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CITY OF HOLLYWOOD POLICE OFFICERS' RETIREMENT SYSTEM

ACTUARIAL VALUATION REPORT
AS OF
OCTOBER 1, 2023

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March 29, 2024

Board of Trustees of the
City of Hollywood Police Officers' Retirement System
4205 Hollywood Blvd., Suite 4
Hollywood, Florida 33021

Dear Members of the Board:

This report presents the results of the actuarial valuation of the City of Hollywood Police Officers' Retirement System for the plan year beginning October 1, 2023. The purpose of this report is to provide a summary of the funded status of the plan as of October 1, 2023 and to determine the minimum required contribution amount for the 2024/2025 fiscal year. In addition, this report provides a record of any plan amendments or other plan changes affecting the financial status of the fund. Our calculations were prepared based on member data and financial information provided by the Retirement System.

Summary of Valuation Results

The total required annual contribution for the 2024/2025 fiscal year from all sources is $38,461,201. The amount of the City contributions varies year to year. The member contributions are equal to 9.50% of payroll. Taking into account expected member contributions of $2,810,061 and State contributions of $2,119,082, the total required contribution from the City is $33,532,058. The actual required City contribution may have to be adjusted depending on the actual State distribution in August 2024. In comparison, the required City contribution for the 2023/2024 fiscal year was $32,417,690.

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In determining the City's contribution requirement, we have included interest to reflect our understanding that the City makes bi-weekly contributions throughout the fiscal year. In the table below we present the City's contribution requirements whether the City elects to pay the full amount on October 1, 2024 or in bi-weekly installments throughout the 2024/2025 fiscal year. Please note that the table below assumes the City will be State compliant.

City contribution payable October 1, 2024	$32,144,114
Interest for bi-weekly payments during 2024/2025 fiscal year	$1,387,944
City contribution payable in bi-weekly installments	$33,532,058

The plan's unfunded liability was projected to be $259,097,661 as of October 1, 2023, taking into account plan sponsor and State contributions of $27,308,228 for the year ended September 30, 2023. The actual unfunded liability is $257,009,237. The decrease of $2,088,424 in the unfunded liability is primarily due to asset gains. The unfunded liability attributed to the actuarial gain is amortized according to the Board's funding policy on a level dollar basis over a 20-year period. Further discussion of the change in the City's unfunded liability contribution is shown in Table II. A summary of the amortization payments is presented in Table Vb.

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.

The valuation is based on a series of actuarial assumptions, including an interest rate of 8% per year. Actuarial gains and losses result when the actual experience of the plan (such as asset return, pay increases, turnover, deaths, etc.) is different from that expected by the actuarial assumptions. The assumed mortality table is prescribed according to Florida Statutes 112.63 (f).

Amortization bases established prior to October 1, 2017 are amortized assuming a growth factor of 3.50%. For the ten-year period ending October 1, 2023, total payroll has grown by 6.45%. Amortization bases established on or after October 1, 2017 are amortized using a level dollar approach. In addition, the Board chose to amortize the unfunded liability bases established for plan amendments on October 1, 2018 and October 1, 2019 assuming a growth factor of 3.50%.

A summary of the results of the valuation and the contribution requirements is presented in Table I. Additional disclosure information can be found in Table III. The disclosure information required by Chapter 112, Florida Statutes, is presented in Table Va. Tables VII and X provide information about the fund's assets and historical contributions. Table VIc provides an asset reconciliation between October 1, 2022 and October 1, 2023. Table VIa provides a breakdown of the fund assets by investment type and the calculation of the actuarial value of assets. Tables VIIa, VIIb, and VIII provide a historical record of the growth, expenses, revenues, annual returns and contributions of the fund. Tables IXa through IXe provide a variety of useful information concerning the participant population. The assumptions and methods used in the valuation are outlined in Table XII. Provisions of the plan are set forth in Table XIII.

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.

The actuarial computations presented in this report are to be used for determining the contributions necessary to fund the Plan and provide information required to be disclosed by the State of Florida under Chapter 112. The funding calculations have been made on a basis consistent with our understanding of the Plan's funding requirements and goals. 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.

This actuarial valuation 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.

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.

Respectfully submitted,

Todd B. G

Micki R. Taylor

Todd B. Green, ASA, EA, FCA, MAAA
President
Enrolled Actuary No. 23-8883

Micki R. Taylor, ASA, EA, FCA, MAAA
Consulting Actuary
Enrolled Actuary No. 23-5975

TBG/MRT:zs

	As of October 1, 2022	As of October 1, 2023
1. Number of Members		
a. Active Members	**259**	**274**
b. Deferred Vested Members	**11**	**8**
c. Retired Members:		
i. Members in DROP	39	42
ii. Non-disabled	325	327
iii. Disabled	23	22
iv. Beneficiaries	47	48
v. Sub-total	**434**	**439**
d. Total Members	**704**	**721**
2. Total Annual Compensation	**$26,681,757**	**$28,579,316**
3. Total Projected Payroll	**$27,615,618**	**$29,579,592**
4. Total Retired Member Benefits	**$30,907,738**	**$32,163,164**
5. Derivation of Normal Cost		
a. Present Value of Future Benefits	$570,153,692	593,365,824
b. Present Value of Future Normal Cost	($60,554,010)	($63,115,180)
City Portion	*($39,381,121)*	*($40,882,854)*
Member Portion	*($21,172,889)*	*($22,232,326)*
c. Actuarial Accrued Liability (AAL)	$509,599,682	530,250,644
d. Actuarial Value of Assets	($248,737,360)	($273,241,407)
e. Unfunded Accrued Liability (c. + d.)	**$260,862,322**	**257,009,237**
f. Normal Cost with Interest	$7,838,123	$8,287,755
g. Payment to Amortize Unfunded Liability	$26,984,892	$28,072,062
h. Administrative Expenses	$705,694	$713,440
i. Bi-weekly Interest Adjustment	$1,330,119	$1,387,944
j. Total (f. + g. + h. + i.)	**$36,858,828**	**$38,461,201**
6. Expected City Contributions Fiscal Year	**2023/2024**	**2024/2025**
a. Total Required Contribution (5.j above)	$36,858,828	$38,461,201
b. Expected Member Contributions	($2,623,484)	($2,810,061)
c. Prepaid City Contribution	$0	$0
d. Expected Chapter 185 Monies for Current Year	($1,817,654)	($2,119,082)
e. Expected City Contribution (a. + b. + c. + d.)	**$32,417,690**	**$33,532,058**

1. Actual Unfunded Accrued Liability as of October 1, 2022	$260,862,322
2. Plan sponsor normal cost for this plan year	$5,339,732
3. Interest on 1. and 2.	$21,296,164
4. Plan sponsor contribution for this plan year (including amounts expected to be paid)	($27,308,228)
5. Interest on 4.	($1,092,329)
6. Changes due to:	
a. assumptions	$0
b. plan amendments	$0
c. funding method	$0
d. actuarial (gain)/loss	($2,088,424)
	($2,088,424)
7. Total Current Unfunded Actuarial Accrued Liability as of October 1, 2023 (1. + 2. + 3. + 4. + 5. + 6.)	$257,009,237

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)

9.	**Actual Unfunded Accrued Liability (UAL) Payment as of October 1, 2022 Valuation:**		$26,984,892
10.	**Changes in UAL Payment Due to Actuarial (Gains)/Losses During the 2022/2023 Plan Year:**		
	a. Due to Salary	$162,149	
	b. Due to Investment Performance	(641,434)	
	c. Due to Turnover/Mortality	470,182	
	d. Due to New Retirements	66,842	
	e. Due to Data/Service Adjustments & Timing of DROP Retiree COLAs	71,702	
	f. Due to Expected Payroll Growth	856,694	
	g. Due to New Members	101,035	
	h. Total		$1,087,170
11.	**Other Changes in UAL Payment During the 2022/2023 Plan Year:**		
	a. Assumption and method changes	$0	
	b. Plan changes	0	
	c. Total change		$0
12.	**Unfunded Accrued Liability Payment as of October 1, 2023 Valuation:**		$28,072,062

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

Salary/Service: Average salary increase of 9.8% compared to expected increases of 5.6%.

Investment Performance: 10.54% actual vs. 8.0% expected return on the actuarial value of assets.

Turnover: 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/Service Adjustments & Timing of DROP Retiree COLAs: Effect of COLA beginning earlier than 8-year deferral period for members leaving DROP, timing of COLAs, service adjustments for service purchases, and other data adjustments.

Payroll Growth: 3.5% annual increase in amortization payment according to amortization method.

Assumption and Method Changes: None

Plan Changes: None

Actuarial Valuation Date	Actuarial Value of Assets (1)	Actuarial Accrued Liability (AAL) (2)	Unfunded AAL (UAAL) (2) - (1)	Funded Ratio (1)/(2)	Annual Covered Payroll (3)	UAAL as % of Covered Payroll [(2) - (1)]/(3)
10/1/2018	$212,836,327	$457,443,930	$244,607,603	46.5%	$21,786,392	1,122.8%
10/1/2019	$215,609,662	$452,065,109	$236,455,447	47.7%	$22,824,881	1,036.0%
10/1/2020	$227,644,851	$465,979,519	$238,334,668	48.9%	$22,966,730	1,037.7%
10/1/2021	$260,244,389	$481,157,432	$220,913,043	54.1%	$23,809,516	927.8%
10/1/2022	$248,737,360	$509,599,682	$260,862,322	48.8%	$26,681,757	977.7%
10/1/2023	$273,241,407	$530,250,644	$257,009,237	51.5%	$28,579,316	899.3%

Additional Disclosure Information

Valuation date :	October 1, 2022	October 1, 2023
Actuarial cost method:	Entry Age Normal	Entry Age Normal
Amortization method:		
Prior to October 1, 2017	Level Percentage	Level Percentage
On or After October 1, 2017	Level Dollar	Level Dollar
Remaining amortization period:	10 to 23 years	9 to 22 years
Asset valuation method:	5 - Year Smoothed Market	5 - Year Smoothed Market
Actuarial assumptions:		
Investment rate of return	8.00%	8.00%
Discount rate	8.00%	8.00%
Projected salary increases	5.03% to 10.67%	5.03% to 10.67%
Includes inflation at	2.50%	2.50%
Cost of living adjustments	2.00% for Group 1 and Group 2 Members; 2.50% for Group 3	2.00% for Group 1 and Group 2 Members; 2.50% for Group 3

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 8.0%.

1. Actuarial Present Value of Accrued Benefits

		As of October 1, 2022	As of October 1, 2023
a.	Vested Accrued Benefits:		
i.	Inactive members and beneficiaries	$400,356,313	$410,639,742
ii.	Active members	$53,027,120	$58,512,026
iii.	Sub-total	$453,383,433	$469,151,768
b.	Non-vested Accrued Benefits	$12,942,107	$14,569,957
c.	Total Benefits	**$466,325,540**	**$483,721,725**
d.	Market Value of Assets	$226,124,873	$257,127,754
e.	Percentage Funded	48.5%	53.2%

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

a.	Actuarial Present Value as of October 1, 2022 (8.0% Interest):	**$466,325,540**
b.	Increase (Decrease) During 2022/2023 Plan Year Attributable to:	
i.	Interest	$36,043,637
ii.	Benefits accumulated/experience	$12,912,692
iii.	Benefits paid	($31,560,144)
iv.	Plan amendments	$0
v.	Changes in actuarial assumptions or methods	$0
vi.	Net increase (decrease)	**$17,396,185**
c.	Actuarial Present Value as of October 1, 2023 (8.0% Interest):	**$483,721,725**

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

a. Plan provisions reflected in the accrued benefits (see Table XIIIa)
b. Plan amendments reflected in item 2.b.iv. above (see Table XIIIb)
c. Actuarial assumptions and methods used to determine present values (see Table XIIa)
d. Changes in actuarial assumptions and methods reflected in item 2.b.v. above (see Table XIIb)

	October 1, 2022	Final October 1, 2023
1. Participant Data:		
a. Active members:		
i. Number	259	274
ii. Total annual payroll	$26,681,757	$28,579,316
iii. Projected annual payroll	$27,615,618	$29,579,592
b. Retirees, members in DROP, and beneficiaries:		
i. Number	411	417
ii. Total annualized benefit	$30,089,972	$31,364,714
c. Disabled members receiving benefits:		
i. Number	23	22
ii. Total annualized benefit	$817,766	$798,450
d. Terminated vested members:		
i. Number	11	8
ii. Total annualized benefit	$450,341	$288,552
2. Assets:		
a. Actuarial value of assets	$248,737,360	$273,241,407
b. Market value of assets	$226,124,873	$257,127,754
3. Liabilities:		
a. Present value of all future expected benefit payments:		
i. Active members:		
Retirement benefits	$160,014,474	$172,512,109
Vesting benefits	$2,612,927	$2,721,481
Disability benefits	$5,278,931	$5,495,592
Death benefits	$1,327,653	$1,364,512
Sub-total	$169,233,985	$182,093,694
ii. Terminated vested members	$4,709,009	$2,996,068
iii. Retired members and beneficiaries:		
Retirees, members in DROP, and beneficiaries	$359,868,722	$371,687,176
Disabled members	$8,278,582	$7,956,498
Sub-total	$368,147,304	$379,643,674
iv. Supplemental Distributions	$27,500,000	$28,000,000
v. Member contributions (annuities & refunds)	$563,394	$632,388
vi. Total present value of all future expected ben. pmts.	$570,153,692	$593,365,824

(CONTINUED)

	Final October 1, 2022	Final October 1, 2023
3. Liabilities (cont):		
b. Liabilities due and unpaid	$0	$0
c. Active actuarial accrued liability	$109,243,369	$119,610,902
d. Inactive actuarial accrued liability	$400,356,313	$410,639,742
e. Total actuarial accrued liability	$509,599,682	$530,250,644
f. Unfunded actuarial accrued liability (please reference Table Va for details concerning the unfunded liability bases and amortization periods)	$260,862,322	$257,009,237
4. Actuarial Present Value of Accrued Benefits: (please reference Table IV for details concerning the present value of accrued benefits)	$466,325,540	$483,721,725
5. Pension Cost (as a % of projected payroll):		
a. Normal cost plus projected administrative expenses	30.94%	30.43%
i. Retirement	$6,980,435	$7,383,763
ii. Termination	$318,569	$341,965
iii. Death	$112,590	$117,596
iv. Disability	$426,529	$444,431
v. Admin expenses	$705,694	$713,440
Dollar amount	$8,543,817	$9,001,195
b. Payment to amortize unfunded liability	97.72%	94.90%
Dollar amount	$26,984,892	$28,072,062
c. Interest adjustment	4.82%	4.69%
Dollar amount	$1,330,119	$1,387,944
d. Amount to be contributed by members	9.50%	9.50%
Dollar amount	$2,623,484	$2,810,061
e. Expected Chapter 185 monies	6.58%	7.16%
Dollar amount	$1,817,654	$2,119,082
f. Prepaid City Contributions	0.00%	0.00%
Dollar amount	$0	$0
g. Expected City Contributions	117.40%	113.36%
Dollar amount	$32,417,690	$33,532,058

	Final October 1, 2022	Final October 1, 2023
6. Past Contributions:		
a. Required City & State contribution	$26,018,569	$26,821,496
b. Actual contribution made by:		
i. City	$24,221,136	$25,189,146
ii. State	$1,817,654	$2,119,082
iii. Members	$2,667,958	$3,337,832
7. Net actuarial (gain) / loss:	$37,812,787	($2,088,424)
8. Other disclosures:		
a. Present value of active members':		
i. Future salaries:		
at attained age	$222,872,514	$234,024,485
at entry age	N/A	N/A
ii. Future contributions:		
at attained age	$21,172,889	$22,232,326
at entry age	N/A	N/A
b. Present value of future normal contributions from City	$39,381,121	$40,882,854
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	$15,435,299	$16,804,069

UNFUNDED LIABILITY BASIS — TABLE Vb

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
2002	Early Retirement Window	$11,314,357	$10,964,453	$1,423,463	$10,418,146	$1,473,284	9 years
2002	Experience Loss	$26,376,767	$25,561,051	$3,318,469	$24,287,466	$3,434,616	9 years
2004	Experience Loss	$36,560,843	$37,988,912	$4,274,460	$36,753,565	$4,424,066	11 years
2005	Experience Loss	$15,940,669	$16,966,405	$1,796,711	$16,527,006	$1,859,596	12 years
2006	Experience Loss	$9,046,327	$9,806,286	$983,037	$9,607,752	$1,017,443	13 years
2007	Experience Loss	$914,479	$1,004,653	$95,811	$989,214	$99,164	14 years
2008	Experience Loss	$10,116,472	$11,215,711	$1,021,951	$11,091,017	$1,057,720	15 years
2009	Experience Loss	$20,405,785	$22,791,380	$1,991,654	$22,623,036	$2,061,362	16 years
2010	Experience (Gain)	($2,327,568)	($2,610,345)	($219,494)	($2,599,679)	($227,176)	17 years
2011	Experience Loss	$13,843,275	$15,542,965	$1,261,301	$15,525,101	$1,305,447	18 years
2012	Experience Loss	$3,123,194	$3,501,486	$274,941	$3,506,664	$284,563	19 years
2013	Experience Loss	$8,447,927	$9,434,908	$718,537	$9,471,164	$743,686	20 years
2014	Experience (Gain)	($1,545,400)	($3,825,185)	($283,147)	($3,848,053)	($293,057)	21 years
2015	Experience Loss	$1,744,066	$1,921,046	$138,478	$1,936,252	$143,325	22 years
2016	Experience Loss	$2,747,660	$2,645,612	$265,211	$2,592,050	$274,493	13 years
2017	Experience Loss	$1,653,300	$1,441,351	$168,392	$1,388,267	$168,392	14 years
2018	Experience (Gain)	($958,919)	($864,496)	($97,668)	($835,988)	($97,668)	15 years
2019	Experience Loss	$4,328,250	$4,021,199	$440,842	$3,902,053	$440,842	16 years
2020	Experience Loss	$4,096,050	$3,909,873	$417,192	$3,805,471	$417,192	17 years
2021	Experience (Gain)	($14,165,251)	($13,855,709)	($1,442,762)	($13,521,404)	($1,442,762)	18 years
2022	Experience Loss	$37,423,396	$37,423,396	$3,811,656	$36,605,611	$3,811,655	19 years
2023	Experience (Gain)*	$2,262,823			$2,262,823	$230,474	20 years
2004	Plan Amendment	$703,020	$730,479	$82,192	$706,725	$85,069	11 years
2006	Plan Amendment	$8,475,357	$9,187,348	$920,991	$9,001,345	$953,226	13 years
2009	Plan Amendment	$3,279	$3,661	$320	$3,634	$331	16 years
2010	Plan Amendment	($28,657,120)	($32,138,689)	($2,702,420)	($32,007,364)	($2,797,005)	17 years
2012	Plan Amendment	$7,272,455	$8,153,316	$640,207	$8,165,374	$662,615	19 years
2015	Plan Amendment	$2,092,326	$2,304,646	$166,130	$2,322,888	$171,944	22 years
2018	Plan Amendment	$54,812,570	$53,521,380	$5,104,186	$52,698,904	$5,282,832	14 years
2019	Plan Amendment	$3,365,177	$3,289,686	$313,728	$3,239,133	$324,709	14 years
2022	Plan Amendment	$65,329,586	$6,532,956	$665,396	$6,390,196	$665,396	19 years
2006	Assumption Change	($840,518)	($911,128)	($91,337)	($892,681)	($94,533)	13 years
2015	Assumption Change	$23,800,000	$22,452,123	$2,377,638	$21,870,655	$2,460,856	12 years
2016	Assumption Change	$14,977,320	$14,421,065	$1,445,648	$14,129,102	$1,496,246	13 years
2019	Assumption Change	($14,286,600)	($13,273,093)	($1,455,122)	($12,879,818)	($1,455,122)	16 years
2006	Asset Method Change	($7,745,683)	($8,396,380)	($841,700)	($8,226,390)	($871,159)	13 years
Total			**$260,862,322**	**$26,984,892**	**$257,009,237**	**$28,072,062**	

Date	Projected Unfunded Liability
October 1, 2023	$257,009,237
October 1, 2024	$249,497,915
October 1, 2025	$240,499,010
October 1, 2026	$229,862,481
October 1, 2045	$0

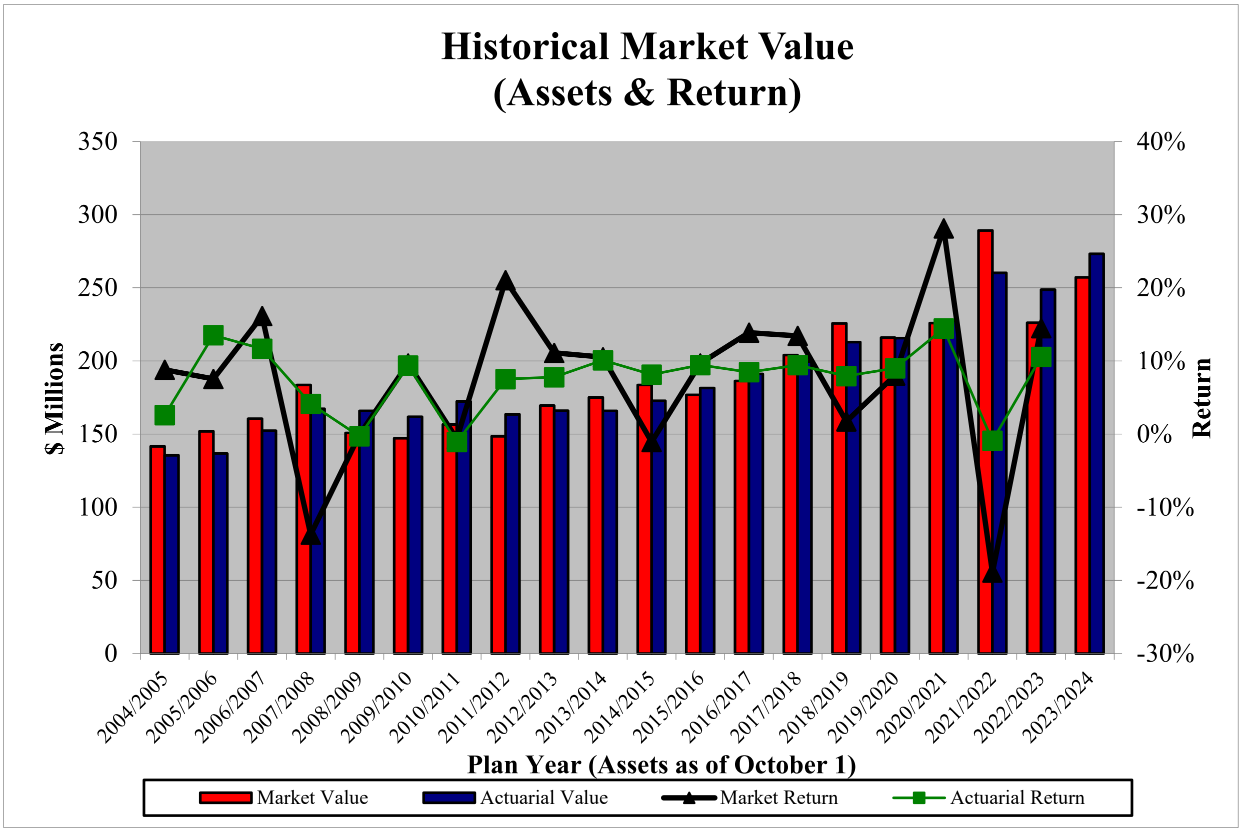
* The total experience loss/(gain) for the 2022/2023 plan year of ($2,088,424) is adjusted by market value and contribution timing differences adjusted for interest equal to $4,351,247

	As of October 1, 2022		As of October 1, 2023
1. Market Value of Assets			
a. Cash and short term investments (4.27%)	$14,044,314		$10,968,227
b. U.S. government obligations (5.84%)	$23,935,645		$15,005,162
c. Equity Securities (107.68%)	$220,001,482		$276,893,833
d. Corporate bonds and notes (2.58%)	$12,563,924		$6,639,775
e. Accrued income receivable (0.76%)	$2,095,552		$1,966,150
f. Real estate (19.69%)	$58,448,860		$50,625,705
g. Alternative investment (11.07%)	$18,709,324		$28,460,757
h. Prepaid expenses (0%)	$2,927,680		$0
i. Accounts payable (-0.04%)	($146,633)		($99,041)
j. Deferred Retirement Option Plan Payable (-50.89%)	($124,010,461)		($130,862,444)
k. Share plan investments (-0.85%)	($2,304,171)		($2,186,423)
l. Payable for securities purchased (-0.11%)	($140,643)		($283,947)
m. Prepaid City contributions (0%)	$0		$0
n. City contribution receivable (0%)	$0		$0
o. Market value of assets (100%)	**$226,124,873**		**$257,127,754**
2. Actuarial Value of Assets			
a. Market Value of Assets	$226,124,873		$257,127,754
b. State contribution reserve	$0		$0
c. Supplemental benefit payable	$0		$0
d. Market value of assets available for funding	$226,124,873		$257,127,754
e. 5-year phase-in of (gain)/loss on Actuarial Value of Assets:			
i. 2018/2019 — $13,592,581 *x 20% =*	$2,718,516		
ii. 2019/2020 — ($43,942) *x 40% =*	($17,577)	*x 20% =*	($8,788)
iii. 2020/2021 — ($45,454,702) *x 60% =*	($27,272,821)	*x 40% =*	($18,181,881)
iv. 2021/2022 — $76,647,891 *x 80% =*	$61,318,313	*x 60% =*	$45,988,735
v. 2022/2023 — ($14,605,516)		*x 80% =*	($11,684,413)
vi. Total unrecognized losses/(gains)	$36,746,431		$16,113,653
f. Preliminary Actuarial Value of Assets (Item d. plus item e.vi.)	**$262,871,304**		**$273,241,407**
g. Corridor around Actuarial Value of Assets			
i. 90% of Market Value (item d.)	**$203,512,386**		**$231,414,979**
ii. 110% of Market Value (item d.)	**$248,737,360**		**$282,840,529**
h. Actuarial Value of Assets (Item f., but within items g.i. and g.ii.)	**$248,737,360**		**$273,241,407**

	Market Value As of October 1, 2023
1. Beginning of Year	$226,124,873
2. Increases Due to:	
a. Contributions:	
i. City	$25,189,146
ii. State	$2,119,082
iii. Members	$3,337,832
iv. Total	$30,646,060
3. Decreases Due to:	
a. Benefit payments	$31,443,952
b. Refund of member contributions	$116,192
c. Administrative expenses	$713,440
d. Miscellaneous	$0
e. Total decreases	$32,273,584
4. Expected Investment Income [(1x 8%) + ((2a.iv. - 3e.) x 0.5 x 8%)]	$18,024,889
5. Actual Investment Income	$32,630,405
6. (Gain) / Loss [4 - 5]	($14,605,516)

	As of October 1, 2022	As of October 1, 2023
1. Beginning of Year Market Value:	**$289,160,432**	**$226,124,873**
2. Audit Adjustment	$0	$0
3. Increases Due to:		
a. Contributions:		
i. City	$24,221,136	$25,189,146
ii. City Contribution Receivable	$0	$0
iii. State	$1,817,654	$2,119,082
iv. Members[1]	$2,667,958	$3,337,832
v. Total	$28,706,748	$30,646,060
b. Investment income	($53,881,230)	$32,630,405
c. Total increases	($25,174,482)	$63,276,465
4. Decreases Due to:		
a. Benefit payments	$36,973,094	$31,443,952
b. Refund of member contributions	$182,289	$116,192
c. Administrative expenses	$705,694	$713,440
d. Miscellaneous	$0	$0
e. Total decreases	$37,861,077	$32,273,584
5. End of Year Market Value:	**$226,124,873**	**$257,127,754**

[1] Including Buybacks



Plan Year	Market Value as of October 1	Actuarial Value as of October 1	Benefit Payments	Administrative Expenses	City, State, and Member Contributions	Market Value Return	Actuarial Value Return
2004/2005	$141,639,648	$135,356,309	$10,166,609	$353,750	$8,281,526	8.79%	2.58%
2005/2006	$151,753,020	$136,577,718	$12,532,418	$302,994	$10,269,928	7.53%	13.52%
2006/2007	$160,524,818	$152,299,396	$15,215,538	$482,895	$13,058,502	16.14%	11.66%
2007/2008	$183,577,473	$167,269,474	$19,148,054	$433,359	$11,336,306	(13.74)%	4.12%
2008/2009	$150,682,249	$165,750,474	$16,464,584	$403,324	$13,388,069	(0.09)%	(0.30)%
2009/2010	$147,072,847	$161,780,132	$18,195,346	$377,636	$14,105,064	9.66%	9.37%
2010/2011	$156,601,556	$172,261,712	$21,268,874	$470,677	$14,676,753	(0.66)%	(1.08)%
2011/2012	$148,523,932	$163,376,325	$20,005,471	$573,221	$11,307,996	21.04%	7.51%
2012/2013	$169,520,688	$166,024,436	$24,163,082	$660,615	$12,148,097	11.10%	7.78%
2013/2014	$174,955,960	$165,773,329	$22,487,889	$684,234	$13,848,397	10.51%	10.09%
2014/2015	$183,536,037	$172,701,186	$23,370,489	$656,738	$19,194,944	(1.07)%	8.12%
2015/2016	$176,781,293	$181,537,526	$22,179,802	$671,069	$15,974,089	9.66%	9.44%
2016/2017	$186,260,971	$191,082,462	$25,096,462	$726,806	$18,776,017	13.86%	8.46%
2017/2018	$203,975,051	$199,551,350	$25,608,317	$560,837	$21,255,019	13.43%	9.43%
2018/2019	$225,564,214	$212,836,327	$43,738,560	$714,919	$35,154,854	1.73%	7.93%
2019/2020	$215,913,475	$215,609,662	$28,987,952	$722,989	$22,664,964	8.02%	9.00%
2020/2021	$225,902,679	$227,644,851	$29,319,129	$709,255	$29,769,573	28.13%	14.44%
2021/2022	$289,160,432	$260,244,389	$37,155,383	$705,694	$28,706,748	(18.93)%	(0.92)%
2022/2023	$226,124,873	$248,737,360	$31,560,144	$713,440	$30,646,060	14.48%	10.54%
2023/2024	$257,127,754	$273,241,407					

The market value return for the System's total assets (including DROP) for the plan year ending September 30, 2023 was 11.60%. The 14.48% return shown above is the market value return of the System's non-DROP assets net of the guaranteed return for the DROP accounts.

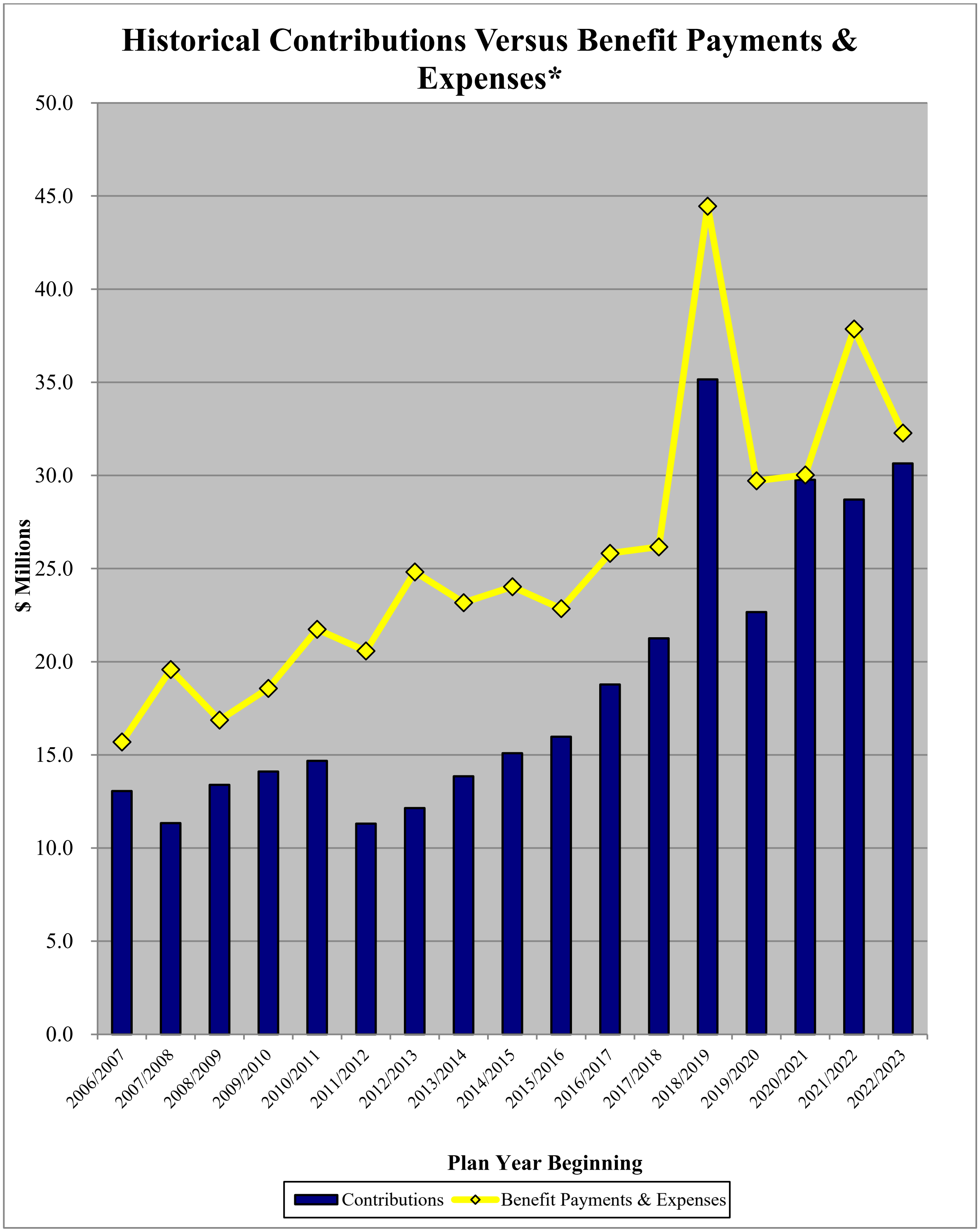
REVENUES

Fiscal Year	City Contributions	State Contributions	Member Contributions	Sub-Total	Net Investment Income	Total
2006/2007	$10,269,819	$1,177,441	$1,611,242	**$13,058,502**	$11,337,282	**$24,395,784**
2007/2008	$8,493,509	$1,139,756	$1,703,041	**$11,336,306**	$25,692,586	**$37,028,892**
2008/2009	$10,119,188	$1,212,981	$2,055,900	**$13,388,069**	($24,650,117)	**($11,262,048)**
2009/2010	$11,369,800	$1,101,980	$1,633,284	**$14,105,064**	($129,563)	**$13,975,501**
2010/2011	$11,917,325	$1,052,885	$1,706,543	**$14,676,753**	($1,014,826)	**$13,661,927**
2011/2012	$8,819,634	$1,111,640	$1,376,722	**$11,307,996**	$30,267,452	**$41,575,448**
2012/2013	$9,573,932	$1,250,143	$1,324,022	**$12,148,097**	$17,862,232	**$30,010,329**
2013/2014	$11,209,547	$1,269,750	$1,369,100	**$13,848,397**	$17,903,601	**$31,751,998**
2014/2015	$13,425,807	$0	$1,664,762	**$15,090,569**	($1,922,820)	**$13,167,749**
2015/2016	$13,960,747	$0	$2,013,342	**$15,974,089**	$16,356,460	**$32,330,549**
2016/2017	$17,005,579	$0	$1,770,438	**$18,776,017**	$24,761,331	**$43,537,348**
2017/2018	$19,492,251	$0	$1,762,768	**$21,255,019**	$26,503,298	**$47,758,317**
2018/2019	$24,446,359	$7,379,064	$3,329,431	**$35,154,854**	$3,752,261	**$38,907,115**
2019/2020	$18,499,668	$1,797,433	$2,367,863	**$22,664,964**	$17,035,181	**$39,700,145**
2020/2021	$25,573,090	$1,632,350	$2,564,133	**$29,769,573**	$63,516,564	**$93,286,137**
2021/2022	$24,221,136	$1,817,654	$2,667,958	**$28,706,748**	($53,881,230)	**($25,174,482)**
2022/2023	$25,189,146	$2,119,082	$3,337,832	**$30,646,060**	$32,630,405	**$63,276,465**

EXPENSES

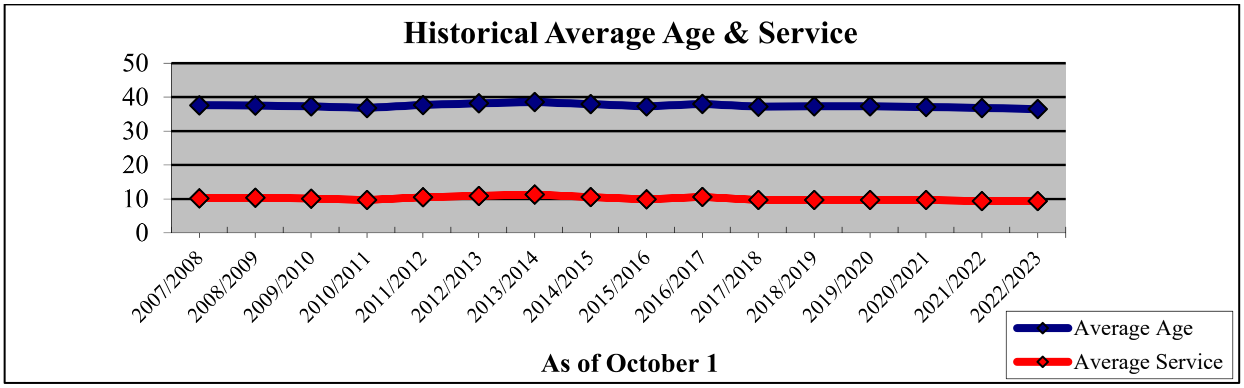
Fiscal Year	Benefits Paid	Member Refunds	Administrative Expenses[1]	Total
2006/2007	$14,931,178	$284,360	$482,895	$15,698,433
2007/2008	$19,101,924	$46,130	$433,359	$19,581,413
2008/2009	$16,377,621	$86,963	$403,324	$16,867,908
2009/2010	$18,023,923	$171,423	$377,636	$18,572,982
2010/2011	$21,248,965	$19,909	$470,677	$21,739,551
2011/2012	$19,792,556	$212,915	$573,221	$20,578,692
2012/2013	$23,921,323	$241,759	$660,615	$24,823,697
2013/2014	$22,361,108	$126,781	$684,234	$23,172,123
2014/2015	$23,297,061	$73,428	$656,738	$24,027,227
2015/2016	$21,685,286	$494,516	$671,069	$22,850,871
2016/2017	$25,076,164	$20,298	$726,806	$25,823,268
2017/2018	$25,554,361	$53,956	$560,837	$26,169,154
2018/2019	$43,626,471	$112,089	$714,919	$44,453,479
2019/2020	$28,673,556	$314,396	$722,989	$29,710,941
2020/2021	$29,267,372	$51,757	$709,255	$30,028,384
2021/2022	$36,973,094	$182,289	$705,694	$37,861,077
2022/2023	$31,443,952	$116,192	$713,440	$32,273,584

[1] Does not include investment expenses

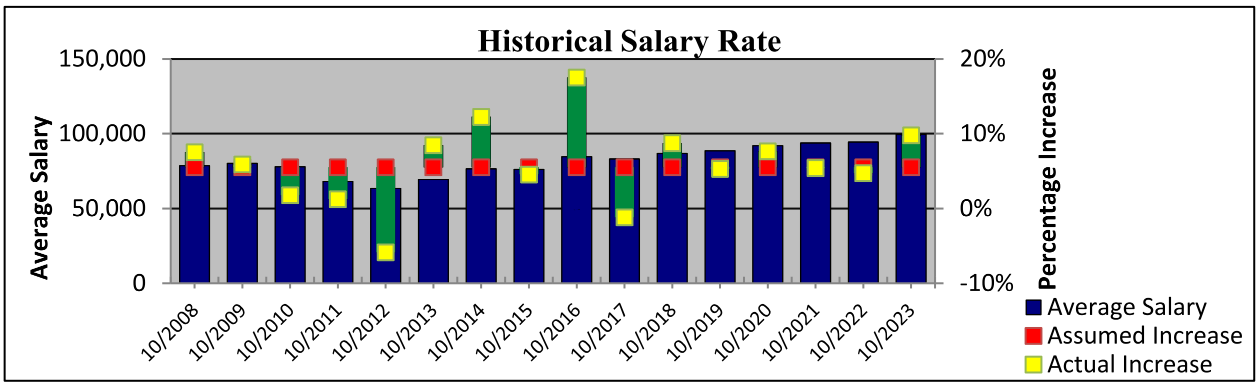


* Please reference Table VIIb for the historical benefit payments, expenses, and contributions.

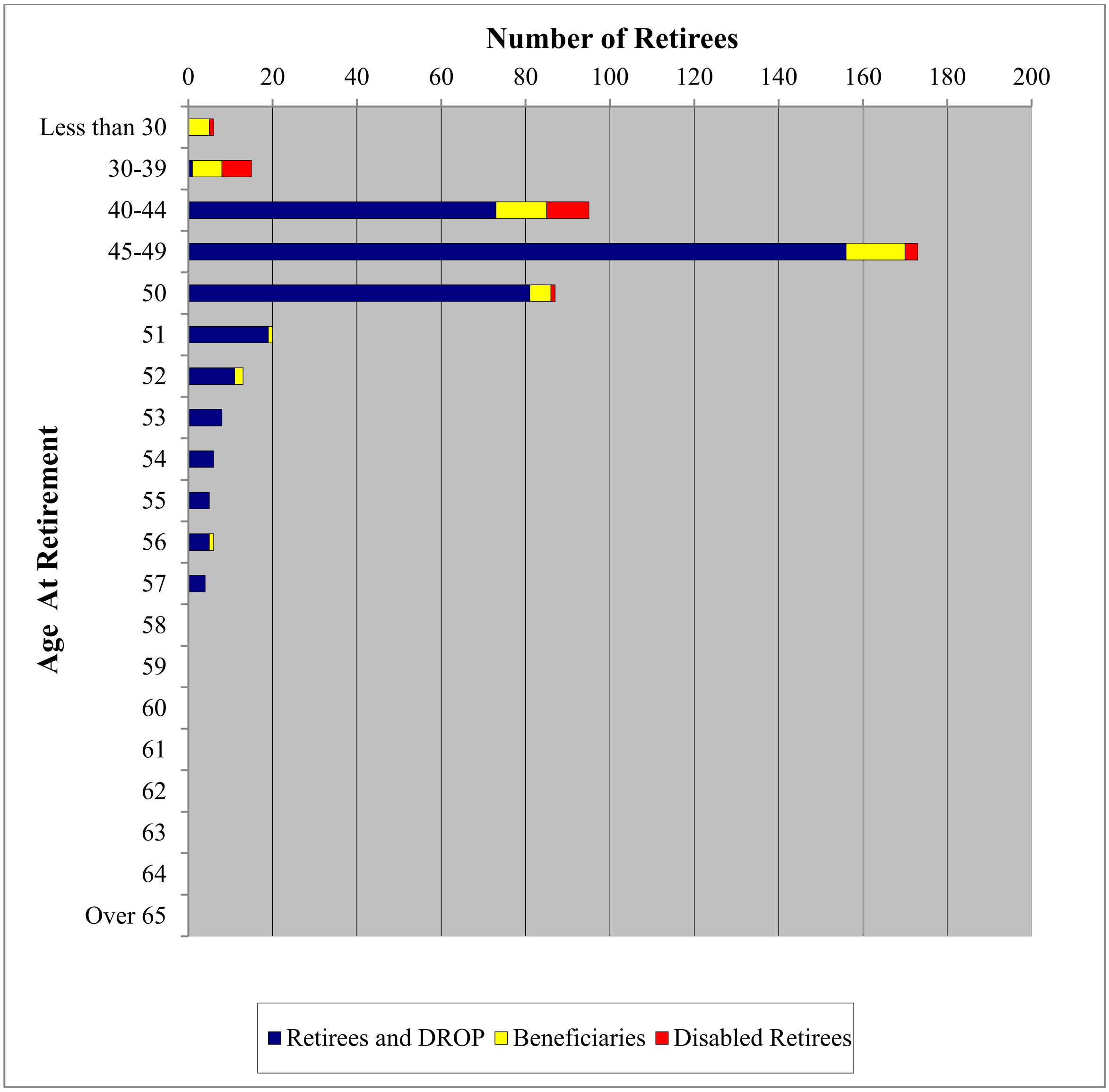
	As of October 1, 2022	As of October 1, 2023
1. Active Members		
a. Vested	105	111
b. Non-vested	154	163
c. Sub-total	**259**	**274**
2. Non-active, Non-retired Members		
a. Fully or partially vested	**11**	**8**
3. Retired Members		
a. Members in DROP	39	42
b. Retirees	325	327
c. Disabled	23	22
d. Beneficiaries	47	48
e. Sub-total	**434**	**439**
4. Total Members	**704**	**721**



Date	Average Service Earned	Average Attained Age	Date	Average Service Earned	Average Attained Age
2009/2010	10.1	37.3	2016/2017	10.6	38.0
2010/2011	9.7	36.8	2017/2018	9.7	37.2
2011/2012	10.5	37.7	2018/2019	9.7	37.3
2012/2013	10.9	38.2	2019/2020	9.7	37.3
2013/2014	11.3	38.6	2020/2021	9.7	37.1
2014/2015	10.6	38.0	2021/2022	9.4	36.8
2015/2016	9.9	37.3	2022/2023	9.4	36.5



Date	Average Salary	Actual Salary Increase	Date	Average Salary	Actual Salary Increase
10/2010	$77,873	1.75%	10/2017	$83,046	-1.20%
10/2011	$67,995	1.22%	10/2018	$86,798	8.71%
10/2012	$63,421	-5.88%	10/2019	$88,469	5.30%
10/2013	$69,437	8.43%	10/2020	$91,867	7.63%
10/2014	$76,409	12.24%	10/2021	$93,738	5.39%
10/2015	$76,118	4.53%	10/2022	$94,413	4.71%
10/2016	$84,560	17.50%	10/2023	$99,447	9.76%



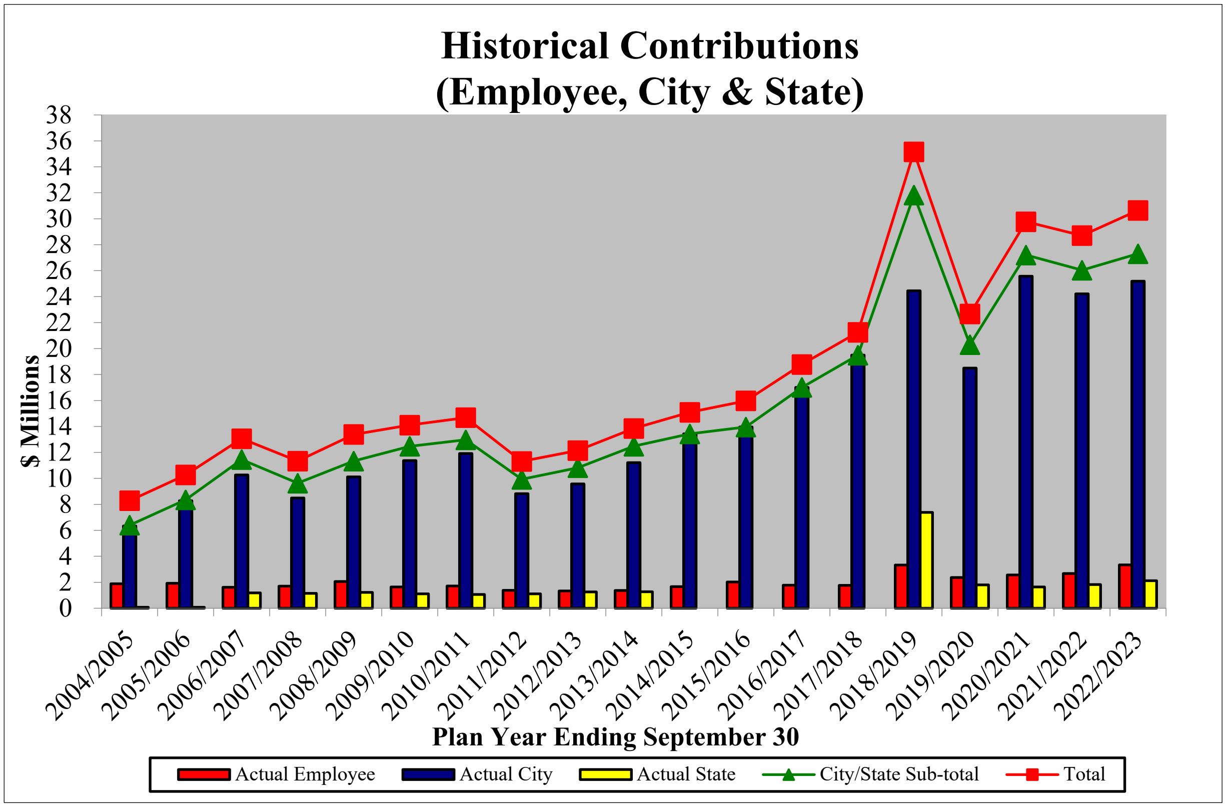
Average benefit being paid to non-disabled retirees is $6,787 per month.

Average benefit being paid to disabled retirees is $3,024 per month.

Average benefit being paid to beneficiaries is $2,275 per month.

	Active	Non-Active, Non-Retired	Retired	Total
1. Number of members as of October 1, 2022	**259**	**11**	**434**	**704**
2. Change in Status during the plan year:				
a. Actives who became inactive				
b. Actives who retired	(8)		8	
c. Inactives who became active	1	(1)		0
d. Inactives who retired		(2)	2	
e. Retirees who became active				
3. No longer members due to:				
a. Death			(10)	(10)
b. Permanent break-in-service	(5)			(5)
c. Forfeiture of benefits				
d. Expiration of certain period				
e. Included in error last year				
4. New members due to:				
a. Initial membership	27			27
b. Death of another member			4	4
c. Omitted in error last year				
d. Correction			1	1
5. Number of members as of October 1, 2023	**274**	**8**	**439**	**721**

Attained Age	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & Up	Total
	Completed Years of Service										
Under 25	5	6									**11**
Avg. Pay	75,994	72,924									74,319
25 to 29	10	33	4								**47**
Avg. Pay	68,629	75,988	84,904								75,181
30 to 34	3	25	29	9							**66**
Avg. Pay	71,035	79,261	96,580	99,847							89,305
35 to 39	2	6	23	29	6						**66**
Avg. Pay	66,761	81,302	93,394	109,726	127,722						101,784
40 to 44		2	10	8	21	7					**48**
Avg. Pay		73,380	96,645	113,044	129,412	129,532					117,540
45 to 49			3	1	10	6					**20**
Avg. Pay			96,538	99,976	129,149	149,465					128,894
50 to 54			1		5	4					**10**
Avg. Pay			93,361		135,482	142,921					134,245
55 to 59			1			5					**6**
Avg. Pay			86,011			127,436					120,532
60 to 64											
Avg. Pay											
65 to 79											
Avg. Pay											
70 & Up											
Avg. Pay											
Total	**20**	**72**	**71**	**47**	**42**	**22**					**274**
Avg. Pay	70,644	77,240	94,703	108,192	129,831	136,926					99,447



Plan Year	Actual Employee	Actual City	Actual State	City/State Sub-Total	Total
2004/2005	$1,887,029	$6,327,050	$67,447	$6,394,497	$8,281,526
2005/2006	$1,921,212	$8,281,269	$67,447	$8,348,716	$10,269,928
2006/2007	$1,611,242	$10,269,819	$1,177,441	$11,447,260	$13,058,502
2007/2008	$1,703,041	$8,493,509	$1,139,756	$9,633,265	$11,336,306
2008/2009	$2,055,900	$10,119,188	$1,212,981	$11,332,169	$13,388,069
2009/2010	$1,633,284	$11,369,800	$1,101,980	$12,471,780	$14,105,064
2010/2011	$1,706,543	$11,917,325	$1,052,885	$12,970,210	$14,676,753
2011/2012	$1,376,722	$8,819,634	$1,111,640	$9,931,274	$11,307,996
2012/2013	$1,324,022	$9,573,932	$1,250,143	$10,824,075	$12,148,097
2013/2014	$1,369,100	$11,209,547	$1,269,750	$12,479,297	$13,848,397
2014/2015	$1,664,762	$13,425,807	$0	$13,425,807	$15,090,569
2015/2016	$2,013,342	$13,960,747	$0	$13,960,747	$15,974,089
2016/2017	$1,770,438	$17,005,579	$0	$17,005,579	$18,776,017
2017/2018	$1,762,768	$19,492,251	$0	$19,492,251	$21,255,019
2018/2019	$3,329,431	$24,446,359	$7,379,064	$31,825,423	$35,154,854
2019/2020	$2,367,863	$18,499,668	$1,797,433	$20,297,101	$22,664,964
2020/2021	$2,564,133	$25,573,090	$1,632,350	$27,205,440	$29,769,573
2021/2022	$2,667,958	$24,221,136	$1,817,654	$26,038,790	$28,706,748
2022/2023	$3,337,832	$25,189,146	$2,119,082	$27,308,228	$30,646,060

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 October 1, 2019 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 and 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 $617 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**

- Entry Age Normal Cost Method

2. **Decrements**

- **Pre-Retirement Mortality**

Female: PubG.H-2010 Headcount Weighted Safety Employee Set Forward 1 year; projected generationally using projection scale MP-2018
Male: PubG.H-2010 Headcount Weighted Safety Below Median Employee Set Forward 1 year; projected generationally using projection scale MP-2018

- **Post-Retirement Healthy Mortality**

Female: PubG.H-2010 Headcount Weighted Safety Healthy Retiree Set Forward 1 year; projected generationally using projection scale MP-2018
Male: PubG.H-2010 Headcount Weighted Safety Below Median Healthy Retiree Set Forward 1 year; projected generationally using projection scale MP-2018

- **Post-Retirement Disabled Mortality**

Pub-2010 80% Headcount Weighted General Disabled Retiree; 20% Headcount Weighted Safety Disabled Retiree; projected generationally using projection scale MP-2018

- **Disability**

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

Age	Ordinary Disability Rate	Service Disability Rate	Age	Ordinary Disability Rate	Service Disability Rate
20	.0004	.0003	40	.0018	.0014
25	.0006	.0005	45	.0032	.0026
30	.0009	.0007	49	.0050	.0040
35	.0012	.0010			

- **Retirement**

  - 100% of members are assumed to retire, enter the DROP (or RPRB) at the earlier
    - Age 55 with 10 years of service, or
    - Any age with 22 years of service

- **Withdrawal from Active Status**

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

Age	Rate	Age	Rate
20	.1030	35	.0182
25	.0730	40	.0099
30	.0415	45	.0048

3. **Interest Rates**

- Used for Calculating All Liabilities (including GASB 67/68 liabilities)
  - 8.00% per annum.

4. **Salary Increases**

- **Individual Compensation**

Representative values of the assumed annual rates of future salary increase are as follows:

Age	Rate	Age	Rate
20	.1067	35	.0530
25	.0880	40	.0510
30	.0625	45	.0503

- **Aggregate Compensation**

For amortization bases established prior to October 1, 2017, the aggregate compensation used to compute the accrued liability contribution rate was assumed to increase at a rate of 3½% per year. For amortization bases established on or after October 1, 2017, the aggregate compensation used to compute the accrued liability contribution rate was assumed to increase at 0%.

5. Marriage Assumptions

1. **Percent Married:** 75% of members are assumed married.
2. **Age Difference Between Spouses:** Male spouses are assumed to be three years older than female spouses.

6. Expenses

The normal contribution rate is increased by anticipated non-investment expenses. The anticipated expenses are $713,440 for the upcoming plan year.

7. Assets

For the actuarially determined contributions the actuarial value of assets is equal to the market value of assets adjusted to reflect a five-year phase-in of the difference between the expected return on market value of assets and the actual investment return on market value of assets. The actuarial value of assets cannot be less than 90% of market value nor greater than 110% of the market value.

8. Supplemental Distribution (13th Check)

Estimated present value of future Supplemental Distributions based on 1,000 scenarios of asset returns and the projected liabilities for the closed member group eligible for Supplemental Distributions.

The following assumptions have been changed during the last few plan years:

1. Effective October 1, 1997:
   The post-retirement mortality table was changed to the 1983 Group Annuity Mortality Table.

2. Effective October 1, 1999:
   a) The actuarial value of assets reflects a "fresh start" at market value, beginning a new five-year phase-in of gains and losses.
   b) The actuarial cost method was changed from frozen entry age to entry age.

3. Effective October 1, 2006:
   a) The retirement decrement was changed to the earlier of age 55 or attainment of 22 years of service. This assumption has been changed to better reflect anticipated retirement behavior as a result of the change in plan provisions effective October 1, 2006.
   b) The percentage of active members assumed married was changed from 95% to 75%. This assumption was changed after a review of the marital status of recent retirees and current active members.
   c) On October 1, 2006, the Actuarial Value of Assets was changed to be equal to the Market Value of Assets, adjusted to reflect a five-year phase-in of the difference between the expected return on Actuarial Value of Assets and the actual investment return. The new method was applied retroactively so that five years of excess returns are smoothed in 2006. The prior Actuarial Value of Assets was equal to the Market Value of Assets adjusted to reflect a five-year phase-in of the net investment gain or loss.
   d) It is assumed that members who enter the DROP on or after October 1, 2006 will participate in the DROP for eight years. Therefore, the COLA payment to these members will be deferred eight years.

4. Effective October 1, 2010:
   a) Age and service-based retirement rates were added for members with less than ten years of service as of September 30, 2011.

5. Effective October 1, 2012:
   a) Age and service-based retirement rates were updated to reflect the passage of Ordinance No. O-2013-18.

6. Effective October 1, 2015:
   a) Retirement rates were revised to evaluate the impact of the change in eligibility for normal retirement for members not vested on September 30, 2011 as a result of Ordinance Change effective September 2015.
   b) A pre-funding method was adopted for anticipated Supplemental Distribution payments. To estimate the future Supplemental Distributions, 1,000 100-year scenarios of returns were randomly generated based on the plan's capital market assumptions and asset allocations. Based on these return scenarios and the plan's projected liabilities for the closed employee group eligible for the supplemental distributions and the plan's projected assets, an estimate of distributions and the present value of these distributions under each scenario is determined. The median present value of the 1,000 scenarios is used to estimate the increase in the plan's unfunded liability to fund all future supplemental distributions. This process will be replicated in future actuarial valuations to determine any unfunded liability associated with future supplemental distributions.
   c) The amortization period for all future changes in the unfunded liability will be a closed 20-year period.

7. Effective October 1, 2016:
   a) The mortality assumption was updated to comply with Florida Statute 112.63(1)(f).

8. Effective October 1, 2017:
   a) The payroll growth assumption for amortization bases established on or after October 1, 2017 was reduced to 0%.

9. Effective October 1, 2018:
   a) Retirement rates were revised to reflect the change in eligibility for retirement and entry into the DROP and RPRB programs.

10. Effective October 1, 2019:
    a) The mortality assumption was updated based on Florida Statute 112.63(1)(f). The mortality tables were updated based on the assumptions adopted by the Florida Retirement System for use in the July 1, 2019 actuarial valuation.

* **Note: Assumption and Method changes that have first been reflected in this valuation are shown in bold print.**

1. **Membership Groups**

- **Group 1 Restored Member:**

  - Members employed or who were hired on or before September 30, 2011 and eligible to retire on or before September 30, 2020 based on a normal retirement date of age 50 or 22 years of continuous service.

- **Group 2 Restored Member:**

  - Members employed or who were hired on or before September 30, 2011 and eligible to retire after September 30, 2020 based on a normal retirement date of age 50 or 22 years of continuous service.

- **Group 3 Member:**

  - Members who were hired after September 30, 2011.

2. **Monthly Accrued Benefit**

Group 1 and Group 2 Members:

- 3% of average monthly earnings multiplied by service to 20 years plus 4% multiplied by service over 20 years with a maximum of 80% of average monthly earnings. The full 80% is earned at 22 years of service (resulting in a 12% of earnings increase in benefit at the moment the member attains 22 years of service).

Group 3 Members:

- 3% of average monthly earnings multiplied by service to 21 years plus an additional 12% upon completion of 22 years of service. The maximum 75% is earned at 22 years of service.

3. **Average Monthly Earnings**

Group 1 and Group 2 Members:

- The average of the highest three years of compensation prior to retirement or termination. Earnings include salary, overtime pay not to exceed 300 hours per year, longevity pay, assignment pay, payments for accrued holiday time (not to exceed 130 hours for Group 2 Members), payments for accrued blood time, and payments for accrued compensatory time, but shall not include payments for unused sick time or for unused vacation time.

Group 3 Members:

- The average of the highest 60 consecutive months of the last 120 months of credited service prior to retirement or termination. Earnings shall include salary, overtime pay not to exceed 200 hours per year, longevity pay, assignment pay, and payments for accrued holiday time not to exceed 130 hours per year. Earnings shall not include payments for accrued blood time, annual "cash-out" payments for accrued vacation time, payments for accrued compensatory time and payments for unused sick time which is paid upon retirement or termination.

4. **Normal Retirement Age and Benefit**

- **Eligibility:**

  - Group 1 and Group 2 Members:
    - Age 50, or
    - Any age upon attainment of 22 years of service

  - Group 3 Members:
    - Age 55 with 10 years of service, or
    - Any age upon attainment of 22 years of service

- **Amount:** Monthly Accrued Benefit

- **Form of Payment:**

  - Married Member: Life annuity with ten years certain, with a 50% survivor annuity payable to the spouse until death or remarriage
  - Unmarried Member: Life annuity with ten years certain

5. **Disability Retirement Age and Benefit**

- **Condition**

  For a service-connected disability benefit, the member must become totally and permanently disabled in the line of duty and must have applied for Social Security disability benefits as well as worker's compensation benefits, if applicable.

  For a non-service connected disability benefit, the member must become totally and permanently disabled, must have at least five years of service, and must have applied for Social Security disability benefits as well as worker's compensation benefits, if applicable.

- **Amount**

  For a service-connected disability benefit:

    Greater of monthly accrued benefit or 50% of earnings at the time of determination of disability.

For a non-service connected disability benefit:

2½% of average monthly earnings multiplied by service, with a minimum benefit of 25% of earnings at the time of determination of disability. The benefit will be offset by any worker's compensation, Social Security, pension, or similar benefit payable to the member or to his dependents. Upon attainment of age 65, the Social Security offset will cease and, upon attainment of normal retirement age, the benefit will be recomputed as a normal retirement benefit with consideration of service granted for the period of time that the member was receiving a disability retirement benefit.

- **Form of Payment**
    - Married Member: Life annuity with ten years certain, with a 50% survivor annuity payable to the spouse until death or remarriage. In the case of a member who dies prior to normal retirement age while receiving a non-service connected disability, a 100% survivor annuity is payable to the spouse until death or remarriage.
    - Unmarried Member: Life annuity with ten years certain

6. Withdrawal Retirement Age and Benefit

- **Age:** Any age with at least ten years of service
- **Amount:** Monthly Accrued Benefit payable at normal retirement age.
- **Form of Payment:**
    - Married Member: Life annuity with ten years certain, with a 50% survivor annuity payable to the spouse until death or remarriage if the member dies after payment has begun.
    - Unmarried Member: Life annuity with ten years certain, if the member dies after payment has begun.
    - A member may elect to receive his contributions in lieu of a withdrawal retirement benefit.

7. Death Benefits

- **Service-connected death benefit:** Greater of the earned benefit or 25% of earnings at the date of death payable as a monthly life and ten years certain benefit to the spouse until death or remarriage or to surviving children until the youngest child reaches age 18. For members who did not designate a beneficiary, the estate of the member is entitled, for a period of ten years, to a monthly benefit equal to the greater of the earned benefit or 25% of earnings on the date of death.

- **Non-service connected death benefit:** 25% of earnings at the date of death payable as a monthly life and ten years certain benefit to the spouse until death or remarriage or to surviving children until the youngest child reaches age 18.

8. Employee Contributions

9.50% of compensation.

9. Refund of Employee Contributions

If a member's service is terminated prior to his becoming eligible for a withdrawal retirement benefit, then his contributions are returned to him without interest.

10. Police Officers' Deferred Retirement Option Plan (DROP)

All members may enter the DROP upon attainment of normal retirement age or completion of 22 years of service subject to the existing limitation of 30 years of service with the city. When a member enters the DROP, his Monthly Accrued Benefit is frozen based on his average monthly earnings and service at that time and his Monthly Accrued Benefit is paid into his DROP account. Upon termination of employment, but not more than eight years after entry into the DROP, the balance in the member's DROP account, including interest, is payable to him and he also begins to receive his frozen Monthly Accrued Benefit.

Earnings in the DROP plan account for all members shall be one of the following options:

1) The variable rate of return, which for any month shall be the actual net rate of investment gain or investment loss on the Retirement System's assets for the month, determined as of the last day of the month, reduced in the event of a net investment gain or increased in the event of a net investment loss by an administrative fee determined by the Board; or
2) 6% per year, minus administrative costs; provided, however, if plan earnings exceed 6% per year, earnings in excess of 6% per year and not in excess of 12% per year shall offset the City's cost of maintaining the DROP plan program, and plan earnings in excess of 12% per year shall be equally divided between the DROP participant and the City.

11. Reformed Planned Retirement Benefit

The Reformed Planned Retirement Benefit (RPRB) program is a benefit for Group 3 Members. In order to participate in the Reformed Planned Retirement Benefit a member must submit in writing declaring their intent to participate in the program at any time on or after reaching the member's normal retirement date electing one of the RPRB options described below.

- RPRB Option 1:
    - i. Employee contributions shall be 9.5% of earnings.
    - ii. Monthly Benefit is calculated under one of the following options:
        1. As if the member retired when he/she makes the election to participate.
        2. As if the member retired when service terminates using service and pay earned after entering the RPRB program.
    - iii. Lump Sum Benefit is calculated under one of the following options:
        1. Based on number of years worked after electing to participate
        2. No lump sum.
    - iv. Members may choose any combination of lump sum payments or a larger annuity by dividing the years worked after electing to participate in the RPRB program.
    - v. Any lump sum payment must be paid out to the member at termination and cannot be left in the plan.
    - vi. The crediting rate applicable to any lump sum payment shall be calculated in arrears equal to 100% of the first 4% of plan earnings plus 50% of plan earnings in excess of 6%, unless the System is 90% funded. If the System is at least 90% funded, the crediting rate will be based on the 100% of the first 4% of plan earnings plus 100% of plan earnings in excess of 6%. The member will not share in asset losses in those years where plan returns are negative.

- RPRB Option 2:
    - i. Employee contributions shall be 0.5% of earnings.
    - ii. Monthly Benefit is calculated as if the member retired when he/she makes the election to participate.
    - iii. Lump Sum Benefit is calculated based on number of years worked after electing to participate.
    - iv. Lump Sum Benefit can be left in the plan after service termination.
    - v. The crediting rate applicable to any lump sum payment shall be calculated in arrears equal to the actual investment rate of return of the Retirement System. The member will share in asset losses in those years where plan returns are negative and asset gains when plan returns are greater than the assumed rate of return.

A member's written election to participate in the RPRB will indicate the maximum number of years they may participate in the RPRB and the latest employment termination date. The maximum RPRB period is eight years.

If a member elects to participate in the RPRB, service with the City cannot exceed 30 years. However, if electing to participate in the RPRB a member may terminate employment any time prior to reaching the earlier of 30 years of service or the maximum period of RPRB participation.

12. Cost-of-Living Adjustment

Group 1 and 2 Members:

- Any retiree and any beneficiary of such retiree will receive a 2% annual increase in benefit payments commencing three years after the retiree's benefit payments have begun.
- For participants who enter the DROP, cost-of-living adjustments do not occur while the member participates in the DROP. Adjustments commence the later of the date the participant leaves the DROP and three years after entry into the DROP.

Group 3 Members:

- Any retiree and any beneficiary of such retiree will receive a 2.5% annual increase in benefit payments commencing three years after the retiree's benefit payments have begun and continuing every other year thereafter.
- For participants who enter the DROP, cost-of-living adjustments do not occur while the member participates in the DROP. Adjustments commence the later of the date the participant leaves the DROP and three years after entry into the DROP and continuing every other year thereafter.

13. Supplemental Pension Check

Only Group 1 members employed on February 20, 2019 and participating in the DROP plan or the Reformed Planned Retirement Benefit Plan on this date:

- If the actual asset return of the trust exceeds the assumed rate of investment return for any fiscal year, the excess market value return (up to 2%) will be allocated to retirees and beneficiaries based on service at retirement.

For all other retirees, surviving spouses, and beneficiaries, no supplemental pension check will be paid.

The following plan amendments have been adopted within the past few years:

1. Effective January 1, 1991:

    a) The Police Officers' Deferred Retirement Option Plan (DROP) was established.
    b) The benefit formula was changed from 2½% of average monthly earnings multiplied by service up to 30 years to 3% of average monthly earnings multiplied by service up to 27 years; and
    c) The normal retirement age was changed from age 50 to the earlier of age 50 or the attainment of 25 years of service.

2. Effective January 2000:

    The excess (up to 2%) of the actual asset return over the assumed actuarial return each September 30 would be allocated the following January to retirees and beneficiaries based on service at retirement.

3. Approved April 2001:

    a) Monies received as a result of Chapter 185, Florida Statutes, will no longer be allocated to this System but to a separate shares plan (effective in the fiscal year beginning October 1, 2001).
    b) The benefit formula was changed from 3% of average monthly earnings multiplied by all service up to 27 years to a 3% rate for service up to 20 years and 4% rate for service over 20 years, with a maximum of 88% of average monthly earnings.
    c) Member contribution rate was changed from 7% to 8% of earnings.
    d) A minimum service-incurred disability benefit equal to the monthly accrued benefit was added. In addition, this benefit will no longer be offset by worker's compensation, Social Security or other similar benefits.

4. Approved February 2002:

    Police officers at least age 41 and with between 21 and 25 years of service by September 30, 2002 were permitted to retire and granted service up to 4 years to be credited up to a minimum of 25 years and a maximum of 27 years, provided they paid an amount representing their own estimated contributions for the grant of service.

5. Effective October 1, 2004:

    Normal form of benefit was changed to life annuity with ten years certain, 50% joint and survivor, in compliance with Chapter 99-1 Florida Statutes.

(CONTINUED)

6. Effective October 1, 2006:

    a) The maximum pension benefit was reduced from 88% to 80% of final average salary. The maximum is accrued upon attainment of 22 years of service.
    b) Members with 22 years of service are permitted to enter the DROP with a retirement benefit of 80% of final average salary.
    c) Maximum DROP participation is eight years for members who enter the DROP with 22 years of service on or after October 1, 2006. However, the maximum City service (including service while in the DROP) is limited to 30 years.
    d) Overtime hours were capped at 400 hours per year.
    e) Member contributions were increased from 8.0% to 8.5% of pay.
    f) For participants entering the DROP on or after October 1, 2006, Cost-of-living adjustments do not occur while the member participates in the DROP. Adjustments commence the later of the date the participant leaves the DROP and three years after entry into the DROP.
    g) The life and 10-year certain benefit as the normal form of payment is retroactive to October 1, 2000.
    h) State tax premium distributions (185 Monies) after October 1, 2006 will be used as an offset to the City contribution requirements, not to exceed the annual cost of the benefit improvements. Any future State contributions in excess of the annual cost of the benefit improvements will be accumulated and used for future benefit improvements. Also, the accumulated State excess contribution of $81,376 as of September 30, 2006 will be used to offset the cost of the proposed benefit improvements.

7. Effective October 1, 2009:

    a) Member contributions were increased from 8.5% to 9% of pay.
    b) For members hired on or after October 1, 2009, his or her DROP account shall earn interest at the rate of six percent (6%) per year. In the event the Plan earnings exceed six percent (6%) per year, the earnings in excess of six percent (6%) up to and including twelve percent (12%) per year shall offset the City's cost of maintaining the DROP program. Earnings in excess of twelve percent (12%) per year shall be equally divided between the DROP participant and the City.

8. Effective October 1, 2010:

    a) Member contributions will be increased from 9% to 9.25% of pay.

9. Effective October 1, 2011:

   a) The benefit structure in effect on September 30, 2011 is frozen at midnight. All members will be vested in benefits accrued to date and payable under the terms and conditions of plan provisions then in effect. Except for members eligible to retire on September 30, 2011, effective October 1, 2011, all members are subject to a new benefit structure applicable to future service. None of the benefit changes will apply to members eligible to retire on September 30, 2011.

      i. Under the benefit structure effective October 1, 2011 Average Final Compensation means the arithmetic average of earnings for the 60 highest consecutive months of the last 120 months of credited service prior to retirement, termination or death.

      ii. Under the benefit structure effective October 1, 2011 earnings shall be the sum of the following amounts actually paid to a member: Salary, longevity pay, and assignment pay. Earnings shall not include overtime pay, payments for accrued holiday time, payments for accrued blood time, annual cash-out payments for accrued vacation time, payments for accrued compensatory time, and payments for unused sick time or for unused vacation time which is paid upon retirement or termination.

      iii. A member hired prior to October 1, 2011 with less than ten years of credited service as of September 30, 2011 and a member hired on or after October 1, 2011 may retire on the day he or she attains age 55 and completes ten years of creditable service or on the day he or she attains age 52 and competes 25 years of creditable service. A member with 10 or more years of creditable service as of September 30, 2011 shall retain his or her current normal retirement date.

      iv. The monthly retirement benefit shall equal 2.0% of average monthly earnings times years of service earned on or after October 1, 2011. If the member retires before attaining age 62, an additional benefit equal to 0.5% of average monthly earnings times continuous service on and after October 1, 2011 shall be paid to age 62.

      v. A member who does not enter the DROP prior to October 1, 2011 shall not be eligible to enter the DROP, unless the member was eligible to retire as of September 30, 2011.

      vi. Members of the System shall contribute 9.25% of their earnings.

      vii. There shall be no annual increase (COLA) in retirement benefits under the benefit structure effective October 1, 2011.

      viii. The supplemental pension distribution shall be payable only to retirees (and surviving spouses and other beneficiaries thereof) who reach their normal retirement or enter the DROP on or before September 30, 2011.

10. Effective October 1, 2012:

    a) The multiplier increased to 3.3% for service up to September 30, 2011 for vested members on September 30, 2011 and 3% for all members for service after September 30, 2011.
    b) The Planned Retirement Benefit was added retroactive to October 1, 2011.
    c) Employee contributions were reduced from 9.25% to 8% of pay effective the first full pay period on or after May 1, 2013.

11. Effective September 2015:
    a) Remove "And" language from the requirement of age of 52 and 25 years of service for a normal retirement for members not vested on September 30, 2011. Those officers would be eligible for normal retirement at the age 55 and the completion of 10 years of service or the completion of 25 years of credited service, regardless of age.
    b) Multiplier increasing to 3.3% for service up to September 30, 2011 for members not vested on September 30, 2011.
    c) Reformed Planned Retirement Benefit (RPRB).
        i. Allow employees, upon entering Reformed Planned Retirement, to elect one of the following two (2) options. The election shall be irrevocable:
            1) While participating in Reformed Planned Retirement, contribute 8% of earnings as that term is defined in Section 33.126 of the City Code until termination of employment and upon termination continue to have the three options currently allowed under Planned Retirement and set forth in Section 33.128(G)(4) of the City Code; or
            2) While participating in Reformed Planned Retirement, contribute 0.5% of earnings as that term is defined in Section 33.126 of the City Code and upon termination only be provided with the first option set forth in Section 33.128(G)(4) of the City Code, which is taking a lump sum payment that would be valued based on the number of years the employee worked after electing to participate in Planned Retirement.
                i. For employees who choose this option, any Plan earnings/losses calculated into the employee's lump sum payment shall be based on the Plan's actual investment rate of return.
                ii. An employee may enter Reformed Planned Retirement at any time on or after reaching his/her normal retirement date.
                iii. Employees currently in Planned Retirement will be given 60 days from the implementation of the Reformed Planned Retirement to make their election. If they elect the new option, they will receive a refund of their contribution into Planned Retirement (7.5%).
                iv. Members electing to participate in Reformed Planned Retirement shall not exceed 30 years of service with the City including any time participating in Planned Retirement, Reformed Planned Retirement or a combination of both.
                v. Participation in Planned Retirement, Reformed Planned Retirement or a combination of both shall be limited to 8 years for those with 10 or more years of service as of September 30, 2011 and 5 years for those with less than 10 years of creditable service as of September 30, 2011.

d) If a member terminates with less than 10 years of service, the member will receive a refund of contributions without interest, instead of the current 3% interest.
e) Police officers shall become members of the Retirement System and begin contributing into the Retirement System upon their hire (currently they begin to contribute upon completion of probation).

12. Effective February 2019:
    a) A new benefit structure was implemented based on the following
        i. Group 1 Restored Members – Members currently employed who were hired on or before September 30, 2011 and will reach their normal retirement date (age 50 or 22 years of service) on or before September 30, 2020.
        ii. Group 2 Restored Members – Members currently employed who were hired on or before September 30, 2011 and will reach their normal retirement date (age 50 or 22 years of service) after September 30, 2020.
        iii. Group 3 Members – Members hired after September 30, 2011.
    b) Benefit structure for Group 1 and 2 Restored Members include:
        i. Normal retirement is defined as the earlier of the following:
            a. Age 50, or
            b. Any age upon attainment of 22 years of service
        ii. Monthly accrued benefit is equal to 3% of average monthly earnings multiplied by service to 20 years plus 4% multiplied by service over 20 years with a maximum of 80% of average monthly earnings. The full 80% is earned at 22 years of service (resulting in a 12% of earnings increase in benefit at the moment the member attains 22 years of service)
        iii. Average Final Compensation equals the average of the highest three years of compensation prior to retirement or termination. Earnings include salary, overtime pay not to exceed 300 hours per year, longevity pay, assignment pay, payments for accrued holiday time, payments for accrued blood time, and payments for accrued compensatory time, but shall not include payments for unused sick time or for unused vacation time.
        iv. A member may enter the DROP upon attainment of normal retirement age for up to eight years. Any member who attained age 50 or 22 years of continuous service and who is not already participating in the reformed plan retirement option who wants to participate retroactively in the DROP plan, must submit his/her irrevocable written election/decision within 60 days to participate retroactively in the DROP starting on or after the date the member attained age 50 or 22 years of continuous service. Any member who was already participating in the reformed plan retirement option and who wants to change from the reformed planned retirement benefit to the DROP plan must submit his/her irrevocable written election/decision within 60 days starting on or after the date the member attained age 50 or 22 years of continuous service.
        v. Cost of Living Adjustments of 2% per annum will apply to entire benefit received by a member. Adjustments commence the later of the date the participant leaves the DROP and three years after the DROP entry date. For members who do not enter the DROP, the adjustments will commence three years after their date of retirement.
        vi. Only Group 1 Restored Members who are currently participating in the PRB and have 22 years of service as of February 20, 2019 are eligible for the supplemental distribution upon retirement.
        vii. Employee contributions are equal to 9.50% of pensionable earnings.

c) Benefit structure for Group 3 Restored Members include:

   i. Normal retirement is defined as the earlier of the following:
      a. Age 55 with 10 years of service, or
      b. Any age upon attainment of 22 years of service
   ii. Monthly accrued benefit is equal to 3% of average monthly earnings multiplied by service to 21 years plus an additional 12% upon completion of 22 years of service. The maximum 75% is earned at 22 years of service.
   iii. Average Final Earnings equals the average of the highest 60 consecutive months of the last 120 months of credited service prior to retirement or termination. Earnings shall include salary, longevity pay and assignment pay. Earnings shall not include overtime pay, payments for accrued holiday time, accrued blood time, annual "cash-out" payments for accrued vacation time, payments for accrued compensatory time and payments for unused sick time or for unused vacation time which is paid upon retirement or termination.
   iv. A member may enter the Reformed Planned Retirement Benefit (RPRB) upon attainment of normal retirement age for up to eight years. During the period of participation in the RPRB, members will contribute 0.5% of pensionable earnings.
   v. Members are not eligible for Cost of Living Adjustments.
   vi. Employee contributions are equal to 9.50% of pensionable earnings.

13. Effective July 2019:
   a) An administrative order granting re-classification of benefits was adopted by the Board to restore benefits for certain former employees and reclassify them as Group 1 members retroactively.

14. Effective April 2023:
   a) Benefit structure for Group 2 Restored Members:
      i. Earnings include salary, overtime pay not to exceed 300 hours per year, longevity pay, assignment pay, payments for accrued holiday time not to exceed 130 hours per year, payments for accrued blood time, and payments for accrued compensatory time, but shall not include payments for unused sick time or for unused vacation time.

   b) Benefit structure for Group 3 Restored Members:
      i. Earnings include salary, overtime pay not to exceed 200 hours per year, longevity pay, assignment pay, payments for accrued holiday time not to exceed 130 hours per year, but shall not include payments for accrued blood time, annual "cash out" payments for vacation time, payments for accrued compensatory time, and payments for unused sick time or for unused vacation time.
      ii. A member may enter the DROP upon attainment of normal retirement age or completion of 22 years of continuous service, subject to the existing limitation of 30 years of service with the city.
      iii. Members who do not participate in the DROP plan shall receive a 2.5% annual increase in benefits commencing three years after the date retirement benefits begin and continuing every other year thereafter. Members who participate in the DROP plan shall receive a 2.5% annual increase in benefits commencing upon the later of (1) separation of employment and (2) three years after the member entered the DROP plan and continuing every other year thereafter.

c) Pre-Retirement Death Benefit for all members:
   i. For members who are killed or die as a direct result of an occurrence arising in the performance of service, the beneficiary is entitled, until death, to a monthly benefit equal to the greater of the earned benefit or 25% of earnings on the date of death; provided however, that if the beneficiary dies before having received such benefit for ten years, the estate of the member is entitled to the same monthly benefit for the balance of such ten-year period.
   ii. For members who are killed or die as a direct result of an occurrence arising in the performance of service that did not designate a beneficiary, the estate of the member is entitled, for a period of ten years, to a monthly benefit equal to the greater of the earned benefit or 25% of earnings on the date of death.

d) Prior service purchase for all members:
   i. A member may purchase up to a total of four year of credit for military service prior to employment, or prior service as a full-time municipal, county, state, or federal police officer which meets the definition of "police officer" as provided in this plan, or a combination of the two types of service. In the case of prior police service, the member shall certify that no retirement benefit is or will be paid on account of the prior police service. Members purchasing credit for prior service shall pay the full actuarial cost of the credited service. Credited service purchased pursuant to this section shall no count toward a member's vesting.

*** Note: Plan changes that have first been reflected in this valuation are shown in bold print.**