

Retirement Plan for the Employees' Retirement Fund of the City of Dallas

Actuarial Valuation Report
as of December 31, 2020





June 1, 2021

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, 2020.

This valuation provides information on the financial health of ERF. It includes a determination of the actuarially calculated contribution rates for the 2021 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, 2021 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 2022.

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 in this valuation were selected in compliance with 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.

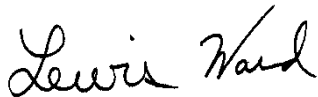
Even seemingly minor changes in the assumptions can materially change the liabilities, calculated contribution rates and funding periods. Due to the limited scope of this assignment, GRS did not perform an analysis of the potential range of such possible future differences. The actuarial calculations 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, 2020. 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. Falls 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. Falls and Mr. Ward have significant experience in performing valuations for large public retirement systems.

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,



Lewis Ward
Consultant



R. Ryan Falls, 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, 2020 may be summarized as follows:

	<u>December 31, 2019</u>	<u>December 31, 2020</u>
· Members		
- Actives	7,427	7,244
- Benefit recipients	7,405	7,552
- Deferred vested*	877	911
- Other terminated*	<u>789</u>	<u>799</u>
- Total	16,498	16,506
· Covered payroll (including overtime)	\$ 433,890	\$ 428,824
· Normal cost	\$ 87,509	\$ 84,929
as % of expected payroll	20.50%	20.11%
· Actuarial accrued liability	\$ 4,863,325	\$ 4,932,886
· Actuarial value of assets	\$ 3,682,959	\$ 3,747,078
· Market value of assets	\$ 3,658,088	\$ 3,706,753
· Unfunded actuarial accrued liability (UAAL)	\$ 1,180,366	\$ 1,185,808
· Estimated yield on assets (market value basis)	17.30%	6.42%
· Estimated yield on assets (actuarial value basis)	6.74%	6.81%
· Contribution Rates		
- Prior Adjusted Total Obligation Rate	36.00%	36.00%
- Current Total Obligation Rate	43.92%	43.77%
- Current Adjusted Total Obligation Rate	36.00%	36.00%
· Actuarial gains/(losses)		
- Assets	\$ (35,798)	\$ (16,030)
- Actuarial liability experience	\$ 6,156	\$ 69,812
- Assumption and method changes	\$ (205,391)	\$ -
· 30-year level % of pay funding cost	\$ 157,348	\$ 153,181
as % of payroll (Employee + City)	35.38%	34.85%
· Funded ratio		
- Based on actuarial value of assets	75.7%	76.0%
- Based on market value of assets	75.2%	75.1%

* *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, 2020.

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 2021 calendar year; and
- To develop the current total obligation rate and the current adjusted total obligation rate for the fiscal year beginning October 1, 2021.



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, 2019	December 31, 2020
Contribution Rates (% of Payroll)		
Normal Cost (including administrative expense)	22.23%	21.44%
Total Actuarial Contribution Rate	35.38%	34.85%
Total Projected Actuarial Contribution	\$157,348	\$153,181
Funded Status (on AVA basis)		
Actuarial Accrued Liability	\$4,863,325	\$4,932,886
Actuarial Value of Assets	3,682,959	3,747,078
Unfunded Actuarial Accrued Liability	\$1,180,366	\$1,185,808
Funded Ratio	75.73%	75.96%



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, 2020. 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, 2021. 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 34.85% 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 2022. 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 the new Tier B), the payment towards the unfunded liability as a percentage of pay is expected to increase over the 30-year period.

As shown in Section N – Table 3 of this report, the debt service payment is determined to be 8.92% of projected payroll. The sum of these rates is 43.77% (the Current Total Obligation Rate), which is 7.77% 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 2022 (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, 8.92% of the City's contribution rate will go towards the debt service on the pension obligation bonds and the remaining 13.76% will be contributed towards the ERF. This means a total contribution rate of 27.08% will be contributed to the ERF, which compares to the actuarially calculated rate of 34.85%.



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

The City of Dallas voters approved a new tier of benefits for City of Dallas municipal employees hired after December 31, 2016.

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 6.42% (calculated on a dollar-weighted basis, net of investment expenses). Given this return, the actual investment income was lower than the expected investment income on the market value of assets; therefore, an investment loss 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 \$16.0 million loss on the actuarial value of assets as of December 31, 2020. The rate of return on the actuarial value of assets for 2020 was 6.81% (calculated on a dollar-weighted basis, net of investment expenses). This result was less than the investment return assumption of 7.25%.

As developed on Section N – Table 8, ERF experienced an overall actuarial experience gain in calendar year 2020 in the amount of \$53.8 million. Since there was a \$16.0 million loss on the actuarial value of assets, this implies there was a liability actuarial gain of about \$69.8 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):

	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>
1) Actuarial (Gain)/Loss on Assets	(\$16.41)	(\$19.85)	\$88.73	\$35.80	\$16.03
2) Actuarial (Gain)/Loss on Liabilities	(32.35)	(61.02)	11.35	(6.16)	(69.81)
3) Total Actuarial (Gain) or Loss (1+2)	(\$48.76)	(\$80.87)	\$100.08	\$29.64	(\$53.78)

The unfunded actuarial accrued liability (UAAL) also increased \$34.2 million due to the shortfall between the calculated contribution rate and the actual contributions during 2020.



ASSET INFORMATION

The assets of the Fund (on a market value basis) increased from \$3,658 million as of December 31, 2019 to \$3,707 million as of December 31, 2020.

The assets recognized for actuarial valuation purposes (known as “the actuarial value of assets”) were set equal to the market value of assets in the December 31, 2017 valuation. Beginning with the December 31, 2018 valuation, a new smoothing method was adopted by the Board to recognize future 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, 2020.

The actuarial value of assets has increased from \$3,683 million to \$3,747 million during 2020. The actuarial assets are less than the expected actuarial assets, \$3,763 million, due to recognition of the prior year’s deferred investment losses. This resulted in an actuarial loss on the actuarial assets of \$16.0 million.

The rate of return on investments for 2020 on the actuarial value of assets was 6.81%, compared to 6.74% in 2019. 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 Funding 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 decreased from 75.2% as of December 31, 2019 to 75.1% as of December 31, 2020. Based on the actuarial value of assets, the Funded Ratio of ERF increased from 75.7% as of December 31, 2019 to 76.0% as of December 31, 2020.

The UAAL increased from \$1,180.4 million as of December 31, 2019 to \$1,185.8 million as of December 31, 2020. Since the UAAL is positive, this implies the actuarial accrued liabilities exceed the actuarial assets of the Fund as of December 31, 2020.

The actual \$5.4 million increase in the UAAL was less than the expected increase of \$59.2 million (\$25.0 million due to negative amortization and \$34.2 million as a result of the actual contributions being less than the actuarially determined contribution rate), resulting in a net actuarial gain in total. The primary reasons the increase in the UAAL was less than expected were the gain from the 1.35% cost of living adjustment and the gain related to salary increases being less than expected.

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 new 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 new standards created a clear distinction between the funding requirements of a pension plan and the accounting requirements. Because of these changes, the GASB disclosure information will no longer be included in the actuarial valuation report, but will instead be provided under separate cover.



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 Dallas 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)

	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Ratio of the market value of assets to total payroll	8.64	8.43	7.71	8.55	8.13	8.12	9.34	9.72	9.01	8.87
Ratio of actuarial accrued liability to payroll	11.50	11.21	10.68	10.39	10.48	10.50	11.03	10.55	10.64	10.95
Ratio of actives to retirees and beneficiaries	0.96	1.00	1.05	1.11	1.10	1.11	1.09	1.08	1.09	1.09
Ratio of net cash flow to market value of assets	-4.9%	-4.8%	-5.1%	-4.3%	-4.4%	-4.5%	-4.2%	-4.4%	-5.1%	-5.3%
Duration of the actuarial present value of benefits*	12.69	12.37	NA	NA	NA	NA	NA	NA	NA	NA

*Duration measure not available prior to 2018

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

Cost Item	Investment Return Assumption		
	6.25%	7.25%	8.25%
Normal Cost % (excluding admin expenses)	24.91%	20.11%	16.56%
UAAL (\$ in millions)	\$1,771.9	\$1,187.5	\$696.4
30-year funding rate (employee + City)	49.54%	34.85%	29.03%
Funded Ratio	67.9%	76.0%	84.3%
Funding Period	Infinite	60 years	29 years



CLOSING COMMENTS

The unfunded actuarial accrued liability of the Fund has increased less than expected due to the gain from the 1.35% cost of living adjustment and the gain related to salary increases being less than expected.

The calculated contribution rate necessary to pay the Fund's normal cost and amortize the UAAL over 30 years is 34.85% of pay. When the debt service payment on the Pension Obligation Bonds is considered, the total contribution rate is 43.77% 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 2022 will be 36.00% of pay.

Following adoption of the proposed changes by the ERF Board, the Dallas City Council, and approval by the City of Dallas voters, the new tier of benefits became effective for employees hired after December 31, 2016 and the outlook for the ERF improved. Based on our projections, reflecting the new tier of benefits 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.

While the expected date of achieving full funding is nearer than it was last year, it is still farther away than is desired. It also exceeds the maximum funding period in the Texas Pension Review Board's actuarial soundness guidelines. Also, because the members and the City are currently contributing the maximum allowed under the City Charter, the Fund is subject to asymmetric risk if there is future adverse experience.



ACTUARIAL TABLES

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Summary of Actuarial Values As of December 31, 2020

(\$ in 000s)

	Entry Age Actuarial Values			
	APV* of Projected Benefits	Actuarial Accrued Liability (AAL)	Normal Cost \$	Normal Cost % of Pay**
1 Active Members				
a. Retirement	\$ 1,883,186	\$ 1,441,853	\$ 61,555	14.57%
b. Death	18,752	11,370	1,013	0.24%
c. Disability	12,114	4,717	1,016	0.24%
d. Termination	138,952	(4,325)	19,136	4.54%
e. Health Subsidy	45,787	33,232	2,209	0.52%
Total	\$ 2,098,791	\$ 1,486,847	\$ 84,929	20.11%
2 Benefit Recipients	3,312,228	3,312,228		
3 Other Inactive	133,811	133,811		
4 Total Actuarial Values of Benefits	\$ 5,544,830	\$ 4,932,886	\$ 84,929	20.11%
5 Actuarial Value of Assets		\$ 3,747,078		
6 Unfunded Actuarial Accrued Liability (4 - 5)		\$ 1,185,808		
7 Funding Ratio		75.96%		
8 Market Value Measurements				
UAAL on market value		\$ 1,226,133		
Funded Ratio on market value		75.14%		

* APV – Actuarial Present Value

** Percentage of expected payroll for continuing active members.



Demonstration of Actuarially Required Contribution Rate for FY 2022

Valuation as of December 31,	Actuarially Determined Total Contribution Rate	Projected Compensation for Plan Year (in Millions)	Total Contributions to Fund for Plan Year (in Millions)	Actuarial Accrued Liability (AAL \$M)	Actuarial Value of Assets (AVA \$M)	Unfunded Actuarial Accrued Liability (UAAL \$M)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
2020	34.85%	\$ 428.8	\$ 149.4	\$ 4,932.9	\$ 3,747.1	\$ 1,185.8
2021	34.85%	439.0	153.0	5,059.2	3,845.3	1,214.0
2022	34.85%	450.8	157.1	5,186.2	3,945.5	1,240.6
2023	34.85%	463.1	161.4	5,306.6	4,041.0	1,265.6
2024	34.85%	476.0	165.9	5,420.4	4,131.8	1,288.6
2025	34.85%	489.5	170.6	5,527.3	4,217.8	1,309.5
2026	34.85%	503.4	175.4	5,627.5	4,299.6	1,327.9
2027	34.85%	517.8	180.5	5,721.2	4,377.5	1,343.7
2028	34.85%	533.0	185.7	5,809.2	4,452.6	1,356.6
2029	34.85%	548.8	191.2	5,892.6	4,526.2	1,366.5
2030	34.85%	564.9	196.9	5,971.6	4,598.8	1,372.8
2031	34.85%	582.0	202.8	6,047.0	4,671.6	1,375.5
2032	34.85%	599.5	208.9	6,119.6	4,745.7	1,373.9
2033	34.85%	617.1	215.1	6,188.8	4,821.1	1,367.7
2034	34.85%	635.2	221.4	6,254.6	4,898.1	1,356.4
2035	34.85%	653.8	227.9	6,317.2	4,977.4	1,339.8
2036	34.85%	673.3	234.6	6,377.0	5,059.8	1,317.2
2037	34.85%	693.3	241.6	6,434.6	5,146.5	1,288.1
2038	34.85%	714.0	248.8	6,490.7	5,238.6	1,252.1
2039	34.85%	735.6	256.4	6,546.2	5,337.6	1,208.5
2040	34.85%	757.9	264.1	6,601.9	5,445.3	1,156.6
2041	34.85%	781.1	272.2	6,659.0	5,563.2	1,095.8
2042	34.85%	804.9	280.5	6,717.9	5,692.8	1,025.1
2043	34.85%	829.7	289.1	6,779.8	5,835.9	943.9
2044	34.85%	855.2	298.0	6,846.0	5,994.8	851.2
2045	34.85%	881.6	307.2	6,918.3	6,172.2	746.1
2046	34.85%	908.5	316.6	6,998.1	6,370.4	627.7
2047	34.85%	936.1	326.2	7,086.3	6,591.6	494.7
2048	34.85%	964.3	336.1	7,184.1	6,837.8	346.2
2049	34.85%	993.2	346.1	7,292.0	7,111.2	180.8
2050	34.85%	1,022.8	356.4	7,410.8	7,413.5	(2.7)



Information for City Ordinance 25695 For the Fiscal Year Commencing October 1, 2021

1 Prior Adjusted Total Obligation Rate	36.00%
2 Actuarially Required Contribution Rate*	34.85%
3 Debt Service	
a Scheduled Debt Service Payment for FY 2022	\$ 39,200,283
b Projected Payroll	\$ 439,544,160
c Pension Obligation Bond Credit Rate (a/b)	8.92%
4 Current Total Obligation Rate (2 + 3c)	43.77%
5 Current Adjusted Total Obligation Rate	36.00% **
6 Allocation of Contribution Rates Commencing October 1, 2021	
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

(\$ in 000s)

	<u>December 31, 2019</u>	<u>December 31, 2020</u>
1 Assets		
a. Cash & Short-Term	\$ 325,309	\$ 336,137
2 Receivables		
a. Accrued Investment Income	\$ 14,467	\$ 14,925
b. Securities Sold	4,243	6,188
c. Employer Contribution	2,307	467
d. Employee Contribution	2,164	439
e. Pending Contracts	438,841	406,359
	<u>\$ 462,022</u>	<u>\$ 428,378</u>
3 Investments		
a. Index Funds	\$ 176,734	\$ 208,318
b. Fixed Income	997,117	976,820
c. Equities	1,872,596	1,888,059
d. Real Estate	230,183	222,726
e. Private Equity	267,422	316,237
	<u>\$ 3,544,052</u>	<u>\$ 3,612,160</u>
4 Total Assets	\$ 4,331,383	\$ 4,376,675
5 Liabilities		
a. Accounts Payable	\$ 7,267	\$ 8,482
b. Investment Transactions	666,028	661,440
	<u>\$ 673,295</u>	<u>\$ 669,922</u>
6 Net Assets Available For Benefits	<u>\$ 3,658,088</u>	<u>\$ 3,706,753</u>



Change in Assets Available for Benefits Fiscal Year Ending December 31, 2020

(\$ in 000s)

	2019	2020
1 Assets Available at Beginning of Year	\$ 3,265,402	\$ 3,658,088
Adjustment *	16,911	0
	\$ 3,282,313	\$ 3,658,088
 2 Revenues		
a. Employer Contributions	\$ 62,177	\$ 61,615
b. Employee Contributions	58,314	58,358
c. Investment Income	114,123	91,867
d. Investment Expense	(18,129)	(17,915)
e. Realized and Unrealized Gains (Losses)	453,838	153,972
f. Other (Security Lending)	1,411	1,181
Total Revenues	\$ 671,734	\$ 349,078
 3 Expenses		
a. Benefits	\$ 278,007	\$ 287,465
b. Refunds	10,436	6,857
c. Operating Expense	7,516	6,091
Total Expense	\$ 295,959	\$ 300,413
 4 Assets Available at End of Year (1 + 2 - 3)	\$ 3,658,088	\$ 3,706,753

* 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

(\$ in 000s)

	December 31, 2020
1. Market value of assets at beginning of year	\$ 3,658,088
2. External cashflow	
a. Contributions	\$ 119,973
b. Benefits and refunds paid	(294,322)
c. Administrative and miscellaneous expenses	(6,091)
d. Subtotal	(180,440)
3. Assumed investment return rate for fiscal year	7.25%
4. Assumed investment income for fiscal year	\$ 258,785
5. Expected Market Value at end of year (1+ 2 + 4)	\$ 3,736,433
6. Market value of assets at end of year	\$ 3,706,753
7. Difference (6 - 5)	\$ (29,680)
8. Development of amounts to be recognized as of December 31, 2020:	

Fiscal Year End	Remaining Deferrals of Excess (Shortfall) of Investment Income (1)	Offsetting of Gains/(Losses) (2)	Net Deferrals Remaining (3) = (1) + (2)	Years Remaining (4)	Recognized for this valuation (5) = (3) / (4)	Remaining after this valuation (6) = (3) - (5)
2016	\$ 0	\$ 0	\$ 0	1	\$ 0	\$ 0
2017	0	0	0	2	0	0
2018	(24,871)	0	(24,871)	3	(8,290)	(16,581)
2019	0	0	0	4	0	0
2020	(29,680)	0	(29,680)	5	(5,936)	(23,744)
Total	\$ (54,551)	\$ 0	\$ (54,551)		\$ (14,226)	\$ (40,325)

9. Final actuarial value of plan net assets, end of year (Item 6 - Item 8, Column 6)	\$ 3,747,078
10. Ratio of actuarial value to market value	101.1%

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

<u>Calendar Year</u>	<u>On Market Value</u>	<u>On Actuarial Value</u>
2001	-5.46%	2.76%
2002	-9.81%	-5.37%
2003	27.05%	2.03%
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%
5-year average ending in 2020	7.64%	7.25%
10-year average ending in 2020	7.32%	6.78%

*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, 2020

(\$ in 000s)

1. UAAL as of December 31, 2019		\$ 1,180,366
2. Expected Change in UAAL during 2020		
a. Expected Amortization Payment for CY 2020	(58,476)	
b. Interest adjustments on 1 & 2a to Year End @ 7.25%	83,494	
c. Expected change in UAAL		25,018
3. Increase/(Decrease) in UAAL Due to Difference Between Calculated Contribution Rate and Actual Contribution		34,206
4. Net Actuarial Experience (Gains) & Losses		(53,782)
5. Assumption and Method Changes		0
6. UAAL as of December 31, 2020		\$ 1,185,808



Investment Experience (Gain) or Loss

(\$ in 000s)

Item	Valuation as of December 31, 2020
1. Actuarial assets, beginning of year	\$ 3,682,959
2. Contributions	119,973
3. Benefits and refunds paid with administrative expenses	(300,413)
4. Assumed net investment income at 7.25% on	
a. Beginning of year assets	267,015
b. Contributions	4,273
c. Benefits and refunds paid with administrative expenses	(10,699)
d. Total	\$ 260,589
5. Expected actuarial assets, end of year (Sum of Items 1 through 4)	3,763,108
6. Actual actuarial assets, end of year	3,747,078
7. Asset experience (gain)/loss for year	16,030



Analysis of Actuarial (Gains) and/or Losses for 2020

(\$ in 000s)

	<u>2020</u>
Investment Return	\$ 16,030
Salary Increase	(26,580)
Age and Service Retirement	(2,052)
General Employment Termination	2,301
Disability Incidence	(236)
Active Mortality	1,150
Benefit Recipient Mortality	(8,015)
Actual vs. Expected Cost of Living Adjustment (COLA)*	(24,956)
Other	<u>(11,424)</u>
Total Actuarial (Gain)/ Loss	\$ (53,782)

* Actual COLA of 1.35% 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)
1998	\$1,617,468	\$1,750,430	\$132,962	92.40%	\$275,547	48.30%
1999	1,862,644	1,873,998	11,353	99.39%	282,127	4.00%
2000	1,997,828	2,038,078	40,250	98.03%	298,355	13.50%
2001	2,017,041	2,276,488	259,447	88.60%	332,842	77.90%
2002	1,863,701	2,399,569	535,868	77.67%	324,615	165.08%
2003	1,843,099	2,489,071	645,972	74.05%	318,492	202.82%
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%

* Projected to following year.



Summary of Data Characteristics

As of December 31,	2018	2019	2020
Active Members			
Number	7,584	7,427	7,244
Total Annualized Earnings of Members as of 12/31 (000s)	\$ 423,723	\$ 433,890	\$ 428,824
Average Earnings	55,871	58,421	59,197
Benefit Recipients			
Number	7,224	7,405	7,552
Total Annual Retirement Income (000s)	\$ 258,085	\$ 269,263	\$ 277,429
Total Annual Health Supplement (000s)	10,523	10,984	10,929
Average Total Annual Benefit	37,200	37,871	38,228
Inactive Members*			
Deferred Vested	819	877	911
Deferred Nonvested	673	789	799
Total	1,492	1,666	1,710

** The number of inactives on 12/31/2020 includes 911 members who have applied for a deferred pension and 799 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

Age	Years of Service								Totals
	Under 1	1-4	5-9	10-14	15-19	20-24	25-29	30 & Over	
Under 20									0
									\$0
20-24	61	75	1						137
	\$2,223,449	\$2,881,273	\$36,410						\$5,141,132
25-29	121	346	85	0					552
	\$5,167,927	\$15,304,158	\$4,227,546	\$0					\$24,699,631
30-34	118	397	223	48					786
	\$5,611,769	\$19,815,181	\$11,987,081	\$2,941,744					\$40,355,775
35-39	81	303	244	140	33	3			804
	\$3,880,585	\$16,404,669	\$14,704,173	\$9,295,793	\$2,220,168	\$198,574			\$46,703,962
40-44	69	285	239	136	102	51	0		882
	\$3,335,181	\$17,047,343	\$14,074,826	\$8,863,349	\$7,165,892	\$3,412,203	\$0		\$53,898,794
45-49	73	245	201	147	118	168	46	1	999
	\$3,537,292	\$13,776,561	\$12,966,095	\$9,603,015	\$7,858,980	\$11,075,175	\$3,043,383	\$62,704	\$61,923,205
50-54	71	233	205	147	139	175	99	20	1,089
	\$3,992,421	\$13,295,866	\$11,485,053	\$9,866,289	\$9,478,072	\$12,333,415	\$7,404,503	\$1,556,943	\$69,412,562
55-59	48	191	172	202	157	159	48	34	1,011
	\$2,839,641	\$10,607,652	\$10,140,848	\$12,362,651	\$10,568,268	\$10,613,425	\$3,340,115	\$2,565,277	\$63,037,877
60-64	22	113	142	119	89	84	37	45	651
	\$1,188,366	\$6,254,759	\$8,653,710	\$7,263,177	\$6,103,557	\$5,682,412	\$2,865,022	\$3,951,531	\$41,962,534
65&Over	5	47	47	69	47	58	26	34	333
	\$300,582	\$2,590,212	\$2,756,979	\$4,485,605	\$3,035,993	\$3,791,601	\$1,975,445	\$2,751,682	\$21,688,099
Totals	669	2,235	1,559	1,008	685	698	256	134	7,244
	\$32,077,213	\$117,977,674	\$91,032,721	\$64,681,623	\$46,430,930	\$47,106,805	\$18,628,468	\$10,888,137	\$428,823,571



Distribution of Benefit Recipients as of December 31, 2020

Age	Number	Annual Benefit*	Annual Average Benefit*
Under 50	45	\$ 782,346	\$ 17,385
50-54	182	7,643,536	41,997
55-59	616	28,433,500	46,158
60-64	1,326	52,591,164	39,662
65-69	1,694	63,820,302	37,674
70-74	1,639	63,575,777	38,789
75-79	954	30,725,992	32,208
80-84	564	16,875,181	29,921
85-89	309	7,964,781	25,776
90 & Over	223	5,016,120	22,494
Total	7,552	\$ 277,428,698	\$ 36,736

* 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
2008	8,117	-	\$ 359,369,000	-	\$ 44,274	-
2009	8,371	3.1%	378,021,000	5.2%	45,158	2.0%
2010	7,654	-8.6%	364,237,000	-3.6%	47,588	5.4%
2011	7,034	-8.1%	322,374,000	-11.5%	45,831	-3.7%
2012	6,745	-4.1%	309,682,000	-3.9%	45,913	0.2%
2013	6,864	1.8%	330,536,000	6.7%	48,155	4.9%
2014	6,993	1.9%	342,219,000	3.5%	48,937	1.6%
2015	7,180	2.7%	363,109,000	6.1%	50,572	3.3%
2016	7,477	4.1%	393,186,000	8.3%	52,586	4.0%
2017	7,619	1.9%	409,433,000	4.1%	53,738	2.2%
2018	7,838	2.9%	421,269,000	2.9%	53,747	0.0%
2019	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%



Schedule of Retirees and Beneficiaries Added to and Removed from Rolls

Year Ending December 31,	Added to Rolls		Removed from Rolls		Rolls-End of Year		% Increase in Annual Allowances	Average Annual Allowances
	Number	Annual Allowances	Number	Annual Allowances	Number	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	10.0%	36,362
2020	455	28,634,730	308	11,614,128	7,552	277,428,698	13.3%	36,736



Solvency Test

(\$ in 000s)

Valuation Date	Aggregated Accrued Liabilities for			Reported Assets	Portions of Accrued Liabilities Covered by Reported Assets		
	Active and Inactive Members Contributions	Retirees and Beneficiaries	Active and Inactive Members (Employer Financed Portion)		(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%



EXPERIENCE TABLES

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**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 2020			
	Number	Expected Pay	Actual Pay	Ratio A/E
Under 5	2,011	\$ 107,598,161	\$ 106,060,895	99%
5-9	1,688	98,818,276	97,104,156	98%
10-14	987	64,401,160	63,046,275	98%
15-19	717	49,401,604	48,442,912	98%
20-24	718	49,415,411	47,838,901	97%
25-29	299	22,356,375	21,677,411	97%
30 & Over	141	11,608,137	11,364,050	98%
Total	6,561	\$ 403,599,124	\$ 395,534,600	98%
Over 10 Years	2,862	\$ 197,182,687	\$ 192,369,549	98%

Service Beginning of Year	Experience for 2020-2020			
	Number	Expected Pay	Actual Pay	Ratio A/E
Under 5	2,011	\$ 107,598,161	\$ 106,060,895	99%
5-9	1,688	98,818,276	97,104,156	98%
10-14	987	64,401,160	63,046,275	98%
15-19	717	49,401,604	48,442,912	98%
20-24	718	49,415,411	47,838,901	97%
25-29	299	22,356,375	21,677,411	97%
30 & Over	141	11,608,137	11,364,050	98%
Total	6,561	\$ 403,599,124	\$ 395,534,600	98%
Over 10 Years	2,862	\$ 197,182,687	\$ 192,369,549	98%



Analysis of Retirement Experience

Each Age

Age	2020 Retirement			2020-2020 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	-	0.40	0%	-	0.40	0%
50	2	3.90	51%	2	3.90	51%
51	4	9.50	42%	4	9.50	42%
52	9	9.60	94%	9	9.60	94%
53	9	11.80	76%	9	11.80	76%
54	8	10.55	76%	8	10.55	76%
55	15	11.75	128%	15	11.75	128%
56	13	11.30	115%	13	11.30	115%
57	17	14.10	121%	17	14.10	121%
58	15	15.15	99%	15	15.15	99%
59	11	13.05	84%	11	13.05	84%
60	29	21.48	135%	29	21.48	135%
61	16	17.65	91%	16	17.65	91%
62	15	18.20	82%	15	18.20	82%
63	14	15.40	91%	14	15.40	91%
64	11	16.49	67%	11	16.49	67%
65	18	17.53	103%	18	17.53	103%
66	14	13.22	106%	14	13.22	106%
67	10	10.03	100%	10	10.03	100%
68	9	8.35	108%	9	8.35	108%
69	5	4.67	107%	5	4.67	107%
70 & Over	28	92.00	30%	28	92.00	30%
Total	272	346.12	79%	272	346.12	79%
Total Under 70	244	254.12	96%	244	254.12	96%



Analysis of Retirement Experience

Age Groups

Age Group	2020 Retirements			2020-2020 Retirements		
	Actual	Expected	Ratio A/E	Actual	Expected	Ratio A/E
Under 55	32	45.75	70%	32	45.75	70%
55-59	71	65.35	109%	71	65.35	109%
60-64	85	89.22	95%	85	89.22	95%
65-69	56	53.80	104%	56	53.80	104%
70 & Over	28	92.00	30%	28	92.00	30%
Total	272	346.12	79%	272	346.12	79%
Total Under 70	244	254.12	96%	244	254.12	96%

Analysis of Turnover Experience

Years of Service	2020 Quits			2020-2020 Quits		
	Actual	Expected	Ratio A/E	Actual	Expected	Ratio A/E
0-4	389	387.77	100%	389	387.77	100%
5-9	126	123.69	102%	126	123.69	102%
10-14	29	28.45	102%	29	28.45	102%
15-19	17	11.17	152%	17	11.17	152%
20-24	10	6.39	157%	10	6.39	157%
25-29	-	0.48	0%	-	0.48	0%
Total	571	557.94	102%	571	557.94	102%



Analysis of Active Mortality Experience

Age	2020 Deaths			2020-2020 Deaths		
	Actual	Expected	Ratio A/E	Actual	Expected	Ratio A/E
20-24	0	0.03	0%	0	0.03	0%
25-29	1	0.11	908%	1	0.11	908%
30-34	0	0.21	0%	0	0.21	0%
35-39	2	0.31	647%	2	0.31	647%
40-44	1	0.52	191%	1	0.52	191%
45-49	1	0.88	113%	1	0.88	113%
50-54	4	1.48	270%	4	1.48	270%
55-59	3	2.08	144%	3	2.08	144%
60 and Over	7	3.25	215%	7	3.25	215%
Total	20	8.88	225%	20	8.88	225%

Analysis of Disability Experience

Age	2020 Disabilities			2020-2020 Disabilities		
	Actual	Expected	Ratio A/E	Actual	Expected	Ratio A/E
20-24	0	0.00	0%	0	0.00	0%
25-29	0	0.03	0%	0	0.03	0%
30-34	0	0.12	0%	0	0.12	0%
35-39	0	0.28	0%	0	0.28	0%
40-44	0	0.56	0%	0	0.56	0%
45-49	0	0.96	0%	0	0.96	0%
50-54	0	1.34	0%	0	1.34	0%
55-59	0	1.48	0%	0	1.48	0%
60 and Over	0	0.80	0%	0	0.80	0%
Total	0	5.57	0%	0	5.57	0%

Analysis of Retiree Mortality Experience*

Age	2020 Experience			2020-2020 Experience		
	Actual	Expected	Ratio A/E	Actual	Expected	Ratio A/E
Under 60	6	2.49	241%	6	2.49	241%
60-64	8	8.02	100%	8	8.02	100%
65-69	27	18.00	150%	27	18.00	150%
70-74	32	27.45	117%	32	27.45	117%
75-79	40	25.73	155%	40	25.73	155%
80-84	28	24.46	114%	28	24.46	114%
85-89	28	20.33	138%	28	20.33	138%
90 & over	22	24.03	92%	22	24.03	92%
Total	191	150.52	127%	191	150.52	127%

**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 2020 is assumed to be hired at a salary that is 3.00% greater than a new employee hired in 2019). The 3.00% growth rate is equal to our wage inflation assumption of 3.00% (ultimate salary increase



ACTUARIAL METHODS AND ASSUMPTIONS (cont.)

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 58.5% 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	3	\$44,036
20-24	172	37,849
25-29	311	43,421
30-34	291	48,168
35-39	217	51,087
40-44	225	54,531
45-49	176	55,142
50-54	161	53,515
55-59	122	50,631
60-64	57	57,685
65-69	6	48,734
Total	1,741	\$49,165

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 2020 follow (rate per 1,000), with projected mortality applied:

Age	Disability Mortality Rate	
	Male	Female
20	35	30
30	35	30
40	35	30
50	35	30
60	35	30
70	35	30
80	83	50
90	238	162

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 2020 follow (rate per 1,000), with projected mortality applied:

Age	Mortality Rate	
	Male	Female
30	0.4	0.1
40	0.8	0.3
50	2.7	1.1
60	7.5	3.5
70	20.0	11.2
80	55.3	35.5
90	155.7	113.2



ACTUARIAL METHODS AND ASSUMPTIONS (cont.)

Mortality:

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 2020 follow (rate per 1,000) , with projected mortality applied:

Age	Mortality Rate	
	Male	Female
30	0.3	0.1
40	0.6	0.3
50	1.3	0.8
60	2.9	1.7
70	6.4	4.4
80	15.6	12.0
90	133.6	104.6

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.



ACTUARIAL METHODS AND ASSUMPTIONS (cont.)

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

Tier A:

Age	Male		Female	
	<u>First Year Eligible</u>	<u>Thereafter</u>	<u>First Year Eligible</u>	<u>Thereafter</u>
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
	<u>Service < 18 yrs.</u>	<u>Service 18 yrs.+</u>	<u>Service < 18 yrs.</u>	<u>Service 18 yrs. +</u>
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	300



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	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. Assumed to be equal to the inflation rate of 2.50%.

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 System'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 3.0% 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, 2020

Membership	<p>An employee becomes a member upon permanent employment and contributes to the Fund.</p> <p>Tier A</p> <p>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.</p> <p>Tier B</p> <p>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.</p>
Contributions	<p>Member: 37% of the current adjusted total obligation rate. New rates effective October 1 after the valuation date.</p> <p>City: 63% of the current adjusted total obligation rate. New rates effective October 1 after the valuation date.</p>
Definitions	<p>Final Average Salary:</p> <p>Tier A</p> <p>Average monthly salary over the member's highest three years (or 36 months) of service.</p> <p>Tier B</p> <p>Average monthly salary over the member's highest five years (or 60 months) of service.</p> <p>Credited Service: Length of time as an employee of the City of Dallas and while making contributions to the Fund.</p>



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).

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:

<u>Age</u>	<u>Percentage</u>
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:

<u>Age</u>	<u>Percentage</u>	<u>Age</u>	<u>Percentage</u>
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%.

