Dallas Police and Fire Pension System Supplemental Plan

Actuarial Valuation and Review as of January 1, 2024

Segal

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October 17, 2024

Board of Trustees
Dallas Police and Fire Pension System Supplemental Plan
4100 Harry Hines Blvd., Suite 100
Dallas, TX 75219

Dear Board of Trustees Members:

We are pleased to submit this Actuarial Valuation and Review as of January 1, 2024. It summarizes the actuarial data used in the valuation, analyzes the preceding year's experience, and establishes the funding requirements for fiscal 2024.

This report has been prepared in accordance with generally accepted actuarial principles and practices for the exclusive use and benefit of the Board of Trustees, based upon information provided by the staff of the Dallas Police and Fire Pension System.

Segal does not audit the data provided. The accuracy and comprehensiveness of the data is the responsibility of those supplying the data. To the extent we can, however, Segal does review the data for reasonableness and consistency. Based on our review of the data, we have no reason to doubt the substantial accuracy of the information on which we have based this report and we have no reason to believe there are facts or circumstances that would affect the validity of these results.

The measurements shown in this actuarial valuation may not be applicable for other purposes. 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; increases or decreases expected as part of the natural operation of the methodology used for these measurements; and changes in plan provisions or applicable law.

The actuarial calculations were directed under the supervision of Jeffrey S. Williams. I am a member of the American Academy of Actuaries and I meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. To the best of my knowledge, the information supplied in this actuarial valuation is complete and accurate. The assumptions used in this actuarial valuation were selected by the Board based upon my analysis and recommendations. In my opinion, the assumptions are

reasonable and take into account the experience of the Plan and reasonable expectations. In addition, in my opinion, the combined effect of these assumptions is expected to have no significant bias.

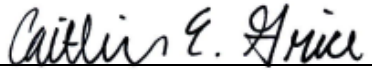
Segal makes no representation or warranty as to the future status of the Plan and does not guarantee any particular result. This document does not constitute legal, tax, accounting or investment advice or create or imply a fiduciary relationship. The Board is encouraged to discuss any issues raised in this report with the Plan's legal, tax and other advisors before taking, or refraining from taking, any action.

We look forward to reviewing this report at your next meeting and to answering any questions.

Sincerely,

Segal

Jeffrey S. Williams, FCA, ASA, MAAA, EA
Vice President and Consulting Actuary



Caitlin E. Grice, FCA, ASA, MAAA, EA
Vice President and Consulting Actuary

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Section 1: Actuarial Valuation Summary

Purpose and basis

This report has been prepared by Segal to present a valuation of the Dallas Police and Fire Pension System Supplemental Plan as of January 1, 2024. The valuation was performed to determine whether the assets and contributions are sufficient to provide the prescribed benefits and to provide information for required disclosures under Governmental Accounting Standards Board (GASB) Statement No. 67.

The contribution requirements presented in this report are based on:

- The benefit provisions of the Supplemental Plan, as administered by the Board;
- The characteristics of covered active members, inactive members, and retired members and beneficiaries as of December 31, 2023, provided by the System's IT Department;
- The assets of the Plan as of December 31, 2023, provided by the System's Finance Department;
- Economic assumptions regarding future salary increases and investment earnings;
- Other actuarial assumptions regarding employee terminations, retirement, death, etc. and
- Article 6243a-1, as amended by House Bill 3158 (HB 3158), signed into law by the Governor of Texas on May 31, 2017; and
- The funding policy adopted by the Board of Trustees of the Pension System on December 12, 2019 as amended through July 9, 2020.

The majority of assumptions and methods used to value the Plan were set by the Board based on recommendations made by Segal following a five-year experience study for the period ended December 31, 2019.

Certain disclosure information required by GASB Statement No. 68 as of September 30, 2024 for the City is provided in a separate report.

Section 1: Actuarial Valuation Summary

Valuation highlights

- Segal strongly recommends an actuarial funding method that targets 100% funding of the actuarial accrued liability. Generally, this implies payments that are ultimately at least enough to cover normal cost, interest on the unfunded actuarial accrued liability and the principal balance. In the funding policy adopted by the Board, the UAL as of January 1, 2020 was amortized over a closed, 20-year period, with future gains or losses each year thereafter amortized over separate, closed, 10-year periods. Amortization will remain on a level percentage of pay basis.
- Actual City contributions made during the year ending December 31, 2023 of $3,665,783 were 100.0% of the actuarially determined contribution (ADC). In the prior year, actual contributions were $2,806,863, or 100.0% of the prior year ADC.
- The actuarial gain of $32,072, or 0.07% of actuarial accrued liability, is due to an investment gain of $1,112,735, or 2.46% of actuarial accrued liability, and a net loss from sources other than investments of $1,080,663, or 2.39%,of the actuarial accrued liability prior to reflection of the plan change.
- The rate of return on the market value of assets was 13.00% for the year ending December 31, 2023. This resulted in an actuarial gain when measured against the assumed rate of return of 6.50%.
- The following plan changes are included for the first time in this valuation:
  - The Immediate Partial COLA is equal to the annual change in CPI-U All Items for the Dallas-Ft. Worth-Arlington, Texas area, multiplied by the funded ratio of the Combined Plan on a market value basis, limited to 1.5%. The COLA is assumed to be 0.85% for the first five years, 1.00% for years 6 through 10, 1.25% for years 11 through 15, and 1.50% thereafter.
  - As a result of these plan changes, the total normal cost increased by $148,489 and the actuarial accrued liability increased by $3,286,227. The total impact was an increase in the ADC of $553,705.

Changes from prior valuation

- The funded ratio (the ratio of the actuarial value of assets to actuarial accrued liability) is 40.81%, compared to the prior year funded ratio of 38.65%. These measurements are not necessarily appropriate for assessing the sufficiency of the plan assets to cover the estimated cost of settling the Plan's benefit obligation or the need for or the amount of future contributions.
- The City's ADC for the upcoming year is $4,256,587, an increase of $590,804 from last year. The contribution is equal to the sum of the normal cost, administrative expenses, and amortization payments of the UAL.
- The unfunded actuarial accrued liability is $28,734,105, which is an increase of $2,324,817 from the prior valuation. The increase is mainly attributable to the plan change.

Section 1: Actuarial Valuation Summary

Risk

- It is important to note that this actuarial valuation is based on plan assets as of December 31, 2023. The Plan's funded status does not reflect short-term fluctuations of the market, but rather is based on the market values on the last day of the plan year. Segal is available to prepare projections of potential outcomes of market conditions and other demographic experience upon request.

  Since the actuarial valuation results are dependent on a given set of assumptions, there is a risk that emerging results may differ significantly as actual experience proves to be different from the assumptions. We have not been engaged to perform a detailed analysis of the potential range of the impact of risk relative to the Plan's future financial condition but have included a brief discussion of some risks that may affect the Plan in Section 2.

GASB

- This report constitutes an actuarial valuation for the purpose of determining the ADC under the Plan's funding policy and measuring the progress of that funding polcy. The information contained in Section 5 provides the accounting information for Governmental Accounting Standards Board (GASB) Statement No. 67, for inclusion in the Plan's and employer's financial statements as of December 31, 2023.
- The Net Pension Liability (NPL) and Pension Expense under GASB statement No. 68 for inclusion in the plan and employer's financial statement as of September 30, 2024 will be provided separately.
- The Net Pension Liability (NPL) is equal to the difference between the Total Pension Liability (TPL) and the Plan's fiduciary net position (equal to the market value of assets). The NPL as of December 31, 2023 is $28.7 million, an increase from $26.4 million as of December 31, 2022.

Section 1: Actuarial Valuation Summary

Summary of key valuation results

Valuation Result	Current	Prior
Contributions for plan year beginning	**January 1, 2024**	**January 1, 2023**
• City's actuarially determined contributions	$4,256,587	$3,665,783
• City's Actuarially determined contributions as a percent of computation pay	208.53%	191.61%
• Actual city contributions	—	$3,665,783
Actuarial accrued liability for plan year beginning	**January 1, 2024**	**January 1, 2023**
• Retired members and beneficiaries	$34,346,453	$32,351,530
• Inactive vested members	48,482	39,929
• Inactive members due a refund of employee contributions	0	0
• Active members	14,146,999	10,658,231
• **Total**	**$48,541,934**	**$43,049,690**
• Normal cost including administrative expenses for plan year beginning January 1	1,469,377	1,325,976
Assets for plan year beginning January 1		
• Actuarial (market) value of assets (AVA)	19,807,829	16,640,402
Funded status for plan year beginning January 1		
• Unfunded actuarial accrued liability	$28,734,105	$26,409,288
• Funded percentage	40.81%	38.65%
• Effective Amortization period on an AVA basis	12	14

Section 1: Actuarial Valuation Summary

Valuation Result	Current	Prior
Key assumptions		
• Net investment return	6.50%	6.50%
• Inflation rate	2.50%	2.50%
GASB information		
• Discount rate	6.50%	6.50%
• Total Pension Liability	$48,552,865	$43,066,735
• Plan Fiduciary Net Position	19,807,829	16,640,402
• Net Pension Liability	28,745,036	26,426,333
• Plan Fiduciary Net Position as a percentage of Total Pension Liability	40.80%	38.64%
Demographic data for plan year beginning January 1		
• Number of retired members and beneficiaries	152	149
• Number of DROP only beneficiaries	3	2
• Number of inactive vested members	1	1
• Number of inactive members due a refund of employee contributions	0	0
• Number of active members	56	52
• Total supplemental computation pay[1]	$2,041,195	$1,913,132
• Average supplemental computation pay	$36,450	$36,791

[1] Total computation pay is the active members' actual payroll for the preceding year, increased by the salary scale applicable for each member to account for their anticipated increases in the upcoming year.

Section 1: Actuarial Valuation Summary

Important information about actuarial valuations

An actuarial valuation is a budgeting tool with respect to the financing of future projected obligations of a pension plan. It is an estimated forecast – the actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.

In order to prepare a valuation, Segal relies on a number of input items. These include:

Input Item	Description
Plan provisions	Plan provisions define the rules that will be used to determine benefit payments, and those rules, or the interpretation of them, may change over time. Even where they appear precise, outside factors may change how they operate. It is important to keep Segal informed with respect to plan provisions and administrative procedures, and to review the plan summary included in our report to confirm that Segal has correctly interpreted the plan of benefits.
Participant information	An actuarial valuation for a plan is based on data provided to the actuary by the System. Segal does not audit such data for completeness or accuracy, other than reviewing it for obvious inconsistencies compared to prior data and other information that appears unreasonable. It is important for Segal to receive the best possible data and to be informed about any known incomplete or inaccurate data.
Financial information	Part of the cost of a plan will be paid from existing assets — the balance will need to come from future contributions and investment income. The valuation is based on the asset values as of the valuation date, typically reported by the System. A snapshot as of a single date may not be an appropriate value for determining a single year's contribution requirement, especially in volatile markets. Plan sponsors often use an "actuarial value of assets" that differs from market value to gradually reflect year-to-year changes in the market value of assets in determining the contribution requirements.
Actuarial assumptions	In preparing an actuarial valuation, Segal starts by developing a forecast of the benefits to be paid to existing plan participants for the rest of their lives and the lives of their beneficiaries. This requires actuarial assumptions as to the probability of death, disability, withdrawal, and retirement of participants in each year, as well as forecasts of the plan's benefits for each of those events. In addition, the benefits forecasted for each of those events in each future year reflect actuarial assumptions as to salary increases and cost-of-living adjustments. The forecasted benefits are then discounted to a present value, typically based on an estimate of the rate of return that will be achieved on the plan's assets. All of these factors are uncertain and unknowable. Thus, there will be a range of reasonable assumptions, and the results may vary materially based on which assumptions are selected within that range. That is, there is no right answer (except with hindsight). It is important for any user of an actuarial valuation to understand and accept this constraint. The actuarial model may use approximations and estimates that will have an immaterial impact on our results. In addition, the actuarial assumptions may change over time, and while this can have a significant impact on the reported results, it does not mean that the previous assumptions or results were unreasonable or wrong.

Section 1: Actuarial Valuation Summary

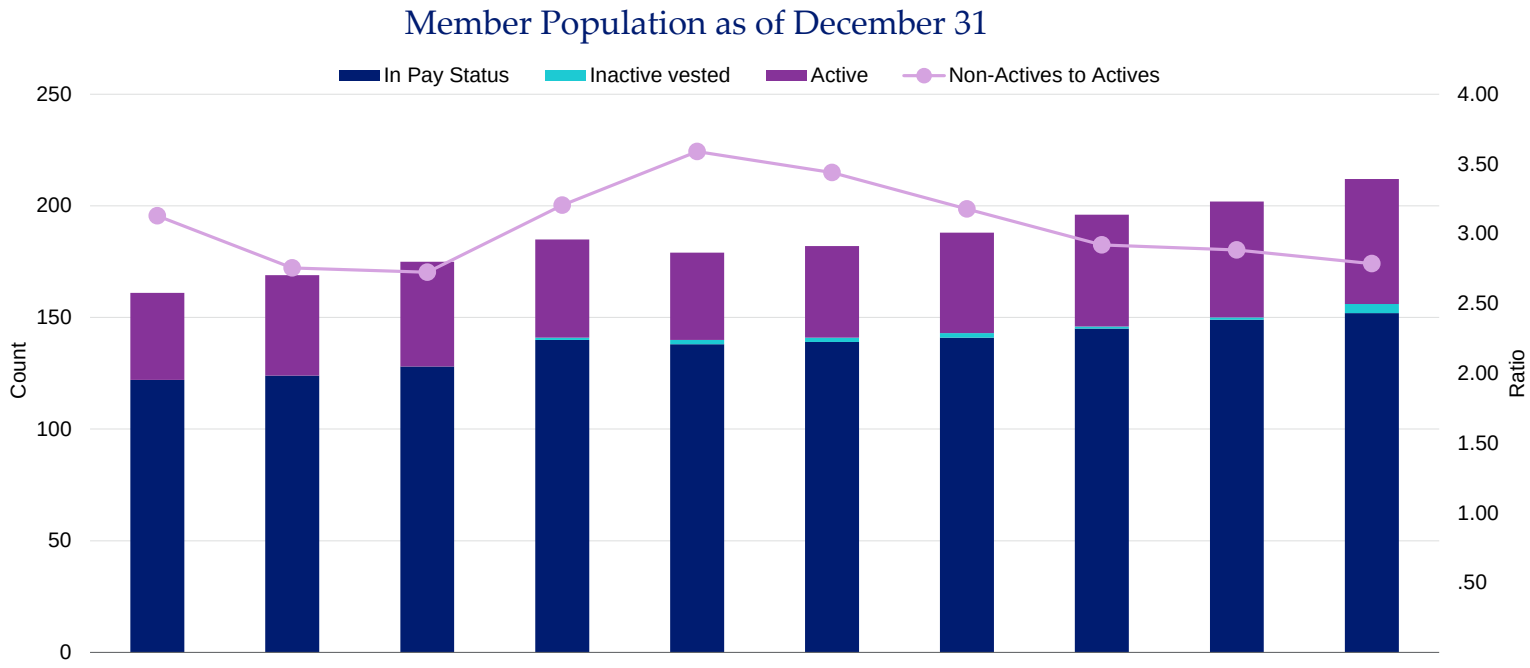
The user of Segal's actuarial valuation (or other actuarial calculations) should keep the following in mind:

- The actuarial valuation is prepared at the request of the Board. Segal is not responsible for the use or misuse of its report, particularly by any other party.
- An actuarial valuation is a measurement at a specific date — it is not a prediction of a plan's future financial condition. Accordingly, Segal did not perform an analysis of the potential range of financial measurements, except where otherwise noted.
- If the Board is aware of any event or trend that was not considered in this valuation that may materially change the results of the valuation, Segal should be advised, so that we can evaluate it.
- Segal does not provide investment, legal, accounting, or tax advice and is not acting as a fiduciary to the Dallas Police and Fire Supplemental Plan. The valuation is based on Segal's understanding of applicable guidance in these areas and of the Dallas Police and Fire Supplemental Plan's provisions, but they may be subject to alternative interpretations. The Board should look to their other advisors for expertise in these areas.
- While Segal maintains extensive quality assurance procedures, an actuarial valuation involves complex computer models and numerous inputs. In the event that an inaccuracy is discovered after presentation of Segal's valuation, Segal may revise that valuation or make an appropriate adjustment in the next valuation.
- Segal's report shall be deemed to be final and accepted by the Board upon delivery and review. Trustees should notify Segal immediately of any questions or concerns about the final content.

As Segal has no discretionary authority with respect to the management of assets of the System, it is not a fiduciary in its capacity as actuaries and consultants with respect to the System.

Section 2: Actuarial Valuation Results

Member information



Legend	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
In Pay Status[1]	122	124	128	140	138	139	141	145	149	152
Inactive Vested[2]	0	0	0	1	2	2	2	1	1	1
Active	39	45	47	44	39	41	45	50	52	56
Ratio	3.13	2.76	2.72	3.20	3.59	3.44	3.18	2.92	2.88	2.73

[1] Excludes beneficiaries who only have a DROP account.
[2] Excluding terminated participants due a refund of employee contributions.

Section 2: Actuarial Valuation Results

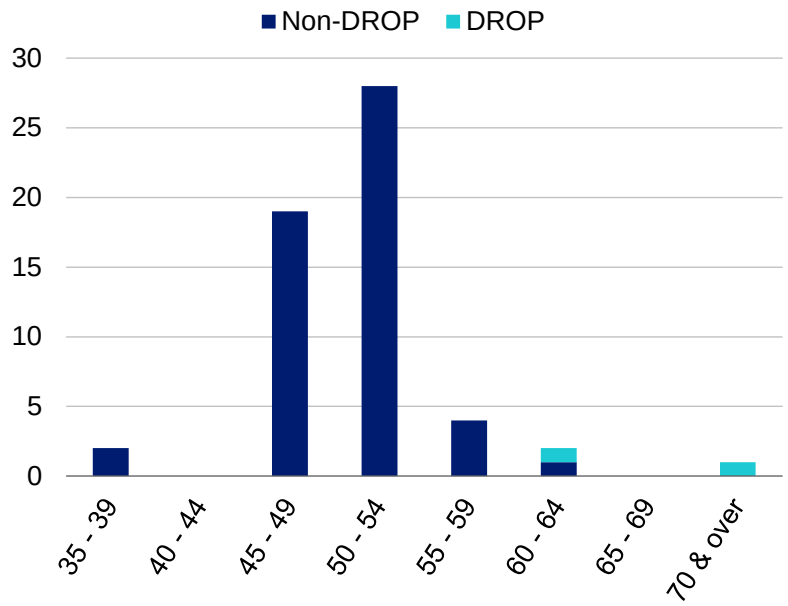
Active members

As of December 31,	2023	2022	Change
Police Officers			
Active members	37	33	12.1%
Average age	51.6	50.6	1.0
Average years of service	25.3	24.2	1.1
Average supplemental computation pay	$36,776	$36,635	0.4%
Firefighters			
Active members	19	19	0.0%
Average age	50.5	51.1	-0.6
Average years of service	25.3	25.4	-0.1
Average supplemental computation pay	$35,812	$37,062	-3.4%
Total			
Active members	56	52	7.7%
Average age	51.3	50.8	0.5
Average years of service	25.3	24.7	0.6
Average supplemental computation pay	$36,450	$36,791	-0.9%

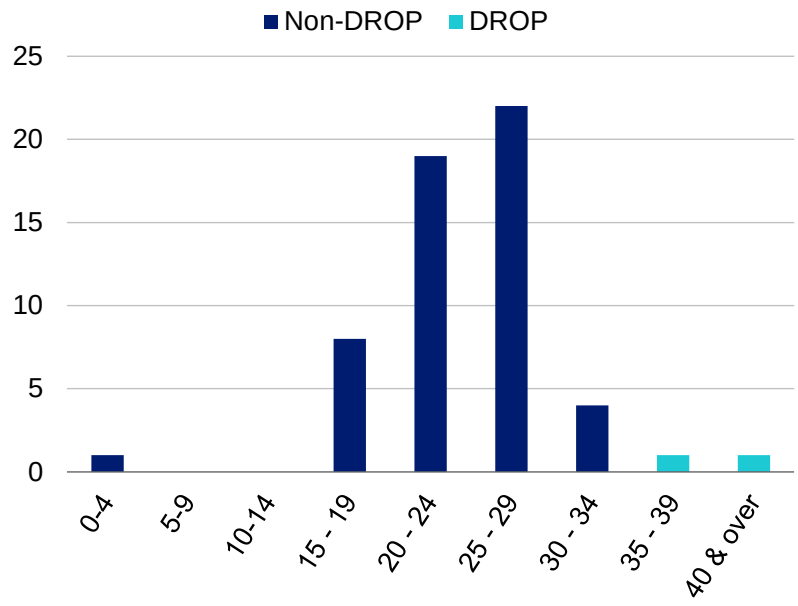
Section 2: Actuarial Valuation Results

Distribution of Active Members as of December 31, 2023

Actives by Age



Actives by Years of Service



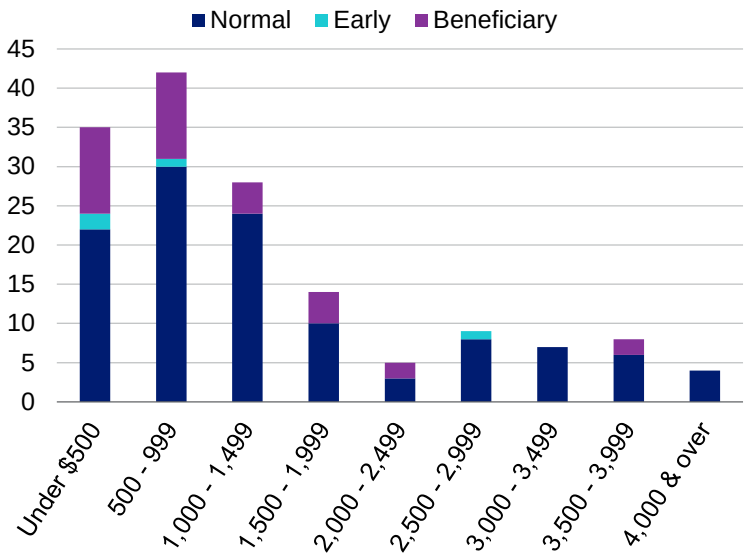
Section 2: Actuarial Valuation Results

Retired members and beneficiaries

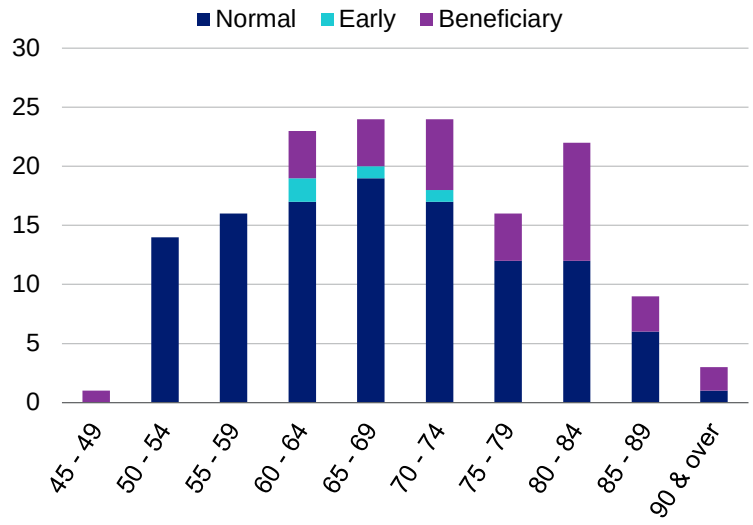
As of December 31,	2023	2022	Change
Retired members	118	119	-0.8%
Beneficiaries[1]	34	30	13.3%
Average age	69.7	69.5	0.1
Average amount	$1,403	$1,413	-0.7%
Total monthly amount	213,317	210,523	1.3%

Distribution of Retired Members and Beneficiaries as of December 31, 2023

By Type and Monthly Amount



By Type and Age



[1] Does not include beneficiaries with annuitized DROP accounts only and no lifetime annuity (3 for 2023 and 2 for 2022)

Section 2: Actuarial Valuation Results

Financial information

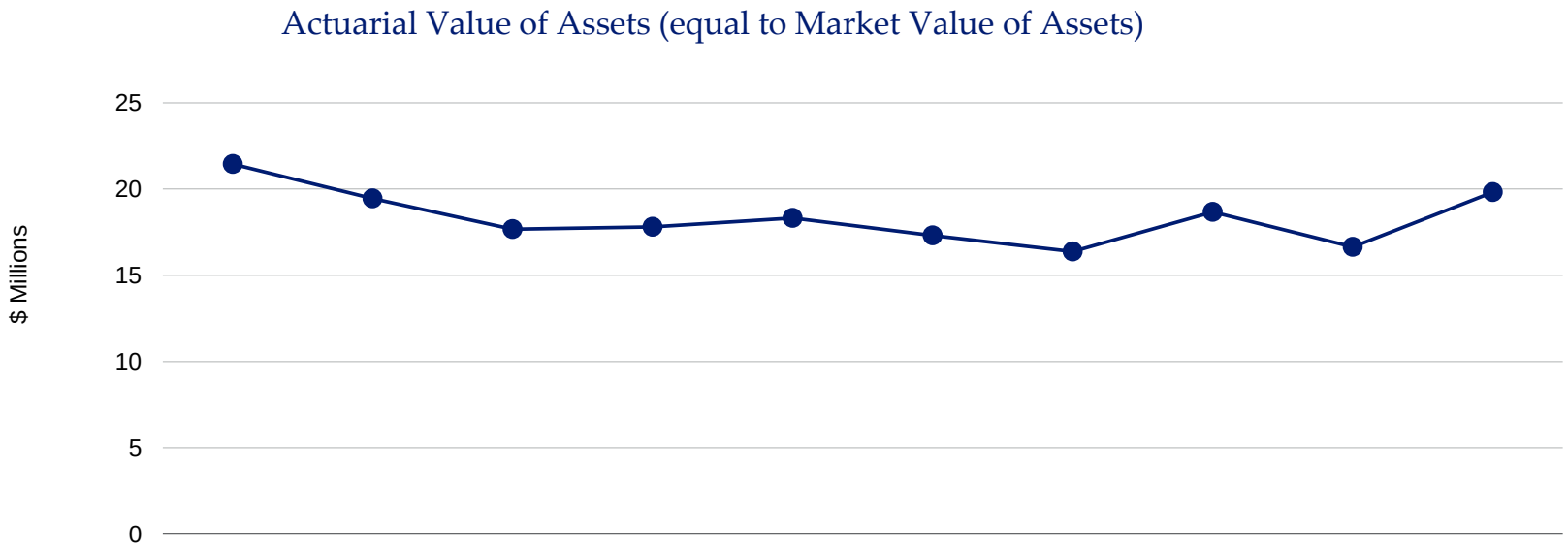
It is desirable to have level and predictable plan costs from one year to the next. However, the Board has approved an asset valuation method that uses market value. Under this valuation method, the full value of market fluctuation is recognized in a single year and, as a result, the asset value and the plan costs are relatively volatile. The Supplemental Plan is small compared to the Combined Pension Plan, and City contributions to the plan are less than 2% of the total amount that the City contributes to the System. Thus, some volatility can be withstood. The Board has the option to adopt an asset "smoothing" method in the future should they decide the current method (using market value) is producing undesirable fluctuations.

Determination of Actuarial Value of Assets for Year Ended December 31, 2023

1.	Actuarial value of assets = Market value of assets	$19,807,829

Section 2: Actuarial Valuation Results

Asset history for years ended December 31



Legend	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Actuarial value[1]	$21.44	$19.46	$17.66	$17.81	$18.32	$17.31	$16.37	$18.66	$16.64	$19.81

[1] In $ millions

Section 2: Actuarial Valuation Results

Actuarial experience

Assumptions should consider experience and should be based on reasonable expectations for the future.

Each year actual experience is compared to that projected by the assumptions. Differences are reflected in the actuarial valuation.

Assumptions are not changed if experience is believed to be a short-term development that will not continue over the long term. On the other hand, if experience is expected to continue, assumptions are changed.

Actuarial Experience for Year Ended December 31, 2023

	Assumption	Amount
1.	Net gain from investments[1]	$1,112,735
2.	Net loss from administrative expenses	-6,537
3.	Net loss from other experience	-1,074,126
4.	**Net experience gain: 1 + 2 + 3**	**$32,072**

[1] Details on next page

Section 2: Actuarial Valuation Results

Investment experience

Actuarial planning is long term. The obligations of a pension plan are expected to continue for the lifetime of all its participants.

The assumed long-term rate of return of 6.50% considers past experience, the asset allocation policy of the Board and future expectations.

Investment Experience
Year Ended December 31, 2023

	Investment	YE 2023 Actuarial (Market) Value
1.	Net investment income	$2,224,990
2.	Average value of assets	17,111,621
3.	Rate of return: **1 ÷ 2**	13.00%
4.	Assumed rate of return	6.50%
5.	Expected investment income: **2 x 4**	$1,112,255
6.	**Net investment gain/(loss): 1 – 5**	**$1,112,735**

Section 2: Actuarial Valuation Results

Non-investment experience

Administrative expenses

Administrative expenses for the year ended December 31, 2023 totaled $61,334, as compared to the assumption of $53,295. This resulted in an experience loss of $6,537 for the year, including an adjustment for interest.

Other experience

There are other differences between the expected and the actual experience that appear when the new valuation is compared with the projections from the previous valuation. These include:

- Mortality experience (more or fewer than expected deaths)
- The extent of turnover among members
- Retirement experience (earlier or later than projected)
- The number of disability retirements (more or fewer than projected)
- Salary increases (greater or smaller than projected)

The net loss from this other experience for the year ended December 31, 2023 amounted to $1,074,126, which is 2.4% of the actuarial accrued liability.

Section 2: Actuarial Valuation Results

Actuarial assumptions

- As part of the plan changes adopted by the Board on August 8, 2024, a partial COLA, payable while the Combined Plan is under 70% funded on a market value basis, has been added effective October 1, 2025. The partial COLA is equal to the annual change in CPI-U All Items in the Dallas-Ft. Worth-Arlington, Texas area, multiplied times the funded ratio of the Combined Plan on a market value basis, provided the adjustment not exceed 1.50%. The new COLA is assumed to be 0.85% for the first five years, 1.00% for years 6 through 10, 1.25% for years 11 through 15, and 1.50% thereafter.

Plan provisions

- Effective August 8, 2024, the Board adopted a rule pursuant to the requirements of Section 2.025 of Article 6243a-1 of Vernon's Revised Civil Statues, which included the following plan change:
  - An immediate Partial COLA was added before the plan is 70% funded, equal to the annual change in CPI-U multiplied by the funded ratio of the Combined Plan on a market value basis, limited to 1.5% annually.
  - These changes increased the actuarial accrued liability by 7.26% and the total normal cost by 11.71%.

Section 2: Actuarial Valuation Results

Unfunded actuarial accrued liability

Development of Unfunded Actuarial Accrued Liability for Year Ended December 31, 2023

	Unfunded Actuarial Accrued Liability	Amount
1.	Unfunded actuarial accrued liability at beginning of year	$26,409,288
2.	Total normal cost at beginning of year, including administrative expense assumption	1,325,976
3.	Total contributions	-3,944,405
4.	Interest on 1, 2 & 3	1,675,949
5.	Expected unfunded actuarial accrued liability	25,466,808
6.	Changes due to:	
	a. Net experience gain	-18,930
	b. Plan provisions	3,286,227
	c. Total changes	3,267,297
7.	**Unfunded actuarial accrued liability at end of year**	**$28,734,105**

Section 2: Actuarial Valuation Results

Actuarially determined contribution

The actuarially determined contribution is equal to the City's normal cost payment and a payment on the unfunded actuarial accrued liability (UAL). As of January 1, 2024, the actuarially determined contribution is $4,256,587.

The System sets the funding policy used to calculate the actuarially determined contribution based on a closed amortization period of 20 years of the UAL, established as of January 1, 2020, and a 10-year amortization of any changes in the UAL thereafter. Amortization is on a level-percentage-of-ay basis. The payment on the unfunded actuarial accrued liability accounts for nearly 70% of the City's recommended contribution.

The current funding policy is intended to result in predictable employer contributions that eliminate the UAL within 20 years, thereby providing benefit security to plan participants while balancing the needs of current and future contributors to the plan.

Actuarially Determined Contribution

	Contribution	2024 Amount	2023 Amount
1.	Total normal cost	$1,416,082	$1,272,681
2.	Administrative expenses	53,295	53,295
3.	Expected member contributions	-275,561	-258,273
4.	Employer normal cost: (1) + (2) + (3)	1,193,816	1,067,703
5.	Actuarial accrued liability	48,541,934	43,049,690
6.	Actuarial value of assets	19,807,829	16,640,402
7.	Unfunded actuarial accrued liability: (5) - (6)	28,734,105	26,409,288
8.	Payment on unfunded actuarial accrued liability	2,930,830	2,484,452
9.	Adjustment for timing[1]	131,941	113,628
10.	**Actuarially determined contribution: (4) + (8) + (9)**	**$4,256,587**	**$3,665,783**

[1] Actuarially determined contributions are assumed to be paid at the middle of every year

Section 2: Actuarial Valuation Results

Reconciliation of actuarially determined contribution

Reconciliation of Actuarially Determined Contribution from January 1, 2023 to January 1, 2024

Step	Amount
Actuarially determined contribution as of January 1, 2023	$3,665,783
Changes in Actuarially Determined Contribution	
• Effect of expected change in amortization payment due to payroll growth	64,098
• Effect of plan amendment	553,705
• Effect of investment gain	-135,600
• Effect of other gains and losses on accrued liability	133,293
• Net effect of other changes, including composition and number of members	-24,692
• **Total change**	**$590,804**
Actuarially determined contribution as of January 1, 2024	**$4,256,587**

Section 2: Actuarial Valuation Results

History of employer contributions

The contributions deficiencies for calendar years 2017 through 2019 represent contributions directed to the Excess Benefit Plan and Trust.

History of Employer Contributions: 2015 – 2024

Actuarially Determined Employer Contribution (ADC) versus Actual Employer Contribution (AEC)

Year Ended December 31	ADC Amount	AEC Amount	Percent Contributed
2015	$2,442,790	$2,442,790	100.00%
2016	3,063,584	3,063,584	100.00%
2017	2,086,639	2,077,059	99.54%
2018	2,273,581	1,979,285	87.06%
2019	1,881,055	1,530,262	81.35%
2020	1,777,311	1,777,311	100.00%
2021	2,098,588	2,098,588	100.00%
2022	2,806,863	2,806,863	100.00%
2023	3,665,783	3,665,783	100.00%
2024	4,256,587	N/A	N/A

Section 2: Actuarial Valuation Results

Low-Default-Risk Obligation Measure (LDROM)

In December 2021, the Actuarial Standards Board issued a revision of Actuarial Standard of Practice No. 4 (ASOP 4) *Measuring Pension Obligations and Determining Pension Plan Costs or Contributions*. One of the revisions to ASOP 4 requires the disclosure of a Low-Default-Risk Obligation Measure (LDROM) when performing a funding valuation. The LDROM presented in this report is calculated using the same methodology and assumptions used to determine the Actuarial Accrued Liability (AAL) used for funding, except for the discount rate. The LDROM is required to be calculated using "a discount rate…derived from low-default-risk fixed income securities whose cash flows are reasonably consistent with the pattern of benefits expected to be paid in the future."

The LDROM is a calculation assuming a plan's assets are invested in an all-bond portfolio, generally lowering expected long-term investment returns. The discount rate selected and used for this purpose is the Bond Buyer General Obligation 20-year Municipal Bond Index Rate, published at the end of each week. The last published rate in December of the measurement period, by The Bond Buyer (www.bondbuyer.com), is 3.26% for use effective December 31, 2023. This is the rate used to determine the discount rate for valuing reported public pension plan liabilities in accordance with Governmental Accounting Standards when plan assets are projected to be insufficient to make projected benefit payments, and the 20-year period reasonably approximates the duration of plan liabilities. The LDROM is not used to determine a plan's funded status or Actuarially Determined Contribution. The plan's expected return on assets, currently 6.50%, is used for these calculations.

As of December 31, 2023, the LDROM for the system is $70,182,357. The difference between the plan's AAL of $48,541,934 and the LDROM can be thought of as the increase in the AAL if the entire portfolio were invested in low-default-risk securities. Alternatively, this difference could also be viewed as representing the expected savings from investing in the plan's diversified portfolio compared to investing only in low-default-risk securities.

ASOP 4 requires commentary to help the intended user understand the significance of the LDROM with respect to the funded status of the plan, plan contributions, and the security of participant benefits. In general, if plan assets were invested exclusively in low-default-risk securities, the funded status would be lower and the Actuarially Determined Contribution would be higher. While investing in a portfolio with low-default-risk securities may be more likely to reduce investment volatility and the volatility of employer contributions, it also may be more likely to result in higher employer contributions or lower benefits.

Section 2: Actuarial Valuation Results

Risk

The actuarial valuation results are dependent on a single set of assumptions; however, there is a risk that emerging results may differ significantly as actual experience proves to be different from the current assumptions.

We have not been engaged to perform a detailed analysis of the potential range of the impact of risk relative to the Plan's future financial condition but have included a brief discussion of some risks that may affect the Plan.

- Economic and Other Related Risks. Potential implications for the Plan due to the following economic effects (that were not reflected as of the valuation date) include:
  - Volatile financial markets and investment returns lower than assumed
  - High inflationary environment impacting salary increases and COLAs
- Investment Risk (the risk that returns will be different than expected)

  The market value rate of return over the last 9 years has ranged from a low of -11.64% to a high of 17.14%.
- Longevity Risk (the risk that mortality experience will be different than expected)

  The actuarial valuation includes an expectation of future improvement in life expectancy. Emerging plan experience that does not match these expectations will result in either an increase or decrease in the actuarially determined contribution.
- Contribution Risk (the risk that actual contributions will be different from actuarially determined contribution)

  The contributions of this Plan can fluctuate significantly from year to year, due to its nature as an excess pay plan and the fact the covered population is small. The assets are likely to fluctuate considerably from year to year as well since there is no smoothing method in place. As mentioned previously, City contributions to this plan are less than 2% of the total amount that the City contributes to the System, and therefore some volatility can be withstood. As long as the City continues to contribute the ADC, risk associated with this Plan should be minimal.
- Demographic Risk (the risk that participant experience will be different than assumed)

  Examples of this risk include:
  - Actual retirements occurring earlier or later than assumed. The value of retirement plan benefits is sensitive to the rate of benefit accruals and any early retirement subsidies that apply.
  - More or less active participant turnover than assumed.
- There are external factors including legislative or financial reporting changes that could impact the Plan's funding and disclosure requirements. While we do not assume any changes in such external factors, it is important to understand that they could have significant consequences for the Plan.

Section 2: Actuarial Valuation Results

Detailed Risk Assessment

- A more detailed assessment of the risks would provide the Board with a better understanding of the risks inherent in the Plan. This assessment may include scenario testing, sensitivity testing, stress testing, and stochastic modeling.

Section 2: Actuarial Valuation Results

GFOA funded liability by type

The Actuarial Accrued Liability represents the present value of benefits earned, calculated using the Plan's actuarial cost method. The Actuarial Value of Assets reflects the financial resources available to liquidate the liability. The portion of the liability covered by assets reflects the extent to which accumulated plan assets are sufficient to pay future benefits, and is shown for liabilities associated with employee contributions, pensioner liabilities, and other liabilities. The Government Finance Officers Association (GFOA) recommends that the funding policy aim to achieve a funded ratio of 100 percent.

GFOA Funded Liability by Type as of December 31

Type	2024	2023
Actuarial accrued liability (AAL)		
Active member contributions	$833,143	$707,949
Retirees and beneficiaries	34,346,453	32,351,530
Active and inactive members (employer-financed)	13,362,338	9,990,211
Total	**$48,541,934**	**$43,049,690**
Actuarial value of assets	19,807,829	16,640,402
Cumulative portion of AAL covered		
Active member contributions	100.00%	100.00%
Retirees and beneficiaries	55.24%	49.25%
Active and inactive members (employer-financed)	0.00%	0.00%

Section 2: Actuarial Valuation Results

Actuarial balance sheet

An overview of the Plan's funding is given by an Actuarial Balance Sheet. In this approach, first the amount and timing of all future payments that will be made by the Plan for current members is determined. Then these payments are discounted at the valuation interest rate to the date of the valuation, thereby determining the present value, referred to as the "liability" of the Plan.

Second, this liability is compared to the assets. The "assets" for this purpose include the net amount of assets already accumulated by the Plan, the present value of future member contributions, the present value of future employer normal cost contributions, and the present value of future employer amortization payments for the unfunded actuarial accrued liability.

Actuarial Balance Sheet

Description	Year Ended December 31, 2023	Year Ended December 31, 2022
Liabilities		
Present value of benefits for retired members and beneficiaries (non-DROP)	$28,794,816	$26,517,532
Present value of benefits for retired members and beneficiaries (DROP)	5,551,637	5,833,998
Present value of benefits for inactive vested members	48,482	39,929
Present value of benefits for active members	19,740,883	16,190,583
Total liabilities	**$54,135,818**	**$48,582,042**
Current and future assets		
Total valuation value of assets	$19,807,829	$16,640,402
Present value of future contributions by members	1,303,363	1,327,645
Present value of future employer contributions for:		
• Entry age cost	4,290,521	4,204,707
• Unfunded actuarial accrued liability	28,734,105	26,409,288
Total of current and future assets	**$54,135,818**	**$48,582,042**

Section 3: Supplemental Information

Exhibit A: Table of plan demographics

Category	Year Ended December 31, 2023	Year Ended December 31, 2022	Change From Prior Year
Active members in valuation:			
• Number	56	52	7.7%
• Average age	51.3	50.8	0.5
• Average years of service	25.3	24.7	0.6
• Average supplemental computation pay	$36,450	$36,791	-0.9%
• Account balances	833,143	707,949	17.7%
• Total active vested members	55	51	7.8%
Active members (excluding DROP):			
• Number	54	50	8.0%
• Average age	50.6	50.1	0.5
• Average years of service	24.5	23.8	0.7
• Total supplemental computation pay	$1,991,687	$1,864,656	6.8%
• Average supplemental computation pay	$36,883	37,293	-1.1%
Active members (DROP):			
• Number	2	2	0.0
• Average age	69.5	68.5	1.0
• Average years of service	47.2	46.2	1.0
• Total supplemental computation pay	$49,506	$48,476	2.1%
• Average supplemental computation pay	$24,754	24,328	1.8%
• DROP account balances	132,340	132,340	0.0%

Section 3: Supplemental Information

Category	Year Ended December 31, 2023	Year Ended December 31, 2022	Change From Prior Year
Inactive members			
• Inactive vested members	1	1	0.0%
• Average age	49.8	48.8	1.0
• Average monthly benefit	$447	$447	0.0%
Retired members:			
• Number in pay status	118	119	-0.8%
• Average age	67.9	68.1	-0.2
• Average monthly benefit	$1,516	$1,545	-1.9%
Beneficiaries:			
• Number in pay status	34	30	13.3%
• Average age	75.9	75.4	0.5
• Average monthly benefit	$1,012	$889	13.8%
Beneficiaries with DROP only	**3**	**2**	**50.0%**

Section 3: Supplemental Information

Exhibit B: Reconciliation of member data

	Active Members	Inactive Vested Members[1]	Retired Members	Beneficiaries[2]	Total
Number as of January 1, 2023	**52**	**1**	**119**	**30**	**202**
New members	9	N/A	N/A	N/A	9
Terminations — with vested rights	0	0	0	0	0
Terminations — without vested rights	0	N/A	N/A	N/A	0
Retirements	-5	0	5	N/A	0
Died with beneficiary	0	0	-4	4	0
Died without beneficiary	0	0	-2	0	-2
Data adjustments	0	0	0	0	0
Number as of January 1, 2024	**56**	**1**	**118**	**34**	**209**

[1] Excludes non-vested terminated members due a refund of contributions
[2] Excludes beneficiaries with DROP only

Section 3: Supplemental Information

Exhibit C: Summary statement of income and expenses on a market value basis

Year Ended December 31, 2023 versus Year Ended December 31, 2022

Item	Income and Expenses	Assets as of YE 2023	Income and Expenses	Assets as of YE 2022
Net assets at market value at the beginning of the year		**$16,640,402**		**$18,660,711**
Contribution and other income:				
• City contributions	$3,665,783		$2,806,863	
• Member contributions	278,622		255,703	
• **Total contribution income**		**$3,944,405**		**$3,062,566**
Investment income:				
• Investment income	$2,291,344		-$2,101,327	
• Less investment fees	-66,354		-79,791	
• **Net investment income**		**$2,224,990**		**-$2,181,118**
• **Total income available for benefits**		**$6,169,395**		**$881,448**
Less benefit payments and administrative expenses:				
• Administrative expenses	-$61,334		-$58,731	
• Benefits paid to members	-2,940,634		-2,843,026	
• Refunds to members	0		0	
• **Net benefit payments and administrative expenses**		**-$3,001,968**		**-$2,901,757**
Change in market value of assets		**$3,167,427**		**-$2,020,309**
Net assets at market value at the end of the year		**$19,807,829**		**$16,640,402**

Section 3: Supplemental Information

Exhibit D: Summary statement of plan assets

Year Ended December 31, 2023 versus Year Ended December 31, 2022

Item	Investments	Assets as of YE 2023	Investments	Assets as of YE 2022
Cash and accounts receivable				
• Cash equivalents		$755,686		$798,487
• Total accounts receivable		85,968		53,356
Investments:				
• Equity securities	$10,117,626		$7,564,557	
• Real assets	2,830,683		3,182,452	
• Fixed income securities	3,717,369		2,939,523	
• Private equity	2,224,030		2,004,867	
• Other	172,577		136,198	
• **Total investments at market value**		**$19,062,285**		**$15,827,597**
Total assets		**$19,903,939**		**$16,679,440**
Accounts payable				
• Total accounts payable		-$96,110		-$39,038
Net assets at market (actuarial) value		**$19,807,829**		**$16,640,402**

Section 3: Supplemental Information

Exhibit E: Development of the fund through December 31, 2023

Year Ended December 31	City Contributions	Employee Contributions	Net Investment Return[1]	Admin. Expenses[2]	Benefit Payments	Actuarial (Market) Value of Assets at Year-End
2014	$1,817,136	$49,104	-$1,091,374	$0	$3,372,841	$21,438,870
2015	2,442,790	43,358	-1,828,695	0	2,639,617	19,456,706
2016	2,985,478	34,612	1,176,323	78,047	5,911,533	17,663,539
2017	2,077,059	66,095	735,567	68,528	2,668,579	17,805,153
2018	1,979,285	73,880	1,220,482	52,636	2,708,271	18,317,893
2019	1,530,262	110,660	168,995	54,598	2,765,779	17,307,433
2020	1,777,311	245,237	-122,726	55,352	2,777,719	16,374,184
2021	2,098,588	227,893	2,764,978	55,359	2,749,573	18,660,711
2022	2,806,863	255,703	-2,181,118	58,731	2,843,026	16,640,402
2023	3,665,783	278,622	2,224,990	61,334	2,940,634	19,807,829

[1] On a market basis, net of investment fees
[2] Administrative expenses were subtracted from net investment return prior to the 2016 valuation

Section 3: Supplemental Information

Exhibit F: Table of amortization bases

Type	Date Established	Initial Period	Initial Amount	Annual Payment[1]	Years Remaining	Outstanding Balance
2020 unfunded liability	01/01/2020	20	$18,523,051	$1,437,959	16	$17,535,371
Experience loss	01/01/2021	10	1,173,796	149,265	7	934,223
Change in assumptions	01/01/2021	10	1,558,820	198,226	7	1,240,664
Experience loss	01/01/2022	10	1,499,094	185,982	8	1,306,290
Change in assumptions	01/01/2022	10	-4,477	-555	8	-3,901
Experience loss	01/01/2023	10	3,882,792	469,961	9	3,646,873
Change in assumptions	01/01/2023	10	873,505	105,726	9	820,430
Experience gain	01/01/2024	10	-32,072	-3,787	10	-32,072
Plan amendment	01/01/2024	10	3,286,227	388,053	10	3,286,227
Total				**$2,930,830**		**$28,734,105**

[1] Level percentage of payroll

Section 4: Actuarial Valuation Basis

Exhibit G: Actuarial assumptions, methods and models

Rationale for assumptions

The information and analysis used in selecting each assumption that has a significant effect on this actuarial valuation is shown in the Experience Study Report for the five-year period ending December 31, 2019, with subsequent changes related to updated capital market assumptions, retirement rates, and the salary scale.

Net investment return

6.50%.

The net investment return assumption was chosen by the System's Board of Trustees, with input from the actuary. The assumption is a long-term estimate derived from historical data, current and recent market expectations, and professional judgment. As part of the analysis, a building block approach was used that reflects inflation expectations and anticipated risk premiums for each of the portfolio's asset classes as well as the System's target asset allocation.

Salary increases rate (%)

Year	Sergeants, Leutienants, Captains, Majors, Deupty Chiefs, Assistant Chiefs & Chiefs
2023	6.25
2024+	2.50

The salary scale assumption is based on the City's pay plan, along with analysis completed in conjunction with an Experience Study Report for the five-year period ended December 31, 2019 and the 2019 and 2023 Meet and Confer Agreements.

Payroll growth

2.50%, used to amortize the unfunded actuarial accrued liability as a level percentage of payroll.

Section 4: Actuarial Valuation Basis

Cost-of-living adjustments

Beginning October 1, 2025, 0.85% on original benefit for first five years, 1.00% for years six through 10, 1.25% for years 11 through 15 and 1.5% thereafter.

Administrative expenses

$55,000 per year, payable monthly, or 1% of computation pay, if greater

Mortality rates

Healthy pre-retirement: Pub-2010 Public Safety Employee Amount-Weighted Mortality Table, set forward five years for males, projected generationally using Scale MP-2019

Healthy annuitants and dependent spouses: Pub-2010 Public Safety Retiree Amount-Weighted Mortality Table, set back one year for females, projected generationally using Scale MP-2019

Healthy Contingent Beneficiaries: Pub-2010 Public Safety Contingent Survivor Amount-Weighted Mortality Table, set back one year for females, projected generationally using Scale MP-2019

Disabled annuitants: Pub-2010 Public Safety Disabled Retiree Amount-Weighted Mortality Table, set forward four years for males and females, projected generationally using Scale MP-2019

The tables above, with adjustments as shown and projected to the ages of members as of the measurement date, reasonably reflect the mortality experience of the Plan as of the measurement date. The mortality tables are then generationally projected using Scale MP-2019 to anticipate future mortality improvement.

Section 4: Actuarial Valuation Basis

Annuitant mortality rates (%)[1]

Age	Healthy Male	Healthy Female	Disabled Male	Disabled Female
55	0.306	0.231	0.670	0.643
60	0.508	0.399	1.078	0.976
65	0.881	0.690	1.732	1.481
70	1.568	1.191	2.893	2.248
75	2.826	2.057	5.057	3.552
80	5.103	3.552	8.308	6.134
85	9.135	6.134	14.238	10.592
90	15.860	10.592	22.306	17.403

Mortality and disability rates (%) before retirement

Age	Mortality Male[1]	Mortality Female[1]	Disability Male[2]	Disability Female[2]
20	0.037	0.016	0.010	0.010
25	0.041	0.020	0.015	0.015
30	0.047	0.027	0.020	0.020
35	0.059	0.036	0.025	0.025
40	0.082	0.049	0.030	0.030
45	0.120	0.067	0.035	0.035
50	0.175	0.091	0.040	0.040
55	0.264	0.123	--	--
60	0.410	0.168	--	--

[1] Mortality rates shown for base table
[2] 100% of disabilities are assumed to be service-related

Section 4: Actuarial Valuation Basis

Withdrawal rates (%) before retirement

Years of Service	Police	Fire
0	20.0	10.0
1	5.5	5.5
2	5.5	5.5
3	5.5	5.5
4	5.5	5.5
5	5.5	5.5
6	3.5	5.5
7	3.5	1.0
8	3.5	1.0
9	3.5	1.0
10	3.5	1.0
11-14	2.0	1.0
15-24	1.0	1.0
25 & over	0.0	0.0

Section 4: Actuarial Valuation Basis

Retirement rates (%)

DROP active members

Age	Police	Fire
Under 50	1.00	0.75
50	10.00	0.75
51	15.00	0.75
52-53	15.00	10.00
54	25.00	10.00
55-57	25.00	15.00
58-62	30.00	40.00
63	40.00	50.00
64	50.00	50.00
65 & over	100.00	100.00

75% Retirement rate after ten years in DROP

Section 4: Actuarial Valuation Basis

Non-DROP Active Members

Age	Member hired prior to March 1, 2011 with at least 20 years of service as of September 1, 2017	Member hired prior to March 1, 2011 with less than 20 years of service as of September 1, 2017 & Members hired on or after March 1, 2011
Under 50	1	1
50-51	8	2
52	10	2
53	15	2
54	20	2
55	35	2
56-57	40	2
58-60	75	25
61	75	50
62	100	100

100% retirement rate once benefit multiplier hits 90% maximum.

Weighted average retirement age

Age 57, determined as follows: The weighted average retirement age for each participant is calculated as the sum of the product of each potential current or future retirement age times the probability of surviving from current age to that age and then retiring at that age, assuming no other decrements. The overall weighted retirement age is the average of the individual retirement ages based on all the active members included in the January 1, 2024 actuarial valuation.

Retirement for inactive vested participants

- Terminated vested member who terminated prior to September 1, 2017 are assumed to retire at age 50.
- Terminated vested members who terminated on or after September 1, 2017 are assumed to retire at age 58.
- 75% of members who terminated prior to age 40 are assumed to take a lump sum cash out at age 40.

Section 4: Actuarial Valuation Basis

DROP utilization

No members are assumed to elect to enter DROP

Interest on DROP accounts

- 2.75% on account balances as of September 1, 2017, payable upon retirement
- 0.00 on account balances accrued after September 1, 2017

DROP payment period

Based on expected lifetime as of the later of September 1, 2017 on retirement date. Expected lifetime determined based on an 85% male/15% female blend of the current healthy annuitant mortality tables.

DROP annuitization interest

2.75% Based on United States Department of Commerce Daily Treasury Yield Curve Rates for durations between 5 and 30 years.

Actuarial equivalence

Actuarial equivalence for optional forms of benefit payments are based on an 85% male/15% female blend of the current healthy annuitant mortality tables, along with an interest rate of 6.50%

Unknown data for members

Same as those exhibited by members with similar known characteristics. If not specified, members are assumed to be male.

Family composition

75% of members are assumed to be married. Females are assumed to be three years younger than their spouses. The youngest child is assumed to be ten years old.

Benefit election

Married members are assumed to elect the Joint and Survivor annuity form of payment and non-married members are assumed to elect a Life Only annuity.

Section 4: Actuarial Valuation Basis

Actuarial value of assets

Market value of assets.

Actuarial cost method

Entry Age Actuarial Cost Method. Entry Age is the age at the time the member commenced employment. Normal Cost and Actuarial Accrued Liability are calculated on an individual basis, with Normal Cost determined using the plan of benefits applicable to each participant. Actuarial Liability is allocated by salary.

Amortization methodology

The unfunded actuarial accrued liability as of January 1, 2020 is amortized on a closed, 20-year period. Beginning January 1, 2021, each year's gains and losses are amortized over a closed, 10-year period. Amortization is on a level-percentage-of-pay basis.

Models

Segal valuation results are based on proprietary actuarial modeling software. The actuarial valuation models generate a comprehensive set of liability and cost calculations that are presented to meet regulatory, legislative and client requirements. Our Actuarial Technology and Systems unit, comprised of both actuaries and programmers, is responsible for the initial development and maintenance of these models. The models have a modular structure that allows for a high degree of accuracy, flexibility and user control. The client team programs the assumptions and the plan provisions, validates the models, and reviews test lives and results, under the supervision of the responsible actuary.

Justification for change in actuarial assumptions

As part of the plan changes adopted by the Board on August 8, 2024, a partial COLA, payable while the Plan is under 70% funded on a market value basis, has been added effective October 1, 2025. The partial COLA is equal to the funded ratio for the Combined Plan on a market value basis multiplied by the annual change in CPI-U All Items in the Dallas-Ft. Worth-Arlington, Texas area, provided the adjustment not exceed 1.50%. The new COLA is assumed to be 0.85% for the first five years, 1.00% for years 6 through 10, 1.25% for years 11 through 15, and 1.50% thereafter.

Section 4: Actuarial Valuation Basis

Exhibit H: Summary of plan provisions

This exhibit summarizes the major provisions of the Plan included in the valuation. It is not intended to be, nor should it be interpreted as, a complete statement of all plan provisions.

Plan year

January 1 through December 31

Plan status

Ongoing

Members whose participation began before March 1, 2011

Normal retirement

Benefit earned prior to September 1, 2017:

Age Requirement: 50

Service Requirement: 5

Amount: Greater of 3.0% of Average Supplemental Computation Pay times years of Pension Service (maximum 96.0%) and $2,200 per month. The $2,200 per month minimum benefit is prorated if the Member retires with less than 20 years of service.

Average Supplemental Computation Pay: Highest 35 consecutive months of Supplemental Computation Pay

Benefit earned beginning September 1, 2017

Age Requirement: 58

Service Requirement: 5

Amount: Greater of 2.5% of Average Supplemental Computation Pay times years of Pension Service (maximum 90.0%) and $2,200 per month. The $2,200 per month minimum benefit is prorated if the Member retires with less than 20 years of service.

Average Supplemental Computation Pay: Highest 60 consecutive months of Supplemental Computation Pay

Section 4: Actuarial Valuation Basis

20 and out reduced retirement

If eligible as of September 1, 2017:

Age Requirement: None

Service Requirement: 20 years

Amount: 20 & Out Multiplier times 36-month (Table 1 Benefit) or 60 month (Table 2 Benefit) Average Supplemental Computation Pay times years of Pension Service

Benefit Accrued Before September 1, 2017

20 & Out Table 1

Age	Multiplier
45 & under	2.00%
46	2.25%
47	2.50%
48	2.75%
49	2.75%
50 & above	3.00%

Benefit Accrued Beginning September 1, 2017

20 & Out Table 2

Age	Multiplier
53 & under	2.00%
54	2.10%
55	2.20%
56	2.30%
57	2.40%
58 & above	2.50%

If not eligible as of September 1, 2017

Age Requirement: None

Service Requirement: 20 years

Amount: 20 & Out Multiplier times 60-month Average Supplemental Computation Pay times years of Pension Service

20 & Out Table

Age	Multiplier
53 & under	2.00%
54	2.10%
55	2.20%
56	2.30%
57	2.40%
58 & above	2.50%

Section 4: Actuarial Valuation Basis

Early retirement

If at least age 45 as of September 1, 2017 and less than age 50:

Age Requirement: 45

Service Requirement: 5

Amount: Normal pension accrued prior to September 1, 2017 plus the benefit accrued based on the 20 & Out Table 2 for service beginning September 1, 2017, reduced by 2/3 of 1% for each whole month by which the benefit commencement date precedes age 50.

Non-service-connected disability

Eligibility: Injury or illness (lasting more than 90 days) not related to or incurred while in the performance of the member's job, preventing the member from performing their departmental duties.

Amount: 3% of Average Supplemental Computation Pay for service earned prior to September 1, 2017 and the applicable benefit multiplier from 20 & Out Table 2 times Average Supplemental Computation Pay for service earned beginning September 1, 2017.

Service-connected disability

Eligibility: Injury or illness (lasting more than 90 days) obtained while on duty in the performance of the member's job.

Amount: 3% of Average Supplemental Computation Pay for service earned prior to September 1, 2017 and the applicable benefit multiplier from 20 & Out Table 2 times Average Supplemental Computation Pay for service earned beginning September 1, 2017; if the member has less than 20 years of service, the benefit will be calculated as if they had 20 years at the time of disability.

Benefit supplement

Age Requirement: 55

Service Requirement: 20 years, waived if member is receiving a service-connected disability

Amount: 3% of the total monthly benefit (including any applicable COLA's) payable to the Member when the Member attains age 55. The benefit supplement shall not be less than $75 per month.

Beginning September 1, 2017, only those annuitants and their survivors already receiving the supplement will be eligible to maintain their current supplement, which will not change ongoing; no additional retirees will be eligible for the supplement.

Section 4: Actuarial Valuation Basis

Members whose Participation Began on or After March 1, 2011

Normal retirement

Age Requirement: 58

Service Requirement: 5

Amount: 2.5% of Average Supplemental Computation Pay for each year of Pension Service, maximum 90%. The minimum monthly benefit is $110 times the number of years of Pension Service at retirement, but not greater than $2,200.

Average Supplemental Computation Pay: Highest 60 consecutive months of Supplemental Computation Pay.

20 & out reduced retirement

Age Requirement: None

Service Requirement: 20 years

Amount: 20 & Out Multiplier times 60-month Average Supplemental Computation Pay times years of Pension Service

20 & out table 2

Age	Multiplier
53 & under	2.00%
54	2.10%
55	2.20%
56	2.30%
57	2.40%
58 & above	2.50%

Early Retirement

Age Requirement: 53

Service Requirement: 5

Amount: Normal pension accrued, reduced by 2/3 of 1% for each whole month by which the benefit commencement date precedes the normal retirement date.

Section 4: Actuarial Valuation Basis

Non-service-connected disability

Eligibility: Injury or illness (lasting more than 90 days) not related to or incurred while in the performance of the member's job, preventing the member from performing their departmental duties.

Amount: The Member's accrued benefit, but not less than a pro-rated minimum benefit.

Service-connected disability

Eligibility: Injury or illness (lasting more than 90 days) obtained while on duty in the performance of the member's job.

Amount: The greater of 50% of Average Supplemental Computation Pay and the Member's accrued benefit; if the member has less than 20 years of service, the benefit will be calculated as if they had 20 years of service at the time of disability.

All Members

Termination Benefit

With less than five years of pension service: Upon request, the member's contributions will be returned without interest.

With at least five years of pension service: The member may either withdraw contributions or leave contributions in the Plan and receive a monthly benefit to commence no earlier than the member's earliest eligibility for retirement benefits. Retirement benefit is equal to the accrued benefit as of the date of termination.

Pre-retirement death benefit

While in active service -The greater of 50% of the Member's accrued benefit or a benefit based on 20 years of service. The benefit may not exceed 45% of Average Supplemental Computation Pay.

After leaving active service, with fewer than five years - A lump sum benefit equal to the return of member contributions without interest.

After leaving active service, with at least five years - 50% of the Member's accrued benefit, with no early retirement reduction, or a refund of member contributions.

Post-retirement death benefit

50% or 100% of the pension the Member was receiving at the time of their death, depending on the form of joint and survivor annuity chosen; if there are no qualifying survivors, no further benefits will be paid.

Section 4: Actuarial Valuation Basis

Qualified surviving children benefit

50% of the pension the Member was receiving at the time of their death, divided equally among the children, paid until the youngest child is 19 years old or for life if the child becomes disabled prior to age 23

Minimum survivor benefit

$1,100 per month, not to exceed the actual amount the Member was receiving upon their death. If there are no Qualified Surviving Children, the minimum benefit to a spouse who is a Qualified Survivor shall be $1,200 per month. If the Member had less than 20 years of Pension Service, the minimum benefit will be prorated based on actual years of Pension Service.

Special survivor benefit

Eligibility: Upon leaving active service or joining DROP: a) the Member was at least 55 years old with at least 20 years of pension service, or b) the sum of the Member's age plus Pension Service was at least 78; **and**
Has no Qualified Surviving Children or disabled children currently eligible for survivor benefits; **and**
Whose Qualified Surviving Spouse is at least 55 years old. The Qualified Surviving Spouse does not have to be 55 years old at the time of the Member's death.

Amount: Once all the eligibility conditions are met, the amount the Qualified Surviving Spouse will receive increases from 50% of the Member's pension benefit to a percentage of the Member's pension benefit based on the Member's applicable benefit multiplier times the number of years of Pension Service the Member worked.

Survivor benefit if no qualified surviving spouse

A lump sum that is the actuarial equivalent of 120 monthly payments of the greater of: 50% of the Member's pension benefit at the time of their death, or a benefit based on 20 years of the Member's service.

DROP

Eligibility: Members in active service who are retirement eligible may elect to enter the Deferred Retirement Option Plan (DROP).

Distribution: The DROP account balance will be paid over the expected future lifetime of annuitants.
Interest: Based on United States Department of Commerce Daily Treasury Yield Curve Rates for durations between 5 and 30 years; interest rate is based on the expected lifetime of the members at the time they retire. Interest is only paid on DROP account balances as of September 1, 2017.
Maximum years of crediting: Once an active member reaches 10 years in DROP they will no longer have their pension benefit credited to their DROP account.

Section 4: Actuarial Valuation Basis

Supplemental Computation Pay

Supplemental Computation Pay is the current rate of pay received by the member, minus the rate of pay the member would receive for the highest civil service rank the member held.

Cost of living adjustments (COLAs)

Before the Combined Plan is 70% funded, an immediate partial COLA equal to the annual change in CPI-U All Items for the Dallas-Ft. Worth-Arlington, Texas are multiplied by the funded ratio for the Combined Plan on a market value basis, limited to 1.5%, effective October 1, 2025.

After the Combined Plan is 70% funded, the Board may grant an ad hoc COLA based on the actual market return over the prior five years less 5%, not to exceed 4% of the base benefit, if, after granting a COLA, the funded ratio for the Combined Plan on a market value of assets basis is no less than 70%.

Member contributions

13.5% of computation pay for all members.

City contributions

The City will contribute the Actuarially Determined Contribution.

Forms of Benefits

50% or 100% Joint and Survivor Pension.

Changes in Plan Provisions

The following plan provision was changed on August 8, 2024 and is reflected in this valuation:

Before the Combined Plan is 70% funded, an immediate partial COLA equal to the annual change in CPI-U All Items for the Dallas-Ft. Worth-Arlington, Texas area multiplied by the funded ratio on a market value basis, limited to 1.50%, effective October, 2025.

Section 5: GASB Information

Exhibit I: Net Pension Liability

Components of the Net Pension Liability	Current	Prior
Measurement date and reporting date for the Plan under GASB 67	December 31, 2023	December 31, 2022
Total Pension Liability	$48,552,865	$43,066,735
Plan Fiduciary Net Position	19,807,829	16,640,402
Net Pension Liability	28,745,036	26,426,333
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	40.80%	38.64%

Actuarial assumptions. The Total Pension Liability (TPL) as of December 31, 2023, which was determined based on the results of an actuarial valuation as of January 1, 2024, used the following actuarial assumptions, applied to all periods included in the measurement:

Assumption Type	Assumption
Wage inflation	2.50%
Real rate of return	4.00%
Net investment rate of return	6.50%, net pension investment expense, including inflation

Other assumptions used to determine the TPL are based on the results of an experience study for the five-year period ended December 31, 2019 and are detailed in Section 4, Exhibit I.

Section 5: GASB Information

Determination of discount rate and investment rates of return

The long-term expected rate of return on pension plan investments was determined using a building-block method in which expected future real rates of return (expected returns, net of inflation) are developed for each major asset class. These returns are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage, adding expected inflation. The target allocation (approved by the Board) and projected arithmetic real rates of return for each major asset class, after deducting inflation, but before investment expenses, used in the derivation of the long-term expected investment rate of return assumption are summarized in the following table:

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return[1]
Global Equity	55%	6.80%
Emerging Market Equity	5%	8.00%
Private Equity	5%	9.90%
Short-Term Investment Grade Bonds	6%	1.25%
Investment Grade Bonds	4%	1.80%
High Yield Bonds	4%	3.60%
Bank Loans	4%	3.20%
Emerging Markets Debt	4%	3.70%
Real Estate	5%	3.40%
Natural Resources	5%	4.85%
Cash	3%	1.00%
Total	**100%**	

Discount rate. The discount rates used to measure the Total Pension Liability (TPL) was 6.50%. The projection of cash flows to determine the discount rate assumed City contributions will equal the employee's normal cost plus a 20-year amortization payment on the unfunded actuarial accrued liability as of January 1, 2020 and 10 year amortization payments on each year's actuarial gain or loss beginning January 1, 2021, and members contributions equal to 13.50% of supplemental computation pay. Based on these assumptions, the Plan Fiduciary Net Position (FNP) was projected to be available to make all projected future benefit payments for

[1] The real rates of return are provided by Segal Macro Advisors and are net of inflation.

Section 5: GASB Information

current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the TPL.

Actuarial cost method. In accordance with GASB 67, the TPL for active members is valued as the total present value of benefits once they enter the DROP. For the funding valuation, the liability for these members accumulates from their entry age until they are assumed to leave active service.

Discount rate sensitivity

Sensitivity of the Net Pension Liability to changes in the discount rate. The following presents the Net Pension Liability (NPL) of the Supplemental Plan as of January 1, 2024, calculated using the discount rate of 6.50%, as well as what the Pension System Supplemental Plan's NPL would be if it were calculated using a discount rate that is 1-percentage-point lower (5.50%) or 1-percentage-point higher (7.50%) than the current rate.

Item	1% Decrease (5.50%)	Current Discount Rate (6.50%)	1% Increase (7.50%)
Net Pension Liability	$34,041,611	$28,745,036	$24,310,176

Section 5: GASB Information

Exhibit J: Schedule of changes in Net Pension Liability

Components of the Net Pension Liability	Current	Prior
Measurement Date		
Measurement date and reporting date for the Plan under GASB 67	December 31, 2023	December 31, 2022
Total Pension Liability		
Service cost	$1,261,789	$1,019,457
Interest	2,785,783	2,630,291
Change of benefit terms	3,286,749	0
Differences between expected and actual experience	1,092,443	501,396
Changes of assumptions	0	890,550
Benefit payments, including refunds of member contributions	-2,940,634	-2,843,026
Net change in Total Pension Liability	**$5,486,130**	**$2,198,668**
Total Pension Liability — beginning	43,066,735	40,868,067
Total Pension Liability — ending	**$48,552,865**	**$43,066,735**
Plan Fiduciary Net Position		
Contributions — employer	$3,665,783	$2,806,863
Contributions — employee	278,622	255,703
Net investment income	2,224,990	-2,181,118
Benefit payments, including refunds of member contributions	-2,940,634	-2,843,026
Administrative expense	-61,334	-58,731
Net change in Plan Fiduciary Net Position	**$3,167,427**	**-$2,020,309**
Plan Fiduciary Net Position — beginning	16,640,402	18,660,711
Plan Fiduciary Net Position — ending	**$19,807,829**	**$16,640,402**

Section 5: GASB Information

Components of the Net Pension Liability	Current	Prior
Net Pension Liability		
Net Pension Liability – ending	$28,745,036	$26,426,333
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	40.80%	38.64%
Covered payroll[1]	$1,922,595	$1,800,170
Plan Net Pension Liability as percentage of covered payroll	1,495.12%	1,467.99%

Notes to Schedule:

- **Benefit changes:** The benefit change in 2023 is the addition of the immediate partial COLA effective October 1, 2025.
- **Change of Assumptions:** The assumption changes in 2022 are updates to the salary scale for the 2023 Meet and Confer agreement and lowering DROP Active retirement rates for participants in DROP for ten years from 100% to 75%.

[1] Covered payroll represents compensation earnable and pensionable compensation. Only compensation earnable and pensionable compensation that would possibly go into the determination of the retirement benefits are included.

Section 5: GASB Information

Exhibit K: Schedule of employer contributions

Year Ended December 31	Actuarially Determined Contributions	Contributions in Relation to the Actuarially Determined Contributions	Contribution Deficiency (Excess)	Covered Payroll	Contributions as a Percentage of Covered Payroll
2015	$2,442,790	$2,442,790	$0	$556,725	$438.78%
2016	3,063,584	3,063,584	0	724,503	422.85%
2017	2,086,639	2,077,059	9,580	525,048	395.59%
2018	2,273,581	1,979,285	294,296	916,199	216.03%
2019	1,881,055	1,530,262	350,793	621,622	246.17%
2020	1,777,311	1,777,311	0	584,068	304.30%
2021	2,098,588	2,098,588	0	626,782	334.82%
2022	2,806,863	2,806,863	0	1,631,396	172.05%
2023	3,665,783	3,665,783	0	1,800,170	203.64%

The contribution deficiencies for calendar years 2017 through 2019 represent contributions redirected to the Excess Benefit Plan and Trust.

See accompanying notes to this schedule on next page.

Section 5: GASB Information

Methods and assumptions used to determine contribution rates for the year ended December 31, 2023:

These are not the same assumptions used in the January 1, 2024 valuation or for the Total Pension Liability as measured as of December 31, 2023.

Valuation date

Actuarially determined contribution is calculated using a January 1, 2023 valuation date as of the beginning of the fiscal year in which contributions are reported

Actuarial cost method

Entry age

Amortization method

20-year level percent of payroll for UAL as of January 1, 2020, 10-year level percent of payroll for changes to the UAL thereafter, using 2.50% annual increases

Remaining amortization period

15 years as of January 1, 2023

Asset valuation method

At market value.

Investment rate of return

6.50%, including inflation, net of pension plan investment expense

Inflation rate

2.50%

Section 5: GASB Information

Projected salary increases

Inflation plus merit increases, varying by group and year

Retirement rates

Group-specific rates based on age

Mortality:

Pre-retirement: Pub- 2010 Public Safety Employee Amount-Weighted Mortality Table, set forward five years for males, projected generationally using Scale MP-2019

Healthy annuitant and dependent spouses: Pub- 2010 Public Safety Retiree Amount-Weighted Mortality Table, set back one year for females, projected generationally using Scale MP-2019

Healthy contingent beneficiaries: Pub- 2010 Public Safety Contingent Survivor Amount-Weighted Mortality Table, set back one year for females, projected generationally using Scale MP-2019

Disabled: Pub- 2010 Public Safety Disabled Retiree Amount-Weighted Mortality Table, set forward four years for males and females, projected generationally using Scale MP-2019

Other information

See Section 4, of the January 1, 2023 actuarial valuation for a full outline of assumptions. See Exhibit 2 of this section for the history of changes to plan provisions and assumptions over the last two years.

DROP utilization: 0% of Police and Fire members are assumed to elect to enter DROP.

Interest on DROP accounts: Beginning January 1, 2018, 2.75% payable upon retirement on active account balances as of September 1, 2017.

Appendix A: Definition of Pension Terms

The following list defines certain technical terms for the convenience of the reader:

Term	Definition
Actuarial accrued liability for actives	The equivalent of the accumulated normal costs allocated to the years before the valuation date.
Actuarial accrued liability for retirees and beneficiaries	Actuarial Present Value of lifetime benefits to existing retirees and beneficiaries. This sum takes account of life expectancies appropriate to the ages of the annuitants and the interest that the sum is expected to earn before it is entirely paid out in benefits.
Actuarial cost method	A procedure allocating the Actuarial Present Value of Future Benefits to various time periods; a method used to determine the Normal Cost and the Actuarial Accrued Liability that are used to determine the actuarially determined contribution.
Actuarial gain or loss	A measure of the difference between actual experience and that expected based upon a set of Actuarial Assumptions, during the period between two Actuarial Valuation dates. To the extent that actual experience differs from that assumed, Actuarial Accrued Liabilities emerge which may be the same as forecasted or may be larger or smaller than projected. Actuarial gains are due to favorable experience, e.g., assets earn more than projected, salary increases are less than assumed, members retire later than assumed, etc. Favorable experience means actual results produce actuarial liabilities not as large as projected by the actuarial assumptions. On the other hand, actuarial losses are the result of unfavorable experience, i.e., actual results yield actuarial liabilities that are larger than projected.
Actuarially equivalent	Of equal Actuarial Present Value, determined as of a given date and based on a given set of Actuarial Assumptions.
Actuarial present value	The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of Actuarial Assumptions. Each such amount or series of amounts is: Adjusted for the probable financial effect of certain intervening events (such as changes in compensation levels, marital status, etc.) Multiplied by the probability of the occurrence of an event (such as survival, death, disability, withdrawal, etc.) on which the payment is conditioned, and Discounted according to an assumed rate (or rates) of return to reflect the time value of money.

Appendix A: Definition of Pension Terms

Term	Definition
Actuarial present value of future benefits	The Actuarial Present Value of benefit amounts expected to be paid at various future times under a particular set of Actuarial Assumptions, taking into account such items as the effect of advancement in age, anticipated future compensation, and future service credits. The Actuarial Present Value of Future Benefits includes the liabilities for active members, retired members, beneficiaries receiving benefits, and inactive members entitled to either a refund of member contributions or a future retirement benefit. Expressed another way, it is the value that would have to be invested on the valuation date so that the amount invested plus investment earnings would provide sufficient assets to pay all projected benefits and expenses when due.
Actuarial valuation	The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a plan, as well as Actuarially Determined Contributions.
Actuarial value of assets	The value of the Plan's assets as of a given date, used by the actuary for valuation purposes. This may be the market or fair value of plan assets, but commonly plans use a smoothed value in order to reduce the year-to-year volatility of calculated results, such as the funded ratio and the Actuarially Determined Contribution.
Actuarially determined	Values that have been determined utilizing the principles of actuarial science. An actuarially determined value is derived by application of the appropriate actuarial assumptions to specified values determined by provisions of the Plan.
Actuarially determined contribution	The employer's contributions, expressed as a dollar amount or a percentage of covered plan compensation, determined under the Plan's funding policy. The ADC consists of the Employer Normal Cost and the Amortization Payment.
Amortization method	A method for determining the Amortization Payment. The most common methods used are level dollar and level percentage of payroll. Under the Level Dollar method, the Amortization Payment is one of a stream of payments, all equal, whose Actuarial Present Value is equal to the Unfunded Actuarial Accrued Liability. Under the Level Percentage of Pay method, the Amortization Payment is one of a stream of increasing payments, whose Actuarial Present Value is equal to the Unfunded Actuarial Accrued Liability. Under the Level Percentage of Pay method, the stream of payments increases at the assumed rate at which total covered payroll of all active members will increase.
Amortization payment	The portion of the pension plan contribution, or ADC, that is intended to pay off the Unfunded Actuarial Accrued Liability.
Assumptions or actuarial assumptions	The estimates upon which the cost of the Plan is calculated, including: **Investment return** — the rate of investment yield that the Plan will earn over the long-term future; **Mortality rates** — the rate or probability of death at a given age for employees and retirees; **Retirement rates** — the rate or probability of retirement at a given age or service; **Disability rates** — the rate or probability of disability retirement at a given age; **Withdrawal rates** — the rate or probability at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement; **Salary increase rates** — the rates of salary increase due to inflation, real wage growth and merit and promotion increases.

Appendix A: Definition of Pension Terms

Term	Definition
Closed amortization period	A specific number of years that is counted down by one each year, and therefore declines to zero with the passage of time. For example, if the amortization period is initially set at 20 years, it is 19 years at the end of one year, 18 years at the end of two years, etc. See Open Amortization Period.
Decrements	Those causes/events due to which a member's status (active-inactive-retiree-beneficiary) changes, that is: death, retirement, disability, or withdrawal.
Defined benefit plan	A retirement plan in which benefits are defined by a formula based on the member's compensation, age and/or years of service.
Defined contribution plan	A retirement plan, such as a 401(k) plan, a 403(b) plan, or a 457 plan, in which the contributions to the plan are assigned to an account for each member, the plan's earnings are allocated to each account, and each member's benefits are a direct function of the account balance.
Employer normal cost	The portion of the Normal Cost to be paid by the employer. This is equal to the Normal Cost less expected member contributions.
Experience study	A periodic review and analysis of the actual experience of the Plan that may lead to a revision of one or more actuarial assumptions. Actual rates of decrement and salary increases are compared to the actuarially assumed values and modified based on recommendations from the Actuary.
Funded ratio	The ratio of the Actuarial Value of Assets AVA to the Actuarial Accrued Liability (AAL). Plans sometimes also calculate a market funded ratio, using the Market Value of Assets (MVA), rather than the AVA.
GASB 67 and GASB 68	Governmental Accounting Standards Board (GASB) Statements No. 67 and No. 68. These are the governmental accounting standards that set the accounting rules for public retirement systems and the employers that sponsor or contribute to them. Statement No. 68 sets the accounting rules for the employers that sponsor or contribute to public retirement systems, while Statement No. 67 sets the rules for the systems themselves.
Investment return	The rate of earnings of the Plan from its investments, including interest, dividends and capital gain and loss adjustments, computed as a percentage of the average value of the fund. For actuarial purposes, the investment return often reflects a smoothing of the capital gains and losses to avoid significant swings in the value of assets from one year to the next.
Net Pension Liability (NPL)	The Net Pension Liability is equal to the Total Pension Liability minus the Plan Fiduciary Net Position.
Normal cost	The portion of the Actuarial Present Value of Future Benefits and expenses, if applicable, allocated to a valuation year by the Actuarial Cost Method. Any payment with respect to an Unfunded Actuarial Accrued Liability is not part of the Normal Cost (see Amortization Payment). For pension plan benefits that are provided in part by employee contributions, Normal Cost refers to the total of member contributions and employer Normal Cost unless otherwise specifically stated.
Open amortization period	An open amortization period is one which is used to determine the Amortization Payment but which does not change over time. If the initial period is set as 30 years, the same 30-year period is used in each future year in determining the Amortization Period.

Appendix A: Definition of Pension Terms

Term	Definition
Plan Fiduciary Net Position	Market value of assets.
Service costs	The portions of the actuarial present value of projected benefit payments that are attributed to valuation years.
Total Pension Liability (TPL)	The actuarial accrued liability under the entry age normal cost method and based on the blended discount rate as described in GASB 67 and 68.
Unfunded actuarial accrued liability	The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. This value may be negative, in which case it may be expressed as a negative Unfunded Actuarial Accrued Liability, also called the Funding Surplus or an Overfunded Actuarial Accrued Liability.
Valuation date or actuarial valuation date	The date as of which the value of assets is determined and as of which the Actuarial Present Value of Future Benefits is determined. The expected benefits to be paid in the future are discounted to this date.