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Pensacola General Pension and Retirement Fund

Actuarial Valuation Report as of September 30, 2023

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Cavanaugh Macdonald
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May 6, 2024

The City of Pensacola and
The Board of Trustees
Pensacola General Pension and Retirement Fund
Pensacola, FL

Dear Board of Trustees:

This report presents the results of the September 30, 2023 annual actuarial valuation of the Pensacola General Pension and Retirement Fund. This valuation is used to determine the contributions for the City's fiscal year beginning October 1, 2024.

The City contribution requirements are summarized below. The contribution amount assumes a lump sum payment on October 1.

Required City contribution for plan year beginning October 1, 2024	
Total Payable as a Lump Sum on October 1	$6,141,842

The assumptions used in the valuation are outlined in Table XI. Provisions of the Fund are set forth in Table XII. Information required to be disclosed by the State of Florida under Chapter 112 is presented in Table Va. The projected unfunded actuarial accrued liability (UAAL) is shown in Table Vb. Tables VIa and VIb provide information about the Fund's assets. Tables VIIa though VIIh provide accounting information required under Governmental Accounting Standards Board (GASB) Statement No. 67, while Tables VIIIa through VIIIc provide information about the membership data. Finally, Table IX provides detailed historical data.

Actuarial Standard of Practice Number 4 (ASOP 4) requires the disclosure of a reasonable Actuarial Determined Contribution (ADC). Based on the assumptions and methods used in this report, the ADC is reasonable with respect to ASOP 4.

In order to prepare the results in this report, we have utilized actuarial models that were developed to measure liabilities and develop actuarial costs. These models include tools that we have produced and tested, along with commercially available valuation software that we have reviewed to confirm the appropriateness and accuracy of the output. In utilizing these models, we develop and use input parameters and assumptions about future contingent events along with recognized actuarial approaches to develop the needed results.

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The actuarial computations presented in this report are to be used for the following purposes:

1) Determining the contributions necessary to fund the Plan. These calculations have been made on a basis consistent with our understanding of the Plan's funding requirements and goals.
2) Providing the information required to be disclosed by the State of Florida under Chapter 112.
3) Providing accounting information required under Governmental Accounting Standards Board (GASB) Statement No. 67.

Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. The interest rate used for determining liabilities is based on the expected return on assets. Therefore, liability amounts in this report cannot be used to assess a settlement of the obligation.

Certification

This actuarial valuation and/or cost determination was prepared and completed by me or under my direct supervision and I acknowledge responsibility for the results. To the best of my knowledge, the results are complete and accurate and, in my opinion, the techniques and assumptions used are reasonable and meet the requirements and intent of Part VII, Chapter 112, Florida Statutes. There is no benefit or expense to be provided by the plan and/or paid from the plan's assets for which liabilities or current costs have not been established or otherwise taken into account in the valuation. All known events or trends which may require a material increase in plan costs or required contribution rates have been taken into account in the valuation.

This is to certify that the independent consulting actuary is a Member of the American Academy of Actuaries and has experience in performing valuations for public retirement systems, that the valuation was prepared in accordance with principles of practice prescribed by the Actuarial Standards Board, and that the actuarial calculations were performed by qualified actuaries in accordance with accepted actuarial procedures, based on the current provisions of the Plan and on actuarial assumptions that are internally consistent and reasonably based on the actual experience of the Plan.

Future actuarial results may differ significantly from the current results 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 (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. Since the potential impact of such factors is outside the scope of a normal annual actuarial valuation, an analysis of the range of results is not presented herein.

Sincerely yours,

Todd B. G

Micki R. Taylor

Todd B. Green, ASA, EA, FCA, MAAA
President
Enrollment Number 23-8883

Micki R. Taylor, ASA, EA, FCA, MAAA
Consulting Actuary
Enrollment Number 23-5975

TBG/zs

1. Changes in Benefit Provisions, Actuarial Assumptions and Methods

Since the previous valuation there has been no change in the assumed investment rate of return.

Beginning with the September 30, 2023 valuation, the amortization period is changing from a single base over a closed period to layered amortization over 15-year amortizations periods. The outstanding balance as of September 30, 2023 of the prior year unfunded actuarial accrued liability (UAAL) is the Transitional UAAL and will be amortized over a closed 4-year period. The experience gain/loss as of September 30, 2023 will be a New Incremental UAAL and will be amortized over a closed 15-year period. Each subsequent valuation will produce a New Incremental UAAL consisting of all benefit, assumption and method changes and experience gains and/or losses that have occurred since the previous valuations and will be amortized over a closed 15-year period beginning with the year it is incurred.

2. Health Insurance Premium Assistance Program

The valuation of the Health Insurance Premium Assistance Program and pension benefits provided by the Fund are combined in the results that follow, except where noted.

	As of September 30, 2023	As of September 30, 2022
1. Number of Members		
a. Active Members:	69	73
b. Deferred Vested Members:	42	51
c. DROP Members:	12	16
d. Retired Members:		
i. Non-disabled	403	406
ii. Disabled	19	21
iii. Beneficiaries	130	139
iv. Subtotal	552	566
e. Total Members:	675	706
2. Total Annual Compensation	**$ 4,972,091**	**$ 4,910,733**
3. Total Projected Payroll	**$ 4,972,091**	**$ 4,910,733**
4. Total Retired Member Benefits	**$ 13,458,200**	**$ 13,512,518**
5. Annual Cost (Pension and Retiree Healthcare combined)		
a. Present Value of Future Benefits	$ 174,769,451	$ 177,433,467
b. Present Value of Future Normal Cost	(2,630,501)	(2,850,554)
City Portion	*1,468,234*	*1,611,165*
Member Portion	*1,162,267*	*1,239,389*
c. Actuarial Accrued Liability (AAL)	172,138,950	174,582,913
d. Actuarial Value of Assets	(149,706,427)	(153,419,539)
e. Unfunded Accrued Liability	$ 22,432,523	$ 21,163,374
6. Actuarially Determined Contribution (Payable as a Lump Sum on October 1st)		
a. Normal Cost	$ 562,847	$ 595,038
b. Payment to Amortize Unfunded Liability	5,704,952	5,161,550
c. Administrative Expenses	147,508	112,772
d. Total	$ 6,415,307	$ 5,869,360
e. Expected Member Contributions	$ 273,465	$ 270,090
f. Estimated City Contributions	6,141,842	5,599,270
g. Total	$ 6,415,307	$ 5,869,360

A. UNFUNDED ACCRUED ACTUARIAL LIABILITY (GAIN) / LOSS ANALYSIS

1. Actual Unfunded Accrued Liability as of October 1, 2022	$21,163,374
2. Plan sponsor normal cost for this plan year (including expenses)	$398,792
3. Interest on 1. and 2.	$1,509,352
4. Plan sponsor contribution for this plan year (including amounts expected to be paid)	($5,599,918)
5. Interest on 4.	($195,997)
6. Changes due to:	
a. assumptions	$0
b. plan amendments	$0
c. funding method	$0
d. actuarial (gain)/loss	$5,156,920
	$5,156,920
7. Total Current Unfunded Actuarial Accrued Liability as of October 1, 2023 (1. + 2. + 3. + 4. + 5. + 6.)	$22,432,523

8. Items Affecting Calculation of Accrued Liability

a. Plan provisions reflected in the unfunded accrued liability (see Table XIIIa)
b. Plan amendments reflected in item 6.b. above (see Table XIIIb)
c. Actuarial assumptions and methods used to determine actuarial accrued liability and normal cost (see Table XIIa)
d. Changes in actuarial assumptions and methods reflected in items 6.a. and 6.c. above (see Table XIIb)

B. ASSET (GAIN) / LOSS ANALYSIS

1. Actuarial Value of Assets as of October 1, 2022	$153,419,539
2. Interest on item [1. x 7.00%]	$10,739,368
3. Contributions for the 2022/2023 Plan Year	$5,858,009
4. Interest on item [3. x 7.00% x .5]	$205,030
5. Benefit Payments for 2022/2023 Plan Year (Including Expenses)	($13,406,276)
6. Interest on item [5. x 7.00% x .5]	($469,220)
7. Expected Actuarial Value of Assets as of October 1, 2023	$156,346,450
8. Actuarial Value of Assets as of October 1, 2023	$149,706,427
9. (Gain) / Loss	**(6,640,023)**

C. UNFUNDED ACCRUED LIABILITY CONTRIBUTION RATE CHANGE

1. Actual Unfunded Accrued Liability (UAL) Payment as of October 1, 2022 Valuation:		$5,161,550
2. Changes in UAL Payment Due to Actuarial (Gains)/Losses During the 2022/2023 Plan Year:		
a. Due to Salary	$17,137	
b. Due to Investment Performance	$1,960,322	
c. Due to Turnover	$76,162	
d. Due to New Retirements	$80,074	
e. Due to Mortality	($352,501)	
f. Due to Data/COLA Adjustments/Benefit Payments	($320,031)	
g. Total		$1,461,162
3. Other Changes in UAL Payment During the 2022/2023 Plan Year:		
a. Assumption and method changes	($917,760)	
b. Plan changes	0	
c. Total change		($917,760)
4. Unfunded Accrued Liability Payment as of October 1, 2023 Valuation:		$5,704,952

5. Comments on Change in Unfunded Accrued Liability Contribution Payment:

Salary/Service: Average salary increase of 6.3% compared to expected increases of 6.0%.

Investment Performance: 2.6% actual vs. 7.0% expected return on the actuarial value of assets.

Turnover/Mortality: Net effect on the valuation liabilities of actual deaths, terminations of employment and disabilities different from what was anticipated in the aggregate by the assumptions related to those events.

New retirements: Net effect of differences in expected vs. actual numbers of, and benefits for, new retirements and refund of employee contributions.

Data/COLA Timing: COLA beginning earlier than deferral period for members leaving DROP, and other data adjustments.

Assumption and Method Changes: Each year the additional UAL payment for actuarial gains and losses will be amortized over a new 15-year period.

Plan Changes: None

	For the Plan Year 2024/2025	For the Plan Year 2023/2024
A. Number of Plan Participants as of September 30		
a. Retirees and beneficiaries receiving benefits	552	566
b. DROP members	12	16
c. Terminated plan participants entitled to but not yet receiving benefits	42	51
d. Active plan participants	69	73
e. Total	675	706
B. Development of Actuarially Determined Employer Contribution (ADEC) Payable as Lump Sum		
a. Employer normal cost:		
i. Total normal cost (with expenses)	$ 710,355	$ 707,810
ii. Expected employee contribution	273,465	270,090
iii. Employer normal cost	**$ 436,890**	**$ 437,720**
b. Amortization of UAAL:		
i. PV of future benefits	$ 174,769,451	$ 177,433,467
ii. PV of future employer normal costs	1,468,234	1,611,165
iii. PV of future employee contributions	1,162,267	1,239,389
iv. Actuarial accrued liability (AAL)	172,138,950	174,582,913
v. Actuarial value of assets	149,706,427	153,419,539
vi. Unfunded AAL (UAAL)	22,432,523	21,163,374
vii. Amortization of UAAL	**$ 5,704,952**	**$ 5,161,550**
c. ADEC (Item B.a.iii. plus item B.b.vii.)	**$ 6,141,842**	**$ 5,599,270**

C. Schedule of Funding Progress ($ in thousands)

Actuarial Valuation Date		(1) Actuarial Value of Assets	(2) Actuarial Accrued Liability (AAL)	(3) Unfunded AAL (UAAL) (2) – (1)	(4) Funded Ratio (1) ÷ (2)	(5) Covered Payroll	(6) UAAL as % of Covered Payroll (3) ÷ (5)
9/30/2005		$104,435	$157,913	$53,478	66.1%	$16,904	316.4%
9/30/2006		106,662	157,417	50,755	67.8%	17,598	288.4%
9/30/2007	(a)	113,372	163,684	50,312	69.3%	14,807	339.8%
9/30/2008	(a)	115,679	166,311	50,632	69.6%	13,546	373.8%
9/30/2009		117,544	169,052	51,508	69.5%	12,091	426.0%
9/30/2010	(b)	119,198	174,015	54,817	68.5%	11,280	486.0%
9/30/2012	(a)	115,254	172,305	57,051	66.9%	7,835	728.2%
9/30/2014	(b)	126,848	176,126	49,278	72.0%	6,902	714.0%
9/30/2016	(b)	137,832	178,563	40,731	77.2%	6,348	641.6%
9/30/2018	(b)	145,389	179,933	34,544	80.8%	5,600	616.9%
9/30/2020	(b)	149,062	176,495	27,433	84.5%	5,136	534.1%
9/30/2022	(b)	153,420	174,583	21,163	87.9%	4,911	430.9%
9/30/2023		149,706	172,139	22,433	87.0%	4,972	451.2%

(a) Change in benefit provisions
(b) Change in actuarial assumptions

D. Additional Information

Valuation date	September 30, 2023
Actuarial cost method	Entry Age Normal
Amortization method	Closed level dollar
Remaining amortization period	4 to 15 years
Asset valuation method	5-year smoothed market
Actuarial assumptions:	
Investment rate of return*	7.00%
Projected salary increases*	4.50% - 9.50%
Cost-of-living adjustments	1.50% per year for retirements before October 1, 2012; 1.00% for retirements on or after October 1, 2012
*Includes inflation at:	2.40%

Shown below is the development of the Total Present Value of Accrued Benefits for the Plan. The calculations were performed using the Plan's discount rate of 7.00%.

1. Actuarial Present Value of Accrued Benefits

	As of September 30, 2022	As of September 30, 2023
a. Vested Accrued Benefits:		
i. Inactive members and beneficiaries	$152,379,846	$148,879,884
ii. Active members	$15,162,881	$16,227,172
b. Total Benefits	**$167,542,727**	**$165,107,056**
c. Market Value of Assets	$131,905,286	$135,252,670
d. Percentage Funded	78.7%	81.9%

2. Statement of Changes in Total Actuarial Present Value of All Accrued Benefits

a. Actuarial Present Value as of September 30, 2022:	**$167,542,727**
b. Increase (Decrease) During 2022/2023 Plan Year Attributable to:	
i. Interest	$11,263,934
ii. Benefits accumulated/experience	($440,837)
iii. Benefits paid	($13,258,768)
iv. Plan amendments	$0
v. Changes in actuarial assumptions or methods	$0
vi. Net increase (decrease)	**($2,435,671)**
c. Actuarial Present Value as of September 30, 2023:	**$165,107,056**

3. Items Affecting Calculation of Actuarial Present Value of Accrued Benefits

a. Plan provisions reflected in the accrued benefits (see Table XII)
b. Actuarial assumptions and methods used to determine present values (see Table XI)

	September 30, 2023	September 30, 2022
1. Participant Data:		
a. Active members:		
i. Number	69	73
ii. Total annual payroll	$4,972,091	$4,910,733
iii. Projected annual payroll	$4,972,091	$4,910,733
b. Retirees, members in DROP, and beneficiaries:		
i. Number	545	561
ii. Total annualized benefit	$13,234,659	$13,271,589
c. Disabled members receiving benefits:		
i. Number	19	21
ii. Total annualized benefit	$223,541	$240,929
d. Terminated vested members:		
i. Number	42	51
ii. Total annualized benefit	$503,760	$601,114
2. Assets:		
a. Actuarial value of assets	$149,706,427	$153,419,539
b. Market value of assets	$135,252,670	$131,905,286
3. Liabilities:		
a. Present value of all future expected benefit payments:		
i. Active members:		
Retirement benefits	$24,560,779	$23,568,677
Vesting benefits	$1,094,503	$1,234,399
Death benefits	$178,842	$186,556
Disability benefits	$55,443	$63,989
Sub-total	$25,889,567	$25,053,621
ii. Terminated vested members	$4,670,549	$5,659,598
iii. Retired members and beneficiaries:		
Retirees, members in DROP, and beneficiaries	$142,059,984	$144,392,593
Disabled members	$2,149,351	$2,327,655
Sub-total	$144,209,335	$146,720,248
iv. Member contributions (annuities & refunds)	$0	$0
v. Total present value of all future expected ben. pmts.	$174,769,451	$177,433,467

	September 30, 2023	September 30, 2022
3. Liabilities (cont):		
b. Liabilities due and unpaid	$0	$0
c. Active actuarial accrued liability	$23,259,066	$22,203,067
d. Inactive actuarial accrued liability	$148,879,884	$152,379,846
e. Total actuarial accrued liability	$172,138,950	$174,582,913
f. Unfunded actuarial accrued liability	$22,432,523	$21,163,374
4. Actuarial Present Value of Accrued Benefits: (please reference Table IV for details concerning the present value of accrued benefits)	$165,107,056	$167,542,727
5. Pension Cost (as a % of projected payroll):		
a. Normal cost plus projected administrative expenses	14.29%	14.41%
i. Retirement	386,890	408,477
ii. Termination	159,238	168,430
iii. Death	8,773	9,537
iv. Disability	7,946	8,594
v. Admin expenses	147,508	112,772
Dollar amount	$710,355	$707,810
b. Payment to amortize unfunded liability	114.74%	105.11%
Dollar amount	$5,704,952	$5,161,550
c. Amount to be contributed by members	5.50%	5.50%
Dollar amount	$273,465	$270,090
d. Expected City Contributions	123.53%	114.02%
Dollar amount	$6,141,842	$5,599,270

	2022/2023	2021/2022
6. Past Contributions:		
a. Total Required City Contribution	$5,599,270	$5,594,922
b. Actual contribution made by:		
i. City	$5,599,918	$5,599,854
ii. Members	$258,091	$266,873

	September 30, 2023	September 30, 2022
7. Net actuarial (gain) / loss:	$5,156,920	($1,824,153)
8. Other disclosures:		
a. Present value of active members':		
i. Future salaries:		
at attained age	$21,132,119	$22,534,347
at entry age	N/A	N/A
ii. Future contributions:		
at attained age	$1,162,267	$1,239,389
at entry age	N/A	N/A
b. Present value of future normal contributions from City	$1,468,234	$1,611,165
c. Present value of future expected benefit payments for active members at entry age	N/A	N/A
d. Amount of active members' accumulated contributions	$3,429,425	$3,379,516

Description		Original Amount	Outstanding Balance as of October 1, 2022	2022/2023 Amortization Payment	Outstanding Balance as of October 1, 2023	2023/2024 Amortization Payment	Years Remaining October 1, 2023
	Initial Unfunded Accrued Liability		$21,163,374	$5,161,550	$17,483,260	$5,161,550	4 years
2023	Experience (Gain) Loss*	$4,949,263			$4,949,263	$543,402	15 years
Total			**$21,163,374**	**$5,161,550**	**$22,432,523**	**$5,704,952**	

Date	Projected Unfunded Liability
October 1, 2023	$22,432,523
October 1, 2024	$18,297,847
October 1, 2025	$13,873,744
October 1, 2026	$9,139,954
October 1, 2038	$0

* The total experience loss/(gain) for the 2022/2023 plan year of $5,156,920 is adjusted by market value and contribution timing differences adjusted for interest equal to ($207,657).

Revenues and Expenditures

		As of September 30, 2023	As of September 30, 2022
Revenues:			
a.	Member contributions	$ 258,091	$ 266,873
b.	City contributions	5,599,918	5,599,854
c.	City contributions – Other	0	0
d.	Investment Income and Realized Gains	2,555,689	8,312,955
e.	Increase in unrealized appreciation	8,892,392	(36,509,592)
f.	Other revenue	2,293	(154)
g.	Total revenues	$ 17,308,383	$ (22,330,064)
Expenditures:			
a.	Refunds of member contributions	$ 0	$ 0
b.	Benefits payments	12,904,979	12,940,698
c.	Payment from DROP accounts	258,561	937,721
d.	Health care subsidy payments	95,228	100,212
e.	Administrative expenses	46,528	12,910
f.	Investment expenses	554,723	663,814
g.	Realized losses	0	0
h.	Decrease in unrealized appreciation	0	0
i.	Other expenditures	100,980	99,862
j.	Total expenditures	$ 13,960,999	$ 14,755,217
Net Income:			
	Total revenues minus total expenditures	$ 3,347,384	$ (37,085,281)

Summary of Assets for Pension and Retiree Healthcare Benefits Combined

	September 30, 2023 Market	September 30, 2022 Market
Cash	$ 91,090	$ 242,841
Debt Securities		
Short-term	1,918,617	3,211,879
Bonds	34,282,809	32,978,011
Equity Securities		
Common Stock	98,769,851	95,648,305
Other		
Accounts receivable	11,075	10,929
Accounts payable	(137,441)	(463,717)
Accrued Interest	316,669	277,038
Total Assets	$ 135,252,670	$ 131,905,286
Rate of Return	8.50%	(17.50%)

Derivation of Actuarial Value of Assets

Table VIb

	Valuation Date September 30:	**2023**	**2022**	**2021**	**2020**	**2019**
A.	Actuarial Value Beginning of Year	$153,419,539	$155,131,569	$149,062,336	$146,109,981	$145,388,687
B.	Market Value End of Year	$135,252,670	$131,905,286	$168,990,567	$146,482,331	$141,791,539
C.	Market Value Beginning of Year	$131,905,286	$168,990,567	$146,482,331	$141,791,539	$147,043,426
D.	Cash Flow					
D1.	Contributions	$5,858,009	$5,866,727	$6,226,359	$6,231,845	$6,495,037
D2.	Other Revenue	0	0	0	0	0
D3.	Benefit Payments	(13,258,768)	(13,978,631)	(14,088,760)	(13,435,831)	(13,395,307)
D4.	Administrative Expenses	(147,508)	(112,772)	(114,316)	(97,740)	(113,078)
D5.	Investment Expenses	(554,723)	(663,814)	(787,822)	(700,763)	(664,829)
D6.	Net	(8,102,990)	(8,888,490)	$(8,764,539)	$(8,002,489)	$(7,678,177)
E.	Investment Income					
E1.	Market Total: B – C – D6	$11,450,374	$(28,196,791)	$31,272,775	$12,693,281	$2,426,290
E2.	Assumed Rate	7.00%	7.20%	7.20%	7.40%	7.40%
E3.	Amount for Immediate Recognition*	9,523,904	12,535,046	11,047,388	10,923,173	11,286,549
E4.	Amount for Phased-In Recognition	1,926,470	(40,731,837)	20,225,387	1,770,108	(8,860,259)
F.	Phased-In Recognition of Investment Income					
F1.	Current Year: 0.20*E4	$385,294	$(8,146,367)	$4,045,077	$354,022	$(1,772,052)
F2.	First Prior Year	(8,146,367)	4,045,077	354,022	(1,772,052)	160,734
F3.	Second Prior Year	4,045,077	354,022	(1,772,052)	160,734	998,603
F4.	Third Prior Year	354,022	(1,772,052)	160,734	998,603	290,364
F5.	Fourth Prior Year	(1,772,052)	160,734	998,603	290,364	(2,564,727)
F6.	Total Recognized Investment Gain	$(5,134,026)	$(5,358,586)	$3,786,384	$31,671	$(2,887,078)
G.	Actuarial Value End of Year:	$149,706,427	$153,419,539	$155,131,569	$149,062,336	$146,109,981
H.	Difference Between Market & Actuarial Values:	$(14,453,757)	$(21,514,253)	$13,858,998	$(2,580,005)	$(4,318,442)

The actuarial value of assets recognizes assumed investment income (line E3) fully each year. Differences between actual and assumed investment income (line E4) are phased in over a closed 5-year period. During periods when investment performance exceeds the assumed rate, the actuarial value will tend to be less than market value. During periods when investment performance is less than assumed, the actuarial value will tend to be greater than the market value.

*Assumed investment income (line E3) is interest on the beginning of year Market Value of Assets accounting for middle of the year cash flows. This amount is net of investment expenses.

The material presented herein will follow the order presented in GASB 67. Paragraph numbers are provided for ease of reference.

Paragraphs 31(a) (1)-(4): The information is provided in the following table. The Net Pension Liability (NPL) is equal to the Total Pension Liability (TPL) minus the Financial Net Position (FNP). That result as of September 30, 2023 is presented in the table below.

	Fiscal Year Ending September 30, 2023
Total Pension Liability	$ 172,138,950
Fiduciary Net Position	135,252,670
Net Pension Liability	$ 36,886,280
Ratio of Fiduciary Net Position to Total Pension Liability	78.57%

Paragraph 31(b): This paragraph requires information regarding the actuarial assumptions used to measure the TPL. The actuarial assumptions utilized in developing the TPL are outlined in Table XI. The total pension liability was determined by an actuarial valuation as of September 30, 2023, using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	2.40 percent
Salary increases	4.50 – 9.50 percent, average, including inflation
Investment rate of return	7.00 percent, net of pension plan investment expense, including inflation
Mortality	**Pre-Retirement Healthy Mortality:** *Female:* PUB-2010 Headcount Weighted General Below Median Employee Female Table *Male:* PUB-2010 Headcount Weighted General Below Median Employee Male Table, set back 1 year *Projection Scale:* MP-2018 (fully generational) **Post-Retirement Healthy Mortality:** *Female:* PUB-2010 Headcount Weighted General Below Median Healthy Retiree Female Table *Male:* PUB-2010 Headcount Weighted General Below Median Healthy Retiree Male Table, set back 1 year *Projection Scale:* MP-2018 (fully generational) **Post-Retirement Disabled Mortality:** *Female:* PUB-2010 Headcount Weighted General Disabled Retiree Female Table, set forward 3 years *Male:* PUB-2010 Headcount Weighted General Disabled Retiree Male Table, set forward 3 years *Projection Scale:* MP-2018 (fully generational)

The actuarial assumptions used in the September 30, 2023 valuation were based on the results of the last actuarial experience study, dated January 7, 2011.

Paragraph 31.b.(1)

- **(a) Discount rate:** The discount rate used to measure the total pension liability was 7.00%.
- **(b) Projected cash flows:** The projection of cash flows used to determine the discount rate assumed the City would contribute the actuarial determined contribution.
- **(c) Long term rate of return:** The long-term expected rate of return on pension plan investments was determined using a log-normal distribution analysis in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges 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 and by adding expected inflation.
- **(d) Municipal bond rate:** The discount rate determination does not use a municipal bond rate.
- **(e) Periods of projected benefit payments:** Projected future benefit payments for all current plan members were projected through 2124.
- **(f) Assumed Asset Allocation:** The target asset allocation and best estimates of arithmetic rates of return for each major asset class are summarized in the following table:

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Domestic Equity	37%	7.16%
Infrastructure	5%	5.06%
Private Real Estate	8%	5.94%
Convertibles	10%	5.88%
International Equity	15%	2.92%
Bonds	25%	1.67%
Total	**100%**	

(g) Sensitivity analysis: This paragraph requires disclosure of the sensitivity of the net pension liability to changes in the discount rate. The following presents the net pension liability of the System, calculated using the discount rate of 7.00 percent, as well as what the System's net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower or 1-percentage-point higher than the current rate:

	1% Decrease 6.00%	Current Discount Rate 7.00%	1% Increase 8.00%
System's net pension liability	$53,292,455	$36,886,280	$22,869,534

Paragraph 31(c): September 30, 2023 is the actuarial valuation date upon which the TPL is based. No roll-forward procedures were used to determine the TPL.

Paragraph 34: In addition, the following should be noted regarding the RSI:

Changes of benefit terms: None.

Changes of assumptions: None.

Method and assumptions used in calculations of actuarially determined contributions. The actuarially determined contribution rates were determined on a biennial basis payable for the two fiscal years beginning one year following the valuation date prior to September 30, 2023. Beginning with the September 30, 2023 valuation date, actuarially determined contribution rates are determined on an annual basis payable for the fiscal year beginning one year following the valuation date. The following actuarial methods and assumptions were used to determine contribution rates reported for fiscal years ending September 30, 2022 and September 30, 2023, which were based on the results of the September 30, 2020 actuarial valuation:

Actuarial cost method	Entry age
Amortization method	Level dollar, closed
Remaining amortization period	7 years
Asset valuation method	5-year smoothed market
Inflation	2.40 percent
Salary increase	4.50-9.50 percent, including inflation
Investment rate of return	7.20 percent, net of pension plan investment expense, including inflation

SCHEDULE OF CHANGES IN THE NET PENSION LIABILITY
GASB 67 Paragraph 32(a)

	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
Total pension liability										
Service Cost	$ 595,038	$ 598,194	$ 653,860	$ 706,288	$ 692,814	$ 806,853	$ 806,853	$ 960,937	$ 875,872	$ 875,872
Interest	11,756,747	12,115,554	12,200,468	12,830,343	12,870,665	13,096,503	13,087,373	13,265,393	13,080,194	13,039,418
Benefit changes									1,929,586	
Difference between expected and actual experience	(1,536,980)	(2,466,070)	-	(3,644,260)	-	(2,139,264)	-	(6,829,727)	-	-
Changes of assumptions	-	3,052,973	-	(62,137)	-	3,260,021	-	8,088,948	-	-
Benefit payments	(13,258,768)	(13,978,631)	(14,078,231)	(13,412,714)	(13,364,040)	(13,199,103)	(14,334,373)	(13,902,080)	(13,007,151)	(13,664,554)
Refunds of contributions	-	-	(10,529)	(23,117)	(31,267)	(14,721)	-	(82,082)	(31,304)	(82,048)
Net change in total pension liability	$ (2,443,963)	$ (677,980)	$ (1,234,432)	$ (3,605,597)	$ 168,172	$ 1,810,289	$ (440,147)	$ 1,501,389	$ 2,847,197	$ 168,688
Total pension liability - beginning	$ 174,582,913	$ 175,260,893	$ 176,495,325	$ 180,100,922	$ 179,932,750	$ 178,122,461	$ 178,562,608	$ 177,061,219	$ 174,214,022	$ 174,045,334
Total pension liability - ending (a)	$ 172,138,950	$ 174,582,913	$ 175,260,893	$ 176,495,325	$ 180,100,922	$ 179,932,750	$ 178,122,461	$ 178,562,608	$ 177,061,219	$ 174,214,022
Plan net position										
Contributions - employer	$ 5,599,918	$ 5,599,854	$ 5,946,411	$ 5,946,490	$ 6,200,753	$ 6,200,956	$ 6,788,208	$ 6,788,559	$ 6,586,144	$ 6,586,424
Contributions - member	258,091	266,873	279,948	285,355	294,284	305,534	341,314	360,693	375,026	388,789
Net investment income	10,895,651	(28,860,605)	30,484,953	11,992,518	1,761,461	11,373,720	14,963,864	11,356,088	(2,230,201)	14,895,032
Benefit payments	(13,258,768)	(13,978,631)	(14,078,231)	(13,412,714)	(13,364,040)	(13,199,103)	(14,334,373)	(13,902,080)	(13,007,151)	(13,664,554)
Administrative expense	(147,508)	(112,772)	(114,316)	(97,740)	(113,078)	(112,430)	(134,684)	(102,605)	(126,054)	(103,765)
Refunds of contributions	-	-	(10,529)	(23,117)	(31,267)	(14,721)	-	(82,082)	(31,304)	(82,048)
Other	-	-	-	-	-	-	-	-	2,149,812	-
Net change in plan net position	$ 3,347,384	$ (37,085,281)	$ 22,508,236	$ 4,690,792	$ (5,251,887)	$ 4,553,956	$ 7,624,329	$ 4,418,573	$ (6,283,728)	$ 8,019,878
Plan net position - beginning	$ 131,905,286	$ 168,990,567	$ 146,482,331	$ 141,791,539	$ 147,043,426	$ 142,489,470	$ 134,865,141	$ 130,446,568	$ 136,730,296	$ 128,710,418
Plan net position - ending (b)	$ 135,252,670	$ 131,905,286	$ 168,990,567	$ 146,482,331	$ 141,791,539	$ 147,043,426	$ 142,489,470	$ 134,865,141	$ 130,446,568	$ 136,730,296
Net pension liability - ending (a) - (b)	$ 36,886,280	$ 42,677,627	$ 6,270,326	$ 30,012,994	$ 38,309,383	$ 32,889,324	$ 35,632,991	$ 43,697,467	$ 46,614,651	$ 37,483,726

SCHEDULE OF THE NET PENSION LIABILITY
GASB 67 Paragraph 32(b)

	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
Total pension liability	$ 172,138,950	$ 174,582,913	$ 175,260,893	$ 176,495,325	$ 180,100,922	$ 179,932,750	$ 178,122,461	$ 178,562,608	$ 177,061,219	$ 174,214,022
Plan net position	135,252,670	131,905,286	168,990,567	146,482,331	141,791,539	147,043,426	142,489,470	134,865,141	130,446,568	136,730,296
Net pension liability	$ 36,886,280	$ 42,677,627	$ 6,270,326	$ 30,012,994	$ 38,309,383	$ 32,889,324	$ 35,632,991	$ 43,697,467	$ 46,614,651	$ 37,483,726
Ratio of plan net position to total pension liability	78.57%	75.55%	96.42%	83.00%	78.73%	81.72%	80.00%	75.53%	73.67%	78.48%
Covered-employee payroll	$ 4,919,803	$ 4,852,230	$ 5,076,072	$ 5,067,293	$ 5,258,416	$ 5,555,159	$ 6,174,853	$ 6,347,558	$ 6,901,570	$ 6,757,461
Net pension liability as a percentage of covered-employee payroll	749.75%	879.55%	123.53%	592.29%	728.53%	592.05%	577.07%	688.41%	675.42%	554.70%

SCHEDULE OF EMPLOYER CONTRIBUTIONS
GASB 67 Paragraph 32(c)

	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
Actuarially determined employer contribution	$ 5,599,918	$ 5,599,854	$ 5,946,411	$ 5,946,490	$ 6,200,753	$ 6,200,956	$ 6,788,559	$ 6,788,559	$ 7,515,167	$ 7,448,089
Actual employer contributions	5,599,918	5,599,854	5,946,411	5,946,490	6,200,753	6,200,956	6,788,559	6,788,559	7,515,167	7,448,089
Annual contribution deficiency (excess)	-	-	-	-	-	-	-	-	-	-
Covered-employee payroll	$ 4,919,803	$ 4,852,230	$ 5,076,072	$ 5,067,293	$ 5,258,416	$ 5,555,159	$ 6,174,853	$ 6,347,558	$ 6,901,570	$ 6,757,461
Actual contributions as a percentage of covered-employee payroll	113.82%	115.41%	117.15%	117.35%	117.92%	111.63%	109.94%	106.95%	108.89%	110.22%

Tabulated by Attained Age and Years of Service as of September 30, 2023

Attained Age	Years of Service to Valuation Date							Totals	
	0-5	6-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
Under 20									
20-24									
25-29									
30-34									
35-39				1				1	$85,956
40-44				6	5			11	812,624
45-49				2	10	1		13	830,490
50-54				3	7	2	3	15	995,119
55-59				1	7	2	4	14	1,181,629
60					1	1	2	4	311,013
61					3		1	4	286,828
62									
63									
64				1		1	1	3	174,657
65						1	1	2	137,398
66					1			1	70,421
67									
68				1				1	85,956
69									
70 & Over									
Totals	0	0	0	15	34	8	12	69	$4,972,091

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

Age: 52.83 years
Service: 23.42 years
Annual Pay: $72,059

Retiree and Beneficiary Information September 30, 2023
Tabulated by Attained Ages

Attained Age	Service Retirement No.	Service Retirement Annual Benefits*	Disability Retirement No.	Disability Retirement Annual Benefits*	Survivors and Beneficiaries No.	Survivors and Beneficiaries Annual Benefits*	Totals No.	Totals Annual Benefits*
Under 20					1	7,631	1	$7,631
20-24								
25-29								
30-34								
35-39								
40-44								
45-49			2	14,224			2	14,224
50-54			1	12,964	1	23,529	2	36,493
55-59	10	370,073	2	33,459	5	79,532	17	483,064
60-64	37	803,001			6	102,132	43	905,133
65-69	79	2,183,840	4	66,298	10	151,989	93	2,402,127
70-74	100	2,649,248	1	8,825	22	342,275	123	3,000,348
75-79	86	2,224,255	3	25,447	23	551,865	112	2,801,567
80-84	37	1,234,510	1	6,792	19	304,334	57	1,545,636
85-89	40	848,583	5	51,499	27	335,324	72	1,235,406
90-94	10	241,465			11	272,214	21	513,679
95	2	37,854			3	28,697	5	66,551
96								
97	1	19,473			1	10,646	2	30,119
98	1	9,036					1	$9,036
99					1	8,411	1	8,411
100 & Over								
Totals	403	$10,621,338	19	$219,508	130	$2,218,579	552	$13,059,425

* Excluding amounts for the health subsidy

There were 42 vested members with annual deferred benefits of $495,696 included in the valuation excluding amounts for the health subsidy.

In addition, there were 12 members who enrolled in the DROP. The accumulated benefits credited to the DROP are $1,844,202.

Data Reconciliation — Table VIIIc

	Active	Deferred Vested	Retired	DROP	Total
1. Number of participants as of September 30, 2022	**73**	**51**	**566**	**16**	**706**
2. Change in status during the plan year:					
a. Actives who became inactive					
b. Members who retired	(3)		3		
c. Actives who enrolled in DROP	(1)			1	
d. Vesteds who became active					
e. Vesteds who retired		(5)	5		
f. Retirees who became active					
g. Transfer in					
3. No longer participating due to:					
a. Death			(32)	(1)	(33)
b. Refund of contributions					
c. Receipt of lump sum payment					
d. Expiration of certain period					
e. No longer in DROP			4	(4)	
f. Data change from last year		(4)			(4)
g. Transfer out					
4. New participant due to:					
a. Initial participation					
b. Death of another participant			6		6
c. Data change from last year					
5. Number of participants as of September 30, 2023	**69**	**42**	**552**	**12**	**675**

Actuarial estimates regarding the inflation rate and real investment return rate were utilized in the valuation. These estimates are used, in combination with the other estimates, to (i) determine the present value of amounts expected to be paid in the future and (ii) establish rates of contribution which are expected to remain relatively level as a percent of total employee payroll.

Inflation

- Effective September, 30 2020, 2.40% per annum, compounded annually. This is the rate at which growth in the supply of money and credit is estimated to exceed growth in the supply of goods and services. It may be thought of as the rate of decline in the purchasing power of the dollar. There are a number of indices for measuring the inflation rate. The recent inflation rate as measured by the Consumer Price Index has been:

Year Ended:	9/30/2023	9/30/2022	9/30/2021	9/30/2020	9/30/2019	Average for Period
Actual	3.7%	8.2%	5.4%	1.4%	1.7%	4.1%
Assumed	2.4	2.4	2.4	3.0	3.0	2.6

Real Investment Return

- Effective October 1, 2022, 4.60% per annum. This is the rate of return estimated to be produced by investing a pool of assets in an inflation-free environment. Recent real rates of investment return on the actuarial value of assets have been:

Year Ended:	9/30/2023	9/30/2022	9/30/2021	9/30/2020	9/30/2019	Average for Period
Total Rate	2.6%	4.3%	9.7%	7.2%	5.5%	5.9%
Less Inflation Rate	3.7	8.2	5.4	1.4	1.7	4.1
Actual Real Rate	(1.1)	(3.9)	4.3	5.8	3.8	1.8
Projected Real Rate	4.6	4.8	4.8	4.4	4.4	4.6

- The total investment return rate was computed by dividing the investment earnings recognized in the actuarial value of assets, before the release of any reserve, by a weighted average of the value of assets during the year. The investment earnings are assumed to be net of any investment expenses.

➢ A schedule of recent salary change experience, as measured by average reported pay, follows:

Year Ended:	9/30/2023	9/30/2022	9/30/2021	9/30/2020	9/30/2019	Average for Period
% of Change: Actual Average*	6.3%	7.6%	6.1%	9.0%	4.2%	6.6%
Estimated	6.0	6.2	6.2	6.2	6.2	6.2
% Change in Total Payroll	1.2	(5.3)	1.1	(4.0)	(4.4)	(2.3)

*Excluding terminations and new members.

Prior Contribution Rates

Valuation Date	Applicable Fiscal Year	Normal Cost	Expenses	Unfunded Actuarial Accrued Liability	Total City Contributions
9-30-96	1996-97	1.42%	1.04%	4.76%	7.22%
9-30-97	1997-98	(3.64)	1.04	15.17	12.57
9-30-98	1998-99	(3.96)	0.93	13.44	10.41
9-30-99	1999-00	(2.43)	1.05	13.89	12.51
9-30-00	2000-02	(2.88)	1.05	16.97	15.14
9-30-01	2002-03	4.38	1.05	15.75	21.18
9-30-02	2003-04	12.33	1.05	15.20	28.58
9-30-03	2004-05	11.31	1.05	22.50	34.86
9-30-04	2005-06	11.13	1.05	25.10	37.28
9-30-05	2006-07	12.91	1.05	21.86	35.82
9-30-06	2007-08	12.84	1.05	20.50	34.39
9-30-07	2008-09	13.92	1.05	34.61	49.58
9-30-08	2009-10	13.26	1.05	38.92	53.23
9-30-09	2010-11	13.65	0.80	45.45	59.90
9-30-10	2011-12	10.36	0.61	53.27	64.24
9-30-12	2013-14	9.61	1.26	85.07	95.99
9-30-14	2015-16	11.53	1.50	89.35	102.37
9-30-16	2017-18	12.17	1.62	83.04	95.70
9-30-18	2019-20	11.97	2.01	96.30	110.28
9-30-20	2021-22	7.24	1.90	99.79	108.93
9-30-22	2023-24	6.61	2.30	105.11	114.02
9-30-23	2024-25	5.82	2.97	114.74	123.53

Actuarial Standards of Practice are issued by the Actuarial Standards Board and are binding on credentialed actuaries practicing in the United States. These standards generally identify what the actuary should consider, document and disclose when performing an actuarial assignment. In September 2017, Actuarial Standard of Practice Number 51, Assessment and Disclosure of Risk in Measuring Pension Obligations, (ASOP 51) was issued as final with application to measurement dates on or after November 1, 2018. This ASOP, which applies to funding valuations, actuarial projections, and actuarial cost studies of proposed plan changes, was first applicable for the September 30, 2020 actuarial valuation for the Plan.

A typical retirement plan faces many different risks, but the greatest risk is the inability to make benefit payments when due. If plan assets are depleted, benefits may not be paid which could create legal and litigation risk or the plan could become "pay as you go." The term "risk" is most commonly associated with an outcome with undesirable results. However, in the actuarial world, risk can be translated as uncertainty. The actuarial valuation process uses many actuarial assumptions to project how future contributions and investment returns will meet the cash flow needs for future benefit payments. Of course, we know that actual experience will not unfold exactly as anticipated by the assumptions and that uncertainty, whether favorable or unfavorable, creates risk. ASOP 51 defines risk as the potential of actual future measurements to deviate from expected results due to actual experience that is different than the actuarial assumptions.

The various risk factors for a given plan can have a significant impact – positive or negative – on the actuarial projection of liability and contribution rates.

There are a number of risks inherent in the funding of a defined benefit plan. These include:

- economic risks, such as investment return and price inflation;
- demographic risks such as mortality, payroll growth, aging population including impact of baby boomers, and retirement ages;
- contribution risk, i.e., the potential for contribution rates to be too high for the plan sponsor/employer to pay and
- external risks such as the regulatory and political environment.

There is a direct correlation between healthy, well-funded retirement plans and consistent contributions equal to the full actuarial contribution rate each year. The Plan is primarily funded by member and employer contributions to the trust fund, together with the earnings on these accumulated contributions. These contributions fund benefit accruals for current active members and administrative expenses. The remainder of the contributions amortizes the unfunded actuarial accrued liability. The required contribution rate is the sum of the rates for the normal cost for the plan and the amortization of the unfunded actuarial accrued liability. The required contribution rate is sensitive to increases in the UAAL and periods of lower-than-expected returns would lead to much higher contribution rates as a percentage of payroll.

The other significant risk factor for the Plan is investment return because of the volatility of returns and the size of plan assets compared to payroll. A perusal of historical returns over 10-20 years reveals that the actual return each year is rarely close to the average return for the same period. This is to be expected, given the underlying capital market assumptions and the Plan's asset allocation. To the extent market rates of interest affect the expected return on assets, there is a risk of change to the discount rate which determines the present value of liabilities and actuarial valuation results.

A key demographic risk for the Plan is improvements in mortality (longevity) greater than anticipated. While the actuarial assumptions reflect a margin for improvement in mortality experience these assumptions are refined every experience study, the risk arises because there is a possibility of some sudden shift, perhaps from a significant medical breakthrough that could quickly increase liabilities. Likewise, as we have recently seen with COVID-19, a public health crisis can result in a significant number of additional deaths in a short period of time, which can influence plan liabilities and future funding needs. While either of these events could happen, it represents a small probability and thus represents much less risk than the volatility associated with investment returns.

Under the revised Actuarial Standards of Practice (ASOP) No. 4 effective for valuations after February 15, 2023, we must now include a low-default-risk obligation measure of the Plan's liability in our funding valuation report. This is an informational disclosure as described below and would not be appropriate for assessing the funding progress or health of this plan. This measure uses the unit credit cost method and reflects all the assumptions and provisions of the funding valuation except that the discount rate is derived from considering low-default-risk fixed income securities. We considered the FTSE Pension Discount Curve based on market bond rates published by the Society of Actuaries as of September 30, 2023 and with the 30-year spot rate used for all durations beyond 30. Using these assumptions, we calculate a liability of approximately $187 million. This amount approximates the termination liability if the plan (or all covered employment) ended on the valuation date and all of the accrued benefits had to be paid with cash-flow matched bonds. This assurance of funded status and benefit security is typically more relevant for corporate plans than for governmental plans since governments rarely have the need or option to completely terminate a plan.

1. Actuarial Cost Method

- **To Determine the Funded Status and the Actuarially Determined Employer Contribution**
  Entry Age Normal Cost Method on an individual basis.

- **To Determine the Present Value of Accrued Benefits**
  Unit Credit

2. Decrements

- **Pre-Retirement Healthy Mortality**
  Female: PUB-2010 Headcount Weighted General Below Median Employee Female Table
  Male: PUB-2010 Headcount Weighted General Below Median Employee Male Table, set back 1 year
  Projection Scale: MP-2018 (fully generational)

  Representative percentages of deaths assumed to be non-service (ordinary) or service (accidental) related are listed below.

Age	Ordinary		Accidental	
	Male	Female	Male	Female
20	90.91%	88.24%	9.09%	11.76%
25	90.24	90.91	9.76	9.09
30	90.57	90.00	9.43	10.00
35	89.47	90.48	10.53	9.52
40	89.81	89.66	10.19	10.34
45	90.05	89.89	9.95	10.11
50	90.06	90.28	9.94	9.72
55	89.94	90.09	10.06	9.91
60	90.01	90.03	9.99	9.97
64	90.02	89.98	9.98	10.02

- **Post-Retirement Healthy Mortality**
  Female: PUB-2010 Headcount Weighted General Below Median Healthy Retiree Female Table
  Male: PUB-2010 Headcount Weighted General Below Median Healthy Retiree Male Table, set back 1 year
  Projection Scale: MP-2018 (fully generational)

- **Post-Retirement Disabled Mortality**
  Female: PUB-2010 Headcount Weighted General Disabled Retiree Female Table, set forward 3 years
  Male: PUB-2010 Headcount Weighted General Disabled Retiree Male Table, set forward 3 years
  Projection Scale: MP-2018 (fully generational)

- **Disability**

  Representative values of the assumed annual rates of disability among members in active service are as follows:

Age	Ordinary Disability Rate	Accidental Disability Rate
20	0.0135%	0.0065%
25	0.0133	0.0067
30	0.0202	0.0098
35	0.0267	0.0133
40	0.0333	0.0167
45	0.0666	0.0334
50	0.1135	0.0565
55	0.1935	0.0965
60	0.3000	0.1500
64	0.3934	0.1966

- **Withdrawal from Active Status**

Representative values of the assumed annual rates of withdrawal among members in active service are as follows:

Age	Rate
20	15.00%
25	13.00
30	11.00
35	9.00
40	7.00
45	5.00
50	4.00
54	4.00

➢ **Retirement**

Values of the assumed annual rates of retirement among members in active service are as follows:

Age	Rate
Under 45	5.00%
45	5.00
46	5.00
47	5.00
48	7.00
49	10.00
50	12.00
51	15.00
52	15.00
53	15.00
54	15.00
55	20.00
56	20.00
57	20.00
58	20.00
59	20.00
60	25.00
61	30.00
62	40.00
63	40.00
64	50.00
65 & Over	100.00

An additional 20% are assumed to retire when first eligible for an unreduced retirement benefit. In addition, 100% are assumed to retire upon the attainment of age 60 and the completion of 30 years of service.

3. Interest Rates

- **Used for Calculating All Liabilities**
  Effective October 1, 2022 the interest rate is assumed to be 7.00% net of investment expenses per annum, comprised of an inflation rate of 2.40% and a real rate of return of 4.60%.

4. Salary Increases

The following representative salary increases are assumed, which includes an inflation rate of 3.00%.

Age	Rate	Age	Rate	Age	Rate	Age	Rate
20	9.50%	30	7.50%	40	6.50%	50	6.50%
25	9.50%	35	6.50%	45	6.50%	55	5.50%

5. Marriage Assumptions

- 80% of members are assumed married or entitled to dependent benefits.
- Male spouses are assumed to be three years older than female spouses.

6. Expenses

Administrative expenses for the year following the valuation date are assumed to be equal to the actual amount for the previous fiscal year.

7. Cost-of-Living Adjustments

For retirements before October 1, 2012, benefits are assumed to increase 1.50% annually after retirement. For retirements on or after October 1, 2012, cost-of-living adjustments are assumed to be 1.00%. No COLA is assumed for participants who enter the DROP on or after October 1, 2012 while currently participating in the DROP.

8. Assets

Actuarial value, as developed in Tables VIb and VIc. The actuarial value of assets is a market-related method that each year recognizes 20% of the unexpected investment return.

9. Participation in the Health Insurance Premium Assistance program

50%

1. **Participation**

   Participation, which was closed to new members on October 1, 1979, was reopened to new members effective October 6, 1997. Effective June 17, 2007, participation is closed to new members.

2. **Credited Service**

   All service from date of hire. For benefit calculations only, fractional service greater than one-half is rounded up to a whole year. Members entering the Fund for the first time on or after October 6, 1997 who had service with the City had the option of purchasing credit for any or all prior service.

3. **Average Final Compensation**

   For retirements before October 1, 2012, the average annual compensation, excluding unused leave and overtime in excess of 300 hours per fiscal year, during the highest 2 years of his or her last 5 years of contributing service prior to retirement, termination or death.

   For retirements on or after October 1, 2012, the average annual compensation, excluding unused leave and overtime in excess of 200 hours per fiscal year, during the last 5 years of contributing service prior to retirement, termination or death. Overtime pay will be based on non-overtime rates for over 40 hours per week.

4. **Normal Retirement Benefit**

   - **Eligibility**

     Age 55 and 20 years of credited service

   - **Benefit Amount**

     An annual benefit equal to the greatest of:

     (a) 2.1% of Average Final Compensation times years of service (maximum 63%) for service accrued before October 1, 2012. For service accrued on or after October 1, 2012, 1.75% of Average Final Compensation times years of service (maximum 52.5%).

     (b) 75% of the first $2,400 of Average Final Compensation, plus 50% of the next $1,200 of Average Final Compensation, plus 40% of any additional amount.

(c) $300 per year of service (maximum $6,000).

5. Early Retirement Benefit

- **Eligibility**

  25 years of credited service, regardless of age.

- **Benefit Amount**

  Computed as a normal retirement benefit, with a benefit reduction of the lesser of 3% for each year of age below age 55, or 3% for each year of credited service below 30 years. Such benefit shall not be less than $300 per year of service (service not to exceed 20 years).

6. Postponed Retirement

- **Eligibility**

  Retirement after first eligible for normal retirement benefit.

- **Benefit Amount**

  Computed as a normal retirement benefit plus, under formula (b) only, 1% of the normal retirement benefit for each year of service credited after normal retirement date, but before age 70.

7. Disability Benefit – Service-Connected

- **Eligibility**

  Total and permanent disability or partial disability incurred in the line of duty.

- **Benefit Amount**

  Accrued retirement benefit at date of disability, with a benefit reduction for formulas (a) and (b) of 2% for each year by which service at date of disability is less than 20 years. For partial disability, the benefit is further reduced by a certain percentage determined by the Board. Such benefit shall not be less than $300 per year of service (service not to exceed 20 years).

8. Disability Benefit – Not Service-Connected

- **Eligibility**

  Total and permanent disability or partial disability, and 6 years of credited service.

- **Benefit Amount**

  Accrued retirement benefit at date of disability, with a benefit reduction for formulas (a) and (b) of 5% for each of the first 5 years, and 3% for each of the next 5 years by which service at date of disability is less than 20 years. For partial disability, the benefit is further reduced by a certain percentage determined by the Board. Such benefit shall not be less than $300 per year of service (service not to exceed 20 years).

9. Death Benefit – Service-Connected

- **Eligibility**

  None.

- **Benefit Amount**

  Computed as 80% of service-connected disability benefit, payable to the widow until death. If there is no surviving spouse, any dependent child(ren) under the age of 18 shall receive a benefit in the amount that a surviving spouse would have been entitled to. The total of all children's benefits shall not exceed the amount payable to the widow.

10. Death Benefit – Not Service-Connected

- **Eligibility**

  6 years of credited service.

- **Benefit Amount**

  Same as service-connected death benefit, except widow's benefit is computed as a non-service-connected disability benefit.

11. Vested Termination

- **Eligibility**

  6 years of credited service.

- **Benefit Amount**

  The accrued retirement benefit, payable at age 60. If the member terminated with at least 20 years of credited service, the benefit is payable at age 55.

12. Non-Vested Termination

A member terminating for any cause, other than line of duty disability, with less than 6 years of credited service is entitled to a refund of all accumulated contributions.

13. Cost-of-Living Adjustments

For retirements before October 1, 2012, the cost-of-living adjustment (COLA) is based on the Consumer Price Index (CPI-U) from April 1 of the preceding year to March 31 of the year in which the increase is to be given, subject to a maximum increase of 1.50% per year.

For retirements on or after October 1, 2012, the COLA is also based on the Consumer Price Index (CPI-U), subject to a maximum increase of 1.00% per year.

For participants who enter the DROP on or after October 1, 2012, no COLA is granted while participating in the DROP.

14. Deferred Retirement Option Plan (DROP)

An active member eligible for normal retirement may continue employment with the City but elect to freeze the accrual of additional benefits as of the effective date of such election (as if the member had retired on such date). The member's normal retirement benefit payments will be credited to a DROP account. Member and City contributions to the Fund cease for the participant. A DROP participant's continued employment cannot normally exceed 60 months.

The DROP account will earn interest at 4% per annum for participants who entered the DROP prior to October 1, 2012 and 1.3% per year for participants who entered the DROP on or after October 1, 2012. Cost-of-living adjustments are also credited to the benefits in the DROP account for participants who entered the DROP prior to October 1, 2012. Participants who entered the DROP on or after October 1, 2012 are not eligible for COLA payments while participating in the DROP.

Upon resignation, the participant then receives a distribution from the DROP account as well as regular monthly retirement benefits.

15. Retiree Health Insurance Premium Assistance

The Fund shall provide premium assistance for each covered retiree participating in the City group health insurance plan in the amount of $56 per month (not indexed for inflation).

16. Normal Form of Benefit

For participants who retired prior to October 1, 2012, the normal form of benefit is a benefit payable for life. Upon death 80% of the benefit is continued for the lifetime of the beneficiary. For participants who retire on or after October 1, 2012, the normal form of benefit is a single life annuity. Upon death all benefit payments stop.

17. Annual Contributions

- **Member**

  All members contribute 5.5% of compensation to the Fund.

- **City**

  The City contributes an actuarially determined amount which, together with member contributions, equals the sum of the normal cost and payments for the amortization of the unfunded actuarial accrued liability over a period not exceeding 40 years (currently 15 years).