

City of Boynton Beach Municipal Police Officers' Retirement Fund

Revised Actuarial Valuation Report as of October 1,
2019

Annual Employer Contribution for the Fiscal Year
Ending September 30, 2021





May 13, 2020

Board of Trustees
City of Boynton Beach Municipal
Police Officers' Retirement Fund
Boynton Beach, Florida

Dear Board Members:

The results of the revised October 1, 2019 Annual Actuarial Valuation of the City of Boynton Beach Municipal Police Officers' Retirement Fund are presented in this report. **This report does not reflect the recent and still developing impact of COVID-19, which may significantly impact demographic and economic experience.**

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 purpose of the valuation is to measure the System's funding progress, to determine the employer contribution rate for the fiscal year ending September 30, 2021, and to present the actuarial information for Governmental Accounting Standards Board (GASB) Statement No. 67. This report also includes estimated GASB Statement No. 67 information for the fiscal year ending September 30, 2020. 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 the risks of future experience not meeting the actuarial assumptions. A robust assessment of these 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 September 30, 2019. The valuation was based upon information furnished by the Plan Administrator concerning Retirement Plan 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 Plan Administrator.

This report was prepared using certain assumptions approved by the Board and prescribed by the Florida Statutes as described in the section of this report entitled Actuarial Assumptions and Cost Methods. The prescribed assumptions are the assumed mortality rates detailed in the Actuarial Assumptions and Cost Methods section in accordance with Florida Statutes, Chapter 112.63.

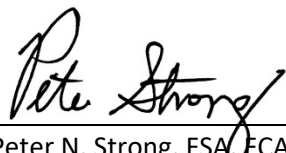
This report has been prepared by actuaries who have substantial experience valuing public employee retirement systems. To the best of our knowledge the information contained in this report is accurate and fairly presents the actuarial position of the Retirement Plan as of the valuation date. All calculations 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 Jeffrey 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 report with the Board of Trustees and to answer any questions pertaining to the valuation.
Respectfully submitted,

GABRIEL, ROEDER, SMITH AND COMPANY

By 
Peter N. Strong, FSA, FCA, MAAA
Enrolled Actuary No. 20-06975

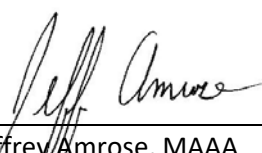
By 
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SECTION A

DISCUSSION OF VALUATION RESULTS

DISCUSSION OF VALUATION RESULTS

COMPARISON OF REQUIRED EMPLOYER CONTRIBUTIONS

A comparison of the required employer contribution developed in this and the last actuarial valuation is shown below. The contribution policy of the City is to contribute the dollar amount determined by multiplying the required percentage of payroll determined as of the valuation date by the projected pensionable payroll for the year.

	For FYE 9/30/21 Based on 10/1/2019 Valuation	For FYE 9/30/20 Based on 10/1/2018 Valuation	Increase (Decrease)
Required Employer/State Contribution As % of Covered Payroll	\$ 6,464,517 56.19 %	\$ 6,280,602 54.86 %	\$ 183,915 1.33 %
Estimated State Contribution As % of Covered Payroll	\$ 465,087 4.04 %	\$ 465,087 4.06 %	\$ 0 (0.02) %
Required Employer Contribution As % of Covered Payroll	\$ 5,999,430 52.15 %	\$ 5,815,515 50.80 %	\$ 183,915 1.35 %

The required employer contribution has been computed under the assumption that the amount to be received from the State next year will be at least \$465,087. The City may not take credit for State revenue in excess of \$465,087. If the next payment from the State falls below \$465,087, the City must raise its contribution by the difference.

The employer contribution listed above is for the City's fiscal year ending September 30, 2021 and has been calculated assuming the employer contribution is made on October 1, 2020. The actual City contribution for the fiscal year ending September 30, 2019 was \$5,809,713, which is \$2,426 greater than the the required contribution of \$5,807,287.

REVISIONS IN BENEFITS

On February 25, 2020, GRS prepared an Actuarial Impact Statement for a proposed ordinance to amend the City of Boynton Beach Municipal Police Officers' Retirement Fund as follows:

- In November 2019, November 2020 and November 2021, \$30,000 of each year's distribution of insurance premium excise tax dollars will be used to offset the Plan's Unfunded Actuarial Liability.
- The Member Contribution rate towards the base Pension Benefit for all employees increases from 7.0% of Compensation to:
 - 7.5% of Compensation beginning October 1, 2019;
 - 8.0% of Compensation beginning October 1, 2020;
 - 8.5% of Compensation beginning October 1, 2021.



- These additional Member Contributions will be used to reduce the Plan's Unfunded Actuarial Liability and will not reduce the City's required contribution.
- The Normal Retirement Date for Police Officers hired on or after October 1, 2019 will be the first day of the month after attaining the earlier of:
 - Age 55 and 10 years of credited service, or
 - 25 years of credited service regardless of age
- Police Officers hired on or after October 1, 2019 are vested once they reach 10 years of Credited Service. Upon attaining 50 years of age or what would have been 25 years of Credited Service had the police officer remained employed, a member may commence his or her deferred, vested benefit. If the member chooses to commence benefits at age 50, the benefit will be the actuarial equivalent of the amount that would have been payable under Normal Retirement.
- The maximum retirement benefit under the normal form of benefit for all Police Officers not eligible for normal retirement as of October 1, 2019 will be 85% of average final compensation, provided that in all cases, the benefit will not be less than 2.75% of average final compensation for each year of service.
- Members who are hired on or after October 1, 2019 must enter DROP within 30 days of reaching the latest Normal Retirement Date.
- Only Police officers hired before October 1, 2019 may have multiple methods of DROP interest accumulation to choose from. For Police Officers hired on or after October 1, 2019, DROP balances will be credited with earnings with a minimum annual interest credit of 0% and a maximum annual interest credit of 8%, depending on the net rate (earnings less costs) earned by the Plan.
- For members hired on or after October 1, 2019, upon termination of employment, participants in the DROP will receive the balance of the DROP. Installments and partial lump sums are no longer permitted.

It is our understanding that this Ordinance is going to second reading and will be adopted by the City soon, so this actuarial valuation report may serve as the actuarial impact statement for this Ordinance.

The combined effect of these benefit changes as of October 1, 2019 is an increase in the required employer contribution rate of 0.03% of covered payroll (a dollar amount of \$3,451), mainly due to the change in retirement rates describe below. Most of the changes that will eventually reduce costs only affect future hires.

REVISIONS IN ACTUARIAL ASSUMPTIONS AND METHODS

Due to implementation of an 85% of AFC maximum benefit (listed under "Revisions in Benefits" in the 5th bullet point above), the retirement rates have been modified to assume a 100% probability of retirement upon attainment of the maximum benefit). The impact of this assumption change was combined with the impact of the benefit changes noted above. There have been no other changes in actuarial assumptions or methods since the previous valuation.

ACTUARIAL EXPERIENCE

There was a net actuarial experience loss of \$1,147,748 for the year, which means that actual experience was less favorable than expected. The actuarial loss was partly due to a lower than expected investment return on the actuarial value of assets. The return on the actuarial value of assets was 6.73% versus 7.25% expected. The return on market value of assets was 5.17%. In addition, there were more



retirements than expected during the year (4 actual versus 1 expected), and retiree mortality experience was than expected (there was 1 actual death with an annual benefit of \$20,301 during the year versus an expected reduction in retiree payroll of \$75,549).

The net actuarial loss for the year caused an increase in the annual required employer contribution of 0.76% of covered payroll (or \$87,436).

FUNDED RATIO

The funded ratio is 67.2% as of October 1, 2019 compared to 65.9% as of October 1, 2018. The funded ratio is equal to the actuarial value of assets divided by the actuarial accrued liability.

ANALYSIS OF CHANGE IN EMPLOYER CONTRIBUTION

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

Contribution Rate Last Year	50.80 %
Actuarial Experience	0.76
Change in Administrative Expense	0.04
Amortization Payment on UAL	0.52
Change in State Contribution	0.02
Change in Normal Cost Rate	(0.02)
Change in Benefits	0.03
Change in Assumptions and Methods	0.00
Contribution Rate This Year	<u>52.15</u>

REQUIRED CONTRIBUTIONS IN LATER YEARS

The current calculated City contribution requirement is 52.15% of payroll starting October 1, 2019. It is important to keep in mind that under the asset smoothing method, gains and losses are recognized over five years. As of September 30, 2019, the actuarial value of assets exceeded the market value of assets by \$777,737. Once all the gains and losses through September 30, 2019 are fully recognized in the actuarial asset values, the contribution rate is expected to increase by roughly 0.51% of payroll before any other changes are taken into account, unless there are offsetting experience gains.

RELATIONSHIP TO MARKET VALUE

If Market Value had been the basis for the valuation, the City contribution rate would have been 52.66% (\$6,058,105) for the fiscal year ending September 30, 2021, and the funded ratio would have been 66.7%. The funded ratio on a market value basis was 66.7% last year.

CONCLUSION

It is important to note that system assets are insufficient to cover the liabilities for inactive members. As of October 1, 2019, the net market value of assets was \$90.7 million and the liability for current inactive members was \$91.6 million. Additionally, the funded ratio has dropped from over 96.5% in 2000 to the current level of 67.2%. Multiple steps have been taken to address this issue, including



reducing the investment return assumption, shortening the UAAL amortization period, applying a portion of the annual insurance premium excise tax money to the UAL, and updating the retirement rate assumption.

The Florida Retirement System (FRS) updated its mortality tables in its July 1, 2019 actuarial valuation report. These new tables will be required to be used in the October 1, 2020 actuarial valuation report for this plan (next year), as Florida Statutes Chapter 112.63(1)(f) mandates the use of the mortality tables used in either of the two most recently published actuarial valuation reports of FRS. We note that it has been over 8 years since the last Experience Study was performed for this Plan (the assumption changes from the last Experience Study were implemented in the October 1, 2011 actuarial valuation report). In consideration of the upcoming required change in the mortality table, we recommend an Experience Study be performed in advance of completing the October 1, 2020 actuarial valuation report.

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 Values

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>2019</u>	<u>2018</u>
Ratio of the market value of assets to total payroll	8.08	7.74
Ratio of actuarial accrued liability to payroll	12.12	11.62
Ratio of actives to retirees and beneficiaries	0.85	0.90
Ratio of net cash flow to market value of assets	-0.3%	0.5%

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.

CHAPTER REVENUE

Increments in Chapter revenue over that received in 1998 must first be used to fund the cost of compliance with minimum benefits. Once minimums are met, any subsequent additional Chapter revenue must be used to provide extra benefits. As of the valuation date, all minimum Chapter requirements have been met.

Actuarial Confirmation of the Use of State Chapter Money	
1. Base Amount Previous Plan Year	\$ 465,087
2. Amount Received for Previous Plan Year	861,862
3. Benefit Improvements Made in Previous Plan Year	0
4. Excess Funds for Previous Plan Year: (2) - (1) - (3)	396,775
5. Accumulated Excess at Beginning of Previous Year	244,891
6. Excess Funds Used in Previous Plan Year*	357,578
7. Accumulated Excess as of Valuation Date (Available for Benefit Improvements)	284,088
8. Base Amount This Plan Year	465,087

**Includes \$30,000 of excess state premium tax revenue used by the City to reduce the unfunded actuarial accrued liability.*

SECTION B

VALUATION RESULTS

PARTICIPANT DATA		
	October 1, 2019	October 1, 2018
ACTIVE MEMBERS		
Number	125	129
Covered Annual Payroll	\$ 11,224,143	\$ 11,169,188
Average Annual Payroll	\$ 89,793	\$ 86,583
Average Age	38.2	37.3
Average Past Service	10.0	9.2
Average Age at Hire	28.2	28.1
RETIREES & BENEFICIARIES & DROP		
Number	133	129
Annual Benefits	\$ 6,989,790	\$ 6,668,363
Average Annual Benefit	\$ 52,555	\$ 51,693
Average Age	59.7	59.3
DISABILITY RETIREES		
Number	14	14
Annual Benefits	\$ 349,332	\$ 349,332
Average Annual Benefit	\$ 24,952	\$ 24,952
Average Age	64.3	63.3
TERMINATED VESTED MEMBERS		
Number	23	24
Annual Benefits	\$ 609,855	\$ 658,613
Average Annual Benefit	\$ 26,515	\$ 27,442
Average Age	41.1	40.4



ACTUARIALLY DETERMINED EMPLOYER CONTRIBUTION (ADEC)			
A. Valuation Date	October 1, 2019 <i>After Plan Change</i>	October 1, 2019 <i>Before Plan Change</i>	October 1, 2018
B. ADEC to Be Paid During Fiscal Year Ending	9/30/2021	9/30/2021	9/30/2020
C. Assumed Date of Employer Contrib.	10/1/2020	10/1/2020	10/1/2019
D. Annual Payment to Amortize Unfunded Actuarial Liability	\$ 3,767,889	\$ 3,766,900	\$ 3,605,293
E. Employer Normal Cost	2,538,904	2,536,578	2,522,537
F. ADEC if Paid on the Valuation Date: D+E	6,306,793	6,303,478	6,127,830
G. ADEC Adjusted for Frequency of Payments	6,306,793	6,303,478	6,127,830
H. ADEC as % of Covered Payroll	56.19 %	56.16 %	54.86 %
I. Assumed Rate of Increase in Covered Payroll to Contribution Year	2.50 %	2.50 %	2.50 %
J. Covered Payroll for Contribution Year	11,504,747	11,504,747	11,448,417
K. ADEC for Contribution Year: H x J	6,464,517	6,461,066	6,280,602
L. Estimate of State Revenue in Contribution Year	465,087	465,087	465,087
M. Actuarially Determined Employer Contribution (ADEC) in Contribution Year	5,999,430	5,995,979	5,815,515
N. ADEC as % of Covered Payroll in Contribution Year: M ÷ J	52.15 %	52.12 %	50.80 %



ACTUARIAL VALUE OF BENEFITS AND ASSETS

A. Valuation Date	October 1, 2019 <i>After Plan Change</i>	October 1, 2019 <i>Before Plan Change</i>	October 1, 2018
B. Actuarial Present Value of All Projected Benefits for			
1. Active Members			
a. Service Retirement Benefits	\$ 65,201,845	\$ 65,635,222	\$ 63,699,437
b. Vesting Benefits	2,315,592	2,315,204	2,371,982
c. Disability Benefits	3,283,891	3,565,021	3,599,965
d. Preretirement Death Benefits	889,815	965,039	972,143
e. Return of Member Contributions	116,786	108,677	122,501
f. Total	<u>71,807,929</u>	<u>72,589,163</u>	<u>70,766,028</u>
2. Inactive Members			
a. Service Retirees & Beneficiaries	82,734,604	82,734,604	79,043,096
b. Disability Retirees	3,242,396	3,242,396	3,295,937
c. Terminated Vested Members	5,631,881	5,631,881	5,857,661
d. Total	<u>91,608,881</u>	<u>91,608,881</u>	<u>88,196,694</u>
3. Total for All Members	163,416,810	164,198,044	158,962,722
C. Actuarial Accrued (Past Service) Liability	136,045,300	136,031,989	129,814,370
D. Actuarial Value of Accumulated Plan Benefits per FASB No. 35	120,469,757	119,867,236	118,056,977
E. Plan Assets			
1. Market Value	90,705,952	90,705,952	86,399,855
2. Actuarial Value	91,483,689	91,483,689	85,593,282
F. Unfunded Actuarial Accrued Liability: C - E2	44,561,611	44,548,300	44,221,088
G. Actuarial Present Value of Projected Covered Payroll	99,523,748	102,312,313	105,463,296
H. Actuarial Present Value of Projected Member Contributions	8,295,503	7,161,862	7,382,431
I. Accumulated Contributions of Active Members	6,223,524	6,223,524	5,932,412



**ENTRY AGE NORMAL METHOD
CALCULATION OF EMPLOYER NORMAL COST**

A. Valuation Date	October 1, 2019 <i>After Plan Change</i>	October 1, 2019 <i>Before Plan Change</i>	October 1, 2018
B. Normal Cost for			
1. Service Retirement Benefits	\$ 2,607,479	\$ 2,599,828	\$ 2,592,214
2. Vesting Benefits	201,963	199,430	199,534
3. Disability Benefits	256,747	264,906	260,740
4. Preretirement Death Benefits	57,943	60,068	59,677
5. Return of Member Contributions	<u>29,495</u>	<u>27,069</u>	<u>26,733</u>
6. Total for Future Benefits	3,153,627	3,151,301	3,138,898
7. Assumed Amount for Administrative Expenses	<u>170,967</u>	<u>170,967</u>	<u>165,482</u>
8. Total Normal Cost	3,324,594	3,322,268	3,304,380
C. Expected Member Contribution	785,690	785,690	781,843
D. Employer Normal Cost: B8-C	2,538,904	2,536,578	2,522,537
E. Employer Normal Cost as a % of Covered Payroll	22.62%	22.60%	22.58%

LIQUIDATION OF THE UNFUNDED ACTUARIAL ACCRUED LIABILITY

UAAL Amortization Period and Payments						
Original UAAL				Current UAAL		
Date Established	Type of Amortization Base	Amortization Period (Years)	Amount	Years Remaining	Amount	Payment
10/1/98	Fresh Start	30	\$ 1,331,353	9	\$ 1,216,661	\$ 160,936
10/1/99	Plan Amendment	30	1,656,722	10	1,585,646	192,782
10/1/00	Plan Amendment	30	185,619	11	183,125	20,667
10/1/01	Plan Amendment	30	46,601	12	47,749	5,043
10/1/04	Plan Amendment	30	1,166,935	15	1,298,466	116,618
10/1/05	Plan Amendment	30	2,985,574	16	3,374,301	289,859
10/1/05	Method/Assum Change	30	13,646,165	16	15,422,913	1,324,858
10/1/06	Experience Loss	30	2,307,394	17	2,640,033	217,724
10/1/07	Experience Loss	30	16,404	18	18,880	1,500
10/1/08	Experience Loss	30	3,582,504	19	4,113,007	315,632
10/1/09	Experience Loss	30	3,419,100	19	3,896,404	299,010
10/1/10	Experience Loss	30	1,404,570	19	1,585,412	121,664
10/1/11	Experience Loss	30	4,476,765	19	4,978,889	382,079
10/1/11	Assumption Change	30	1,634,520	19	1,817,850	139,502
10/1/12	Experience Gain	30	(2,249,576)	19	(2,443,249)	(187,495)
10/1/12	Assumption Change	30	412,194	19	447,681	34,355
10/1/12	Plan Amendment	30	(426,604)	19	(463,332)	(35,556)
10/1/13	Experience Gain	30	(794,394)	19	(853,115)	(65,468)
10/1/13	Assumption Change	30	430,545	19	462,373	35,482
10/1/14	Experience Gain	30	(2,463,259)	19	(2,603,578)	(199,798)
10/1/14	Assumption Change	30	461,268	19	487,544	37,414
10/1/15	Experience Loss	30	1,896,466	19	1,974,745	151,542
10/1/15	Assumption Change	30	(588,861)	19	(613,167)	(47,054)
10/1/16	Experience Gain	30	(2,092,313)	19	(2,127,964)	(163,300)
10/1/16	Assumption Change	30	3,097,709	19	3,150,491	241,768
10/1/17	Experience Loss	30	542,252	19	544,140	41,757
10/1/17	Plan Amendment	30	(1,174)	19	(1,178)	(90)
10/1/17	Assumption Change	30	3,429,073	19	3,441,011	264,063
10/1/18	Assumption Change	20	(183,111)	19	(181,186)	(13,904)
10/1/19	Experience Loss	20	1,147,748	20	1,147,748	85,310
10/1/19	Plan Amendment	20	13,311	20	13,311	989
			\$ 40,491,500		\$ 44,561,611	\$ 3,767,889



AMORTIZATION SCHEDULE

The UAAL is being amortized as a level percent of payroll over the number of years remaining in the amortization period. The expected amortization schedule is as follows:

Amortization Schedule	
Year	Expected UAAL
2019	\$ 44,561,611
2020	43,751,265
2021	42,781,145
2022	41,637,138
2023	40,304,050
2024	38,765,518
2029	27,541,049
2034	10,858,598
2039	-

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	
1. Last Year's UAAL	\$ 44,221,088
2. Last Year's Employer Normal Cost	2,522,537
3. Last Year's Contributions*	6,304,800
4. Interest at the Assumed Rate on:	
a. 1 and 2 for one year	3,388,913
b. 3 from dates paid	427,186
c. a - b	2,961,727
5. This Year's Expected UAAL: 1 + 2 - 3 + 4c	43,400,552
6. This Year's Actual UAAL (Before any changes in benefits and assumptions)	44,548,300
7. Net Actuarial Gain (Loss): (5) - (6)	(1,147,748)
8. Gain (Loss) due to investments	(537,427)
9. Gain (Loss) due to other sources	(610,321)

**Includes \$30,000 in excess state premium tax revenue used to reduce the UAAL.*

Net actuarial gains in previous years are detailed in the table on the next page.

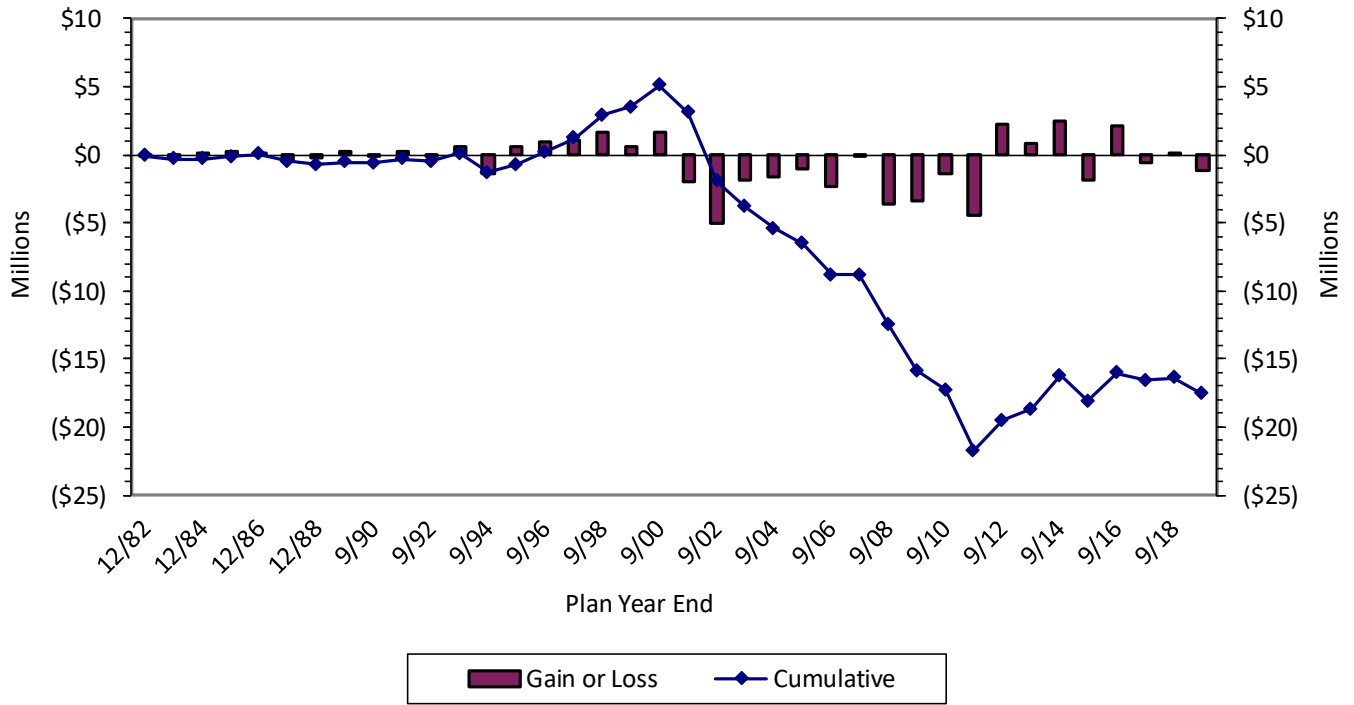
HISTORY OF NET ACTUARIAL GAINS AND LOSSES

Year Ended	Change in Employer Cost Rate *	Gain (Loss)
12/31/82	0.46 %	\$ (56,551)
12/31/83	1.92	(265,213)
12/31/84	(0.04)	6,977
12/31/85	(0.85)	185,443
12/31/86	(0.59)	158,678
12/31/87	1.67	(516,444)
12/31/88	0.74	(254,892)
12/31/89	(0.52)	206,590
9/30/90	0.24	(94,609)
9/30/91	(0.74)	286,744
9/30/92	0.35	(142,237)
9/30/93	(1.34)	564,365
9/30/94	2.57	(1,370,604)
9/30/95	(1.01)	574,379
9/30/96	(1.56)	938,153
9/30/97	(1.60)	1,008,362
9/30/98	(2.85)	1,694,077
9/30/99	(0.88)	568,386
9/30/00	(3.16)	1,596,887
9/30/01	3.92	(1,978,307)
9/30/02	9.58	(5,069,210)
9/30/03	3.22	(1,870,014)
9/30/04	2.75	(1,615,637)
9/30/05	1.85	(1,083,369)
9/30/06	1.46	(2,307,394)
9/30/07	0.02	(16,404)
9/30/08	1.84	(3,582,504)
9/30/09	1.54	(3,419,100)
9/30/10	0.66	(1,404,570)
9/30/11	1.98	(4,476,765)
9/30/12	(1.01)	2,249,576
9/30/13	(0.38)	794,394
9/30/14	(1.18)	2,463,259
9/30/15	0.86	(1,896,466)
9/30/16	(1.28)	2,092,313
9/30/17	0.31	(542,252)
9/30/18	(0.12)	183,111
9/30/19	0.76	(1,147,748)

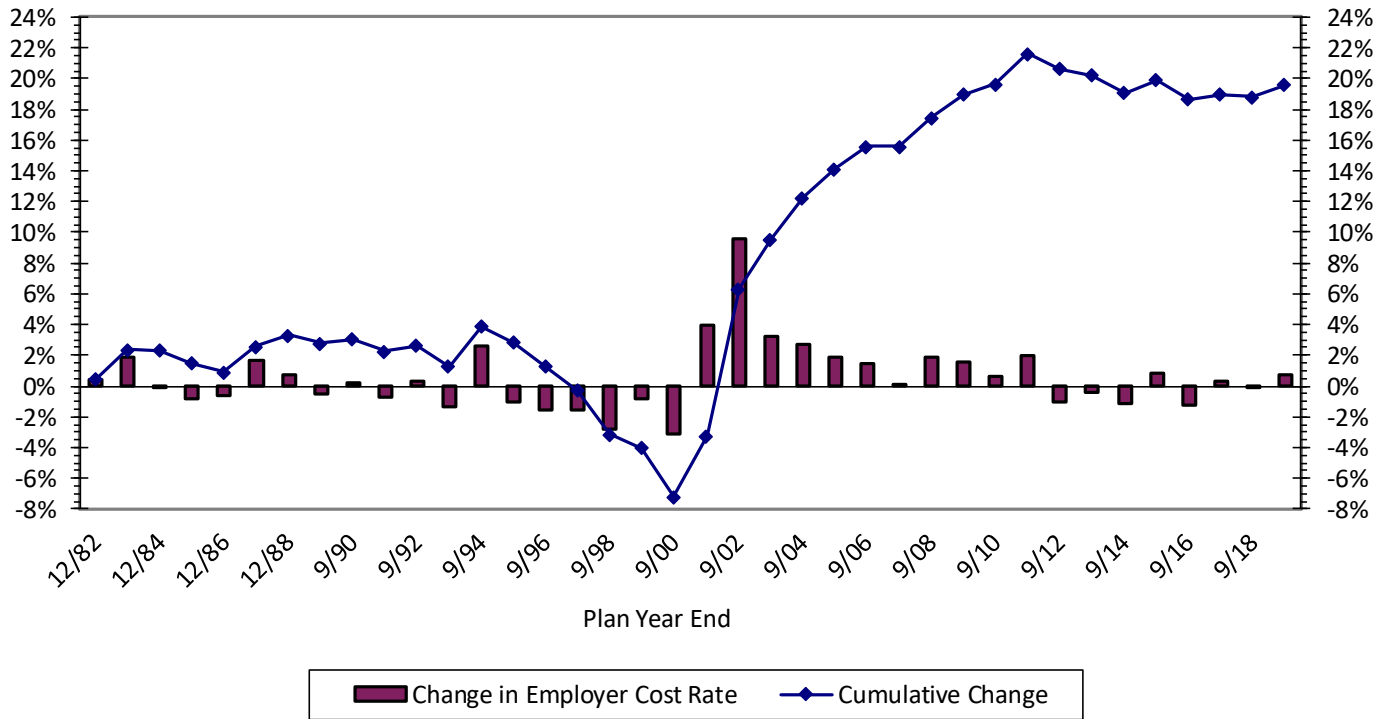
* Before 9/30/06, change in Employer Normal Cost.



Actuarial Gain (+) or Loss (-)



Change in Employer Cost Rate



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:

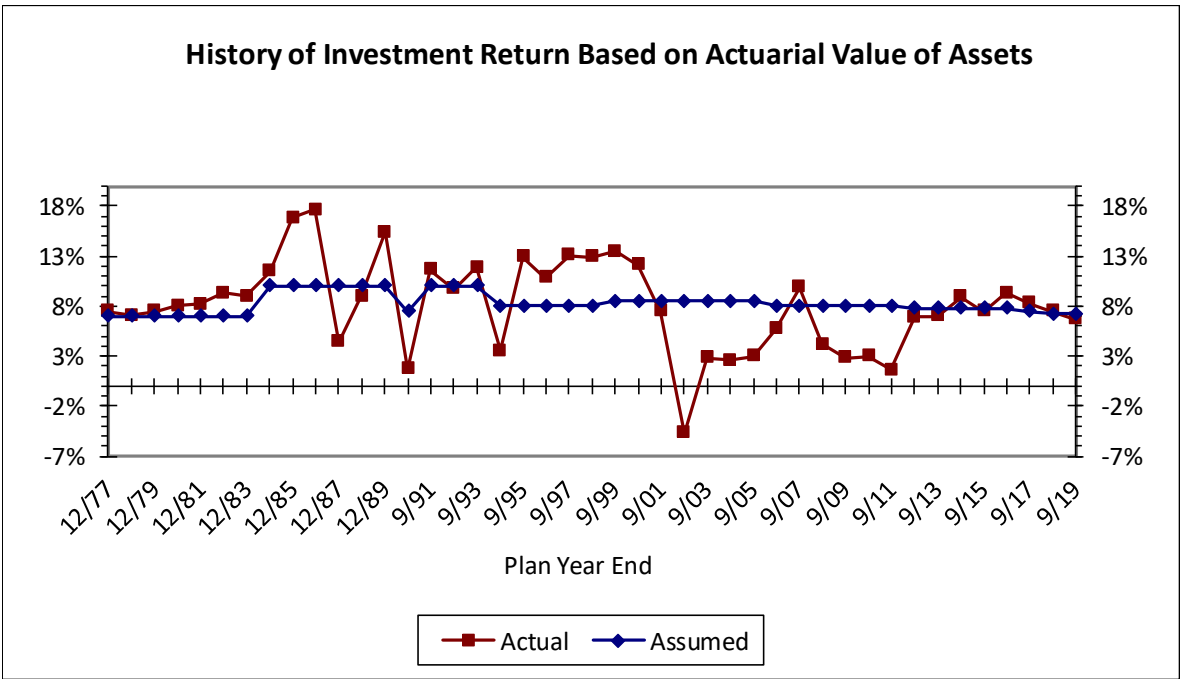
HISTORY OF INVESTMENT EARNINGS AND SALARY INCREASES

Year Ending	Investment Return		Salary Increases	
	Actual	Assumed	Actual	Assumed
12/31/1977	7.5 %	7.00 %		
12/31/1978	7.1	7.00	18.3 %	10.3% (2 yrs)
12/31/1979	7.5	7.00		
12/31/1980	8.0	7.00	21.2	10.3 (2 yrs)
12/31/1981	8.2	7.00	23.6	7.0
12/31/1982	9.3	7.00	14.6	7.0
12/31/1983	9.0	7.00	14.8	7.0
12/31/1984	11.5	10.00	6.8	10.0
12/31/1985	16.8	10.00	18.6	10.0
12/31/1986	17.6	10.00	16.3	10.0
12/31/1987	4.4	10.00	15.3	10.0
12/31/1988	9.0	10.00	6.7	10.0
12/31/1989	15.4	10.00	12.4	10.0
9/30/1990 (9 mos.)	1.7	7.50	6.1	10.0
9/30/1991	11.6	10.00	2.5	10.0
9/30/1992	9.7	10.00	5.4	10.0
9/30/1993	11.9	10.00	3.1	10.0
9/30/1994	3.5	8.00	7.0	6.3
9/30/1995	12.9	8.00	8.5	5.8
9/30/1996	10.8	8.00	4.9	6.3
9/30/1997	13.1	8.00	8.7	6.3
9/30/1998	12.9	8.00	4.6	6.3
9/30/1999	13.5	8.50	10.9	6.1
9/30/2000	12.1	8.50	3.4	6.3
9/30/2001	7.5	8.50	6.0	5.9
9/30/2002	(4.7)	8.50	17.2	5.9
9/30/2003	2.8	8.50	9.5	5.9
9/30/2004	2.6	8.50	11.5	6.0
9/30/2005	3.0	8.50	9.6	6.0
9/30/2006	5.7	8.00	14.4	6.0
9/30/2007	9.9	8.00	5.7	6.1
9/30/2008	4.2	8.00	13.1	6.1
9/30/2009	2.8	8.00	9.3	6.1
9/30/2010	3.0	8.00	0.2	6.1
9/30/2011	1.6	8.00	7.3	5.8
9/30/2012	6.9	7.75	(3.1)	5.9
9/30/2013	7.0	7.75	0.1	5.8
9/30/2014	8.9	7.75	1.0	5.8
9/30/2015	7.5	7.75	8.6	5.8
9/30/2016	9.3	7.75	1.5	5.7
9/30/2017	8.3	7.50	10.4	5.7
9/30/2018	7.5	7.25	5.0	5.8
9/30/2019	6.7	7.25	5.4	5.7
Averages	8.0 %	---	8.4 %	---

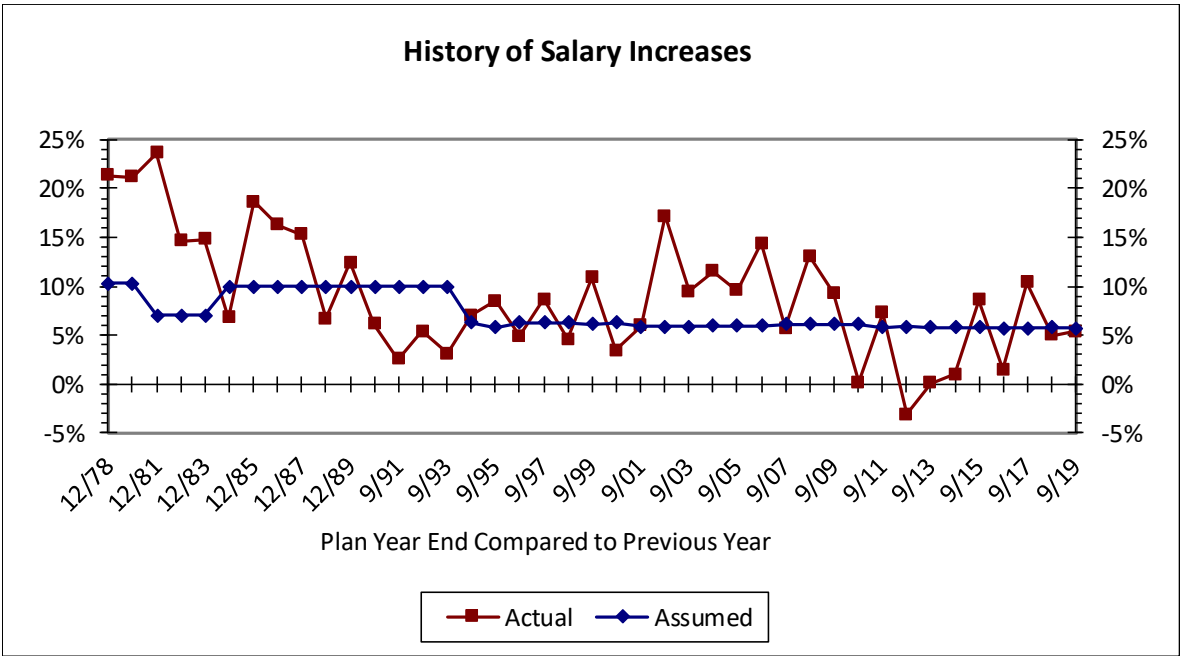
The actual investment return rates shown above are based on the actuarial value of assets. The actual salary increase rates shown above are the increases received by those active members who were included in the actuarial valuations both at the beginning and the end of each year.



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 & DROP Retirement		Disability Retirement		Death		Terminations				Active Members End of Year
	A	E	A	E	A	E	A	E	Vested	Other	Totals		
									A	A	A	E	
9/30/2002	14	17	1	1	0	0	0	0	1	15	16	8	119
9/30/2003	14	9	6	4	0	0	0	0	1	2	3	9	124
9/30/2004	8	23	14	0	0	0	0	0	2	7	9	9	109
9/30/2005	21	14	1	1	0	0	0	0	3	10	13	8	116
9/30/2006	25	10	3	2	0	0	0	0	1	6	7	9	131
9/30/2007	17	4	3	3	0	0	0	0	0	1	1	11	144
9/30/2008	14	9	2	1	0	0	0	0	0	7	7	12	149
9/30/2009	8	6	3	7	0	0	0	0	0	3	3	11	151
9/30/2010	5	8	4	2	0	0	0	0	1	3	4	11	148
9/30/2011	5	9	5	4	0	0	0	0	2	2	4	10	144
9/30/2012	9	7	3	1	0	0	0	0	2	2	4	4	146
9/30/2013	5	10	3	1	0	0	0	0	4	3	7	7	141
9/30/2014	5	7	2	1	0	0	0	0	2	3	5	6	139
9/30/2015	9	11	3	2	1	0	0	0	4	3	7	4	137
9/30/2016	17	21	7	1	0	0	0	0	11	3	14	4	133
9/30/2017	15	12	7	3	1	0	1	0	1	2	3	5	136
9/30/2018	13	20	10	4	0	0	0	0	5	5	10	5	129
9/30/2019	5	9	4	1	0	0	0	0	0	5	5	5	125
9/30/2020				4		0		0				4	
18 Yr Totals *	209	206	81	39	2	0	1	0	40	82	122	138	

* Totals are through current Plan Year only.



SUPPLEMENTAL PENSION DISTRIBUTION

	Balance at Beginning of Year	Gain (Loss) for Year	Supplemental Payment	Balance at End of Year
2000	\$ 0	\$ 1,596,887	\$ 0	\$ 1,596,887
2001	1,596,887	(1,978,307)	0	(381,420)
2002	(381,420)	(5,069,210)	0	(5,450,630)
2003	(5,450,630)	(1,870,014)	0	(7,320,644)
2004	(7,320,644)	(1,615,637)	0	(8,936,281)
2005	(8,936,281)	(1,083,369)	0	(10,019,650)
2006	(10,019,650)	(2,307,394)	0	(12,327,044)
2007	(12,327,044)	(16,404)	0	(12,343,448)
2008	(12,343,448)	(3,582,504)	0	(15,925,952)
2009	(15,925,952)	(3,419,100)	0	(19,345,052)
2010	(19,345,052)	(1,404,570)	0	(20,749,622)
2011	(20,749,622)	(4,476,765)	0	(25,226,387)
2012	(25,226,387)	2,249,576	0	(22,976,811)
2013	(22,976,811)	794,394	0	(22,182,417)
2014	(22,182,417)	2,463,259	0	(19,719,158)
2015	(19,719,158)	(1,896,466)	0	(21,615,625)
2016	(21,615,625)	2,092,313	0	(19,523,311)
2017	(19,523,311)	(542,252)	0	(20,065,563)
2018	(20,065,563)	183,111	0	(19,882,452)
2019	(19,882,452)	(1,147,748)	0	(21,030,200)

Under certain conditions, participants in payment status can receive a supplemental distribution per Section 18-177 of the Plan. The cumulative actuarial gain for plan years beginning after 9/30/1999 must be a positive amount for a supplemental payment to occur.

RECENT HISTORY OF VALUATION RESULTS									
Valuation Date	Number of		Covered Annual Payroll	Actuarial Value of Assets	Actuarial Accrued Liability	UFAAL	Funded Ratio	Employer Normal Cost	
	Active Members	Inactive Members						Amount	% of Payroll
10/1/00	124	56	\$ 6,907,740	\$ 32,559,614	\$ 33,726,879	\$ 1,167,265	96.5 %	\$ 464,164	6.72 %
10/1/01	122	75	6,555,316	34,331,760	37,715,963	3,384,203	91.0	726,204	11.08
10/1/02	119	75	7,382,088	32,133,373	40,604,148	8,470,775	79.1	1,538,895	20.85
10/1/03	124	81	7,917,021	33,206,438	44,029,168	10,822,730	75.4	1,935,704	24.45
10/1/04	109	94	7,207,008	34,495,794	48,154,162	13,658,368	71.6	2,043,434	28.35
10/1/05	116	96	7,836,390	35,445,474	56,691,347	21,245,873	62.5	1,238,339	15.80
10/1/06	131	100	9,302,405	37,691,909	61,468,267	23,776,358	61.3	1,441,317	15.49
10/1/07	144	103	10,296,812	41,981,125	66,068,756	24,087,631	63.5	1,587,552	15.42
10/1/08	149	104	11,532,888	44,277,726	72,349,643	28,071,917	61.2	1,774,031	15.38
10/1/09	151	107	12,537,968	46,116,985	78,055,403	31,938,418	59.1	1,931,395	15.40
10/1/10	148	109	12,134,525	48,129,593	81,957,204	33,827,611	58.7	1,895,893	15.62
10/1/11	144	113	12,397,266	49,115,728	89,656,412	40,540,684	54.8	2,126,920	17.16
10/1/12	146	116	11,789,237	52,594,653	91,924,429	39,329,776	57.2	2,114,509	17.94
10/1/13	141	122	11,302,523	56,693,338	95,951,447	39,258,109	59.1	2,132,984	18.87
10/1/14	139	123	11,142,832	62,320,013	99,965,363	37,645,350	62.3	2,214,983	19.88
10/1/15	137	130	11,774,623	67,380,705	106,464,806	39,084,101	63.3	2,425,913	20.60
10/1/16	133	147	11,075,682	73,166,635	113,697,993	40,531,358	64.4	2,415,066	21.81
10/1/17	136	154	11,831,766	79,329,597	123,846,951	44,517,354	64.1	2,707,417	22.88
10/1/18	129	167	11,169,188	85,593,282	129,814,370	44,221,088	65.9	2,522,537	22.58
10/1/19	125	170	11,224,143	91,483,689	136,045,300	44,561,611	67.2	2,538,904	22.62

RECENT HISTORY OF REQUIRED AND ACTUAL CONTRIBUTIONS										
Valuation Date	End of Year To Which Valuation Applies	Required Contributions						Actual Contributions		
		Employer & State		Estimated State		Net Employer		Employer	State	Total
		Amount	% of Payroll	Amount	% of Payroll	Amount	% of Payroll			
10/1/98	9/30/99	863,996	13.88	427,874	6.87	436,122	7.01	426,129	427,874	854,003
10/1/99	9/30/00	920,372	12.92	427,874	6.00	492,498	6.92	490,425	429,945	920,370
10/1/00	9/30/01	742,646	10.75	429,945	6.22	312,701	4.53	312,701	430,572	743,273
10/1/01	9/30/02	1,053,863	16.08	443,454	6.77	610,409	9.31	610,409	443,454	1,053,863
10/1/02	9/30/03	1,929,458	26.14	443,454	6.01	1,486,004	20.13	1,486,004	465,087	1,951,091
10/1/03	9/30/04	2,343,601	29.60	465,087	5.87	1,878,514	23.73	1,878,514	465,087	2,343,601
10/1/04	9/30/05	2,571,109	35.67	465,087	6.45	2,106,022	29.22	2,106,022	465,087	2,571,109
10/1/05	9/30/06	2,808,957	35.85	465,087	5.93	2,343,870	29.92	2,343,870	465,087	2,808,957
10/1/06	9/30/07	3,030,547	32.58	465,087	5.00	2,565,460	27.58	2,685,841	465,087	3,150,928
10/1/07	9/30/08	3,236,241	31.43	465,087	4.52	2,771,154	26.91	2,771,154	465,087	3,236,241
10/1/08	9/30/09	3,710,169	32.17	465,087	4.03	3,245,082	28.14	3,245,082	465,087	3,710,169
10/1/09	9/30/10	4,153,603	33.13	465,087	3.71	3,688,516	29.42	3,688,516	465,087	4,153,603
10/1/09	9/30/11	3,997,173	31.78	465,087	3.70	3,532,086	28.08	3,552,348	465,087	4,017,435
10/1/10	9/30/12	4,098,955	32.55	465,087	3.69	3,633,868	28.86	3,633,868	465,087	4,098,955
10/1/11	9/30/13	4,701,572	36.68	465,087	3.63	4,236,485	33.05	4,236,485	465,087	4,701,572
10/1/12	9/30/14	4,560,918	38.54	465,087	3.93	4,095,831	34.61	4,159,736	465,087	4,624,823
10/1/13	9/30/15	4,830,346	41.73	465,087	4.02	4,365,259	37.71	4,365,259	465,087	4,830,346
10/1/14	9/30/16	4,856,392	42.26	465,087	4.05	4,391,305	38.21	4,391,305	465,087	4,856,392
10/1/15	9/30/17	5,256,615	43.16	465,087	3.82	4,791,528	39.34	4,791,528	465,087	5,256,615
10/1/16	9/30/18	5,820,145	51.64	465,087	4.13	5,355,058	47.51	5,355,058	465,087	5,820,145
10/1/17	9/30/19	6,272,374	51.72	465,087	3.83	5,807,287	47.89	5,809,713	465,087	6,274,800
10/1/18	9/30/20	6,280,602	54.86	465,087	4.06	5,815,515	50.80	na	na	na
10/1/19	9/30/21	6,464,517	56.19	465,087	4.04	5,999,430	52.15	na	na	na



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) percent-of-payroll contributions over a reasonable period of future years.

Actuarial Value of Assets - The Actuarial Value of Assets phase in the difference between the expected actuarial value and actual 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.

ECONOMIC ASSUMPTIONS

The investment return rate assumed in the valuation is 7.25% per year, compounded annually (net after investment expenses).

The **Wage Inflation Rate** assumed in this valuation is 3% per year. The Wage Inflation Rate is defined to be the portion of total pay increases for an individual that are due to macro economic forces including productivity, price inflation, and labor market conditions. The wage inflation rate does not include pay changes related to individual merit and seniority effects.

The **Price Inflation Rate** assumed in this valuation was 2.5% per year.

The assumed **real rate of return** over price inflation is defined to be the portion of total investment return that is more than the assumed price inflation rate. Considering other economic assumptions, the 7.25% investment return rate translates to an assumed real rate of return over price inflation of 4.75%.



The rates of salary increase are as follows:

Age	% Increase in Salary		
	Merit and Seniority	Wage Inflation	Total Increase
20	3.5%	3.0%	6.5%
25	3.5%	3.0%	6.5%
30	3.5%	3.0%	6.5%
35	3.5%	3.0%	6.5%
40	2.5%	3.0%	5.5%
45	2.0%	3.0%	5.0%
50	2.0%	3.0%	5.0%
55	2.0%	3.0%	5.0%

Projected service retirement benefits are increased to allow for the inclusion of unused sick and vacation pay in average final earnings. The increase amount is unique for each member based on the number of hours of accumulated sick and vacation time reported for each member as of June 18, 2013.

For purposes of financing the unfunded liabilities, total payroll is assumed to grow at the Price Inflation assumption of 2.50% per year using a forward looking methodology, as permitted under Florida Statutes, Chapter 112.64(5)(b).

DEMOGRAPHIC ASSUMPTIONS

The mortality table is the RP-2000 Combined Healthy Participant Mortality Table (for pre-retirement mortality) and the RP-2000 Mortality Table for Annuitants (for post-retirement mortality), with mortality improvements projected to all future years after 2000 using Scale BB. For males, the base mortality rates include a 90% blue collar adjustment and a 10% white collar adjustment. For females, the base mortality rates include a 100% white collar adjustment. These are the same rates in use for Special Risk Class members of the Florida Retirement System (FRS) in the July 1, 2018 FRS Actuarial Valuation. Florida Statutes Chapter 112.63(1)(f) mandates the use of the mortality tables used in either of the two most recently published FRS actuarial valuation reports.

FRS Healthy Post-Retirement Mortality for Special Risk Class Members

Sample Attained Ages (in 2019)	Probability of Dying Next Year		Future Life Expectancy (years)	
	Men	Women	Men	Women
50	0.53 %	0.23 %	34.12	38.50
55	0.66	0.32	29.49	33.48
60	0.89	0.46	24.92	28.58
65	1.28	0.72	20.51	23.83
70	1.95	1.21	16.36	19.36
75	3.17	2.04	12.61	15.26
80	5.21	3.42	9.37	11.62



This assumption is used to measure the probabilities of each benefit payment being made after retirement.

FRS Healthy Pre-Retirement Mortality for Special Risk Class Members

Sample Attained Ages (in 2019)	Probability of Dying Next Year		Future Life Expectancy (years)	
	Men	Women	Men	Women
50	0.22 %	0.15 %	35.11	38.85
55	0.39	0.24	30.00	33.70
60	0.70	0.39	25.12	28.68
65	1.20	0.69	20.55	23.86
70	1.95	1.21	16.36	19.36
75	3.17	2.04	12.61	15.26
80	5.21	3.42	9.37	11.62

This assumption is used to measure the probabilities of active members dying prior to retirement (75% of deaths are assumed to be service connected).

For disabled retirees, the mortality table used was 60% of the RP-2000 for Disabled Annuitants with ages set back 4 years for males and set forward 2 years for females, and 40% of the RP2000 Annuitant Mortality Table with a White Collar adjustment with no age setback, both with no provision being made for future mortality improvements. These are the same rates in use for Special Risk Class members of FRS in the July 1, 2018 FRS Actuarial Valuation.

FRS Disabled Mortality for Special Risk Class Members

Sample Attained Ages (in 2019)	Probability of Dying Next Year		Future Life Expectancy (years)	
	Men	Women	Men	Women
50	1.67 %	0.91 %	23.74	27.06
55	2.03	1.26	20.77	23.37
60	2.47	1.67	17.91	19.90
65	3.07	2.24	15.15	16.62
70	3.90	3.18	12.52	13.58
75	5.30	4.60	10.02	10.86
80	7.59	6.66	7.80	8.48

The rates of retirement used to measure the probability of eligible members retiring under early retirement is 5% per year. For normal retirement, these rates are as follows (please see the next page):



Number of Years After First Eligibility for Normal Retirement	Probability of Normal Retirement
0	40 %
1	10 %
2	10 %
3	10 %
4	10 %
5	10 %
6	10 %
7	100 %

Upon reaching a benefit of 85% of Average Final Compensation (the maximum benefit), members are assumed to have a 100% probability of retirement.

Rates of separation from active membership are as shown below (rates do not apply to members eligible to retire and do not include separation on account of death or disability).

Years of Service	Sample Ages	% of Active Members Separating Within Next Year
0 - 1	ALL	15.0%
1 - 2		10.0%
2 - 3		7.0%
3 - 4		5.0%
4 - 5		4.0%
At least 5	25	4.0%
	30	3.0%
	35	2.0%
	40	1.0%
	45	0.0%

Rates of disability among active members (90% of disabilities are assumed to be service connected).

Sample Ages	% Becoming Disabled within Next Year
20	0.14 %
25	0.15 %
30	0.18 %
35	0.23 %
40	0.30 %
45	0.51 %
50	1.00 %
55	1.55 %



MISCELLANEOUS AND TECHNICAL ASSUMPTIONS

<i>Administrative & Investment Expenses</i>	The investment return assumption is intended to be the return net of investment expenses. Annual administrative expenses are assumed to be equal to the average of the prior two years' expenses. 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>Decrement Operation</i>	Disability and mortality decrements operate during retirement eligibility.
<i>Decrement Timing</i>	Decrements 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 at the beginning of the year effective October 1, 2011. 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.
<i>Liability Load</i>	Projected normal and early retirement benefits are loaded by a unique amount for each member to allow for the inclusion of unused sick and vacation pay in final average earnings. These individual loads are based on the number of hours of unused accumulated sick and vacation time reported for each member as of June 18, 2013.
<i>Marriage Assumption</i>	100% of males and 100% of females are assumed to be married for purposes of death-in-service benefits. Male spouses are assumed to be three years older than female spouses for active member valuation purposes.
<i>Normal Form of Benefit</i>	A 10-year certain and life annuity is the normal form of benefit.
<i>Pay Increase Timing</i>	Middle of fiscal year. This is equivalent to assuming that reported pays represent amounts paid to members during the year ended on the valuation date.



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 items needed for compliance with GASB, such as the Funded Ratio and the Actuarially Determined Contribution (ADEC).
<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 (ADEC).



<i>Actuarially Determined Contribution (ADEC)</i>	The employer’s periodic required contributions, expressed as a dollar amount or a percentage of covered plan compensation, determined under GASB. The ADEC 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 ADEC 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 actual experience and that expected based upon a set of Actuarial Assumptions, during the period between two actuarial valuations. To the extent that actual experience differs from that assumed, Unfunded Actuarial Accrued Liabilities emerge which may be larger or smaller than projected. Gains are due to favorable experience, e.g., the assets earn more than projected, salaries do not increase as fast as assumed, members retire later than assumed, etc. Favorable experience means actual results produce actuarial liabilities not as large as projected by the actuarial assumptions. On the other hand, losses are the result of unfavorable experience, i.e., actual results that produce Unfunded Actuarial Accrued Liabilities which are larger than projected.
<i>Funded Ratio</i>	The ratio of the Actuarial Value of Assets to the Actuarial Accrued Liability.



<i>GASB</i>	Governmental Accounting Standards Board.
<i>GASB No. 68 and GASB No. 67</i>	These are the governmental accounting standards that set the accounting rules for public retirement systems and the employers that sponsor or contribute to them. Statement No. 68 sets the accounting rules for the employers that sponsor or contribute to public retirement systems, while Statement No. 67 sets the rules for the systems themselves.
<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

SUMMARY OF ASSETS

Item	September 30	
	2019	2018
A. Cash and Cash Equivalents (Operating Cash)	\$ 2,392	\$ 2,176
B. Receivables:		
1. Member Contributions	\$ -	\$ -
2. Employer Contributions	-	-
3. State Contributions	-	-
4. Buy-Back Installment Payments	154,796	172,247
5. Receivables for Securities Sold plus Prepaid Expenses	556,543	447,764
6. DROP Loans	283,627	254,315
7. Total Receivables	<u>\$ 994,966</u>	<u>\$ 874,326</u>
C. Investments		
1. Short-Term Investments	\$ -	\$ -
2. Domestic Equities (Large cap defensive)	27,534,885	26,237,000
3. Real Estate	7,071,372	6,740,412
4. Multi-Asset Core Fund (Equities)	41,252,626	39,308,141
5. Multi-Manager Bond Fund (Fixed Income)	30,616,407	29,173,271
6. Total Investments	<u>\$ 106,475,290</u>	<u>\$ 101,458,824</u>
D. Liabilities and Reserves		
1. Benefits Payable	\$ -	\$ -
2. Accrued Expenses and Other Payables	(171,736)	(180,363)
3. Total Liabilities and Reserves	<u>\$ (171,736)</u>	<u>\$ (180,363)</u>
E. Total Market Value of Assets Available for Benefits	\$ 107,300,912	\$ 102,154,963
F. Reserves		
1. State Contribution Reserve	\$ (284,088)	\$ (244,891)
2. DROP Accounts	(13,858,626)	(13,001,411)
3. Supplemental Benefit Reserve	(2,452,246)	(2,508,806)
	<u>\$ (16,594,960)</u>	<u>\$ (15,755,108)</u>
G. Market Value Net of Reserves	\$ 90,705,952	\$ 86,399,855
H. Allocation of Investments		
1. Short-Term Investments	0.00%	0.00%
2. Domestic Equities (Large cap defensive)	25.86%	25.86%
3. Real Estate	6.65%	6.64%
4. Multi-Asset Core Fund (Equities)	38.74%	38.75%
5. Multi-Manager Bond Fund (Fixed Income)	28.75%	28.75%
6. Total Investments	<u>100.00%</u>	<u>100.00%</u>



PENSION FUND DISBURSEMENTS & INCOME

Item	September 30	
	2019	2018
A. Market Value of Assets at Beginning of Year	\$ 102,154,963	\$ 95,294,259
B. Revenues and Expenditures		
1. Contributions		
a. Employee Contributions	\$ 901,510	\$ 924,231
b. Employer Contributions	5,809,713	5,355,058
c. State Contributions	861,862	825,507
d. Buy Back Contributions	82,461	290,029
e. DROP Rollover	108,110	102,504
f. Change in Value of Remaining Buy Back Payments	(17,451)	87,483
g. Total	\$ 7,746,205	\$ 7,584,812
2. Investment Income		
a. Interest, Dividends, and Other Income	\$ 1,295	\$ 3,410
b. Net Realized Gains/(Losses)	2,670,798	2,671,515
c. Net Unrealized Gain/(Losses)	3,453,272	4,418,520
d. Investment Expenses	(698,910)	(714,381)
e. Net Investment Income	\$ 5,426,455	\$ 6,379,064
3. Benefits and Refunds		
a. Refunds	\$ (19,613)	\$ (122,701)
b. Regular Monthly Benefits to Retirees	(6,003,158)	(5,766,186)
c. Supplemental Distributions and DROP Loans	(635,684)	(465,760)
d. DROP Distributions	(1,189,588)	(585,259)
e. Total	\$ (7,848,043)	\$ (6,939,906)
4. Administrative and Miscellaneous Expenses	\$ (178,668)	\$ (163,266)
5. Transfers	\$ -	\$ -
C. Market Value of Assets at End of Year	\$ 107,300,912	\$ 102,154,963
D. Reserves		
1. State Contribution Reserve	\$ (284,088)	\$ (244,891)
2. DROP Accounts	(13,858,626)	(13,001,411)
3. Supplemental Benefit Reserve	(2,452,246)	(2,508,806)
4. Total Reserves	\$ (16,594,960)	\$ (15,755,108)
E. Market Value Net of Reserves	\$ 90,705,952	\$ 86,399,855



ACTUARIAL VALUE OF ASSETS

Valuation Date – September 30	2018	2019	2020	2021	2022	2023
A. Actuarial Value of Assets Beginning of Year	\$ 93,589,536	\$ 101,348,390	\$ -	\$ -	\$ -	\$ -
B. Market Value End of Year	102,154,963	107,300,912	-	-	-	-
C. Market Value Beginning of Year	95,294,259	102,154,963	-	-	-	-
D. Non-Investment/Administrative Net Cash Flow	481,640	(280,506)				
E. Investment Income						
E1. Actual Market Total: B-C-D	6,379,064	5,426,455	-	-	-	-
E2. Assumed Rate of Return	7.25%	7.25%	7.25%	7.25%	7.25%	7.25%
E3. Assumed Amount of Return	6,996,822	7,548,192	-	-	-	-
E4. Amount Subject to Phase-In: E1–E3	(617,758)	(2,121,737)	-	-	-	-
F. Phase-In Recognition of Investment Income						
F1. Current Year: 0.2 x E4	(123,552)	(424,347)	-	-	-	-
F2. First Prior Year	430,902	(123,552)	(424,347)	-	-	-
F3. Second Prior Year	428,499	430,902	(123,552)	(424,347)	-	-
F4. Third Prior Year	(848,929)	428,499	430,902	(123,552)	(424,347)	-
F5. Fourth Prior Year	393,472	(848,929)	428,501	430,904	(123,550)	(424,349)
F6. Total Phase-Ins	280,392	(537,427)	311,504	(116,995)	(547,897)	(424,349)
G. Actuarial Value of Assets End of Year						
G1. Preliminary Actuarial Value of Assets:	\$ 101,348,390	\$ 108,078,649	\$ -	\$ -	\$ -	\$ -
G2. Upper Corridor Limit: 120%*B	122,585,956	128,761,094	-	-	-	-
G3. Lower Corridor Limit: 80%*B	81,723,970	85,840,730	-	-	-	-
G4. Funding Value End of Year	101,348,390	108,078,649	-	-	-	-
G5. Less: State Contribution Reserve	(244,891)	(284,088)	-	-	-	-
G6. Less: DROP Account Balances	(13,001,411)	(13,858,626)	-	-	-	-
G7. Less: Supplemental Benefit Reserve	(2,508,806)	(2,452,246)	-	-	-	-
G8. Final Funding Value End of Year	85,593,282	91,483,689	-	-	-	-
H. Difference between Market & Actuarial Value	\$ 806,573	\$ (777,737)	\$ -	\$ -	\$ -	\$ -
I. Actuarial Rate of Return	7.54%	6.73%	0.00%	0.00%	0.00%	0.00%
J. Market Value Rate of Return	6.50%	5.17%	0.00%	0.00%	0.00%	0.00%
K. Ratio of Actuarial Value to Market Value	99.21%	100.72%	0.00%	0.00%	0.00%	0.00%



RECONCILIATION OF DROP ACCOUNTS	
Value at beginning of year	\$ 13,001,411
Adjustment to beginning of year balances	+ (5,396)
Payments credited to accounts	+ 1,031,586
Rollovers into DROP account	+ 108,110
Investment Earnings credited	+ 944,526
Withdrawals from accounts	- 1,189,588
Net Loan Activity	+ <u>(32,023)</u>
Value at end of year	13,858,626

INVESTMENT RATE OF RETURN

Year Ended	Investment Rate of Return	
	Market Value	Actuarial Value
12/31/82	16.4 %	9.3 %
12/31/83	12.3	9.0
12/31/84	11.9	11.5
12/31/85	23.0	16.8
12/31/86	19.0	17.6
12/31/87	0.3	4.4
12/31/88	10.4	9.0
12/31/89	20.6	15.4
9/30/90 (9 mos.)	(1.9)	1.7
9/30/91	14.4	11.6
9/30/92	10.0	9.7
9/30/93	12.6	11.9
9/30/94	1.1	3.5
9/30/95	19.1	12.9
9/30/96	12.8	10.8
9/30/97	20.2	13.1
9/30/98	10.1	12.9
9/30/99	10.5	13.5
9/30/00	9.8	12.1
9/30/01	(9.1)	7.5
9/30/02	(9.2)	(4.7)
9/30/03	16.1	2.8
9/30/04	8.3	2.6
9/30/05	10.6	3.0
9/30/06	6.9	5.7
9/30/07	13.1	9.9
9/30/08	(15.1)	4.2
9/30/09	(0.8)	2.8
9/30/10	10.2	3.0
9/30/11	(0.6)	1.6
9/30/12	18.0	6.9
9/30/13	9.8	7.0
9/30/14	10.3	8.9
9/30/15	1.9	7.5
9/30/16	10.6	9.3
9/30/17	9.9	8.3
9/30/18	6.5	7.5
9/30/19	5.2	6.7
Average Returns:		
Last Five Years	6.8 %	7.9 %
Last Ten Years	8.1 %	6.6 %
All Years	8.5 %	8.0 %



SECTION D

FINANCIAL ACCOUNTING INFORMATION

FASB NO. 35 INFORMATION

A. Valuation Date	October 1, 2019	October 1, 2018
B. Actuarial Present Value of Accumulated Plan Benefits		
1. Vested Benefits		
a. Members Currently Receiving Payments	\$ 85,977,000	\$ 82,339,033
b. Terminated Vested Members	5,631,881	5,857,661
c. Other Members	<u>27,564,975</u>	<u>28,567,813</u>
d. Total	119,173,856	116,764,507
2. Non-Vested Benefits	1,295,901	1,292,470
3. Total Actuarial Present Value of Accumulated Plan Benefits: 1d + 2	120,469,757	118,056,977
4. Accumulated Contributions of Active Members	6,223,524	5,932,412
C. Changes in the Actuarial Present Value of Accumulated Plan Benefits		
1. Total Value at Beginning of Year	118,056,977	111,391,695
2. Increase (Decrease) During the Period Attributable to:		
a. Plan Amendment	602,521	0
b. Change in Actuarial Assumptions	0	0
c. Latest Member Data, Benefits Accumulated and Decrease in the Discount Period	8,862,164	13,562,365
d. Benefits Paid (Net basis, including credits to DROP accounts)	<u>(7,051,905)</u>	<u>(6,897,083)</u>
e. Net Increase	2,412,780	6,665,282
3. Total Value at End of Period	120,469,757	118,056,977
D. Market Value of Assets	90,705,952	86,399,855
E. Actuarial Assumptions - See page entitled Actuarial Assumptions and Methods		



**SCHEDULE OF CHANGES IN THE EMPLOYER'S
NET PENSION LIABILITY AND RELATED RATIOS
GASB Statement No. 67**

Fiscal year ending September 30,	2020*	2019	2018
Total pension liability			
Service Cost	\$ 3,151,301	\$ 3,138,898	\$ 3,199,467
Interest	10,987,537	10,487,401	10,007,776
Benefit Changes	16,771	-	-
Difference between actual & expected experience	708,903	455,046	1,355,270
Assumption Changes	-	-	3,525,859
Benefit Payments	(7,581,268)	(7,828,430)	(6,817,205)
Refunds	(27,810)	(19,613)	(122,701)
Other (Adjustments to Reserves)	479,016	587,472	578,453
Net Change in Total Pension Liability	7,734,450	6,820,774	11,726,919
Total Pension Liability - Beginning	151,965,967	145,145,193	133,418,274
Total Pension Liability - Ending (a)	\$ 159,700,417	\$ 151,965,967	\$ 145,145,193
Plan Fiduciary Net Position			
Contributions - Employer (from City)	\$ 5,815,515	\$ 5,809,713	\$ 5,355,058
Contributions - Employer (from State)	861,862	861,862	825,507
Contributions - Non-Employer Contributing Entity	-	-	-
Contributions - Member	890,449	983,971	1,214,260
Net Investment Income	7,947,781	5,426,455	6,379,064
Benefit Payments	(7,581,268)	(7,828,430)	(6,817,205)
Refunds	(27,810)	(19,613)	(122,701)
Administrative Expense	(170,967)	(178,668)	(163,266)
Other	-	108,110	102,504
Net Change in Plan Fiduciary Net Position	7,735,562	5,163,400	6,773,221
Plan Fiduciary Net Position - Beginning	107,146,116	101,982,716	95,209,495
Plan Fiduciary Net Position - Ending (b)	\$ 114,881,678	\$ 107,146,116	\$ 101,982,716
Net Pension Liability - Ending (a) - (b)	44,818,739	44,819,851	43,162,477
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	71.94 %	70.51 %	70.26 %
Covered Payroll	\$ 11,500,000	\$ 11,268,875	\$ 11,552,888
Net Pension Liability as a Percentage of Covered Payroll	389.73 %	397.73 %	373.61 %

* These figures are estimates only. Actual figures will be provided after the end of the fiscal year. Note that only three years are shown here for summary purposes. The actual September 30, 2019 GASB 67 disclosure report will include all years (up to 10) beginning with the first year GASB 67 was implemented (Fiscal Year 2014).



SCHEDULE OF THE EMPLOYER'S NET PENSION LIABILITY
GASB Statement No. 67

FY Ending September 30,	Total Pension Liability	Plan Net Position	Net Pension Liability	Plan Net Position as a % of Total Pension Liability	Covered Payroll	Net Pension Liability as a % of Covered Payroll
2014	\$ 111,783,071	\$ 76,282,065	\$ 35,501,006	68.24%	\$ 11,070,863	320.67%
2015	116,958,988	78,209,708	38,749,280	66.87%	11,553,613	335.39%
2016	124,555,848	86,202,090	38,353,758	69.21%	11,279,375	340.03%
2017	133,418,274	95,209,495	38,208,779	71.36%	11,834,364	322.86%
2018	145,145,193	101,982,716	43,162,477	70.26%	11,552,888	373.61%
2019	151,965,967	107,146,116	44,819,851	70.51%	11,268,875	397.73%
2020*	159,700,417	114,881,678	44,818,739	71.94%	11,500,000	389.73%

*** These figures are estimates only. Actual figures will be provided after the end of the fiscal year.**



NOTES TO NET PENSION LIABILITY
GASB Statement No. 67

Valuation Date: October 1, 2019
Measurement Date: September 30, 2020

Methods and Assumptions Used to Determine Net Pension Liability:

Actuarial Cost Method	Entry Age Normal
Inflation	2.5%
Salary Increases	5.0% to 6.5% depending on age, including inflation.
Investment Rate of Return	7.25%
Retirement Age	Experience-based table of rates that are specific to the type of eligibility condition.
Mortality	RP-2000 Combined Healthy Participant Mortality Table (for preretirement mortality) and the RP-2000 Mortality Table for Annuitants (for post-retirement mortality), with mortality improvements projected to all future years after 2000 using Scale BB. For males, the base mortality rates include a 90% blue collar adjustment and a 10% white collar adjustment. For females, the base mortality rates include a 100% white collar adjustment. These are the same rates used for Special Risk Class members of the Florida Retirement System (FRS) in the July 1, 2018 FRS actuarial valuation. Florida Statutes Chapter 112.63(1)(f) mandates the use of the mortality tables used in either of the two most recently published actuarial valuation reports of FRS.

Other Information:

Notes See Discussion of Valuation Results in the October 1, 2019 Actuarial Valuation Report.



SCHEDULE OF CONTRIBUTIONS
GASB Statement No. 67

FY Ending September 30,	Actuarially Determined Contribution	Actual Contribution	Contribution Deficiency (Excess)	Covered Payroll	Actual Contribution as a % of Covered Payroll
2014	\$ 4,560,918	\$ 4,624,823	\$ (63,905)	\$ 11,070,863	41.77%
2015	4,830,346	4,830,346	-	11,553,613	41.81%
2016	4,856,392	4,856,392	-	11,279,375	43.06%
2017	5,256,615	5,256,615	-	11,834,364	44.42%
2018	5,820,145	5,820,145	-	11,552,888	50.38%
2019	6,272,374	6,274,800	(2,426)	11,268,875	55.68%
2020*	6,280,602	6,280,602	-	11,500,000	54.61%

* These figures are estimates only. Actual figures will be provided after the end of the fiscal year.



NOTES TO SCHEDULE OF CONTRIBUTIONS
GASB Statement No. 67

Valuation Date: October 1, 2018
Notes Actuarially determined contribution rates are calculated as of October 1, which is two year(s) prior to the end of the fiscal year in which contributions are reported.

Methods and Assumptions Used to Determine Contribution Rates:

Actuarial Cost Method	Entry Age Normal
Amortization Method	Level Percentage of Payroll, Closed
Remaining Amortization Period	18 years
Asset Valuation Method	5-year smoothed market
Inflation	2.5%
Salary Increases	5.0% to 6.5% depending on age, including inflation.
Investment Rate of Return	7.25%
Retirement Age	Experience-based table of rates that are specific to the type of eligibility condition.
Mortality	RP-2000 Combined Healthy Participant Mortality Table (for preretirement mortality) and the RP-2000 Mortality Table for Annuitants (for post-retirement mortality), with mortality improvements projected to all future years after 2000 using Scale BB. For males, the base mortality rates include a 90% blue collar adjustment and a 10% white collar adjustment. For females, the base mortality rates include a 100% white collar adjustment. These are the same rates used for Special Risk Class members of the Florida Retirement System (FRS) in the July 1, 2018 FRS actuarial valuation. Florida Statutes Chapter 112.63(1)(f) mandates the use of the mortality tables used in either of the two most recently published actuarial valuation reports of FRS.

Other Information:
Notes See Discussion of Valuation Results in the October 1, 2018 Actuarial Valuation Report.



SINGLE DISCOUNT RATE
GASB Statement No. 67

A single discount rate of 7.25% was used to measure the total pension liability. This single discount rate was based on the expected rate of return on pension plan investments of 7.25%. The projection of cash flows used to determine this single discount rate assumed that plan member contributions will be made at the current contribution rate and that employer contributions will be made at rates equal to the difference between the total actuarially determined contribution rates and the member rate. Based on these assumptions, the pension plan’s fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments (7.25%) was applied to all periods of projected benefit payments to determine the total pension liability.

Regarding the sensitivity of the net pension liability to changes in the single discount rate, the following presents the plan’s net pension liability, calculated using a single discount rate of 7.25%, as well as what the plan’s net pension liability would be if it were calculated using a single discount rate that is 1-percentage-point lower or 1-percentage-point higher:

Sensitivity of the Net Pension Liability to the Single Discount Rate Assumption*

1% Decrease	Current Single Discount	1% Increase
6.25%	Rate Assumption	8.25%
6.25%	7.25%	8.25%
\$ 61,750,430	\$ 44,818,739	\$ 30,789,800

* These figures are estimates only. Actual figures will be provided after the end of the fiscal year.

SECTION E

MISCELLANEOUS INFORMATION

RECONCILIATION OF MEMBERSHIP DATA		
	From 10/1/18 To 10/1/19	From 10/1/17 To 10/1/18
A. Active Members		
1. Number Included in Last Valuation	129	136
2. New Members Included in Current Valuation	5	11
3. Non-Vested Employment Terminations	(5)	(5)
4. Vested Employment Terminations	0	(5)
5. DROP Participation	(4)	(6)
6. Service Retirements	0	(4)
7. Disability Retirements	0	0
8. Deaths	0	0
9. Other--Data Correction	0	2
10. Number Included in This Valuation	<u>125</u>	<u>129</u>
B. Terminated Vested Members		
1. Number Included in Last Valuation	24	20
2. Additions from Active Members	0	5
3. Lump Sum Payments/Refund of Contributions	0	(1)
4. Payments Commenced	(1)	0
5. Deaths	0	0
6. Other--Data Correction	0	0
7. Number Included in This Valuation	<u>23</u>	<u>24</u>
C. DROP Plan Members		
1. Number Included in Last Valuation	16	11
2. Additions from Active Members	4	6
3. Retirements	(5)	(1)
4. Deaths Resulting in No Further Payments	0	0
5. Other	0	0
6. Number Included in This Valuation	<u>15</u>	<u>16</u>
D. Service Retirees, Disability Retirees and Beneficiaries		
1. Number Included in Last Valuation	127	123
2. Additions from Active Members	0	4
3. Additions from Terminated Vested Members	1	0
4. Additions from DROP Plan	5	1
5. Deaths Resulting in No Further Payments	(1)	(1)
6. Deaths Resulting in New Survivor Benefits	0	0
7. End of Certain Period - No Further Payments	0	0
8. Other -- Lump Sum Distributions	0	0
9. Number Included in This Valuation	<u>132</u>	<u>127</u>



ACTIVE PARTICIPANT SCATTER

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+		
20-24 NO.	1	1	1	0	0	0	0	0	0	0	0	3
TOT PAY	52,889	54,488	68,039	0	0	0	0	0	0	0	0	175,416
AVG PAY	52,889	54,488	68,039	0	0	0	0	0	0	0	0	58,472
25-29 NO.	1	5	3	5	3	0	0	0	0	0	0	17
TOT PAY	52,889	307,829	191,246	319,617	179,199	0	0	0	0	0	0	1,050,780
AVG PAY	52,889	61,566	63,749	63,923	59,733	0	0	0	0	0	0	61,811
30-34 NO.	1	2	3	5	3	10	2	0	0	0	0	26
TOT PAY	52,889	118,528	190,901	334,614	199,642	823,927	157,417	0	0	0	0	1,877,918
AVG PAY	52,889	59,264	63,634	66,923	66,547	82,393	78,709	0	0	0	0	72,228
35-39 NO.	0	1	0	2	0	2	17	1	0	0	0	23
TOT PAY	0	50,889	0	130,842	0	180,907	1,637,510	105,793	0	0	0	2,105,941
AVG PAY	0	50,889	0	65,421	0	90,454	96,324	105,793	0	0	0	91,563
40-44 NO.	0	0	0	1	1	3	7	11	0	0	0	23
TOT PAY	0	0	0	64,085	71,274	294,003	711,219	1,256,680	0	0	0	2,397,261
AVG PAY	0	0	0	64,085	71,274	98,001	101,603	114,244	0	0	0	104,229
45-49 NO.	0	0	1	0	1	1	4	13	2	0	0	22
TOT PAY	0	0	60,879	0	131,879	73,241	359,533	1,336,192	209,227	0	0	2,170,951
AVG PAY	0	0	60,879	0	131,879	73,241	89,883	102,784	104,614	0	0	98,680
50-54 NO.	1	1	0	0	0	1	0	4	0	0	0	7
TOT PAY	52,889	159,956	0	0	0	66,230	0	456,410	0	0	0	735,485
AVG PAY	52,889	159,956	0	0	0	66,230	0	114,103	0	0	0	105,069
55-59 NO.	0	0	1	0	0	0	2	0	1	0	0	4
TOT PAY	0	0	117,276	0	0	0	157,022	0	131,297	0	0	405,595
AVG PAY	0	0	117,276	0	0	0	78,511	0	131,297	0	0	101,399
60-64 NO.	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
AVG PAY	0	0	0	0	0	0	0	0	0	0	0	0
TOT NO.	4	10	9	13	8	17	32	29	3	0	0	125
TOT AMT	211,556	691,690	628,341	849,158	581,994	1,438,308	3,022,701	3,155,075	340,524	0	0	10,919,347
AVG AMT	52,889	69,169	69,816	65,320	72,749	84,606	94,459	108,796	113,508	0	0	87,355



INACTIVE PARTICIPANT SCATTER

Age Group	Terminated Vested		Disabled		Retired		Deceased with Beneficiary	
	Number	Total Benefits	Number	Total Benefits	Number	Total Benefits	Number	Total Benefits
Under 20	-	-	-	-	-	-	-	-
20-24	-	-	-	-	-	-	-	-
25-29	-	-	-	-	-	-	-	-
30-34	-	-	-	-	-	-	-	-
35-39	14	375,722	-	-	-	-	-	-
40-44	4	78,801	-	-	3	202,837	-	-
45-49	2	80,772	2	98,634	14	1,051,612	1	53,739
50-54	3	74,560	-	-	24	1,529,274	-	-
55-59	-	-	2	43,710	28	1,514,064	1	23,843
60-64	-	-	3	54,826	26	1,263,662	1	34,254
65-69	-	-	3	63,138	15	614,507	-	-
70-74	-	-	3	75,670	9	403,413	1	9,397
75-79	-	-	1	13,354	8	209,859	-	-
80-84	-	-	-	-	1	51,692	-	-
85-89	-	-	-	-	1	27,637	-	-
90-94	-	-	-	-	-	-	-	-
95-99	-	-	-	-	-	-	-	-
100 & Over	-	-	-	-	-	-	-	-
Total	23	609,855	14	349,332	129	6,868,557	4	121,233
Average Age		41		64		60		59



SECTION F

SUMMARY OF PLAN PROVISIONS

SUMMARY OF PLAN PROVISIONS

A. Ordinances

Plan established under the Code of Ordinances for the City of Boynton Beach, Florida, Chapter 18, Article III, and was most recently amended under Ordinance No. 18-006 passed and adopted on its second reading on May 15, 2018. The Plan is also governed by certain provisions of Chapter 185, Florida Statutes, Part VII, Chapter 112, Florida Statutes and the Internal Revenue Code.

B. Effective Date

August 15, 1981

C. Plan Year

October 1 through September 30

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 police officers are eligible to participate on the first day of employment.

F. Credited Service

Service is measured as the aggregate numbers of years and fractional parts of years of service for which a police officer made Member Contributions to the plan. No service is credited for any periods of employment for which the member received a refund of their contributions.

G. Compensation

Total cash remuneration including up to 300 hours of overtime and lump sum payments for the lesser of the amount of sick and vacation leave accumulated as of June 18, 2013 or the amount cashed out at retirement, but exclusive of any payments for extra duty or special detail work.

H. Average Final Compensation (AFC)

The average of Compensation over the highest 5 years during the last 10 years of Credited Service.

I. Normal Retirement

Eligibility: All members hired prior to October 1, 2019 may retire on the first day of the month coincident with or next following the earliest of:

(1) age 55 and 10 years of Credited Service, or



- (2) age 50 and 15 years of Credited Service, or
- (3) 20 years of Credited Service regardless of age.

All members hired on or after October 1, 2019 may retire on the first day of the month coincident with or next following the earliest of:

- (1) age 55 and 10 years of Credited Service, or
- (2) 25 years of Credited Service regardless of age.

Benefit: All Members hired prior to October 1, 2015: 3.5% of AFC multiplied by years of Credited Service.

All Members hired on or after October 1, 2015: 3.0% of AFC multiplied by years of Credited Service.

The total benefit is limited to 85% of AFC, provided that in all cases, the benefit will not be less than 2.75% of AFC for each year of Credited Service. However, the 85% of AFC limitation does not apply to Members who were eligible for Normal Retirement as of October 1, 2019.

Normal Form of Benefit: 10 Years Certain and Life thereafter; other options are also available.

COLA None

Supplemental Benefit: A supplemental benefit is paid each year. Please see Item V. for a full description.

J. Early Retirement

Eligibility: A member may elect to retire earlier than the Normal Retirement Eligibility upon attainment of age 50 and 10 years of Credited Service.

Benefit: The Normal Retirement Benefit is reduced by 1.5% for each year by which the Early Retirement date precedes the Normal Retirement date. For this purpose, the Normal Retirement date is the earlier of the date the member would have attained age 55 or completed 20 years of Credited Service (25 years of Credited Service if hired on or after October 1, 2019) had the member continued employment as a police officer.

Normal Form of Benefit: 10 Years Certain and Life thereafter; other options are also available.

COLA: None

Supplemental Benefit: A supplemental benefit is paid each year. Please see Item V. for a full description.



K. Delayed Retirement

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

L. Service Connected Disability

Eligibility: Any member who becomes totally and permanently disabled and unable to render useful and efficient service as a police officer as a result of an act occurring in the performance of service for the City is immediately eligible for a disability benefit.

Benefit: 66 2/3% of the member's basic rate of earnings in effect on the date of disability, reduced by amounts payable under Worker's Compensation and Social Security PIA with a minimum benefit being the greater of the accrued Normal Retirement benefit on the date of disability or 42% of AFC.

Normal Form of Benefit: 10 Years Certain and Life thereafter; other options are also available.

COLA: None

Supplemental Benefit: A supplemental benefit is paid each year. Please see Item V. for a full description.

M. Non-Service Connected Disability

Eligibility: Any member with 10 years of Credited Service who becomes totally and permanently disabled and unable to render useful and efficient service as a police officer is eligible for a disability benefit.

Benefit: The accrued Normal Retirement Benefit taking into account compensation earned and service credited as of the date of disability with a minimum benefit equal to 25% of AFC and a maximum benefit equal to 60% of AFC.

Normal Form of Benefit: 10 years Certain and Life thereafter; other options are also available.

COLA: None

Supplemental Benefit: A supplemental benefit is paid each year. Please see Item V. for a full description.

N. Death in the Line of Duty

Eligibility: Any member whose death is determined to be the result of a service incurred injury is eligible for survivor benefits regardless of Credited Service.

Benefit: Spouse will receive the accrued Normal Retirement Benefit taking into account compensation earned and service credited as of the date of death with a minimum



benefit equal to 30% of AFC. If there is no spouse, benefits will be paid to the deceased member's estate.

Normal Form
of Benefit: Paid until death of spouse.

COLA: None

Supplemental
Benefit: A supplemental benefit is paid each year. Please see Item V. for a full description.

O. Other Pre-Retirement Death

Eligibility: Members are eligible for survivor benefits after the completion of 10 or more years of Credited Service.

Benefit: Spouse will receive the accrued Normal Retirement Benefit taking into account compensation earned and service credited as of the date of death. If there is no spouse, benefits will be paid to the deceased member's estate.

Normal Form
of Benefit: Paid until death or remarriage of spouse; or 10 years to the member's estate.

COLA: None

Supplemental
Benefit: A supplemental benefit is paid each year. Please see Item V. for a full description.

The beneficiary of a plan member with less than 10 years of Credited Service at the time of death will receive a refund of the member's accumulated contributions.

P. Post Retirement Death

Benefit determined by the form of benefit elected upon retirement.

Q. 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, the 50%, 66 2/3%, 75% and 100% Contingent Annuitant options and the 50%, 66 2/3%, 75% and 100% Survivor Annuity options.

R. Vested Termination

Eligibility: A member has earned a non-forfeitable right to Plan benefits after the completion of 5 years of Credited Service (10 years of Credited Service if hired on or after October 1, 2016) if they elect to leave their accumulated contributions in the fund.

Benefit: The benefit is the member's accrued Normal Retirement Benefit as of the date of termination.



For members with at least 5 years of Credited Service (10 years of Credited Service if hired on or after October 1, 2016), the benefit begins on the date that would have been the member's Normal Retirement date had they continued employment until attaining age 55 with 10 years of Credited Service or upon reaching what would have been 20 years of Credited Service (25 years of Credited Service if hired on or after October 1, 2019). Alternatively, members with at least 10 years of Credited Service can elect a reduced Early Retirement benefit any time after age 50.

Normal Form

of Benefit: 10 Years Certain and Life thereafter; other options are also available.

COLA: None

Supplemental

Benefit: A supplemental benefit is paid each year. Please see Item V. for a full description.

Members terminating employment with less than 5 years (10 years of Credited Service if hired on or after October 1, 2016) of Credited Service will receive a refund of their own accumulated contributions.

S. Refunds

Eligibility: All members terminating employment with less than 5 years of Credited Service (10 years of Credited Service if hired on or after October 1, 2016) are eligible. Optionally, vested members (those with 5 or more years of Credited Service if hired prior to October 1, 2016; 10 or more years of Credited Service if hired on or after October 1, 2016) may elect a refund in lieu of the vested benefits otherwise due.

Benefit: Refund of the member's contributions.

T. Member Contributions

7.5% of Compensation. This amount will increase to 8.0% beginning October 1, 2020 and 8.5% beginning October 1, 2021. Member contributions in excess of 7.0% of Compensation are used to pay down the Unfunded Actuarial Liability and are not used to reduce the City contribution.

U. Employer Contributions

Chapter 185 Premium Tax Refunds and any additional amount determined by the actuary needed to fund the plan properly according to State laws.

V. Supplemental Benefit

All retirees and beneficiaries in pay status are entitled to a monthly supplemental pension benefit paid in a lump sum on October 1 of each year. The supplemental benefit is funded by a 1% of pay contribution from the members and a 1% of pay contribution from the Chapter 185 money. The benefit pool is divided according to the total number of shares of all eligible retirees on a pro-rata basis. The number of shares allotted to each eligible retiree is the sum of credited service at



retirement (maximum of 20 years) and the number of years the participant has been retired (maximum of 20 years). An individual retiree's distribution is the number of shares multiplied by the share value. The benefit ceases upon the later of the death of the retired member or beneficiary.

W. Deferred Retirement Option Plan

Eligibility: Plan members who have less than 30 years of Credited Service but have met one of the following criteria are eligible for the DROP:

- (1) age 55 and 10 years of Credited Service, or
- (2) age 50 and 15 years of Credited Service (if hired prior to October 1, 2019), or
- (3) 20 years of Credited Service (25 years of Credited Service if hired on or after October 1, 2019) regardless of age.

Members who meet eligibility must submit a written election to participate in the DROP.

Benefit: The member's Credited Service and FAC are frozen upon entry into the DROP. The monthly retirement benefit as described under Normal Retirement is calculated based upon the frozen Credited Service and FAC.

Maximum

DROP Period: The earlier of 5 years of participation in the DROP or 30 years of employment.

Interest

Credited: For members hired prior to October 1, 2019, the member's DROP account is credited at an interest rate based upon the option chosen by the member. Members must elect 1 of the 3 following options:

- 1. Gain or loss at the same rate earned by the Plan, or
- 2. Guaranteed rate of 7%, or
- 3. A percentage of the DROP credited at the same rate earned by the Plan and the remaining percentage credited with earnings at a guaranteed rate of 7%.

For members hired on or after October 1, 2019, the member's DROP account is credited at the same rate earned by the Plan, but no less than 0% and no more than 8%. Such members must also withdraw the DROP balance within 30 days of separating from employment and exiting the DROP.

**Normal Form
of Benefit:**

Options include a lump sum, equal annual payments over 5 years, or monthly installments based upon actuarial tables until the balance is paid out.

COLA: None

Supplemental

Benefit: A supplemental benefit is paid each year. Please see Item V. for a full description.



X. Other Ancillary Benefits

There are no ancillary benefits not required by statutes but which might be deemed a City of Boynton Beach Municipal Police Officers' Retirement Fund liability if continued beyond the availability of funding by the current funding source.

Y. Changes Since Previous Valuation

On February 25, 2020, GRS prepared an Actuarial Impact Statement for a proposed ordinance to amend the City of Boynton Beach Municipal Police Officers' Retirement Fund as follows:

- In November 2019, November 2020 and November 2021, \$30,000 of each year's distribution of insurance premium excise tax dollars will be used to offset the Unfunded Actuarial Liability.
- The Member Contribution rate towards the base Pension Benefit for all employees increases from 7.0% of Compensation to:
 - 7.5% of Compensation beginning October 1, 2019;
 - 8.0% of Compensation beginning October 1, 2020;
 - 8.5% of Compensation beginning October 1, 2021.
 - These additional Member Contributions will be used to reduce the Plan's Unfunded Actuarial Liability and will not reduce the City's required contribution.
- The Normal Retirement Date for Police Officers hired on or after October 1, 2019 will be the first day of the month after attaining the earlier of:
 - Age 55 and 10 years of credited service, or
 - 25 years of credited service regardless of age
- Police Officers hired on or after October 1, 2019 are vested once they reach 10 years of Credited Service. Upon attaining 50 years of age or what would have been 25 years of Credited Service had the police officer remained employed, a member may commence his or her deferred, vested benefit. If the member chooses to commence benefits at age 50, the benefit will be the actuarial equivalent of the amount that would have been payable under Normal Retirement.
- The maximum retirement benefit under the normal form of benefit for all Police Officers not eligible for normal retirement as of October 1, 2019 will be 85% of average final compensation, provided that in all cases, the benefit will not be less than 2.75% of average final compensation for each year of service.
- Members who are hired on or after October 1, 2019 must enter DROP within 30 days of reaching the latest Normal Retirement Date.
- Only Police officers hired before October 1, 2019 may have multiple methods of DROP interest accumulation to choose from. For Police Officers hired on or after October 1, 2019, DROP balances will be credited with earnings with a minimum annual interest credit of 0% and a maximum annual interest credit of 8%, depending on the net rate (earnings less costs) earned by the Plan.
- For members hired on or after October 1, 2019, upon termination of employment, participants in the DROP will receive the balance of the DROP. Installments and partial lump sums are no longer permitted.

It is our understanding that this Ordinance is going to second reading and will be adopted by the City soon, so this actuarial valuation report may serve as the actuarial impact statement for this Ordinance.