

City of Clearwater Employees' Pension Plan

Actuarial Valuation Report as of January 1, 2021
Annual Employer Contribution for the Fiscal Year
Ending September 30, 2022





April 26, 2021

Board of Trustees
City of Clearwater Employees' Pension Plan
Clearwater, Florida

Dear Board Members:

The results of the January 1, 2021 Annual Actuarial Valuation of the City of Clearwater Employees' Pension Plan are presented in this report.

This report was prepared at the request of the Board and is intended for use by the Retirement System and those designated or approved by the Board. This report may be provided to parties other than the System only in its entirety and only with the permission of the Board. GRS is not responsible for unauthorized use of this report.

The purposes of the valuation are to measure the System's funding progress and to determine the employer contribution rate for the fiscal year ending September 30, 2022. This report should not be relied on for any purpose other than the purposes described herein. Determinations of financial results, associated with the benefits described in this report, for purposes other than those identified above may be significantly different.

The contribution rate in this report is determined using the actuarial assumptions and methods disclosed in Section B of this report. This report includes risk metrics in Section A, but does not include a robust assessment of future experience not meeting the actuarial assumptions. A robust assessment of risks was outside the scope of this assignment.

This valuation assumed the continuing ability of the plan sponsor to make the contributions necessary to fund this Plan. A determination regarding whether or not the plan sponsor is actually able to do so is outside our scope of expertise and was not performed.

The findings in this report are based on data or other information through December 31, 2020. The valuation was based upon information furnished by the City concerning Retirement System benefits, financial transactions, plan provisions and active members, terminated members, retirees and beneficiaries. We checked for internal and year-to-year consistency, but did not audit the data. We are not responsible for the accuracy or completeness of the information provided by the City.

In addition, this report was prepared using certain assumptions approved by the Board as authorized under the Florida and prescribed by the Florida Statutes as described in the section of this report entitled Actuarial Assumptions and Methods. The prescribed assumptions are the assumed mortality rates detailed in the Actuarial Assumptions and Methods section in accordance with Florida Statutes, Chapter 112.63. All actuarial assumptions used in this report are reasonable for purposes of this valuation.

This report was prepared using our proprietary valuation model and related software which in our professional judgment has the capability to provide results that are consistent with the purposes of the valuation and this report. We performed tests to ensure that the model reasonably represents that which is intended to be modeled.

This report has been prepared by actuaries who have substantial experience valuing public employee retirement systems. To the best of our knowledge the information contained in this report is accurate and fairly presents the actuarial position of the Retirement System as of the valuation date. All calculations have been made in conformity with generally accepted actuarial principles and practices, with the Actuarial Standards of Practice issued by the Actuarial Standards Board and with applicable statutes.

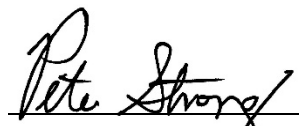
Peter N. Strong and Trisha Amrose are members of the American Academy of Actuaries. These actuaries meet the Academy's Qualification Standards to render the actuarial opinions contained herein. The signing actuaries are independent of the plan sponsor.

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

Gabriel, Roeder, Smith & Company will be pleased to review this valuation and Report with the Board of Trustees and to answer any questions pertaining to the valuation.

Respectfully submitted,

GABRIEL, ROEDER, SMITH & COMPANY



Peter N. Strong, FSA, MAAA
Enrolled Actuary No. 20-6975



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SECTION A

DISCUSSION OF VALUATION RESULTS

DISCUSSION OF VALUATION RESULTS

Comparison of Required Employer Contributions

The required employer contribution developed in this year's valuation is compared below to last year's results:

	For FYE 9/30/2022 Based on 1/1/2021 Valuation	For FYE 9/30/2021 Based on 1/1/2020 Valuation	Increase (Decrease)
Required Employer/State Contribution	\$ 11,412,994	\$ 11,534,013	\$ (121,019)
As % of Covered Payroll	12.31 %	12.73 %	(0.42) %
Estimated State Contribution	12,000	12,000	0
As % of Covered Payroll	0.01 %	0.01 %	0.00 %
Required Employer Contribution	11,400,994	11,522,013	(121,019)
As % of Covered Payroll	12.30 %	12.72 %	(0.42) %
Credit Balance	31,554,611	28,963,282	2,591,329

Required Employer Contribution by Group

The required employer contribution for each group developed in this year's valuation is shown below:

Required Employer Contribution by Group	For FYE 9/30/2022 Based on 1/1/2021 Valuation	For FYE 9/30/2021 Based on 1/1/2020 Valuation	Increase (Decrease)
Non-Hazardous	\$ 3,489,438	\$ 3,534,489	\$ (45,051)
As % of Covered Payroll	6.46 %	6.64 %	(0.18) %
Hazardous Police	4,681,293	4,872,378	(191,085)
As % of Covered Payroll	21.84 %	23.55 %	(1.71) %
Hazardous Fire	3,230,263	3,115,146	115,117
As % of Covered Payroll	18.68 %	18.64 %	0.04 %
Total	11,400,994	11,522,013	(121,019)
As % of Covered Payroll	12.30 %	12.72 %	(0.42) %

The contribution has been adjusted for interest on the basis that payments are made uniformly during the first two quarters of the City's fiscal year. The required employer contribution has been computed under the assumption that the amount to be received from the State on behalf of police officers and firefighters in 2021 and 2022 will be \$12,000. If the actual payment from the State falls below this amount, then the City must increase its contribution by the difference.

The actual Employer and State contributions during the year ending December 31, 2020 were \$12,187,284 and \$12,000, respectively, for a total of \$12,199,284, compared to the required contribution of \$11,534,013. The excess contribution of \$665,271 was used to increase the credit balance.

The minimum required City contribution is 7% of covered payroll.

Revisions in Benefits

There have been no revisions in benefits since the previous valuation

Revisions in Actuarial Assumptions or Methods

The investment return assumption has been reduced by 0.10% from 6.65% to 6.55%. Additionally, the mortality tables and improvement scales were updated to reflect the updated mortality assumptions used in the July 1, 2019 Florida Retirement System (FRS) Actuarial Valuation, as mandated by Florida Statutes Chapter 112.63(1)(f). These assumption changes caused the required City contribution to increase by \$121,678, or 0.14% of covered pensionable payroll.

The Board has approved lowering the investment return assumption further in the next valuation. The rate will be decreased from 6.55% to 6.50% effective January 1, 2022.

For informational purposes, if this year's valuation had been completed using the mortality rates assumed prior to January 1, 2016 (the RP-2000 Combined Healthy Participant Mortality Table for males and females with mortality improvements projected with Scale BB) rather than the mortality rates used by the FRS as mandated by the Florida Statutes, the required City contribution for FY 2022 would have been \$12,196,586, or 13.15% of covered payroll, and the funded ratio (excluding the credit balance) as of January 1, 2021 would have been 102.54%.

Actuarial Experience

There was a net actuarial experience gain of \$45,746,487 during the year, which means that actual experience was more favorable than expected. The gain is due to a recognized investment return (on the smoothed actuarial value of assets) above the assumed rate of 6.65%. The investment return on the market value of assets was 15.12%, and the investment return was 11.10% based on the actuarial value of assets. The investment gains were slightly offset by very minor net liability-related experience losses. There were demographic experience losses resulting from salary experience (salaries increased by 6.05% on average versus an expected average increase of 4.30%). Actual mortality experience was a small source of experience loss, as there was a slightly lower decrease in benefit payments due to mortality experience than expected (an actual decrease of \$921,472 in



annual retirement benefits versus an expected decrease of \$949,503). Actual retirement and disability experience were both sources of experience gains, as there were fewer retirements than expected (43 actual versus 52 expected) and fewer disabilities than expected (0 actual versus 4 expected).

The actuarial experience gain caused the required employer contribution to decrease by 0.40% of covered payroll. Under Chapter 112.66 of the Florida Statutes, the annual payment to amortize the UAL may not reduce the contribution required to fund the Normal Cost. As a result, since the annual payment to amortize the UAL is below \$0 as of January 1, 2021, the actuarial experience gain had a limited effect on the required employer contribution. The actuarial experience gain also caused the Plan's funded ratio to increase by approximately 4.4%.

Analysis of Change in Employer Contribution

The components of change in the required City contribution are as follows:

Contribution Rate Last Year	12.72 %
Change in Benefits	0.00
Change in Assumptions and Methods	0.14
Amortization Payment on UAAL	(0.02)
Normal Cost	(0.04)
Experience Gain/Loss	(0.40)
Change in Administrative Expenses	(0.10)
Change in State Revenue	<u>(0.00)</u>
Contribution Rate This Year	12.30

Funded Ratio

One measure of the Plan's funding progress is the ratio of the actuarial value of assets to the actuarial accrued liability. Including the credit balance in the actuarial value of assets, the funded ratio is 108.70% this year (107.15% before the changes in assumptions) compared to 102.60% last year. Not including the credit balance in the actuarial value of assets, the funded ratio is 105.66% this year (104.15% before the changes in assumptions) compared to 99.76% last year.

Variability of Future Contribution Rates

The Actuarial Cost Method used to determine the contribution rate is intended to produce contribution rates which are generally level as a percent of payroll. Even so, when experience differs from the assumptions, as it often does, the employer's contribution rate can vary significantly from year-to-year.

The Market Value of Assets exceeds the Actuarial Value of Assets by \$129,556,824 as of the valuation date (see Section C). This difference will be gradually recognized in the absence of offsetting losses. However, the investment return assumption is also scheduled to be lowered from 6.55% to 6.50% next year, which will put upward pressure on the required contribution.



Relationship to Market Value

If Market Value had been the basis for the valuation, the City contribution rate would have remained at 12.30% of covered payroll (since the annual payment to amortize the UAL would have remained at \$0 due to Chapter 112.66 of the Florida Statutes), and the funded ratio (excluding the credit balance) would have been 118.17%. The funded ratio based on the market value of assets (excluding the credit balance) last year was 107.29%.

Conclusion

The remainder of this Report includes detailed actuarial valuation results, financial information, miscellaneous information and statistics, and a summary of plan provisions.

RISKS ASSOCIATED WITH MEASURING THE ACCRUED LIABILITY AND ACTUARIALLY DETERMINED CONTRIBUTION

The determination of the accrued liability and the actuarially determined contribution requires the use of assumptions regarding future economic and demographic experience. Risk measures, as illustrated in this report, are intended to aid in the understanding of the effects of future experience differing from the assumptions used in the course of the actuarial valuation. Risk measures may also help with illustrating the potential volatility in the accrued liability and the actuarially determined contribution that result from the differences between actual experience and the actuarial assumptions.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions due to changing conditions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period, or additional cost or contribution requirements based on the Plan's funded status); and changes in plan provisions or applicable law. The scope of an actuarial valuation does not include an analysis of the potential range of such future measurements.

Examples of risk that may reasonably be anticipated to significantly affect the plan's future financial condition include:

1. Investment risk – actual investment returns may differ from the expected returns;
2. Contribution risk – actual contributions may differ from expected future contributions. For example, actual contributions may not be made in accordance with the plan's funding policy or material changes may occur in the anticipated number of covered employees, covered payroll, or other relevant contribution base;
3. Salary and Payroll risk – actual salaries and total payroll may differ from expected, resulting in actual future accrued liability and contributions differing from expected;
4. Longevity risk – members may live longer or shorter than expected and receive pensions for a period of time other than assumed;
5. Other demographic risks – members may terminate, retire or become disabled at times or with benefits other than assumed resulting in actual future accrued liability and contributions differing from expected.

The effects of certain trends in experience can generally be anticipated. For example if the investment return since the most recent actuarial valuation is less (or more) than the assumed rate, the cost of the plan can be expected to increase (or decrease). Likewise if longevity is improving (or worsening), increases (or decreases) in cost can be anticipated.

The computed contribution rate shown on page 1 may be considered as a minimum contribution rate that complies with the Board's funding policy. The timely receipt of the actuarially determined contributions is critical to support the financial health of the plan. Users of this report should be aware that contributions made at the actuarially determined rate do not necessarily guarantee benefit security.

Plan Maturity Measures

Risks facing a pension plan evolve over time. A young plan with virtually no investments and paying few benefits may experience little investment risk. An older plan with a large number of members in pay status and a significant trust may be much more exposed to investment risk. Generally accepted plan maturity measures include the following:

	<u>1/1/2021</u>	<u>1/1/2020</u>
Ratio of the market value of assets to total payroll	13.53	12.37
Ratio of actuarial accrued liability to payroll	11.16	11.23
Ratio of actives to retirees and beneficiaries	1.14	1.19
Ratio of net cash flow to market value of assets	(2.68) %	(3.02) %

Ratio of Market Value of Assets to Payroll

The relationship between assets and payroll is a useful indicator of the potential volatility of contributions. For example, if the market value of assets is 2.0 times the payroll, a return on assets 5% different than assumed would equal 10% of payroll. A higher (lower) or increasing (decreasing) level of this maturity measure generally indicates a higher (lower) or increasing (decreasing) volatility in plan sponsor contributions as a percentage of payroll.

Ratio of Actuarial Accrued Liability to Payroll

The relationship between actuarial accrued liability and payroll is a useful indicator of the potential volatility of contributions for a fully funded plan. A funding policy that targets a funded ratio of 100% is expected to result in the ratio of assets to payroll and the ratio of liability to payroll converging over time.

The ratio of liability to payroll may also be used as a measure of sensitivity of the liability itself. For example, if the actuarial accrued liability is 2.5 times the payroll, a change in liability 2% other than assumed would equal 5% of payroll. A higher (lower) or increasing (decreasing) level of this maturity measure generally indicates a higher (lower) or increasing (decreasing) volatility in liability (and also plan sponsor contributions) as a percentage of payroll.

Ratio of Actives to Retirees and Beneficiaries

A young plan with many active members and few retirees will have a high ratio of active to retirees. A mature open plan may have close to the same number of actives to retirees resulting in a ratio near 1.0. A super-mature or closed plan may have significantly more retirees than actives resulting in a ratio below 1.0.

Ratio of Net Cash Flow to Market Value of Assets

A positive net cash flow means contributions exceed benefits and expenses. A negative cash flow means existing funds are being used to make payments. A certain amount of negative net cash flow is generally expected to occur when benefits are prefunded through a qualified trust. Large negative net cash flows as a percent of assets may indicate a super-mature plan or a need for additional contributions.



Additional Risk Assessment

Additional risk assessment is outside the scope of the annual actuarial valuation. Additional assessment may include scenario tests, sensitivity tests, stochastic modeling, stress tests, and a comparison of the present value of accrued benefits at low-risk discount rates with the actuarial accrued liability.

SECTION B

VALUATION RESULTS

PARTICIPANT DATA				
January 1, 2021				
	<i>Total</i>	<i>Non-Hazardous</i>	<i>Hazardous Police</i>	<i>Hazardous Fire</i>
ACTIVE MEMBERS				
Number	1,541	1,114	236	191
Covered Annual Payroll	\$ 92,726,419	\$ 54,005,534	\$ 21,431,416	\$ 17,289,469
Average Annual Payroll	\$ 60,173	\$ 48,479	\$ 90,811	\$ 90,521
Average Age	44.2	45.6	39.9	41.2
Average Past Service	10.7	10.4	11.5	11.5
Average Age at Hire	33.5	35.2	28.4	29.7
RETIREES & BENEFICIARIES				
Number	1,219	773	270	176
Annual Benefits	\$ 47,643,970	\$ 26,611,279	\$ 12,722,711	\$ 8,309,980
Average Annual Benefit	\$ 39,084	\$ 34,426	\$ 47,121	\$ 47,216
Average Age	67.7	69.4	63.8	66.1
DISABILITY RETIREES				
Number	129	36	50	43
Annual Benefits	\$ 4,219,162	\$ 787,025	\$ 1,911,064	\$ 1,521,073
Average Annual Benefit	\$ 32,707	\$ 21,862	\$ 38,221	\$ 35,374
Average Age	65.4	70.3	62.7	64.6
TERMINATED VESTED MEMBERS				
Number	74	53	10	11
Annual Benefits	\$ 1,475,373	\$ 949,571	\$ 266,611	\$ 259,191
Average Annual Benefit	\$ 19,937	\$ 17,916	\$ 26,661	\$ 23,563
Average Age	48.9	50.7	43.9	44.9

PARTICIPANT DATA - PRIOR YEAR				
January 1, 2020				
	<i>Total</i>	<i>Non-Hazardous</i>	<i>Hazardous Police</i>	<i>Hazardous Fire</i>
ACTIVE MEMBERS				
Number	1,571	1,136	240	195
Covered Annual Payroll	\$ 90,594,113	\$ 53,193,098	\$ 20,686,134	\$ 16,714,881
Average Annual Payroll	\$ 57,667	\$ 46,825	\$ 86,192	\$ 85,717
Average Age	43.8	45.1	39.9	41.1
Average Past Service	10.3	9.9	11.4	11.4
Average Age at Hire	33.5	35.2	28.5	29.7
RETIREES & BENEFICIARIES				
Number	1,186	762	259	165
Annual Benefits	\$ 45,654,032	\$ 26,009,288	\$ 11,904,470	\$ 7,740,274
Average Annual Benefit	\$ 38,494	\$ 34,133	\$ 45,963	\$ 46,911
Average Age	67.4	69.0	63.4	66.2
DISABILITY RETIREES				
Number	135	39	51	45
Annual Benefits	\$ 4,325,659	\$ 843,564	\$ 1,934,423	\$ 1,547,672
Average Annual Benefit	\$ 32,042	\$ 21,630	\$ 37,930	\$ 34,393
Average Age	65.0	69.3	62.1	64.7
TERMINATED VESTED MEMBERS				
Number	80	58	8	14
Annual Benefits	\$ 1,653,557	\$ 1,093,654	\$ 200,345	\$ 359,558
Average Annual Benefit	\$ 20,669	\$ 18,856	\$ 25,043	\$ 25,683
Average Age	48.8	50.6	43.2	44.9

ACTUARIALLY DETERMINED CONTRIBUTION (ADC) - AFTER ASSUMPTION CHANGES

A. Valuation Date	January 1, 2021 <i>Total</i>	January 1, 2021 <i>Non-Hazardous</i>	January 1, 2021 <i>Hazardous Police</i>	January 1, 2021 <i>Hazardous Fire</i>
B. ADC to Be Paid During Fiscal Year Ending	9/30/2022	9/30/2022	9/30/2022	9/30/2022
C. Assumed Date of Employer Contrib.	Evenly during first two quarters of fiscal year	Evenly during first two quarters of fiscal year	Evenly during first two quarters of fiscal year	Evenly during first two quarters of fiscal year
D. Annual Payment to Amortize Unfunded Actuarial Liability	\$ 0 *	\$ 0 *	\$ 0 *	\$ 0 *
E. Employer Normal Cost	10,711,397	3,274,930	4,400,087	3,036,380
F. ADC if Paid on the Valuation Date: D+E	10,711,397	3,274,930	4,400,087	3,036,380
G. ADC Adjusted for Frequency of Payments	11,412,994	3,489,438	4,688,293	3,235,263
H. ADC as % of Covered Payroll	12.31 %	6.46 %	21.88 %	18.71 %
I. Assumed Rate of Increase in Covered Payroll to Contribution Year	0.00 %	0.00 %	0.00 %	0.00 %
J. Covered Payroll for Contribution Year	92,726,419	54,005,534	21,431,416	17,289,469
K. ADC for Contribution Year: H x J	11,412,994	3,489,438	4,688,293	3,235,263
L. Estimate of State Revenue in Contribution Year	12,000	0	7,000	5,000
M. Required Employer Contribution (REC) in Contribution Year	11,400,994	3,489,438	4,681,293	3,230,263
N. REC as % of Covered Payroll in Contribution Year: M ÷ J	12.30 %	6.46 %	21.84 %	18.68 %
O. Credit Balance	31,554,611	15,970,879	9,252,205	6,331,527

** The annual payment to amortize the UAL is less than \$0; however, under Chapter 112.66 of the Florida Statutes, the annual payment to amortize the UAL may not reduce the contribution below the amount required to fund the Normal Cost.*

ACTUARIALLY DETERMINED CONTRIBUTION (ADC) - BEFORE ASSUMPTION CHANGES

A. Valuation Date	January 1, 2021 <i>Total</i>	January 1, 2021 <i>Non-Hazardous</i>	January 1, 2021 <i>Hazardous Police</i>	January 1, 2021 <i>Hazardous Fire</i>
B. ADC to Be Paid During Fiscal Year Ending	9/30/2022	9/30/2022	9/30/2022	9/30/2022
C. Assumed Date of Employer Contrib.	Evenly during first two quarters of fiscal year	Evenly during first two quarters of fiscal year	Evenly during first two quarters of fiscal year	Evenly during first two quarters of fiscal year
D. Annual Payment to Amortize Unfunded Actuarial Liability	\$ 0 *	\$ 0 *	\$ 0 *	\$ 0 *
E. Employer Normal Cost	10,587,263	3,267,847	4,334,018	2,985,398
F. ADC if Paid on the Valuation Date: D+E	10,587,263	3,267,847	4,334,018	2,985,398
G. ADC Adjusted for Frequency of Payments	11,291,316	3,485,159	4,622,230	3,183,927
H. ADC as % of Covered Payroll	12.18 %	6.45 %	21.57 %	18.42 %
I. Assumed Rate of Increase in Covered Payroll to Contribution Year	0.00 %	0.00 %	0.00 %	0.00 %
J. Covered Payroll for Contribution Year	92,726,419	54,005,534	21,431,416	17,289,469
K. ADC for Contribution Year: H x J	11,291,316	3,485,159	4,622,230	3,183,927
L. Estimate of State Revenue in Contribution Year	12,000	0	7,000	5,000
M. Required Employer Contribution (REC) in Contribution Year	11,279,316	3,485,159	4,615,230	3,178,927
N. REC as % of Covered Payroll in Contribution Year: M ÷ J	12.16 %	6.45 %	21.53 %	18.39 %
O. Credit Balance	31,554,611	15,970,879	9,252,205	6,331,527

* The annual payment to amortize the UAL is less than \$0; however, under Chapter 112.66 of the Florida Statutes, the annual payment to amortize the UAL may not reduce the contribution below the amount required to fund the Normal Cost.

ACTUARIALLY DETERMINED CONTRIBUTION (ADC) - PRIOR YEAR				
A. Valuation Date	January 1, 2020 <i>Total</i>	January 1, 2020 <i>Non-Hazardous</i>	January 1, 2020 <i>Hazardous Police</i>	January 1, 2020 <i>Hazardous Fire</i>
B. ADC to Be Paid During Fiscal Year Ending	9/30/2021	9/30/2021	9/30/2021	9/30/2021
C. Assumed Date of Employer Contrib.	Evenly during first two quarters of fiscal year	Evenly during first two quarters of fiscal year	Evenly during first two quarters of fiscal year	Evenly during first two quarters of fiscal year
D. Annual Payment to Amortize Unfunded Actuarial Liability	\$ 351,542	\$ 0 *	\$ 351,542	\$ 0 *
E. Employer Normal Cost	10,463,285	3,314,101	4,223,590	2,925,594
F. ADC if Paid on the Valuation Date: D+E	10,814,827	3,314,101	4,575,132	2,925,594
G. ADC Adjusted for Frequency of Payments	11,534,013	3,534,489	4,879,378	3,120,146
H. ADC as % of Covered Payroll	12.73 %	6.64 %	23.59 %	18.67 %
I. Assumed Rate of Increase in Covered Payroll to Contribution Year	0.00 %	0.00 %	0.00 %	0.00 %
J. Covered Payroll for Contribution Year	90,594,113	53,193,098	20,686,134	16,714,881
K. ADC for Contribution Year: H x J	11,534,013	3,534,489	4,879,378	3,120,146
L. Estimate of State Revenue in Contribution Year	12,000	0	7,000	5,000
M. Required Employer Contribution (REC) in Contribution Year	11,522,013	3,534,489	4,872,378	3,115,146
N. REC as % of Covered Payroll in Contribution Year: M ÷ J	12.72 %	6.64 %	23.55 %	18.64 %
O. Credit Balance	28,963,282	14,888,015	8,368,213	5,707,054

* The annual payment to amortize the UAL is less than \$0; however, under Chapter 112.66 of the Florida Statutes, the annual payment to amortize the UAL may not reduce the contribution below the amount required to fund the Normal Cost.

ACTUARIAL VALUE OF BENEFITS AND ASSETS - AFTER ASSUMPTION CHANGES

A. Valuation Date	January 1, 2021 <i>Total</i>	January 1, 2021 <i>Non-Hazardous</i>	January 1, 2021 <i>Hazardous Police</i>	January 1, 2021 <i>Hazardous Fire</i>
B. Actuarial Present Value of All Projected Benefits for				
1. Active Members				
a. Service Retirement Benefits	\$ 419,687,968	\$ 189,145,015	\$ 134,278,375	\$ 96,264,578
b. Vesting Benefits	37,170,897	27,026,080	6,163,846	3,980,971
c. Disability Benefits	21,723,016	3,900,242	10,934,743	6,888,031
d. Preretirement Death Benefits	5,350,494	3,355,659	1,116,093	878,742
e. Return of Member Contributions	4,005,332	2,925,556	615,861	463,915
f. Total	487,937,707	226,352,552	153,108,918	108,476,237
2. Inactive Members				
a. Service Retirees & Beneficiaries	630,420,379	336,896,421	181,939,193	111,584,765
b. Disability Retirees	54,896,963	8,569,863	26,357,137	19,969,963
c. Terminated Vested Members	16,396,732	9,531,725	3,537,891	3,327,116
d. Total	701,714,074	354,998,009	211,834,221	134,881,844
3. Total for All Members	1,189,651,781	581,350,561	364,943,139	243,358,081
C. Actuarial Accrued (Past Service) Liability	1,034,718,990	525,599,102	306,555,615	202,564,273
D. Actuarial Value of Accumulated Plan Benefits per FASB No. 35	970,493,309	489,411,798	290,331,609	190,749,902
E. Plan Assets				
1. Market Value	1,254,293,845	641,315,529	364,947,164	248,031,152
2. Actuarial Value	1,124,737,021	575,073,632	327,251,535	222,411,854
3. Actuarial Value Excluding Credit Balance	1,093,182,410	559,102,753	317,999,330	216,080,327
F. Actuarial Present Value of Projected Covered Payroll	776,476,285	428,012,330	195,344,184	153,119,771
G. Actuarial Present Value of Projected Member Contributions	69,009,378	34,240,988	19,462,742	15,305,648
H. Accumulated Value of Active Member Contributions	66,757,705	36,139,486	17,210,741	13,407,478
I. Unfunded Actuarial Accrued Liability (UAAL) Based on EAN Method = C. - E.3.	(58,463,420)	(33,503,651)	(11,443,715)	(13,516,054)
J. Funded Ratio = E.2. / C.	108.70%	109.41%	106.75%	109.80%
K. Funded Ratio Excluding Credit Balance = E.3. / C.	105.65%	106.37%	103.73%	106.67%

ACTUARIAL VALUE OF BENEFITS AND ASSETS - BEFORE ASSUMPTION CHANGES

A. Valuation Date	January 1, 2021 <i>Total</i>	January 1, 2021 <i>Non-Hazardous</i>	January 1, 2021 <i>Hazardous Police</i>	January 1, 2021 <i>Hazardous Fire</i>
B. Actuarial Present Value of All Projected Benefits for				
1. Active Members				
a. Service Retirement Benefits	\$ 418,336,999	\$ 189,150,145	\$ 133,620,493	\$ 95,566,361
b. Vesting Benefits	37,148,330	27,164,181	6,073,418	3,910,731
c. Disability Benefits	21,216,823	3,744,562	10,731,456	6,740,805
d. Preretirement Death Benefits	7,377,381	4,517,114	1,602,964	1,257,303
e. Return of Member Contributions	4,155,545	3,019,136	645,430	490,979
f. Total	488,235,078	227,595,138	152,673,761	107,966,179
2. Inactive Members				
a. Service Retirees & Beneficiaries	641,731,546	339,499,201	186,918,195	115,314,150
b. Disability Retirees	55,663,117	8,739,612	26,647,826	20,275,679
c. Terminated Vested Members	16,482,504	9,636,642	3,525,271	3,320,591
d. Total	713,877,167	357,875,455	217,091,292	138,910,420
3. Total for All Members	1,202,112,245	585,470,593	369,765,053	246,876,599
C. Actuarial Accrued (Past Service) Liability	1,049,646,120	530,270,914	312,449,796	206,925,410
D. Actuarial Value of Accumulated Plan Benefits per FASB No. 35	984,005,654	493,442,395	295,706,008	194,857,251
E. Plan Assets				
1. Market Value	1,254,293,845	641,315,529	364,947,164	248,031,152
2. Actuarial Value	1,124,737,021	575,073,632	327,251,535	222,411,854
3. Actuarial Value Excluding Credit Balance	1,093,182,410	559,102,753	317,999,330	216,080,327
F. Actuarial Present Value of Projected Covered Payroll	769,792,364	424,172,247	193,768,786	151,851,331
G. Actuarial Present Value of Projected Member Contributions	68,418,262	33,933,781	19,305,637	15,178,844
H. Accumulated Value of Active Member Contributions	66,757,705	36,139,486	17,210,741	13,407,478
I. Unfunded Actuarial Accrued Liability (UAAL) Based on EAN Method = C. - E.3.	(43,536,290)	(28,831,839)	(5,549,534)	(9,154,917)
J. Funded Ratio = E.2. / C.	107.15%	108.45%	104.74%	107.48%
K. Funded Ratio Excluding Credit Balance = E.3. / C.	104.15%	105.44%	101.78%	104.42%

ACTUARIAL VALUE OF BENEFITS AND ASSETS - PRIOR YEAR

A. Valuation Date	January 1, 2020 <i>Total</i>	January 1, 2020 <i>Non-Hazardous</i>	January 1, 2020 <i>Hazardous Police</i>	January 1, 2020 <i>Hazardous Fire</i>
B. Actuarial Present Value of All Projected Benefits for				
1. Active Members				
a. Service Retirement Benefits	\$ 403,751,262	\$ 181,678,517	\$ 129,330,300	\$ 92,742,445
b. Vesting Benefits	36,001,308	26,447,154	5,798,317	3,755,837
c. Disability Benefits	20,703,586	3,638,559	10,507,162	6,557,865
d. Preretirement Death Benefits	7,193,297	4,409,301	1,546,223	1,237,773
e. Return of Member Contributions	4,118,840	3,026,393	631,491	460,956
f. Total	471,768,293	219,199,924	147,813,493	104,754,876
2. Inactive Members				
a. Service Retirees & Beneficiaries	619,543,028	335,170,136	176,087,896	108,284,996
b. Disability Retirees	57,293,424	9,599,054	27,089,385	20,604,985
c. Terminated Vested Members	18,283,940	11,142,793	2,519,935	4,621,212
d. Total	695,120,392	355,911,983	205,697,216	133,511,193
3. Total for All Members	1,166,888,685	575,111,907	353,510,709	238,266,069
C. Actuarial Accrued (Past Service) Liability	1,017,746,535	520,002,169	298,281,006	199,463,360
D. Actuarial Value of Accumulated Plan Benefits per FASB No. 35	955,480,325	483,760,095	283,230,661	188,489,569
E. Plan Assets				
1. Market Value	1,120,895,937	576,174,867	323,854,740	220,866,330
2. Actuarial Value	1,044,240,614	536,771,682	301,707,108	205,761,824
3. Actuarial Value Excluding Credit Balance	1,015,277,332	521,883,667	293,338,895	200,054,770
F. Actuarial Present Value of Projected Covered Payroll	751,000,217	417,923,732	186,321,652	146,754,833
G. Actuarial Present Value of Projected Member Contributions	66,645,950	33,433,898	18,549,782	14,662,270
H. Accumulated Value of Active Member Contributions	64,188,492	34,383,103	16,816,590	12,988,799
I. Unfunded Actuarial Accrued Liability (UAAL) Based on EAN Method = C. - E.3.	2,469,203	(1,881,498)	4,942,111	(591,410)
J. Funded Ratio = E.2. / C.	102.60%	103.22%	101.15%	103.16%
K. Funded Ratio Excluding Credit Balance = E.3. / C.	99.76%	100.36%	98.34%	100.30%



**CALCULATION OF EMPLOYER NORMAL COST
ENTRY AGE NORMAL METHOD - AFTER ASSUMPTION CHANGES**

A. Valuation Date	January 1, 2021	January 1, 2021	January 1, 2021	January 1, 2021
	<i>Total</i>	<i>Non-Hazardous</i>	<i>Hazardous Police</i>	<i>Hazardous Fire</i>
B. Normal Cost for				
1. Service Retirement Benefits	\$ 13,144,753	\$ 4,778,517	\$ 4,778,940	\$ 3,587,296
2. Vesting	2,421,305	1,596,210	504,608	320,487
3. Disability Benefits	1,967,473	309,813	996,671	660,989
4. Death Benefits	226,345	129,550	49,421	47,374
5. Refund of Contributions	878,771	655,826	124,204	98,741
6. Total for Future Benefits	18,638,647	7,469,916	6,453,844	4,714,887
7. Assumed Amount for Administrative Expenses	244,753	125,457	70,978	48,318
8. Total Normal Cost	18,883,400	7,595,373	6,524,822	4,763,205
C. Expected Member Contributions	8,172,003	4,320,443	2,124,735	1,726,825
D. Employer Normal Cost: B8 - C	10,711,397	3,274,930	4,400,087	3,036,380
E. Employer Normal Cost as % of Covered Payroll	11.55%	6.06%	20.53%	17.56%

**CALCULATION OF EMPLOYER NORMAL COST
ENTRY AGE NORMAL METHOD - BEFORE ASSUMPTION CHANGES**

A. Valuation Date	January 1, 2021	January 1, 2021	January 1, 2021	January 1, 2021
	<i>Total</i>	<i>Non-Hazardous</i>	<i>Hazardous Police</i>	<i>Hazardous Fire</i>
B. Normal Cost for				
1. Service Retirement Benefits	\$ 12,985,374	\$ 4,730,925	\$ 4,718,808	\$ 3,535,641
2. Vesting	2,411,197	1,599,036	496,975	315,186
3. Disability Benefits	1,917,862	296,345	975,329	646,188
4. Death Benefits	308,528	172,230	70,424	65,874
5. Refund of Contributions	<u>891,552</u>	<u>664,297</u>	<u>126,239</u>	<u>101,016</u>
6. Total for Future Benefits	18,514,513	7,462,833	6,387,775	4,663,905
7. Assumed Amount for Administrative Expenses	<u>244,753</u>	<u>125,457</u>	<u>70,978</u>	<u>48,318</u>
8. Total Normal Cost	18,759,266	7,588,290	6,458,753	4,712,223
C. Expected Member Contributions	8,172,003	4,320,443	2,124,735	1,726,825
D. Employer Normal Cost: B8 - C	10,587,263	3,267,847	4,334,018	2,985,398
E. Employer Normal Cost as % of Covered Payroll	11.42%	6.05%	20.22%	17.27%

**CALCULATION OF EMPLOYER NORMAL COST - PRIOR YEAR
ENTRY AGE NORMAL METHOD**

A. Valuation Date	January 1, 2020	January 1, 2020	January 1, 2020	January 1, 2020
	<i>Total</i>	<i>Non-Hazardous</i>	<i>Hazardous Police</i>	<i>Hazardous Fire</i>
B. Normal Cost for				
1. Service Retirement Benefits	\$ 12,688,320	\$ 4,708,838	\$ 4,548,907	\$ 3,430,575
2. Vesting	2,368,651	1,575,965	486,222	306,464
3. Disability Benefits	1,875,825	292,571	953,395	629,859
4. Death Benefits	304,363	171,993	67,886	64,484
5. Refund of Contributions	<u>873,017</u>	<u>653,495</u>	<u>121,975</u>	<u>97,547</u>
6. Total for Future Benefits	18,110,176	7,402,862	6,178,385	4,528,929
7. Assumed Amount for Administrative Expenses	<u>324,274</u>	<u>166,687</u>	<u>93,691</u>	<u>63,896</u>
8. Total Normal Cost	18,434,450	7,569,549	6,272,076	4,592,825
C. Expected Member Contributions	7,971,165	4,255,448	2,048,486	1,667,231
D. Employer Normal Cost: B8 - C	10,463,285	3,314,101	4,223,590	2,925,594
E. Employer Normal Cost as % of Covered Payroll	11.55%	6.23%	20.42%	17.50%

Reconciliation of Credit Balance				
	Total	Non-Hazardous	Hazardous Police	Hazardous Fire
Credit Balance at Beginning of Year	\$ 28,963,282	\$ 14,888,015	\$ 8,368,213	\$ 5,707,054
Required Employer Contribution	- 11,522,013	- 3,534,489	- 4,872,378	- 3,115,146
Employer Contribution Made	+ 12,187,284	+ 3,627,300	+ 5,199,884	+ 3,360,100
Interest on Credit Balance	+ 1,926,058	+ 990,053	+ 556,486	+ 379,519
Credit Balance at End of Year	31,554,611	15,970,879	9,252,205	6,331,527

LIQUIDATION OF THE UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)

UAAL Amortization Period and Payments - Non-Hazardous						
Original UAAL			Current UAAL			
Date Established	Source	Amount	Years Remaining	Amount	Payment	
					After Assumption Changes	Before Assumption Changes
1/1/2015	Fresh Start	\$ (2,679,461)	17	\$ (4,064,548)	\$ (378,629)	\$ (380,943)
1/1/2016	(Gain)/Loss	244,325	10	344,846	45,126	45,295
1/1/2016	Assumption Change	(2,200,261)	20	(3,096,042)	(264,761)	(266,613)
1/1/2017	(Gain)/Loss	(9,301,995)	11	(12,205,717)	(1,493,595)	(1,499,725)
1/1/2017	Assumption Change	156,236	21	204,654	17,090	17,215
1/1/2018	(Gain)/Loss	(5,692,965)	12	(6,970,113)	(803,965)	(807,552)
1/1/2019	(Gain)/Loss	2,983,422	13	3,410,045	373,224	375,019
1/1/2019	Assumption Change	12,955,157	23	14,794,024	1,184,812	1,194,056
1/1/2020	(Gain)/Loss	(611,097)	14	(652,940)	(68,192)	(68,543)
1/1/2020	Assumption Change	5,818,657	24	6,214,483	488,606	492,541
1/1/2021	(Gain)/Loss	(26,810,531)	15	(26,810,531)	(2,684,693)	(2,699,403)
1/1/2021	Assumption Change	(4,671,812)	25	(4,671,812)	(361,122)	N/A
		(29,810,325)		(33,503,651)	(3,946,099)	(3,598,653)

UAAL Amortization Period and Payments - Hazardous Police

Original UAAL			Current UAAL			
Date Established	Source	Amount	Years Remaining	Amount	Payment	
					After Assumption Changes	Before Assumption Changes
1/1/2015	Fresh Start	\$ (1,506,064)	17	\$ (2,062,198)	\$ (192,102)	\$ (193,276)
1/1/2016	(Gain)/Loss	137,330	10	168,332	22,028	22,110
1/1/2016	Assumption Change	(1,236,717)	20	(1,583,392)	(135,405)	(136,352)
1/1/2017	(Gain)/Loss	(5,228,439)	11	(6,009,479)	(735,371)	(738,389)
1/1/2017	Assumption Change	87,817	21	104,886	8,759	8,823
1/1/2018	(Gain)/Loss	(3,199,886)	12	(3,456,365)	(398,673)	(400,452)
1/1/2019	(Gain)/Loss	1,676,914	13	1,701,225	186,196	187,092
1/1/2019	Assumption Change	7,281,798	23	7,609,247	609,404	614,158
1/1/2020	(Gain)/Loss	(343,483)	14	(327,427)	(34,196)	(34,372)
1/1/2020	Plan Amendment	5,717,584	9	5,253,109	742,295	744,790
1/1/2020	Assumption Change	3,552,608	24	3,477,420	273,408	275,610
1/1/2021	(Gain)/Loss	(10,424,892)	15	(10,424,892)	(1,043,904)	(1,049,624)
1/1/2021	Assumption Change	(5,894,181)	25	(5,894,181)	(455,609)	N/A
		(9,379,611)		(11,443,715)	(1,153,170)	(699,882)

UAAL Amortization Period and Payments - Hazardous Fire

Original UAAL			Current UAAL			
Date Established	Source	Amount	Years Remaining	Amount	Payment	
					After Assumption Changes	Before Assumption Changes
1/1/2015	Fresh Start	\$ (1,027,124)	17	\$ (1,561,747)	\$ (145,483)	\$ (146,372)
1/1/2016	(Gain)/Loss	93,658	10	132,612	17,353	17,418
1/1/2016	Assumption Change	(843,431)	20	(1,189,405)	(101,713)	(102,424)
1/1/2017	(Gain)/Loss	(3,565,754)	11	(4,692,911)	(574,264)	(576,621)
1/1/2017	Assumption Change	59,890	21	78,618	6,565	6,613
1/1/2018	(Gain)/Loss	(2,182,297)	12	(2,679,495)	(309,065)	(310,444)
1/1/2019	(Gain)/Loss	1,143,642	13	1,310,741	143,459	144,149
1/1/2019	Assumption Change	4,966,128	23	5,682,696	455,111	458,662
1/1/2020	(Gain)/Loss	(234,253)	14	(250,947)	(26,208)	(26,343)
1/1/2020	Plan Amendment	4,071	9	4,367	617	619
1/1/2020	Assumption Change	2,356,236	24	2,521,618	198,259	199,856
1/1/2021	(Gain)/Loss	(8,511,064)	15	(8,511,064)	(852,262)	(856,932)
1/1/2021	Assumption Change	(4,361,137)	25	(4,361,137)	(337,107)	N/A
		(12,101,435)		(13,516,054)	(1,524,738)	(1,191,819)

Amortization Schedule

The UAAL is being liquidated as a level dollar amount over the number of years remaining in the amortization period. The expected amortization schedules are as follows:

Amortization Schedule - Non-Hazardous	
Year	Expected UAAL
2021	\$ (33,503,651)
2022	(31,493,592)
2023	(29,351,854)
2024	(27,069,832)
2025	(24,638,337)
2026	(22,047,580)
2031	(6,314,864)
2036	-

Amortization Schedule - Hazardous Police	
Year	Expected UAAL
2021	\$ (11,443,715)
2022	(10,964,567)
2023	(10,454,044)
2024	(9,910,081)
2025	(9,330,489)
2026	(8,712,933)
2031	(4,171,830)
2036	-

Amortization Schedule - Hazardous Fire	
Year	Expected UAAL
2021	\$ (13,516,054)
2022	(12,776,742)
2023	(11,989,010)
2024	(11,149,682)
2025	(10,255,378)
2026	(9,302,497)
2031	(3,515,343)
2036	-

ACTUARIAL GAINS AND LOSSES

The assumptions used to anticipate mortality, employment turnover, investment income, expenses, salary increases, and other factors have been based on long range trends and expectations. Actual experience can vary from these expectations. The variance is measured by the gain and loss for the period involved. If significant long-term experience reveals consistent deviation from what has been expected and that deviation is expected to continue, the assumptions should be modified. The net actuarial gain (loss) for the past year is computed as follows:

A. Derivation of the Current UAAL	Total	Non-Hazardous	Hazardous Police	Hazardous Fire
1. Last Year's UAAL	\$ 2,469,203	\$ (1,881,498)	\$ 4,942,111	\$ (591,410)
2. Employer Normal Cost for Contribution Year	10,463,285	3,314,101	4,223,590	2,925,594
3. Last Year's Contributions	11,534,013 *	3,534,489 *	4,879,378 *	3,120,146 *
4. Interest at the Assumed Rate on:				
a. 1 and 2 for one year	860,010	95,268	609,519	155,223
b. 3 from dates paid	48,288	14,690	20,484	13,114
c. a - b	811,722	80,578	589,035	142,109
5. This Year's Expected UAAL: 1 + 2 - 3 + 4c	2,210,197	(2,021,308)	4,875,358	(643,853)
6. This Year's Actual UAAL (Before any changes in benefits and assumptions)	(43,536,290)	(28,831,839)	(5,549,534)	(9,154,917)
7. Net Actuarial Gain (Loss): (5) - (6)	45,746,487	26,810,531	10,424,892	8,511,064
8. Gain (Loss) Due to Investments	45,956,765			
9. Gain (Loss) Due to other sources	(210,278)			

** Excludes the portion of the actual contribution above the required contribution that was used to increase the credit balance.*

Gains (losses) in previous years have been as follows:

Year Ending 12/31	Gain (Loss)	Change in Employer Cost Rate*
2009	\$32,358,262	(4.89) %
2010	2,311,412	(0.37)
2011	(13,721,771)	2.28
2012	(7,015,253)	1.15
2013	62,452,347	(11.02)
2014	34,213,347	(6.01)
2015	(475,313)	0.07 **
2016	18,096,188	(2.51) **
2017	11,075,148	(1.48) **
2018	(5,803,978)	0.75 **
2019	1,188,833	(0.14) **
2020	45,746,487	(5.30) **

* Before 2015, Change in Normal Cost Rate.

** Before reflecting Chapter 112.66 of the Florida Statutes. Since the annual payment to amortize the UAAL is less than \$0, the net effect of these gains and losses on the required employer contribution is \$0 or limited after reflecting Chapter 112.66 of the Florida Statutes (the requirement to fund at least the normal cost).

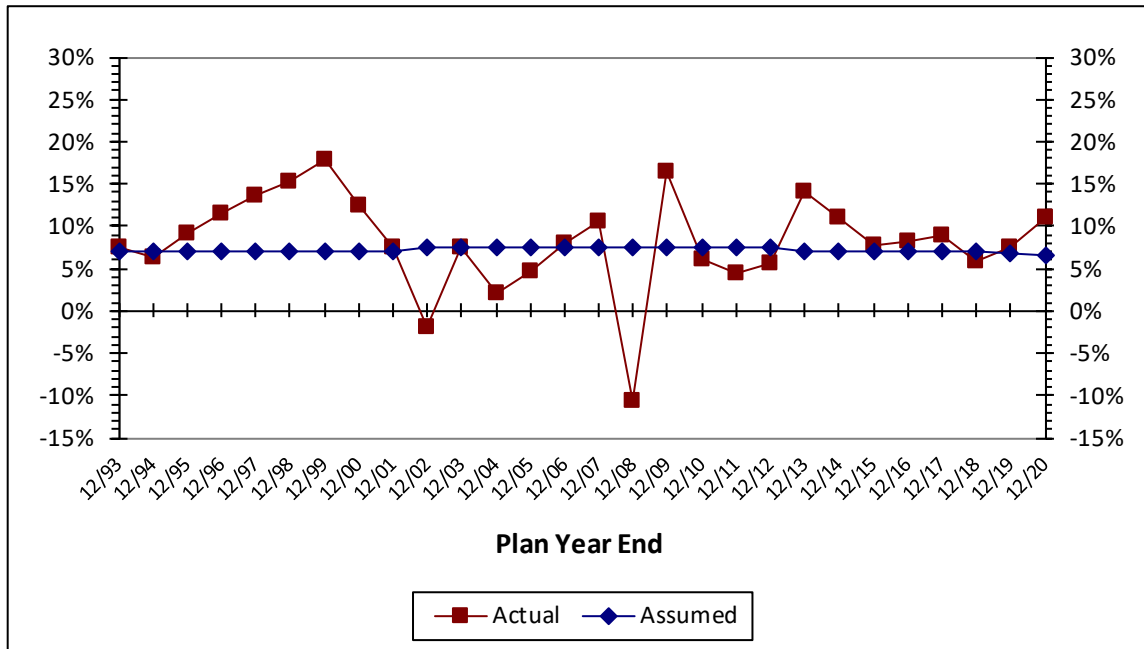
The fund earnings and salary increase assumptions have considerable impact on the cost of the Plan so it is important that they are in line with the actual experience. The following table shows the actual fund earnings and salary increase rates compared to the assumed rates for the last few years:

Year Ending	Investment Return		Salary Increases	
	Actual	Assumed	Actual	Assumed
12/31/1986	N/A	7.00 %	7.40 %	5.00 %
12/31/1987	N/A	7.00	5.90	5.00
12/31/1988	N/A	7.00	9.10	5.00
12/31/1989	N/A	7.00	8.70	5.00
12/31/1990	N/A	7.00	5.30	5.00
12/31/1991	N/A	7.00	6.10	5.00
12/31/1992	N/A	7.00	6.80	5.00
12/31/1993	7.42 %	7.00	1.20	5.00
12/31/1994	6.28	7.00	4.40	5.00
12/31/1995	9.14	7.00	6.40	5.00
12/31/1996	11.54	7.00	6.70	5.00
12/31/1997	13.74	7.00	5.60	5.00
12/31/1998	15.28	7.00	7.40	5.00
12/31/1999	17.96	7.00	4.20	5.00
12/31/2000	12.42	7.00	5.80	5.00
12/31/2001	7.40	7.00	5.90	5.00
12/31/2002	(1.85)	7.50	5.80	6.00
12/31/2003	7.45	7.50	6.40	6.00
12/31/2004	2.18	7.50	6.38	6.00
12/31/2005	4.58	7.50	5.49	6.00
12/31/2006	7.87	7.50	5.15	6.00
12/31/2007	10.68	7.50	6.62	6.00
12/31/2008	(10.61)	7.50	4.25	6.00
12/31/2009	16.53	7.50	3.29	6.00
12/31/2010	5.98	7.50	1.27	6.00
12/31/2011	4.46	7.50	2.56	6.00
12/31/2012	5.50	7.50	4.48	6.00
12/31/2013	14.04	7.00	3.16	4.07
12/31/2014	11.04	7.00	3.38	4.04
12/31/2015	7.64	7.00	8.65 *	4.09
12/31/2016	8.22	7.00	1.23 *	4.13
12/31/2017	8.89	7.00	7.35	4.16
12/31/2018	5.76	7.00	4.08	4.18
12/31/2019	7.39	6.75	8.84	4.35
12/31/2020	11.10	6.65	6.05	4.30
Averages	7.99 %	---	5.45 %	---

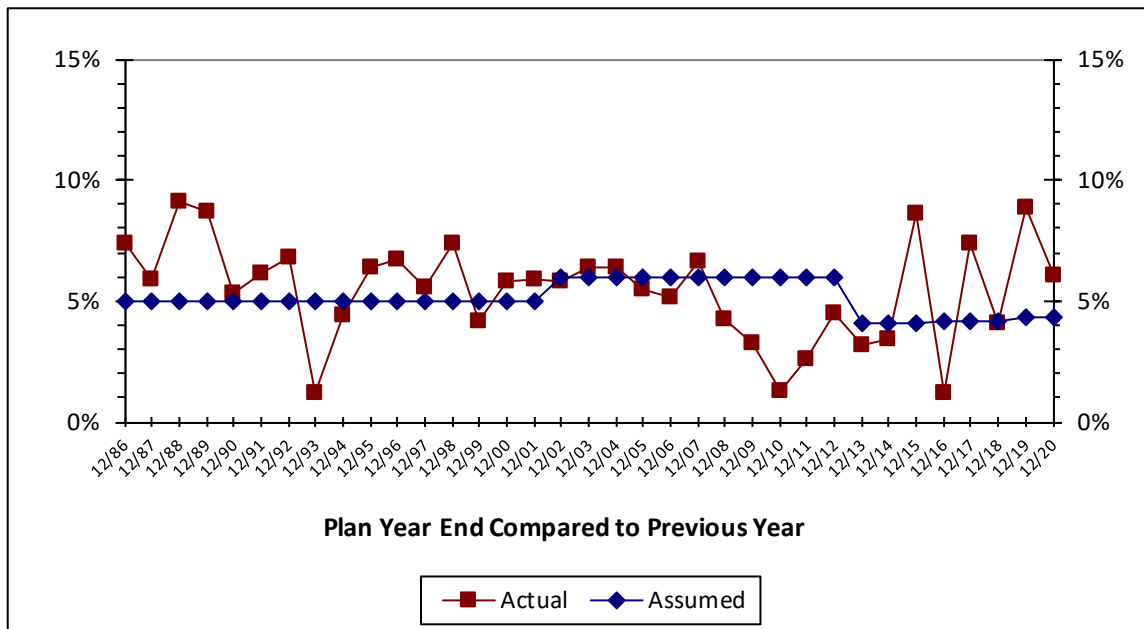
* Salary for the year ending 12/31/2015 included 27 pay periods rather than 26.

The actual investment return rates shown above are based on the actuarial value of assets. The actual salary increase rates shown above are the increases received by those active members who were included in the actuarial valuations both at the beginning and the end of each year.

History of Investment Return Based on Actuarial Value of Assets



History of Salary Increases



**Actual (A) Compared to Expected (E) Decrements
Among Active Employees**

Year Ended	Number Added During Year		Service Retirement		Disability Retirement		Death		Terminations				Active Members End of Year
	A	E	A	E	A	E	A	E	Vested	Other	Totals		
											A	E	
12/31/2009	49	110	54	57	0	6	0	2	10	46	56	93	1,567
12/31/2010	78	137	68	51	2	6	3	2	15	49	64	85	1,508
12/31/2011	84	124	43	49	6	6	0	2	11	64	75	84	1,468
12/31/2012	119	113	51	52	3	6	1	2	18	40	58	81	1,474
12/31/2013	102	98	27	42	2	3	4	2	11	54	65	79	1,478
12/31/2014	135	131	45	51	5	3	2	2	21	58	79	78	1,482
12/31/2015	145	122	43	52	7	3	1	2	18	53	71	82	1,505
12/31/2016	159	144	49	60	4	3	2	3	18	71	89	89	1,520
12/31/2017	164	161	47	59	2	3	2	2	25	85	110	91	1,523
12/31/2018	207	175	45	65	1	3	0	2	27	102	129	92	1,555
12/31/2019	164	148	38	52	3	4	1	2	13	93	106	99	1,571
12/31/2020	105	135	43	52	0	4	0	2	8	84	92	100	1,541
12/31/2021				56		4		1				92	
12 Yr Totals *	1511	1598	553	642	35	50	16	25	195	799	994	1053	

* Totals are through current Plan Year only.

Actual (A) Compared to Expected (E) Deaths Among Retirees and Beneficiaries				
Year Ended	Actual During Year		Expected During Year	
	Number	Annual Pensions	Number	Annual Pensions
12/31/2009	12	\$ 142,606	16	\$ 313,189
12/31/2010	12	139,508	18	363,242
12/31/2011	13	220,877	19	416,467
12/31/2012	12	232,755	20	466,010
12/31/2013	20	401,192	20	480,787
12/31/2014	16	275,728	21	510,892
12/31/2015	19	385,405	22	558,603
12/31/2016	20	498,746	25	708,907
12/31/2017	15	288,110	26	753,482
12/31/2018	25	762,324	28	831,241
12/31/2019	20	566,781	28	885,857
12/31/2020	27	921,472	29	949,503
12/31/2021			32	1,073,271

RECENT HISTORY OF VALUATION RESULTS									
Valuation Date	Number of		Covered Annual Payroll	Actuarial Value of Assets	Actuarial Accrued Liability (Entry Age)	Unfunded Actuarial Liability (Entry Age)*	Funded Ratio	Employer Normal Cost*	
	Active Members	Inactive Members						Amount	% of Payroll
1/1/07	1,692	819	\$ 79,385,090	\$ 559,830,590	N/A	N/A	N/A	\$ 9,192,407	11.58 %
1/1/08	1,641	878	80,371,617	610,979,087	N/A	N/A	N/A	6,920,400	8.61
1/1/09	1,628	903	82,104,837	536,834,473	N/A	N/A	N/A	20,005,238	24.37
1/1/10	1,567	955	80,443,199	618,444,906	\$ 647,167,565	\$ 28,722,659	95.6 %	15,879,628	19.74
1/1/11	1,508	1,024	76,505,599	646,956,800	672,786,812	25,830,012	96.2	15,461,725	20.21
1/1/12	1,468	1,072	74,765,020	664,087,199	702,438,432	38,351,233	94.5	17,064,100	22.82
1/1/13	1,474	1,127	74,422,344	688,731,221	774,749,811	86,018,590	88.9	12,845,501	17.26
1/1/14	1,478	1,144	74,254,159	772,411,068	795,927,127	23,516,059	97.0	4,626,039	6.23
1/1/15	1,482	1,194	75,078,542	829,486,793	824,274,144	(5,212,649)	100.6	8,194,115	10.91
1/1/16	1,505	1,237	80,250,993	866,598,975	857,177,619	(9,421,356)	101.1	8,358,975	10.42
1/1/17	1,520	1,278	79,276,100	908,229,246	880,316,652	(27,912,594)	103.2	8,092,922	10.21
1/1/18	1,523	1,334	82,317,307	957,314,542	916,334,666	(40,979,876)	104.5	8,236,726	10.01
1/1/19	1,555	1,374	84,608,940	978,492,240	965,611,907	(12,880,333)	101.3	9,106,282	10.76
1/1/20	1,571	1,401	90,594,113	1,015,277,332	1,017,746,535	2,469,203	99.8	10,463,285	11.55
1/1/21	1,541	1,422	92,726,419	1,093,182,410	1,034,718,990	(58,463,420)	105.7	10,711,397	11.55

** Starting with the January 1, 2015 valuation, the Employer Normal Cost is calculated under the Entry Age Normal Method and the Credit Balance is excluded from the Actuarial Value of Assets.*

Results before January 1, 2010 are from the January 1, 2009 Report prepared by PricewaterhouseCoopers.



RECENT HISTORY OF REQUIRED AND ACTUAL CONTRIBUTIONS										
Valuation Date	End of Year To Which Valuation Applies	Required Contributions								
		Employer & State		Estimated State		Net Employer		Actual Contributions		
		Amount	% of Payroll	Amount	% of Payroll	Amount	% of Payroll	Employer	State	Total
1/1/07	9/30/08	\$ 12,532,399	15.79 %	\$ 12,000	0.02 %	\$ 12,520,399	15.77 %	\$ 12,520,399	\$ 12,000	\$ 12,532,399
1/1/08	9/30/09	10,086,978	12.55	12,000	0.01	10,074,978	12.54	10,074,978	12,000	10,086,978
1/1/09	9/30/10	23,960,586	29.18	12,000	0.01	23,948,586	29.17	23,948,586	12,000	23,960,586
1/1/10	9/30/11	19,373,992	24.08	12,000	0.01	19,361,992	24.07	19,361,992	12,000	19,373,992
1/1/11	9/30/12	18,898,567	24.70	12,000	0.01	18,886,567	24.69	18,886,567	12,000	18,898,567
1/1/12	9/30/13	20,925,720	27.99	12,000	0.02	20,913,720	27.97	20,913,720	12,000	20,925,720
1/1/13	9/30/14	19,608,078	26.35	12,000	0.02	19,596,078	26.33	19,596,078	12,000	19,608,078
1/1/14	9/30/15	10,803,098	14.55	12,000	0.02	10,791,098	14.53	10,791,098	12,000	10,803,098
1/1/15	9/30/16	8,767,703	11.68	12,000	0.02	8,755,703	11.66	8,755,703	12,000	8,767,703
1/1/16	9/30/17	8,944,103	11.15	12,000	0.02	8,932,103	11.13	8,932,103	12,000	8,944,103
1/1/17	9/30/18	8,659,427	10.92	12,000	0.01	8,647,427	10.91	8,647,427	12,000	8,659,427
1/1/18	9/30/19	8,813,297	10.71	12,000	0.02	8,801,297	10.69	8,801,297	12,000	8,813,297
1/1/19	9/30/20	9,720,956	11.49	12,000	0.01	9,708,956	11.48	9,708,956	12,000	9,720,956
1/1/20	9/30/21	11,534,013	12.73	12,000	0.01	11,522,013	12.72	11,522,013	12,000	11,534,013
1/1/21	9/30/22	11,412,994	12.31	12,000	0.01	11,400,994	12.30	---	---	---

Results before January 1, 2010 are from the January 1, 2009 Report prepared by PricewaterhouseCoopers.

ACTUARIAL ASSUMPTIONS AND COST METHOD

Valuation Methods

Actuarial Cost Method - Normal cost and the allocation of benefit values between service rendered before and after the valuation date were determined using an **Individual Entry-Age Actuarial Cost Method** having the following characteristics:

- (i) the annual normal cost for each individual active member, payable from the date of employment to the date of retirement, is sufficient to accumulate the value of the member's benefit at the time of retirement;
- (ii) each annual normal cost is a constant percentage of the member's year by year projected covered pay.

Actuarial gains/(losses), as they occur, reduce (increase) the Unfunded Actuarial Accrued Liability.

Financing of Unfunded Actuarial Accrued Liabilities - Unfunded Actuarial Accrued Liabilities (full funding credit if assets exceed liabilities) were amortized by level (principal & interest combined) dollar amount contributions over a reasonable period of future years.

Actuarial Value of Assets - The Actuarial Value of Assets phase in the difference between the expected and actual return on market value of assets at the rate of 20% per year. The Actuarial Value of Assets will be further adjusted to the extent necessary to fall within the corridor whose lower limit is 80% of the Market Value of plan assets and whose upper limit is 120% of the Market Value of plan assets. During periods when investment performance exceeds the assumed rate, Actuarial Value of Assets will tend to be less than Market Value. During periods when investment performance is less than assumed rate, Actuarial Value of Assets will tend to be greater than Market Value.

Valuation Assumptions

The actuarial assumptions used in the valuation are shown in this Section. Both the economic and decrement assumptions were established following the Experience Investigation for the Five Years Ended December 31, 2017, dated December 6, 2018. The mortality assumption is mandated by Chapter 112.63, Florida Statutes.

Economic Assumptions

The investment return rate assumed in the valuation is 6.55% per year, compounded annually (net rate after investment expenses). This assumption was changed this year (based on the results of a 5-year experience study) from 6.65%.

The **Inflation Rate** assumed in this valuation is 2.25% per year. The Inflation Rate is defined to be the expected long-term rate of increases in the prices of goods and services.

The assumed **real rate of return** over inflation is defined to be the portion of total investment return that is more than the assumed inflation rate. Considering other economic assumptions, the 6.55% investment return rate translates to an assumed real rate of return over inflation of 4.30%.

The rate of salary increase used for individual members can be seen in the tables below. Part of the assumption is for merit and/or seniority increases and productivity increases, and 2.25% recognizes inflation. This assumption is used to project a member's current salary to the salaries upon which benefits will be based.

% Increase in Salary - Hazardous Duty

Years of Service	Merit and Seniority	Inflation	Total Increase
1 - 2	5.35%	2.25%	7.60%
3 - 4	4.00%	2.25%	6.25%
5 - 9	3.25%	2.25%	5.50%
10 - 14	3.00%	2.25%	5.25%
15 and Higher	2.25%	2.25%	4.50%

% Increase in Salary - Non-Hazardous Duty

Years of Service	Merit and Seniority	Inflation	Total Increase
1	4.25%	2.25%	6.50%
2	3.35%	2.25%	5.60%
3	2.25%	2.25%	4.50%
4 - 9	1.50%	2.25%	3.75%
10 - 14	1.30%	2.25%	3.55%
15 - 19	0.80%	2.25%	3.05%
20 and Higher	0.50%	2.25%	2.75%

Demographic Assumptions

The mortality tables used in the valuation for Hazardous Duty members are based on the PUB-2010 Headcount Weighted Mortality Tables described below, with mortality improvements projected for healthy lives to all future years after 2010 using Scale MP-2018. No mortality improvement is projected for disabled lives.

	Pre-Retirement PUB-2010 Table	Post-Retirement PUB-2010 Table
Female Healthy	Headcount Weighted Safety Employee Female Table, set forward 1 year	Headcount Weighted Safety Healthy Retiree Female Table, set forward 1 year
Male Healthy	Headcount Weighted Safety Below Median Employee Male Table, set forward 1 year	Headcount Weighted Safety Below Median Healthy Retiree Male Table, set forward 1 year
Female Disabled	N/A	80% Headcount Weighted General Disabled Retiree Female Table; 20% Headcount Weighted Safety Disabled Retiree Female Table
Male Disabled	N/A	80% Headcount Weighted General Disabled Retiree Male Table; 20% Headcount Weighted Safety Disabled Retiree Male Table

These are the same rates used for Special Risk Class members of the Florida Retirement System (FRS) in the July 1, 2019 FRS Actuarial Valuation Report. Florida Statutes Chapter 112.63(1)(f) mandates the use of the same mortality tables used by the FRS in either of its two most recently published actuarial valuation reports.

In the previous valuation, the mortality rates were the same as used for Special Risk Class members in the July 1, 2018 FRS Actuarial Valuation. These rates were based on the RP-2000 Mortality Tables with collar and age adjustments and mortality improvements projected for non-disabled lives to all future years after 2000 using Scale BB.

The following table presents post-retirement mortality rates and life expectancies at illustrative ages. These assumptions are used to measure the probabilities of each benefit payment being made after retirement.

FRS Healthy Post-Retirement Mortality for Special Risk Class Members

Sample Attained Ages (in 2021)	Probability of Dying Next Year		Future Life Expectancy (years)	
	Men	Women	Men	Women
50	0.42 %	0.20 %	32.50	36.33
55	0.56	0.36	27.73	31.30
60	0.92	0.61	23.14	26.51
65	1.32	0.92	18.87	22.00
70	2.08	1.45	14.86	17.74
75	3.54	2.42	11.27	13.82
80	6.30	4.16	8.19	10.35

The following tables present pre-retirement mortality rates and life expectancies at illustrative ages. These assumptions are used to measure the probabilities of active members dying prior to retirement. All Police and 90% of Firefighters' deaths before retirement are assumed to be non-service connected.

FRS Healthy Pre-Retirement Mortality for Special Risk Class Members

Sample Attained Ages (in 2021)	Probability of Dying Next Year		Future Life Expectancy (years)	
	Men	Women	Men	Women
50	0.16 %	0.11 %	35.66	39.58
55	0.26	0.16	30.58	34.44
60	0.43	0.22	25.63	29.37
65	0.69	0.30	20.86	24.35
70	1.18	0.55	16.34	19.45
75	2.08	1.07	12.10	14.75
80	6.30	4.16	8.19	10.35

The following table presents disabled post-retirement mortality rates and life expectancies at illustrative ages.

FRS Disabled Mortality for Special Risk Class Members

Sample Attained Ages	Probability of Dying Next Year		Future Life Expectancy (years)	
	Men	Women	Men	Women
50	1.45 %	1.25 %	24.04	26.84
55	1.91	1.50	20.88	23.54
60	2.37	1.81	17.92	20.32
65	3.00	2.22	15.07	17.17
70	3.91	2.90	12.39	14.10
75	5.30	4.13	9.87	11.22
80	7.66	6.21	7.60	8.67

The mortality tables used in the valuation for Non-Hazardous Duty members are based on the PUB-2010 Headcount Weighted Mortality Tables described below, with mortality improvements projected for healthy lives to all future years after 2010 using Scale MP-2018. No mortality improvement is projected for disabled lives.

	Pre-Retirement PUB-2010 Table	Post-Retirement PUB-2010 Table
Female Healthy	Headcount Weighted General Below Median Employee Female Table	Headcount Weighted General Below Median Healthy Retiree Female Table
Male Healthy	Headcount Weighted General Below Median Employee Male Table, set back 1 year	Headcount Weighted General Below Median Healthy Retiree Male Table, set back 1 year
Female Disabled	N/A	PUB-2010 Headcount Weighted General Disabled Retiree Female, set forward 3 years
Male Disabled	N/A	PUB-2010 Headcount Weighted General Disabled Retiree Male, set forward 3 years

These are the same rates used for Regular Class members (other than K-12 School Instructional Personnel) of the Florida Retirement System (FRS) in the July 1, 2019 FRS Actuarial Valuation Report. Florida Statutes Chapter 112.63(1)(f) mandates the use of the mortality tables from either of the two most recently published actuarial valuation reports of FRS.

In the previous valuation, the mortality rates were the same as used for Regular Class members in the July 1, 2018 FRS Actuarial Valuation. These rates were based on the RP-2000 Mortality Tables with collar and age adjustments and mortality improvements projected for non-disabled lives to all future years after 2000 using Scale BB.

The following table presents post-retirement mortality rates and life expectancies at illustrative ages. These assumptions are used to measure the probabilities of each benefit payment being made after retirement.

FRS Healthy Post-Retirement Mortality for Non-Special Risk Class Members

Sample Attained Ages (in 2021)	Probability of Dying Next Year		Future Life Expectancy (years)	
	Men	Women	Men	Women
50	0.19 %	0.58 %	33.14	36.95
55	0.96	0.58	28.77	32.50
60	1.14	0.60	24.68	27.96
65	1.29	0.69	20.63	23.39
70	1.80	1.09	16.62	18.91
75	2.86	1.89	12.91	14.73
80	4.83	3.41	9.63	10.98



The following tables present pre-retirement mortality rates and life expectancies at illustrative ages. These assumptions are used to measure the probabilities of active members dying prior to retirement. All deaths before retirement are assumed to be non-service connected.

FRS Healthy Pre-Retirement Mortality for Non-Special Risk Class Members

Sample Attained Ages (in 2021)	Probability of Dying Next Year		Future Life Expectancy (years)	
	Men	Women	Men	Women
50	0.19 %	0.11 %	37.72	40.26
55	0.30	0.17	32.71	35.14
60	0.46	0.26	27.85	30.11
65	0.65	0.37	23.17	25.19
70	0.90	0.56	18.62	20.37
75	1.35	0.93	14.19	15.68
80	2.13	1.58	9.89	11.17

The following table presents disabled post-retirement mortality rates and life expectancies at illustrative ages.

FRS Disabled Mortality for Non-Special Risk Class Members

Sample Attained Ages	Probability of Dying Next Year		Future Life Expectancy (years)	
	Men	Women	Men	Women
50	2.02 %	1.64 %	20.99	23.92
55	2.53	1.91	18.18	20.88
60	3.08	2.27	15.50	17.88
65	3.93	2.83	12.94	14.91
70	5.08	3.79	10.53	12.07
75	6.98	5.46	8.29	9.45
80	10.12	8.31	6.33	7.19

The rates of retirement used to measure the probability of eligible members retiring under normal and early retirement eligibility during the next year were as follows:

Hazardous Duty Retirement		
Years of Service	Age	Probability of Retirement
10 - 19	50 - 54	5 %
	55 - 59	15
	60 - 64	40
	65 & Over	100
20 & Over	Under 55	15
	55 - 59	30
	60 - 64	40
	65 & Over	100

Non-Hazardous Duty Retirement		
Years of Service	Age	Probability of Retirement
10 - 19	65 - 74	30 %
	75 & Over	100
20 - 29	55 - 64	20
	65 - 69	30
	70 & Over	100
30 & Over	Under 55	45
	55 - 59	20
	60 - 64	30
	65 - 69	50
	70 & Over	100

Rates of separation from active membership were as shown below (rates do not apply to members eligible to retire and do not include separation on account of death or disability). This assumption measures the probabilities of members separating from employment prior to becoming eligible for retirement.

Hazardous Duty Withdrawal - Males			Hazardous Duty Withdrawal - Females		
Years of Service	Age	% of Active Members Separating Within Next Year	Years of Service	Age	% of Active Members Separating Within Next Year
Under 1	All Ages	8.5 %	Under 1	All Ages	20.0 %
1	All Ages	7.5	1 & Over	All Ages	4.0
2 - 5	Under 40	4.5			
	40 & Over	2.5			
6 & Over	Under 40	2.0			
	40 & Over	1.5			
Non-Hazardous Duty Withdrawal - Males			Non-Hazardous Duty Withdrawal - Females		
Years of Service	Age	% of Active Members Separating Within Next Year	Years of Service	Age	% of Active Members Separating Within Next Year
Under 1	Under 35	25.0 %	Under 3	Under 30	22.0 %
	35 & Over	11.0		30 - 34	15.0
1 - 2	All Ages	16.0		35 - 44	5.0
				45 - 49	14.0
				50 - 59	18.0
3 - 4	Under 40	11.0	60 & Over	25.0	
	40 & Over	5.0			
5 - 9	Under 30	12.5	3 - 4	Under 30	18.0
	30 - 49	5.0		30 - 39	14.0
	50 - 59	3.0		40 - 59	5.0
	60 & Over	7.5		60 & Over	20.0
	10 & Over	Under 35	7.5	5 - 9	Under 35
35 - 39		4.0	35 - 44		6.0
40 - 49		3.5	45 - 59		4.5
50 - 54		2.0	60 & Over		3.0
55 - 59		3.0	10 & Over	Under 40	6.0
60 & Over		4.5		40 - 44	5.0
				45 - 49	3.75
				50 - 54	3.25
		55 - 59		2.75	
		60 & Over	6.0		

Rates of disability among active members (100% of disabilities are assumed to be service-connected).

Hazardous Duty Disability		
Sample Ages	% of Active Members Becoming Disabled Within Next Year	
	Males	Females
20	0.25 %	0.50 %
25	0.25	0.50
30	0.25	0.75
35	0.30	1.00
40	0.45	1.25
45	0.60	1.50
50	0.60	1.50
55	0.60	1.50
60	0.75	1.50
65	1.00	1.50
70	1.50	1.50

Non-Hazardous Duty Disability		
Sample Ages	% of Active Members Becoming Disabled Within Next Year	
	Males	Females
20	0.03 %	0.03 %
25	0.03	0.03
30	0.03	0.03
35	0.04	0.04
40	0.07	0.07
45	0.10	0.10
50	0.14	0.14
55	0.24	0.24
60	0.29	0.29
65	0.34	0.34
70	0.44	0.44

Miscellaneous and Technical Assumptions

<i>Administrative & Investment Expenses</i>	The investment return assumption is intended to be the net return after investment expenses. Annual administrative expenses are assumed to be equal to the administrative expenses of the previous year. Assumed administrative expenses are added to the Normal Cost.
<i>Benefit Service</i>	Exact fractional service is used to determine the amount of benefit payable.
<i>Cost of Living Increases</i>	The adjustment is 1.5% annually commencing on each April 1 for all retirees and beneficiaries who have received at least 6 monthly benefit payments. There is a five-year delay in the COLA for non-grandfathered non-hazardous duty members and hazardous duty police officers employed on or after January 1, 2020 for benefits accrued after January 1, 2013. There is no COLA for non-grandfathered hazardous duty firefighters for benefits accrued after January 1, 2013.
<i>Decrement Operation</i>	Disability and mortality decrements operate during retirement eligibility.
<i>Decrement Timing</i>	Decrement of all types are assumed to occur at the beginning of the year.
<i>Eligibility Testing</i>	Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.
<i>Forfeitures</i>	For vested separations from service, it is assumed that 0% of members separating will withdraw their contributions and forfeit an employer financed benefit. It was further assumed that the liability at termination is the greater of the vested deferred benefit (if any) or the member's accumulated contributions.
<i>Incidence of Contributions</i>	Employer contributions are assumed to be made in equal installments during the first two quarters of the fiscal year. Member contributions are assumed to be received continuously throughout the year based upon the computed percent of payroll shown in this report, and the actual payroll payable at the time contributions are made.

Marriage Assumption

75% of males and 75% of females are assumed to be married for purposes of death-in-service benefits and to determine the normal form of benefit when applicable. Male spouses are assumed to be three years older than female spouses for all active members and for members who became inactive before January 1, 2015. For members who became inactive on or after January 1, 2015, spouses ages are based on the beneficiary dates of birth provided by the Plan Administrator.

Normal Form of Benefit

The normal form of benefit is a life annuity for non-grandfathered non-hazardous duty members. For all other members, the normal form of benefit is a life annuity that includes a survivor benefit where after the participant's death, 100% is payable to the spouse for five years, after which the benefit is reduced to 50%.

Pay Increase Timing

End of fiscal year. This is equivalent to assuming that reported pays represent the annual rate of pay on the valuation date. The pay used for the valuation is equal to the greater of the actual pay for the plan year increased by the salary scale assumption rate (which varies by years of service) and the annual rate of pay on the valuation date.

Service Credit Accruals

It is assumed that members accrue one year of service credit per year.

GLOSSARY

<i>Actuarial Accrued Liability (AAL)</i>	The difference between the Actuarial Present Value of Future Benefits, and the Actuarial Present Value of Future Normal Costs.
<i>Actuarial Assumptions</i>	Assumptions about future plan experience that affect costs or liabilities, such as: mortality, withdrawal, disablement, and retirement; future increases in salary; future rates of investment earnings; future investment and administrative expenses; characteristics of members not specified in the data, such as marital status; characteristics of future members; future elections made by members; and other items.
<i>Actuarial Cost Method</i>	A procedure for allocating the Actuarial Present Value of Future Benefits between the Actuarial Present Value of Future Normal Costs and the Actuarial Accrued Liability.
<i>Actuarial Equivalent</i>	Of equal Actuarial Present Value, determined as of a given date and based on a given set of Actuarial Assumptions.
<i>Actuarial Present Value (APV)</i>	The amount of funds required to provide a payment or series of payments in the future. It is determined by discounting the future payments with an assumed interest rate and with the assumed probability each payment will be made.
<i>Actuarial Present Value of Future Benefits (APVFB)</i>	The Actuarial Present Value of amounts which are expected to be paid at various future times to active members, retired members, beneficiaries receiving benefits, and inactive, nonretired members entitled to either a refund or a future retirement benefit. Expressed another way, it is the value that would have to be invested on the valuation date so that the amount invested plus investment earnings would provide sufficient assets to pay all projected benefits and expenses when due.
<i>Actuarial Valuation</i>	The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a plan. An Actuarial Valuation for a governmental retirement system typically also includes calculations of the Funded Ratio and the Actuarially Determined Contribution (ADC).
<i>Actuarial Value of Assets</i>	The value of the assets as of a given date, used by the actuary for valuation purposes. This may be the market or fair value of plan assets or a smoothed value in order to reduce the year-to-year volatility of calculated results, such as the funded ratio and the Actuarially Determined Contribution (ADC).

<i>Actuarially Determined Contribution (ADC)</i>	The employer's periodic required contributions, expressed as a dollar amount or a percentage of covered plan compensation. The ADC consists of the Employer Normal Cost and Amortization Payment.
<i>Amortization Method</i>	A method for determining the Amortization Payment. The most common methods used are level dollar and level percentage of payroll. Under the Level Dollar method, the Amortization Payment is one of a stream of payments, all equal, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the Amortization Payment is one of a stream of increasing payments, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the stream of payments increases at the rate at which total covered payroll of all active members is assumed to increase.
<i>Amortization Payment</i>	That portion of the plan contribution or ADC which is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability.
<i>Amortization Period</i>	The period used in calculating the Amortization Payment.
<i>Closed Amortization Period</i>	A specific number of years that is reduced by one each year, and declines to zero with the passage of time. For example if the amortization period is initially set at 30 years, it is 29 years at the end of one year, 28 years at the end of two years, etc.
<i>Employer Normal Cost</i>	The portion of the Normal Cost to be paid by the employer. This is equal to the Normal Cost less expected member contributions.
<i>Equivalent Single Amortization Period</i>	For plans that do not establish separate amortization bases (separate components of the UAAL), this is the same as the Amortization Period. For plans that do establish separate amortization bases, this is the period over which the UAAL would be amortized if all amortization bases were combined upon the current UAAL payment.
<i>Experience Gain/Loss</i>	A measure of the difference between the normal cost rate from last year and the normal cost rate from this year.
<i>Funded Ratio</i>	The ratio of the Actuarial Value of Assets to the Actuarial Accrued Liability.
<i>Normal Cost</i>	The annual cost assigned, under the Actuarial Cost Method, to the current plan year.

<i>Open Amortization Period</i>	An open amortization period is one which is used to determine the Amortization Payment but which does not change over time. In other words, if the initial period is set as 30 years, the same 30-year period is used in determining the Amortization Period each year. In theory, if an Open Amortization Period is used to amortize the Unfunded Actuarial Accrued Liability, the UAAL will never completely disappear, but will become smaller each year, either as a dollar amount or in relation to covered payroll.
<i>Unfunded Actuarial Accrued Liability</i>	The difference between the Actuarial Accrued Liability and Actuarial Value of Assets.
<i>Valuation Date</i>	The date as of which the Actuarial Present Value of Future Benefits are determined. The benefits expected to be paid in the future are discounted to this date.

SECTION C

PENSION FUND INFORMATION

Statement of Plan Assets at Market Value

Item	December 31	
	2020	2019
A. Cash and Cash Equivalents (Operating Cash)	\$ -	\$ -
B. Receivables		
1. Member Contributions	\$ -	\$ -
2. Employer Contributions	6,573,873	4,735,719
3. Investment Income and Other Receivables	7,531,666	10,393,319
4. Total Receivables	\$ 14,105,539	\$ 15,129,038
C. Investments		
1. Short-Term Investments	\$ 36,656,865	\$ 19,252,436
2. Domestic Equities	518,911,746	467,303,037
3. International Equities	221,655,402	202,478,365
4. Domestic Fixed Income	340,222,143	290,776,763
5. International Fixed Income	-	-
6. Real Estate	95,691,009	95,127,571
7. Infrastructure	44,524,919	43,301,120
8. Private Equity	-	-
9. Total Investments	\$ 1,257,662,084	\$ 1,118,239,292
D. Liabilities		
1. Benefits Payable	\$ -	\$ -
2. Accrued Expenses and Other Payables	(17,473,778)	(12,472,393)
3. Total Liabilities	\$ (17,473,778)	\$ (12,472,393)
E. Total Market Value of Assets Available for Benefits	\$ 1,254,293,845	\$ 1,120,895,937
F. Allocation of Investments		
1. Short-Term Investments	2.91%	1.72%
2. Domestic Equities	41.26%	41.79%
3. International Equities	17.62%	18.11%
4. Domestic Fixed Income	27.06%	26.00%
5. International Fixed Income	0.00%	0.00%
6. Real Estate	7.61%	8.51%
7. Infrastructure	3.54%	3.87%
8. Private Equity	0.00%	0.00%
9. Total Investments	100.00%	100.00%

Reconciliation of Plan Assets

Item	December 31	
	2020	2019
A. Market Value of Assets at Beginning of Year	\$ 1,120,895,937	\$ 963,571,264
B. Revenues and Expenditures		
1. Contributions		
a. Employee Contributions	\$ 7,971,499	\$ 7,482,806
b. Employer Contributions	12,187,284	10,268,063
c. State Contributions	12,000	12,000
d. Total	\$ 20,170,783	\$ 17,762,869
2. Investment Income		
a. Interest, Dividends, and Other Income	\$ 18,588,138	\$ 21,605,614
b. Net Realized Gains/(Losses)	82,411,206	32,562,716
c. Net Unrealized Gains/(Losses)	72,374,011	143,690,454
d. Investment Expenses	(6,395,926)	(6,674,393)
e. Net Investment Income	\$ 166,977,429	\$ 191,184,391
3. Benefits and Refunds		
a. Refunds	\$ (916,875)	\$ (941,143)
b. Regular Monthly Benefits	(51,027,801)	(49,309,666)
c. Partial Lump-Sum Benefits Paid	(1,560,875)	(1,047,504)
d. Total	\$ (53,505,551)	\$ (51,298,313)
4. Administrative and Miscellaneous Expenses	\$ (244,753)	\$ (324,274)
5. Transfers	\$ -	\$ -
C. Market Value of Assets at End of Year	\$ 1,254,293,845	\$ 1,120,895,937

Development of Actuarial Value of Assets

Valuation Date - December 31	2019	2020	2021	2022	2023	2024
A. Actuarial Value of Assets Beginning of Year	\$ 1,005,100,366	\$ 1,044,240,614				
B. Market Value End of Year	1,120,895,937	1,254,293,845				
C. Market Value Beginning of Year	963,571,264	1,120,895,937				
D. Non-Investment/Administrative Net Cash Flow	(33,859,718)	(33,579,521)				
E. Investment Income						
E1. Actual Market Total: B-C-D	191,184,391	166,977,429				
E2. Assumed Rate of Return	6.75%	6.65%	6.55%	6.50%	6.50%	6.50%
E3. Assumed Amount of Return	63,739,343	73,216,742				
E4. Amount Subject to Phase-In: E1-E3	127,445,048	93,760,687				
F. Phase-In Recognition of Investment Income						
F1. Current Year: 0.2 x E4	25,489,010	18,752,137				
F2. First Prior Year	(19,001,935)	25,489,010	18,752,137			
F3. Second Prior Year	16,085,119	(19,001,935)	25,489,010	18,752,137		
F4. Third Prior Year	(465,144)	16,085,119	(19,001,935)	25,489,010	18,752,137	
F5. Fourth Prior Year	(12,846,427)	(465,145)	16,085,118	(19,001,937)	25,489,008	18,752,139
F6. Total Phase-Ins	9,260,623	40,859,186	41,324,330	25,239,210	44,241,145	18,752,139
G. Actuarial Value of Assets End of Year						
G1. Preliminary Actuarial Value of Assets	\$ 1,044,240,614	\$ 1,124,737,021				
G2. Upper Corridor Limit: 120%*B	\$ 1,345,075,124	\$ 1,505,152,614				
G3. Lower Corridor Limit: 80%*B	\$ 896,716,750	\$ 1,003,435,076				
G4. Funding Value End of Year	\$ 1,044,240,614	\$ 1,124,737,021				
G5. Credit Balance	\$ 28,963,282	\$ 31,554,611				
G6. Final Actuarial Value of Assets	\$ 1,015,277,332	\$ 1,093,182,410				
H. Recognized Investment Earnings	\$ 72,999,966	\$ 114,075,928				
I. Difference between Market & Actuarial Value	\$ 76,655,323	\$ 129,556,824				
J. Actuarial Rate of Return	7.39%	11.10%				
K. Market Value Rate of Return	20.20%	15.12%				
L. Ratio of Actuarial Value of Assets to Market Value	93.16%	89.67%				

The Actuarial Value of Assets recognizes assumed investment return (line E3) fully each year. Differences between actual and assumed investment income (Line E4) are phased-in over a closed 5-year period. During periods when investment performance exceeds the assumed rate, Actuarial Value of Assets will tend to be less than Market Value. During periods when investment performance is less than the assumed rate, Actuarial Value of Assets will tend to be greater than Market Value. If assumed rates are exactly realized for 5 consecutive years, Actuarial Value of Assets will become equal to Market Value.

Allocation of Plan Assets by Group

<u>Item</u>	<u>Total</u>	<u>Non-Hazardous</u>	<u>Hazardous Police</u>	<u>Hazardous Fire</u>
A. Market Value of Assets as of January 1, 2020	\$ 1,120,895,937	\$ 576,174,867	\$ 323,854,740	\$ 220,866,330
B. Contributions (All)	20,170,783	7,848,771	7,275,448	5,046,564
C. Net Investment Return	166,977,429	85,590,389	48,423,234	32,963,806
D. Benefit Payments (All)	53,505,551	28,173,041	14,535,280	10,797,230
E. Administrative Expenses	244,753	125,457	70,978	48,318
F. Market Value of Assets as of January 1, 2021	1,254,293,845	641,315,529	364,947,164	248,031,152
G. Actuarial Value of Assets as of January 1, 2021	1,124,737,021	575,073,632	327,251,535	222,411,854
H. Actuarial Value of Assets less Credit Balance	1,093,182,410	559,102,753	317,999,330	216,080,327

Investment Rate of Return

Plan Year Ending December 31	Market*	Actuarial*
1986	13.21 %	N/A
1987	10.78	N/A
1988	9.12	N/A
1989	20.84	N/A
1990	6.21	N/A
1991	28.52	N/A
1992	6.49	N/A
1993	9.29	7.42 %
1994	0.89	6.28
1995	23.36	9.14
1996	14.80	11.54
1997	17.49	13.74
1998	16.74	15.28
1999	18.61	17.96
2000	(3.43)	12.42
2001	(5.16)	7.40
2002	(8.83)	(1.85)
2003	20.08	7.45
2004	9.73	2.18
2005	6.67	4.58
2006	11.80	7.87
2007	7.29	10.68
2008	(27.01)	(10.61)
2009	30.93	16.53
2010	17.50	5.98
2011	(0.32)	4.46
2012	13.92	5.50
2013	16.90	14.04
2014	7.99	11.04
2015	(0.28)	7.64
2016	6.70	8.22
2017	16.01	8.89
2018	(2.48)	5.76
2019	20.20	7.39
2020	15.12	11.10
Average returns:		
Last five years:	10.81 %	8.26 %
Last ten years:	9.09 %	8.37 %
All years:	9.38 %	7.99 %

**Before investment expenses prior to 2013.*

The above rates are based on the retirement system's financial information reported to the actuary. They may differ from figures that the investment consultant reports, in part because of differences in the handling of administrative and investment expenses, and in part because of differences in the handling of cash flows.

SECTION D

FINANCIAL ACCOUNTING INFORMATION

FASB NO. 35 INFORMATION

A. Valuation Date	January 1, 2021	January 1, 2020
B. Actuarial Present Value of Accumulated Plan Benefits		
1. Vested Benefits		
a. Members Currently Receiving Payments	\$ 685,317,342	\$ 676,836,452
b. Terminated Vested Members	16,396,732	18,283,940
c. Other Members	250,641,102	243,779,791
d. Total	<u>952,355,176</u>	<u>938,900,183</u>
2. Non-Vested Benefits	18,138,133	16,580,142
3. Total Actuarial Present Value of Accumulated Plan Benefits: 1d + 2	970,493,309	955,480,325
4. Accumulated Contributions of Active Members	66,757,705	64,188,492
C. Changes in the Actuarial Present Value of Accumulated Plan Benefits		
1. Total Value at Beginning of Year	955,480,325	913,458,490
2. Increase (Decrease) During the Period Attributable to:		
a. Plan Amendment	0	3,573,402
b. Change in Actuarial Assumptions	(13,512,345)	10,956,515
c. Latest Member Data, Benefits Accumulated and Decrease in the Discount Period	82,030,880	78,790,231
d. Benefits Paid	<u>(53,505,551)</u>	<u>(51,298,313)</u>
e. Net Increase	15,012,984	42,021,835
3. Total Value at End of Period	970,493,309	955,480,325
D. Market Value of Assets	1,254,293,845	1,120,895,937
E. Actuarial Assumptions - See page entitled Actuarial Assumptions and Methods		

SECTION E

MISCELLANEOUS INFORMATION

RECONCILIATION OF MEMBERSHIP DATA		
	From 1/1/2020 To 1/1/2021	From 1/1/2019 To 1/1/2020
A. Active Members		
1. Number Included in Last Valuation	1,571	1,555
2. New Members Included in Current Valuation	104	162
3. Non-Vested Employment Terminations	(84)	(93)
4. Vested Employment Terminations	(8)	(13)
5. Service Retirements	(43)	(38)
6. Disability Retirements	0	(3)
7. Deaths	0	(1)
8. Rehired Members/Data Corrections	<u>1</u>	<u>2</u>
9. Number Included in This Valuation	1,541	1,571
B. Terminated Vested Members		
1. Number Included in Last Valuation	80	86
2. Additions from Active Members	8	13
3. Lump Sum Payments/Refund of Contributions	(3)	(6)
4. Payments Commenced	(11)	(11)
5. Deaths	0	0
6. Conversion from Disability/Rehired Members	0	(2)
7. Data Corrections	<u>0</u>	<u>0</u>
8. Number Included in This Valuation	74	80
C. Service Retirees, Disability Retirees and Beneficiaries		
1. Number Included in Last Valuation	1,321	1,288
2. Additions from Active Members	43	41
3. Additions from Terminated Vested Members	11	11
4. Deaths Resulting in No Further Payments	(27)	(19)
5. Deaths Resulting in New Survivor Benefits	0	1
6. End of Certain Period - No Further Payments	0	0
7. Data Correction/Waiver of Benefits	<u>0</u>	<u>(1)</u>
8. Number Included in This Valuation	1,348	1,321

ACTIVE PARTICIPANT DISTRIBUTION

ALL ACTIVE MEMBERS

Age Group	Years of Service to Valuation Date												Totals
	0-1	1-2	2-3	3-4	4-5	5-9	10-14	15-19	20-24	25-29	30-34	35+	
15-19 NO.	0	0	0	0	0	0	0	0	0	0	0	0	0
TOT PAY	0	0	0	0	0	0	0	0	0	0	0	0	0
AVG PAY	0	0	0	0	0	0	0	0	0	0	0	0	0
20-24 NO.	19	7	7	2	1	1	0	0	0	0	0	0	37
TOT PAY	700,398	228,611	223,226	68,691	30,871	37,257	0	0	0	0	0	0	1,289,054
AVG PAY	36,863	32,659	31,889	34,346	30,871	37,257	0	0	0	0	0	0	34,839
25-29 NO.	23	36	32	23	22	33	0	0	0	0	0	0	169
TOT PAY	909,687	1,632,491	1,685,610	1,107,614	1,217,112	1,740,155	0	0	0	0	0	0	8,292,669
AVG PAY	39,552	45,347	52,675	48,157	55,323	52,732	0	0	0	0	0	0	49,069
30-34 NO.	19	26	22	31	22	56	17	0	0	0	0	0	193
TOT PAY	682,275	1,064,868	1,243,245	1,636,088	1,189,472	3,146,486	1,210,508	0	0	0	0	0	10,172,942
AVG PAY	35,909	40,956	56,511	52,777	54,067	56,187	71,206	0	0	0	0	0	52,710
35-39 NO.	6	15	20	14	15	58	44	24	0	0	0	0	196
TOT PAY	253,129	662,743	984,208	788,719	832,570	3,437,066	3,233,988	1,664,458	0	0	0	0	11,856,881
AVG PAY	42,188	44,183	49,210	56,337	55,505	59,260	73,500	69,352	0	0	0	0	60,494
40-44 NO.	13	11	20	12	6	31	34	45	11	0	0	0	183
TOT PAY	494,305	500,619	847,129	613,302	351,893	1,861,748	2,833,293	3,466,112	771,391	0	0	0	11,739,792
AVG PAY	38,023	45,511	42,356	51,108	58,649	60,056	83,332	77,025	70,126	0	0	0	64,152
45-49 NO.	4	15	18	6	3	34	41	48	38	7	0	0	214
TOT PAY	143,976	603,850	763,651	285,850	124,915	1,889,689	2,773,042	3,909,966	3,411,042	591,500	0	0	14,497,481
AVG PAY	35,994	40,257	42,425	47,642	41,638	55,579	67,635	81,458	89,764	84,500	0	0	67,745
50-54 NO.	11	8	14	5	6	17	20	42	42	24	6	0	195
TOT PAY	474,184	330,951	669,583	252,528	342,690	1,088,043	1,374,442	3,473,108	3,518,018	2,222,825	439,450	0	14,185,822
AVG PAY	43,108	41,369	47,827	50,506	57,115	64,003	68,722	82,693	83,762	92,618	73,242	0	72,748
55-59 NO.	5	7	12	4	2	26	27	40	24	21	8	2	178
TOT PAY	188,933	291,482	659,475	147,559	75,693	1,371,781	1,481,194	2,424,393	1,760,601	1,500,588	611,351	154,347	10,667,397
AVG PAY	37,787	41,640	54,956	36,890	37,846	52,761	54,859	60,610	73,358	71,457	76,419	77,174	59,929
60-64 NO.	1	5	2	2	3	13	16	32	23	16	6	2	121
TOT PAY	46,993	195,606	73,384	115,514	146,273	641,494	959,833	1,764,174	1,309,909	1,039,181	374,308	128,160	6,794,829
AVG PAY	46,993	39,121	36,692	57,757	48,758	49,346	59,990	55,130	56,953	64,949	62,385	64,080	56,156
65+ NO.	3	1	1	1	1	9	6	11	10	7	4	1	55
TOT PAY	199,240	27,757	28,056	29,583	33,233	487,430	324,395	598,208	612,775	474,676	324,881	89,318	3,229,552
AVG PAY	66,413	27,757	28,056	29,583	33,233	54,159	54,066	54,383	61,278	67,811	81,220	89,318	58,719
TOT NO.	104	131	148	100	81	278	205	242	148	75	24	5	1,541
TOT AMT	4,093,120	5,538,978	7,177,567	5,045,448	4,344,722	15,701,149	14,190,695	17,300,419	11,383,736	5,828,770	1,749,990	371,825	92,726,419
AVG AMT	39,357	42,282	48,497	50,454	53,639	56,479	69,223	71,489	76,917	77,717	72,916	74,365	60,173

ACTIVE PARTICIPANT DISTRIBUTION NON-HAZARDOUS DUTY MEMBERS

Age Group	Years of Service to Valuation Date												Totals
	0-1	1-2	2-3	3-4	4-5	5-9	10-14	15-19	20-24	25-29	30-34	35+	
15-19 NO.	0	0	0	0	0	0	0	0	0	0	0	0	0
TOT PAY	0	0	0	0	0	0	0	0	0	0	0	0	0
AVG PAY	0	0	0	0	0	0	0	0	0	0	0	0	0
20-24 NO.	13	7	7	2	1	1	0	0	0	0	0	0	31
TOT PAY	386,387	228,611	223,226	68,691	30,871	37,257	0	0	0	0	0	0	975,043
AVG PAY	29,722	32,659	31,889	34,346	30,871	37,257	0	0	0	0	0	0	31,453
25-29 NO.	18	22	20	16	11	21	0	0	0	0	0	0	108
TOT PAY	674,834	691,873	810,216	596,414	397,210	834,104	0	0	0	0	0	0	4,004,651
AVG PAY	37,491	31,449	40,511	37,276	36,110	39,719	0	0	0	0	0	0	37,080
30-34 NO.	16	22	10	20	14	35	8	0	0	0	0	0	125
TOT PAY	506,269	786,525	362,573	837,553	607,488	1,493,953	391,426	0	0	0	0	0	4,985,787
AVG PAY	31,642	35,751	36,257	41,878	43,392	42,684	48,928	0	0	0	0	0	39,886
35-39 NO.	5	12	14	9	11	36	25	18	0	0	0	0	130
TOT PAY	191,357	452,318	557,387	415,794	532,475	1,703,635	1,311,495	961,820	0	0	0	0	6,126,281
AVG PAY	38,271	37,693	39,813	46,199	48,407	47,323	52,460	53,434	0	0	0	0	47,125
40-44 NO.	12	10	19	12	4	20	11	22	8	0	0	0	118
TOT PAY	438,276	432,153	758,037	613,302	195,946	960,161	660,932	1,182,542	423,730	0	0	0	5,665,079
AVG PAY	36,523	43,215	39,897	51,109	48,987	48,008	60,085	53,752	52,966	0	0	0	48,009
45-49 NO.	4	15	17	5	3	29	30	24	17	4	0	0	148
TOT PAY	143,976	603,850	688,363	206,667	124,915	1,476,769	1,714,456	1,334,171	1,006,103	235,593	0	0	7,534,863
AVG PAY	35,994	40,257	40,492	41,333	41,638	50,923	57,149	55,590	59,183	58,898	0	0	50,911
50-54 NO.	10	7	12	4	5	14	14	18	23	14	5	0	126
TOT PAY	397,637	254,623	524,573	159,302	259,770	823,491	772,071	956,582	1,375,524	948,639	324,643	0	6,796,855
AVG PAY	39,764	36,375	43,714	39,826	51,954	58,821	55,148	53,143	59,805	67,760	64,929	0	53,943
55-59 NO.	5	7	10	4	2	24	25	35	21	15	7	2	157
TOT PAY	188,933	291,482	498,648	147,559	75,693	1,120,988	1,263,866	1,956,136	1,405,945	887,433	472,858	154,347	8,463,888
AVG PAY	37,787	41,640	49,865	36,890	37,847	46,708	50,555	55,890	66,950	59,162	67,551	77,174	53,910
60-64 NO.	1	5	2	2	3	13	14	31	23	15	6	2	117
TOT PAY	46,993	195,606	73,384	115,514	146,273	641,494	696,545	1,659,978	1,309,909	936,451	374,308	128,160	6,324,615
AVG PAY	46,993	39,121	36,692	57,757	48,758	49,346	49,753	53,548	56,953	62,430	62,385	64,080	54,057
65+ NO.	3	1	1	1	1	9	5	11	10	7	4	1	54
TOT PAY	199,240	27,757	28,056	29,583	33,233	487,430	223,315	598,208	612,775	474,676	324,881	89,318	3,128,472
AVG PAY	66,413	27,757	28,056	29,583	33,233	54,159	44,663	54,383	61,278	67,811	81,220	89,318	57,935
TOT NO.	87	108	112	75	55	202	132	159	102	55	22	5	1,114
TOT AMT	3,173,902	3,964,798	4,524,463	3,190,379	2,403,874	9,579,282	7,034,106	8,649,437	6,133,986	3,482,792	1,496,690	371,825	54,005,534
AVG AMT	36,482	36,711	40,397	42,538	43,707	47,422	53,289	54,399	60,137	63,323	68,031	74,365	48,479

ACTIVE PARTICIPANT DISTRIBUTION HAZARDOUS POLICE MEMBERS

Years of Service to Valuation Date													
Age Group	0-1	1-2	2-3	3-4	4-5	5-9	10-14	15-19	20-24	25-29	30-34	35+	Totals
15-19 NO.	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0
20-24 NO.	2	0	0	0	0	0	0	0	0	0	0	0	2
	96,131	0	0	0	0	0	0	0	0	0	0	0	96,131
	48,066	0	0	0	0	0	0	0	0	0	0	0	48,066
25-29 NO.	4	6	7	4	11	9	0	0	0	0	0	0	41
	180,383	408,337	510,735	294,029	819,902	685,776	0	0	0	0	0	0	2,899,162
	45,096	68,056	72,962	73,507	74,537	76,197	0	0	0	0	0	0	70,711
30-34 NO.	2	3	4	7	3	14	2	0	0	0	0	0	35
	121,536	213,008	288,876	517,106	217,092	1,109,075	177,795	0	0	0	0	0	2,644,488
	60,768	71,003	72,219	73,872	72,364	79,220	88,898	0	0	0	0	0	75,557
35-39 NO.	1	3	2	3	1	12	10	3	0	0	0	0	35
	61,772	210,425	148,950	231,241	75,152	980,875	989,220	376,060	0	0	0	0	3,073,695
	61,772	70,142	74,475	77,080	75,152	81,740	98,922	125,353	0	0	0	0	87,820
40-44 NO.	1	1	1	0	1	8	12	8	3	0	0	0	35
	56,029	68,466	89,092	0	76,073	660,133	1,129,372	871,449	347,661	0	0	0	3,298,275
	56,029	68,466	89,092	0	76,073	82,517	94,114	108,931	115,887	0	0	0	94,236
45-49 NO.	0	0	1	1	0	4	8	11	14	1	0	0	40
	0	0	75,288	79,183	0	312,188	778,922	1,173,120	1,632,556	141,042	0	0	4,192,299
	0	0	75,288	79,183	0	78,047	97,365	106,647	116,611	141,042	0	0	104,807
50-54 NO.	0	0	2	0	0	3	5	11	10	9	1	0	41
	0	0	145,010	0	0	264,552	495,400	1,168,653	1,143,876	1,167,261	114,807	0	4,499,559
	0	0	72,505	0	0	88,184	99,080	106,241	114,388	129,696	114,807	0	109,745
55-59 NO.	0	0	0	0	0	0	1	2	0	2	1	0	6
	0	0	0	0	0	0	95,284	195,651	0	194,183	138,493	0	623,611
	0	0	0	0	0	0	95,284	97,826	0	97,092	138,493	0	103,935
60-64 NO.	0	0	0	0	0	0	0	1	0	0	0	0	1
	0	0	0	0	0	0	0	104,196	0	0	0	0	104,196
	0	0	0	0	0	0	0	104,196	0	0	0	0	104,196
65+ NO.	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0
TOT NO.	10	13	17	15	16	50	38	36	27	12	2	0	236
TOT AMT	515,851	900,236	1,257,951	1,121,559	1,188,219	4,012,599	3,665,993	3,889,129	3,124,093	1,502,486	253,300	0	21,431,416
AVG AMT	51,585	69,249	73,997	74,771	74,264	80,252	96,474	108,031	115,707	125,207	126,650	0	90,811

ACTIVE PARTICIPANT DISTRIBUTION HAZARDOUS FIRE MEMBERS

Years of Service to Valuation Date														
Age Group	0-1	1-2	2-3	3-4	4-5	5-9	10-14	15-19	20-24	25-29	30-34	35+	Totals	
15-19 NO.	0	0	0	0	0	0	0	0	0	0	0	0	0	
	0	0	0	0	0	0	0	0	0	0	0	0	0	
	0	0	0	0	0	0	0	0	0	0	0	0	0	
20-24 NO.	4	0	0	0	0	0	0	0	0	0	0	0	4	
	217,880	0	0	0	0	0	0	0	0	0	0	0	217,880	
	54,470	0	0	0	0	0	0	0	0	0	0	0	54,470	
25-29 NO.	1	8	5	3	0	3	0	0	0	0	0	0	20	
	54,470	532,281	364,659	217,171	0	220,275	0	0	0	0	0	0	1,388,856	
	54,470	66,535	72,932	72,390	0	73,425	0	0	0	0	0	0	69,443	
30-34 NO.	1	1	8	4	5	7	7	0	0	0	0	0	33	
	54,470	65,335	591,796	281,429	364,892	543,458	641,287	0	0	0	0	0	2,542,667	
	54,470	65,335	73,975	70,357	72,978	77,637	91,612	0	0	0	0	0	77,051	
35-39 NO.	0	0	4	2	3	10	9	3	0	0	0	0	31	
	0	0	277,871	141,684	224,943	752,556	933,273	326,578	0	0	0	0	2,656,905	
	0	0	69,468	70,842	74,981	75,256	103,697	108,859	0	0	0	0	85,707	
40-44 NO.	0	0	0	0	1	3	11	15	0	0	0	0	30	
	0	0	0	0	79,874	241,454	1,042,989	1,412,121	0	0	0	0	2,776,438	
	0	0	0	0	79,874	80,485	94,817	94,141	0	0	0	0	92,548	
45-49 NO.	0	0	0	0	0	1	3	13	7	2	0	0	26	
	0	0	0	0	0	100,732	279,664	1,402,675	772,383	214,865	0	0	2,770,319	
	0	0	0	0	0	100,732	93,221	107,898	110,340	107,433	0	0	106,551	
50-54 NO.	1	1	0	1	1	0	1	13	9	1	0	0	28	
	76,547	76,328	0	93,226	82,920	0	106,971	1,347,873	998,618	106,925	0	0	2,889,408	
	76,547	76,328	0	93,226	82,920	0	106,971	103,683	110,958	106,925	0	0	103,193	
55-59 NO.	0	0	2	0	0	2	1	3	3	4	0	0	15	
	0	0	160,827	0	0	250,793	122,044	272,606	354,656	418,972	0	0	1,579,898	
	0	0	80,414	0	0	125,397	122,044	90,869	118,219	104,743	0	0	105,327	
60-64 NO.	0	0	0	0	0	0	2	0	0	1	0	0	3	
	0	0	0	0	0	0	263,288	0	0	102,730	0	0	366,018	
	0	0	0	0	0	0	131,644	0	0	102,730	0	0	122,006	
65+ NO.	0	0	0	0	0	0	1	0	0	0	0	0	1	
	0	0	0	0	0	0	101,080	0	0	0	0	0	101,080	
	0	0	0	0	0	0	101,080	0	0	0	0	0	101,080	
TOT NO.	7	10	19	10	10	26	35	47	19	8	0	0	191	
TOT AMT	403,367	673,944	1,395,153	733,510	752,629	2,109,268	3,490,596	4,761,853	2,125,657	843,492	0	0	17,289,469	
AVG AMT	57,624	67,394	73,429	73,351	75,263	81,126	99,731	101,316	111,877	105,437	0	0	90,521	

INACTIVE PARTICIPANT DISTRIBUTION

Age Group	Terminated Vested		Disabled		Retired		Deceased with Beneficiary	
	Number	Total Benefits	Number	Total Benefits	Number	Total Benefits	Number	Total Benefits
Under 20	-	-	-	-	-	-	2	25,808
20-24	-	-	-	-	-	-	2	51,812
25-29	-	-	-	-	-	-	-	-
30-34	1	8,738	-	-	-	-	2	31,193
35-39	7	137,661	3	125,874	-	-	3	98,213
40-44	17	360,117	3	115,732	3	127,861	2	54,534
45-49	17	347,949	7	340,061	20	855,970	1	27,023
50-54	17	425,647	11	433,292	56	2,696,123	5	117,620
55-59	5	53,252	12	537,330	138	6,163,230	10	380,179
60-64	10	142,009	22	661,201	173	7,786,633	21	449,617
65-69	-	-	24	698,298	276	11,625,513	19	472,064
70-74	-	-	23	718,606	237	9,192,967	19	444,146
75-79	-	-	11	243,354	91	3,558,111	22	504,874
80-84	-	-	9	243,136	45	1,523,957	24	521,791
85-89	-	-	4	102,278	22	631,799	14	163,266
90-94	-	-	-	-	3	71,557	8	65,648
95-99	-	-	-	-	-	-	-	-
100 & Over	-	-	-	-	-	-	1	2,461
Total	74	1,475,373	129	4,219,162	1,064	44,233,721	155	3,410,249
Average Age		49		65		67		71

SECTION F

SUMMARY OF PLAN PROVISIONS

SUMMARY OF PLAN PROVISIONS

A. Ordinances

The Plan was established under the Code of Ordinances for the City of Clearwater, Florida, Chapter 2, Article V, Division 3 and was most recently amended under Ordinance No. 9380-20 passed and adopted on March 5, 2020. The Plan is also governed by certain provisions of Part VII, Chapter 112, Florida Statutes (F.S.) and the Internal Revenue Code.

B. Effective Date

Restated Plan Effective Date: January 1, 2013 (previous restated Plan Effective Date was January 1, 1996).

C. Plan Year

January 1 through December 31.

D. Type of Plan

Qualified, governmental defined benefit retirement plan; for GASB purposes it is a single employer plan.

E. Eligibility Requirements

All full-time permanent employees of the City are required to participate and become participants on their date of hire.

F. Grandfathered Members

Members who are eligible for normal retirement as of January 1, 2013 are grandfathered in the plan provisions in effect before Ordinance No. 8333-12.

G. Credited Service

Credited Service is measured as the total number of years and fractional parts of years from the date of employment to the date of termination or retirement. No service is credited for any periods of employment for which a participant received a refund of their contributions.

H. Compensation

The total compensation for services rendered to the City reportable on the participant's W-2 form, plus all tax deferred, tax sheltered or tax exempt items of income derived from elective employee payroll deductions or salary reductions, but excluding any lump sum payments of unused vacation and sick leave, pay for off-duty employment, and clothing, car or meal allowances.

Effective January 1, 2013: For non-grandfathered hazardous duty members, the amount of overtime included in Compensation is limited to 300 hours per year; For non-grandfathered non-hazardous duty members, Compensation excludes overtime and additional pay above the base rate of pay.

I. Average Monthly Compensation (AMC)

One-twelfth of the average of Compensation during the highest 5 years out of the last 10 years preceding termination or retirement.

J. Normal Retirement

Eligibility: For Non-Hazardous Duty

A participant hired before January 1, 2013 may retire on the first day of the month coincident with or next following the earliest of:

- (1) age 55 with 20 years of Credited Service, or
- (2) 30 years of Credited Service regardless of age, or
- (3) age 65 with 10 years of Credited Service.

A participant hired on or after January 1, 2013 may retire on the first day of the month coincident with or next following the earliest of:

- (1) age 60 with 25 years of Credited Service, or
- (2) age 65 with 10 years of Credited Service

For Hazardous Duty Police Officers and Firefighters

A participant may retire on the first day of the month coincident with or next following the earlier of:

- (1) age 55 with 10 years of Credited Service, or
- (2) 20 years of Credited Service regardless of age.

Benefit: 2.75% of AMC multiplied by years of Credited Service.

For Non-Hazardous Duty participants hired on or after January 1, 2013, 2.00% of AMC multiplied by years of Credited Service.

Normal Form
of Benefit: For Non-Hazardous Duty (Non-Grandfathered)

A monthly annuity is paid for the life of the participant.

For Hazardous Duty Police Officers and Firefighters (and Grandfathered Non-Hazardous Duty)

A monthly annuity is paid for the life of the participant. After the participant's death, 100% of the Normal Retirement Benefit shall be paid as a survivor annuity to the spouse for 5 years. After 5 years, such survivor annuity is reduced to 50% of the original amount. The survivor annuity ceases upon death or remarriage of the spouse. 120 monthly payments are guaranteed for police officers and firefighters. Optional forms of benefits are available.

COLA: For Non-Hazardous Duty and Hazardous Duty Police Officers

1.5% annually commencing on each April 1 for all retirees and beneficiaries who have received at least 6 monthly benefit payments. For non-grandfathered members (not eligible for normal retirement on January 1, 2013), there is a five-year delay (after the retirement date) until this COLA is applied to benefits accrued after January 1, 2013. For Police Officers, the COLA with a 5-year delay (applicable to post-January 1, 2013 benefit accruals) only applies to Police Officers employed by the City on or after January 1, 2020.

For Hazardous Duty Firefighters

1.5% annually commencing on each April 1 for all retirees and beneficiaries who have received at least 6 monthly benefit payments. For non-grandfathered members (not eligible for normal retirement on January 1, 2013), there is no COLA for benefits accrued after January 1, 2013.

K. Early Retirement

Eligibility: Police Officers and Firefighters may elect to retire earlier than the Normal Retirement Eligibility upon the attainment of age 50 with 10 years of Credited Service.

Benefit: The Normal Retirement Benefit is reduced by 3.0% for each year by which the Early Retirement date precedes age 55.

Normal Form

of Benefit: A monthly annuity is paid for the life of the participant. After the participant's death, 100% of the Normal Retirement Benefit shall be paid as a survivor annuity to the spouse for 5 years. After 5 years, such survivor annuity is reduced to 50% of the original amount. The survivor annuity ceases upon death or remarriage of the spouse. 120 monthly payments are guaranteed for police officers and firefighters. Optional forms of benefits are available.

COLA: For Hazardous Duty Police Officers

1.5% annually commencing on each April 1 for all retirees and beneficiaries who have received at least 6 monthly benefit payments. For non-grandfathered members (not eligible for normal retirement on January 1, 2013), there is a five-year delay (after the retirement date) until this COLA is applied to benefits accrued after January 1, 2013. For Police Officers, the COLA with a 5-year delay (applicable to post-January 1, 2013 benefit accruals) only applies to Police Officers employed by the City on or after January 1, 2020.

For Hazardous Duty Firefighters

1.5% annually commencing on each April 1 for all retirees and beneficiaries who have received at least 6 monthly benefit payments. For non-grandfathered members (not eligible for normal retirement on January 1, 2013), there is no COLA for benefits accrued after January 1, 2013.

L. Delayed Retirement

Same as Normal Retirement taking into account Compensation earned and service credited until the date of actual retirement.

M. Service Connected Disability

Eligibility: Any participant who becomes totally and permanently disabled due to an illness or injury contracted in the line of duty and is deemed to be unable to perform useful and efficient service to the City is immediately eligible for a disability benefit.

Benefit: For Non-Hazardous Duty

Participant's accrued Normal Retirement Benefit taking into account Compensation earned and service credited until the date of disability. Benefit is guaranteed to be no less than 42% of the participant's AMC (66 2/3% of the participant's AMC if grandfathered). Disability benefits, when combined with Worker's Compensation benefits, cannot exceed and will be limited to 100% of the participant's AMC on the date of disability.

For Hazardous Duty Police Officers and Firefighters

Participant's accrued Normal Retirement Benefit taking into account Compensation earned and service credited until the date of disability. Benefit is guaranteed to be no less than 66 2/3% of the participant's AMC. Disability benefits, when combined with Worker's Compensation benefits, cannot exceed and will be limited to 100% of the participant's AMC on the date of disability.

Normal Form
of Benefit:

For Non-Hazardous Duty (Non-Grandfathered)

A monthly annuity is paid for the life of the participant.

For Hazardous Duty Police Officers and Firefighters (and Grandfathered Non-Hazardous Duty)

A monthly annuity is paid for the life of the participant. After the participant's death, 100% of the Normal Retirement Benefit shall be paid as a survivor annuity to the spouse for 5 years. After 5 years, such survivor annuity is reduced to 50% of the original amount. The survivor annuity ceases upon death or remarriage of the spouse. 120 monthly payments are guaranteed for police officers and firefighters. Optional forms of benefits are available.

COLA:

For Non-Hazardous Duty and Hazardous Duty Police Officers

1.5% annually commencing on each April 1 for all retirees and beneficiaries who have received at least 6 monthly benefit payments. For non-grandfathered members (not eligible for normal retirement on January 1, 2013), there is a five-year delay (after the retirement date) until this COLA is applied to benefits accrued after January 1, 2013. For Police Officers, the COLA with a 5-year delay (applicable to post-January 1, 2013 benefit accruals) only applies to Police Officers employed by the City on or after January 1, 2020.

For Hazardous Duty Firefighters

1.5% annually commencing on each April 1 for all retirees and beneficiaries who have received at least 6 monthly benefit payments. For non-grandfathered members (not eligible for normal retirement on January 1, 2013), there is no COLA for benefits accrued after January 1, 2013.

N. Non-Service Connected Disability

Eligibility:

Any participant who has 10 or more years of Credited Service and becomes totally and permanently disabled and is deemed to be unable to perform useful and efficient service to the City is immediately eligible for a disability benefit.

Benefit: Participant's accrued Normal Retirement Benefit taking into account Compensation earned and service credited until the date of disability. Disability benefits, when combined with Worker's Compensation benefits, cannot exceed and will be limited to 100% of the participant's AMC on the date of disability.

Normal Form of Benefit: For Non-Hazardous Duty (Non-Grandfathered)

A monthly annuity is paid for the life of the participant.

For Hazardous Duty Police Officers and Firefighters (and Grandfathered Non-Hazardous Duty)

A monthly annuity is paid for the life of the participant. After the participant's death, 100% of the Normal Retirement Benefit shall be paid as a survivor annuity to the spouse for 5 years. After 5 years, such survivor annuity is reduced to 50% of the original amount. The survivor annuity ceases upon death or remarriage of the spouse. 120 monthly payments are guaranteed for police officers and firefighters. Optional forms of benefits are available.

COLA: For Non-Hazardous Duty and Hazardous Duty Police Officers

1.5% annually commencing on each April 1 for all retirees and beneficiaries who have received at least 6 monthly benefit payments. For non-grandfathered members (not eligible for normal retirement on January 1, 2013), there is a five-year delay (after the retirement date) until this COLA is applied to benefits accrued after January 1, 2013. For Police Officers, the COLA with a 5-year delay (applicable to post-January 1, 2013 benefit accruals) only applies to Police Officers employed by the City on or after January 1, 2020.

For Hazardous Duty Firefighters

1.5% annually commencing on each April 1 for all retirees and beneficiaries who have received at least 6 monthly benefit payments. For non-grandfathered members (not eligible for normal retirement on January 1, 2013), there is no COLA for benefits accrued after January 1, 2013.

O. Death in the Line of Duty

Eligibility: Any participant whose employment is terminated by reason of death in the line of duty is eligible for survivor benefits.

Benefit: Beneficiary will be paid the participant's accrued benefit based upon Credited Service and AMC as of the date of death. Benefit is guaranteed to be no less than 66 2/3% of the participant's AMC.

Normal Form
of Benefit: 100% of the participant's accrued benefit shall be paid as a survivor annuity to the spouse for 5 years. After 5 years, such survivor annuity is reduced to 50% of the original amount. The survivor annuity ceases upon death or remarriage of the spouse. 120 monthly payments are guaranteed for police officers and firefighters.

COLA: For Non-Hazardous Duty and Hazardous Duty Police Officers

1.5% annually commencing on each April 1 for all retirees and beneficiaries who have received at least 6 monthly benefit payments. For non-grandfathered members (not eligible for normal retirement on January 1, 2013), there is a five-year delay (after the retirement date) until this COLA is applied to benefits accrued after January 1, 2013. For Police Officers, the COLA with a 5-year delay (applicable to post-January 1, 2013 benefit accruals) only applies to Police Officers employed by the City on or after January 1, 2020.

For Hazardous Duty Firefighters

1.5% annually commencing on each April 1 for all retirees and beneficiaries who have received at least 6 monthly benefit payments. For non-grandfathered members (not eligible for normal retirement on January 1, 2013), there is no COLA for benefits accrued after January 1, 2013.

In lieu of the benefits described above, the participant's beneficiary can elect to receive a refund of participant's accumulated contributions with interest.

P. Other Pre-Retirement Death

Eligibility: Any participant who dies with 10 or more years of Credited Service is eligible for survivor benefits.

Benefit: Beneficiary will be paid the participant's accrued benefit based upon Credited Service and AMC as of the date of death.

Normal Form
of Benefit: 100% of the participant's accrued benefit shall be paid as a survivor annuity to the spouse for 5 years. After 5 years, such survivor annuity is reduced to 50% of the original amount. The survivor annuity ceases upon death or remarriage of the spouse. 120 monthly payments are guaranteed for police officers and firefighters.

COLA: For Non-Hazardous Duty and Hazardous Duty Police Officers

1.5% annually commencing on each April 1 for all retirees and beneficiaries who have received at least 6 monthly benefit payments. For non-grandfathered members (not eligible for normal retirement on January 1, 2013), there is a five-year delay (after the retirement date) until this COLA is applied to benefits accrued after January 1, 2013. For Police Officers, the COLA with a 5-year delay (applicable to post-January 1, 2013 benefit accruals) only applies to Police Officers employed by the City on or after January 1, 2020.

For Hazardous Duty Firefighters

1.5% annually commencing on each April 1 for all retirees and beneficiaries who have received at least 6 monthly benefit payments. For non-grandfathered members (not eligible for normal retirement on January 1, 2013), there is no COLA for benefits accrued after January 1, 2013.

In lieu of the benefits described above, a participant's beneficiary can elect to receive a refund of the participant's accumulated contributions with interest. Accumulated contributions, plus interest, will be refunded for all participants with less than 10 years of Credited Service.

Q. Post Retirement Death

Benefit determined by the form of benefit elected upon retirement.

R. Optional Forms

In lieu of electing the Normal Form of benefit, the optional forms of benefits available to all retirees are a Single Life Annuity, a 10 Year Certain and Life Annuity, or the 50%, 66 2/3% (for police officers and firefighters), 75% or 100% Joint and Survivor options. Members may also elect a partial lump sum equal to 10%, 20%, or 30% of the value of the normal retirement benefit with the remaining monthly retirement benefit reduced accordingly.

S. Vested Termination

Eligibility: A participant has earned a non-forfeitable right to Plan benefits after the completion of 10 years of Credited Service provided employee contributions are not refunded.

Vesting is determined in accordance with the following table.

Years of Credited Service	% of Normal Retirement Benefits
Less Than 10	0%
10 or more	100%

Benefit: The participant's accrued Normal Retirement Benefit as of the date of termination. Benefit begins on the member's Normal Retirement date. Alternatively, police officers and firefighters may elect to receive an actuarially reduced Early Retirement Benefit any time after age 50.

Normal Form of Benefit: For Non-Hazardous Duty (Non-Grandfathered)

A monthly annuity is paid for the life of the participant.

For Hazardous Duty Police Officers and Firefighters (and Grandfathered Non-Hazardous Duty)

A monthly annuity is paid for the life of the participant. After the participant's death, 100% of the Normal Retirement Benefit shall be paid as a survivor annuity to the spouse for 5 years. After 5 years, such survivor annuity is reduced to 50% of the original amount. The survivor annuity ceases upon death or remarriage of the spouse. 120 monthly payments are guaranteed for police officers and firefighters. Optional forms of benefits are available.

COLA: For Non-Hazardous Duty and Hazardous Duty Police Officers

1.5% annually commencing on each April 1 for all retirees and beneficiaries who have received at least 6 monthly benefit payments. For non-grandfathered members (not eligible for normal retirement on January 1, 2013), there is a five-year delay (after the retirement date) until this COLA is applied to benefits accrued after January 1, 2013. For Police Officers, the COLA with a 5-year delay (applicable to post-January 1, 2013 benefit accruals) only applies to Police Officers employed by the City on or after January 1, 2020.

For Hazardous Duty Firefighters

1.5% annually commencing on each April 1 for all retirees and beneficiaries who have received at least 6 monthly benefit payments. For non-grandfathered members (not eligible for normal retirement on January 1, 2013), there is no COLA for benefits accrued after January 1, 2013.

Plan participants with less than 10 years of Credited Service will receive a refund of their own accumulated contributions with interest.

T. Refunds

Eligibility: All participants terminating employment with less than 10 years of Credited Service are eligible. Optionally, vested members (those with 10 or more years of credited service) may elect a refund in lieu of the vested benefits otherwise due.

Benefit: Refund of the member's contributions with 5% simple interest paid in a single lump sum.

U. Member Contributions

8% of Compensation for Non-Hazardous Duty participants.

10% of Compensation for Hazardous Duty participants (8% of Compensation if grandfathered).

V. Employer Contributions

Each plan year, the Employer must contribute a minimum of 7% of the Compensation of all employees participating in the plan, plus any additional amount determined by the actuary needed to fund the plan properly according to State laws.

W. Cost of Living Increases

For Non-Hazardous Duty and Hazardous Duty Police Officers

1.5% annually commencing on each April 1 for all retirees and beneficiaries who have received at least 6 monthly benefit payments. For non-grandfathered members (not eligible for normal retirement on January 1, 2013), there is a five-year delay (after the retirement date) until this COLA is applied to benefits accrued after January 1, 2013. For Police Officers, the COLA with a 5-year delay (applicable to post-January 1, 2013 benefit accruals) only applies to Police Officers employed by the City on or after January 1, 2020.

For Hazardous Duty Firefighters

1.5% annually commencing on each April 1 for all retirees and beneficiaries who have received at least 6 monthly benefit payments. For non-grandfathered members (not eligible for normal retirement on January 1, 2013), there is no COLA for benefits accrued after January 1, 2013.

X. 13th Check

Not Applicable

Y. Deferred Retirement Option Plan

Not Applicable

Z. Other Ancillary Benefits

There are no ancillary retirement type benefits not required by statutes but which might be deemed a City of Clearwater Employees' Pension Plan liability if continued beyond the availability of funding by the current funding source.

AA. Changes from Previous Valuation

None.