Employees' Retirement Fund of the City of Dallas

Actuarial Valuation Report as of December 31, 2023

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June 13, 2024

Board of Trustees
Employees' Retirement Fund of the City of Dallas
1920 McKinney Avenue
10th Floor
Dallas, Texas 75201

Dear Members of the Board:

We are pleased to present our report of the actuarial valuation of the Employees' Retirement Fund of the City of Dallas ("ERF" or the "Fund") as of December 31, 2023.

This valuation provides information on the financial health of ERF. It includes a determination of the actuarially calculated contribution rates for the 2024 calendar year. In addition, it also contains the information necessary to determine the current total obligation rate and the current adjusted total obligation rate for the fiscal year beginning October 1, 2024 per City Ordinance. The current adjusted total obligation rate is a function of the previous year's adjusted total obligation rate, this year's actuarially calculated contribution rate, and the rate necessary to make the debt service payment on the previously issued pension obligation bonds for fiscal year 2025.

In addition, the report provides various summaries of the data. A separate report is issued with regard to valuation results determined in accordance with Governmental Accounting Standards Board (GASB) Statements 67 and 68. Results of this report should not be used for any other purpose without consultation with the undersigned. Valuations are prepared annually as of December 31st, the last day of the ERF plan year. This report was prepared at the request of the Board and is intended for use by the ERF staff and those designated or approved by the Board. This report may be provided to parties other than ERF staff only in its entirety and only with the permission of the Board.

As authorized in Chapter 40A-4(a)(16) of the Dallas City Code, the actuarial methods and assumptions are set by the Board of Trustees, based upon recommendations made by the plan's actuary. An experience study was performed for the five-year period ending December 31, 2019. As a result of that study, revised assumptions were adopted by the Board effective with the valuation as of December 31, 2019. There were no changes in the actuarial assumptions or methods since the prior valuation.

We believe the assumptions are internally consistent, reasonable, and, where appropriate, based on the actual experience of the ERF. All of the methods and assumptions used for funding purposes meet the parameters set by the Actuarial Standards of Practice. All actuarial methods and assumptions are described under Section P of this report. The results of the actuarial valuation are dependent on the actuarial assumptions used. Actual results can and almost certainly will differ, as actual experience deviates from the assumptions.

Even seemingly minor changes in the assumptions can materially change the liabilities, calculated contribution rates and funding periods. Due to the limited scope of this assignment, GRS did not perform an analysis of the potential range of such possible future differences. The actuarial calculations are intended to provide information for rational decision making. Other than the sensitivity analysis shown in Section L, this report does not include a more robust assessment of the future experience not meeting the actuarial assumptions. Additional assessment of risks was outside the scope of this assignment.

This valuation is based on the provisions of ERF in effect as of the valuation date, data on the ERF membership and information on the asset values of the Fund as of December 31, 2023. The member, annuitant and asset data used in the valuation were all prepared and furnished by ERF staff. While certain checks for reasonableness were performed, the data used was not audited.

To the best of our knowledge, this report is complete and accurate and was conducted in accordance with the Actuarial Standards of Practice as set forth by the Actuarial Standards Board and in compliance with the provisions of the Dallas City Code. The undersigned are independent actuaries and consultants. Mr. White is a Fellow of the Society of Actuaries, an Enrolled Actuary, and a Member of the American Academy of Actuaries and he meets the Qualification Standards of the American Academy of Actuaries. Both Mr. White and Mr. Ward have significant experience in performing valuations for large public retirement systems.

The following schedules in the actuarial section of the ERF Annual Comprehensive Financial Report were prepared by GRS: Executive Summary, Report Highlights, Summary of Actuarial Values, Demonstration of Actuarially Required Contribution Rate, Information for City Ordinance 25695, Net Assets Available for Benefits, Change in Assets Available for Benefits, Development of Actuarial Assets, Historical Investment Performance, Analysis of Change in Unfunded Actuarial Accrued Liability, Investment Experience (Gain) or Loss, Analysis of Actuarial (Gains) or Losses, Schedule of Funding Status, Summary of Data Characteristics, Distribution of Active Members and Payroll by Ange and Years of Service, Distribution of Benefit Recipients, Schedule of Active Member Valuation Data, Schedule of Retirees and Beneficiaries Added to and Removed from Rolls, Solvency Test, Analysis of Pay Experience (Valuation Pay), Analysis of Retirement Experience – Each Age, Analysis of Retirement Experience - Age Groups, Analysis of Turnover Experience, Analysis of Active Mortality Experience, Analysis of Disability Experience, Analysis of Retiree Mortality Experience.

We would like to thank the ERF staff for their assistance in providing all necessary information to complete this valuation. Their courteous help is very much appreciated. We look forward to discussing this actuarial valuation report with you at your convenience. Please do not hesitate to let us know if you have any questions or need additional information.

Respectfully submitted,
Gabriel, Roeder, Smith & Company

Lewis Ward
Consultant

Daniel J. White, FSA, EA, MAAA
Senior Consultant

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EXECUTIVE SUMMARY

($ in 000s)

The key results from the actuarial valuation of the Employees' Retirement Fund of the City of Dallas as of December 31, 2023 may be summarized as follows:

		December 31, 2022		December 31, 2023
Members				
- Actives		7,464		7,894
- Benefit recipients		7,766		7,914
- Deferred vested*		1,042		1,095
- Other terminated*		1,150		1,012
- Total		17,422		17,915
Covered payroll (including overtime)	$	476,601	$	530,702
Normal cost	$	89,856	$	96,851
as % of expected payroll		19.17%		18.58%
Actuarial accrued liability	$	5,276,469	$	5,483,251
Actuarial value of assets	$	3,866,412	$	3,842,459
Market value of assets	$	3,516,280	$	3,649,102
Unfunded actuarial accrued liability (UAAL)	$	1,410,057	$	1,640,792
Estimated yield on assets (market value basis)		(9.25)%		9.96%
Estimated yield on assets (actuarial value basis)		5.36%		4.87%
Contribution Rates				
- Prior Adjusted Total Obligation Rate		36.00%		36.00%
- Current Total Obligation Rate		43.62%		44.17%
- Current Adjusted Total Obligation Rate		36.00%		36.00%
Actuarial gains/(losses)				
- Assets	$	(71,539)	$	(89,836)
- Actuarial liability experience	$	(55,128)	$	(71,075)
- Assumption and method changes	$	0	$	0
30-year level % of pay funding cost	$	172,945	$	195,463
as % of payroll (Employee + City)		35.40%		35.93%
Funded ratio				
- Based on actuarial value of assets		73.3%		70.1%
- Based on market value of assets		66.6%		66.5%

** Deferred vested are members who have applied for a deferred pension. Other terminations are other members who have terminated and still have contribution balances in the Fund.*

PURPOSES OF THE ACTUARIAL VALUATION

At your request, we have performed the actuarial valuation of the Employees' Retirement Fund of the City of Dallas ("ERF" or the "Fund") as of December 31, 2023.

The purposes of an actuarial valuation are as follows:

- To determine the funding status of ERF as of the valuation date;
- To develop the actuarially determined level of contributions for ERF for the 2024 calendar year; and
- To develop the current total obligation rate and the current adjusted total obligation rate for the fiscal year beginning October 1, 2024.

REPORT HIGHLIGHTS

($ in 000s)

The following is a set of key actuarial results from the prior year's valuation as compared to the current year:

	Valuation Date	
	December 31, 2022	**December 31, 2023**
Contribution Rates (% of Payroll)		
Normal Cost (including administrative expense)	20.89%	20.31%
Total Actuarial Contribution Rate	35.40%	35.93%
Total Projected Actuarial Contribution	$172,945	$195,463
Funded Status (on AVA basis)		
Actuarial Accrued Liability	$5,276,469	$5,483,251
Actuarial Value of Assets	3,866,412	3,842,459
Unfunded Actuarial Accrued Liability	$1,410,057	$1,640,792
Funded Ratio	73.28%	70.08%

FUNDING PROCESS

Based on the previous work of the Employees' Retirement Fund Study Committee, which was ratified by the ERF Board, the Dallas City Council and the voters of Dallas, a new funding process commenced October 1, 2005. From this date forward, a new "current adjusted total obligation rate" will be contributed jointly by the City (63%) and the Membership (37%). This current adjusted total obligation rate will cover both the debt service tied to the pension obligation bonds issued in 2005 and the contributions to the ERF. In subsequent years, the contribution rate changes only if the actuarial valuation develops a "current total obligation rate" which differs from the "prior adjusted total obligation rate" by more than 3.00% (plus or minus).

As shown in Section N – Table 3 and discussed later in this report, the "current total obligation rate" (Item 4 in Table 3) exceeds the "prior adjusted total obligation rate" (Item 1 in Table 3) as of December 31, 2023. This means that the "current adjusted total obligation rate" will remain at 36.00% of active member payroll for the fiscal year beginning October 1, 2024. It should be noted that under the contribution corridor methodology, the "current adjusted total obligation rate" would have been higher if not for the maximum rate of 36.00% allowed under Chapter 40A of the Dallas City Code.

ACTUARIAL CONTRIBUTIONS

As shown in Section N – Table 2, the Actuarially Required Contribution Rate developed in this actuarial valuation is 35.93% of active member payroll. This rate excludes the amount needed to make the City's debt service payment on the pension obligation bonds in fiscal year 2025. This rate is the total level rate of pay (member + City) that would need to be contributed each of the next 30 years to pay off the unfunded liability of the Fund over that 30-year period. Note that because the total rate is assumed to remain level and the average normal cost as a percentage of pay is expected to decline over that time period (due to Tier B), the payment towards the unfunded liability as a percentage of pay is expected to increase over the 30-year period. In our opinion, this contribution rate satisfies the reasonable contribution rate requirements of ASOP No. 4.

As shown in Section N – Table 3 of this report, the debt service payment is determined to be 8.24% of projected payroll. The sum of these rates is 44.17% (the Current Total Obligation Rate), which is 8.17% more than the Prior Adjusted Total Obligation Rate of 36.00%. Because the total contribution rate cannot exceed 36.00%, the total contribution rate in fiscal year 2025 (the Current Adjusted Total Obligation Rate) to fund the ERF and make the debt service payment on the pension obligation bonds will be 36.00%, which is the maximum rate allowed under Chapter 40A of the Dallas City Code.

The members contribute 37% of the Current Adjusted Total Obligation Rate and the City contributes 63%. Hence, the members' portion of the 36.00% total contribution rate will be 13.32% and the City portion will be 22.68%. All of the member contribution rate will be contributed to the ERF. As noted above, 8.24% of the City's contribution rate will go towards the debt service on the pension obligation bonds and the remaining 14.44% will be contributed towards the ERF. This means a total contribution rate of 27.76% will be contributed to the ERF for the 2025 fiscal year, which compares to the actuarially calculated rate of 35.93%.

ACTUARIAL ASSUMPTIONS

Section P of this report includes a summary of the actuarial methods and assumptions used in this valuation. In short, costs are determined using the Entry Age Normal actuarial cost method. The assumed annual investment return rate is 7.25% and includes an annual assumed rate of inflation of 2.50%.

There were no changes in the actuarial assumptions since the prior valuation report. Please see Section P of this report for a summary description of these methods and assumptions.

ERF BENEFITS

There were no changes in the benefit provisions of ERF since the prior valuation. Please see Section Q for a summary description of the ERF benefits.

EXPERIENCE DURING PREVIOUS YEARS

An Actuarial (Gain)/Loss Analysis [(G)/L] reviews the effects of the actual experience on the expected Unfunded Actuarial Accrued Liability (UAAL). If any unexpected difference increases assets or reduces liabilities (i.e., reductions in the UAAL), we have an actuarial gain. Unexpected increases in the UAAL results in an actuarial loss.

On a market value return basis, the Fund returned approximately 9.96% (calculated on a dollar-weighted basis, net of investment expenses). Given this return, the actual investment income was $92 million more than the expected investment income on the market value of assets; therefore, an investment gain occurred. Please see Section N – Table 6 for the determination of the actuarial value of assets (AVA) and page 48 for a description of the AVA methodology. As developed on Section N – Table 9a, there was a $89.8 million loss on the actuarial value of assets as of December 31, 2023 due to deferred investment losses incurred prior to fiscal year 2023. The rate of return on the actuarial value of assets for 2023 was 4.87% (calculated on a dollar-weighted basis, net of investment expenses). Since this result was less than the investment return assumption of 7.25% there is an actuarial loss on the actuarial value of assets in 2023.

As developed on Section N – Table 8, ERF experienced an overall actuarial experience loss in calendar year 2023 in the amount of $160.9 million. Since there was a $89.8 million loss on the actuarial value of assets, this implies there was a liability actuarial loss of about $71.1 million derived from demographic assumptions and non-investment economic assumptions (cost-of-living-adjustment). Please see Section N – Table 9b for an analysis of the experience loss by source.

The total (G)/L for the prior 5 years is broken down as follows ($ in millions):

		2019	**2020**	**2021**	**2022**	**2023**
1)	Actuarial (Gain)/Loss on Assets	$35.80	$16.03	($52.23)	$71.54	$89.84
2)	Actuarial (Gain)/Loss on Liabilities	(6.16)	(69.81)	29.37	55.13	71.07
3)	Total Actuarial (Gain) or Loss (1+2)	$29.64	($53.78)	($22.86)	$126.67	$160.91

The unfunded actuarial accrued liability (UAAL) also increased $41 million due to the shortfall between the calculated contribution rate and the actual contributions during calendar year 2023.

ASSET INFORMATION

The assets of the Fund (on a market value basis) increased from $3,516 million as of December 31, 2022 to $3,649 million as of December 31, 2023.

An asset smoothing method (adopted by the Board) is used to recognize asset gains and losses. The purpose of such a smoothing method is to allow the use of market values, but to dampen the effect of the typical year-to-year market fluctuations. Please see page 48 of this report for a description of the smoothing method (actuarial value of asset method). See Table 6 in Section N of this report for the determination of the actuarial value of assets as of December 31, 2023.

The actuarial value of assets has decreased from $3,866 million to $3,842 million during 2023. The actuarial assets are less than the expected actuarial assets, $3,933 million, due to unfavorable investment experience in calendar year 2022. This resulted in an actuarial loss on the actuarial assets of $89.8 million.

The rate of return on investments for 2023 on the actuarial value of assets was 4.87%, compared to 5.36% in 2022. The detailed determinations of asset values utilized in this valuation and the change in assets in the last year are exhibited in Tables 4 and 5 of Section N of this report.

FUNDED STATUS

The funded status of ERF is measured by the Funded Ratio and the Unfunded Actuarial Accrued Liability (UAAL). The Funded Ratio is the ratio of the actuarial value of assets available for benefits to the actuarial accrued liability (AAL) of the Fund on the valuation date. Therefore, it reflects the portion of the AAL that is covered by ERF assets. The UAAL is the difference between these two amounts.

A Funded Ratio of 100% means that the funding of ERF is precisely on schedule as of the particular valuation date. In addition, an increasing funded ratio from year-to-year may also mean that the funding of ERF is on schedule. By monitoring changes in the Funded Ratio each year, we can determine whether or not funding progress is being made.

Based on the market value of assets, the Funded Ratio of ERF of 66.6% as of December 31, 2022 and 66.5% as of December 31, 2023. Based on the actuarial value of assets, the Funded Ratio of ERF decreased from 73.3% as of December 31, 2022 and 70.1% as of December 31, 2023.

The UAAL increased from $1,410.1 million as of December 31, 2022 to $1,640.8 million as of December 31, 2023. Since the UAAL is positive, this implies the actuarial accrued liabilities exceed the actuarial assets of the Fund as of December 31, 2023.

The actual $230.7 million increase in the UAAL was more than the expected increase of $69.8 million ($28.8 million due to negative amortization and $41.0 million as a result of the actual contributions being less than the actuarially determined contribution rate), resulting in a net actuarial experience loss in total. The primary reasons the increase in the UAAL was more than expected were continued recognition of the unfavorable investment experience from 2022, the cost of living adjustment being greater than assumed and the larger than expected salary increases for employees.

The funded status is one of many metrics used to show trends and develop future expectations about the health of a retirement system. The funded status measure itself is not appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations or assessing the need for or the amount of future contributions since it does not reflect normal cost contributions, the timing of amortization payments, or future experience other than expected.

GASB DISCLOSURE

Governmental Accounting Standards Board (GASB) Statement Numbers 67 and 68 detail the current accounting standards for ERF and the Fund’s sponsor, the City of Dallas, Texas. These standards were effective with the plan year ending December 31, 2014 for the Fund and the fiscal year ending September 30, 2015 for the City. The standards created a clear distinction between the funding requirements of a pension plan and the accounting requirements. As a result, the GASB disclosure information is provided in a separate report.

Assessment and Disclosure of Risk Associated with Measuring Pension Obligations and Determining Pension Plan Contributions

The determination of the accrued liability and the actuarially determined contribution requires the use of assumptions regarding future economic and demographic experience. Risk measures, as illustrated in this report, are intended to aid in the understanding of the effects of future experience differing from the assumptions used in the course of the actuarial valuation. Risk measures may also help with illustrating the potential volatility in the accrued liability and the actuarially determined contribution that result from the differences between actual experience and the actuarial assumptions.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions due to changing conditions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period, or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. The scope of an actuarial valuation does not include an analysis of the potential range of such future measurements.

Examples of risk that may reasonably be anticipated to significantly affect the plan's future financial condition include:

1. Investment risk – actual investment returns may differ from the expected returns;
2. Asset/Liability mismatch – changes in asset values may not match changes in liabilities, thereby altering the gap between the accrued liability and assets and consequently altering the funded status and contribution requirements;
3. Contribution risk – actual contributions may differ from expected future contributions. For example, actual contributions may not be made in accordance with the plan's funding policy or material changes may occur in the anticipated number of covered employees, covered payroll, or other relevant contribution base;
4. Salary and Payroll risk – actual salaries and total payroll may differ from expected, resulting in actual future accrued liability and contributions differing from expected;
5. Longevity risk – members may live longer or shorter than expected and receive pensions for a period of time other than assumed;
6. Other demographic risks – members may terminate, retire or become disabled at times or with benefits other than assumed resulting in actual future accrued liability and contributions differing from expected.

Assessment and Disclosure of Risk Associated with Measuring Pension Obligations and Determining Pension Plan Contributions (Continued)

The effects of certain trends in experience can generally be anticipated. For example, if the investment return since the most recent actuarial valuation is less (or more) than the assumed rate, the cost of the plan can be expected to increase (or decrease). Likewise, if longevity is improving (or worsening), increases (or decreases) in cost can be anticipated.

The Current Adjusted Total Obligation Rate shown in the Executive Summary may be considered as a minimum contribution rate that complies with Chapter 40A of the Dallas City Code. However, due to the contribution rate cap, this is less than the actuarially calculated rate. The timely receipt of the actuarially determined contributions is critical to support the financial health of the plan. Users of this report should be aware that contributions made at the actuarially determined rate do not necessarily guarantee benefit security.

PLAN MATURITY MEASURES

Risks facing a pension plan evolve over time. A young plan with virtually no investments and paying few benefits may experience little investment risk. An older plan with a large number of members in pay status and a significant trust may be much more exposed to investment risk. Several generally accepted plan maturity measures are described below and are followed by a table showing a 10-year history of the measurements for ERF.

RATIO OF MARKET VALUE OF ASSETS TO PAYROLL

The relationship between assets and payroll is a useful indicator of the potential volatility of contributions. For example, if the market value of assets is 2.0 times the payroll, a return on assets 5% different than assumed would equal 10% of payroll. A higher (lower) or increasing (decreasing) level of this maturity measure generally indicates a higher (lower) or increasing (decreasing) volatility in plan sponsor contributions as a percentage of payroll.

RATIO OF ACTUARIAL ACCRUED LIABILITY TO PAYROLL

The relationship between actuarial accrued liability and payroll is a useful indicator of the potential volatility of contributions for a fully funded plan. A funding policy that targets a funded ratio of 100% is expected to result in the ratio of assets to payroll and the ratio of liability to payroll converging over time.

Assessment and Disclosure of Risk Associated with Measuring Pension Obligations and Determining Pension Plan Contributions (Continued)

The ratio of liability to payroll may also be used as a measure of sensitivity of the liability itself. For example, if the actuarial accrued liability is 2.5 times the payroll, a change in liability 2% other than assumed would equal 5% of payroll. A higher (lower) or increasing (decreasing) level of this maturity measure generally indicates a higher (lower) or increasing (decreasing) volatility in liability (and also plan sponsor contributions) as a percentage of payroll.

RATIO OF ACTIVES TO RETIREES AND BENEFICIARIES

A young plan with many active members and few retirees will have a high ratio of active to retirees. A mature open plan may have close to the same number of actives to retirees, resulting in a ratio near 1.0. A super-mature or closed plan may have significantly more retirees than actives, resulting in a ratio below 1.0.

RATIO OF NET CASH FLOW TO MARKET VALUE OF ASSETS

A positive net cash flow means contributions exceed benefits and expenses. A negative cash flow means existing funds are being used to make payments. A certain amount of negative net cash flow is generally expected to occur when benefits are prefunded through a qualified trust. Large negative net cash flows as a percent of assets may indicate a super-mature plan or a need for additional contributions.

DURATION OF PRESENT VALUE OF BENEFITS

The duration of the actuarial accrued liability may be used to approximate the sensitivity to a 1% change in the assumed rate of return. For example, duration of 10 indicates that the liability would increase approximately 10% if the assumed rate of return were lowered 1%.

ADDITIONAL RISK ASSESSMENT

Additional assessment may include scenario tests, sensitivity tests, stochastic modeling, stress tests, and a comparison of the present value of accrued benefits at low-risk discount rates with the actuarial accrued liability. While a robust measurement of additional risk assessment is outside the scope of the annual actuarial valuation, we have included a scenario test of a 1% increase or 1% decrease in the investment return assumption. The results of this test are shown at the end of this section.

Assessment and Disclosure of Risk Associated with Measuring Pension Obligations and Determining Pension Plan Contributions (Continued)

	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
Ratio of the market value of assets to total payroll	6.88	7.38	9.24	8.64	8.43	7.71	8.55	8.13	8.12	9.34
Ratio of actuarial accrued liability to payroll	10.33	11.07	11.50	11.50	11.21	10.68	10.39	10.48	10.50	11.03
Ratio of actives to retirees and beneficiaries	1.00	0.96	0.94	0.96	1.00	1.05	1.11	1.10	1.11	1.09
Ratio of net cash flow to market value of assets	-5.7%	-5.9%	-4.7%	-4.9%	-4.8%	-5.1%	-4.3%	-4.4%	-4.5%	-4.2%
Duration of the actuarial present value of benefits*	12.52	12.47	12.54	12.69	12.37	NA	NA	NA	NA	NA

*Duration measure not available prior to 2019

Impact on Funding Metrics of Investment Return Assumption +/- 1%

	Investment Return Assumption		
Cost Item	6.25%	7.25%	8.25%
Normal Cost % (excluding admin expenses)	22.94%	18.58%	15.34%
UAAL ($ in millions)	$2,275.3	$1,640.8	$1,108.5
30-year funding rate (employee + City)	43.87%	35.93%	28.72%
Funded Ratio	62.8%	70.1%	77.6%
Funding Period	Infinite	51 years	34 years

Low-Default-Risk Obligation Measure

Actuarial Standards of Practice No. 4 (ASOP No. 4) was revised and reissued in December 2021 by the Actuarial Standards Board (ASB). It includes a new calculation called a low-default-risk obligation measure (LDROM) to be prepared and issued annually for defined benefit pension plans. The transmittal memorandum for ASOP No. 4 includes the following explanation:

"The ASB believes that the calculation and disclosure of this measure provides appropriate, useful information for the intended user regarding the funded status of a pension plan. The calculation and disclosure of this additional measure is not intended to suggest that this is the "right" liability measure for a pension plan. However, the ASB does believe that this additional disclosure provides a more complete assessment of a plan's funded status and provides additional information regarding the security of benefits that members have earned as of the measurement date."

The LDROM estimates the amount of money the plan would need to invest in low risk securities to provide the benefits with greater certainty. The current model expects lower costs but with higher investment risk, which creates less certainty and a possibility of higher costs. Thus, the difference between the two measures (Valuation and LDROM) is one illustration of the possible costs the sponsor could incur if there was a reduction in the investment risk in comparison to the current diversified portfolio. However, the downside risk would be limited in the scenarios where the current portfolio would fail to achieve returns in excess of the low-default-risk discount, in this case 4.80%.

The following information has been prepared in compliance with this new requirement. Unless otherwise noted, the measurement date, actuarial cost methods, and assumptions used are the same as for the funding valuation covered in this actuarial valuation report.

Valuation Accrued Liability	LDROM
$5,483,251,000	$7,279,757,000

Again, the difference between the two measures, or $1,796,506,000, is one illustration of the savings the sponsor anticipates by assuming investment risk in a diversified portfolio.

Disclosures: Discount rate used to calculate LDROM: 4.80% Intermediate FTSE Pension Discount Curve as of December 31, 2023. This measure may not be appropriate for assessing the need for or amount of future contributions as the current portfolio is expected to generate significantly more investment earnings than the low-default-risk portfolio. This measure is also not appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligation as this measure includes projections of salary increases and the ability for current members to continue to accrue eligibility and vesting service.

CLOSING COMMENTS

The unfunded actuarial accrued liability of the Fund has increased by more than expected due to unfavorable experience from both the investments and liabilities.

The calculated contribution rate necessary to pay the Fund's normal cost and amortize the UAAL over 30 years is 35.93% of pay. When the debt service payment on the Pension Obligation Bonds is considered, the total contribution rate is 44.17% of payroll. However, Chapter 40A of the Dallas City Code limits the contribution rate to 36.00% of payroll, therefore, the total rate to be contributed by the employees and the City for fiscal year 2025 will be 36.00% of pay.

Based on the current benefit and contribution provisions of the Fund, and assuming the actuarial assumptions are exactly met (including a 7.25% return on the actuarial value of assets), ERF is expected to be fully funded in approximately 51 years.

Given this calculated funding period and the risk the financial condition of ERF will continue to deteriorate, we recommend the ERF continue to have discussions with the City about ways to improve the sustainability of the Fund. Improvements to the Fund's sustainability includes increased contributions as well as a possible review of the benefits provided.

ACTUARIAL TABLES

Summary of Actuarial Values
As of December 31, 2023

	APV* of Projected Benefits	Entry Age Actuarial Values: Actuarial Accrued Liability (AAL)	Normal Cost $	Normal Cost % of Pay**
1 Active Members				
a. Retirement	$ 2,037,004	$ 1,532,641	$ 69,833	13.40%
b. Death	21,676	12,208	1,250	0.24%
c. Disability	14,270	5,184	1,223	0.23%
d. Termination	167,576	(7,227)	22,902	4.40%
e. Health Subsidy	37,061	28,559	1,643	0.31%
Total	$ 2,277,587	$ 1,571,365	$ 96,851	18.58%
2 Benefit Recipients	3,758,969	3,758,969		
3 Other Inactive	152,917	152,917		
4 Total Actuarial Values of Benefits	$ 6,189,473	$ 5,483,251	$ 96,851	18.58%
5 Actuarial Value of Assets		$ 3,842,459		
6 Unfunded Actuarial Accrued Liability (4 - 5)		$ 1,640,792		
7 Funding Ratio		70.08%		
8 Market Value Measurements				
UAAL on market value		$ 1,834,149		
Funded Ratio on market value		66.55%		

** APV – Actuarial Present Value*

*** Percentage of expected payroll for continuing active members.*

Demonstration of Actuarially Required Contribution Rate for FY 2025

Valuation as of December 31,	Actuarially Determined Total Contribution Rate	Projected Compensation for Plan Year (in $M)	Total Contributions to Fund for Plan Year (in $M)	Actuarial Accrued Liability (AAL $M)	Actuarial Value of Assets (AVA $M)	Unfunded Actuarial Accrued Liability (UAAL $M)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
2023	35.93%	$ 530.7	$ 190.7	$ 5,483.3	$ 3,842.5	$ 1,640.8
2024	35.93%	547.1	196.6	5,603.3	3,927.9	1,675.5
2025	35.93%	565.0	203.0	5,726.1	4,017.8	1,708.3
2026	35.93%	582.8	209.4	5,842.8	4,104.3	1,738.5
2027	35.93%	600.9	215.9	5,953.7	4,187.6	1,766.0
2028	35.93%	619.3	222.5	6,059.0	4,268.4	1,790.6
2029	35.93%	638.6	229.5	6,159.9	4,347.7	1,812.2
2030	35.93%	658.2	236.5	6,256.6	4,426.3	1,830.3
2031	35.93%	678.6	243.8	6,349.8	4,505.2	1,844.6
2032	35.93%	699.5	251.4	6,440.2	4,585.4	1,854.8
2033	35.93%	720.4	258.9	6,527.3	4,667.1	1,860.2
2034	35.93%	741.9	266.6	6,612.2	4,751.6	1,860.6
2035	35.93%	764.1	274.5	6,695.3	4,839.7	1,855.6
2036	35.93%	787.1	282.8	6,776.7	4,932.1	1,844.7
2037	35.93%	810.7	291.3	6,856.9	5,029.8	1,827.1
2038	35.93%	835.1	300.1	6,936.7	5,134.2	1,802.5
2039	35.93%	860.4	309.2	7,017.2	5,247.1	1,770.2
2040	35.93%	886.8	318.6	7,099.4	5,370.0	1,729.4
2041	35.93%	914.1	328.4	7,184.3	5,504.9	1,679.4
2042	35.93%	941.9	338.4	7,272.6	5,653.3	1,619.4
2043	35.93%	970.6	348.8	7,365.3	5,816.9	1,548.4
2044	35.93%	1,000.5	359.5	7,464.0	5,998.3	1,465.8
2045	35.93%	1,031.2	370.5	7,570.5	6,200.2	1,370.3
2046	35.93%	1,062.8	381.9	7,686.1	6,425.2	1,261.0
2047	35.93%	1,095.2	393.5	7,812.2	6,675.6	1,136.6
2048	35.93%	1,128.3	405.4	7,949.8	6,953.8	996.0
2049	35.93%	1,162.2	417.6	8,099.5	7,261.6	837.9
2050	35.93%	1,196.8	430.1	8,261.9	7,601.1	660.8
2051	35.93%	1,232.6	442.9	8,437.7	7,974.4	463.2
2052	35.93%	1,269.1	456.0	8,627.1	8,383.6	243.5
2053	35.93%	1,306.5	469.5	8,830.6	8,830.6	0.0

Information for City Ordinance 25695
For the Fiscal Year Commencing October 1, 2024

1	**Prior Adjusted Total Obligation Rate**		36.00%
2	**Actuarially Required Contribution Rate***		35.93%
3	**Debt Service**		
	a Scheduled Debt Service Payment for FY 2025	$	44,821,069
	b Projected Payroll	$	543,969,644
	c Pension Obligation Bond Credit Rate (a/b)		8.24%
4	**Current Total Obligation Rate (2 + 3c)**		44.17%
5	**Current Adjusted Total Obligation Rate**		36.00%
6	**Allocation of Contribution Rates Commencing October 1, 2024**		
	a Employee (5 x .37)		13.32%
	b City (5 x .63)		22.68%

* Actuarially determined level contribution rate as demonstrated on Table 2.

** If the absolute value of the difference between the Prior Adjusted Total Obligation Rate (PATOR) and the Current Total Obligation Rate (CTOR) is less than or equal to 3.0% then:

Current Adjusted Total Obligation Rate (CATOR) = PATOR

otherwise:

1) If PATOR - CTOR > 3.00% then the CATOR is set equal to the greater of:
   a) the average of the Prior Adjusted Total Obligation Rate and the Current Total Obligation Rate; or
   b) 90% of the Prior Adjusted Total Obligation Rate

or

2) If PATOR - CTOR < -3.00% then the CATOR is set equal to the lesser of:
   a) the average of the Prior Adjusted Total Obligation Rate and the Current Total Obligation Rate; or
   b) 110% of the Prior Adjusted Total Obligation Rate

Additionally, the CATOR cannot exceed 36.00%.

Excerpts from City Ordinance 25695

ACTUARIALLY REQUIRED CONTRIBUTION RATE – means, for any fiscal year, a rate of contribution to the fund, expressed as a percentage of members' projected wages for such fiscal year, which is the sum of the following as determined in the actuarial valuation report for the preceding plan year:

(A) the actuarial present value of the pension plan benefits and expenses that are allocated to a valuation period by the actuarial cost method; and

(B) the contribution that will amortize the difference between the actuarial accrued liability of the fund and the actuarial value of the assets of the fund over the period of years required by generally accepted accounting principles.

CITY CONTRIBUTIONS – means, for each pay period ending during a transition year, the city shall contribute to the retirement fund an amount equal to:

(A) 63% times the current total obligation rate for that fiscal year times the members' wages for the pay period, minus

(B) The pension obligation bond credit rate for that fiscal year times the members' wages for the pay period;

and, for each pay period ending during each fiscal year, except for a transition year, the city shall contribute to the retirement fund an amount equal to:

(C) 63% times the current adjusted total obligation rate for that fiscal year times the members' wages for the pay period, minus

(D) The pension obligation bond credit rate for that fiscal year times the members' wages for the pay period.

EMPLOYEE CONTRIBUTIONS – means, for each pay period ending during a transition year, each member shall contribute to the retirement fund an amount equal to:

(A) 37% times the current total obligation rate for that fiscal year times the member's wages for the pay period;

and, for each pay period ending during each fiscal year, except for a transition year, the member shall contribute to the retirement fund an amount equal to:

(B) 37% times the current adjusted total obligation rate for that fiscal year times the member's wages for the pay period.

CURRENT ADJUSTED TOTAL OBLIGATION RATE – means, for any fiscal year, the rate determined by the board as follows, using whichever formula is applicable:

(A) If the current total obligation rate minus the prior adjusted total obligation rate is greater than three, then the current adjusted total obligation rate for such fiscal year is equal to the lesser of:

(i) the prior adjusted total obligation rate plus one-half times the difference of the current total obligation rate minus the prior adjusted total obligation rate; or

(ii) 110 percent times the prior adjusted total obligation rate; or

(iii) 36 percent.

(B) If the difference between the current total obligation rate and the prior adjusted total obligation rate is less than three, then the current adjusted total obligation rate for such fiscal year is equal to the prior adjusted total obligation rate.

(C) If the prior adjusted total obligation rate minus the current total obligation rate is greater than three, then the current adjusted total obligation rate for such fiscal year is equal to the greater of:

(i) the prior adjusted total obligation rate minus one-half times the difference of the prior adjusted total obligation rate minus the current total obligation rate; or

(ii) 90 percent times the prior adjusted total obligation rate.

CURRENT TOTAL OBLIGATION RATE – means, for any fiscal year, the rate adopted by the board that is equal to the sum of the pension obligation bond credit rate for such fiscal year plus the actuarially required contribution rate for such fiscal year.

PENSION OBLIGATION BOND CREDIT RATE – means, for any fiscal year, the rate adopted by the board that is a percentage calculated by dividing:

(A) the debt service due during such fiscal year on any pension obligation bonds, the proceeds of which have been deposited in the fund, by:

(B) the total members' projected wages for such fiscal year, as reported in the relevant actuarial valuation report.

PRIOR ADJUSTED TOTAL OBLIGATION RATE – means:

(A) for the fiscal year commencing October 1, 2006, the current total obligation rate that was effective for the prior fiscal year; and

(B) for each fiscal year commencing on or after October 1, 2007, the current adjusted total obligation rate that was effective for the prior fiscal year.

PROJECTED PAYROLL – means the covered payroll for the valuation proceeding the fiscal year multiplied by the payroll growth assumption.

TRANSITION YEAR – means each of the following:

(A) the first fiscal year in which debt service payments related to pension obligation bonds are due from the city;

(B) the first fiscal year in which no debt service payments related to pension obligation bonds are due from the city; and

(C) the fiscal year beginning October 1, 2005.

Net Assets Available for Benefits

	December 31, 2022	December 31, 2023
1 Assets		
a. Cash & Short-Term	$ 458,347	$ 338,462
2 Receivables		
a. Accrued Investment Income	$ 16,036	$ 18,942
b. Securities Sold	18,065	14,218
c. Employer Contribution	785	878
d. Employee Contribution	740	808
e. Pending Contracts	278,970	585,983
	$ 314,596	$ 620,829
3 Investments		
a. Index Funds	$ 93,082	$ 116,640
b. Fixed Income	894,597	1,048,551
c. Equities	1,710,927	1,684,942
d. Real Estate	346,345	339,922
e. Private Equity	381,814	371,556
	$ 3,426,765	$ 3,561,611
4 Total Assets	$ 4,199,708	$ 4,520,902
5 Liabilities		
a. Accounts Payable	$ 10,872	$ 7,270
b. Investment Transactions	672,556	864,530
	$ 683,428	$ 871,800
6 Net Assets Available For Benefits	$ 3,516,280	$ 3,649,102

Change in Assets Available for Benefits
Fiscal Year Ending December 31, 2023

($ in 000s)

		2022	2023
1	**Assets Available at Beginning of Year**	$ 4,093,215	$ 3,516,280
	Adjustment *	0	0
		$ 4,093,215	$ 3,516,280
2	**Revenues**		
	a. Employer Contributions	$ 67,288	$ 73,939
	b. Employee Contributions	63,427	70,025
	c. Investment Income	114,233	133,707
	d. Investment Expense	(19,621)	(20,924)
	e. Realized and Unrealized Gains (Losses)	(464,890)	225,507
	f. Other (Security Lending)	1,349	1,589
	Total Revenues	$ (238,214)	$ 483,843
3	**Expenses**		
	a. Benefits	$ 317,528	$ 328,296
	b. Refunds	12,158	12,700
	c. Administrative Expenses	8,209	9,184
	d. Depreciation Expense	826	841
	Total Expense	$ 338,721	$ 351,021
4	**Assets Available at End of Year (1 + 2 - 3)**	$ 3,516,280	$ 3,649,102

* *Change due to difference between unaudited asset value used for prior valuation and audited asset value reported the following year.*

Development of Actuarial Value of Assets

Development of Actuarial Value of Assets
($ in 000s)

		December 31, 2023
1.	Market value of assets at beginning of year	$ 3,516,280
2.	External cashflow	
	a. Contributions	$ 143,964
	b. Benefits and refunds paid	(340,996)
	c. Administrative and miscellaneous expenses	(10,025)
	d. Subtotal	(207,057)
3.	Assumed investment return rate for fiscal year	7.25%
4.	Assumed investment income for fiscal year	$ 247,556
5.	Expected Market Value at end of year (1+ 2 + 4)	$ 3,556,779
6.	Market value of assets at end of year	$ 3,649,102
7.	Difference (6 - 5)	$ 92,323

8. Development of amounts to be recognized as of December 31, 2023:

Fiscal Year End	Remaining Deferrals of Excess (Shortfall) of Investment Income	Offsetting of Gains/(Losses)	Net Deferrals Remaining	Years Remaining	Recognized for this valuation	Remaining after this valuation
	(1)	(2)	(3) = (1) + (2)	(4)	(5) = (3) / (4)	(6) = (3) - (5)
2019	$ 0	$ 0	$ 0	1	$ 0	$ 0
2020	0	0	0	2	0	0
2021	0	0	0	3	0	0
2022	(350,132)	92,323	(257,809)	4	(64,452)	(193,357)
2023	92,323	(92,323)	0	5	0	0
Total	$ (257,809)	$ 0	$ (257,809)		$ (64,452)	$ (193,357)

9.	Final actuarial value of plan net assets, end of year (Item 6 - Item 8, Column 6)	$ 3,842,459
10.	Ratio of actuarial value to market value	105.3%

Notes: Remaining deferrals in Column (1) for prior years are from last year's report Table 6, column 6. The number in the current year is Item 7, above. Column 2 is a direct offset of the current year's excess/(shortfall) return against prior years' excess/(shortfall) of the opposite type.

Historical Investment Performance

Dollar Weighted Basis Net of Investment Expenses

Calendar Year	On Market Value	On Actuarial Value
2004	15.22%	9.38%
2005	7.93%	13.71%
2006	16.90%	13.03%
2007	3.56%	9.58%
2008	-31.31%	-3.76%
2009	30.35%	6.79%
2010	15.77%	4.30%
2011	0.86%	1.15%
2012	14.29%	2.82%
2013	16.75%	10.65%
2014	6.14%	10.29%
2015	-1.83%	7.02%
2016	8.65%	8.51%
2017*	12.34%	8.99%
2018	-5.15%	5.23%
2019	17.30%	6.74%
2020	6.42%	6.81%
2021	16.01%	8.68%
2022	-9.25%	5.36%
2023	9.96%	4.87%

5-year average ending in 2023	7.64%	6.48%
10-year average ending in 2023	5.71%	7.24%
20-year average ending in 2023	7.59%	6.69%

*The yield on the actuarial value of assets for 2017 includes the impact of the method change for the Actuarial Value of Assets.

Analysis of Change in Unfunded Actuarial Accrued Liability
For the Year Ending December 31, 2023

($ in 000s)

1. UAAL as of December 31, 2022		$ 1,410,057
2. Expected Change in UAAL during 2023		
a. Expected Amortization Payment for CY 2023 based on the Actuarially Determined Contribution Rate	(70,882)	
b. Interest adjustments on 1 & 2a to Year End @ 7.25%	99,705	
c. Expected change in UAAL		28,823
3. Increase/(Decrease) in UAAL Due to Difference Between the Actuarially Determined Contribution Rate and Actual Contribution Rate		41,001
4. Net Actuarial Experience (Gains) & Losses		160,911
5. Assumption and Method Changes		0
6. UAAL as of December 31, 2023		$ 1,640,792

Investment Experience (Gain) or Loss

($ in 000s)

Item	Valuation as of December 31, 2023
1. Actuarial assets, beginning of year	$ 3,866,412
2. Contributions	143,964
3. Benefits and refunds paid with administrative expenses	(351,021)
4. Assumed net investment income at 7.25% on	
a. Beginning of year assets	280,315
b. Contributions	5,127
c. Benefits and refunds paid with administrative expenses	(12,502)
d. Total	$ 272,940
5. Expected actuarial assets, end of year (Sum of Items 1 through 4)	3,932,295
6. Actual actuarial assets, end of year	3,842,459
7. Asset experience (gain)/loss for year	89,836

Analysis of Actuarial (Gains) and/or Losses for 2023

($ in 000s)

	2023
Investment Return	$ 89,836
Salary Increase	52,299
Age and Service Retirement	(1,511)
General Employment Termination	(4,055)
Disability Incidence	(236)
Active Mortality	(93)
Benefit Recipient Mortality	(10,464)
Actual vs. Expected Cost of Living Adjustment (COLA)*	45,368
Other	(10,233)
Total Actuarial (Gain)/ Loss	$ 160,911

* Actual COLA of 4.43% for Tier A and 3.00% for Tier B versus expected COLAs of 2.50% for Tier A and 2.20% for Tier B.

Schedule of Funding Status

($ in 000s)

End of Year	Actuarial Value of Assets (a)	AAL (b)	UAAL (b-a)	Funding Ratio (a/b)	Payroll* (c)	UAAL as % of Payroll ((b-a)/c)
2004	2,482,082	2,488,270	6,188	99.75%	331,201	1.87%
2005	2,739,269	2,606,173	(133,096)	105.11%	332,446	-40.04%
2006	2,998,099	2,761,404	(236,695)	108.57%	344,997	-68.61%
2007	3,183,260	2,915,164	(268,096)	109.20%	370,150	-72.43%
2008	2,957,506	3,075,385	117,879	96.17%	389,362	30.27%
2009	3,031,652	3,192,120	160,468	94.97%	375,164	42.77%
2010	3,027,439	3,282,126	254,687	92.24%	332,045	76.70%
2011	2,916,746	3,391,652	474,906	86.00%	318,972	148.89%
2012	2,846,124	3,518,356	672,232	80.89%	340,452	197.45%
2013	3,074,284	3,610,845	362,477	85.14%	352,486	102.83%
2014	3,241,053	4,004,055	763,002	80.94%	374,002	204.01%
2015	3,320,387	4,129,133	808,746	80.41%	404,981	199.70%
2016	3,451,463	4,291,802	840,339	80.42%	420,693	199.75%
2017	3,601,612	4,377,844	776,232	82.27%	432,854	179.33%
2018	3,620,319	4,526,996	906,677	79.97%	435,375	208.25%
2019	3,682,959	4,863,325	1,180,366	75.73%	444,737	265.41%
2020	3,747,078	4,932,886	1,185,808	75.96%	439,544	269.78%
2021	3,872,601	5,094,362	1,221,761	76.02%	453,934	269.15%
2022	3,866,412	5,276,469	1,410,057	73.28%	488,516	288.64%
2023	3,842,459	5,483,251	1,640,792	70.08%	543,970	301.63%

* *Projected to following year.*

Summary of Data Characteristics

As of December 31,	2021	2022	2023
Active Members			
Number	7,175	7,464	7,894
Total Annualized Earnings of Members as of 12/31 (000s)	$ 442,863	$ 476,601	$ 530,702
Average Earnings	61,723	63,853	67,229
Benefit Recipients			
Number	7,655	7,766	7,914
Total Annual Retirement Income (000s)	$ 294,130	$ 309,799	$ 327,190
Total Annual Health Supplement (000s)	11,077	11,234	11,440
Average Total Annual Benefit	39,870	41,338	42,789
Inactive Members*			
Deferred Vested	974	1,042	1,095
Deferred Nonvested	1,007	1,150	1,012
Total	1,981	2,192	2,107

** The number of inactives on 12/31/2023 includes 1,095 members who have applied for a deferred pension and 1,012 other members who have terminated and still have contribution balances in the Fund.*

Distribution of Active Members and Payroll by Age and Years of Service

	Years of Service								
Age	**Under 1**	**1-4**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30 & Over**	**Totals**
Under 20	13								13
	$531,002								$531,002
20-24	181	121							302
	$8,122,438	$6,339,316							$14,461,754
25-29	270	369	75						714
	$13,185,283	$20,051,313	$4,547,084						$37,783,680
30-34	229	377	223	38					867
	$12,231,255	$22,277,962	$14,258,962	$2,742,994					$51,511,173
35-39	162	335	225	110	58				890
	$9,064,054	$21,398,127	$15,408,573	$8,269,330	$4,483,010				$58,623,094
40-44	161	271	203	127	134	26	3		925
	$9,009,653	$17,933,198	$14,886,100	$9,809,239	$10,820,165	$2,237,859	222,851		$64,919,065
45-49	124	247	219	126	163	106	50	1	1,036
	$6,647,336	$16,000,945	$15,815,463	$10,343,277	$12,527,696	$9,003,262	$3,878,477	$109,632	$74,326,088
50-54	113	242	189	106	159	125	95	19	1,048
	$6,047,377	$15,972,010	$14,368,091	$8,151,533	$12,688,896	$9,234,718	$7,300,009	$1,526,505	$75,289,139
55-59	78	199	198	110	193	106	65	27	976
	$4,275,784	$13,557,054	$13,559,331	$8,125,906	$15,568,673	$8,855,191	$5,509,334	$2,244,123	$71,695,396
60-64	56	139	165	86	154	56	48	24	728
	$3,211,508	$9,696,280	$11,648,108	$5,766,389	$11,320,272	$4,440,812	$3,931,896	$2,212,373	$52,227,638
65&Over	17	52	75	58	74	50	32	37	395
	$952,177	$3,376,875	$5,161,338	$4,685,520	$5,627,032	$3,989,947	$2,458,299	$3,082,875	$29,334,063
Totals	1,404	2,352	1,572	761	935	469	293	108	7,894
	$73,277,867	$146,603,080	$109,653,050	$57,894,188	$73,035,744	$37,761,789	$23,300,866	$9,175,508	$530,702,092

Distribution of Benefit Recipients as of December 31, 2023

Age	Number	Annual Benefit*	Annual Average Benefit*
Under 50	31	$ 613,682	$ 19,796
50-54	131	6,186,722	47,227
55-59	528	27,447,996	51,985
60-64	1,296	56,144,796	43,322
65-69	1,657	70,298,468	42,425
70-74	1,719	72,644,100	42,260
75-79	1,293	53,942,932	41,719
80-84	706	23,552,340	33,360
85-89	344	10,779,264	31,335
90 & Over	209	5,579,510	26,696
Total	7,914	$ 327,189,809	$ 41,343

* *Does not include Health Benefit Supplement.*

Schedule of Active Member Valuation Data

Year Ending December 31,	Active Participants	Percent Change	Covered Payroll	Percent Change	Average Salary	Percent Change
2007	8,117	-	$ 359,369,000	-	$ 44,274	-
2008	8,371	3.1%	378,021,000	5.2%	45,158	2.0%
2009	7,654	-8.6%	364,237,000	-3.6%	47,588	5.4%
2010	7,034	-8.1%	322,374,000	-11.5%	45,831	-3.7%
2011	6,745	-4.1%	309,682,000	-3.9%	45,913	0.2%
2012	6,864	1.8%	330,536,000	6.7%	48,155	4.9%
2013	6,993	1.9%	342,219,000	3.5%	48,937	1.6%
2014	7,180	2.7%	363,109,000	6.1%	50,572	3.3%
2015	7,477	4.1%	393,186,000	8.3%	52,586	4.0%
2016	7,619	1.9%	409,433,000	4.1%	53,738	2.2%
2017	7,838	2.9%	421,269,000	2.9%	53,747	0.0%
2018	7,584	-3.2%	423,723,000	0.6%	55,871	4.0%
2019	7,427	-2.1%	433,890,000	2.4%	58,421	4.6%
2020	7,244	-2.5%	428,824,000	-1.2%	59,197	1.3%
2021	7,175	-1.0%	442,863,000	3.3%	61,723	4.3%
2022	7,464	4.0%	476,601,000	7.6%	63,853	3.5%
2023	7,894	5.8%	530,702,000	11.4%	67,229	5.3%

Schedule of Retirees and Beneficiaries Added to and Removed from Rolls

	Added to Rolls		Removed from Rolls		Rolls-End of Year			
Year Ending December 31,	Number	Annual Allowances	Number	Annual Allowances	Number	Annual Allowances	% Increase in Annual Allowances	Average Annual Allowances
2007	239	$ 7,250,468	205	$ 4,551,742	5,304	$142,267,609	-	$ 26,823
2008	383	8,905,680	211	4,684,964	5,476	154,692,846	8.7%	28,249
2009	446	9,268,740	216	4,795,982	5,706	165,826,328	7.2%	29,062
2010	508	12,798,268	221	4,907,000	5,993	179,730,384	8.4%	29,990
2011	404	10,012,165	198	4,396,317	6,199	193,851,170	7.9%	31,271
2012	325	9,795,464	204	4,529,539	6,320	202,120,582	4.3%	31,981
2013	324	11,246,955	197	4,327,990	6,447	210,027,512	3.9%	32,578
2014	370	12,415,771	219	4,821,713	6,598	219,150,070	4.3%	33,215
2015	476	13,777,204	318	6,847,464	6,756	226,019,290	3.1%	33,455
2016	384	12,746,549	237	5,562,549	6,903	237,992,528	5.3%	34,477
2017	383	9,893,931	244	6,375,641	7,042	244,768,143	2.8%	34,758
2018	402	14,905,595	220	5,976,286	7,224	258,085,328	5.4%	35,726
2019	478	17,715,050	297	8,368,302	7,405	269,263,106	4.3%	36,362
2020	455	28,634,730	308	11,614,128	7,552	277,428,698	3.0%	36,736
2021	424	16,109,924	321	8,655,976	7,655	294,130,270	6.0%	38,423
2022	384	14,364,767	273	8,500,245	7,766	309,799,134	5.3%	39,892
2023	404	15,039,143	256	8,098,656	7,914	327,189,809	5.6%	41,343

Solvency Test

Valuation Date	Aggregated Accrued Liabilities for: Active and Inactive Members Contributions	Retirees and Beneficiaries	Active and Inactive Members (Employer Financed Portion)	Reported Assets	Portions of Accrued Liabilities Covered by Reported Assets: (5)/(2)	[(5)-(2)]/3	[(5)-(2)-(3)]/(4)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
December 31, 2007	$ 206,090	$ 1,591,731	$ 1,117,343	$ 3,183,260	100.0%	100.0%	100.0%
December 31, 2008	221,667	1,707,599	1,146,119	2,957,506	100.0%	100.0%	89.7%
December 31, 2009	228,666	1,834,491	1,128,963	3,031,652	100.0%	100.0%	85.8%
December 31, 2010	232,727	2,041,322	1,008,077	3,027,439	100.0%	100.0%	74.7%
December 31, 2011	240,821	2,181,731	969,100	2,916,746	100.0%	100.0%	51.0%
December 31, 2012	257,716	2,250,533	1,010,107	2,846,124	100.0%	100.0%	33.4%
December 31, 2013	278,892	2,319,424	1,012,529	3,074,284	100.0%	100.0%	47.0%
December 31, 2014	301,567	2,578,071	1,124,417	3,241,053	100.0%	100.0%	32.1%
December 31, 2015	325,607	2,650,638	1,152,888	3,320,387	100.0%	100.0%	29.9%
December 31, 2016	350,646	2,770,533	1,170,623	3,451,463	100.0%	100.0%	28.2%
December 31, 2017	373,193	2,854,818	1,149,833	3,601,612	100.0%	100.0%	32.5%
December 31, 2018	392,004	2,989,597	1,145,395	3,620,319	100.0%	100.0%	20.8%
December 31, 2019	408,984	3,228,576	1,225,766	3,682,959	100.0%	100.0%	3.7%
December 31, 2020	430,411	3,312,228	1,190,247	3,747,078	100.0%	100.0%	0.4%
December 31, 2021	448,149	3,456,659	1,189,554	3,872,601	100.0%	99.1%	0.0%
December 31, 2022	467,549	3,603,830	1,205,090	3,866,412	100.0%	94.3%	0.0%
December 31, 2023	490,401	3,758,969	1,233,881	3,842,459	100.0%	89.2%	0.0%

EXPERIENCE TABLES

Pay Experience for Employees who are Active at Beginning and End of Year
Valuation Pay Analysis
Analyzed by Years of Service

Service Beginning of Year	Experience for 2023			
	Number	Expected Pay	Actual Pay	Ratio A/E
Under 5	2,167	$ 125,952,594	$ 133,911,334	106%
5-9	1,632	107,232,638	112,642,488	105%
10-14	832	60,485,012	63,092,682	104%
15-19	912	67,846,736	70,752,867	104%
20-24	477	36,969,925	38,189,786	103%
25-29	346	27,386,177	28,079,642	103%
30 & Over	121	9,936,744	10,138,345	102%
Total	6,487	$ 435,809,826	$ 456,807,144	105%
Over 10 Years	2,688	$ 202,624,594	$ 210,253,322	104%

Service Beginning of Year	Experience for 2020-2023			
	Number	Expected Pay	Actual Pay	Ratio A/E
Under 5	7,594	$ 424,110,637	$ 438,604,014	103%
5-9	6,720	413,282,858	421,643,673	102%
10-14	3,514	239,619,785	242,640,709	101%
15-19	3,438	243,996,803	247,686,994	102%
20-24	2,326	165,625,696	166,742,830	101%
25-29	1,291	98,826,398	99,238,392	100%
30 & Over	517	43,231,924	42,994,523	99%
Total	25,400	$ 1,628,694,101	$ 1,659,551,135	102%
Over 10 Years	11,086	$ 791,300,606	$ 799,303,448	101%

Analysis of Retirement Experience

Each Age

Age	2023 Retirement			2020-2023 Retirement		
	Actual	Expected	Ratio A/E	Actual	Expected	Ratio A/E
46	-	-	N/A	-	-	N/A
47	-	-	N/A	-	-	N/A
48	-	-	N/A	-	-	N/A
49	-	0.10	0%	1	0.80	125%
50	2	2.45	82%	15	19.10	79%
51	3	8.35	36%	17	33.15	51%
52	13	12.10	107%	36	37.90	95%
53	6	8.00	75%	35	43.40	81%
54	4	8.85	45%	32	39.65	81%
55	10	11.20	89%	49	44.95	109%
56	14	13.25	106%	47	49.50	95%
57	11	10.60	104%	60	52.95	113%
58	12	10.45	115%	45	45.05	100%
59	7	10.45	67%	42	50.20	84%
60	30	19.59	153%	109	79.14	138%
61	15	16.03	94%	62	66.78	93%
62	13	16.18	80%	62	65.21	95%
63	16	12.69	126%	53	56.93	93%
64	13	13.10	99%	39	59.11	66%
65	21	16.02	131%	69	67.11	103%
66	17	14.64	116%	59	60.64	97%
67	17	15.56	109%	49	50.22	98%
68	8	10.76	74%	33	33.80	98%
69	6	5.70	105%	21	22.36	94%
70 & Over	22	94.00	23%	80	355.00	23%
Total	260	330.07	79%	1,015	1,332.95	76%
Total Under 70	238	236.07	101%	935	977.95	96%

Analysis of Retirement Experience

Age Groups

Age Group	2023 Retirements Actual	2023 Retirements Expected	2023 Retirements Ratio A/E	2020-2023 Retirements Actual	2020-2023 Retirements Expected	2020-2023 Retirements Ratio A/E
Under 55	28	39.85	70%	136	174.00	78%
55-59	54	55.95	97%	243	242.65	100%
60-64	87	77.59	112%	325	327.17	99%
65-69	69	62.68	110%	231	234.13	99%
70 & Over	22	94.00	23%	80	355.00	23%
Total	260	330.07	79%	1,015	1,332.95	76%
Total Under 70	238	236.07	101%	935	977.95	96%

Analysis of Turnover Experience

Years of Service	2023 Quits Actual	2023 Quits Expected	2023 Quits Ratio A/E	2020-2023 Quits Actual	2020-2023 Quits Expected	2020-2023 Quits Ratio A/E
0-4	463	444.67	104%	1,857	1,545.34	120%
5-9	167	121.13	138%	683	502.64	136%
10-14	38	27.23	140%	164	109.08	150%
15-19	24	13.21	182%	81	52.06	156%
20-24	5	4.01	125%	26	19.22	135%
25-29	1	0.53	187%	4	1.97	203%
Total	698	610.79	114%	2,815	2,230.30	126%

Analysis of Active Mortality Experience

	2023 Deaths			2020-2023 Deaths		
Age	**Actual**	**Expected**	**Ratio A/E**	**Actual**	**Expected**	**Ratio A/E**
20-24	1	0.04	2752%	2	0.11	1749%
25-29	0	0.10	0%	2	0.41	485%
30-34	0	0.21	0%	2	0.83	242%
35-39	1	0.31	320%	6	1.22	494%
40-44	0	0.48	0%	2	1.97	102%
45-49	2	0.84	239%	7	3.40	206%
50-54	3	1.34	224%	13	5.63	231%
55-59	3	1.87	160%	11	7.94	139%
60 and Over	6	3.60	167%	27	13.52	200%
Total	16	8.79	182%	72	35.02	206%

Analysis of Disability Experience

	2023 Disabilities			2020-2023 Disabilities		
Age	**Actual**	**Expected**	**Ratio A/E**	**Actual**	**Expected**	**Ratio A/E**
20-24	0	0.00	0%	0	0.01	0%
25-29	0	0.03	0%	0	0.10	0%
30-34	0	0.13	0%	0	0.49	0%
35-39	0	0.29	0%	0	1.12	0%
40-44	0	0.53	0%	0	2.15	0%
45-49	0	0.93	0%	0	3.75	0%
50-54	0	1.29	0%	0	5.23	0%
55-59	1	1.43	70%	1	5.82	17%
60 and Over	1	1.14	88%	1	3.84	26%
Total	2	5.77	35%	2	22.52	9%

Analysis of Retiree Mortality Experience*

	2023 Experience			2020-2023 Experience		
Age	**Actual**	**Expected**	**Ratio A/E**	**Actual**	**Expected**	**Ratio A/E**
Under 60	5	2.38	210%	17	9.55	178%
60-64	18	8.56	210%	52	32.82	158%
65-69	22	18.15	121%	98	70.78	138%
70-74	31	33.18	93%	155	120.28	129%
75-79	48	37.76	127%	146	119.30	122%
80-84	36	36.18	100%	121	113.76	106%
85-89	39	30.94	126%	120	93.17	129%
90 & over	43	44.26	97%	117	117.04	100%
Total	242	211.39	114%	826	676.70	122%

**This analysis does not include beneficiary, QDRO, or disabled deaths.*

ACTUARIAL METHODS AND ASSUMPTIONS

The most recent experience study was completed in conjunction with the December 31, 2019 actuarial valuation. Please see our experience study, dated June 2020, to see more detail of the rationale for the current assumptions. As authorized under Sec. 40A-9 of Chapter 40A, the actuarial methods and assumptions are established set by the Board of Trustees based upon recommendations from the Fund's actuary.

Entry Age Normal Method

The Entry Age Normal actuarial cost method is the actuarial valuation method used for all purposes under ERF. The concept of this method is that funding of benefits for each member should be affected as a, theoretically, level contribution (as a level percentage of pay) from entry into ERF to termination of active status.

The Normal Cost (NC) for a fiscal year under this method is determined as described in the prior paragraph for each individual member. The ERF NC for the year is the total of individual normal costs determined for each active member. The Actuarial Accrued Liability (AAL) under this method is the theoretical asset balance of the normal costs that would have accumulated to date based upon current actuarial assumptions. To the extent that the current assets of the fund are insufficient to cover the AAL, an Unfunded Actuarial Accrued Liability (UAAL) develops.

Actuarially Determined Contribution

The actuarially determined contribution rate is developed using an open group projection. The total contribution rate (member plus City) is the level percentage of pay needed to fund the Normal Cost for each year and pay off the UAAL over 30 years.

In the open group projection, the demographic assumptions are applied to the current active employees and any employees that are assumed to leave employment are replaced one for one with a new employee. Over time this results in the change of the employee group from mostly Tier A members to Tier B members. The projection is built to assume no gains or losses on the actuarial accrued liability or the actuarial value of assets.

In the projection, new members' pay is assumed to increase at 3.00% year over year (i.e. a new employee in 2024 is assumed to be hired at a salary that is 3.00% greater than a new employee hired in 2023). The 3.00% growth rate is equal to our wage inflation assumption of 3.00% (ultimate salary increase assumption). Note that this is not an assumption that payroll will grow at 3.00% per year. Payroll could grow more slowly in the near-term due to membership demographics.

New Entrant Profile

For the purposes of determining the funding period, an open group projection is used which replaces on a one-to-one basis each active member who leaves employment with an average new hire. The average new hire is determined based on a new entrant profile, which is created from the valuation data by determining the entry age and entry pay for anyone with between one and six years of service as of the valuation date, with salaries normalized to the valuation date. A summary of the new entrant profile is shown in the table below, with 60% of the population being male. The salaries below would be applicable for the year preceding the valuation date. Future cohorts of new hires have starting salaries that are assumed to grow at the General Wage Inflation of 3.00% over the salaries of the previous year.

New Entrant Profile		
Entry Age	**# of Employees**	**Average Salary**
15-19	7	$51,244
20-24	278	49,616
25-29	440	52,096
30-34	409	55,477
35-39	334	60,163
40-44	313	61,928
45-49	282	61,221
50-54	274	61,956
55-59	195	61,816
60-64	109	64,260
65-69	10	50,491
Total	**2,651**	**$57,731**

Actuarial Value of Asset Method

The method for determining the actuarial value of assets in future years is equal to the market value of assets less a five-year phase in of the excess (shortfall) between expected investment return and actual income. The actual calculation is based on the difference between actual market value and the expected market value of assets each year, and recognizes the cumulative excess return (or shortfall) at a minimum rate of 20% per year. Each year, a base is set up to reflect this difference. If the current year's base is of opposite sign to the deferred bases, then it is offset dollar for dollar against the deferred bases. Any remaining bases are then recognized over the remaining period for the base.

ACTUARIAL METHODS AND ASSUMPTIONS (cont.)

Annual Rate of Investment Return: For all purposes under the Fund, the rate of investment return is assumed to be 7.25% per annum, net of investment expenses. This rate includes an annual assumed rate of inflation of 2.50%. In addition, annual cost-of-living adjustments are assumed to occur on average at the rate of 2.50% per annum for Tier A members and 2.20% for Tier B members (due to the lower maximum on cost-of-living-adjustments).

Annual Compensation Increases: Each member's compensation is assumed to increase in accordance with a table based on actual ERF experience. Sample rates follow:

Years of Service	Merit, Promotion, Longevity	General	Total
0	5.25 %	3.00 %	8.25 %
1	4.25	3.00	7.25
2	3.25	3.00	6.25
3	2.50	3.00	5.50
4	2.00	3.00	5.00
5	1.75	3.00	4.75
6	1.75	3.00	4.75
7	1.25	3.00	4.25
8	1.25	3.00	4.25
9	1.00	3.00	4.00
10	1.00	3.00	4.00
11	1.00	3.00	4.00
12	0.75	3.00	3.75
13	0.75	3.00	3.75
14	0.75	3.00	3.75
15	0.75	3.00	3.75
16	0.75	3.00	3.75
17	0.75	3.00	3.75
18	0.50	3.00	3.50
19 & Over	0.00	3.00	3.00

ACTUARIAL METHODS AND ASSUMPTIONS (cont.)

Mortality:

Disabled Lives: The gender-distinct 2019 Texas Municipal Retirees Mortality Table for males and females respectively, set forward 4 years for males and 3 years for females. Generational mortality improvements in accordance with the ultimate rates from the scales published through 2019 by Retirement Plans Experience Committee of the Society of Actuaries ("Ultimate MP") and projected from the year 2019.

Sample rates as of 2023 follow (rate per 1,000), with projected mortality applied:

	Disability Mortality Rate	
Age	**Male**	**Female**
20	35	30
30	35	30
40	35	30
50	35	30
60	35	30
70	35	30
80	81	49
90	232	158

Other Benefit Recipients: The gender-distinct 2019 Texas Municipal Retirees Mortality Tables are used for males and females respectively. Generational mortality improvements in accordance with the ultimate rates from the scales published through 2019 by Retirement Plans Experience Committee of the Society of Actuaries ("Ultimate MP") and projected from the year 2019.

Sample rates as of 2023 follow (rate per 1,000), with projected mortality applied:

	Mortality Rate	
Age	**Male**	**Female**
30	0.4	0.1
40	0.8	0.3
50	2.7	1.1
60	7.2	3.4
70	19.4	10.8
80	53.7	34.4
90	151.4	110.0

ACTUARIAL METHODS AND ASSUMPTIONS (cont.)

Mortality, Continued:

Active Members: The PubG-2010 Employee Mortality Table for General Employees tables are used for males and females respectively. Generational mortality improvements in accordance with the ultimate rates from the scales published through 2019 by Retirement Plans Experience Committee of the Society of Actuaries ("Ultimate MP") and projected from the year 2010.

Sample rates as of 2023 follow (rate per 1,000), with projected mortality applied:

	Mortality Rate	
Age	**Male**	**Female**
30	0.3	0.1
40	0.6	0.3
50	1.3	0.7
60	2.8	1.6
70	6.2	4.3
80	15.2	11.7
90	129.9	101.7

10% of active deaths are assumed to be service related.

Disability: A client-specific table of disability incidence with sample rates follows (rate per 1,000):

Age	**Disability Rate**
30	0.1
40	0.5
50	1.2
60	2.2

20% of disabilities are assumed to be service related. There is a 0% assumption of disability for members who have over 10 years of service and are eligible for retirement.

Retirement: Upon eligibility, active members are assumed to retire as follows (rate per 1,000):

Tier A:

Age	**Male**		**Female**	
	First Year Eligible	Thereafter	First Year Eligible	Thereafter
48-49	100	100	100	100
50	550	550	450	350
51	500	450	400	350
52	500	300	400	300
53	400	300	350	300
54	350	250	350	200
55	300	250	350	250
56	300	250	350	250
57	300	250	350	250
58-59	300	250	250	200
	Service < 18 yrs.	Service 18 yrs.+	Service < 18 yrs.	Service 18 yrs. +
60	80	230	90	200
61	90	230	90	180
62	100	230	90	200
63	100	230	150	150
64	150	230	120	130
65	150	230	120	300
66	200	230	150	300
67	200	230	250	300
68	200	230	150	300
69	200	230	150	300
70	1,000	1,000	1,000	1,000

ACTUARIAL METHODS AND ASSUMPTIONS (cont.)

Retirement, Continued:
Upon eligibility, active members are assumed to retire as follows (rate per 1,000):

Tier B:

Age	Male		Female	
	Service < 40 yrs.	Service 40 yrs. +	Service < 40 yrs.	Service 40 yrs. +
<55	10	350	10	350
55-56	20	350	20	350
57-58	30	350	30	350
59-60	40	350	40	350
61-62	50	350	50	350
63-64	60	350	60	350
65	180	600	200	450
66	200	250	250	250
67	200	250	250	250
68	200	250	150	250
69	200	250	150	250
70	1,000	1,000	1,000	1,000

*For service < 40 yrs, rates shown are for those who met the rule of 80.

Retirement of Deferred Vested Members:
All deferred vested members are assumed to commence payment at their normal retirement age, which is age 60 for Tier A members and age 65 for Tier B members.

ACTUARIAL METHODS AND ASSUMPTIONS (cont.)

General Turnover: A table of termination rates based on ERF experience as shown below.

Years of Service	Terminations (per 1,000) Male	Terminations (per 1,000) Female
0	228	200
1	180	165
2	144	150
3	110	120
4	90	95
5	75	90
6	67	80
7	60	65
8	51	48
9	43	48
10	33	45
11	33	32
12	30	30
13	30	30
14	22	20
15	22	14
16	19	14
17	19	14
18	19	14
19	19	14
20	12	14
21	12	14
22	12	6
23	12	6
24	12	6
25	12	6
26 & Over	5	6

There is 0% assumption of termination for members eligible for retirement.

Refunds of Contributions: Members are assumed to choose the most valuable termination benefit.

ACTUARIAL METHODS AND ASSUMPTIONS (cont.)

Operational Expenses: The amount of estimated administrative expenses expected in the next year is assumed to be equal to the prior year's expenses and is incorporated in the Normal Cost.

Marital Status: 75% of active male members and 50% of active female employees are assumed to be married.

Vacation Leave Conversions: Members with 20 or more years of service are assumed to convert unused vacation leave to 1.5 months of service. Other members are assumed to convert unused vacation leave to 1 month of service. No vacation leave conversion is assumed for disability retirement.

Spouse Age: The female spouse is assumed to be 3 years younger than the male spouse.

Payroll Growth Rate: Used to estimate projected payroll for the following fiscal year only. Assumed to be equal to the inflation rate of 2.50%. This assumption is not used as part of the open group projection used to calculate the Actuarially Determined Contribution Rate.

Member's Pay: In determining the member's valuation salary, the greater of the prior calendar year's gross pay and the member's rate of compensation is used.

Form of Payment: For Tier A it is assumed that 60% of married active male members and 84% of married active female employees will elect a Joint & 50% Survivor form of payment. Taking into consideration the marriage assumption and the inherent subsidy in the ERF's Joint & 100% Survivor factors, the male employees are valued with Joint and 28.0% Survivor annuities and the female employees are valued with Joint and 19.5% Survivor annuities. It is also assumed that 100% of Tier B employees will elect the normal form of payment under Tier B.

Data Adjustments: Certain records are missing spousal information. For these records we use the marital status assumption and spousal age difference assumption to value these records. No other adjustments are made to the data.

Actuarial Equivalence Assumptions: for form of payment conversion and Tier B early retirement factors are based on the following assumptions:

a. Interest Rate of 8.00%.

b. Mortality: Unisex blend (60% male and 40% female) of the following assumptions for males and females. 109% of the RP-2000 Combined Healthy Table for males with Blue Collar adjustment projected to 2026 using improvement scale BB for males. 103% of the RP-2000 Combined Healthy Table for females with Blue Collar adjustment projected to 2026 using improvement scale BB for females.

c. Cost-of-living-adjustments (COLA): a 3.00% COLA assumption for Tier A members and a 2.50% COLA assumption for Tier B members.

ACTUARIAL METHODS AND ASSUMPTIONS (cont.)

Actuarial Model: This report was prepared using our proprietary valuation model and related software which in our professional judgment has the capability to provide results that are consistent with the purposes of the valuation and has no material limitations or known weaknesses. We performed tests to ensure that the model reasonably represents that which is intended to be modeled.

Changes in Methods and Assumptions Since Prior Valuation: None.

SUMMARY OF BENEFIT PROVISIONS

Employees' Retirement Fund of the City of Dallas
As of December 31, 2023

Membership

An employee becomes a member upon permanent employment and contributes to the Fund.

Tier A

A person who was employed by the City prior to January 1, 2017, or who was re-employed by the City on or after January 1, 2017 and whose pre January 1, 2017 credited service was not cancelled by withdrawal or forfeiture or was reinstated.

Tier B

A person who was employed by the City on or after January 1, 2017, or who was re-employed by the City on or after January 1, 2017 and whose pre January 1, 2017 credited service has been cancelled by withdrawal or forfeiture.

Contributions

Member: 37% of the current adjusted total obligation rate. New rates effective October 1 after the valuation date.

City: 63% of the current adjusted total obligation rate. New rates effective October 1 after the valuation date.

Definitions

Final Average Salary:

Tier A

Average monthly salary over the member's highest three years (or 36 months) of service.

Tier B

Average monthly salary over the member's highest five years (or 60 months) of service.

Credited Service: Length of time as an employee of the City of Dallas and while making contributions to the Fund.

SUMMARY OF BENEFIT PROVISIONS (cont.)

Retirement Pension

Eligibility:

Tier A

a. Attainment of age 60; or

b. Attainment of age 55 (if credited service began before May 9, 1972); or

c. At any age after completion of 30 years of credited service with a reduced benefit before age 50; or

d. Attainment of age 50, if the sum of an active member's age and credited service is at least equal to 78.

Tier B

a. Attainment of age 65 and 5 years of service; or

b. At any age after completion of 40 years of credited service; or

c. At any age if the sum of an active member's age and credited service is at least equal to 80 (under this eligibility the member's pension will be actuarially reduced for each year prior to the age of 65 that the member retires).

d. Restricted Prior Service Credit included for eligibility (if approved).

Retirement Benefits:

Tier A

The retirement benefit equals 2-3/4% multiplied by average monthly earnings multiplied by credited service limited to a maximum of 36.3636 years plus a monthly $125 health supplement (prorated for service less than 5 years).

Tier B

The retirement benefit equals 2-1/2% multiplied by average monthly earnings multiplied by credited service limited to a maximum of 40 years (no monthly health supplement).

Form of Payment:

Tier A

An unreduced pension benefit under a joint and one-half survivor option with 10 years guaranteed or a ten-year certain and life option. An actuarially equivalent joint and full survivor option is also available.

Tier B

An unreduced pension payable for life with 10 years guaranteed. Actuarially equivalent joint and survivor options (50% and 100%) are also available.

SUMMARY OF BENEFIT PROVISIONS (cont.)

Early Retirement Factors:

Tier A

For members retiring prior to age 50 with 30 or more years of service the pension shall be multiplied by the following percentage:

Age	Percentage
49	93.3
48	87.2
47	81.5
46	76.3
45	71.5
44	67.0

Tier B

For members retiring prior to age 65 with less than 40 years of service, the pension shall be multiplied by the following percentage:

Age	Percentage	Age	Percentage
64	89.72	56	40.03
63	80.66	55	36.41
62	72.64	54	33.15
61	65.53	53	30.22
60	59.21	52	27.57
59	53.58	51	25.18
58	48.56	50	23.01
57	44.06	49	21.05

Deferred Retirement

Eligibility: Deferred retirement pension benefit commencing at age 60 for Tier A members or at age 65 for Tier B members, with at least five (5) years of credited service, and accumulated contributions are left on deposit with the Fund.

Monthly Benefit: The deferred retirement benefit is equal to the retirement pension based on earnings and credited service at the time of termination.

SUMMARY OF BENEFIT PROVISIONS (cont.)

Disability Retirement Pension

Non-Service Disability:

1. Eligibility: Five (5) years of service and totally and permanently incapacitated for duty.
2. Monthly Benefit: Computed based on average monthly earnings and credited service at time of disability but not less than 10 times the percentage multiplier multiplied by the average monthly earnings.

Service Disability:

1. Eligibility: Totally and permanently incapacitated from the further performance of duty as a result of injury while in the course of employment for the City.

2. Monthly Benefit: Calculated as a non-service disability pension but not less than $1,000 per month.

Death Benefits

Eligibility: active or inactive members who die prior to retirement

Benefit: For members with less than 2 years of service or inactive member with less than 5 years of service: refund of the members contributions.

Benefit: For members with more than 2 years of service but less than 15 years of service: an unreduced pension to designated beneficiary for 120 months or a one-half survivor option for life with 120 payments guaranteed.

Benefit: For members eligible for retirement or members and inactive members with more than 15 years of service: an unreduced pension to designated beneficiary for 120 months or a Full Survivor option for life with 120 payments guaranteed.

Form: Benefit paid in accordance with the option on file, or the eligible option, or if no eligible beneficiary, a lump sum equivalent of 10 years of benefit payments to the member's estate.

Minimum Benefit for Service Death: For job-related death a minimum of 10 years of service used in calculation of benefit. Benefit will not be less than $1,000 per month.

SUMMARY OF BENEFIT PROVISIONS (cont.)

Return of Accumulated Contributions

A member at the time of termination is entitled to be paid accumulated contributions without interest.

Cost-of-Living Adjustments

An annual cost-of-living adjustment to the base pension benefit shall be made based on the greater of:

Tier A

a. The percentage of change in the price index for October of the current year over October of the previous year, up to 5%, or

b. The percentage of annual average change in the price index for the 12-month period ending with the effective date of the adjustment, up to 5%.

Tier B

c. The percentage of change in the price index for October of the current year over October of the previous year, up to 3%, or

d. The percentage of annual average change in the price index for the 12-month period ending with the effective date of the adjustment, up to 3%.