



Cavanaugh Macdonald
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Pension Funding Report

Ohio Police & Fire Pension Fund

**Triennial Actuarial Valuation as of
January 1, 2022**





Cavanaugh Macdonald

CONSULTING, LLC

The experience and dedication you deserve

October 26, 2022

Board of Trustees
Ohio Police & Fire Pension Fund
140 East Town Street
Columbus, Ohio 43215

Members of the Board:

Cavanaugh Macdonald (CMC) is pleased to present this report on the results of the actuarial valuation of the Ohio Police & Fire Pension Fund (OP&F). This report presents the results of the triennial actuarial valuation of the assets and liabilities of OP&F as of January 1, 2022, prepared in accordance with Chapter 742 of the Ohio Revised Code (ORC), as amended by Senate Bill No. 340. The valuation takes into account all of the promised benefits to which members are entitled, including pension and survivor benefits.

The principal results of the valuation do not take into account Medicare Part B premium reimbursements or any other health care benefits. However, at the request of the Ohio Retirement Study Council (ORSC), supplemental results have been prepared that do take into account the liability for Medicare Part B premium reimbursements and are presented in Table 1A in the report.

The purpose of the valuation is to determine the financial status of OP&F on an actuarial basis. Use of this report for any other purpose may not be appropriate and may result in mistaken conclusions due to failure to understand applicable assumptions, methodologies, or inapplicability of the report for that purpose. CMC will not accept any liability for any statement made about the report without prior review by CMC.

Where presented, references to “funded ratio” and “unfunded accrued liability” typically are measured on an actuarial value of assets basis. It should be noted that the same measurements using market value of assets would result in different funded ratios and unfunded accrued liabilities. Moreover, the funded ratio presented is appropriate for evaluating the need and level of future contributions but makes no assessment regarding the funded status of the plan if the plan were to settle (i.e. purchase annuities) for a portion or all of its liabilities.



This report does not include accounting disclosure information under Governmental Accounting Standards Board (GASB) Statement Nos. 67 and 68. CMC will provide disclosure information under Statement Nos. 67 and 68 in a separate report after OP&F's 2022 year-end. CMC also prepares a separate valuation of OP&F retiree health care benefits.

The valuation was based on the actuarial assumptions and methods that have been adopted by the Board of Trustees, including a valuation interest rate of 7.50 percent per annum compounded annually. The assumptions are effective January 1, 2022 and recommended by the actuary based on a quinquennial experience review covering the period 2017-2021. The next experience review will cover the five-year period 2022-2026. Actuarial Standards of Practice require that the likelihood and extent of future mortality improvements be considered.

Assets and Membership Data

OP&F reported to the actuary the individual data for members as of the valuation date. While we did not verify the data at their source, we did perform tests for internal consistency and reasonableness. The amount of assets in the pension trust fund taken into account in the valuation was based on financial statements prepared for us by OP&F.

An assumption is made by CMC to account for salary adjustments reported by employers assumed to occur after the census information has been provided to CMC by OP&F.

Funding Objectives and Progress

The actuary uses an actuarial cost method to determine the portion of OP&F's liabilities accrued by the members as of the valuation date and the portion that is attributable to future years of service. The rate of contribution necessary to systematically fund the future service liabilities, the normal cost rate, is calculated under the cost method to be a level percentage of active member payroll. The portion of the liabilities accrued as of the valuation date, the actuarial accrued liability (AAL), is compared to a market-related, actuarial value of OP&F's assets. The amount of liabilities in excess of the assets is called the unfunded actuarial accrued liability (UAAL).

The actuary determines how many years are required by OP&F to completely amortize the UAAL (the funding period), using the member and employer contributions reduced by the amount allocated to health care and the amount of normal cost for the year. For 2003-2012, the funding period was infinite years, meaning the annual contribution toward the unfunded when compared to the unfunded amount was not sufficient to pay it off. As a result of benefit and member contribution changes under Senate Bill No. 340, changes to the DROP program, and a reduction in the contribution allocation to the Health Care Stabilization Fund by the Board of Trustees, and favorable asset investment gains, the pension funding period has decreased from 47 years as of January 1, 2013 to 25 years as of January 1, 2021. As of January 1, 2022, the funding period increased four years to 29 years primarily due to changes in assumptions implemented with the quinquennial experience review.



Section 742.16 of the ORC, as adopted by Senate Bill No. 82, sets forth an objective that the funding period is no more than 30 years. If the funding period exceeds 30 years, a plan shall be developed and presented by the Board of Trustees to the ORSC to reduce the funding period to not more than 30 years. Section 742.14 of the ORC, as amended by Senate Bill No. 340, sets forth that the 30-year funding analysis be performed every three years and the 30-year funding plan, if necessary, be developed and presented not later than 90 days after the Board of Trustees' receipt of the actuarial valuation and 30-year funding analysis. The most recent triennial analysis is based on the January 1, 2022 actuarial valuation, and shows the funding period is 29 years, so no 30-year funding plan is required. The next analysis will be performed based on the January 1, 2025 actuarial valuation.

The funded ratio (i.e., the ratio of actuarial assets to the AAL) determined as of January 1, 2022 is 69.7 percent, compared to 71.2 percent as of as of January 1, 2021. If measured using the market value of assets, the funded ratio would be higher at 76.6 percent on account of net investment gains not yet reflected in the actuarial assets. Taking into account the AAL for Medicare Part B premium reimbursements, the funded ratio would be 69.1 percent using the actuarial assets and 75.9 percent using the market value of assets. The funded ratio is not intended to measure the adequacy of funding in any analysis of a possible settlement of plan liabilities.

Supporting Schedules and Certification

The valuation report shows detailed summaries of the financial results of the valuation and membership data used in preparing this valuation. The actuary prepared the following supporting schedules for inclusion in the Actuarial and Statistical Sections of the OP&F Comprehensive Annual Financial Report: Analysis of Financial Experience, Short-Term Solvency Test, Schedule of Funding Progress, Calculation of Actuarial Value of Assets, and Retirees and Beneficiaries Added to and Removed from the Rolls.

The valuation assumptions were chosen by the Board of Trustees with the advice of the actuary and first used in the January 1, 2022 valuation. The assumptions used to develop the January 1, 2022 valuation are individually reasonable and in combination represent our best estimate of anticipated experience under the plan.

Future actuarial measurements may differ significantly from current measurements due to plan experience differing from that anticipated by the economic and demographic assumptions, increases or decreases expected as part of the natural operation of the methodology used for these measurements, and changes in plan provisions or applicable law. Because of limited scope, CMC performed no analysis of the potential range of such future differences.

During 2018 OP&F retained Cavanaugh Macdonald as their actuary. The January 1, 2019 valuation was the first valuation completed by Cavanaugh Macdonald. All results presented in this report for years prior to the December 31, 2018 were performed by the prior actuary(s).



Board of Trustees
October 26, 2022
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The consultants who worked on this assignment are pension actuaries. CMC's advice is not intended to be a substitute for qualified legal or accounting counsel.

This is to certify that the independent consulting actuaries are members of the American Academy of Actuaries, have experience in performing valuations for public retirement plans, and meet the qualification standards of the American Academy of Actuaries to render the actuarial opinion contained herein. The valuation was prepared in accordance with principles of practice prescribed by the Actuarial Standards Board and the actuarial calculations were performed by qualified actuaries in accordance with accepted actuarial procedures, based on the current provisions of the retirement plan and on actuarial assumptions that are internally consistent and reasonable based on the actual experience of the Fund and future expectations. However, the Board of Trustees has the final decision regarding the selection of the assumptions and adopted them as indicated in Appendix C.

Respectfully submitted,

A handwritten signature in blue ink, appearing to read "LL", with a stylized flourish at the end.

Larry Langer, ASA, EA, FCA, MAAA
Principal and Consulting Actuary

A handwritten signature in black ink, appearing to read "Wendy Ludbrook", with a stylized flourish at the end.

Wendy T. Ludbrook, FSA, EA, FCA, MAAA
Consulting Actuary

A handwritten signature in black ink, appearing to read "Ryan Gundersen", with a stylized flourish at the end.

Ryan Gundersen
Senior Consultant



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EXECUTIVE SUMMARY

Introduction

This report presents the results of the actuarial valuation as of January 1, 2022 of pension benefits for the Ohio Police and Fire Pension Fund (OP&F).

The primary purposes of performing an actuarial valuation are to:

- Disclose certain liability and asset measures as of the valuation date,
- Determine the funding period for the unfunded actuarial accrued liability (UAAL), given the current statutory contribution rates,
- Compare the actual experience since the last valuation date to that expected, and
- Analyze and report on any trends in contributions, assets, and liabilities over the past several years.

The principal valuation results include:

- The funding period for the unfunded actuarial accrued liability as of January 1, 2022 is 29 years, given the current statutory contribution rates.
- The funded status of the Plan, determined as of January 1, 2022, based on the actuarial accrued liability and the actuarial value of assets as of that date, is 69.7 percent.
- There was an experience gain (actual experience was more favorable than anticipated by the assumptions) of \$170.2 million for the year ending December 31, 2021.
- There was an increase in liabilities of \$1.08 billion due to the change in assumptions from the quinquennial experience review. These changes include lowering the assumed long-term rate or return to 7.50%, as well as, changes to the mortality and other demographic assumptions. Please see Appendix B for a list of the changes.

This valuation report does not contain information under GASB Statement Nos. 67 and 68. CMC will provide disclosure information under Statement Nos. 67 and 68 in a separate report after OP&F's 2022 year-end.

The valuation was completed based upon membership and financial data submitted by OP&F. Note that an assumption is made in the valuation for the impact of late reported salary adjustments from employers. Thus, any salary amounts shown in this report are the amounts reported to Cavanaugh Macdonald Consulting (CMC) by OP&F, increased by an assumed percentage (1.191 percent on the reported salaries for 2021).

A separate valuation, and report, is performed for all health care benefits provided by OP&F. However, at the request of the ORSC, this report includes a supplemental table, Table 1A, that discloses the combined valuation results if the normal cost and AAL for Medicare Part B premium reimbursements were included were included with the pension benefits.

Changes since Last Year

The plan provisions used in this valuation are unchanged from last year.

The assumptions used for the January 1, 2022 actuarial valuation are based on the quinquennial experience review prepared as of December 31, 2021 and adopted by the Board of Trustees on October 26, 2022. Material assumptions and methods that were changed since the prior valuation:

- The investment return assumption was lowered from 8.00 percent to 7.50 percent
- The DROP interest crediting rate was lowered from 4.00 percent to 3.75 percent



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- The mortality assumption, withdrawal rates, retirement rates, and disability rates were changed
- The DROP participation rate was lowered from 90 percent to 80 percent
- The percent married assumption was changed from assuming 75 percent of members are married to 80 percent.
- The percentage of members assumed to elect a joint annuity was changed from 33 percent to 40 percent for service retirees and from 10 percent to 15 percent for disabled retirees. The percentage continued to the joint annuitant assumption was changed from 40 percent to 45 percent.



EXECUTIVE SUMMARY

Summarized below are the principal financial results for the OP&F Pension Fund based upon the actuarial valuation as of January 1, 2022. Comparable results from the January 1, 2021 valuation are also shown.

	January 1, 2022	January 1, 2021
Membership Data		
Active Members		
Number	29,384	29,138
Annualized Salaries	\$ 2,536,802,819	\$ 2,414,537,420
Average Pay	86,333	82,866
Membership Payroll	2,443,620,260	2,381,764,788
Retirees and Beneficiaries		
Number	30,560	30,147
Annual Allowances	\$ 1,250,972,851	\$ 1,199,288,527
Average Benefit Payment	40,935	39,781
Vested Former Members		
Number	257	267
Contribution Rates (as a Percentage of Payroll)		
Statutory Contribution Rates:		
Employer Average	21.69%	21.66%
Member	<u>12.25%</u>	<u>12.25%</u>
Total	33.94%	33.91%
Allocation of Employer Contribution Rate:		
Pension Contribution Rate:		
- Employer Normal Cost	4.10%	3.45%
- Accrued Liability Rate	<u>17.09%</u>	<u>17.71%</u>
-Total Employer Pension Rate	21.19%	21.16%
Health Care Contribution Rate	<u>0.50%</u>	<u>0.50%</u>
Total Employer Contribution Rate	21.69%	21.66%
Actuarial Funded Status		
Actuarial Accrued Liability (AAL)	\$ 24,517,577,785	\$ 22,628,591,064
Actuarial Assets	<u>17,095,829,803</u>	<u>16,112,136,611</u>
Unfunded Accrued Liability (UAAL)	7,421,747,982	6,516,454,453
Funded Ratio	69.7%	71.2%
Funding Period	29 Years	25 Years



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Actuarial Funded Status

OP&F's funded status is measured by comparing the actuarial value of assets with the AAL. The AAL is the present value of benefits attributed to past service under OP&F's funding method and reflects future assumed pay increases for active members. The actuarial value of assets is a market-related value of assets that defers recognition of any market returns that are greater than or less than the assumed investment return over four years. The use of this asset valuation method mitigates, or smooths, the impact of market fluctuations from year to year in the valuation assets. The asset valuation method includes a 20 percent corridor around the market value, so that the actuarial value must be no less than 80 percent and no greater than 120 percent of the market value of assets.

As of January 1, 2022, the AAL exceeds the actuarial value of assets, resulting in an unfunded actuarial accrued liability of \$7.4 billion. The funded ratio, which is the ratio of the actuarial assets to the AAL, is 69.7 percent. These figures are based on an actuarial value of assets of \$17.1 billion and an AAL of \$24.5 billion.

Reasons for Change in the Funded Ratio

The funded ratio decreased from 71.2 percent as of January 1, 2021 to 69.7 percent as of January 1, 2022, a decrease of 1.5 percentage points. The primary reasons for the decrease are as follows:

	Increase or (Decrease)
Investment gain based on actuarial value of asset	1.7%
Net liability loss due to plan experience	-0.7%
Net liability gain due to contribution level	0.7%
Net liability loss due to experience study	<u>-3.2%</u>
Net increase (decrease)	-1.5%

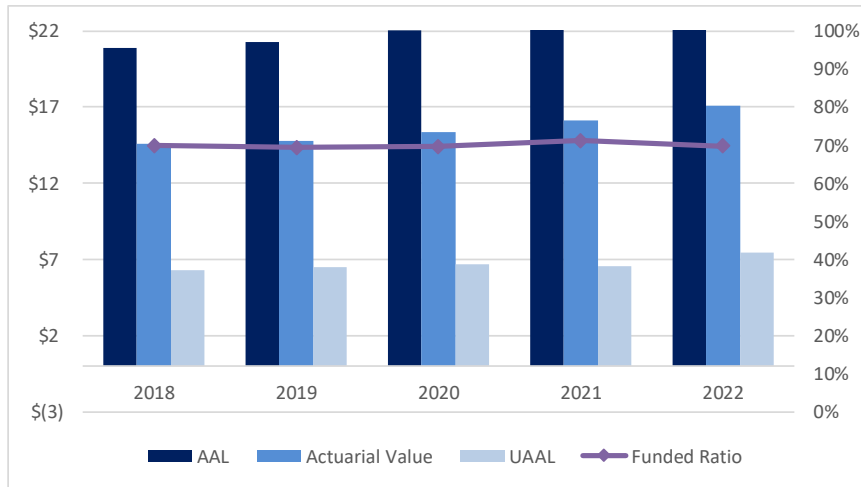
Five-Year History of Actuarial Funded Status

Valuation as of Jan. 1	Actuarial Accrued Liability (AAL)	Actuarial Assets	Unfunded Actuarial Accrued Liability (UAAL)	Funded Ratio
2022	\$24,517,577,785	\$17,095,829,803	\$7,421,747,982	69.7%
2021	22,628,591,064	16,112,136,611	6,516,454,453	71.2%
2020	22,044,283,396	15,360,122,693	6,684,160,703	69.7%
2019	21,264,708,173	14,753,160,407	6,511,547,766	69.4%
2018	20,887,227,279	14,594,562,053	6,292,665,226	69.9%



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Five-Year History of Liabilities, Assets and Funded Ratio (in Billions)



Net Actuarial Gain (Loss)

The valuation process uses many assumptions to estimate future benefit payments and the corresponding liability. If actual experience is more favorable than expected by the assumption, an actuarial gain occurs. Likewise, if actual experience is unfavorable compared to the assumption, an actuarial loss occurs. The actual experience measured in this valuation is that which occurred during the prior plan year (calendar year 2021). There was a net actuarial gain of \$170.2 million, consisting of a gain of \$390.1 million on the actuarial value of assets and a loss of \$219.8 million on liabilities. The asset gain reflects the investment performance on a portion of actual market experience during 2021 and the previous three years that is recognized in the January 1, 2022 actuarial value of assets. The analysis of the net experience gain/loss is shown in Table 5.

Five-Year History of Actuarial Gains or (Losses)

Fiscal Year Ended	Net Gain or (Loss)	As a % of AAL
Dec. 31		
2021	\$ 173,915,375	0.69%
2020	226,263,826	1.00%
2019	(107,692,351)	-0.49%
2018	(83,052,873)	-0.39%
2017	(85,099,004)	-0.41%



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Rate of Return on Assets

The investment returns of the trust fund on a market value basis (i.e., total return including both realized and unrealized gains and losses) for years ended December 31, 2017 through December 31, 2021 are shown below. Also shown are the rates of return on the actuarial value of assets used to determine OP&F's actuarial funded status.

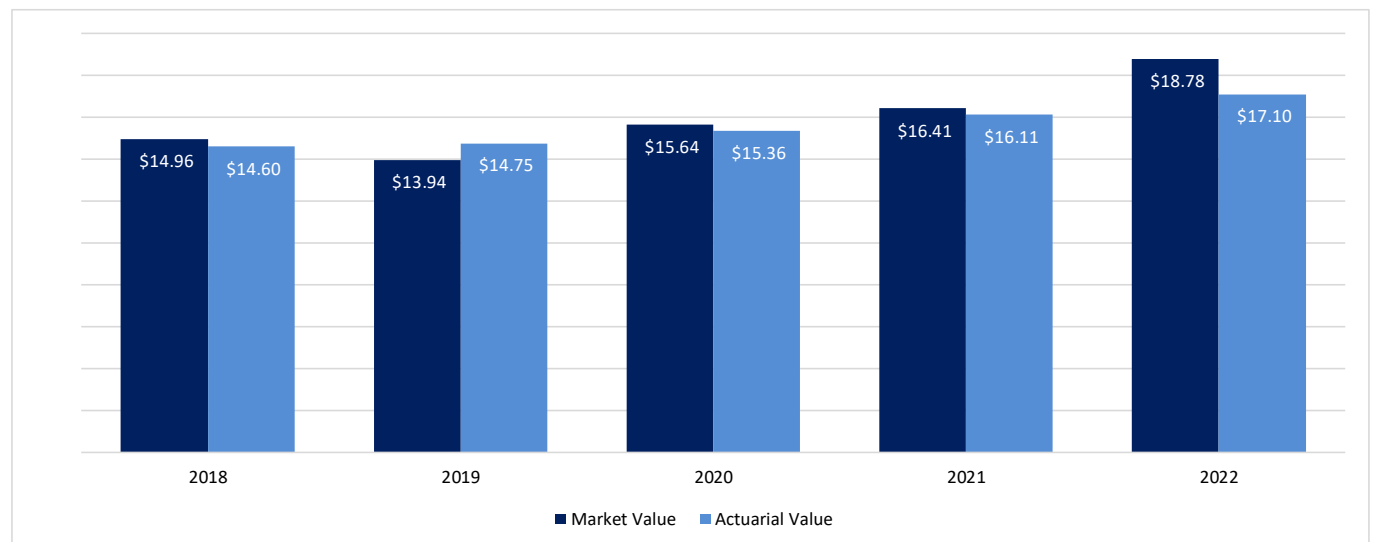
Five-Year History of Rates of Return

Year Ended Dec. 31	Rate of Return Based on:	
	Market Value*	Actuarial Value**
2021	18.87%	10.47%
2020	9.21%	8.89%
2019	17.89%	8.41%
2018	-1.78%	5.04%
2017	14.30%	6.90%

* Rate of return, gross of fees, as reported in the OP&F CAFR

** Rate of return on actuarial value of assets is net of fees

Five-Year History of Market Value and Actuarial Assets as of January 1 (in Billions)





EXECUTIVE SUMMARY

Funding Period

The actuary determines how many years are required to fully amortize the UAAL (the funding period), using the combined member and employer contribution rates reduced by the amount allocated to fund health care benefits and the normal cost rate for the year. The calculation of the funding period takes into account future payroll growth, currently assumed at 3.25 percent per year. The calculation also considers future expected adjustments in the normal cost rate and changes in the statutory contribution rates as a result of Senate Bill No. 340.

The funding period, based on the January 1, 2022 valuation, is 29 years. This is the number of years it will take to pay off the \$7.4 billion UAAL as of January 1, 2022 if all assumptions are met. The funding period increased from 25 years in the January 1, 2021 valuation primarily due to changes in assumptions implemented with the quinquennial experience review.

If all assumptions are met on an actuarial basis, the funding period will decrease each year. However, if all assumptions are not met, the period could increase. Two assumptions that greatly impact the funding period are investment returns and future payroll growth. OP&F experienced overall favorable investment results for 2021, which when combined with unrecognized returns from 2019 and 2020 offset unrecognized 2018 returns that were less than the 8.00 percent expected return assumption. All else being equal, if a 7.50 percent return is met in the future, the funding period will remain below 30 years. However, if a 7.50 percent return is met in the future, but payroll growth is less than 3.25 percent over time, then future contributions will be less than projected and may be insufficient to pay off the UAAL over 30 years.

Five-Year History of Contribution Rates and Funding Period

Member contribution rates increased from 10.75 to 11.50 percent on July 2, 2014 and to 12.25 percent on July 2, 2015.

Valuation as of Jan 1,	Contribution Rates				Allocation		Funding Period
	Member	Police Employer	Fire Employer	Employer Average	Health Care	Pension	
2022	12.25%	19.50%	24.00%	21.69%	0.50%	33.44%	29 Years
2021	12.25%	19.50%	24.00%	21.66%	0.50%	33.41%	25 Years
2020	12.25%	19.50%	24.00%	21.63%	0.50%	33.38%	28 Years
2019	12.25%	19.50%	24.00%	21.62%	0.50%	33.37%	29 Years
2018	12.25%	19.50%	24.00%	21.62%	0.50%	33.37%	28 Years



SECTION I – VALUATION RESULTS

**TABLE 1
SUMMARY OF RESULTS OF THE ACTUARIAL VALUATION
AS OF JANUARY 1, 2022**

Item	Police	Fire fighters	Total
Membership Data			
1. Number of Members			
a. Active Members			
i. Vested Actives	6,603	6,275	12,878
ii. Non-Vested Actives	8,817	7,689	16,506
iii. Total Actives	15,420	13,964	29,384
b. Vested Former Members	165	92	257
c. Rehired Retirees	159	75	234
d. Retirees and Disableds	12,900	9,741	22,641
e. Beneficiaries and Survivors	4,605	3,314	7,919
f. Contributions Refund Due	3,217	837	4,054
g. Total	36,466	28,023	64,489
2. Annualized Salaries	\$ 1,298,869,976	\$ 1,237,932,843	\$ 2,536,802,819
3. Membership Payroll	1,252,130,773	1,191,489,487	2,443,620,260
4. Annual Allowances	707,717,817	543,255,035	1,250,972,851
Valuation Results			
5. Present Value of Future benefits (PVFB)			
a. Active Members	\$ 7,095,795,901	\$ 6,902,106,696	\$ 13,997,902,597
b. Vested Former Members	29,818,647	16,077,925	45,896,572
c. Rehired Retirees	11,655,454	5,858,465	17,513,919
d. Retirees and Disableds	7,858,449,483	5,942,635,173	13,801,084,656
e. Beneficiaries and Survivors	461,979,281	310,089,713	772,068,994
f. Contributions Refund Due	46,080,066	16,072,180	62,152,246
g. Total PVFB	\$ 15,503,778,832	\$ 13,192,840,152	\$ 28,696,618,984
6. Normal Cost			
a. Normal Cost	\$ 199,294,869	\$ 191,303,903	\$ 390,598,772
b. Administrative Expenses	5,628,162	4,245,807	9,873,969
c. State Subsidy	116,985	88,252	205,237
d. Total: (a) + (b) - (c)	\$ 204,806,046	\$ 195,461,458	\$ 400,267,504
e. Normal Cost Rate: (d) / (3)	16.33%	16.39%	16.35%
7. Present Value of Future Normal Cost	\$ 2,045,682,317	\$ 2,118,992,561	\$ 4,164,674,878



SECTION I – VALUATION RESULTS

TABLE 1
SUMMARY OF RESULTS OF THE ACTUARIAL VALUATION
AS OF JANUARY 1, 2022 (continued)

Item	Police	Fire fighters	Total
8. Actuarial Accrued Liability (AAL)			
a. Active Members	\$ 5,050,113,584	\$ 4,783,114,135	\$ 9,833,227,719
b. Vested Former Members	29,818,647	16,077,925	45,896,572
c. Rehired Retirees	11,655,454	5,858,465	17,513,919
d. Retirees and Disableds	7,858,449,483	5,942,635,173	13,801,084,656
e. Beneficiaries and Survivors	461,979,281	310,089,713	772,068,994
f. Contributions Refund Due	<u>46,080,066</u>	<u>16,072,180</u>	<u>62,152,246</u>
g. Total	\$ 13,458,096,515	\$ 11,073,847,591	\$ 24,531,944,106
h. Employer Accrued Liability	<u>(8,109,589)</u>	<u>(6,256,732)</u>	<u>(14,366,321)</u>
i. Adjusted AAL	\$ 13,449,986,926	\$ 11,067,590,859	\$ 24,517,577,785
9. Actuarial Value of Assets*	<u>\$ 9,378,523,823</u>	<u>\$ 7,717,305,980</u>	<u>\$ 17,095,829,803</u>
10. Unfunded Accrued Liability (8) - (9)	4,071,463,103	3,350,284,879	7,421,747,982
11. Funding Period			29
12. Funded Ratio	69.7%	69.7%	69.7%
Allocation of Employer Contribution Rate			
13. Employer Contribution Rate			
a. Total Employer Rate (by law)	19.50%	24.00%	21.69%
b. Health Care Stabilization Fund Allocation	<u>0.50%</u>	<u>0.50%</u>	<u>0.50%</u>
c. Employer Pension Rate: (a) - (b)	19.00%	23.50%	21.19%
d. Total Normal Cost Rate	16.33%	16.39%	16.35%
e. Member Rate (by law)	<u>12.25%</u>	<u>12.25%</u>	<u>12.25%</u>
f. Employer Normal Cost Rate: (d) - (e)	4.08%	4.14%	4.10%
g. Unfunded Accrued Liability			
Amortization Rate: (c) - (f)	14.92%	19.36%	17.09%

* The Actuarial Value of Assets is split between Police and Firefighters in proportion to the Actuarial Accrued Liability.



SECTION I – VALUATION RESULTS

TABLE 1A

VALUATION RESULTS AS OF JANUARY 1, 2022 ADJUSTED FOR MEDICARE PART B REIMBURSEMENT LIABILITIES*

Item	Police	Fire fighters	Total
Valuation Results			
1. Present Value of Future benefits (PVFB)			
a. Pension Benefits	\$ 15,503,778,832	\$ 13,192,840,152	\$ 28,696,618,984
b. Medicare Part B Benefits	<u>166,272,557</u>	<u>138,607,268</u>	<u>304,879,825</u>
c. Total	\$ 15,670,051,389	\$ 13,331,447,420	\$ 29,001,498,809
2. Normal Cost			
a. Pension Benefits	16.33%	16.39%	16.35%
b. Medicare Part B Benefits	<u>0.09%</u>	<u>0.09%</u>	<u>0.09%</u>
c. Total	16.42%	16.48%	16.44%
3. Actuarial Accrued Liability (AAL)			
a. Pension Benefits	\$ 13,449,986,926	\$ 11,067,590,859	\$ 24,517,577,785
b. Medicare Part B Benefits	<u>122,952,485</u>	<u>100,983,868</u>	<u>223,936,353</u>
c. Total	\$ 13,572,939,411	\$ 11,168,574,727	\$ 24,741,514,138
4. Actuarial Value of Assets*	<u>\$ 9,378,523,823</u>	<u>\$ 7,717,305,980</u>	<u>\$ 17,095,829,803</u>
5. Unfunded Accrued Liability	4,194,415,588	3,451,268,747	7,645,684,335
6. Funded Ratio	69.1%	69.1%	69.1%
Allocation of Employer Contribution Rate			
7. Employer Contribution Rate			
a. Total Employer Rate (by law)	19.50%	24.00%	21.69%
b. Health Care Stabilization Fund Allocation	<u>0.50%</u>	<u>0.50%</u>	<u>0.50%</u>
c. Employer Pension Rate: (a) - (b)	19.00%	23.50%	21.19%
d. Pension Normal Cost Rate	16.33%	16.39%	16.35%
e. Medicare Part B Normal Cost Rate	<u>0.09%</u>	<u>0.09%</u>	<u>0.09%</u>
f. Employer Normal Cost Rate: (d) + (e)	16.42%	16.48%	16.44%
g. Member Rate (by law)	<u>12.25%</u>	<u>12.25%</u>	<u>12.25%</u>
h. Employer Normal Cost Rate: (f) - (g)	4.17%	4.23%	4.19%
i. Unfunded Accrued Liability			
Amortization Rate: (c) - (h)	14.83%	19.27%	17.00%

* The Actuarial Value of Assets is split between Police and Firefighters in proportion to the pension Actuarial Accrued Liability. While the Actuarial Accrued Liability and Normal Cost have been adjusted in this illustration to reflect the liability for Medicare Part B reimbursements, the Actuarial Value of Assets is unadjusted for any Health Care Stabilization Fund



SECTION I – VALUATION RESULTS

TABLE 2

SUMMARY OF MARKET VALUE OF PLAN ASSETS AS OF DECEMBER 31, 2021

Summary of Assets for Years Ending December 31,	2021	2020
1. Market Value of Assets as of January 1*	\$ 16,411,125,257	\$ 15,636,590,807
2. Contributions During Calendar Year		
a. Member	\$ 337,025,068	\$ 312,628,926
b. Employer	539,130,428	518,204,527
c. State Subsidy	<u>205,237</u>	<u>225,676</u>
d. Total	876,360,733	831,059,129
3. Benefit Payments During Calendar Year	\$ 1,535,344,021	\$ 1,400,413,884
4. Administrative Expenses During Calendar Year	\$ 9,609,702	\$ 18,903,295
5. Income During Calendar Year		
a. Interest, Dividends and Other Income	\$ 692,374,387	\$ 392,513,944
b. Appreciation/(Depreciation)	2,396,223,443	1,017,534,114
c. Investment Expenses	<u>55,133,954</u>	<u>48,078,974</u>
d. Investment Return After Expenses (a) + (b) - (c)	3,033,463,876	1,361,969,084
e. Other Income/Changes	<u>922,238</u>	<u>823,416</u>
f. Total Income (d) + (e)	3,034,386,114	1,362,792,500
6. Market Value of Assets as of December 31*	\$ 18,776,918,381	\$ 16,411,125,257
(1) + (2d.) - (3) - (4) + (5f.)		
7. Rate of Return	18.87%	8.88%
(5d.) / [(1) + 0.5 * ((2d.) - (3) - (4) + (5e.))]		

*The Market Value of Assets includes the DROP accrual balances of \$1,895,907,467, \$1,838,381,783 and \$1,715,029,868 as of December 31, 2021, 2020 and 2019 respectively.



SECTION I – VALUATION RESULTS

TABLE 3

DERIVATION OF ACTUARIAL VALUE OF ASSETS AS OF JANUARY 1, 2022

						January 1, 2022
1.	Market Value of Assets as of December 31, 2021					\$ 18,776,918,381
2.	Determination of Deferred Gain (Loss)					
	<u>Return on Market Value of Assets</u>					
	<u>Year</u>	<u>Actual</u>	<u>Expected</u>	<u>Gain/(Loss)</u>	<u>% Deferred</u>	<u>Deferred Amount</u>
	2021	\$3,033,463,876	\$1,286,183,190	\$1,747,280,686	75%	\$1,310,460,515
	2020	1,361,969,084	1,227,428,820	134,540,264	50%	67,270,132
	2019	2,304,356,918	1,090,925,194	1,213,431,724	25%	303,357,931
	2018	(460,216,086)	1,174,313,569	(1,634,529,655)	0%	-
						1,681,088,578
3.	Adjustment for 20% corridor					-
4.	Actuarial Value of Assets as of January 1, 2022: (1) - (2) + (3)					\$ 17,095,829,803
5.	Actuarial Rate of Return *					
	a.	Actuarial Value of Assets as of January 1, 2021				\$ 16,112,136,611
	b.	Contributions During 2021				876,360,733
	c.	Benefits Paid During 2021				1,535,344,021
	d.	Expenses During 2021				9,609,702
	e.	Other Income				922,238
	f.	Return on an Actuarial Basis				1,651,363,944
	g.	Actuarial Rate of Return: (f) / [(a) + 0.5 * ((b) - (c) - (d) + (e))]				10.47%

* The actuarial rate of return is the rate of return based on the change in the actuarial value of assets from last year to this year. The rate of return is calculated assuming contributions and disbursements occur halfway through the year.



SECTION I – VALUATION RESULTS

TABLE 4

ANALYSIS OF CHANGE IN UNFUNDED ACTUARIAL ACCRUED LIABILITY AS OF JANUARY 1, 2022

		January 1, 2022
1. Unfunded Accrued Liability at January 1, 2021	\$	6,516,454,453
2. Contributions Toward Unfunded Accrued Liability		502,312,738
3. Interest Credit at 8.00% to December 31, 2021		501,610,384
4. Expected Unfunded Accrued Liability at December 31, 2021 (1)-(2)+(3)		6,515,752,099
5. Actual Unfunded Accrued Liability at January 1, 2022	\$	7,421,747,982
6. Net Gain (Loss) (4) - (5)	\$	(905,995,883)
7. Reasons for Net Gain (Loss)		
a. Experience Gains (Losses)		
i. Gain (Loss) from Investment Return on Actuarial Value of Assets	\$	390,058,973
ii. Gain (Loss) from Demographic Experience and Other	\$	(216,143,598)
iii. Gain (Loss) from Pay Load Adjustment for Late Reported Pays		(3,671,160)
iv. Subtotal		170,244,215
b. Gain (Loss) from Experience Study		(1,076,240,098)
c. Total	\$	(905,995,883)



SECTION I – VALUATION RESULTS

TABLE 5

DETAILED ANALYSIS OF GAINS AND LOSSES DUE TO PLAN EXPERIENCE RESULTING IN DIFFERENCES BETWEEN ASSUMED AND ACTUAL EXPERIENCE

Plan Experience	Gain / (Loss) for Year Ended January 1,				
	2022	2021	2020	2019	Total
Turnover If more liabilities are released by withdrawal separations from active membership than assumed, there is a gain. If smaller releases, there is a loss.	\$ (9,754,142)	\$ (9,775,170)	\$ (10,222,710)	\$ (3,121,347)	\$ (32,873,369)
Retirement If members retire at older ages than assumed, there is a gain. If younger, there is a loss.	(137,740,378)	(77,855,153)	(61,852,611)	32,335,086	(245,113,056)
Death among retired members and beneficiaries If more deaths occur than assumed, there is a gain. If fewer deaths than assumed, there is a loss.	69,847,648	(23,792,783)	(32,634,935)	8,808,719	22,228,649
Disability retirements If disability claims are less than assumed, there is a gain. If more claims, a loss.	7,078,036	11,252,059	3,232,986	12,441,861	34,004,942
Salary increase/decrease If there are smaller pay increases than assumed, there is a gain. If greater increases, a loss.	(130,527,044)	57,863,583	11,532,085	149,203,045	88,071,669
Return to work If participants return to work with previous service restored, there is a loss.	(2,100,859)	(1,684,844)	(1,089,645)	(11,066,219)	(15,941,567)
New Entrants If new entrants join OP&F, there is a loss.	(9,571,474)	(6,031,951)	(8,132,872)	(7,984,831)	(31,721,128)
Deaths among actives If claims costs are less than assumed, there is a gain. If more claims, a loss.	987,118	(469,122)	(539,065)	(1,393,575)	(1,414,644)
Other Experience and Payroll Growth If other experience, including less than expected payroll growth, increases the unfunded liability, there is a loss. Otherwise, there is a gain.	<u>(4,362,503)</u>	<u>141,764,732</u>	<u>(68,637,374)</u>	<u>237,392,859</u>	<u>306,157,714</u>
Net gain (or loss) during the year due to plan experience	\$ (216,143,598)	\$ 91,271,351	\$ (168,344,141)	\$ 416,615,598	\$ 123,399,210
Investment If there is greater investment return than assumed, there is a gain. If less return, a loss.	<u>390,058,973</u>	<u>134,992,475</u>	<u>60,651,790</u>	<u>(429,920,888)</u>	<u>155,782,350</u>
Net gain (or loss) during the year due to plan experience	\$ 173,915,375	\$ 226,263,826	\$ (107,692,351)	\$ (13,305,290)	\$ 279,181,560
Adjustment for Late Reported Pays Change in liability due to the pay being loaded to	(3,671,160)	2,220,399	(11,745,499)	(190,537)	(13,386,797)
Special Events Changes due to special events (2022 - Experience Study; 2019 - Change in Actuary)	<u>(1,076,240,098)</u>	<u>-</u>	<u>-</u>	<u>(69,747,583)</u>	<u>(1,145,987,681)</u>
Total gain (or loss) during the year	\$ (905,995,883)	\$ 228,484,225	\$ (119,437,850)	\$ (83,243,410)	\$ (880,192,918)



SECTION I – VALUATION RESULTS

TABLE 6

SCHEDULE OF FUNDING PROGRESS

Valuation as of Jan. 1	Valuation Assets	Actuarial Accrued Liability (AAL)	Unfunded Actuarial Accrued Liability (UAAL)	Ratio of Assets to AAL	Active Member Payroll	UAAL as a Percentage of Active Member Payroll
2022	\$ 17,095.8	\$ 24,517.6	\$ 7,421.8	69.7%	\$ 2,443.6	303.7%
2021	16,112.1	22,628.6	6,516.5	71.2%	2,381.8	273.6%
2020	15,360.1	22,044.3	6,684.2	69.7%	2,313.6	288.9%
2019	14,753.2	21,264.7	6,511.5	69.4%	2,218.0	293.6%
2018	14,594.6	20,887.2	6,292.6	69.9%	2,209.3	284.8%
2017	14,162.5	20,290.4	6,127.9	69.8%	2,180.9	281.0%
2016	13,653.0	19,135.9	5,482.9	71.3%	2,060.9	266.1%
2015	13,029.3	18,395.6	5,366.3	70.8%	1,986.6	270.1%
2014	11,063.2	16,577.8	5,514.6	66.7%	1,942.3	283.9%
2013	10,278.0	16,007.9	5,729.9	64.2%	1,913.4	299.5%

Note: Actuarial Assets and Liabilities prior to Jan. 1, 2015 are net of DROP balances.

Note: The amounts reported in this schedule do not include assets or liabilities for post-employment health care benefits.



SECTION I – VALUATION RESULTS

TABLE 7

UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)
FUNDING PERIOD AS OF JANUARY 1, 2022

Plan Year	UAAL as of January 1, Plan Year (a)	Assumed Amortization Contribution Rate ¹ (b)	Projected Payroll ² (c)	Mid-Year Amortization Contribution Amount ³ (d)	UAAL as of December 31, UAAL ⁴ (e)	Year
2022	\$7,421,747,982	17.09%	\$2,619,248,911	\$447,629,639	\$7,514,266,793	1
2023	7,514,266,793	17.11%	2,704,374,501	462,684,468	7,598,115,336	2
2024	7,598,115,336	17.14%	2,792,266,672	478,549,273	7,671,803,540	3
2025	7,671,803,540	17.15%	2,883,015,339	494,450,089	7,734,532,042	4
2026	7,734,532,042	17.17%	2,976,713,337	510,963,695	7,784,843,510	5
2027	7,784,843,510	17.17%	3,073,456,521	527,603,104	7,821,676,232	6
2028	7,821,676,232	17.18%	3,173,343,858	545,190,928	7,843,035,964	7
2029	7,843,035,964	17.18%	3,276,477,533	562,937,875	7,847,597,250	8
2030	7,847,597,250	17.18%	3,382,963,053	581,338,190	7,833,422,780	9
2031	7,833,422,780	17.19%	3,492,909,352	600,294,996	7,798,530,389	10
2032	7,798,530,389	17.19%	3,606,428,906	619,981,854	7,740,609,301	11
2033	7,740,609,301	17.19%	3,723,637,845	640,261,634	7,657,317,608	12
2034	7,657,317,608	17.18%	3,844,656,075	660,582,937	7,546,709,462	13
2035	7,546,709,462	17.16%	3,969,607,398	681,215,588	7,406,413,317	14
2036	7,406,413,317	17.14%	4,098,619,638	702,663,928	7,233,356,849	15
2037	7,233,356,849	17.14%	4,231,824,776	725,263,928	7,023,888,967	16
2038	7,023,888,967	17.13%	4,369,359,082	748,525,565	6,774,592,815	17
2039	6,774,592,815	17.12%	4,511,363,252	772,121,078	6,482,135,104	18
2040	6,482,135,104	17.11%	4,657,982,558	797,097,509	6,141,846,950	19
2041	6,141,846,950	17.11%	4,809,366,991	822,976,947	5,749,204,812	20
2042	5,749,204,812	17.10%	4,965,671,418	849,250,625	5,299,873,384	21
2043	5,299,873,384	17.11%	5,127,055,739	876,999,078	4,788,071,890	22
2044	4,788,071,890	17.10%	5,293,685,050	905,065,275	4,208,785,632	23
2045	4,208,785,632	17.09%	5,465,729,815	933,893,721	3,556,162,936	24
2046	3,556,162,936	17.08%	5,643,366,034	963,972,569	2,823,407,124	25
2047	2,823,407,124	17.07%	5,826,775,430	994,839,224	2,003,691,397	26
2048	2,003,691,397	17.05%	6,016,145,631	1,025,954,309	1,090,236,184	27
2049	1,090,236,184	17.04%	6,211,670,364	1,058,247,192	74,789,856	28
2050	74,789,856	17.02%	6,413,549,651	1,091,523,201	-	29
2051	-	16.99%	6,621,990,015	1,125,364,551	-	30

Funding Period is 29 years because the UAAL is first projected to be zero as of December 31 of year 29.

¹ The amortization contribution rate is the total statutory contribution rate, minus the total normal cost rate, minus the health care contribution rate. The statutory contribution rate is assumed to remain unchanged except for any legislated increases, for which none are assumed after the July 1, 2015 member contribution rate increase. The impact of SB 340 and changes adopted by OP&F that will impact new members will reduce the total normal cost rate over time, and, thus, increase the amortization contribution rate, as reflected above.

² Based on 3.25% payroll growth assumption

³ The contribution amount is the product of (b) the amortization contribution rate and (c) the assumed payroll amount.

⁴ The outstanding balance at the end of the year is derived from the outstanding balance at the beginning of the year with interest minus the mid-year amortization contribution with interest. $(e) = [(a) \times 1.075] - [(d) \times 1.075^{0.5}]$



SECTION I – VALUATION RESULTS

TABLE 8

SOLVENCY TEST – COMPARATIVE SUMMARY OF ACTUARIAL ACCRUED LIABILITY AND ACTUARIAL VALUE OF ASSETS

POLICE

Valuation as of January 1	(1) Active Member Contributions	(2) Retirees and Beneficiaries	(3) Active Member Employer Financed	Actuarial Value of Assets	Portion of Accrued Liability Covered by Valuation Assets		
					(1)	(2)	(3)
2022	1,733,321	\$8,320,429	\$3,396,237	\$9,378,524	100%	92%	0%
2021	1,703,012	7,687,534	3,015,833	8,833,660	100%	93%	0%
2020	1,650,362	7,361,618	3,077,379	8,423,682	100%	92%	0%
2019	1,584,057	7,107,922	2,987,107	8,102,788	100%	92%	0%
2018	1,515,993	6,870,423	3,138,109	8,052,548	100%	95%	0%
2017	1,451,473	6,576,192	3,184,383	7,825,895	100%	97%	0%
2016	1,386,649	6,085,896	3,002,889	7,473,979	100%	100%	0%
2015	1,210,400	5,857,146	3,015,390	7,141,575	100%	100%	2%
2014	1,171,496	5,368,637	2,583,711	6,088,816	100%	92%	0%
2013	1,131,664	5,166,808	2,532,580	5,670,069	100%	88%	0%

FIREFIGHTERS

Valuation as of January 1	(1) Active Member Contributions	(2) Retirees and Beneficiaries	(3) Active Member Employer Financed	Actuarial Value of Assets	Portion of Accrued Liability Covered by Valuation Assets		
					(1)	(2)	(3)
2022	1,613,606	\$6,252,725	\$3,201,259	\$7,717,306	100%	98%	0%
2021	1,552,817	5,881,373	2,788,022	7,278,477	100%	97%	0%
2020	1,489,023	5,589,542	2,876,359	6,936,441	100%	97%	0%
2019	1,423,619	5,373,749	2,788,255	6,650,372	100%	97%	0%
2018	1,345,237	5,150,080	2,867,386	6,542,014	100%	100%	2%
2017	1,276,582	4,922,990	2,878,774	6,336,593	100%	100%	5%
2016	1,213,330	4,614,250	2,832,862	6,179,025	100%	100%	12%
2015	1,062,097	4,337,819	2,912,741	5,887,716	100%	100%	17%
2014	1,028,465	3,924,388	2,501,058	4,974,383	100%	100%	1%
2013	974,362	3,751,279	2,451,195	4,607,962	100%	97%	0%

TOTAL

Valuation as of January 1	(1) Active Member Contributions	(2) Retirees and Beneficiaries	(3) Active Member Employer Financed	Actuarial Value of Assets	Portion of Accrued Liability Covered by Valuation Assets		
					(1)	(2)	(3)
2022	3,346,928	\$14,573,154	\$6,597,496	\$17,095,830	100%	94%	0%
2021	3,255,829	13,568,907	5,803,855	16,112,137	100%	95%	0%
2020	3,139,385	12,951,161	5,953,738	15,360,123	100%	94%	0%
2019	3,007,676	12,481,671	5,775,362	14,753,160	100%	94%	0%
2018	2,861,230	12,020,503	6,005,495	14,594,562	100%	98%	0%
2017	2,728,055	11,499,182	6,063,157	14,162,488	100%	99%	0%
2016	2,599,979	10,700,146	5,835,751	13,653,004	100%	100%	6%
2015	2,272,497	10,194,965	5,928,131	13,029,291	100%	100%	9%
2014	2,199,961	9,293,025	5,084,769	11,063,199	100%	95%	0%
2013	2,106,026	8,918,087	4,983,775	10,278,031	100%	92%	0%

Note: Actuarial Assets and Liabilities prior to Jan. 1, 2015 are net of DROP balances



SECTION II – SUMMARY OF MEMBERSHIP DATA

TABLE 9

SUMMARY OF MEMBERSHIP DATA AS OF JANUARY 1, 2022

POLICE

Item	Male	Female	Total
Number of Members	13,668	1,752	15,420
Annual Salaries	\$ 1,160,087,347	\$ 138,782,629	\$ 1,298,869,976
Average Annual Salary	\$ 84,876	\$ 79,214	\$ 84,233
Average Age	41.3	39.0	41.0
Average Service	13.9	11.2	13.6

FIREFIGHTERS

Item	Male	Female	Total
Number of Members	13,455	509	13,964
Annual Salaries	\$ 1,197,971,259	\$ 39,961,584	\$ 1,237,932,843
Average Annual Salary	\$ 89,035	\$ 78,510	\$ 88,652
Average Age	41.9	37.4	41.7
Average Service	14.3	8.7	14.1

TOTAL

Item	Male	Female	Total
Number of Members	27,123	2,261	29,384
Annual Salaries	\$ 2,358,058,606	\$ 178,744,214	\$ 2,536,802,819
Average Annual Salary	\$ 86,939	\$ 79,055	\$ 86,333
Average Age	41.6	38.6	41.4
Average Service	14.1	10.7	13.8



SECTION II – SUMMARY OF MEMBERSHIP DATA

TABLE 9
SUMMARY OF MEMBERSHIP DATA AS OF JANUARY 1, 2022
(continued)

POLICE

Item	Male	Female	Total
Eligible for Allowances	152	13	165
Eligible for Refunds Only	<u>2,744</u>	<u>473</u>	<u>3,217</u>
Total	2,896	486	3,382

FIREFIGHTERS

Item	Male	Female	Total
Eligible for Allowances	86	6	92
Eligible for Refunds Only	<u>760</u>	<u>77</u>	<u>837</u>
Total	846	83	929

TOTAL

Item	Male	Female	Total
Eligible for Allowances	238	19	257
Eligible for Refunds Only	<u>3,504</u>	<u>550</u>	<u>4,054</u>
Total	3,742	569	4,311



SECTION II – SUMMARY OF MEMBERSHIP DATA

TABLE 9

SUMMARY OF MEMBERSHIP DATA AS OF JANUARY 1, 2022
(continued)

POLICE

Item	Number	Annual Allowance	Average Allowance	Average Age
Service Retirees	9,633	\$ 506,205,627	\$ 52,549	68.1
Survivors and Beneficiaries	4,610	54,727,965	11,872	71.7
Disability Retirees	<u>3,426</u>	<u>146,831,352</u>	<u>42,858</u>	<u>65.2</u>
Total	17,669	\$ 707,764,944	\$ 40,057	68.5

FIREFIIGHTERS

Item	Number	Annual Allowance	Average Allowance	Average Age
Service Retirees	7,410	\$ 394,116,444	\$ 53,187	68.8
Survivors and Beneficiaries	3,314	39,516,140	11,924	74.1
Disability Retirees	<u>2,406</u>	<u>109,622,451</u>	<u>45,562</u>	<u>66.9</u>
Total	13,130	\$ 543,255,035	\$ 41,375	69.8

TOTAL

Item	Number	Annual Allowance	Average Allowance	Average Age
Service Retirees	17,043	\$ 900,322,070	\$ 52,827	68.4
Survivors and Beneficiaries	7,924	94,244,105	11,894	72.7
Disability Retirees	<u>5,832</u>	<u>256,453,803</u>	<u>43,974</u>	<u>65.9</u>
Total	30,799	\$ 1,251,019,978	\$ 40,619	69.0



SECTION II – SUMMARY OF MEMBERSHIP DATA

TABLE 10

ACTIVE MEMBERSHIP DATA AS OF JANUARY 1, 2022
POLICE

Age	Years of Service									Total	
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & Up		
Under 25	672 \$56,327	1 \$79,230	- \$0	- \$0	- \$0	- \$0	- \$0	- \$0	- \$0	- \$0	673 \$56,361
25-29	1,808 \$64,779	323 \$81,010	- \$0	- \$0	1 \$86,928	- \$0	- \$0	- \$0	- \$0	- \$0	2,132 \$67,249
30-34	1,056 \$65,153	1,240 \$83,043	157 \$95,740	- \$0	- \$0	- \$0	- \$0	- \$0	- \$0	- \$0	2,453 \$76,154
35-39	457 \$65,902	787 \$81,544	770 \$91,160	191 \$98,813	- \$0	- \$0	- \$0	- \$0	- \$0	- \$0	2,205 \$83,156
40-44	159 \$63,241	280 \$82,537	452 \$88,493	725 \$96,463	284 \$100,882	1 \$117,284	- \$0	- \$0	- \$0	- \$0	1,901 \$90,409
45-49	77 \$60,686	93 \$74,919	209 \$84,899	450 \$91,623	1,010 \$97,614	320 \$105,218	4 \$120,893	- \$0	- \$0	- \$0	2,163 \$94,017
50-54	42 \$54,260	50 \$70,327	94 \$87,109	253 \$87,650	684 \$93,359	1,100 \$100,989	303 \$104,794	4 \$97,288	- \$0	- \$0	2,530 \$96,145
55-59	18 \$59,461	13 \$77,957	31 \$69,445	69 \$87,701	168 \$90,362	355 \$97,762	373 \$103,998	24 \$100,497	3 \$101,158	3 \$101,158	1,054 \$96,472
60-64	5 \$49,882	6 \$67,172	11 \$83,639	18 \$79,233	39 \$83,801	82 \$87,670	91 \$94,946	10 \$113,831	- \$0	- \$0	262 \$88,680
Over 64	1 \$38,072	1 \$49,092	4 \$57,220	2 \$113,521	7 \$79,224	21 \$91,391	7 \$93,355	- \$0	4 \$85,541	4 \$85,541	47 \$85,373
TOTAL	4,295 \$63,389	2,794 \$81,766	1,728 \$89,385	1,708 \$93,630	2,193 \$95,845	1,879 \$100,420	778 \$103,240	38 \$103,668	7 \$92,234	7 \$92,234	15,420 \$84,233

Note: Excludes rehired retirees.



SECTION II – SUMMARY OF MEMBERSHIP DATA

TABLE 10
ACTIVE MEMBERSHIP DATA AS OF JANUARY 1, 2022
FIREFIGHTERS'

Age	Years of Service									Total	
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & Up		
Under 25	603 \$59,957	3 \$73,299	- \$0	- \$0	- \$0	- \$0	- \$0	- \$0	- \$0	- \$0	606 \$60,023
25-29	1,266 \$67,566	262 \$85,068	1 \$146,142	- \$0	- \$0	- \$0	- \$0	- \$0	- \$0	- \$0	1,529 \$70,617
30-34	945 \$69,728	963 \$84,958	163 \$89,263	- \$0	- \$0	- \$0	- \$0	- \$0	- \$0	- \$0	2,071 \$78,347
35-39	522 \$67,997	737 \$86,178	701 \$91,060	211 \$100,704	- \$0	- \$0	- \$0	- \$0	- \$0	- \$0	2,171 \$84,795
40-44	174 \$72,074	342 \$85,299	501 \$91,745	641 \$96,503	329 \$103,105	3 \$117,255	- \$0	- \$0	- \$0	- \$0	1,990 \$92,367
45-49	55 \$64,310	80 \$84,189	180 \$91,413	429 \$95,082	962 \$103,806	266 \$106,798	7 \$117,124	- \$0	- \$0	- \$0	1,979 \$99,346
50-54	25 \$68,106	24 \$85,011	72 \$89,010	240 \$92,220	661 \$101,418	725 \$106,050	272 \$111,630	2 \$104,484	- \$0	- \$0	2,021 \$102,316
55-59	11 \$61,236	14 \$81,216	25 \$83,422	67 \$91,574	236 \$99,467	437 \$101,367	392 \$104,918	43 \$108,568	1 \$107,704	1 \$100,903	1,226 \$100,903
60-64	2 \$70,606	5 \$79,246	10 \$74,149	16 \$90,525	62 \$96,046	119 \$100,592	113 \$102,172	9 \$105,198	2 \$103,491	2 \$103,491	338 \$98,674
Over 64	- \$0	1 \$78,532	2 \$62,519	6 \$73,665	5 \$90,023	11 \$106,306	8 \$89,893	- \$0	- \$0	- \$0	33 \$90,430
TOTAL	3,603 \$67,076	2,431 \$85,313	1,655 \$90,821	1,610 \$95,687	2,255 \$102,306	1,561 \$104,473	792 \$106,788	54 \$107,855	3 \$104,895	3 \$104,895	13,964 \$88,652

Note: Excludes rehired retirees.



SECTION II – SUMMARY OF MEMBERSHIP DATA

TABLE 10
ACTIVE MEMBERSHIP DATA AS OF JANUARY 1, 2022
TOTAL

Age	Years of Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & Up	
Under 25	1,275	4	-	-	-	-	-	-	-	1,279
	\$58,044	\$74,782	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$58,096
25-29	3,074	585	1	-	1	-	-	-	-	3,661
	\$65,927	\$82,827	\$146,142	\$0	\$86,928	\$0	\$0	\$0	\$0	\$68,655
30-34	2,001	2,203	320	-	-	-	-	-	-	4,524
	\$67,313	\$83,880	\$92,441	\$0	\$0	\$0	\$0	\$0	\$0	\$77,158
35-39	979	1,524	1,471	402	-	-	-	-	-	4,376
	\$67,019	\$83,785	\$91,112	\$99,805	\$0	\$0	\$0	\$0	\$0	\$83,969
40-44	333	622	953	1,366	613	4	-	-	-	3,891
	\$67,856	\$84,056	\$90,203	\$96,482	\$102,075	\$117,262	\$0	\$0	\$0	\$91,410
45-49	132	173	389	879	1,972	586	11	-	-	4,142
	\$62,196	\$79,206	\$87,913	\$93,312	\$100,635	\$105,935	\$118,495	\$0	\$0	\$96,563
50-54	67	74	166	493	1,345	1,825	575	6	-	4,551
	\$59,426	\$75,089	\$87,934	\$89,875	\$97,320	\$103,000	\$108,028	\$99,687	\$0	\$98,885
55-59	29	27	56	136	404	792	765	67	4	2,280
	\$60,134	\$79,647	\$75,685	\$89,609	\$95,681	\$99,751	\$104,469	\$105,677	\$102,795	\$98,854
60-64	7	11	21	34	101	201	204	19	2	600
	\$55,803	\$72,660	\$79,120	\$84,547	\$91,317	\$95,320	\$98,949	\$109,742	\$103,491	\$94,310
Over 64	1	2	6	8	12	32	15	-	4	80
	\$38,072	\$63,812	\$58,986	\$83,629	\$83,724	\$96,518	\$91,508	\$0	\$85,541	\$87,459
TOTAL	7,898	5,225	3,383	3,318	4,448	3,440	1,570	92	10	29,384
	\$65,071	\$83,416	\$90,087	\$94,628	\$99,121	\$102,259	\$105,030	\$106,126	\$96,032	\$86,333

Note: Excludes rehired retirees.



SECTION II – SUMMARY OF MEMBERSHIP DATA

TABLE 11

**RETIREE AND BENEFICIARY MEMBERSHIP DATA AS OF JANUARY 1, 2022
POLICE**

Group	Number	Annual Allowances as of January 1, 2022		
		Basic	Cost-of-Living Increases	Total
Service Retirees				
Males	8,990	\$ 347,364,509	\$ 124,832,498	\$ 472,197,008
Females	<u>643</u>	<u>26,845,857</u>	<u>7,162,762</u>	<u>34,008,619</u>
Subtotal	9,633	\$ 374,210,366	\$ 131,995,260	\$ 506,205,627
Survivors and Beneficiaries				
Males	240	\$ 1,017,534	\$ 510,790	\$ 1,528,324
Females	<u>4,370</u>	<u>33,410,601</u>	<u>19,789,040</u>	<u>53,199,641</u>
Subtotal	4,610	\$ 34,428,135	\$ 20,299,830	\$ 54,727,965
Disability Retirees				
Males	2,911	\$ 87,800,972	\$ 37,623,692	\$ 125,424,664
Females	<u>515</u>	<u>15,512,408</u>	<u>5,894,280</u>	<u>21,406,687</u>
Subtotal	3,426	\$ 103,313,380	\$ 43,517,972	\$ 146,831,352
Grand Total	17,669	511,951,882	195,813,062	707,764,944



SECTION II – SUMMARY OF MEMBERSHIP DATA

TABLE 11

RETIREE AND BENEFICIARY MEMBERSHIP DATA AS OF JANUARY 1, 2022
FIREFIGHTERS'

Group	Number	Annual Allowances as of January 1, 2022		
		Basic	Cost-of-Living Increases	Total
Service Retirees				
Males	7,314	\$ 286,416,557	\$ 102,684,448	\$ 389,101,005
Females	96	4,257,680	757,758	5,015,438
Subtotal	7,410	\$ 290,674,238	\$ 103,442,206	\$ 394,116,444
Survivors and Beneficiaries				
Males	130	\$ 340,075	\$ 176,706	\$ 516,781
Females	3,184	24,684,262	14,315,097	38,999,359
Subtotal	3,314	\$ 25,024,337	\$ 14,491,803	\$ 39,516,140
Disability Retirees				
Males	2,289	\$ 74,911,604	\$ 30,091,266	\$ 105,002,870
Females	117	3,627,538	992,043	4,619,581
Subtotal	2,406	\$ 78,539,142	\$ 31,083,309	\$ 109,622,451
Grand Total	13,130	394,237,717	149,017,318	543,255,035



SECTION II – SUMMARY OF MEMBERSHIP DATA

TABLE 11

**RETIREE AND BENEFICIARY MEMBERSHIP DATA AS OF JANUARY 1, 2022
TOTAL**

Group	Number	Annual Allowances as of January 1, 2022		
		Basic	Cost-of-Living Increases	Total
Service Retirees				
Males	16,304	\$ 633,781,067	\$ 227,516,946	\$ 861,298,013
Females	<u>739</u>	<u>31,103,537</u>	<u>7,920,520</u>	<u>39,024,057</u>
Subtotal	17,043	\$ 664,884,604	\$ 235,437,466	\$ 900,322,070
Survivors and Beneficiaries				
Males	370	\$ 1,357,609	\$ 687,496	\$ 2,045,104
Females	<u>7,554</u>	<u>58,094,864</u>	<u>34,104,137</u>	<u>92,199,001</u>
Subtotal	7,924	\$ 59,452,472	\$ 34,791,633	\$ 94,244,105
Disability Retirees				
Males	5,200	\$ 162,712,576	\$ 67,714,958	\$ 230,427,534
Females	<u>632</u>	<u>19,139,946</u>	<u>6,886,323</u>	<u>26,026,269</u>
Subtotal	5,832	\$ 181,852,522	\$ 74,601,281	\$ 256,453,803
Grand Total	30,799	906,189,598	344,830,380	1,251,019,978



SECTION II – SUMMARY OF MEMBERSHIP DATA

TABLE 12

RETIREE AND BENEFICIARY MEMBERSHIP DATA AS OF JANUARY 1, 2022
POLICE

Age Last Birthday	Number	Annual Allowance	Average Annual Allowance
Service Retirees			
Under 60	2,029	\$ 99,775,832	\$ 49,175
60-64	1,545	85,940,287	55,625
65-69	1,872	106,100,264	56,677
70-74	1,721	96,845,175	56,273
75-79	1,314	69,267,129	52,715
Over 79	<u>1,152</u>	<u>48,276,940</u>	<u>41,907</u>
Total	9,633	\$ 506,205,627	\$ 52,549
Survivors and Beneficiaries			
Under 60	708	\$ 7,057,085	\$ 9,968
60-64	314	4,425,754	14,095
65-69	508	6,767,739	13,322
70-74	768	10,019,054	13,046
75-79	723	8,663,784	11,983
Over 79	<u>1,589</u>	<u>17,794,551</u>	<u>11,199</u>
Total	4,610	\$ 54,727,965	\$ 11,872
Disability Retirees			
Under 60	1,137	\$ 46,368,358	\$ 40,781
60-64	437	20,752,845	47,489
65-69	550	25,896,486	47,085
70-74	576	25,658,337	44,546
75-79	426	17,749,626	41,666
Over 79	<u>300</u>	<u>10,405,700</u>	<u>34,686</u>
Total	3,426	\$ 146,831,352	\$ 42,858



SECTION II – SUMMARY OF MEMBERSHIP DATA

TABLE 12

RETIREE AND BENEFICIARY MEMBERSHIP DATA AS OF JANUARY 1, 2022
FIREFIGHTERS'

Age Last Birthday	Number	Annual Allowance	Average Annual Allowance
Service Retirees			
Under 60	1,166	\$ 58,876,468	\$ 50,494
60-64	1,534	85,995,579	56,060
65-69	1,541	88,774,462	57,608
70-74	1,218	68,552,913	56,283
75-79	922	47,533,773	51,555
Over 79	<u>1,029</u>	<u>44,383,248</u>	<u>43,132</u>
Total	7,410	\$ 394,116,444	\$ 53,187
Survivors and Beneficiaries			
Under 60	472	\$ 5,095,005	\$ 10,795
60-64	183	2,701,445	14,762
65-69	269	3,589,156	13,343
70-74	407	5,342,655	13,127
75-79	472	5,827,255	12,346
Over 79	<u>1,511</u>	<u>16,960,623</u>	<u>11,225</u>
Total	3,314	\$ 39,516,140	\$ 11,924
Disability Retirees			
Under 60	629	\$ 26,786,218	\$ 42,585
60-64	331	16,000,532	48,340
65-69	420	20,916,562	49,801
70-74	404	19,682,083	48,718
75-79	323	14,656,356	45,376
Over 79	<u>299</u>	<u>11,580,699</u>	<u>38,731</u>
Total	2,406	\$ 109,622,451	\$ 45,562



SECTION II – SUMMARY OF MEMBERSHIP DATA

TABLE 12

**RETIREE AND BENEFICIARY MEMBERSHIP DATA AS OF JANUARY 1, 2022
TOTAL**

Age Last Birthday	Number	Annual Allowance	Average Annual Allowance
Service Retirees			
Under 60	3,195	\$ 158,652,300	\$ 49,656
60-64	3,079	171,935,867	55,841
65-69	3,413	194,874,726	57,098
70-74	2,939	165,398,087	56,277
75-79	2,236	116,800,902	52,237
Over 79	<u>2,181</u>	<u>92,660,188</u>	<u>42,485</u>
Total	17,043	\$ 900,322,070	\$ 52,827
Survivors and Beneficiaries			
Under 60	1,180	\$ 12,152,089	\$ 10,298
60-64	497	7,127,199	14,340
65-69	777	10,356,895	13,329
70-74	1,175	15,361,709	13,074
75-79	1,195	14,491,039	12,126
Over 79	<u>3,100</u>	<u>34,755,174</u>	<u>11,211</u>
Total	7,924	\$ 94,244,105	\$ 11,894
Disability Retirees			
Under 60	1,766	\$ 73,154,576	\$ 41,424
60-64	768	36,753,376	47,856
65-69	970	46,813,048	48,261
70-74	980	45,340,419	46,266
75-79	749	32,405,983	43,266
Over 79	<u>599</u>	<u>21,986,400</u>	<u>36,705</u>
Total	5,832	\$ 256,453,803	\$ 43,974



SECTION II – SUMMARY OF MEMBERSHIP DATA

TABLE 13

10 YEAR HISTORY OF MEMBERSHIP DATA
ACTIVE MEMBERS

Valuation as of Jan. 1,	Number of Members*	Percentage Change in Membership	Valuation Membership Payroll	Percentage Change in Payroll**
2022	29,384	0.84%	\$ 2,536,803	5.06%
2021	29,138	(0.69%)	2,414,537	2.07%
2020	29,340	1.51%	2,365,612	4.28%
2019	28,904	1.75%	2,268,611	3.82%
2018	28,408	0.83%	2,185,127	1.46%
2017	28,175	1.99%	2,153,765	4.51%
2016	27,624	(0.52%)	2,060,851	3.74%
2015	27,769	0.59%	1,986,569	2.28%
2014	27,605	0.59%	1,942,269	1.51%
2013	27,444		1,913,383	

* Includes rehired retirees

** Increase for 2020 and 2021 includes assumed increases for late reported salaries of 1.137% and 1.191% respectively



SECTION II – SUMMARY OF MEMBERSHIP DATA

TABLE 13

10 YEAR HISTORY OF MEMBERSHIP DATA
RETIREES AND BENEFICIARIES ADDED TO AND REMOVED FROM THE ROLLS

Year Ended Dec. 31,	Added to Rolls		Removed from Rolls		Number on Rolls End of Year	Annual Allowances	Percentage Change in Allowances	Average Annual Allowances	Percentage Change in Membership
	Number	Annual Allowances	Number	Annual Allowances					
2021	2,136	\$ 139,896	1,328	\$ 39,601	30,799	\$ 1,251,020	4.31%	\$ 40.62	1.41%
2020	1,550	79,764	1,169	31,201	30,372	1,199,289	4.22%	39.49	1.27%
2019	1,552	73,909	1,127	29,045	29,991	1,150,725	4.06%	38.37	1.44%
2018	1,292	66,129	1,087	28,036	29,566	1,105,862	3.57%	37.40	0.70%
2017	1,458	50,476	1,010	24,321	29,361	1,067,769	4.53%	36.37	1.55%
2016	1,401	47,436	890	21,186	28,913	1,021,509	4.67%	35.33	1.80%
2015	1,450	48,864	1,011	22,141	28,402	975,929	4.81%	34.36	1.57%
2014	1,261	41,378	859	17,204	27,963	931,176	4.59%	33.30	1.46%
2013	1,362	44,842	1,044	23,851	27,561	890,288	4.42%	32.30	1.17%
2012	1,390	48,249	1,225	19,469	27,243	852,602	5.58%	31.30	0.61%



SECTION II – SUMMARY OF MEMBERSHIP DATA

TABLE 14

RECONCILIATION OF MEMBERSHIP DATA FROM
JANUARY 1, 2021 TO JANUARY 1, 2022
POLICE

	Active Members	Vested Former Members	Rehired Retirees	Disableds	Service Retirees	Beneficiaries	Total
As of January 1, 2021	15,461	167	159	3,515	9,111	4,624	33,037
Changes in Status							
a) Retirements	(640)	(9)	-	-	649	-	-
b) Disabilities	(34)	(5)	-	39	-	-	-
c) Death With Beneficiary	(16)	(1)	-	(73)	(140)	280	50
d) Death Without Beneficiary	(12)	(1)	(4)	(56)	(128)	(259)	(460)
e) Non-Vested Termination	(198)	-	-	-	-	-	(198)
f) Vested Termination	(24)	24	-	-	-	-	-
g) Rehired Retirees	(16)	-	16	-	-	-	-
h) Return to Work	54	(3)	-	-	-	-	51
i) Cessation of Benefits/Cash-out	(253)	(7)	(14)	-	(25)	(30)	(329)
j) Data Corrections	34	-	2	1	7	(5)	39
Total Changes in Status	(1,105)	(2)	-	(89)	363	(14)	(847)
New Entrants During the Year	1,064	-	-	-	-	-	1,064
Net Change	(41)	(2)	-	(89)	363	(14)	217
As of January 1, 2022	15,420	165	159	3,426	9,474	4,610	33,254



SECTION II – SUMMARY OF MEMBERSHIP DATA

TABLE 14

RECONCILIATION OF MEMBERSHIP DATA FROM
JANUARY 1, 2021 TO JANUARY 1, 2022
FIREFIGHTERS'

	Active Members	Vested Former Members	Rehired Retirees	Disableds	Service Retirees	Beneficiaries	Total
As of January 1, 2021	13,677	100	66	2,449	7,096	3,352	26,740
Changes in Status							
a) Retirements	(463)	(9)	-	-	472	-	-
b) Disabilities	(43)	-	-	43	-	-	-
c) Death With Beneficiary	(13)	(1)	-	(53)	(115)	226	44
d) Death Without Beneficiary	(3)	-	-	(29)	(112)	(238)	(382)
e) Non-Vested Termination	(60)	-	-	-	-	-	(60)
f) Vested Termination	(10)	10	-	-	-	-	-
g) Rehired Retirees	(9)	-	9	-	-	-	-
h) Return to Work	30	(6)	-	-	-	-	24
i) Cessation of Benefits/Cash-out	(99)	(2)	(2)	(5)	(14)	(28)	(150)
j) Data Corrections	(4)	-	2	1	8	2	9
Total Changes in Status	(674)	(8)	9	(43)	239	(38)	(515)
New Entrants During the Year	961	-	-	-	-	-	961
Net Change	287	(8)	9	(43)	239	(38)	446
As of January 1, 2022	13,964	92	75	2,406	7,335	3,314	27,186



SECTION II – SUMMARY OF MEMBERSHIP DATA

TABEL 14

RECONCILIATION OF MEMBERSHIP DATA FROM
JANUARY 1, 2021 TO JANUARY 1, 2022
TOTAL

	Active Members	Vested Former Members	Rehired Retirees	Disableds	Service Retirees	Beneficiaries	Total
As of January 1, 2021	29,138	267	225	5,964	16,207	7,976	59,777
Changes in Status							
a) Retirements	(1,103)	(18)	-	-	1,121	-	-
b) Disabilities	(77)	(5)	-	82	-	-	-
c) Death With Beneficiary	(29)	(2)	-	(126)	(255)	506	94
d) Death Without Beneficiary	(15)	(1)	(4)	(85)	(240)	(497)	(842)
e) Non-Vested Termination	(258)	-	-	-	-	-	(258)
f) Vested Termination	(34)	34	-	-	-	-	-
g) Rehired Retirees	(25)	-	25	-	-	-	-
h) Return to Work	84	(9)	-	-	-	-	75
i) Cessation of Benefits/Cash-out	(352)	(9)	(16)	(5)	(39)	(58)	(479)
j) Data Corrections	30	-	4	2	15	(3)	48
Total Changes in Status	(1,779)	(10)	9	(132)	602	(52)	(1,362)
New Entrants During the Year	2,025	-	-	-	-	-	2,025
Net Change	246	(10)	9	(132)	602	(52)	663
As of January 1, 2022	29,384	257	234	5,832	16,809	7,924	60,440



RISK CONSIDERATIONS

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 November, 2018, 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, is first applicable for the January 1, 2019 actuarial valuation for OP&F.

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 is translated into 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 – good or bad – 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 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.



SECTION III – RISK CONSIDERATIONS

RISK CONSIDERATIONS

In an actuarially funded plan, the most significant risk factor is investment return because of the volatility of returns and the size of plan assets compared to payroll (see Exhibit I). 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 an expected result given the underlying capital market assumptions and the plan's asset allocation.

The following exhibits summarize some historical information that helps indicate how certain key risk metrics have changed over time.



TABLE 15

HISTORICAL ASSET VOLATILITY RATIOS

As a retirement system matures, the size of the market value of assets increases relative to the covered payroll of active members, on which the Fund is funded. The size of the plan assets relative to covered payroll, sometimes referred to as the asset volatility ratio, is an important indicator of the contribution risk for the Fund. The higher this ratio, the more sensitive a plan’s contribution rate is to investment return volatility. In other words, it will be harder to recover from investment losses with increased contributions.

Valuation Date	Market Value of		Asset Volatility Ratio
	Assets	Covered Payroll	
January 1, 2012	\$ 10,976,214,161	\$ 1,897,413,344	5.78
January 1, 2013	11,840,698,340	1,913,382,667	6.19
January 1, 2014	13,166,077,870	1,942,269,436	6.78
January 1, 2015	13,453,447,836	1,986,568,535	6.77
January 1, 2016	12,923,943,156	2,060,850,584	6.27
January 1, 2017	13,682,389,240	2,144,265,467	6.38
January 1, 2018	14,963,614,004	2,174,667,031	6.88
January 1, 2019	13,941,056,807	2,268,610,714	6.15
January 1, 2020	15,636,590,807	2,365,611,876	6.61
January 1, 2021	16,411,125,257	2,414,537,420	6.80
January 1, 2022	18,776,918,381	2,536,802,819	7.40

The assets on January 1, 2022 are 740% of payroll so underperforming the investment return assumption by 1% (i.e., earn 6.50% for one year) is equivalent to 7.40% of payroll. While the actual impact in the first year is mitigated by the asset smoothing method and amortization of the UAL, this illustrates the risk associated with volatile investment returns.



TABLE 16

HISTORICAL CASH FLOWS

Plans with negative cash flows will experience increased sensitivity to investment return volatility. Cash flows, for this purpose, are measured as contributions less benefit payments. If the Fund has negative cash flows and then experiences returns below the assumed rate, there are fewer assets to be reinvested to earn the higher returns that typically follow. While any negative cash flow will produce such a result, it is typically a negative cash flow of more than 5% of MVA that causes significant concerns.

Year Ended	Market Value of Assets	Contributions	Benefit Payments	Net Cash Flow	Net Cash Flow as a Percent of MVA
December 31, 2011	\$ 10,976,214,161	\$ 455,627,168	\$ (1,049,873,474)	\$ (594,246,306)	-5.41%
December 31, 2012	11,840,698,340	464,867,162	(1,075,411,270)	(610,544,108)	-5.16%
December 31, 2013	13,166,077,870	537,635,922	(1,110,987,128)	(573,351,206)	-4.35%
December 31, 2014	13,453,447,836	642,482,523	(1,126,154,321)	(483,671,798)	-3.60%
December 31, 2015	12,923,943,156	674,807,572	(1,170,476,866)	(495,669,294)	-3.84%
December 31, 2016	13,682,389,240	723,737,827	(1,187,020,466)	(463,282,639)	-3.39%
December 31, 2017	14,963,614,004	744,400,996	(1,256,254,446)	(511,853,450)	-3.42%
December 31, 2018	13,941,056,807	774,068,159	(1,314,608,496)	(540,540,337)	-3.88%
December 31, 2019	15,636,590,807	805,717,452	(1,394,027,927)	(588,310,475)	-3.76%
December 31, 2020	16,411,125,257	831,059,129	(1,400,413,884)	(569,354,755)	-3.47%
December 31, 2021	18,776,918,381	876,360,733	(1,535,344,021)	(658,983,288)	-3.51%



TABLE 17

LIABILITY MATURITY MEASUREMENTS

Most public sector retirement systems have been in operation for many years. As a result, they have aging plan populations indicated by an increasing ratio of retirees to active members and a growing percentage of retiree liability. The retirement of the remaining baby boomers over the next decade is expected to further exacerbate the aging of the retirement system population. With more of the total liability residing with retirees, investment volatility has a greater impact on the funding of the Fund since it is more difficult to restore the system financially after losses occur when there is comparatively less payroll over which to spread costs.

Projections provide the most effective way of analyzing the impact of these changes on future funding measures but studying several key metrics from the valuation can also provide some valuable insight.

Valuation Date	Retiree Liability	Total Actuarial Liability	Retiree Percentage	Covered Payroll	Ratio
January 1, 2012	9,091,917,466	17,634,554,969	51.56%	1,897,413,344	9.29
January 1, 2013	9,435,779,283	17,245,751,991	54.71%	1,913,382,667	9.01
January 1, 2014	9,799,718,068	17,823,319,753	54.98%	1,942,269,436	9.18
January 1, 2015	10,194,964,890	18,395,592,476	55.42%	1,986,568,535	9.26
January 1, 2016	10,700,145,394	19,135,875,916	55.92%	2,060,850,584	9.29
January 1, 2017	11,499,181,496	20,290,393,633	56.67%	2,144,265,467	9.46
January 1, 2018	12,020,502,851	20,887,227,279	57.55%	2,174,667,031	9.60
January 1, 2019	12,481,671,003	21,264,708,173	58.70%	2,268,610,714	9.37
January 1, 2020	12,951,160,675	22,044,283,396	58.75%	2,365,611,876	9.32
January 1, 2021	13,568,906,986	22,628,591,064	59.96%	2,414,537,420	9.37
January 1, 2022	14,573,153,650	24,517,577,785	59.44%	2,443,620,260	9.32



APPENDIX A

SUMMARY OF MAIN BENEFIT PROVISIONS

The following is intended to summarize the key provisions valued in this valuation. Members of OP&F and other parties should not rely on this summary as a substitute for or legal interpretation of the laws and rules covering this retirement plan.

Membership

Membership in OP&F is mandatory under Ohio Law for all full-time police officers employed by Ohio municipalities and appointed under the required statutory provisions. Membership is also mandatory for all full-time firefighters employed by Ohio municipalities, townships, villages, joint fire districts or other political subdivisions. In order to become members of OP&F, full-time firefighters are required to satisfactorily complete, or have satisfactorily completed, a firefighter training course approved under former Section 3303.07, Section 4765.55 or conducted under Section 3737.33 of the ORC.

Eligibility for Membership

Full-time police officers or firefighters are eligible for membership in OP&F immediately upon commencement of employment as a full-time police officer or firefighter.

Contributions

Employer and member contributions are established by statute and both are due monthly. Employers of police officers pay 19.5 percent of salary; employers of firefighters pay 24 percent of salary. The member contribution rate equaled 12.25 percent in 2022.

Employer Contribution Rates – Percentage of Active Member Payroll:

Time Frame of Rates	Police	Fire
Jan 1, 1986 thru Present	19.50%	24.00%

Member Contribution Rates – Percentage of Active Member Payroll:

Time Frame of Rates	Police	Fire
July 2, 2015 and Thereafter	12.25%	12.25%



Benefits

Service Retirement

Upon attaining a qualifying age with sufficient years of service, a member of OP&F may retire and receive a lifetime monthly pension. OP&F offers four types of service retirement: normal, service commuted, age/service commuted and actuarially reduced. Each type has different eligibility guidelines and is calculated using the member's average annual salary.

Since average annual salary is subject to certain statutory and administrative limitations, not all salary, earnings, or compensation may be used in the calculation. OP&F calculates allowable average annual salary as follows:

- For OP&F members with 15 or more years of service credit as of July 1, 2013, average annual salary is an average of the three years of highest allowable earnings, regardless of when in their career the highest years occurred.
- For OP&F members with less than 15 years of service credit as of July 1, 2013, average annual salary is an average of the five years of highest allowable earnings, regardless of when in their career the highest years occurred.
- A “salary benchmark” is established for members with 15 or more years of service credit as of July 1, 2013, under which certain increases are excluded from salary for the purpose of determining allowable average annual salary. This benchmarking does not apply to members with less than 15 years of service credit as of July 1, 2013.

Normal Service Retirement

Eligibility

For members hired into an OP&F-covered position after July 1, 2013, minimum retirement age is 52 with at least 25 years of service credit.

For members hired into an OP&F-covered position on or before July 1, 2013, minimum retirement age is 48 with 25 years of service credit.



APPENDIX A – SUMMARY OF MAIN BENEFIT PROVISIONS

Benefit

An annual pension equal to a percentage of the allowable average annual salary. The percentage equals 2.5 percent for each of the first 20 years of service, 2.0 percent for each of the next five years of service, and 1.5 percent for each year of service in excess of 25 years. The maximum pension of 72 percent of the allowable average annual salary is paid after 33 years of service.

Service Commuted Retirement

Eligibility

For members hired into an OP&F-covered position after July 1, 2013, the minimum retirement age is 52, they must have at least 15 years of service credit and 25 years have elapsed from the date of their full-time hire.

For members hired into an OP&F-covered position on or before July 1, 2013, the minimum retirement age is 48, they must have at least 15 years of service credit and 25 years have elapsed from the date of their full-time hire.

Benefit

An annual pension equal to 1.5 percent of the allowable average annual salary multiplied by the number of full years of service credit (up to 25 years of service credit).

Age/Service Commuted Retirement

Eligibility

Age 62, 15 years of service credit and still working as a full-time police officer or firefighter.

Benefit

An annual pension that uses the same formula as for the Normal Service Retirement benefit (up to 25 years of service credit).

Actuarially Reduced

Eligibility

For members hired into an OP&F-covered position after July 1, 2013, age 48 with 25 years of service.

Benefit

An annual pension reduced to the actuarial equivalent of the amount payable had the member retired at age 52.



Rights Upon Separation From Service

Deferred Pension

If a member meets the years of service credit required for any of the service retirement pensions but leaves service before attaining the minimum retirement age, a pension becomes payable upon attainment of the qualifying age and filing the appropriate paperwork with OP&F.

Refund of Employee Contributions

Upon separation from service, a member can receive the contributions that he or she made to the plan or the employee share of member contributions picked-up on the member's behalf by their employer. Employer contributions are not refundable.

Termination before Retirement with 25 Years of Service Credit

Benefit

Same as the Normal Service Retirement benefit, except benefit commences once the member reaches minimum retirement age.

- For members hired into an OP&F-covered position after July 1, 2013, minimum retirement age is 52.
- For members hired into an OP&F-covered position on or before July 1, 2013, minimum retirement age is 48.

Termination before Retirement with 15 Years of Service Credit

Benefit

Same as the Service Commuted Retirement, except benefit commences once the member reaches minimum retirement age and 25 years have elapsed from the date of full-time hire.

- For members hired into an OP&F-covered position after July 1, 2013, the minimum retirement age is 52.
- For members hired into an OP&F-covered position on or before July 1, 2013, the minimum retirement age is 48.



Termination Before Retirement With Less Than 15 Years of Service Credit

Benefit

A lump sum amount equal to the sum of the member's contributions to OP&F.

Deferred Retirement Option Plan

Eligibility

When a member is eligible for a normal service retirement they can enter DROP by delaying retirement and continuing to work as a full-time police officer or firefighter.

- For members hired into an OP&F-covered position after July 1, 2013, normal service retirement eligibility is age 52 with at least 25 years of service credit.
- For members hired into an OP&F-covered position on or before July 1, 2013, normal service retirement eligibility is age 48 with at least 25 years of service credit.

Benefit

DROP is a cost neutral benefit offered by OP&F. Upon the DROP effective date, the member's pension is calculated as if that were their date of retirement. While the member continues to work and draw their normal salary, the amount they would have received in retirement benefits accumulates tax-deferred at OP&F on their behalf, as well as a portion of their OP&F employee contributions and interest. Since the member's pension has already been calculated:

- The years of DROP service do not apply towards the member's normal service retirement.
- If a member earns a higher salary after their DROP effective date due to a raise, job promotion, etc., it will not be used to recalculate their pension and, therefore, will not result in that member receiving a higher pension upon retirement.

The DROP interest rate is set by administrative rule and is subject to change at any time. OP&F credits interest to all DROP balances each month at a rate equal to the 10-year United States (U.S.) Treasury Note Business Day Series, as published by the U.S. Department of the Treasury, with a cap of five percent and a floor of two and a half percent. This variable interest rate is compounded annually and adjusted quarterly to match the published 10-year U.S. Treasury Note rate for the last trading business day of the preceding quarter and is in effect for the subsequent quarter.

Members whose election to participate in DROP is effective after July 1, 2013 do not qualify for annual cost-of-living allowances (COLA) at any time during DROP. Members whose election to participate in DROP is effective on or before July 1, 2013 will continue to receive a cost-of-living allowance during DROP, but only when they reach 55 years of age and have been participating in



APPENDIX A – SUMMARY OF MAIN BENEFIT PROVISIONS

DROP for at least one year. Those members whose enrollment date into DROP qualify them for a cost-of-living allowance during DROP will receive three percent of their base pension.

Member contributions are credited to their DROP account based on the number of years of DROP service. For those members whose election to participate in DROP is effective after July 1, 2013, OP&F applies contributions to DROP in the following manner:

Years of DROP Service	Percentage of Member Contributions
Years 1-3	50% of member's contributions
Years 4-5	75% of member's contributions
Years 6-8	100% of member's contributions

For this group of members, the minimum participation in DROP, without penalty, is five years and the maximum is eight.

- If a member terminates employment within the first five years of electing to participate in DROP, then the member forfeits all of their DROP interest. In addition to losing their accumulated interest, members who choose to terminate employment before completing their required participation period cannot withdraw any of the funds in their DROP account until the minimum participation period has expired. The only exception to this rule is if the member dies during the minimum participation period. The member's surviving spouse, designated beneficiary or estate, as applicable will receive the entire DROP account balance determined at the time of death.
- If a member chooses to continue working after eight years in DROP, the member forfeits all DROP benefits and receives the Normal Service Retirement benefit upon retirement, which will be calculated to include the service credit earned during the DROP participation period.



APPENDIX A – SUMMARY OF MAIN BENEFIT PROVISIONS

For those members whose election to participate in DROP was on or before July 1, 2013, member contributions are applied to DROP under the following schedule:

Years of DROP Service	Percentage of Member Contributions
Years 1-2	50% of member's contributions
Year 3	75% of member's contributions
Years 4-8	100% of member's contributions

For this group of members, the minimum participation in DROP, without penalty, is three years and the maximum is eight.

- If a member terminates employment within the first three years of electing to participate in DROP, then the member forfeits all of their DROP interest. In addition to losing their accumulated interest, members who choose to terminate employment before completing their required participation period cannot withdraw any of the funds in their DROP account until the minimum participation period has expired. The only exception to this rule is if the member dies during the minimum participation period. The member's surviving spouse, designated beneficiary or estate, as applicable will receive the entire DROP account balance determined at the time of death.
- If a member chooses to continue working after eight years in DROP, the member forfeits all DROP benefits and receives the Normal Service Retirement benefit upon retirement, which will be calculated to include the service credit earned during the DROP participation period.

All DROP members retiring before the eight-year max receive their Normal Service Retirement benefit determined at the time of DROP entry, with the COLA adjustment (if applicable) to their date of retirement when eligible. These members will also receive the DROP account balance as a lump sum or monthly distribution.

If a member dies while participating in DROP, the member's surviving spouse, designated beneficiary or estate will receive the entire DROP account balance determined at the time of death. Also, the member's surviving spouse or contingent dependent beneficiary will receive either the retirement allowance elected by the member at the time of DROP entry or a 50 percent joint and survivor annuity, whichever is greater. All other statutory death benefits will apply.

If the member becomes disabled while in DROP, and has not terminated employment, the member must choose either to receive a disability benefit or a service retirement with DROP. If the member chooses the disability benefit, the member forfeits all DROP benefits and receives the disability benefit, with service credit during the DROP period included.



Disability Benefits

Members who become unable to perform their official duties and whose earning capacities are impaired may qualify for disability benefits. Disability benefits are classified as either service-incurred (on-duty) or non-service-incurred (off-duty) and differ in eligibility requirements and benefit formulas. Annual medical evaluations are required for disability benefit recipients who would not have met the age and service requirements for a Normal Service Retirement, unless the Board of Trustee waives this requirement based upon an OP&F physician's certification that the disability is ongoing and further evaluation would not be cost effective. Annual earnings statements are also required to be submitted to OP&F.

Permanent and Total Disability (On-Duty)

Eligibility

No age or service requirement.

Benefit

An annual benefit equal to 72 percent of the allowable average annual salary.

Partial Disability (On-Duty)

Eligibility

No age or service requirement.

Benefit

If the member has less than 25 years of service credit an annual benefit fixed by the Board of Trustees to be a certain percent up to 60 percent of the allowable average annual salary. If the member has 25 or more years of service credit, the annual disability benefit is equal to the Normal Service Retirement amount.

Non-Service Incurred Disability (off-Duty)

Eligibility

Any age and at least five years of service credit.



APPENDIX A – SUMMARY OF MAIN BENEFIT PROVISIONS

Benefit

An annual amount is the percent awarded by the Board of Trustees and may not exceed 60 percent of the allowable average annual salary. Service over 25 years cannot be used in calculating an off-duty disability award.

Pre-Retirement Survivor Annuity

Eligibility

Upon death before retirement, but after having satisfied the requirements for a Normal Service Retirement or an Age/Service Commuted retirement.

Benefit

The surviving spouse or contingent dependent beneficiary will receive the equivalent of a 50 percent joint and survivor annuity, calculated under the assumption that the decedent had retired effective the day following his/her death.

Statutory Survivor Benefits

Eligibility

Upon death of any active or retired member of OP&F.

Benefit

- **Surviving Spouse's Benefit**

An annual amount equal to \$6,600 (\$550 monthly), plus an annual COLA of three percent of the original base benefit, paid each July 1, beginning July 1, 2000. The benefit is paid to the surviving spouse for life.

- **Surviving Child's Benefit**

An annual amount equal to \$1,800 (\$150 monthly), payable until such child attains age 22 or marries, whichever occurs first. A dependent disabled child, regardless of age at time of member's death, is entitled to a benefit until death or recovery from disability. A COLA of three percent of the original base is payable each July 1.

- **Dependent Parents' Benefit**

If there is no surviving spouse or dependent children, an annual amount of \$2,400 (\$200 monthly) is payable to one dependent parent or \$1,200 (\$100 monthly) each to two dependent parents for life or until dependency ceases or remarriage. A COLA of three percent of the original base is payable each July 1.



APPENDIX A – SUMMARY OF MAIN BENEFIT PROVISIONS

Survivor	Monthly Benefit	Causes of Termination
Widow/Widower	current amount + future COLA	*Death
Child	current amount + future COLA	*Death *Marriage *Attainment of age 22
Dependent disabled child	current amount + future COLA	*Death *Recovery from disability
One dependent parent	current amount + future COLA	*Death *Re-marriage
Two dependent parents	1/2 current amount (each) + future COLA	*Termination of dependency

Benefit Type	Base Monthly Benefit Amount	Base Monthly Benefit	
		Amount Plus Increases Through July 1, 2021	Monthly Increases Effective July 1, 2022
Spouse	\$550	\$908.60 *	\$16.50
Child	150	247.80 **	4.50
One Parent	200	330.40 ***	6.00
Two Parents	100	165.20	3.00

- * On July 1, 2000 the Statutory Surviving Spouse Benefit increased by \$12.10 per month. This increase was a percentage of the original benefit amount, equaling the percentage increase in the CPI plus unused prior increases, to a maximum of three percent. Every year after 2000, the monthly increase was \$16.50 or three percent of the base benefit.
- ** On July 1, 2000 the Statutory Child Benefit increased by \$3.30 per month. This increase was a percentage of the original benefit amount, equaling the percentage increase in the CPI plus unused prior increases, to a maximum of three percent. Every year after 2000, the monthly increase was \$4.50 or three percent of base benefit.
- *** On July 1, 2000 the Statutory Surviving One Parent Benefit increased by \$4.40 per month. This increase was a percentage of the original benefit amount, equaling the percentage increase in the CPI plus unused prior increases, to a maximum of three percent. Every year after 2000, the monthly increase was \$6.00 or three percent of base benefit.



Lump Sum Death Benefit

Eligibility

Upon death of any retired or disabled member of OP&F.

Benefit

A lump sum payment of \$1,000 is paid to the member's surviving spouse or, if no surviving spouse, to a designated beneficiary. If there is no surviving spouse or beneficiary, then it is paid to the member's estate.

State of Ohio Public Safety Officers Death Benefit Fund (DBF)

Benefit

The Death Benefit Fund is funded by the State of Ohio and provides special benefits to eligible survivors of public safety officers who are killed in the line of duty or who die from injuries or disease incurred in the performance of official duties. These eligible survivors are entitled to receive the member's full monthly salary received by the public safety officer prior to his or her death in the line of duty, plus any increases in salary that would have been granted to the deceased public safety officer. The benefit is paid to the public safety officer's eligible survivors as a group until the public safety officer's maximum pension eligibility date. This is the date on which the deceased public safety officer would have become eligible for the maximum annual retirement allowance or pension that may be paid to a member from the member's retirement system (OP&F, OPERS, SHPRS or the Cincinnati Retirement System) had the member continued to accrue service credit from that system, which will be reduced at the member's maximum pension eligibility date. These death benefit payments are in addition to the statutory survivor benefit and any optional payment plan benefits elected by the member.



Annuities

Effective Feb. 28, 1980, for those members who are retiring on either a service pension or a disability benefit, optional annuity plans can be chosen, subject to certain limitations. The member can elect actuarially reduced benefits under a joint and survivor annuity, life annuity certain and continuous, or multiple beneficiary annuity plan. The optional annuity plans allow the member's beneficiary(ies) to receive a lifetime payment upon the member's death.

Annuity Types

Single Life Annuity

For unmarried members, this is the standard annuity plan. Married members may elect this plan only if the spouse consents to the selection in writing. This plan pays the maximum retirement allowance that the member is entitled to receive and, upon the member's death, none of the pension or benefit is continued to any beneficiary.

Joint and Survivor Annuity (JSA)

Under this plan, a member designates that, upon his or her death, a certain percentage of the member's actuarially reduced benefit is continued to a surviving designated beneficiary for life.

Any percentage between one percent and 100 percent of the member's reduced pension may be continued to the surviving designated beneficiary, but the percent continued may be limited based on the beneficiary's age. If a member is married at the time benefits are elected, the standard plan is a 50 percent JSA continuing one-half of the member's reduced monthly benefit to his or her surviving spouse. If the member wants to select a plan which provides for the continuation of benefits for someone other than the spouse or less than 50 percent JSA to the spouse, the spouse must consent in writing to this choice. This plan automatically terminates upon death of the beneficiary, to be effective the month following OP&F's receipt of notice of death. Also, this plan may be cancelled upon divorce or dissolution of marriage with the consent of the member's spouse or a specific court order, at which point the annuity reverts to the single life annuity to the member. An elected option may be cancelled within one year after benefits commence, with the consent of the beneficiary.



Multiple Beneficiary Annuity

Under the multiple beneficiary annuity plan, a member may designate up to four beneficiaries at the time of retirement so that, upon death, a certain percentage of the member's actuarially reduced benefit is continued to the surviving beneficiaries for their lives. If the member is married at the time of retirement, the spouse must consent in writing for an annuity selection that provides for less than 50 percent JSA payable to the spouse.

Life Annuity Certain and Continuous (LACC)

This plan provides a lifetime allowance to the member and will only be paid to a designated beneficiary if the member dies and the period elected by the member has not expired. The minimum guarantee period is five years and the maximum is 20 years. 100 percent of the member's reduced pension continues to the beneficiary for the guarantee period selected. An elected option may be cancelled within one-year after benefits commence, with the consent of the beneficiary. If the member is married at the time of retirement, the spouse must consent in writing for an annuity selection that provides for less than a 50 percent JSA payable to the spouse.

Tiered Retirement Plan – COLA or Terminal Pay (Non-COLA)

Members retiring on or after July 24, 1986, who had 15 or more years of service credit as of January 1, 1989, are eligible to select between two different pension calculation plans. Under the terminal pay method, a member's monthly pension benefit is calculated using terminal payouts at the time of retirement such as accrued sick leave and vacation compensation to increase the amount of the average annual salary, but subject to certain limitations, and these members are not eligible to receive cost-of-living allowance adjustments. Under the COLA method, terminal payments are not included in the calculation of a member's average annual salary, but the member is eligible to receive COLA increases. The COLA method is the automatic calculation method for any active member with fewer than 15 years of service as of January 1, 1989.

Under the COLA method, members who are at least 55 years old and have been receiving OP&F pension benefits for at least one year are eligible for cost-of-living allowance adjustments. The age 55 provision for receiving a COLA does not apply to those who are receiving a permanent and total disability benefit, surviving beneficiaries under optional plans and statutory survivors.

The COLA amount for members who have 15 or more years of service credit as of July 1, 2013 and members who are receiving a pension benefit that became effective before July 1, 2013 will be equal to three percent of the member's base pension benefit.

The COLA amount for members who have less than 15 years of service credit as of July 1, 2013, and members whose pension benefit became effective on or after July 1, 2013, will be equal to a percentage of the member's base pension benefit where the percentage is the lesser of three percent or the percentage



APPENDIX A – SUMMARY OF MAIN BENEFIT PROVISIONS

increase in the consumer price index, if any, over the twelve-month period that ends on the thirtieth day of September of the immediately preceding year, rounded to the nearest one-tenth of one percent.

Members who retired prior to July 24, 1986 or their surviving beneficiaries under optional plans are entitled to cost-of-living allowance increases. The annual increase is paid on July 1st of each year. The annual COLA increase is \$360 under a Single Life Annuity Plan with proportional reductions for optional payment plans.

Re-employed Retiree's Defined Contribution Plan Benefit

Effective June 30, 1991, every person who is retired under an Ohio public pension plan and who is re-employed in an OP&F covered position must contribute to OP&F at the same rate as other police officers or firefighters. The employer pays the normal rate as well. If the re-employed member terminates employment before age 60, Ohio law allows the member to receive a lump sum payment of post-retirement employee contributions made during the period of re-employment, plus interest. If the member waits until age 60 to receive this benefit, he or she can choose to receive either a lump sum payment in an amount equal to twice his or her contributions, plus interest, or a lifetime annuity paid monthly. If, after calculation, the member's lifetime monthly annuity is less than \$25, the member may only select the lump sum payment option. If the member is married spousal consent is required before payment can occur.

Health Care Stipend and Medicare

Although support for retiree health care is not a vested right and is a discretionary benefit from OP&F subject to change at any time, the Board of Trustees has elected to continue to sponsor a plan for the last 45 years.

Beginning in 1974, OP&F sponsored a group health care program for retirees and their dependents by covering all or part of the plan premiums, in addition to paying all claims.

Effective July 1992, retirees and survivors made monthly medical benefit contributions which are credited to the Health Care Stabilization Fund. These contributions were reviewed on an annual basis to determine adequacy with the rising cost of health care. In 2004, a new contribution strategy was implemented. Retirees and survivors then paid a percentage of the full cost of the benefit based on the year of retirement. Due to the rising cost of health care and the primary source requirements of pension reform legislation enacted in 2013, OP&F is no longer able to offer a plan as in the past. On December 31, 2018, the group health care plan ended.

On January 1, 2019, a stipend-based health care model replaced the self-insured group health care plan. OP&F contracted with a vendor who assists eligible retirees in choosing health care plans that are available where they live (both Medicare eligible and pre-65 populations). A stipend funded by OP&F is available to these members through a Health Reimbursement Arrangement and can be used to



APPENDIX A – SUMMARY OF MAIN BENEFIT PROVISIONS

reimburse retirees for qualified health care expenses. As a result of this change, it is expected that the solvency of the HCSF will be extended allowing OP&F to provide stipends to eligible participants.

Regardless of a benefit recipient's participation in the health care program, OP&F is required by law to pay eligible recipients of a service pension, disability benefit and spousal survivor benefit for their Medicare Part B insurance premium, up to the statutory maximum provided the benefit recipient is not eligible to receive reimbursement from any other source. Once OP&F receives the necessary documentation, a monthly reimbursement is included as part of the recipient's next benefit payment.

Note: This benefit is not included in the principal valuation results, but it is included in the results of the retiree health care valuation.



APPENDIX B – STATEMENT OF ACTUARIAL ASSUMPTIONS AND OTHER INPUTS

APPENDIX B

STATEMENT OF ACTUARIAL ASSUMPTIONS AND OTHER INPUTS

The actuarial assumptions were adopted as of January 1, 2022, based on a quinquennial experience review covering the period 2017 through 2021. The next review of the actuarial assumptions is to be completed for adoption with the January 1, 2027 valuation.

Interest Rate

7.50 percent per annum, compounded annually.

Salary Increase Rates

Assumed annual salary increases are as follows:

Years of Service	Salary Increase Rate
Less than 1	10.50%
1	9.00%
2	8.00%
3	6.00%
4	4.50%
5 or more	3.75%

Payroll Growth

3.25 percent per annum, compounded annually, consisting of inflation rate of 2.75 percent plus productivity increase rate of 0.5 percent.

DROP Interest Crediting Rate

3.75 percent per annum, compounded annually.

CPI-Based COLA

2.2 percent simple for increases based on the lesser of the increase in CPI and three percent.



APPENDIX B – STATEMENT OF ACTUARIAL ASSUMPTIONS AND OTHER INPUTS

Withdrawal Rates

The following sample withdrawal rates are based on age and service (for causes other than death, disability, or retirement):

Years of Service	Firefighters	Police
0	5.00%	14.00%
5	1.00%	2.00%
10	0.75%	1.50%
15	0.50%	1.00%
20	0.20%	0.65%
24	0.20%	0.25%

Rates of Disability

The following are sample rates of disability and occurrence of disability by type:

Age	Firefighters	Police
20	0.0004%	0.0005%
25	0.0020%	0.0032%
30	0.0088%	0.0401%
35	0.0364%	0.0693%
40	0.0816%	0.1814%
45	0.1388%	0.2399%
50	0.5348%	0.6080%
55	0.8100%	0.5036%
60	1.2240%	0.9351%
64	2.8760%	1.3946%

Type of Disability	
On duty permanent and total	17%
On duty partial	58%
Off duty ordinary	25%



APPENDIX B – STATEMENT OF ACTUARIAL ASSUMPTIONS AND OTHER INPUTS

Retirement Rates

The following rates apply to members who are not currently in DROP, but either have reached DROP eligibility or may become eligible for DROP in the future. Upon first eligibility for retirement, the rate is 15 percent for Firefighters and 20 percent for Police. After first eligibility the rates are as follows:

Years of Service	Firefighters	Police
25	15%	20%
26	5%	8%
27	5%	8%
28	5%	8%
29	5%	8%
30	5%	8%
31	5%	15%
32	5%	15%
33	5%	15%
34	5%	15%
35+	100%	100%

The following rates apply to members who will not reach retirement eligibility prior to age 62:

Firefighters

Age	Years of Service	
	15-23	24
62	25%	15%
63	25%	15%
64	25%	15%
65	100%	100%

Police

Age	Years of Service	
	15-23	24
62	25%	20%
63	25%	20%
64	25%	20%
65	100%	100%



APPENDIX B – STATEMENT OF ACTUARIAL ASSUMPTIONS AND OTHER INPUTS

Deferred Retirement Option Plan Elections

80 percent of members who do not retire when first eligible are assumed to elect DROP.

DROP Retirement Rates

The following rates of retirement apply to members in DROP as of the valuation date:

Years of Service	Firefighters	Police
25	4.75%	7.25%
26	4.75%	6.00%
27	4.75%	6.25%
28	6.00%	6.00%
29	9.00%	8.50%
30	15.75%	16.75%
31	11.00%	16.25%
32	44.00%	50.00%
33+	100.00%	100.00%

Retirement Age for Inactive Vested Participants

Commencement at age 48 and 25 years of service from full-time hire date, whichever is later.



Service Retiree and Vested Former Member Mortality

Mortality for service retirees is based on the Pub-2010 Below-Median Safety Amount-Weighted Healthy Retiree mortality table with rates adjusted by 96.2% for males and 98.7% for females. All rates are projected using the MP-2021 Improvement Scale.

Disabled Mortality

Mortality for disabled retirees is based on the Pub-2010 Safety Amount-Weighted Disabled Retiree mortality table with rates adjusted by 135% for males and 97.9% for females. All rates are projected using the MP-2021 Improvement Scale.

Contingent Annuitant Mortality

Mortality for contingent annuitants is based on the Pub-2010 Below-Median Safety Amount-Weighted Contingent Annuitant Retiree mortality table with rates adjusted by 108.9% for males and 131% for females. All rates are projected using the MP-2021 Improvement Scale.

Pre-Retirement Mortality

Mortality for active members is based on the Pub-2010 Below-Median Safety Amount-Weighted Employee mortality table. All rates are projected using the MP-2021 Improvement Scale.

Credited Service

Credited service on the valuation date, as provided by OP&F, includes all service credited under the plan, including service transferred from other municipal plans and purchased service. The valuation assumes future service will be credited at the rate of one year per year worked, with no assumed future crediting of transferred service or purchased service.

415 Limits

Benefits are limited by the IRC Section 415, assumed to increase 2.75 percent per annum.



APPENDIX B – STATEMENT OF ACTUARIAL ASSUMPTIONS AND OTHER INPUTS

Future Expenses

The normal cost is increased by all administrative expenses budgeted, net of the State Subsidy received from the State of Ohio.

Unknown Data for Members

Same as those exhibited by members with similar known characteristics. Deferred benefits are estimated at termination until OP&F has determined the actual amount at retirement. Reported salaries that are less than \$10,000 when annualized are assumed to be anomalous and are reset to \$60,000. The adjustment for late reported salaries is not applied in this case.

Late Reported Salaries

A 1.191 percent load is added to the 2021 reported salaries to account for salaries accrued but not reported for the valuation. This adjustment is based on an average of plan experience from the prior three years. The raw adjustment rates for each year are as follows:

Pay for Calendar Year	Raw Adjustment
2021	1.418%
2020	0.820%
2019	1.335%

This adjustment will be reviewed annually for future late reported salaries.

Percent Married

80 percent of active members are assumed to be married.

Age of Spouse

Wives are assumed to be three years younger than their husbands.



Optional Form Election

40 percent of service retirees and 15 percent of disability retirees are assumed to elect a 45 percent Joint and Survivor pension at retirement. If the joint annuitant predeceases the retiree, the increase, or pop-up, in the retiree's benefit associated with the 45 percent Joint and Survivor pension is assumed to be 14.36 percent for disability retirees and 10.50 percent for all other retirees.

DROP Account Distributions

For currently retired members who have an outstanding DROP balance we assume they will take their balance in installments over 10 years. For members who terminate DROP before the required three or five years, distribution of the account balance is assumed to be made in a lump sum payment at the end of the three- or five-year period. Distributions for active members are assumed to be made in a lump sum or installments at retirements in a pattern equivalent to 25 percent receiving lump sums, 30 percent receiving installments over two years, and 45 percent receiving installments over 10 years.

Dependent Parents

None anticipated, but dependency of any dependent parent in receipt of benefits is assumed to continue for the parent's lifetime.

Dependent Children

Each member is assumed to have two children, born when the member was age 26. Dependency is assumed to cease when the child is 22.

Medicare Part B Premium Reimbursement

For service and disability retirements, as well as survivors, Ohio Police & Fire reimburses the standard Medicare Part B premium (\$107.00 per month for 2021) provided the retiree is not eligible for reimbursement from any other sources.

70 percent of members are assumed to be eligible for reimbursement once they reach age 65.

The Medicare Part B Premium assumptions are only used to determine the cost if the Medicare Part B reimbursement payments were to be paid from the pension trust instead of the Health Care Stabilization Fund.



APPENDIX B – STATEMENT OF ACTUARIAL ASSUMPTIONS AND OTHER INPUTS

Changes in actuarial assumptions since the January 1, 2021 valuation:

The assumptions used for the January 1, 2022 actuarial valuation are based on the quinquennial experience review prepared as of December 31, 2021 and adopted by the Board of Trustees on October 26, 2022.

Material assumptions and methods that were changed since the prior valuation:

- The investment return assumption was lowered from 8.00 percent to 7.50 percent
- The DROP interest crediting rate was lowered from 4.00 percent to 3.75 percent
- The mortality assumption, withdrawal rates, retirement rates, and disability rates were changed
- The DROP participation rate was lowered from 90 percent to 80 percent
- The percent married assumption was changed from assuming 75 percent of members are married to 80 percent.
- The percentage of members assumed to elect a joint annuity was changed from 33 percent to 40 percent for service retirees and from 10 percent to 15 percent for disabled retirees. The percentage continued to the joint annuitant assumption was changed from 40 percent to 45 percent.



Methods

Actuarial Cost Method

Projected benefit method with individual level percentage entry age normal cost and actuarial accrued liability. Gains and losses are reflected in the actuarial accrued liability. Prior to January 1, 2015, to be consistent with the asset methodology employed by OP&F, DROP balances were netted out of the liabilities.

Adjustment for Re-Employed Retirees

The present value of future benefits and the actuarial accrued liability are increased by an amount for the re-employed retirees' defined contribution plan benefit equal to two times the re-employed retirees' post-retirement contribution balances on the valuation date.

Adjustment for Employer Accrued Liability

The actuarial accrued liability is reduced by the present value of special employer contributions -- referred to as "Local Funds." Local governments are required by state statute to pay the unfunded portion of the actuarially- determined liability of the local police and firefighter's relief and pension funds that were merged to form OP&F in 1967. The ORC designates this obligation of the local governments to the Employers' Accrued Liability. Interest on the outstanding balance is being accrued at the rate of 4.25 percent, compounded semiannually. Local governments began repayment in 1969 and payments are required to be made until 2035. The present value of the remaining payments on the valuation date is determined using the valuation interest rate.

Asset Valuation Method

A four-year moving average market value of assets that spreads the difference between the actual investment income and the expected income on the market value (based on the valuation interest rate) over a period of four years. The actuarial value shall not be less than 80 percent or more than 120 percent of market value.

Data

Census and Assets

The valuation was based on members of OP&F as of the valuation date and does not take into account future members. All census and asset data was supplied by OP&F. Salaries and benefits tabulated in the tables in this report were summed to pennies, but displayed to whole dollars, thus, totals may not be consistent with amounts displayed due to rounding.



APPENDIX C – DETAILED TABULATIONS OF THE DATA

EXHIBIT I – 1a

ACTIVE MEMBERSHIP DATA AS OF JANUARY 1, 2022
Number and Annual Salaries Distributed by Age
POLICE

Age	Male		Female		Total	
	Number	Compensation	Number	Compensation	Number	Compensation
19	2	\$ 104,803	-	\$ -	2	\$ 104,803
20	6	263,843	1	41,156	7	304,999
21	40	2,014,753	8	441,609	48	2,456,362
22	108	5,667,167	15	817,944	123	6,485,111
23	173	9,988,187	33	1,940,858	206	11,929,045
24	219	12,693,623	68	3,956,892	287	16,650,515
25	316	19,815,727	59	3,594,584	375	23,410,311
26	325	20,958,369	67	4,338,508	392	25,296,878
27	381	25,245,305	61	4,020,387	442	29,265,693
28	385	26,730,855	66	4,491,361	451	31,222,216
29	384	27,992,870	88	6,185,908	472	34,178,778
30	415	30,358,823	80	5,729,648	495	36,088,471
31	440	32,528,089	71	5,133,114	511	37,661,203
32	422	32,620,562	82	5,701,079	504	38,321,642
33	425	33,829,718	45	3,203,816	470	37,033,533
34	428	34,489,885	45	3,211,324	473	37,701,209
35	404	32,519,379	48	3,349,799	452	35,869,178
36	431	35,112,377	38	2,937,008	469	38,049,385
37	414	35,369,262	41	3,320,167	455	38,689,429
38	376	32,540,255	39	3,319,913	415	35,860,168
39	378	31,827,682	36	3,063,160	414	34,890,841
40	339	30,495,473	41	3,553,218	380	34,048,690
41	368	32,620,248	45	3,726,792	413	36,347,040
42	328	29,744,607	40	3,436,311	368	33,180,918
43	313	28,787,101	35	3,340,138	348	32,127,240
44	370	34,267,228	22	1,896,625	392	36,163,852
45	340	31,079,404	35	3,064,237	375	34,143,642
46	383	36,019,923	31	2,930,239	414	38,950,162
47	389	36,555,277	39	3,526,015	428	40,081,291



EXHIBIT I – 1a

ACTIVE MEMBERSHIP DATA AS OF JANUARY 1, 2022
 Number and Annual Salaries Distributed by Age
 POLICE (continued)

Age	Male		Female		Total	
	Number	Compensation	Number	Compensation	Number	Compensation
48	406	\$ 38,694,681	49	\$ 4,584,187	455	\$ 43,278,868
49	447	42,677,431	44	4,226,705	491	46,904,136
50	497	47,158,039	49	4,683,965	546	51,842,004
51	544	52,178,010	65	6,348,059	609	58,526,069
52	474	45,518,995	50	4,545,908	524	50,064,903
53	423	41,618,189	33	3,262,814	456	44,881,003
54	358	34,373,271	37	3,559,373	395	37,932,643
55	307	30,059,472	38	3,663,370	345	33,722,842
56	232	23,264,126	22	1,822,685	254	25,086,811
57	177	16,916,021	25	2,351,555	202	19,267,577
58	126	11,845,800	21	1,928,159	147	13,773,959
59	98	9,122,657	8	707,187	106	9,829,844
60	80	6,999,158	10	967,149	90	7,966,308
61	57	5,090,399	9	810,060	66	5,900,459
62	44	3,892,676	2	154,424	46	4,047,100
63	27	2,444,355	4	340,725	31	2,785,080
64	24	2,118,140	5	417,114	29	2,535,254
65	11	937,374	-	-	11	937,374
66	8	720,841	2	137,378	10	858,219
67	8	743,231	-	-	8	743,231
68	6	507,471	-	-	6	507,471
69	3	267,799	-	-	3	267,799
70	2	204,339	-	-	2	204,339
71	1	47,259	-	-	1	47,259
72	2	161,980	-	-	2	161,980
73	2	140,493	-	-	2	140,493
74	1	100,167	-	-	1	100,167
75	-	-	-	-	-	-
76	-	-	-	-	-	-
77	-	-	-	-	-	-
78	1	44,181	-	-	1	44,181
Total	13,668	\$ 1,160,087,347	1,752	\$ 138,782,629	15,420	\$ 1,298,869,976



EXHIBIT I – 1b

ACTIVE MEMBERSHIP DATA AS OF JANUARY 1, 2022
 Number and Annual Salaries Distributed by Years of Service
 POLICE

Service	Male		Female		Total	
	Number	Compensation	Number	Compensation	Number	Compensation
0	944	\$ 50,617,553	212	\$ 11,994,011	1,156	\$ 62,611,564
1	590	34,647,408	135	7,890,378	725	42,537,786
2	740	47,654,060	142	9,203,649	882	56,857,709
3	720	50,269,380	150	10,496,382	870	60,765,762
4	589	44,153,539	73	5,329,396	662	49,482,936
5	549	43,136,811	92	7,465,221	641	50,602,032
6	547	45,359,198	70	5,428,996	617	50,788,194
7	512	42,316,188	45	3,490,666	557	45,806,853
8	484	39,556,197	34	2,735,783	518	42,291,980
9	425	35,968,412	36	2,996,406	461	38,964,819
10	350	30,863,293	20	1,823,444	370	32,686,736
11	266	24,672,339	18	1,526,854	284	26,199,192
12	184	16,021,604	16	1,304,273	200	17,325,877
13	326	28,454,851	30	2,728,096	356	31,182,946
14	461	41,879,074	57	5,183,148	518	47,062,222
15	360	33,589,340	49	4,313,790	409	37,903,130
16	262	24,300,728	32	2,936,113	294	27,236,841
17	293	27,704,465	38	3,436,637	331	31,141,102
18	264	25,166,132	30	2,657,781	294	27,823,913
19	342	32,229,724	38	3,584,921	380	35,814,645
20	364	33,882,086	47	4,459,340	411	38,341,426
21	361	34,468,518	30	2,708,473	391	37,176,991
22	389	37,605,597	44	4,307,646	433	41,913,244
23	443	42,343,020	42	4,007,662	485	46,350,681
24	429	42,016,813	44	4,389,618	473	46,406,430
25	395	39,727,286	34	3,504,191	429	43,231,477



EXHIBIT I – 1b

ACTIVE MEMBERSHIP DATA AS OF JANUARY 1, 2022
 Number and Annual Salaries Distributed by Years of Service
 POLICE (continued)

Service	Male		Female		Total	
	Number	Compensation	Number	Compensation	Number	Compensation
26	404	\$ 40,820,466	40	\$ 3,778,764	444	\$ 44,599,230
27	351	35,768,750	29	2,794,435	380	38,563,185
28	300	30,363,203	35	3,249,584	335	33,612,788
29	264	25,991,656	27	2,690,527	291	28,682,183
30	224	22,617,597	20	1,958,697	244	24,576,294
31	239	24,433,709	21	2,217,446	260	26,651,155
32	143	15,099,037	15	1,471,064	158	16,570,101
33	81	8,975,149	4	401,305	85	9,376,454
34	30	3,042,408	1	104,658	31	3,147,066
35	16	1,429,392	-	-	16	1,429,392
36	12	1,306,568	2	213,274	14	1,519,843
37	5	598,058	-	-	5	598,058
38	1	82,013	-	-	1	82,013
39	2	310,087	-	-	2	310,087
40	2	152,300	-	-	2	152,300
41	-	-	-	-	-	-
42	1	92,705	-	-	1	92,705
43	-	-	-	-	-	-
44	3	294,903	-	-	3	294,903
45	-	-	-	-	-	-
46	-	-	-	-	-	-
47	-	-	-	-	-	-
48	-	-	-	-	-	-
49	1	105,729	-	-	1	105,729
50	-	-	-	-	-	-
Total	13,668	\$ 1,160,087,347	1,752	\$ 138,782,629	15,420	\$ 1,298,869,976



APPENDIX C – DETAILED TABULATIONS OF THE DATA

EXHIBIT I – 2a

ACTIVE MEMBERSHIP DATA AS OF JANUARY 1, 2022
 Number and Annual Salaries Distributed by Age
 FIREFIGHTERS'

Age	Male		Female		Total	
	Number	Compensation	Number	Compensation	Number	Compensation
19 & Under	11	\$ 566,580	-	\$ -	11	\$ 566,580
20	25	1,340,145	2	95,126	27	1,435,271
21	73	4,072,738	4	236,532	77	4,309,270
22	130	7,939,619	8	448,615	138	8,388,234
23	154	9,345,011	9	525,269	163	9,870,280
24	172	10,764,932	18	1,039,205	190	11,804,137
25	222	14,681,903	16	1,043,624	238	15,725,527
26	263	18,137,575	20	1,104,093	283	19,241,668
27	302	20,935,683	18	1,299,850	320	22,235,533
28	303	22,638,608	16	1,110,370	319	23,748,977
29	352	25,964,168	17	1,057,068	369	27,021,236
30	350	26,787,215	32	2,179,670	382	28,966,885
31	401	30,533,397	25	1,712,489	426	32,245,886
32	386	30,394,465	20	1,488,361	406	31,882,826
33	380	30,555,631	21	1,688,745	401	32,244,376
34	437	35,493,319	19	1,423,701	456	36,917,020
35	426	35,585,637	18	1,362,014	444	36,947,651
36	449	37,387,122	18	1,347,142	467	38,734,264
37	418	35,042,479	19	1,452,241	437	36,494,719
38	388	33,964,729	13	1,134,036	401	35,098,765
39	409	35,721,744	13	1,092,482	422	36,814,226
40	385	34,861,936	9	783,731	394	35,645,667
41	384	35,130,719	14	1,378,700	398	36,509,419
42	415	38,159,725	12	1,081,120	427	39,240,845
43	394	37,166,031	15	1,321,874	409	38,487,905
44	351	32,942,889	11	982,749	362	33,925,638
45	370	36,001,911	11	916,220	381	36,918,131
46	387	38,526,854	15	1,292,403	402	39,819,257
47	387	38,612,116	5	506,855	392	39,118,971



APPENDIX C – DETAILED TABULATIONS OF THE DATA

EXHIBIT I – 2a

ACTIVE MEMBERSHIP DATA AS OF JANUARY 1, 2022
 Number and Annual Salaries Distributed by Age
 FIREFIGHTERS' (continued)

Age	Male		Female		Total	
	Number	Compensation	Number	Compensation	Number	Compensation
48	369	\$ 36,947,665	11	\$ 1,092,152	380	\$ 38,039,817
49	414	41,768,152	10	942,115	424	42,710,267
50	421	42,152,881	11	954,142	432	43,107,024
51	453	45,892,496	5	522,012	458	46,414,507
52	426	44,590,485	13	1,273,021	439	45,863,506
53	368	37,870,128	10	1,054,475	378	38,924,603
54	311	32,150,573	3	320,426	314	32,470,999
55	317	32,518,554	5	624,763	322	33,143,317
56	292	29,632,875	4	389,368	296	30,022,242
57	244	24,273,794	3	270,169	247	24,543,963
58	197	19,618,563	5	393,504	202	20,012,067
59	156	15,693,856	3	291,531	159	15,985,386
60	117	11,797,795	1	93,056	118	11,890,851
61	88	8,978,775	3	288,292	91	9,267,067
62	54	4,998,890	2	148,989	56	5,147,879
63	46	4,514,234	1	91,343	47	4,605,576
64	25	2,332,488	1	107,941	26	2,440,429
65	8	761,838	-	-	8	761,838
66	7	572,188	-	-	7	572,188
67	6	622,945	-	-	6	622,945
68	2	157,859	-	-	2	157,859
69	3	272,634	-	-	3	272,634
70	1	74,502	-	-	1	74,502
71	1	88,009	-	-	1	88,009
72	1	95,711	-	-	1	95,711
73	1	115,499	-	-	1	115,499
74	1	80,201	-	-	1	80,201
75	1	69,015	-	-	1	69,015
76	-	-	-	-	-	-
77	1	73,774	-	-	1	73,774
Total	13,455	\$ 1,197,971,259	509	\$ 39,961,584	13,964	\$ 1,237,932,843



EXHIBIT I – 2b

**ACTIVE MEMBERSHIP DATA AS OF JANUARY 1, 2022
Number and Annual Salaries Distributed by Years of Service
FIREFIGHTERS'**

Service	Male		Female		Total	
	Number	Compensation	Number	Compensation	Number	Compensation
0	865	\$ 47,148,437	105	\$ 5,685,399	970	\$ 52,833,836
1	520	32,158,020	43	2,600,741	563	34,758,762
2	667	46,250,575	59	4,188,196	726	50,438,771
3	644	47,754,823	28	2,125,184	672	49,880,007
4	646	51,769,780	26	1,994,796	672	53,764,576
5	563	46,456,794	13	1,121,204	576	47,577,998
6	483	39,863,806	12	1,007,788	495	40,871,594
7	479	41,329,641	21	1,843,042	500	43,172,683
8	464	40,532,773	16	1,355,522	480	41,888,294
9	372	33,144,158	8	740,039	380	33,884,196
10	354	31,752,184	11	1,024,814	365	32,776,998
11	331	30,887,667	9	869,334	340	31,757,001
12	248	22,263,181	6	593,044	254	22,856,226
13	364	33,206,074	8	714,422	372	33,920,496
14	316	28,235,918	8	761,957	324	28,997,875
15	325	31,823,428	15	1,309,386	340	33,132,815
16	247	23,573,041	7	632,137	254	24,205,178
17	260	25,253,690	8	711,436	268	25,965,126
18	408	37,814,571	7	581,908	415	38,396,479
19	324	31,429,512	9	926,928	333	32,356,441
20	385	38,477,824	12	1,110,423	397	39,588,247
21	452	45,062,231	17	1,654,040	469	46,716,270
22	461	46,349,223	16	1,642,223	477	47,991,446
23	455	48,235,881	18	1,870,955	473	50,106,835
24	435	45,902,469	4	394,541	439	46,297,009
25	405	42,198,054	9	920,816	414	43,118,870



APPENDIX C – DETAILED TABULATIONS OF THE DATA

EXHIBIT I – 2b

ACTIVE MEMBERSHIP DATA AS OF JANUARY 1, 2022
Number and Annual Salaries Distributed by Years of Service
FIREFIGHTERS’ (continued)

Service	Male		Female		Total	
	Number	Compensation	Number	Compensation	Number	Compensation
26	324	\$ 33,372,420	2	\$ 215,406	326	\$ 33,587,826
27	292	31,209,721	3	426,226	295	31,635,947
28	251	26,554,167	-	-	251	26,554,167
29	273	27,954,386	2	231,846	275	28,186,232
30	223	23,887,255	2	238,584	225	24,125,839
31	164	17,237,830	2	211,453	166	17,449,283
32	267	28,020,851	3	257,795	270	28,278,646
33	93	10,261,141	-	-	93	10,261,141
34	38	4,460,890	-	-	38	4,460,890
35	31	3,362,908	-	-	31	3,362,908
36	16	1,717,190	-	-	16	1,717,190
37	1	133,964	-	-	1	133,964
38	4	369,149	-	-	4	369,149
39	2	240,947	-	-	2	240,947
40	3	314,686	-	-	3	314,686
41	-	-	-	-	-	-
42	-	-	-	-	-	-
43	-	-	-	-	-	-
44	-	-	-	-	-	-
45	-	-	-	-	-	-
46	-	-	-	-	-	-
47	-	-	-	-	-	-
48	-	-	-	-	-	-
49	-	-	-	-	-	-
50	-	-	-	-	-	-
Total	13,455	\$ 1,197,971,259	509	\$ 39,961,584	13,964	\$ 1,237,932,843



EXHIBIT I – 3a

ACTIVE MEMBERSHIP DATA AS OF JANUARY 1, 2022
 Number and Annual Salaries Distributed by Age
 TOTAL

Age	Male		Female		Total	
	Number	Compensation	Number	Compensation	Number	Compensation
19 & Under	13	\$ 671,383	-	\$ -	13	\$ 671,383
20	31	1,603,989	3	136,282	34	1,740,271
21	113	6,087,491	12	678,141	125	6,765,632
22	238	13,606,786	23	1,266,559	261	14,873,345
23	327	19,333,197	42	2,466,127	369	21,799,324
24	391	23,458,555	86	4,996,097	477	28,454,652
25	538	34,497,630	75	4,638,208	613	39,135,838
26	588	39,095,945	87	5,442,601	675	44,538,546
27	683	46,180,989	79	5,320,238	762	51,501,226
28	688	49,369,462	82	5,601,731	770	54,971,193
29	736	53,957,038	105	7,242,977	841	61,200,014
30	765	57,146,039	112	7,909,318	877	65,055,357
31	841	63,061,486	96	6,845,603	937	69,907,089
32	808	63,015,027	102	7,189,440	910	70,204,467
33	805	64,385,349	66	4,892,560	871	69,277,909
34	865	69,983,204	64	4,635,026	929	74,618,229
35	830	68,105,015	66	4,711,814	896	72,816,829
36	880	72,499,499	56	4,284,150	936	76,783,649
37	832	70,411,741	60	4,772,407	892	75,184,148
38	764	66,504,985	52	4,453,949	816	70,958,934
39	787	67,549,426	49	4,155,641	836	71,705,067
40	724	65,357,409	50	4,336,949	774	69,694,358
41	752	67,750,966	59	5,105,492	811	72,856,459
42	743	67,904,333	52	4,517,431	795	72,421,763
43	707	65,953,133	50	4,662,012	757	70,615,145
44	721	67,210,116	33	2,879,374	754	70,089,490
45	710	67,081,315	46	3,980,458	756	71,061,773
46	770	74,546,777	46	4,222,642	816	78,769,419
47	776	75,167,392	44	4,032,870	820	79,200,262



EXHIBIT I – 3a

ACTIVE MEMBERSHIP DATA AS OF JANUARY 1, 2022
 Number and Annual Salaries Distributed by Age
 TOTAL (continued)

Age	Male		Female		Total	
	Number	Compensation	Number	Compensation	Number	Compensation
48	775	\$ 75,642,346	60	\$ 5,676,339	835	\$ 81,318,685
49	861	84,445,583	54	5,168,820	915	89,614,403
50	918	89,310,920	60	5,638,107	978	94,949,027
51	997	98,070,506	70	6,870,070	1,067	104,940,576
52	900	90,109,480	63	5,818,929	963	95,928,410
53	791	79,488,316	43	4,317,289	834	83,805,606
54	669	66,523,844	40	3,879,799	709	70,403,643
55	624	62,578,026	43	4,288,133	667	66,866,160
56	524	52,897,000	26	2,212,052	550	55,109,053
57	421	41,189,815	28	2,621,725	449	43,811,540
58	323	31,464,363	26	2,321,662	349	33,786,025
59	254	24,816,513	11	998,718	265	25,815,230
60	197	18,796,953	11	1,060,205	208	19,857,159
61	145	14,069,173	12	1,098,352	157	15,167,526
62	98	8,891,566	4	303,413	102	9,194,979
63	73	6,958,588	5	432,068	78	7,390,656
64	49	4,450,628	6	525,056	55	4,975,683
65	19	1,699,212	-	-	19	1,699,212
66	15	1,293,028	2	137,378	17	1,430,406
67	14	1,366,176	-	-	14	1,366,176
68	8	665,329	-	-	8	665,329
69	6	540,433	-	-	6	540,433
70	3	278,842	-	-	3	278,842
71	2	135,269	-	-	2	135,269
72	3	257,690	-	-	3	257,690
73	3	255,992	-	-	3	255,992
74	2	180,368	-	-	2	180,368
75	1	69,015	-	-	1	69,015
76	-	-	-	-	-	-
77	1	73,774	-	-	1	73,774
78	1	44,181	-	-	1	44,181
Total	27,123	\$ 2,358,058,606	2,261	\$ 178,744,214	29,384	\$ 2,536,802,819



EXHIBIT I – 3b

ACTIVE MEMBERSHIP DATA AS OF JANUARY 1, 2022
Number and Annual Salaries Distributed by Years of Service
TOTAL

Service	Male		Female		Total	
	Number	Compensation	Number	Compensation	Number	Compensation
0	1,809	\$ 97,765,990	317	\$ 17,679,409	2,126	\$ 115,445,400
1	1,110	66,805,429	178	10,491,119	1,288	77,296,548
2	1,407	93,904,635	201	13,391,845	1,608	107,296,480
3	1,364	98,024,203	178	12,621,566	1,542	110,645,769
4	1,235	95,923,320	99	7,324,193	1,334	103,247,512
5	1,112	89,593,605	105	8,586,425	1,217	98,180,030
6	1,030	85,223,004	82	6,436,784	1,112	91,659,787
7	991	83,645,829	66	5,333,708	1,057	88,979,537
8	948	80,088,969	50	4,091,305	998	84,180,275
9	797	69,112,570	44	3,736,445	841	72,849,015
10	704	62,615,477	31	2,848,258	735	65,463,734
11	597	55,560,006	27	2,396,187	624	57,956,193
12	432	38,284,785	22	1,897,318	454	40,182,103
13	690	61,660,924	38	3,442,518	728	65,103,442
14	777	70,114,992	65	5,945,105	842	76,060,097
15	685	65,412,769	64	5,623,176	749	71,035,945
16	509	47,873,769	39	3,568,250	548	51,442,019
17	553	52,958,154	46	4,148,073	599	57,106,228
18	672	62,980,703	37	3,239,689	709	66,220,392
19	666	63,659,236	47	4,511,850	713	68,171,085
20	749	72,359,910	59	5,569,763	808	77,929,673
21	813	79,530,748	47	4,362,513	860	83,893,261
22	850	83,954,820	60	5,949,870	910	89,904,690
23	898	90,578,901	60	5,878,616	958	96,457,517
24	864	87,919,281	48	4,784,158	912	92,703,440
25	800	81,925,340	43	4,425,007	843	86,350,347



APPENDIX C – DETAILED TABULATIONS OF THE DATA

EXHIBIT I – 3b

ACTIVE MEMBERSHIP DATA AS OF JANUARY 1, 2022
 Number and Annual Salaries Distributed by Years of Service
 TOTAL (continued)

Service	Male		Female		Total	
	Number	Compensation	Number	Compensation	Number	Compensation
26	728	\$ 74,192,886	42	\$ 3,994,171	770	\$ 78,187,056
27	643	66,978,471	32	3,220,662	675	70,199,132
28	551	56,917,371	35	3,249,584	586	60,166,955
29	537	53,946,043	29	2,922,372	566	56,868,415
30	447	46,504,852	22	2,197,281	469	48,702,133
31	403	41,671,539	23	2,428,899	426	44,100,438
32	410	43,119,889	18	1,728,859	428	44,848,747
33	174	19,236,290	4	401,305	178	19,637,596
34	68	7,503,298	1	104,658	69	7,607,956
35	47	4,792,301	-	-	47	4,792,301
36	28	3,023,758	2	213,274	30	3,237,032
37	6	732,022	-	-	6	732,022
38	5	451,162	-	-	5	451,162
39	4	551,034	-	-	4	551,034
40	5	466,986	-	-	5	466,986
41	-	-	-	-	-	-
42	1	92,705	-	-	1	92,705
43	-	-	-	-	-	-
44	3	294,903	-	-	3	294,903
45	-	-	-	-	-	-
46	-	-	-	-	-	-
47	-	-	-	-	-	-
48	-	-	-	-	-	-
49	1	105,729	-	-	1	105,729
50	-	-	-	-	-	-
Total	27,123	\$ 2,358,058,606	2,261	\$ 178,744,214	29,384	\$ 2,536,802,819



EXHIBIT II - 1a

RETIREE AND BENEFICIARY MEMBERSHIP DATA AS OF JANUARY 1, 2022
 Number and Annual Retirement Allowances Distributed by Age
 POLICE SERVICE RETIREES

Age	Male		Female		Total	
	Number	Annuities	Number	Annuities	Number	Annuities
48	17	\$ 855,460	3	\$ 161,965	20	\$ 1,017,425
49	52	2,579,419	5	263,891	57	2,843,310
50	84	4,033,244	7	366,372	91	4,399,617
51	92	4,489,428	10	527,390	102	5,016,818
52	105	5,053,102	10	520,159	115	5,573,261
53	135	5,919,644	19	919,446	154	6,839,090
54	145	6,880,463	20	948,907	165	7,829,371
55	202	9,543,044	20	952,770	222	10,495,814
56	262	12,984,335	27	1,349,118	289	14,333,453
57	301	15,012,122	28	1,391,525	329	16,403,647
58	278	14,141,252	28	1,306,519	306	15,447,771
59	293	15,648,500	25	1,259,411	318	16,907,911
60	284	15,024,806	38	2,082,510	322	17,107,316
61	250	13,989,758	24	1,295,237	274	15,284,996
62	281	16,003,526	26	1,500,345	307	17,503,871
63	285	16,195,444	39	2,176,077	324	18,371,522
64	304	17,259,927	35	1,767,140	339	19,027,067
65	353	19,811,963	39	2,099,462	392	21,911,424
66	358	20,443,781	30	1,757,648	388	22,201,428
67	362	20,735,015	37	2,055,994	399	22,791,009
68	314	17,946,082	26	1,434,806	340	19,380,888
69	322	18,227,883	26	1,478,004	348	19,705,888
70	327	18,486,245	21	1,201,057	348	19,687,302
71	327	18,075,874	16	878,295	343	18,954,170
72	315	17,620,499	17	892,453	332	18,512,951
73	340	19,498,258	12	672,894	352	20,171,152
74	375	21,258,886	15	885,859	390	22,144,745



EXHIBIT II - 1a

RETIREE AND BENEFICIARY MEMBERSHIP DATA AS OF JANUARY 1, 2022
 Number and Annual Retirement Allowances Distributed by Age
 POLICE SERVICE RETIREES (continued)

Age	Male		Female		Total	
	Number	Annuities	Number	Annuities	Number	Annuities
75	309	\$ 16,426,134	4	\$ 224,230	313	\$ 16,650,364
76	226	11,923,605	10	519,392	236	12,442,997
77	215	11,349,371	8	452,650	223	11,802,020
78	212	10,830,390	2	72,753	214	10,903,143
79	209	10,201,270	3	128,990	212	10,330,260
80	204	9,703,145	3	158,935	207	9,862,080
81	143	6,266,586	3	116,047	146	6,382,633
82	120	5,193,337	-	-	120	5,193,337
83	111	4,639,914	-	-	111	4,639,914
84	90	3,783,989	-	-	90	3,783,989
85	64	2,753,560	2	67,603	66	2,821,163
86	67	2,653,970	-	-	67	2,653,970
87	50	1,849,172	-	-	50	1,849,172
88	52	1,948,852	2	41,343	54	1,990,195
89	38	1,291,980	3	81,424	41	1,373,404
90	26	838,335	-	-	26	838,335
91	19	710,653	-	-	19	710,653
92	16	528,083	-	-	16	528,083
93	19	594,754	-	-	19	594,754
94	8	231,192	-	-	8	231,192
95	10	265,909	-	-	10	265,909
96	7	200,481	-	-	7	200,481
97	6	154,580	-	-	6	154,580
98	1	23,402	-	-	1	23,402
99	5	116,384	-	-	5	116,384
Total	8,990	\$ 472,197,008	643	\$ 34,008,619	9,633	\$ 506,205,627



EXHIBIT II – 1b

RETIREE AND BENEFICIARY MEMBERSHIP DATA AS OF JANUARY 1, 2022
 Number and Annual Retirement Allowances Distributed by Age
 POLICE DISABILITY RETIREES

Age	Male		Female		Total	
	Number	Annuities	Number	Annuities	Number	Annuities
32 & Under	1	\$ 35,247	-	\$ -	1	\$ 35,247
33	-	-	-	-	-	-
34	1	17,833	-	-	1	17,833
35	-	-	-	-	-	-
36	3	113,202	-	-	3	113,202
37	3	90,905	-	-	3	90,905
38	2	38,650	2	79,643	4	118,293
39	5	153,011	3	101,134	8	254,144
40	4	150,469	1	35,029	5	185,499
41	7	230,741	2	38,272	9	269,013
42	12	328,891	3	60,554	15	389,444
43	12	403,392	2	65,294	14	468,686
44	15	597,640	4	162,565	19	760,205
45	16	526,721	4	142,885	20	669,606
46	25	976,634	12	457,017	37	1,433,650
47	32	1,175,993	5	181,055	37	1,357,047
48	30	1,184,726	13	458,905	43	1,643,631
49	47	1,846,902	12	382,759	59	2,229,660
50	57	2,392,373	11	445,536	68	2,837,909
51	64	2,654,993	20	815,251	84	3,470,244
52	58	2,201,483	16	599,061	74	2,800,545
53	81	3,533,121	20	778,365	101	4,311,487
54	89	3,730,051	12	415,841	101	4,145,891
55	78	3,283,642	16	613,732	94	3,897,374
56	82	3,738,874	21	853,852	103	4,592,726
57	84	3,602,716	25	967,753	109	4,570,469
58	64	2,857,196	19	874,816	83	3,732,012
59	58	2,772,894	18	742,970	76	3,515,864
60	75	3,396,012	15	617,448	90	4,013,460
61	71	3,410,684	10	486,274	81	3,896,958
62	64	3,110,354	12	553,595	76	3,663,948
63	77	3,697,631	18	875,253	95	4,572,884
64	102	5,133,554	27	1,270,381	129	6,403,934



EXHIBIT II – 1b

RETIREE AND BENEFICIARY MEMBERSHIP DATA AS OF JANUARY 1, 2022
 Number and Annual Retirement Allowances Distributed by Age
 POLICE DISABILITY RETIREES (continued)

Age	Male		Female		Total	
	Number	Annuities	Number	Annuities	Number	Annuities
65	71	\$ 3,335,584	27	\$ 1,125,965	98	\$ 4,461,549
66	75	3,442,088	23	1,033,433	98	4,475,521
67	106	5,121,639	16	624,170	122	5,745,809
68	89	4,351,135	24	1,090,710	113	5,441,845
69	95	4,386,474	18	848,702	113	5,235,176
70	106	4,678,568	10	483,746	116	5,162,314
71	93	4,091,306	15	662,968	108	4,754,275
72	93	4,021,327	17	731,903	110	4,753,230
73	96	4,369,754	11	516,093	107	4,885,847
74	129	5,690,628	8	291,101	137	5,981,729
75	100	4,256,682	10	396,510	110	4,653,193
76	76	3,370,831	2	72,674	78	3,443,505
77	58	2,386,131	4	166,961	62	2,553,092
78	82	3,302,322	1	37,602	83	3,339,924
79	57	2,050,747	3	91,864	60	2,142,611
80	45	1,756,533	1	43,711	46	1,800,245
81	37	1,458,865	-	-	37	1,458,865
82	39	1,390,020	-	-	39	1,390,020
83	34	1,107,912	2	113,336	36	1,221,247
84	25	937,473	-	-	25	937,473
85	17	570,380	-	-	17	570,380
86	22	656,280	-	-	22	656,280
87	12	394,517	-	-	12	394,517
88	3	68,073	-	-	3	68,073
89	4	104,070	-	-	4	104,070
90	8	209,522	-	-	8	209,522
91	9	263,774	-	-	9	263,774
92	2	46,062	-	-	2	46,062
93	3	88,986	-	-	3	88,986
94	1	27,808	-	-	1	27,808
95	3	58,232	-	-	3	58,232
96	-	-	-	-	-	-
97	1	23,686	-	-	1	23,686
98	1	20,722	-	-	1	20,722
Total	2,911	\$ 125,424,664	515	\$ 21,406,687	3,426	\$ 146,831,352



EXHIBIT II – 1c

RETIREE AND BENEFICIARY MEMBERSHIP DATA AS OF JANUARY 1, 2022
 Number and Annual Retirement Allowances Distributed by Age
 POLICE SURVIVORS AND BENEFICIARIES

Age	Male		Female		Total	
	Number	Annuities	Number	Annuities	Number	Annuities
15 & Under	52	\$ 154,573	41	\$ 135,794	93	\$ 290,367
16	9	26,762	8	23,789	17	50,551
17	9	26,762	8	23,789	17	50,551
18	13	38,657	10	29,736	23	68,393
19	8	42,443	13	38,657	21	81,100
20	16	94,423	10	29,736	26	124,159
21	11	32,656	13	38,657	24	71,312
22	-	-	1	2,812	1	2,812
23	3	22,870	1	8,467	4	31,337
24	1	22,493	1	14,328	2	36,821
25	5	13,626	1	2,596	6	16,222
26	-	-	2	5,407	2	5,407
27	1	2,664	-	-	1	2,664
28	3	8,071	-	-	3	8,071
29	1	2,866	-	-	1	2,866
30	1	2,974	2	21,806	3	24,780
31	4	10,490	1	10,903	5	21,394
32	3	7,517	2	5,947	5	13,464
33	1	2,326	-	-	1	2,326
34	-	-	2	13,877	2	13,877
35	4	75,917	3	32,710	7	108,626
36	1	2,974	4	24,300	5	27,273
37	3	7,873	4	70,337	7	78,210
38	-	-	1	10,903	1	10,903
39	1	2,974	3	32,710	4	35,683
40	1	14,540	3	32,710	4	47,250
41	3	35,095	4	27,754	7	62,849
42	2	5,947	1	10,903	3	16,850
43	-	-	3	32,710	3	32,710



EXHIBIT II – 1c

RETIREE AND BENEFICIARY MEMBERSHIP DATA AS OF JANUARY 1, 2022
 Number and Annual Retirement Allowances Distributed by Age
 POLICE SURVIVORS AND BENEFICIARIES (continued)

Age	Male		Female		Total	
	Number	Annuities	Number	Annuities	Number	Annuities
44	1	\$ 2,974	7	\$ 76,838	8	\$ 79,812
45	1	1,416	10	177,956	11	179,372
46	-	-	9	108,099	9	108,099
47	2	4,390	11	119,935	13	124,325
48	3	5,806	14	192,559	17	198,365
49	3	19,718	10	143,079	13	162,797
50	2	33,531	18	255,332	20	288,862
51	2	4,248	22	400,659	24	404,907
52	5	44,418	26	381,699	31	426,117
53	3	5,806	25	342,935	28	348,740
54	5	59,121	38	611,853	43	670,974
55	4	24,038	28	409,754	32	433,793
56	1	2,974	36	568,927	37	571,901
57	-	-	51	705,960	51	705,960
58	3	24,780	35	502,799	38	527,579
59	2	13,877	59	793,607	61	807,484
60	3	23,835	49	683,954	52	707,789
61	5	90,133	49	655,386	54	745,519
62	3	54,382	52	719,322	55	773,704
63	3	24,780	80	1,233,990	83	1,258,770
64	4	53,516	87	1,281,746	91	1,335,262
65	4	49,769	70	924,871	74	974,640
66	1	10,903	92	1,138,993	93	1,149,897
67	-	-	88	1,135,055	88	1,135,055
68	2	21,806	129	1,748,015	131	1,769,821
69	-	-	142	1,869,170	142	1,869,170
70	1	10,903	131	1,756,485	132	1,767,388
71	4	67,707	128	1,538,140	132	1,605,847
72	2	21,806	176	2,400,233	178	2,422,040



EXHIBIT II – 1c

RETIREE AND BENEFICIARY MEMBERSHIP DATA AS OF JANUARY 1, 2022
 Number and Annual Retirement Allowances Distributed by Age
 POLICE SURVIVORS AND BENEFICIARIES (continued)

Age	Male		Female		Total	
	Number	Annuities	Number	Annuities	Number	Annuities
73	-	\$ -	172	\$ 2,292,223	172	\$ 2,292,223
74	1	10,903	181	2,172,554	182	2,183,458
75	1	10,903	134	1,578,656	135	1,589,559
76	1	32,966	90	1,069,169	91	1,102,135
77	1	10,903	138	1,695,575	139	1,706,478
78	1	10,903	168	2,070,664	169	2,081,568
79	3	32,710	169	1,927,406	172	1,960,115
80	-	-	158	1,897,076	158	1,897,076
81	2	13,877	136	1,552,650	138	1,566,527
82	1	27,417	117	1,363,479	118	1,390,897
83	-	-	134	1,500,972	134	1,500,972
84	1	10,903	125	1,405,506	126	1,416,409
85	-	-	110	1,201,477	110	1,201,477
86	-	-	128	1,422,860	128	1,422,860
87	1	10,903	70	755,688	71	766,591
88	-	-	82	890,322	82	890,322
89	-	-	67	755,634	67	755,634
90	1	10,903	72	822,423	73	833,326
91	-	-	77	832,800	77	832,800
92	1	10,903	54	610,141	55	621,045
93	-	-	49	514,185	49	514,185
94	-	-	45	481,306	45	481,306
95	-	-	34	357,156	34	357,156
96	-	-	12	110,453	12	110,453
97	-	-	13	147,939	13	147,939
98	-	-	12	122,095	12	122,095
99	-	-	-	-	-	-
100	-	-	4	43,217	4	43,217
101	-	-	5	47,328	5	47,328
Total	240	\$ 1,528,324	4,370	\$ 53,199,641	4,610	\$ 54,727,965



EXHIBIT II – 2a

RETIREE AND BENEFICIARY MEMBERSHIP DATA AS OF JANUARY 1, 2022
 Number and Annual Retirement Allowances Distributed by Age
 FIREFIGHTERS' SERVICE RETIREES

Age	Male		Female		Total	
	Number	Annuities	Number	Annuities	Number	Annuities
46	-	\$ -	-	\$ -	-	\$ -
47	-	-	-	-	-	-
48	6	263,412	-	-	6	263,412
49	18	828,510	-	-	18	828,510
50	37	1,835,439	1	26,803	38	1,862,242
51	37	1,652,071	1	45,353	38	1,697,424
52	46	2,228,440	-	-	46	2,228,440
53	47	2,196,810	3	156,873	50	2,353,683
54	87	4,029,930	2	130,998	89	4,160,928
55	102	5,043,451	3	160,774	105	5,204,225
56	163	8,082,119	3	158,933	166	8,241,052
57	232	11,998,565	9	446,811	241	12,445,375
58	222	11,494,154	9	482,386	231	11,976,541
59	259	14,071,352	6	292,464	265	14,363,816
60	293	16,140,016	10	503,254	303	16,643,271
61	300	16,821,498	7	348,795	307	17,170,293
62	304	17,061,228	7	411,594	311	17,472,821
63	320	18,524,979	6	349,248	326	18,874,227
64	318	18,453,042	4	214,724	322	18,667,765
65	315	18,298,217	3	179,528	318	18,477,744
66	324	18,586,060	6	308,016	330	18,894,076
67	305	17,620,461	2	115,044	307	17,735,505
68	290	16,538,929	5	269,077	295	16,808,006
69	262	14,949,818	2	94,438	264	15,044,256
70	273	15,869,544	1	30,415	274	15,899,959
71	252	14,156,925	2	95,173	254	14,252,098
72	220	12,264,218	1	55,764	221	12,319,981
73	213	11,888,474	1	44,399	214	11,932,873



EXHIBIT II – 2a

RETIREE AND BENEFICIARY MEMBERSHIP DATA AS OF JANUARY 1, 2022
 Number and Annual Retirement Allowances Distributed by Age
 FIREFIGHTERS’ SERVICE RETIREES (continued)

Age	Male		Female		Total	
	Number	Annuities	Number	Annuities	Number	Annuities
74	254	\$ 13,332,439	-	\$ -	254	\$ 13,332,439
75	219	11,649,210	-	-	219	11,649,210
76	135	7,164,536	2	94,573	137	7,259,109
77	165	8,426,361	-	-	165	8,426,361
78	164	8,120,674	-	-	164	8,120,674
79	173	8,634,407	-	-	173	8,634,407
80	132	6,615,434	-	-	132	6,615,434
81	124	5,997,982	-	-	124	5,997,982
82	99	4,613,561	-	-	99	4,613,561
83	90	4,032,886	-	-	90	4,032,886
84	77	3,824,390	-	-	77	3,824,390
85	72	2,902,739	-	-	72	2,902,739
86	72	2,958,626	-	-	72	2,958,626
87	54	2,146,275	-	-	54	2,146,275
88	42	1,476,632	-	-	42	1,476,632
89	36	1,091,033	-	-	36	1,091,033
90	46	1,596,387	-	-	46	1,596,387
91	34	1,185,055	-	-	34	1,185,055
92	26	819,294	-	-	26	819,294
93	22	647,076	-	-	22	647,076
94	14	414,912	-	-	14	414,912
95	11	338,910	-	-	11	338,910
96	3	84,134	-	-	3	84,134
97	3	76,681	-	-	3	76,681
98	2	53,713	-	-	2	53,713
99	-	-	-	-	-	-
Total	7,314	\$ 389,101,005	96	\$ 5,015,438	7,410	\$ 394,116,444



EXHIBIT II – 2b

RETIREE AND BENEFICIARY MEMBERSHIP DATA AS OF JANUARY 1, 2022
 Number and Annual Retirement Allowances Distributed by Age
 FIREFIGHTERS’ DISABILITY RETIREES

Age	Male		Female		Total	
	Number	Annuities	Number	Annuities	Number	Annuities
32 & Under	1	\$ 37,454	-	\$ -	1	\$ 37,454
33	-	-	-	-	-	-
34	1	45,521	-	-	1	45,521
35	1	37,025	-	-	1	37,025
36	3	70,282	-	-	3	70,282
37	3	124,226	-	-	3	124,226
38	1	29,886	-	-	1	29,886
39	3	82,457	-	-	3	82,457
40	5	183,910	3	67,342	8	251,252
41	3	88,956	1	43,398	4	132,353
42	3	113,781	2	41,010	5	154,790
43	9	236,891	-	-	9	236,891
44	12	497,575	1	34,640	13	532,215
45	5	156,629	2	40,703	7	197,331
46	10	389,199	-	-	10	389,199
47	24	970,759	3	136,423	27	1,107,183
48	20	821,906	-	-	20	821,906
49	24	1,001,847	2	60,313	26	1,062,160
50	39	1,685,123	3	68,053	42	1,753,176
51	43	1,841,090	2	110,464	45	1,951,554
52	31	1,490,488	7	249,447	38	1,739,935
53	36	1,457,459	3	170,053	39	1,627,512
54	53	2,192,505	5	212,025	58	2,404,530
55	41	1,997,248	4	126,605	45	2,123,853
56	50	2,070,330	6	273,600	56	2,343,930
57	67	3,248,033	9	351,292	76	3,599,324
58	48	2,143,273	3	133,374	51	2,276,647
59	55	2,592,450	7	261,706	62	2,854,156
60	63	2,803,970	4	170,081	67	2,974,051
61	61	3,118,336	5	212,528	66	3,330,864
62	61	3,090,032	2	125,500	63	3,215,533
63	68	3,423,053	7	261,963	75	3,685,016
64	69	3,448,909	11	419,302	80	3,868,211



EXHIBIT II – 2b

RETIREE AND BENEFICIARY MEMBERSHIP DATA AS OF JANUARY 1, 2022
 Number and Annual Retirement Allowances Distributed by Age
 FIREFIGHTERS' DISABILITY RETIREES (continued)

Age	Male		Female		Total	
	Number	Annuities	Number	Annuities	Number	Annuities
65	85	\$ 4,188,474	3	\$ 108,416	88	\$ 4,296,889
66	73	3,765,405	3	139,687	76	3,905,092
67	70	3,521,445	5	228,877	75	3,750,322
68	86	4,489,787	3	151,954	89	4,641,741
69	88	4,073,182	4	127,539	92	4,200,722
70	77	3,828,078	1	60,369	78	3,888,447
71	77	3,758,106	2	63,374	79	3,821,480
72	90	4,437,879	2	95,286	92	4,533,165
73	76	3,550,292	2	74,259	78	3,624,551
74	93	4,692,087	-	-	93	4,692,087
75	71	3,268,233	-	-	71	3,268,233
76	52	2,272,083	-	-	52	2,272,083
77	53	2,328,204	-	-	53	2,328,204
78	60	2,527,307	-	-	60	2,527,307
79	51	2,259,042	-	-	51	2,259,042
80	51	2,101,028	-	-	51	2,101,028
81	41	1,778,981	-	-	41	1,778,981
82	39	1,728,383	-	-	39	1,728,383
83	32	1,218,575	-	-	32	1,218,575
84	22	783,903	-	-	22	783,903
85	20	716,929	-	-	20	716,929
86	13	423,157	-	-	13	423,157
87	14	491,371	-	-	14	491,371
88	10	321,243	-	-	10	321,243
89	6	223,637	-	-	6	223,637
90	6	153,769	-	-	6	153,769
91	6	197,468	-	-	6	197,468
92	3	81,130	-	-	3	81,130
93	5	160,004	-	-	5	160,004
94	2	58,761	-	-	2	58,761
95	2	57,061	-	-	2	57,061
96	2	57,262	-	-	2	57,262
Total	2,289	\$ 105,002,870	117	\$ 4,619,581	2,406	\$ 109,622,451



EXHIBIT II – 2c

RETIREE AND BENEFICIARY MEMBERSHIP DATA AS OF JANUARY 1, 2022
Number and Annual Retirement Allowances Distributed by Age
FIREFIGHTERS’ SURVIVORS AND BENEFICIARIES

Age	Male		Female		Total	
	Number	Annuities	Number	Annuities	Number	Annuities
15 & Under	33	\$ 98,129	29	\$ 86,234	62	\$ 184,363
16	8	23,789	5	14,868	13	38,657
17	8	59,806	3	8,921	11	68,726
18	10	29,736	11	145,234	21	174,970
19	16	60,479	11	32,710	27	93,189
20	5	14,868	10	106,243	15	121,111
21	5	14,868	9	26,762	14	41,630
22	-	-	-	-	-	-
23	1	2,974	1	8,759	2	11,732
24	-	-	-	-	-	-
25	1	2,812	1	2,596	2	5,407
26	1	2,974	-	-	1	2,974
27	-	-	-	-	-	-
28	1	2,488	1	2,650	2	5,137
29	-	-	2	30,249	2	30,249
30	-	-	1	10,903	1	10,903
31	-	-	2	22,771	2	22,771
32	-	-	2	13,877	2	13,877
33	-	-	2	21,806	2	21,806
34	1	2,974	1	10,903	2	13,877
35	-	-	3	32,710	3	32,710
36	-	-	2	12,905	2	12,905
37	-	-	5	47,331	5	47,331
38	2	9,684	4	27,754	6	37,438
39	1	2,974	4	48,898	5	51,872
40	-	-	3	32,710	3	32,710
41	1	1,894	2	21,806	3	23,700
42	1	1,800	1	10,903	2	12,703
43	1	2,974	4	66,710	5	69,683



EXHIBIT II – 2c

RETIREE AND BENEFICIARY MEMBERSHIP DATA AS OF JANUARY 1, 2022
 Number and Annual Retirement Allowances Distributed by Age
 FIREFIGHTERS' SURVIVORS AND BENEFICIARIES (continued)

Age	Male		Female		Total	
	Number	Annuities	Number	Annuities	Number	Annuities
44	1	\$ 1,416	4	\$ 43,613	5	\$ 45,029
45	1	2,974	2	21,806	3	24,780
46	1	1,416	7	97,875	8	99,291
47	-	-	2	21,806	2	21,806
48	-	-	9	240,796	9	240,796
49	2	7,080	18	296,484	20	303,564
50	4	7,222	11	201,382	15	208,603
51	1	2,974	12	236,652	13	239,626
52	1	2,974	13	203,415	14	206,388
53	4	25,896	15	194,623	19	220,519
54	3	7,363	18	410,785	21	418,149
55	1	2,974	22	277,138	23	280,111
56	-	-	26	351,591	26	351,591
57	-	-	30	492,863	30	492,863
58	1	2,974	30	502,481	31	505,454
59	2	13,877	34	526,919	36	540,796
60	1	2,974	23	318,806	24	321,779
61	1	2,920	31	414,401	32	417,321
62	4	54,900	37	550,586	41	605,486
63	-	-	43	665,129	43	665,129
64	-	-	57	838,765	57	838,765
65	1	2,974	45	629,201	46	632,174
66	1	2,974	53	808,356	54	811,330
67	-	-	53	661,331	53	661,331
68	-	-	48	584,455	48	584,455
69	-	-	70	986,386	70	986,386
70	-	-	76	1,094,136	76	1,094,136
71	-	-	66	809,012	66	809,012



EXHIBIT II – 2c

RETIREE AND BENEFICIARY MEMBERSHIP DATA AS OF JANUARY 1, 2022
 Number and Annual Retirement Allowances Distributed by Age
 FIREFIGHTERS' SURVIVORS AND BENEFICIARIES (continued)

Age	Male		Female		Total	
	Number	Annuities	Number	Annuities	Number	Annuities
72	-	\$ -	82	\$ 1,068,824	82	\$ 1,068,824
73	-	-	91	1,164,687	91	1,164,687
74	1	2,974	107	1,341,868	108	1,344,842
75	1	10,903	103	1,333,998	104	1,344,902
76	2	21,806	77	942,406	79	964,213
77	-	-	85	1,033,852	85	1,033,852
78	-	-	100	1,194,455	100	1,194,455
79	-	-	111	1,302,204	111	1,302,204
80	-	-	118	1,347,832	118	1,347,832
81	-	-	122	1,420,237	122	1,420,237
82	-	-	124	1,411,021	124	1,411,021
83	-	-	83	914,230	83	914,230
84	-	-	106	1,199,919	106	1,199,919
85	-	-	88	980,006	88	980,006
86	-	-	100	1,080,327	100	1,080,327
87	-	-	95	1,068,084	95	1,068,084
88	-	-	98	1,074,325	98	1,074,325
89	-	-	78	852,566	78	852,566
90	-	-	61	633,683	61	633,683
91	-	-	99	1,082,749	99	1,082,749
92	-	-	49	552,832	49	552,832
93	-	-	63	881,095	63	881,095
94	-	-	52	565,080	52	565,080
95	-	-	40	404,013	40	404,013
96	-	-	31	318,399	31	318,399
97	-	-	16	176,964	16	176,964
98	-	-	10	96,603	10	96,603
99	-	-	8	99,907	8	99,907
100	-	-	7	63,766	7	63,766
101	-	-	2	21,806	2	21,806
102	-	-	3	32,710	3	32,710
103	-	-	1	10,903	1	10,903
Total	130	\$ 516,781	3,184	\$ 38,999,359	3,314	\$ 39,516,140



EXHIBIT III – 1a

RETIREE AND BENEFICIARY MEMBERSHIP DATA AS OF JANUARY 1, 2022
 Number and Annual Retirement Allowances Distributed by Age
 TOTAL SERVICE RETIREES

Age	Male		Female		Total	
	Number	Annuities	Number	Annuities	Number	Annuities
46	-	\$ -	-	\$ -	-	\$ -
47	-	-	-	-	-	-
48	23	1,118,872	3	161,965	26	1,280,837
49	70	3,407,929	5	263,891	75	3,671,820
50	121	5,868,683	8	393,176	129	6,261,859
51	129	6,141,499	11	572,743	140	6,714,242
52	151	7,281,542	10	520,159	161	7,801,700
53	182	8,116,454	22	1,076,319	204	9,192,773
54	232	10,910,393	22	1,079,906	254	11,990,299
55	304	14,586,495	23	1,113,545	327	15,700,040
56	425	21,066,454	30	1,508,050	455	22,574,505
57	533	27,010,687	37	1,838,335	570	28,849,022
58	500	25,635,406	37	1,788,905	537	27,424,311
59	552	29,719,852	31	1,551,875	583	31,271,727
60	577	31,164,823	48	2,585,764	625	33,750,587
61	550	30,811,257	31	1,644,032	581	32,455,289
62	585	33,064,754	33	1,911,939	618	34,976,692
63	605	34,720,423	45	2,525,326	650	37,245,749
64	622	35,712,968	39	1,981,864	661	37,694,832
65	668	38,110,179	42	2,278,990	710	40,389,169
66	682	39,029,840	36	2,065,664	718	41,095,504
67	667	38,355,476	39	2,171,038	706	40,526,513
68	604	34,485,011	31	1,703,883	635	36,188,895
69	584	33,177,701	28	1,572,442	612	34,750,143
70	600	34,355,790	22	1,231,472	622	35,587,261
71	579	32,232,799	18	973,469	597	33,206,268
72	535	29,884,716	18	948,216	553	30,832,932
73	553	31,386,732	13	717,293	566	32,104,025



EXHIBIT III – 1a

RETIREE AND BENEFICIARY MEMBERSHIP DATA AS OF JANUARY 1, 2022
 Number and Annual Retirement Allowances Distributed by Age
 TOTAL SERVICE RETIREES (continued)

Age	Male		Female		Total	
	Number	Annuities	Number	Annuities	Number	Annuities
74	629	\$ 34,591,325	15	\$ 885,859	644	\$ 35,477,183
75	528	28,075,344	4	224,230	532	28,299,574
76	361	19,088,141	12	613,965	373	19,702,106
77	380	19,775,731	8	452,650	388	20,228,381
78	376	18,951,064	2	72,753	378	19,023,816
79	382	18,835,677	3	128,990	385	18,964,666
80	336	16,318,578	3	158,935	339	16,477,514
81	267	12,264,568	3	116,047	270	12,380,615
82	219	9,806,897	-	-	219	9,806,897
83	201	8,672,800	-	-	201	8,672,800
84	167	7,608,379	-	-	167	7,608,379
85	136	5,656,299	2	67,603	138	5,723,902
86	139	5,612,596	-	-	139	5,612,596
87	104	3,995,448	-	-	104	3,995,448
88	94	3,425,485	2	41,343	96	3,466,827
89	74	2,383,014	3	81,424	77	2,464,437
90	72	2,434,722	-	-	72	2,434,722
91	53	1,895,708	-	-	53	1,895,708
92	42	1,347,377	-	-	42	1,347,377
93	41	1,241,830	-	-	41	1,241,830
94	22	646,104	-	-	22	646,104
95	21	604,819	-	-	21	604,819
96	10	284,615	-	-	10	284,615
97	9	231,262	-	-	9	231,262
98	3	77,115	-	-	3	77,115
99	5	116,384	-	-	5	116,384
Total	16,304	\$ 861,298,013	739	\$ 39,024,057	17,043	\$ 900,322,070



EXHIBIT III – 1b

RETIREE AND BENEFICIARY MEMBERSHIP DATA AS OF JANUARY 1, 2022
 Number and Annual Retirement Allowances Distributed by Age
 TOTAL DISABILITY RETIREES

Age	Male		Female		Total	
	Number	Annuities	Number	Annuities	Number	Annuities
32 & Under	2	\$ 72,701	-	\$ -	2	\$ 72,701
33	-	-	-	-	-	-
34	2	63,353	-	-	2	63,353
35	1	37,025	-	-	1	37,025
36	6	183,483	-	-	6	183,483
37	6	215,131	-	-	6	215,131
38	3	68,536	2	79,643	5	148,179
39	8	235,468	3	101,134	11	336,602
40	9	334,380	4	102,371	13	436,751
41	10	319,697	3	81,669	13	401,366
42	15	442,671	5	101,563	20	544,235
43	21	640,284	2	65,294	23	705,577
44	27	1,095,216	5	197,205	32	1,292,420
45	21	683,350	6	183,587	27	866,937
46	35	1,365,833	12	457,017	47	1,822,850
47	56	2,146,752	8	317,478	64	2,464,230
48	50	2,006,632	13	458,905	63	2,465,537
49	71	2,848,749	14	443,071	85	3,291,820
50	96	4,077,495	14	513,589	110	4,591,084
51	107	4,496,083	22	925,715	129	5,421,798
52	89	3,691,972	23	848,508	112	4,540,479
53	117	4,990,580	23	948,419	140	5,938,999
54	142	5,922,556	17	627,865	159	6,550,421
55	119	5,280,890	20	740,337	139	6,021,227
56	132	5,809,204	27	1,127,452	159	6,936,656
57	151	6,850,749	34	1,319,045	185	8,169,794
58	112	5,000,469	22	1,008,190	134	6,008,659
59	113	5,365,344	25	1,004,676	138	6,370,020
60	138	6,199,982	19	787,529	157	6,987,511
61	132	6,529,020	15	698,802	147	7,227,822
62	125	6,200,386	14	679,095	139	6,879,481
63	145	7,120,684	25	1,137,215	170	8,257,900
64	171	8,582,463	38	1,689,683	209	10,272,145



EXHIBIT III – 1b

RETIREE AND BENEFICIARY MEMBERSHIP DATA AS OF JANUARY 1, 2022
 Number and Annual Retirement Allowances Distributed by Age
 TOTAL DISABILITY RETIREES (continued)

Age	Male		Female		Total	
	Number	Annuities	Number	Annuities	Number	Annuities
65	156	\$ 7,524,057	30	\$ 1,234,381	186	\$ 8,758,438
66	148	7,207,493	26	1,173,120	174	8,380,613
67	176	8,643,084	21	853,047	197	9,496,131
68	175	8,840,922	27	1,242,664	202	10,083,587
69	183	8,459,656	22	976,242	205	9,435,898
70	183	8,506,647	11	544,115	194	9,050,761
71	170	7,849,412	17	726,342	187	8,575,755
72	183	8,459,206	19	827,189	202	9,286,395
73	172	7,920,046	13	590,352	185	8,510,398
74	222	10,382,716	8	291,101	230	10,673,817
75	171	7,524,916	10	396,510	181	7,921,426
76	128	5,642,914	2	72,674	130	5,715,588
77	111	4,714,335	4	166,961	115	4,881,296
78	142	5,829,629	1	37,602	143	5,867,231
79	108	4,309,789	3	91,864	111	4,401,653
80	96	3,857,562	1	43,711	97	3,901,273
81	78	3,237,847	-	-	78	3,237,847
82	78	3,118,402	-	-	78	3,118,402
83	66	2,326,487	2	113,336	68	2,439,823
84	47	1,721,376	-	-	47	1,721,376
85	37	1,287,309	-	-	37	1,287,309
86	35	1,079,437	-	-	35	1,079,437
87	26	885,888	-	-	26	885,888
88	13	389,316	-	-	13	389,316
89	10	327,707	-	-	10	327,707
90	14	363,291	-	-	14	363,291
91	15	461,242	-	-	15	461,242
92	5	127,192	-	-	5	127,192
93	8	248,989	-	-	8	248,989
94	3	86,568	-	-	3	86,568
95	5	115,293	-	-	5	115,293
96	2	57,262	-	-	2	57,262
97	1	23,686	-	-	1	23,686
98	1	20,722	-	-	1	20,722
Total	5,200	\$ 230,427,534	632	\$ 26,026,269	5,832	\$ 256,453,803



EXHIBIT III – 1c

RETIREE AND BENEFICIARY MEMBERSHIP DATA AS OF JANUARY 1, 2022
Number and Annual Retirement Allowances Distributed by Age
TOTAL SURVIVORS AND BENEFICIARIES

Age	Male		Female		Total	
	Number	Annuities	Number	Annuities	Number	Annuities
15 & Under	85	\$ 252,702	70	\$ 222,028	155	\$ 474,730
16	17	50,551	13	38,657	30	89,208
17	17	86,568	11	32,710	28	119,278
18	23	68,393	21	174,970	44	243,362
19	24	102,922	24	71,366	48	174,289
20	21	109,291	20	135,979	41	245,270
21	16	47,524	22	65,419	38	112,943
22	-	-	1	2,812	1	2,812
23	4	25,844	2	17,226	6	43,069
24	1	22,493	1	14,328	2	36,821
25	6	16,438	2	5,191	8	21,629
26	1	2,974	2	5,407	3	8,381
27	1	2,664	-	-	1	2,664
28	4	10,559	1	2,650	5	13,208
29	1	2,866	2	30,249	3	33,115
30	1	2,974	3	32,710	4	35,683
31	4	10,490	3	33,674	7	44,164
32	3	7,517	4	19,824	7	27,341
33	1	2,326	2	21,806	3	24,132
34	1	2,974	3	24,780	4	27,754
35	4	75,917	6	65,419	10	141,336
36	1	2,974	6	37,205	7	40,178
37	3	7,873	9	117,669	12	125,542
38	2	9,684	5	38,657	7	48,341
39	2	5,947	7	81,608	9	87,555
40	1	14,540	6	65,419	7	79,960
41	4	36,989	6	49,560	10	86,549
42	3	7,747	2	21,806	5	29,554
43	1	2,974	7	99,419	8	102,393



EXHIBIT III – 1c

RETIREE AND BENEFICIARY MEMBERSHIP DATA AS OF JANUARY 1, 2022
Number and Annual Retirement Allowances Distributed by Age
TOTAL SURVIVORS AND BENEFICIARIES (continued)

Age	Male		Female		Total	
	Number	Annuities	Number	Annuities	Number	Annuities
44	2	\$ 4,390	11	\$ 120,451	13	\$ 124,841
45	2	4,390	12	199,762	14	204,152
46	1	1,416	16	205,974	17	207,390
47	2	4,390	13	141,742	15	146,131
48	3	5,806	23	433,356	26	439,161
49	5	26,798	28	439,563	33	466,361
50	6	40,752	29	456,714	35	497,466
51	3	7,222	34	637,311	37	644,532
52	6	47,392	39	585,113	45	632,505
53	7	31,702	40	537,558	47	569,260
54	8	66,484	56	1,022,638	64	1,089,122
55	5	27,012	50	686,892	55	713,904
56	1	2,974	62	920,517	63	923,491
57	-	-	81	1,198,823	81	1,198,823
58	4	27,754	65	1,005,280	69	1,033,034
59	4	27,754	93	1,320,526	97	1,348,280
60	4	26,808	72	1,002,760	76	1,029,568
61	6	93,052	80	1,069,787	86	1,162,839
62	7	109,282	89	1,269,908	96	1,379,190
63	3	24,780	123	1,899,120	126	1,923,900
64	4	53,516	144	2,120,511	148	2,174,028
65	5	52,743	115	1,554,072	120	1,606,814
66	2	13,877	145	1,947,350	147	1,961,226
67	-	-	141	1,796,385	141	1,796,385
68	2	21,806	177	2,332,469	179	2,354,276
69	-	-	212	2,855,556	212	2,855,556
70	1	10,903	207	2,850,621	208	2,861,524
71	4	67,707	194	2,347,151	198	2,414,858
72	2	21,806	258	3,469,057	260	3,490,864



EXHIBIT III – 1c

RETIREE AND BENEFICIARY MEMBERSHIP DATA AS OF JANUARY 1, 2022
 Number and Annual Retirement Allowances Distributed by Age
 TOTAL SURVIVORS AND BENEFICIARIES (continued)

Age	Male		Female		Total	
	Number	Annuities	Number	Annuities	Number	Annuities
73	-	\$ -	263	\$ 3,456,910	263	\$ 3,456,910
74	2	13,877	288	3,514,423	290	3,528,300
75	2	21,806	237	2,912,654	239	2,934,461
76	3	54,772	167	2,011,576	170	2,066,348
77	1	10,903	223	2,729,427	224	2,740,330
78	1	10,903	268	3,265,119	269	3,276,023
79	3	32,710	280	3,229,610	283	3,262,320
80	-	-	276	3,244,908	276	3,244,908
81	2	13,877	258	2,972,887	260	2,986,764
82	1	27,417	241	2,774,500	242	2,801,918
83	-	-	217	2,415,202	217	2,415,202
84	1	10,903	231	2,605,425	232	2,616,328
85	-	-	198	2,181,484	198	2,181,484
86	-	-	228	2,503,187	228	2,503,187
87	1	10,903	165	1,823,772	166	1,834,675
88	-	-	180	1,964,647	180	1,964,647
89	-	-	145	1,608,200	145	1,608,200
90	1	10,903	133	1,456,105	134	1,467,009
91	-	-	176	1,915,550	176	1,915,550
92	1	10,903	103	1,162,974	104	1,173,877
93	-	-	112	1,395,280	112	1,395,280
94	-	-	97	1,046,385	97	1,046,385
95	-	-	74	761,169	74	761,169
96	-	-	43	428,853	43	428,853
97	-	-	29	324,903	29	324,903
98	-	-	22	218,698	22	218,698
99	-	-	8	99,907	8	99,907
100	-	-	11	106,983	11	106,983
101	-	-	7	69,134	7	69,134
102	-	-	3	32,710	3	32,710
103	-	-	1	10,903	1	10,903
Total	370	\$ 2,045,104	7,554	\$ 92,199,001	7,924	\$ 94,244,105