrawn at 4% per year if the Fund reports a positive return. If the Fund reports a return less than 0%, the following calendar year the DROP account earns 2% per year.

The maximum period under which a firefighter can participate in a DROP is seven years. A firefighter may elect to establish a DROP account after reaching normal retirement eligibility. Twelve total withdrawals are allowed while the retiree's DROP account balance remains in the pension plan, with a maximum of four withdrawals in any year. These limits on withdrawals can be altered by board policy as long as such change is determined to be feasible. The withdrawals can either be in the form of a distribution to the retiree (provided the retiree reaches age 50 before retiring) or a rollover into a qualified IRA. The entire DROP

APPENDIX B – SUMMARY OF PLAN PROVISIONS

balance must be withdrawn from the fund by April 1st of the calendar year following the year the retiree reaches age 70½.

12. Cost of Living Adjustments (COLA)

Performance-based COLA targeting 1% per year based on the Fund's asset returns for the previous five years. COLA amount equals 50% of the amount by which the five-year average return exceeds the assumed rate of return reduced by a 2% threshold (subject to a 0% minimum and 2% maximum). Participants are eligible for the approved COLA upon reaching the later of age 67 and 5 years after retirement.

13. Changes Since Last Valuation

Group B created by passage of HB 2802.

APPENDIX C – ACTUARIAL ASSUMPTIONS AND METHODS

A. Actuarial Assumptions

1. Rate of Investment Return

7.30%, net of investment expenses only.

2. Price Inflation

2.5% per year.

3. Rates of Salary Increase

Salary increases are split into a wage inflation assumption of 2.50% and a merit scale based on service, shown below.

Years of Service	Merit Increase
0	7.00%
1	7.00%
2	6.50%
3	1.50%
4	0.50%
5	4.50%
6-7	1.00%
8	4.50%
9	0.50%
10	1.00%
11	3.50%
12	1.50%
13	1.00%
14	3.50%
15-16	1.00%
17	3.50%
18-19	1.00%
20	3.50%
21	0.50%
22+	0.00%

For fiscal 2024 and 2025, the salary increase assumption reflects additional base increases of 5.7% and 1.5%, respectively, based on the latest agreement between the City of Austin and Austin Firefighters Association Local 975.

4. Aggregate Payroll Growth

2.50% per year.

APPENDIX C – ACTUARIAL ASSUMPTIONS AND METHODS

5. Disability

Age	Rate
Under 30	0.013%
30-39	0.040%
40-49	0.067%
50+	0.033%

6. Mortality Rates

Active and Vested Terminated Lives:
PubS(A)-2010 Mortality Table for Employees.

Retiree Lives:
PubS(A)-2010 Mortality Table for Healthy Retirees.

Contingent Survivor Lives:
PubS(A)-2010 Mortality Table for Contingent Survivors.

Disabled Lives:
PubS(A)-2010 Mortality Table for Disabled Retirees.

Generational mortality improvements are projected from 2010 using Scale MP-2021.

7. Withdrawal

Withdrawal rates are based on department and service, as shown below.

Years of Service	Rate
0-4	1.50%
5-14	0.75%
15+	0.00%

8. Retirement Rates

Age	Rate
Under 43	0.00%
43-48	3.00%
49-51	4.00%
52-53	7.00%
54	12.00%
55-57	20.00%
58-60	35.00%
61-62	50.00%
63+	100.00%

APPENDIX C – ACTUARIAL ASSUMPTIONS AND METHODS

9. DROP Election

Group A Members are assumed to elect either normal retirement or DROP, with the DROP period maximizing the present value of their retirement benefits, including reflecting the impact of previously granted COLAs the member would be eligible for during the assumed DROP period. Group B Members are assumed to maximize their DROP period after age 50 up to 5 years.

10. Existing DROP Balances

Members with existing DROP balances are assumed to withdraw their balances over the next eight years, but no later than age 70 ½.

11. Future Cost-of-Living Adjustment Assumption

0.25% per year for Group A and 1.0% per year for Group B.

12. Active Payment Form Assumption

Life annuity with 75% continued to the surviving spouse (or designated beneficiary) for Group A and Life Annuity for Group B.

13. Percent Married

100% of actives are assumed to be married.

14. Beneficiary Age

A Male participant is assumed to be three years older than his beneficiary.

A Female participant is assumed to be one year younger than her beneficiary.

15. Dependent Children

50% of active members are assumed to have dependent children, and the youngest child is assumed to be one year old.

16. Administrative Expenses

Administrative expenses of 1.25% of payroll are added to the normal cost.

17. Technical and Miscellaneous Assumptions

Decrement timing: Beginning of year.

Terminated vested members: All terminated vested members are assumed married and assumed to retire at normal retirement eligibility.

The limits in IRC sections 415(b) and 401(a)(17) are assumed to increase 2.5% per year.

APPENDIX C – ACTUARIAL ASSUMPTIONS AND METHODS

18. Low-Default-Risk Obligation Measure (LDROM) Discount Rate

The discount rate for LDROM is based on the FTSE yield curve as of December 31, 2024 and the Fund's expected future benefit cash flows. The single equivalent rate as of December 31, 2024 is 5.51%.

19. Disclosures regarding Models Used

In accordance with Actuarial Standard of Practice (ASOP) No. 56 *Modeling*, the following disclosures are made related to the valuation software:

A. Valuation Software
Cheiron utilizes ProVal, an actuarial valuation software leased from Winklevoss Technologies (WinTech), to calculate liabilities and project benefit payments. We have relied on WinTech as the developer of ProVal. We have a basic understanding of ProVal and have used ProVal in accordance with its original intended purpose. We have not identified any material inconsistencies in the assumptions or output of ProVal that would affect this valuation. We have reviewed the underlying workings of this model to the degree feasible and consistent with ASOP No. 56 and believe them to be appropriate for the purposes of the valuation.

B. Projections
Projections in this report were developed using P-Scan, our proprietary tool for the intended purpose of developing projections. The projections shown in this report cover multiple individual scenarios and the variables are not necessarily correlated. We are not aware of any material inconsistencies, unreasonable output resulting from aggregation of assumptions, material limitations or known weaknesses that would affect the projections shown in this report.

The projections are based on the same census data and financial information as of December 31, 2024 as disclosed in this actuarial valuation. The projections assume continuation of the plan provisions, actuarial assumptions in effect as of December 31, 2024, and active membership remains at current levels. They do not reflect the impact of any changes in benefits (other than those required by HB 2802) or actuarial assumptions that may be adopted after December 31, 2024.

The projections assume that all future assumptions are met except where specifically indicated. Future outcomes become increasingly uncertain over time; therefore, general trends and not absolute values should be considered when reviewing these projections. Further, for the purpose of these projections, we have only reflected the impact of new entrants entering the Fund in aggregate and have not developed individual liabilities or detailed profiles related to these potential new entrants. We feel this is appropriate for the purpose of these projections, but if they were to be used for other purposes, this may not be appropriate, and alternative projections may need to be developed.

APPENDIX C – ACTUARIAL ASSUMPTIONS AND METHODS

20. New Entrant Profile for Initial Risk Sharing Valuation and Projections

When existing Group A members are assumed to decrement and no longer be active after December 31, 2025, it is assumed that the employee replacing them is covered under the reduced Group B provisions. Because the projection schedules required the projections to be done on an open group basis, the active population's size is assumed to be constant, such that whenever a member decrements from active service, a new active is assumed to first enter the Fund. For the purposes of these projections, we assumed that the characteristics of future hires will exactly mirror the 127 members (94% male, 6% female) hired in 2023 and 2024. In our professional judgement, this assumption is reasonable and appropriate for the purpose of this initial RSVS.

21. Changes since Last Valuation

Future cost-of-living adjustments are assumed to be 0.25% per year for Group A as required by HB 2802 and future cost-of-living adjustments are assumed to be 1.0% for Group B.

22. Rationale for Assumptions

The actuarial assumptions were chosen by the Board of Trustees, upon the recommendation of the actuaries, based on an experience study issued by Cheiron on March 25, 2024, based on data through December 31, 2022, and adopted by the Board at the March 25, 2024 meeting.

HB 2802 mandates the use of a Group A future COLA assumption of 0.25%. As a prescribed assumption set by legislation, we have used this assumption as directed for the purposes of this report. Given the number and parameters that are required before a COLA can be granted and the COLA cap of 1.5% per year to Group A under HB 2802, in our professional judgement, this assumption is reasonable and appropriate for this purpose. However, we have not performed any quantitative analysis of this assumption.

Group B COLA provided under HB 2802 is a performance-based COLA. To model future COLAs for Group B, assumptions were based on a lognormal distribution of returns with a 7.3% mean and 12.4% standard deviation. Initially assuming returns are independent and identically distributed, the expected Group B COLA was calculated as 0.85%. Given market return behavior and Actuarial Standard of Practice No. 27 guidance related to difficult-to-value provisions, 1.0% per year was selected for Group B Future COLA assumption. In our professional judgment, this assumption is reasonable and appropriate for the purpose of this analysis.

APPENDIX C – ACTUARIAL ASSUMPTIONS AND METHODS

B. Actuarial Methods

1. Funding Method

Liabilities and contributions shown in this report are computed using the entry age normal funding method. Under this funding method, a normal cost rate is determined as a level percentage of pay for each active member. The normal cost rate times payroll equals the total normal cost for each member. The normal cost plus member contributions will pay for projected benefits at retirement for each active Fund member.

The actuarial liability is that portion of the present value of future benefits that will not be paid by either future employer normal cost contributions or member contributions. The difference between this liability and the assets accumulated as of the same date is referred to as the Unfunded Actuarial Liability (UAL).

Beginning with the 2026 calendar year, the contributions will be determined based on an Actuarially Determined Contribution as described in Section II of this report. Prior to January 1, 2026, the City and firefighters contributions were fixed at 22.05% and 18.70% of pay, respectively.

2. Asset Valuation Method

The actuarial value has been calculated by taking the market value of assets less 80% of the investment gain (loss) during the preceding year, less 60% of the investment gain (loss) during the second preceding year, less 40% of the investment gain (loss) during the third preceding year, and less 20% of the investment gain (loss) in the fourth preceding year.

The investment gain (loss) is calculated by taking the difference between the expected market value of assets based on an investment return assumption and the actual market value of assets.

As required by HB 2802, the actuarial value of assets was set to market value of assets as of December 31, 2024.

3. Amortization Method

Closed 30-year level percentage of pay amortization for the Legacy Liability. Future unanticipated changes in unfunded actuarial liability will be amortized as follows:

A. Losses: Closed 20-year level percentage of pay amortization
B. Gains: Closed 20-year level percentage of pay amortization, however the amortization period may not be shorter than the largest liability loss layer remaining amortization period.

APPENDIX C – ACTUARIAL ASSUMPTIONS AND METHODS

For the Actuarially Determined Contribution (ADC) Benchmark, the amortization method is an open 30-year level percentage of pensionable pay amortization based on a payroll growth assumption of 3.00% per the Board's Funding Policy.

4. Changes since Last Valuation

With the passage of HB 2802, the following changes were made:

- Beginning in 2026, contributions to the Fund will be based on an Actuarially Determined Contribution basis.
- The actuarial value of assets was set to the market value of assets.
- The Legacy Liability will be amortized over a closed 30-year period.
- The amortization of future changes to UAL is set to a closed, layered, 20-year amortization for future losses and gains are amortized over a closed layered period that is the equal to the period remaining for the largest liability loss layer or 20 years if no layer exists.

APPENDIX D – GLOSSARY

Glossary

Corridor midpoint: the projected municipal contribution rate specified for each calendar year for 30 years as provided by the initial risk sharing valuation study, rounded to the nearest hundredths decimal place.

Corridor: the range of municipal contribution rates that are:
(A) equal to or greater than the minimum municipal contribution rate; and
(B) equal to or less than the maximum municipal contribution rate.

Employer normal cost rate: for a given calendar year, the normal cost rate minus the applicable firefighter contribution rate.

Estimated municipal contribution rate: for a given calendar year, a municipal contribution rate equal to the sum of the municipal normal cost rate and the amortization rate of the liability layers, as applicable, excluding the legacy liability layer, and before adjustments to the rate to be within the Corridor.

Five-year investment return: means the average money-weighted rate of return of the fund, based on a rolling five-year basis and net of investment expenses, for the applicable five-year period.

Funded ratio: the ratio of assets divided by the actuarial accrued liability. Where the asset measure is not specified, the asset basis is the smoothed, actuarial value of assets (AVA).

Group A Members: Members hired before January 1, 2026

Group B Members: Members hired on or after January 1, 2026

Group B cost-of-living adjustment percentage: a percentage that is equal to the excess of the Fund's five-year investment return over the assumed rate of return, reduced by a 2% adjustment factor, multiplied by 50 percent. The resulting COLA is limited by a minimum of zero percent and a maximum of two percent.

Legacy liability: the unfunded actuarial accrued liability determined as of December 31, 2024, and for each subsequent calendar year reduced by the municipal legacy contribution amount for the calendar year allocated to the amortization of the legacy liability; and adjusted by the assumed rate of return adopted by the board of trustees for the calendar year ending December 31, 2024.

Level percent of payroll method: an amortization method that defines the amount of the liability layer recognized each calendar year as a level percent of pensionable payroll until the amount of the liability layer remaining is reduced to zero.

Liability gain layer: a liability layer that decreases the unfunded actuarial accrued liability.

APPENDIX D – GLOSSARY

Liability layer: means the legacy liability established in the initial risk sharing valuation study or for calendar years after December 31, 2024, the amount that the fund's unfunded actuarial accrued liability increases or decreases, as applicable, due to the unanticipated change for the calendar year as determined in each subsequent risk sharing valuation study.

Liability loss layer: a liability layer that increases the unfunded actuarial accrued liability. The legacy liability is included as a liability loss layer.

Maximum municipal contribution rate: for a given calendar year, the rate equal to the corridor midpoint plus the corridor margin.

Minimum municipal contribution rate: for a given calendar year, the rate equal to the corridor midpoint minus the corridor margin.

Municipal contribution rate: for a given calendar year, a percentage rate equal to the sum of the employer normal cost rate and the amortization rate, as adjusted for the corridor, if applicable.

Municipal legacy contribution amount: for each calendar year, a predetermined payment amount expressed in dollars in accordance with a payment schedule amortizing the legacy liability for the calendar year ending December 31, 2024.

Normal cost rate: for a given calendar year, the salary-weighted average of the individual normal cost rates determined for the current active member population, plus the assumed administrative expenses determined in the most recent actuarial experience study.

Payoff year: the year a liability layer is fully amortized under the amortization period.

Pensionable payroll: the compensation of all members in active service for a calendar year or pay period, as applicable.

Projected pensionable payroll: the estimated pensionable payroll for the calendar year beginning 12 months after the date of the risk sharing valuation study by projecting the prior calendar year's pensionable payroll forward two years using the current payroll growth rate assumption adopted by the board of trustees; and adjusting, if necessary, for changes in population or other known factors, provided those factors would have a material impact on the calculation, as determined by the board of trustees.

Unanticipated change: means, with respect to the unfunded actuarial accrued liability in each subsequent risk sharing valuation study, the difference between the remaining balance of all then-existing liability layers as of the date of the risk sharing valuation study that were created before the date of the study; and the actual unfunded actuarial accrued liability as of the date of the risk sharing valuation study.

Unfunded actuarial accrued liability: the difference between the actuarial accrued liability and an asset measure. Where not specifically specified, the asset basis is the actuarial value of assets.

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