

# MIAMI SPRINGS POLICE AND FIREFIGHTERS' RETIREMENT SYSTEM

ANNUAL ACTUARIAL VALUATION AS OF OCTOBER 1, 2019

ANNUAL EMPLOYER CONTRIBUTION FOR THE FISCAL YEAR  
ENDING SEPTEMBER 30, 2021







May 4, 2020

Board of Trustees  
City of Miami Springs Police  
and Firefighters' Retirement System  
Miami Springs, Florida

Dear Board Members:

The results of the October 1, 2019 Annual Actuarial Valuation of the City of Miami Springs Police and Firefighters' Retirement System are presented in this report. This report does not reflect the recent and still developing impact of COVID-19, which may significantly impact future 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 report the actuarial information for Governmental Accounting Standards Board (GASB) Statement No. 67 for the fiscal year ending September 30, 2019. 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 purpose 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 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 City and the Plan Administrator concerning Retirement System benefits, financial transactions, plan provisions and active members, terminated members, retirees and beneficiaries. We checked for internal and year-to-year consistency, but did not audit the data. We are not responsible for the accuracy or completeness of the information provided by the City and 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 Method". The prescribed assumptions are the assumed mortality rates detailed in the Actuarial Assumptions and Cost Method section in accordance with Florida Statutes Chapter 112.63. All actuarial assumptions used in this report are reasonable for purposes of this valuation

This report 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 Miami Springs Police and Firefighters' Retirement System as of the valuation date. All calculations have been made in conformity with generally accepted actuarial principles and practices, with the Actuarial Standards of Practice issued by the Actuarial Standards Board and with applicable statutes.

Peter N. Strong and Nicolas Lahaye are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries 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 system and/or paid from the system'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 system 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 & COMPANY

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

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## **SECTION A**

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### **DISCUSSION OF VALUATION RESULTS**

# DISCUSSION OF VALUATION RESULTS

## Comparison of Required Employer Contributions

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

	For FYE 9/30/2021	For FYE 9/30/2020*	Increase (Decrease)
Total Required Contribution	\$ 419,671	\$ 632,668	\$ (212,997)
As % of Covered Payroll	15.65 %	23.64 %	(7.99) %
Allowable Credit for State Revenue	TBD	\$ 126,870	\$ (126,870)
As % of Covered Payroll	N/A	4.74 %	(4.74) %
Required Employer Contribution	\$ 419,671	\$ 505,798	\$ (86,127)
As % of Covered Payroll	15.65 %	18.90 %	(3.25) %
As % of Total Payroll including DROP participants	13.64 %	16.79 %	(3.15) %
Member Contribution Rate	16.2 %	10.5 %	5.7 %

\*Based on results from May 31, 2019 Actuarial Impact Statement.

Please note that the required employer contribution shown above for fiscal year 2021 has been computed **without reflecting any State revenue and assuming a reversion to prior cost-sharing provisions between members and the City.** For fiscal years 2018 through 2020, a collective bargaining agreement has been in place that has allowed all Chapter 185 State revenue to be used to reduce the Member contribution rate after applying the cost-sharing provisions. In anticipation of a new collective bargaining agreement (with currently unknown terms) applying to fiscal years 2021 through 2023, we are leaving the amount of Allowable Credit for State Revenue as "To Be Determined" and not reflecting State revenue at this point. If all available State revenue is once again used in fiscal year 2021 to offset the Member contribution rate, then the Member contribution rate shown above for fiscal year 2021 would decrease from 16.2% to 10.8% and the net required employer (City) contribution would remain unchanged.

The required employer contribution has been calculated assuming it will be made in full on October 1, 2020.

The actual amount of State money used and employer contributions deposited for the fiscal year ending September 30, 2019 were \$192,169 and \$528,264, respectively, for a total contribution of \$720,433. The minimum required contribution reflecting actual payment timing was \$720,433.



## Revision in Benefits

Under Ordinance No. 1114-2019, for the fiscal year ending September 30, 2020, the member contribution rate was reduced to a maximum of 10.5%. The impact of this change was measured in the May 31, 2019 Actuarial Impact Statement. The prior year results in this valuation report (as of October 1, 2018) reflect this change.

## Revisions in Actuarial Assumptions or Methods

There have been no revisions in assumptions and methods since the prior valuation.

## Actuarial Experience

There was a net actuarial gain of \$228,139 for the year which means that actual experience was more favorable than expected. The gain is primarily due to a recognized investment return above the assumed rate of 7.0%. The investment return was 8.7% based on the actuarial value of assets (and 5.6% based on the market value of assets). Demographic experience resulted in losses which partially offset the investment gains. Demographic losses occurred primarily due to higher than expected average salary increases (7.1% actual versus 5.2% expected), and mortality experience (there were no deaths reported during the year). The net actuarial gain caused the required employer contribution to decrease by 0.80% of covered payroll.

## Funded Ratio

The funded ratio, one measure of the Plan's financial health, is equal to the actuarial value of assets divided by the actuarial accrued (past service) liability. The funded ratio is 94.1% this year compared to 92.4% last year.

## Analysis of Change in Required Contributions

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

City Contribution rate last year	18.90 %
Revision in assumptions and methods	0.00
Amortization of UAAL	(0.87)
Normal Cost Rate	(0.76)
Experience (gain) loss	(0.80)
Change in administrative expense	0.14
Increase in employee contribution rate	(5.70)
Change in amount of State revenue applied	<u>4.74</u>
City Contribution rate this year	15.65

## Variability of Future Contribution Rates

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

Over time, if the year-to-year gains and losses offset each other, the contribution rate would be expected to return to the current level, but this does not always happen.



The Market Value of Assets exceeds the Actuarial Value of Assets by \$1,287,251 as of the valuation date (see Section C). This difference will be recognized over the next four years. In turn, the computed City contribution rate is expected to decrease by approximately 2.2% of covered payroll (after reflecting cost sharing) over the same period in the absence of offsetting losses.

### **Relationship to Market Value**

If we were not using an asset smoothing method, the funded ratio would have been 98.0%, the City contribution rate (reflecting beginning-of-year payment timing and no use of State money) would have been 13.43%, and the member contribution rate would have been 13.9%, both reflecting no use of State money. The market value-based funded ratio was 98.9% last year.

### **Conclusion**

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

Please note that this report only reflects experience through the valuation date of October 1, 2019. It does not reflect the recent and still developing impact of COVID-19, which may significantly impact the demographic and economic experience seen in future valuation reports.

## **RISKS ASSOCIATED WITH THE MEASURING THE ACCRUED LIABILITY AND ACTUARIALLY DETERMINED CONTRIBUTION**

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

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

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

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

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

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



## Plan Maturity Measures

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

	2019	2018
Ratio of the market value of assets to total payroll	12.2	12.0
Ratio of actuarial accrued liability to payroll	12.4	12.1
Ratio of actives to retirees and beneficiaries	0.7	0.8
Ratio of net cash flow to market value of assets (Net of DROP)	-3.7%	-3.1%
Duration of the actuarial accrued liability	11.1	11.2

### 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.



## STATE CONTRIBUTION RESERVE

As of the valuation date, some minimum benefits under Chapter 99-1, Laws of Florida, are not in place. The minimum duty disability benefit should be equal to the accrued pension, a minimum non-duty death benefit payable after 10 years of service should be added, and the normal form of benefit should be changed to 10 years certain and life annuity to meet the minimum required benefits.

For the fiscal years ending September 30, 2018 through September 30, 2020, the City and the Police Officers Union have reached mutual consent with regard to the use of State Chapter Money. All accumulated excess and annual Chapter 185 premium tax monies shall be used to fund the reduction in the employee contribution rate to no more than 12.5% for the fiscal years ending September 30, 2018 and 2019, and to 10.5% for the fiscal year ending September 30, 2020.

<b>Actuarial Confirmation of the Use of State Chapter Money</b>	
1. Accumulated Excess at Beginning of Previous Year	73,395
2. Amount Received for Previous Plan Year	130,143
3. Amount Used in Previous Plan Year	192,169
4. Accumulated Excess as of Valuation Date (Available for Benefit Improvements): (1) + (2) - (3)	11,369
5. Expected Amount to be Received This Plan Year:	130,143

The Accumulated Excess shown in line 4 is being held in reserve to fund the reduction in the employee cost sharing contribution. The reserve is subtracted from Plan assets (see Section C of this Report).

**SECTION B**

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**VALUATION RESULTS**

<b>PARTICIPANT DATA</b>		
	October 1, 2019	October 1, 2018*
<b>ACTIVE MEMBERS</b>		
Number	35	36
Covered Annual Payroll	\$ 2,681,641	\$ 2,676,755
Average Annual Payroll	\$ 76,618	\$ 74,354
Average Age	36.7	38.6
Average Past Service	8.1	9.0
Average Age at Hire	28.6	29.6
<b>RETIRES, BENEFICIARIES &amp; DROP</b>		
Number	48	44
Annual Benefits	\$ 2,169,217	\$ 1,989,419
Average Annual Benefit	\$ 45,192	\$ 45,214
Average Age	67.0	67.0
<b>DISABILITY RETIREES</b>		
Number	0	0
Annual Benefits	\$ 0	\$ 0
Average Annual Benefit	\$ 0	\$ 0
Average Age	0.0	0.0
<b>TERMINATED VESTED MEMBERS</b>		
Number	4	5
Annual Benefits	\$ 94,858	\$ 111,989
Average Annual Benefit	\$ 23,715	\$ 22,398
Average Age	52.3	46.8

\* From May 31, 2019 Actuarial Impact Statement.



<b>ACTUARIALLY DETERMINED (REQUIRED) CONTRIBUTION (ADC)</b>		
A. Valuation Date	October 1, 2019	October 1, 2018*
B. ADC to Be Paid During Fiscal Year Ending	9/30/2021	9/30/2020
C. Assumed Date of Employer Contributions	Evenly	Evenly
D. Annual Payment to Amortize Unfunded Actuarial Liability	\$ 196,211	\$ 237,520
E. Employer Normal Cost	371,115	385,913
F. Employer ADC if Paid on the Valuation Date: D+E	567,326	623,433
G. Employer ADC Adjusted for Frequency of Payments	628,382	690,527
H. Employer ADC as % of Covered Payroll	23.43 %	25.80 %
I. Assumed Rate of Increase in Covered Payroll to Contribution Year	0.00 %	0.00 %
J. Covered Payroll for Contribution Year	2,681,641	2,676,755
K. Employer ADC for Contribution Year: H x J *	628,382	690,527
L. Employer ADC as % of Covered Payroll in Contribution Year: K ÷ J *	23.43 %	25.80 %

\* From May 31, 2019 Actuarial Impact Statement.

\*\* See Adjustment page for final results.



<b>ADJUSTMENT TO EMPLOYER AND MEMBER CONTRIBUTIONS</b>		
	<b>As of October 1</b>	
	<b>2019</b> For FYE 9/30/2021	<b>2018</b> For FYE 9/30/2020*
1. Covered Annual Payroll for All Members	\$ 2,681,641	\$ 2,676,755
2. Employer Cost Before Adjustment as % of Covered Payroll	23.43 %	25.80 %
3. Combined Employer/Employee Cost	32.43 %	34.80 %
4. Excess of (3) over 18%, or Excess of 14% over (3)** [rounded to 0.1%]	14.4 %	16.8 %
5. One-Half of (4)	7.2 %	8.4 %
6. Employer Contribution Rate: 5% - (5); 9% + (5); or (2) (not less than 0%)	16.2 %	17.4 %
7. Employer Contribution Amount: (6) x (1)	\$ 434,426	\$ 465,755
8. Member Contribution Rate for Next Year: 9% - (5) (not less than 0.5%); or 9% + (5) if (3) is greater than 18%	16.2 %	17.4 %
9. Reduction in Member Contribution Rate due to Release of Excess State Contribution Reserve Funds and Additional City Contribution	N/A	6.9 %
10. Revised Member Contribution Rate for Next Year: (8) - (9)	N/A	10.5 %
11. Estimated Amount of Excess State Contribution Reserve Funds Released	N/A	\$ 126,870
12. Amount of Additional City Contribution	N/A	\$ 57,826
13. Total Employer Contribution: (7) + (12) As % of Covered Payroll	\$ 434,426 16.20 %	\$ 523,581 19.56 %
<b>If the City Makes its Contribution on October 1st:</b>		
14. <b>Employee Contribution Rate for All Members</b>	16.2 % ***	10.5 % ***
15. <b>Total Employer Contribution</b>	\$ 419,671	\$ 505,798
16. <b>As % of Covered Payroll</b>	15.65 %	18.90 %

\* From May 31, 2019 Actuarial Impact Statement.

\*\* If (3) is between 14% and 18%, the Union Member Contribution Rate remains at 9%.

\*\*\*For the fiscal year ending September 30, 2020, the employee contribution rate is 10.5% of covered pay. There is no cap on the employee contribution rate during the fiscal year ending September 30, 2021 and beyond.



<b>ACTUARIAL VALUE OF BENEFITS AND ASSETS</b>		
A. Valuation Date	October 1, 2019	October 1, 2018*
<b>B. Actuarial Present Value of All Projected Benefits for</b>		
1. Active Members		
a. Service Retirement Benefits	\$ 10,308,368	\$ 11,069,214
b. Vesting Benefits	977,478	924,044
c. Disability Benefits	113,577	109,983
d. Preretirement Death Benefits	126,181	140,353
e. Return of Member Contributions	55,711	53,878
f. Total	<u>11,581,315</u>	<u>12,297,472</u>
2. Inactive Members		
a. Service Retirees & Beneficiaries	24,933,284	23,073,690
b. Disability Retirees	-	-
c. Terminated Vested Members	1,008,802	1,027,718
d. Total	<u>25,942,086</u>	<u>24,101,408</u>
3. Total for All Members	37,523,401	36,398,880
C. Actuarial Accrued (Past Service) Liability	33,324,755	32,378,370
D. Actuarial Value of Accumulated Plan Benefits per FASB No. 35	32,192,919	31,413,399
E. Plan Assets		
1. Market Value	32,652,633	32,022,203
2. Actuarial Value	31,365,382	29,908,919
F. Unfunded Actuarial Accrued Liability: C - E2	1,959,373	2,469,451
G. Actuarial Present Value of Projected Covered Payroll	23,279,993	21,690,304
H. Actuarial Present Value of Projected Member Contributions	2,095,200	1,952,127
I. Accumulated Contributions of Active Members	2,863,538	3,130,763

\* From May 31, 2019 Actuarial Impact Statement.



<b>CALCULATION OF EMPLOYER NORMAL COST</b>		
A. Valuation Date	October 1, 2019	October 1, 2018*
B. Normal Cost for		
1. Service Retirement Benefits	\$ 418,103	\$ 434,345
2. Vesting Benefits	82,166	81,705
3. Disability Benefits	9,090	9,611
4. Preretirement Death Benefits	10,575	12,187
5. Return of Member Contributions	<u>8,859</u>	<u>8,903</u>
6. Total for Future Benefits	528,793	546,751
7. Assumed Amount for Administrative Expenses	<u>83,670</u>	<u>80,070</u>
8. Total Normal Cost	612,463	626,821
C. Expected Member Contribution (9.00%)	241,348	240,908
D. Employer Normal Cost: B8-C	371,115	385,913
E. Employer Normal Cost as % of Covered Payroll	13.84 %	14.42 %

\* From May 31, 2019 Actuarial Impact Statement.

## LIQUIDATION OF THE UNFUNDED ACTUARIAL ACCRUED LIABILITY

UAAL Amortization Period and Payments						
Original UAAL				Current UAAL		
Date Established	Source	Amortization Period (Years)	Amount	Years Remaining	Amount	Payment
10/1/09	Initial Unfunded	30	\$ 126,169	20	\$ 364,194	\$ 32,128
10/1/10	(Gain)/Loss	20	137,668	11	105,334	13,128
10/1/10	Assumption Change	30	435,269	21	422,887	36,475
10/1/11	(Gain)/Loss	20	1,999,999	12	1,223,007	143,906
10/1/11	Assumption Change	30	467,798	22	360,099	30,425
10/1/12	(Gain)/Loss	20	650,071	13	400,898	44,830
10/1/12	Assumption Change	30	247,309	23	185,868	15,410
10/1/13	(Gain)/Loss	20	459,569	14	298,618	31,912
10/1/13	Assumption Change	30	487,877	24	373,300	30,418
10/1/13	Plan Change	30	(518,873)	24	(397,017)	(32,351)
10/1/14	(Gain)/Loss	20	(280,317)	15	(191,746)	(19,675)
10/1/15	(Gain)/Loss	20	(222,509)	16	(161,973)	(16,024)
10/1/16	(Gain)/Loss	20	(886,593)	17	(689,648)	(66,016)
10/1/16	Assumption Change	30	8,960	27	7,525	587
10/1/17	(Gain)/Loss	20	(637,181)	18	(542,293)	(50,384)
10/1/17	Assumption Change	30	1,432,345	28	1,279,704	98,540
10/1/18	(Gain)/Loss	20	(944,691)	19	(851,245)	(76,972)
10/1/19	(Gain)/Loss	20	(228,139)	20	(228,139)	(20,126)
			\$ 2,734,731			\$ 196,211
					\$ 1,959,373	\$ 196,211

### Amortization Schedule

The UAAL is being liquidated as a level dollar amount over the number of years remaining in the amortization period. The following schedule illustrates the expected amortization of the UAAL:

Amortization Schedule	
Year	Expected UAAL
2019	\$ 1,959,373
2020	1,886,583
2021	1,808,698
2022	1,725,362
2023	1,636,191
2024	1,540,779
2029	953,716
2034	821,129
2039	764,586
2044	277,838
2049	-



## 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:

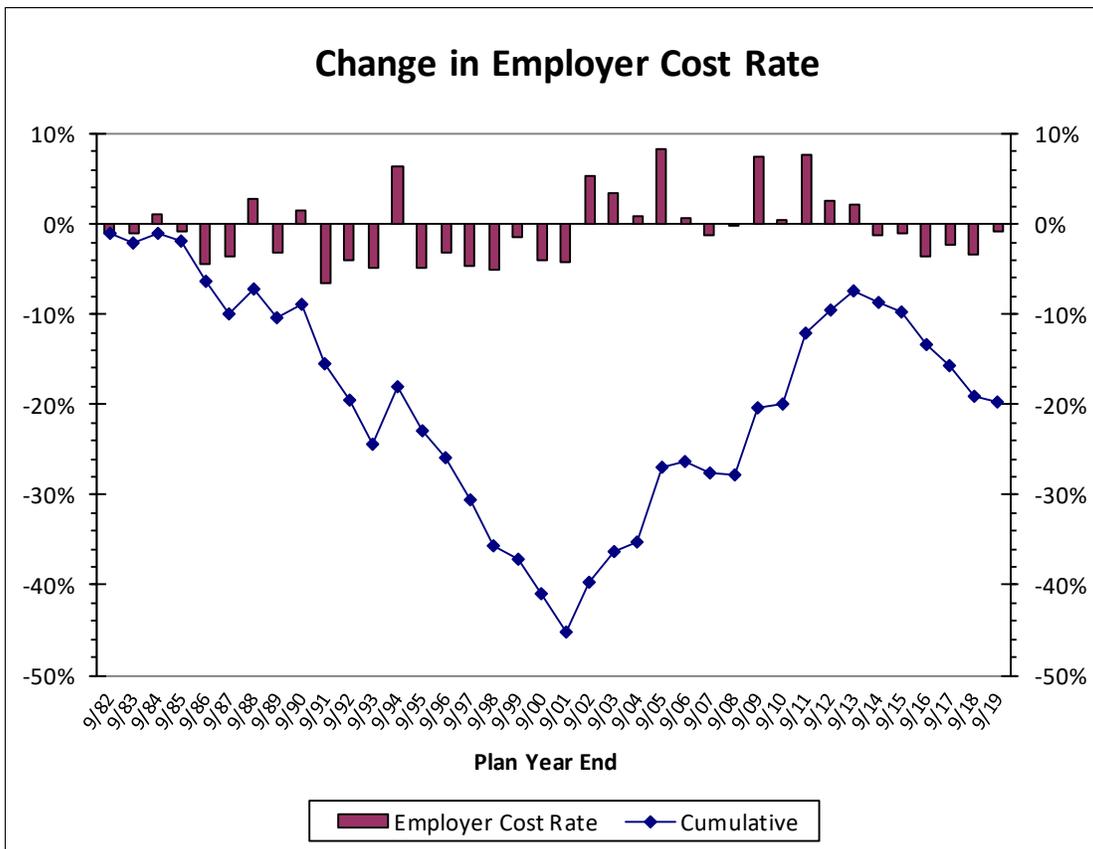
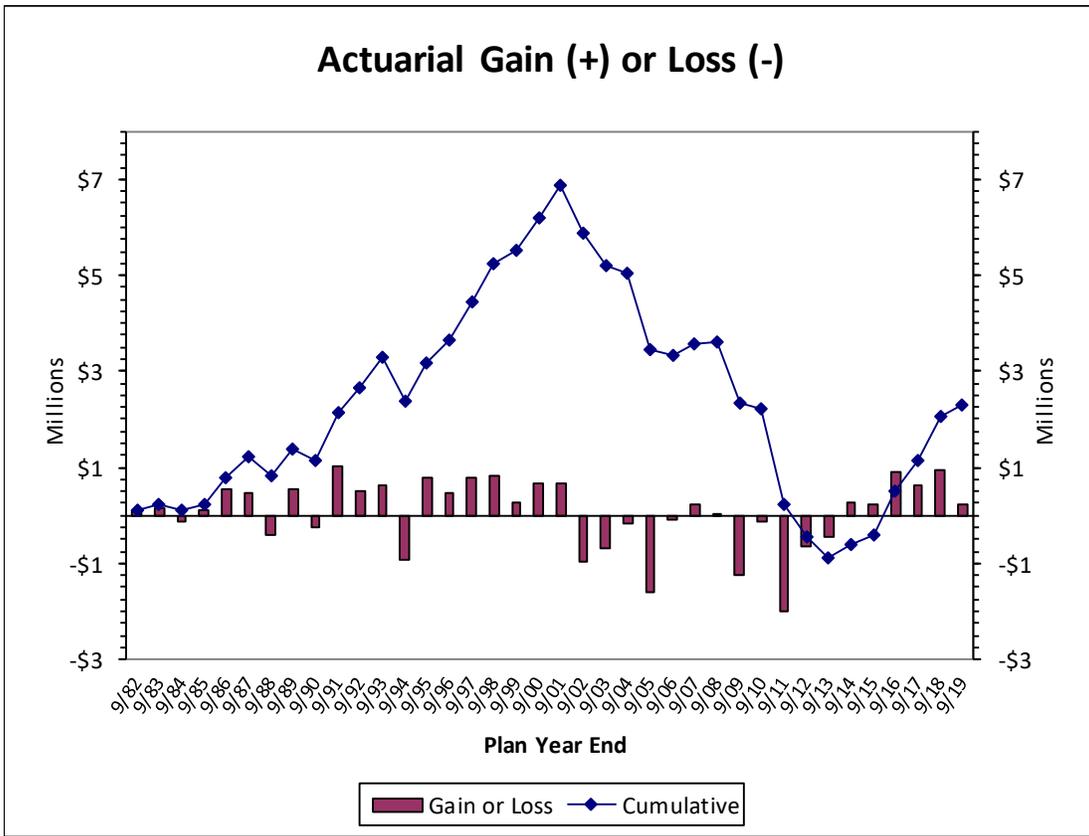
<b>Derivation of the Current UAAL</b>	
1. Last Year's UAAL*	\$ 2,469,451
2. Last Year's Employer Normal Cost*	385,913
3. Last Year's Employer/State Contributions & Excess Employee Sharing Contributions	820,520
4. Interest at the Assumed Rate on:	
a. 1 and 2 for one year	199,875
b. 3 from dates paid	47,207
c. a - b	152,668
5. This Year's Expected UAAL: 1 + 2 - 3 + 4c	2,187,512
6. This Year's Actual UAAL (Before any changes in benefits and/or assumptions)	1,959,373
7. Net Actuarial Gain (Loss): (5) - (6)	228,139
8. Gain (Loss) due to investments	511,321
9. Gain (Loss) due to other sources	(283,182)
10. Change in UAAL due to assumption changes	0
11. This Year's Actual UAAL (After assumption changes)	1,959,373

\* From May 31, 2019 Actuarial Impact Statement.

Net actuarial gains in previous years have been as follows:

Year Ended	Change in Employer Cost Rate	Gain (Loss)
9/30/82	(0.96) %	\$ 116,839
9/30/83	(1.06)	130,253
9/30/84	1.01	(133,338)
9/30/85	(0.86)	123,277
9/30/86	(4.48)	535,696
9/30/87	(3.58)	467,598
9/30/88	2.72	(406,082)
9/30/89	(3.21)	548,079
9/30/90	1.53	(247,930)
9/30/91	(6.61)	1,012,130
9/30/92	(3.93)	509,906
9/30/93	(4.91)	632,963
9/30/94	6.41	(909,739)
9/30/95	(4.92)	788,804
9/30/96	(3.09)	478,412
9/30/97	(4.59)	786,754
9/30/98	(5.11)	816,496
9/30/99	(1.50)	267,011
9/30/00	(3.91)	667,046
9/30/01	(4.12)	674,533
9/30/02	5.41	(968,673)
9/30/03	3.49	(674,975)
9/30/04	0.97	(173,041)
9/30/05	8.39	(1,595,352)
9/30/06	0.60	(102,352)
9/30/07	(1.27)	226,866
9/30/08	(0.17)	26,333
9/30/09	7.40	(1,245,631)
9/30/10	0.48	(137,668)
9/30/11	7.72	(1,999,999)
9/30/12	2.56	(650,071)
9/30/13	2.17	(459,569)
9/30/14	(1.35)	280,317
9/30/15	(1.05)	222,509
9/30/16	(3.49)	886,593
9/30/17	(2.36)	637,181
9/30/18	(3.33)	944,691
9/30/19	(0.80)	228,139





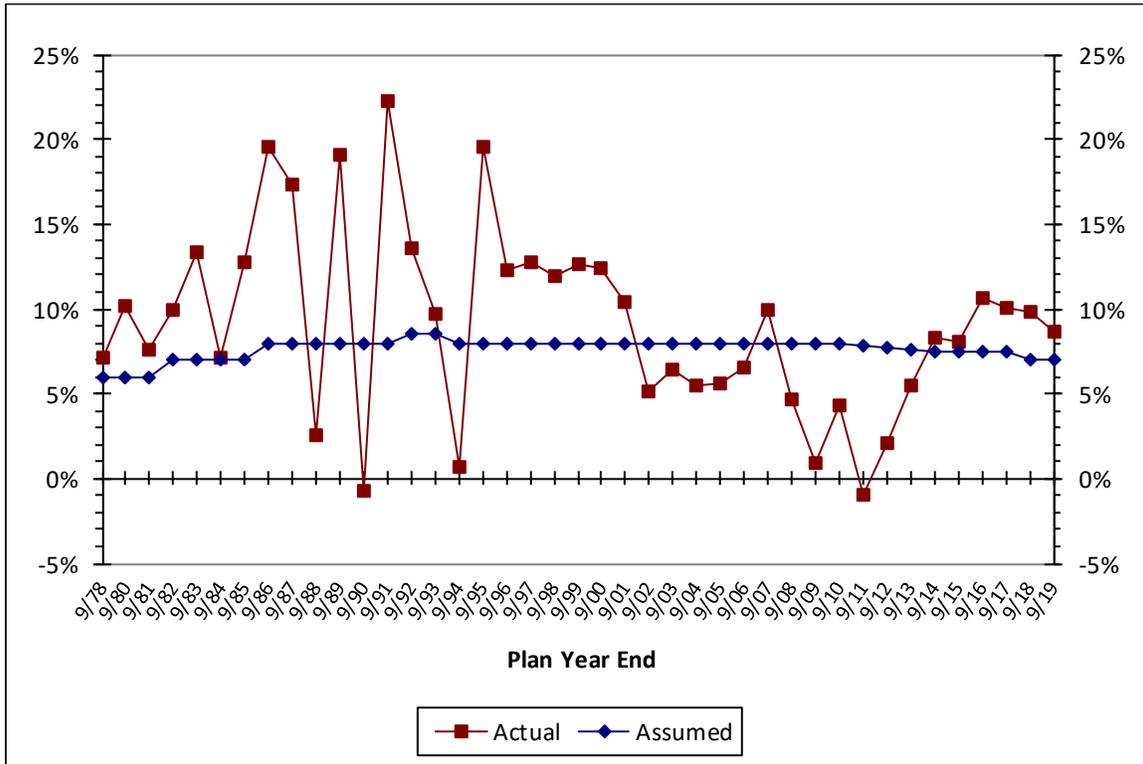
The fund earnings and salary increase assumptions have considerable impact on the cost of the Plan so it is important that they are in line with the actual experience. The following table shows the actual fund earnings and salary increase rates compared to the assumed rates for the last few years:

Year Ending	Investment Return		Salary Increases	
	Actual	Assumed	Actual	Assumed
9/30/1977	---	5.0 %	4.9 %	3.5 %
9/30/1978	7.1 %	6.0	9.9	5.0
9/30/1979	---	6.0	5.2	5.0
9/30/1980	10.2	6.0	12.2	5.0
9/30/1981	7.6	6.0	9.1	5.0
9/30/1982	10.0	7.0	11.7	7.0
9/30/1983	13.3	7.0	4.7	7.0
9/30/1984	7.1	7.0	12.3	7.0
9/30/1985	12.8	7.0	9.0	7.0
9/30/1986	19.5	8.0	6.8	8.0
9/30/1987	17.3	8.0	6.6	8.0
9/30/1988	2.6	8.0	10.8	8.0
9/30/1989	19.1	8.0	8.7	8.0
9/30/1990	(0.7)	8.0	2.8	8.0
9/30/1991	22.3	8.0	2.8	8.0
9/30/1992	13.6	8.5	2.8	7.5
9/30/1993	9.7	8.5	4.6	7.5
9/30/1994	0.7	8.0	12.6	7.5
9/30/1995	19.6	8.0	6.4	7.5
9/30/1996	12.3	8.0	6.4	7.5
9/30/1997	12.7	8.0	4.0	6.5
9/30/1998	11.9	8.0	4.2	6.5
9/30/1999	12.6	8.0	5.1	6.5
9/30/2000	12.4	8.0	5.2	6.5
9/30/2001	10.4	8.0	5.2	6.5
9/30/2002	5.1	8.0	4.8	6.5
9/30/2003	6.4	8.0	3.9	6.5
9/30/2004	5.5	8.0	6.7	6.5
9/30/2005	5.6	8.0	10.7	6.5
9/30/2006	6.5	8.0	1.9	6.5
9/30/2007	9.9	8.0	7.2	6.5
9/30/2008	4.7	8.0	4.1	6.5
9/30/2009	0.9	8.0	6.8	6.5
9/30/2010	4.3	7.9	2.1	6.3
9/30/2011	(0.9)	7.8	3.2	6.8
9/30/2012	2.1	7.7	2.4	6.9
9/30/2013	5.5	7.6	0.3	5.6
9/30/2014	8.3	7.5	2.5	5.4
9/30/2015	8.1	7.5	3.8	5.4
9/30/2016	10.6	7.5	8.3	5.4
9/30/2017	10.1	7.5	2.4	5.9
9/30/2018	9.8	7.0	6.0	5.3
9/30/2019	8.7	7.0	7.1	5.2
Averages	9.0 %	---	6.0 %	---

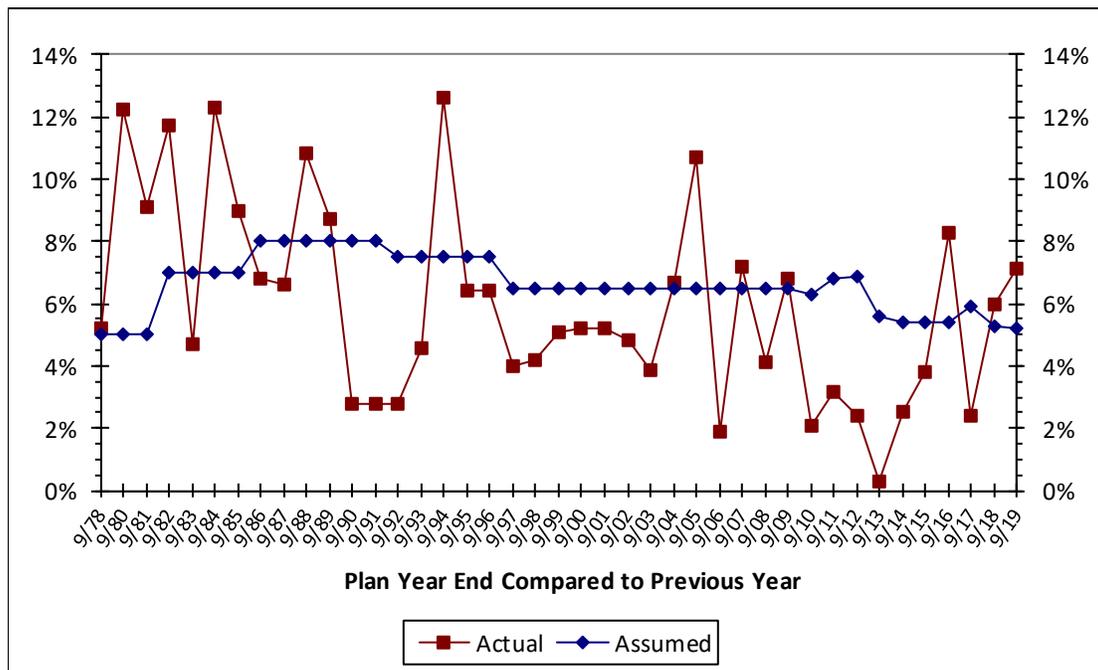
The actual investment return rates shown above are based on the actuarial value of assets. The actual salary increase rates shown above are the increases received by those active members who were included in the actuarial valuations both at the beginning and the end of each year.



## 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	
9/30/2005	9	2	1	5	0	0	0	0	1	0	1	1	<b>43</b>
9/30/2006	1	3	0	5	0	0	0	0	1	2	3	1	<b>41</b>
9/30/2007	2	2	1	7	0	0	0	0	0	1	1	1	<b>41</b>
9/30/2008	1	5	0	9	0	0	0	0	1	4	5	1	<b>37</b>
9/30/2009	2	1	1	9	0	0	0	0	0	0	0	1	<b>38</b>
9/30/2010	5	1	0	8	0	0	0	0	0	1	1	1	<b>42</b>
9/30/2011	3	7	7	10	0	0	0	0	0	0	0	1	<b>38</b>
9/30/2012	1	3	2	5	0	0	0	0	0	1	1	1	<b>36</b>
9/30/2013	0	5	4	5	0	1	0	0	0	1	1	1	<b>31</b>
9/30/2014	2	4	2	1	0	0	0	0	2	0	2	1	<b>29</b>
9/30/2015	2	2	0	2	0	0	0	0	2	0	2	1	<b>29</b>
9/30/2016	9	3	2	1	0	0	0	0	0	1	1	1	<b>35</b>
9/30/2017	4	2	1	1	0	0	0	0	0	1	1	1	<b>37</b>
9/30/2018	2	3	0	1	0	0	0	0	3	0	3	2	<b>36</b>
9/30/2019	6	7	3	3	0	0	0	0	1	3	4	1	<b>35</b>
9/30/2020				1		0		0				2	
15 Yr Totals *	49	50	24	72	0	1	0	0	11	15	26	16	

\* Totals are through current Plan Year only



HISTORY OF VALUATION RESULTS									
Valuation Date	Number of		Covered Annual Payroll	Actuarial Accrued Liability (AAL)	Actuarial Value of Assets	Unfunded AAL (UAAL)	Funded Ratio	Employer Normal Cost	
	Active Members	Inactive Members						Amount	% of Payroll
10/1/91	39	19	1,497,245	6,047,914	7,351,487	(1,303,573)	121.6 %	64,777	4.33
10/1/92	41	19	1,719,567	6,511,956	8,371,472	(1,859,516)	128.6	55,911	3.25
10/1/93	41	19	1,671,539	7,439,759	9,139,118	(1,699,359)	122.8	56,559	3.38
10/1/94	41	19	1,861,526	8,290,037	9,173,332	(883,295)	110.7	157,101	8.44
10/1/95	42	22	1,928,267	9,057,279	10,801,762	(1,744,483)	119.3	96,314	4.99
10/1/96	41	24	1,979,735	9,964,792	11,781,770	(1,816,978)	118.2	47,237	2.39
10/1/97	40	24	2,011,862	10,678,212	13,172,435	(2,494,223)	123.4	(33,900)	(1.69)
10/1/98	34	30	1,694,220	11,224,635	14,419,701	(3,195,066)	128.5	(24,973)	(1.47)
10/1/99	37	31	1,864,081	12,300,196	15,694,388	(3,394,192)	127.6	(55,162)	(2.96)
10/1/00	34	34	1,762,503	13,050,899	16,997,941	(3,947,042)	130.2	(104,810)	(5.95)
10/1/01	33	35	1,784,871	13,696,930	18,066,919	(4,369,989)	131.9	(177,120)	(9.92)
10/1/02	35	35	1,975,547	14,386,889	18,220,141	(3,833,252)	126.6	(101,837)	(5.15)
10/1/03	38	37	2,150,827	15,064,523	18,524,225	(3,459,702)	123.0	(33,300)	(1.55)
10/1/04	36	38	2,129,336	16,705,557	18,785,109	(2,079,552)	112.4	111,350	5.23
10/1/05	43	40	2,643,594	17,915,014	19,124,909	(1,209,895)	106.8	336,420	12.73
10/1/06	41	41	2,577,762	18,856,229	19,830,782	(974,553)	105.2	353,054	13.70
10/1/07	41	38	2,758,044	20,247,518	21,524,929	(1,277,411)	106.3	342,014	12.40
10/1/08	37	38	2,603,398	21,056,209	22,226,151	(1,169,942)	105.6	319,885	12.29
10/1/09	38	36	2,802,601	22,294,846	22,168,677	126,169	99.4	568,239	20.28
10/1/10	42	35	3,044,657	23,790,041	22,837,385	952,656	96.0	637,303	20.93
10/1/11	38	42	2,700,275	26,067,780	22,377,116	3,690,664	85.8	593,638	21.98
10/1/12	36	42	2,608,415	27,041,069	22,335,041	4,706,028	82.6	527,423	20.22
10/1/13	31	45	2,173,033	27,807,221	22,758,500	5,048,721	81.8	448,142	20.62
10/1/14	29	48	2,043,213	28,424,890	23,784,762	4,640,128	83.7	444,538	21.76
10/1/15	29	49	2,069,404	28,986,140	24,771,577	4,214,563	85.5	441,484	21.33
10/1/16	35	49	2,491,689	29,631,328	26,530,152	3,101,176	89.5	458,929	18.42
10/1/17	37	47	2,637,346	31,776,159	28,161,404	3,614,755	88.6	414,215	15.71
10/1/18	36	49	2,676,755	32,378,370	29,908,919	2,469,451	92.4	385,913	14.42
10/1/19	35	52	2,681,641	33,324,755	31,365,382	1,959,373	94.1	371,115	13.84



**HISTORY OF REQUIRED AND ACTUAL CONTRIBUTIONS**  
(Continued on Next Page)

<b>Valuation Date</b>	<b>End of Year To Which Valuation Applies</b>	<b>Employer Contribution Rate Before Adjustment</b>	<b>Adjusted Employer Contribution Rate</b>	<b>Adjusted Employer Contribution Amount*</b>	<b>Actual Employer Contribution For Year</b>
10/1/76	9/30/78	13.50%	13.75%	\$ 144,794	\$ 142,039
10/1/77	9/30/79	12.80	13.40	141,186	141,186
10/1/78	9/30/80	13.00	13.50	93,080	93,080
10/1/79	9/30/81	13.80	13.90	97,089	97,089
10/1/80	9/30/82	14.10	14.05	106,730	106,730
10/1/81	9/30/83	15.78	14.89	120,910	120,910
10/1/82	9/30/84	24.13	23.42	207,352	207,352
10/1/83	9/30/85	21.37	22.18	204,744	212,717
10/1/84	9/30/86	23.31	23.15	236,364	233,234
10/1/85	9/30/87	14.92	14.46	167,401	161,036
10/1/86	9/30/88	7.43	7.43	83,441	79,284
10/1/87	9/30/89	3.18	3.18	39,207	46,864
10/1/88	9/30/90	7.12	7.12	96,039	93,372
10/1/89	9/30/91	4.23	5.12	77,374	81,388
10/1/90	9/30/92	5.72	6.47	97,870	97,870

\*Equals the Adjusted Rate multiplied by the Covered Payroll.



HISTORY OF REQUIRED AND ACTUAL CONTRIBUTIONS										
Valuation	Applies to Fiscal Year Ending	Required Contributions						Actual Contributions		
		Employer & State*		Estimated State		Net Employer*		Employer	State	Total
		Amount	% of Payroll	Amount	% of Payroll	Amount	% of Payroll			
10/1/91	9/30/93	\$ 90,072	6.02 %	\$ 43,403	2.90 %	\$ 46,669	3.12 %	\$ 53,674	\$ 36,398	\$ 90,072
10/1/92	9/30/94	102,762	5.98	35,776	2.08	66,986	3.90	68,093	41,120	109,213
10/1/93	9/30/95	104,551	6.25	36,398	2.18	68,153	4.08	84,900	39,996	124,896
10/1/94	9/30/96	187,360	10.06	39,131	2.10	148,229	7.96	148,229	46,201	194,430
10/1/95	9/30/97	131,185	6.80	39,996	2.07	91,189	4.73	97,041	50,727	147,768
10/1/96	9/30/98	108,756	5.49	46,201	2.33	62,555	3.16	60,695	49,427	110,122
10/1/97	9/30/99	66,210	3.29	50,727	2.52	15,483	0.77	19,343	46,867	66,210
10/1/98	9/30/00	55,842	3.29	49,427	2.91	6,415	0.38	14,205	41,901	56,106
10/1/99	9/30/01	49,703	2.67	46,867	2.52	2,836	0.15	13,862	44,271	58,133
10/1/00	9/30/02	43,649	2.48	41,901	2.38	1,748	0.10	1,872	49,427	51,299
10/1/01	9/30/03	44,346	2.48	44,271	2.48	75	0.00	75	49,427	49,502
10/1/02	9/30/04	51,555	2.61	49,427	2.50	2,128	0.11	4,345	49,427	53,772
10/1/03	9/30/05	61,673	2.87	49,427	2.30	12,246	0.57	13,930	49,427	63,357
10/1/04	9/30/06	144,756	6.80	49,427	2.32	95,329	4.48	112,800	49,427	162,227
10/1/05	9/30/07	337,176	12.75	49,427	1.87	287,749	10.88	294,086	49,427	343,513
10/1/06	9/30/08	343,008	13.31	49,427	1.92	293,581	11.39	305,103	49,427	354,530
10/1/07	9/30/09	344,208	12.48	49,427	1.79	294,781	10.69	302,448	49,427	351,875
10/1/08	9/30/10	325,216	12.49	49,427	1.90	275,789	10.59	307,956	49,427	357,383
10/1/09	9/30/11	475,428	17.06	49,427	1.76	426,001	15.30	426,001	49,427	475,428
10/1/10	9/30/12	566,884	18.62	49,427	1.62	517,457	17.00	539,341	49,427	588,768
10/1/11	9/30/13	662,619	24.54	49,427	1.83	613,192	22.71	613,192	49,427	662,619
10/1/12	9/30/14	650,366	24.93	49,427	1.89	600,939	23.04	600,939	49,427	650,366
10/1/13	9/30/15	712,370	32.78	49,427	2.27	662,943	30.51	663,337	49,427	712,764
10/1/14	9/30/16	752,596	36.83	49,427	2.42	703,169	34.41	703,169	49,427	752,596
10/1/15	9/30/17	728,190	35.19	49,427	2.39	678,763	32.80	678,763	49,427	728,190
10/1/16	9/30/18	750,523	30.12	126,539	5.08	623,984	25.04	623,984	126,539	750,523
10/1/17	9/30/19	720,433	27.20	192,169	7.29	528,264	19.91	528,264	192,169	720,433
10/1/18	9/30/20	632,668	23.64	126,870	4.74	505,798	18.90	---	---	---
10/1/19	9/30/21	419,671	15.65	TBD	TBD	419,671	15.65	---	---	---

\*Reflects assumed City contribution timing of October 1<sup>st</sup> beginning after the fiscal year ending September 30, 2013.



# ACTUARIAL ASSUMPTIONS AND COST METHOD

## Valuation Methods

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

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

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

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

**Actuarial Value of Assets** - The Actuarial Value of Assets phases in the difference between the actual and expected investment earnings over a period of 5 years. 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. With the exception of the mortality assumption, which is prescribed by Florida Statutes, all assumptions listed herein were established following the Assumption Study and Experience Review for the Nine-Year Period Ending September 30, 2016, dated December 22, 2017.

## Economic Assumptions

The **investment return rate** assumed in the valuations is 7.0% per year, compounded annually (net after investment expenses).

The **Price Inflation Rate** assumed in this valuation was 2.5% per year. The Inflation Rate is defined to be the expected long-term rate of annual increases in the prices of goods and services.

The assumed **real rate of return** over inflation is defined to be the portion of total investment return that is more than the assumed inflation rate. Considering other economic assumptions, the 7.0% investment return rate translates to an assumed real rate of return over inflation of 4.5%.



**The assumed rates of salary increase** for individual active members are shown below. This assumption is used to project a member’s current salary to the salaries upon which benefits will be based. Part of the assumption is for productivity, merit and/or seniority increase, and 2.5% recognizes inflation.

Years of Service at Valuation Date	Salary Increase Rates		
	% Increase in Salary		
	Merit and Seniority	Inflation	Total Increase
0 - 1	7.00%	2.5%	9.50%
2 - 6	5.00	2.5	7.50
7 - 9	2.00	2.5	4.50
10 - 19	0.75	2.5	3.25
20 +	1.75	2.5	4.25

### Demographic Assumptions

**The mortality table** is the RP-2000 Combined Healthy Participant Mortality Tables (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 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 mandates the use of the same mortality assumptions used by FRS 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
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 (66.7% of deaths are assumed to be service-connected).

For disabled retirees, the mortality table used was the 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 RP-2000 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 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 mandates the use of the same mortality assumptions used by FRS in either of the two most recently published FRS actuarial valuation reports.

### 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 are as shown below.

For employees hired on or after October 12, 2014 the rates are shown below:

Number of Years After First Eligibility for Normal Retirement	Probability of Normal Retirement
0	80 %
1	40
2	40
3	40
4	40
5+	100

For employees hired before October 12, 2014, the retirement rates are shown below:

Number of Years After First Eligibility for Normal Retirement	Probability of Normal Retirement
0	50 %
1	25
2	25
3	50
4	50
5	50
6	50
7+	100

The rate of retirement is 3% for each year of eligibility for early 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). This assumption measures the probabilities of members separating from employment for reasons other than death, disability or retirement.

Years of Service	% of Active Members Separating Within Next Year
0	25.0 %
1 - 3	7.0
4 - 7	4.0
8+	2.5



**Rates of disability** among active members are as shown below. 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.

Sample Ages	% Becoming Disabled within Next Year			
	Non-Service Connected		Service Connected	
	Males	Females	Males	Females
20	0.020 %	0.000 %	0.010 %	0.000 %
25	0.020	0.020	0.010	0.004
30	0.030	0.020	0.010	0.004
35	0.030	0.030	0.010	0.004
40	0.030	0.030	0.020	0.040
45	0.030	0.060	0.060	0.040
50	0.080	0.110	0.140	0.050
55	0.050	0.110	0.100	0.080

## Miscellaneous and Technical Assumptions

<b>Administrative &amp; Investment Expenses</b>	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 expenses over the previous 2 years. Assumed administrative expenses are added to the Normal Cost.
<b>Benefit Service</b>	Exact fractional service (years and completed months) is used to determine the amount of benefit payable.
<b>Decrement Operation</b>	Disability and mortality decrements operate during retirement eligibility.
<b>Decrement Timing</b>	Decrement of all types are assumed to occur at the beginning of the year.
<b>Eligibility Testing</b>	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.
<b>Forfeitures</b>	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.
<b>Incidence of Contributions</b>	Employer contributions are assumed to be made in equal installments at the end of each pay period. 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.
<b>Marriage Assumption</b>	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.
<b>Normal Form of Benefit</b>	A life annuity is the normal form of benefit.
<b>Pay Increase Timing</b>	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.
<b>Service Credit Accruals</b>	It is assumed that members accrue one year of service credit per year.



## GLOSSARY OF TERMS

<b>Actuarial Accrued Liability (AAL)</b>	The difference between the Actuarial Present Value of Future Benefits, and the Actuarial Present Value of Future Normal Costs.
<b>Actuarial Assumptions</b>	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.
<b>Actuarial Cost Method</b>	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.
<b>Actuarially Determined Contribution (ADC)</b>	The employer's periodic required contributions, expressed as a dollar amount or a percentage of covered plan compensation. The ADC consists of the Employer Normal Cost and Amortization Payment.
<b>Actuarial Equivalent</b>	Of equal Actuarial Present Value, determined as of a given date and based on a given set of Actuarial Assumptions.
<b>Actuarial Present Value (APV)</b>	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.
<b>Actuarial Present Value of Future Benefits (APVFB)</b>	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.
<b>Actuarial Valuation</b>	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 No. 67.

<b>Actuarial Value of Assets</b>	The value of the assets as of a given date, used by the actuary for valuation purposes. This may be the market or fair value of plan assets or a smoothed value in order to reduce the year-to-year volatility of calculated results, such as the funded ratio and the actuarially determined contribution (ADC).
<b>Amortization Method</b>	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.
<b>Amortization Payment</b>	That portion of the plan contribution or ADC which is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability.
<b>Amortization Period</b>	The period used in calculating the Amortization Payment.
<b>Closed Amortization Period</b>	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.
<b>Employer Normal Cost</b>	The portion of the Normal Cost to be paid by the employer. This is equal to the Normal Cost less expected member contributions.
<b>Equivalent Single Amortization Period</b>	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.
<b>Experience Gain/Loss</b>	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.



<b>Funded Ratio</b>	The ratio of the Actuarial Value of Assets to the Actuarial Accrued Liability.
<b>GASB</b>	Governmental Accounting Standards Board.
<b>GASB No. 67 and GASB No. 68</b>	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.
<b>Normal Cost</b>	The annual cost assigned, under the Actuarial Cost Method, to the current plan year.
<b>Open Amortization Period</b>	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.
<b>Unfunded Actuarial Accrued Liability</b>	The difference between the Actuarial Accrued Liability and Actuarial Value of Assets.
<b>Valuation Date</b>	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**

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**PENSION FUND INFORMATION**

## Statement of Plan Assets at Market Value

Item	September 30	
	2019	2018
A. Cash and Cash Equivalents (Operating Cash)	\$ -	\$ -
B. Receivables		
1. Member Contributions	\$ -	\$ -
2. Employer Contributions	-	-
3. State Contribution	-	-
4. Investment Income and Other Receivables	70,920	70,283
5. Total Receivables	<u>\$ 70,920</u>	<u>\$ 70,283</u>
C. Investments		
1. Short Term Investments	\$ 1,021,529	\$ 877,211
2. Domestic Equities	19,972,654	21,639,321
3. International Equities	-	-
4. Domestic Fixed Income	9,444,436	7,953,647
5. International Fixed Income	-	-
6. Real Estate	2,673,887	2,531,217
7. Private Equity	-	-
8. Total Investments	<u>\$ 33,112,506</u>	<u>\$ 33,001,396</u>
D. Liabilities		
1. Benefits Payable	\$ -	\$ -
2. Accrued Expenses and Other Payables	(24,076)	(23,761)
3. Prepaid Contribution	-	-
4. Due to Broker	-	-
5. Total Liabilities	<u>\$ (24,076)</u>	<u>\$ (23,761)</u>
E. Total Market Value of Assets Available for Benefits	\$ 33,159,350	\$ 33,047,918
F. Reserves		
1. DROP Accounts	\$ (495,348)	\$ (952,320)
2. State Contribution Reserve	(11,369)	(73,395)
3. Total Reserves	<u>\$ (506,717)</u>	<u>\$ (1,025,715)</u>
G. Market Value Net of Reserves	\$ 32,652,633	\$ 32,022,203
H. Allocation of Investments (excluding unsettled trades)		
1. Short Term Investments	3.1%	2.7%
2. Domestic Equities	60.3%	65.5%
3. International Equities	0.0%	0.0%
4. Domestic Fixed Income	28.5%	24.1%
5. International Fixed Income	0.0%	0.0%
6. Real Estate	8.1%	7.7%
7. Private Equity	0.0%	0.0%
8. Total Investments	<u>100.0%</u>	<u>100.0%</u>



## Reconciliation of Plan Assets

Item	September 30	
	2019	2018
A. Market Value of Assets at Beginning of Year	\$ 33,047,918	\$ 30,332,993
B. Revenues and Expenditures		
1. Contributions		
a. Employee Contributions	\$ 357,453	\$ 338,943
b. Employer Contributions	528,264	623,984
c. State Contribution	130,143	122,822
d. Purchased Service Credit	-	-
e. Total	<u>\$ 1,015,860</u>	<u>\$ 1,085,749</u>
2. Investment Income		
a. Interest, Dividends, and Other Income	\$ 741,870	\$ 678,850
b. Net Realized/Unrealized Gains/(Losses)	1,269,918	2,983,778
c. Investment Expenses	<u>(202,028)</u>	<u>(198,264)</u>
d. Net Investment Income	\$ 1,809,760	\$ 3,464,364
3. Benefits and Refunds		
a. Regular Monthly Benefits	\$ (1,830,312)	\$ (1,751,725)
b. Refunds	(110,657)	-
c. Lump Sum Benefits Paid	-	-
d. DROP Distributions	<u>(689,342)</u>	<u>-</u>
e. Total	\$ (2,630,311)	\$ (1,751,725)
4. Administrative and Miscellaneous Expenses	\$ (83,877)	\$ (83,463)
5. Transfers	\$ -	\$ -
C. Market Value of Assets at End of Year	\$ 33,159,350	\$ 33,047,918
D. Reserves		
1. DROP Accounts	\$ (495,348)	\$ (952,320)
2. State Contribution Reserve	<u>(11,369)</u>	<u>(73,395)</u>
3. Total Reserves	\$ (506,717)	\$ (1,025,715)
E. Market Value Net of Reserves	\$ 32,652,633	\$ 32,022,203



### Development of Actuarial Value of Assets

Valuation Date – September 30	2018	2019	2020	2021	2022	2023
A. Actuarial Value of Assets Beginning of Year	\$ 28,861,499	\$ 30,934,634				
B. Market Value End of Year	33,047,918	33,159,350				
C. Market Value Beginning of Year	30,332,993	33,047,918				
D. Non-Investment/Administrative Net Cash Flow	(749,439)	(1,698,328)				
E. Investment Income						
E1. Actual Market Total: B-C-D	3,464,364	1,809,760				
E2. Assumed Rate of Return	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%
E3. Assumed Amount of Return	2,015,914	2,124,472				
E4. Amount Subject to Phase-In: E1–E3	1,448,450	(314,712)				
F. Phased-In Recognition of Investment Income						
F1. Current Year: 0.2 x E4	289,690	(62,942)				
F2. First Prior Year	256,622	289,690	\$ (62,942)			
F3. Second Prior Year	156,707	256,622	289,690	\$ (62,942)		
F4. Third Prior Year	(128,755)	156,707	256,622	289,690	\$ (62,942)	
F5. Fourth Prior Year	232,396	(128,756)	156,706	256,623	289,690	\$ (62,944)
F6. Total Phase-Ins	806,660	511,321	640,076	483,371	226,748	(62,944)
<b>G. Actuarial Value of Assets End of Year</b>						
G1. Preliminary Actuarial Value of Assets End of Year: A+D+E3+F6	\$ 30,934,634	\$ 31,872,099				
G2. Upper Corridor Limit: 120%*B	39,657,502	39,791,220				
G3. Lower Corridor Limit: 80%*B	26,438,334	26,527,480				
G4. Actuarial Value of Assets End of Year	30,934,634	31,872,099				
G5. DROP Accounts	(952,320)	(495,348)				
G6. State Contribution Reserve	(73,395)	(11,369)				
G7. Final Actuarial Value of Assets End of Year	29,908,919	31,365,382				
H. Difference between Market & Actuarial Value of Assets	2,113,284	1,287,251				
<b>I. Actuarial Rate of Return</b>	9.80%	8.68%				
<b>J. Market Value Rate of Return</b>	11.44%	5.57%				
<b>K. Ratio of Actuarial Value of Assets to Market Value</b>	93.61%	96.12%				

**Reconciliation of DROP Accounts**

<b>Year Ended 9/30</b>	<b>Balance at Beginning of Year</b>	<b>Adjustment to DROP Account</b>	<b>Credits</b>	<b>Interest</b>	<b>Distributions</b>	<b>Balance at End of Year</b>
2010	\$ -	\$ -	\$ 66,019	\$ 2,245	\$ -	\$ 68,264
2011	68,264	-	160,403	(12,212)	(83,472)	132,983
2012	132,983	-	295,363	44,469	-	472,815
2013	472,815	-	736,302	93,784	-	1,302,901
2014	1,302,901	-	737,613	170,310	(255,624)	1,955,200
2015	1,955,200	(5,366)	705,639	97,070	(845,401)	1,907,142
2016	1,907,142	-	406,279	158,198	(1,224,735)	1,246,884
2017	1,246,884	-	296,708	105,592	(1,026,201)	622,983
2018	622,983	-	239,817	89,520	-	952,320
2019	952,320	-	204,521	27,849	(689,342)	495,348



Year Ended September 30th	Investment Rate of Return	
	Market Value	Actuarial Value
1978	4.9 %	7.1 %
1979	5.8	---
1980	5.7	10.2
1981	6.2	7.6
1982	19.0	10.0
1983	14.4	13.3
1984	5.7	7.1
1985	16.8	12.8
1986	23.3	19.5
1987	11.5	17.3
1988	4.0	2.6
1989	19.1	19.1
1990	(0.7)	(0.7)
1991	22.3	22.3
1992	13.6	13.6
1993	9.7	9.7
1994	0.7	0.7
1995	19.6	19.6
1996	12.3	12.3
1997	28.2	12.7
1998	5.9	11.9
1999	12.8	12.6
2000	8.7	12.4
2001	1.9	10.4
2002	(3.8)	5.1
2003	15.3	6.4
2004	8.9	5.5
2005	9.2	5.6
2006	6.9	6.5
2007	13.5	9.9
2008	(12.7)	4.7
2009	(2.6)	0.9
2010	7.5	4.3
2011	(3.6)	(0.9)
2012	19.0	2.1
2013	12.0	5.5
2014	12.0	8.3
2015	4.6	8.1
2016	10.1	10.6
2017	11.8	10.1
2018	11.4	9.8
2019	5.6	8.7

**Average Returns:**

Last 5 Years	8.7 %	9.5 %
Last 10 Years	8.9 %	6.6 %
All Years	9.1 %	9.0 %

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



## **SECTION D**

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### **FINANCIAL ACCOUNTING INFORMATION**

**FASB NO. 35 INFORMATION**

A. Valuation Date	October 1, 2019	October 1, 2018
<b>B. Actuarial Present Value of Accumulated Plan Benefits</b>		
1. Vested Benefits		
a. Members Currently Receiving Payments	\$ 24,933,284	\$ 23,073,690
b. Terminated Vested Members	1,008,802	1,027,718
c. Other Members	<u>6,250,833</u>	<u>7,311,991</u>
d. Total	32,192,919	31,413,399
2. Non-Vested Benefits	0	0
3. Total Actuarial Present Value of Accumulated Plan Benefits: 1d + 2	32,192,919	31,413,399
4. Accumulated Contributions of Active Members	2,863,538	3,130,763
<b>C. Changes in the Actuarial Present Value of Accumulated Plan Benefits</b>		
1. Total Value at Beginning of Year	31,413,399	30,844,900
2. Increase (Decrease) During the Period Attributable to:		
a. Plan Amendment	0	0
b. Change in Actuarial Assumptions	0	0
c. Latest Member Data, Benefits Accumulated and Decrease in the Discount Period	2,925,010	2,560,041
d. Benefits Paid (including DROP credits)	<u>(2,145,490)</u>	<u>(1,991,542)</u>
e. Net Increase	779,520	568,499
3. Total Value at End of Period	32,192,919	31,413,399
D. Market Value of Assets	32,652,633	32,022,203
E. Funded Ratio: D/C3	101.4%	101.9%
F. 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,	<u>2020*</u>	<u>2019</u>	<u>2018</u>
<b>Total Pension Liability</b>			
Service Cost	\$ 528,793	\$ 546,751	\$ 590,707
Interest	2,305,348	2,293,156	2,299,169
Benefit Changes	-	-	-
Difference between actual & expected experience	308,668	(132,350)	110,907
Assumption Changes	-	-	1,341,696
Benefit Payments	(2,255,438)	(2,519,654)	(1,751,725)
Refunds	(21,069)	(110,657)	-
Other (adjustments to Excess State Contribution Reserve)	3,273	(62,026)	(3,717)
<b>Net Change in Total Pension Liability</b>	<b>869,575</b>	<b>15,220</b>	<b>2,587,037</b>
<b>Total Pension Liability - Beginning</b>	<b>33,542,997</b>	<b>33,527,777</b>	<b>30,940,740</b>
<b>Total Pension Liability - Ending (a)</b>	<b>\$34,412,572</b>	<b>\$33,542,997</b>	<b>\$33,527,777</b>
<b>Plan Fiduciary Net Position</b>			
Contributions – Employer (from city)	\$ 505,798	\$ 528,264	\$ 623,984
Contributions – Employer (from state)	130,143	130,143	122,822
Contributions – Non-Employer contributing entity	-	-	-
Contributions – Member (including buyback contributions)	281,572	357,453	338,943
Net Investment Income	2,283,809	1,809,760	3,464,364
Benefit Payments	(2,255,438)	(2,519,654)	(1,751,725)
Refunds	(21,069)	(110,657)	-
Administrative Expense	(83,670)	(83,877)	(83,463)
Other	-	-	-
<b>Net Change in Plan Fiduciary Net Position</b>	<b>841,145</b>	<b>111,432</b>	<b>2,714,925</b>
<b>Plan Fiduciary Net Position - Beginning</b>	<b>33,159,350</b>	<b>33,047,918</b>	<b>30,332,993</b>
<b>Plan Fiduciary Net Position - Ending (b)</b>	<b>\$34,000,495</b>	<b>\$33,159,350</b>	<b>\$33,047,918</b>
<b>Net Pension Liability - Ending (a) - (b)</b>	<b>412,077</b>	<b>383,647</b>	<b>479,859</b>
<b>Plan Fiduciary Net Position as a Percentage</b>			
<b>of Total Pension Liability</b>	98.80 %	98.86 %	98.57 %
<b>Covered Payroll</b>	\$ 2,681,641	\$ 2,859,624	\$ 2,711,544
<b>Net Pension Liability as a Percentage</b>			
<b>of Covered Payroll</b>	15.37 %	13.42 %	17.70 %

\* 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, 2020 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 Fiduciary Net Position	Net Pension Liability	Plan Fiduciary Net Position as a % of Total Pension Liability	Covered Payroll	Net Pension Liability as a % of Covered Payroll
2014	\$ 30,662,066	\$ 27,625,271	\$ 3,036,795	90.10%	\$ 2,111,573	143.82%
2015	31,061,233	27,671,000	3,390,233	89.09%	1,995,510	169.89%
2016	30,993,624	28,740,140	2,253,484	92.73%	2,358,240	95.56%
2017	30,940,740	30,332,993	607,747	98.04%	2,543,260	23.90%
2018	33,527,777	33,047,918	479,859	98.57%	2,711,544	17.70%
2019	33,542,997	33,159,350	383,647	98.86%	2,859,624	13.42%
2020*	34,412,572	34,000,495	412,077	98.80%	2,681,641	15.37%

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



## NOTES TO SCHEDULE OF THE EMPLOYER'S 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	3.25% to 9.50% depending on service, including inflation
Investment Rate of Return	7.00%
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 pre-retirement mortality) and the RP-2000 Mortality Table for Annuitants (for postretirement 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 as used for Special Risk Class members of the Florida Retirement System (FRS) in the July 1, 2018 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 on page 1.



## 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	\$ 650,366	\$ 682,583	\$ (32,217)	\$ 2,111,573	32.33%
2015	712,370	680,547	31,823 *	1,995,510	34.10%
2016	752,596	752,596	-	2,358,240	31.91%
2017	728,190	728,190	-	2,543,260	28.63%
2018	750,523	750,523	-	2,711,544	27.68%
2019	720,433	720,433	-	2,859,624	25.19%
2020**	632,668	632,668	-	2,681,641	23.59%

\*Note: A prepaid contribution of \$32,217 was established as of September 30, 2014 resulting from the employer contribution overpayment received during fiscal year 2014. This prepaid contribution was utilized during fiscal year 2015 to cover a portion of the actuarially determined contribution for the year.

\*\* 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 the October 1<sup>st</sup> which is two years 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 Dollar, Closed
Remaining Amortization Period	17 years (single equivalent period)
Asset Valuation Method	5-year smoothed market
Inflation	2.5%
Salary Increases	3.25% to 9.50% depending on service, including inflation
Investment Rate of Return	7.00%
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 pre-retirement mortality) and the RP-2000 Mortality Table for Annuitants (for postretirement 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 as used for Special Risk Class members of the Florida Retirement System (FRS) in the July 1, 2018 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 and the Actuarial Impact Statement dated May 31, 2019.



## SINGLE DISCOUNT RATE GASB Statement No. 67

A single discount rate of 7.0% 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 7.0%. 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 (7.0%) 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 7.0%, 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 Rate Assumption	1% Increase
6.00%	7.00%	8.00%
\$ 4,145,767	\$ 412,077	\$ (2,711,129)

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

**SECTION E**

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**MISCELLANEOUS INFORMATION**

<b>RECONCILIATION OF MEMBERSHIP DATA</b>		
	<b>From 10/1/18 To 10/1/19</b>	<b>From 10/1/17 To 10/1/18</b>
<b>A. Active Members</b>		
1. Number Included in Last Valuation	36	37
2. New Members Included in Current Valuation	6	2
3. Non-Vested Employment Terminations	(3)	0
4. Vested Employment Terminations	(1)	(3)
5. DROP Participation	(3)	0
6. Service Retirements	0	0
7. Disability Retirements	0	0
8. Deaths	0	0
9. Rehires	0	0
10. Transfer from General Employees	<u>0</u>	<u>0</u>
11. Number Included in This Valuation	35	36
<b>B. Terminated Vested Members</b>		
1. Number Included in Last Valuation	5	3
2. Additions from Active Members	1	3
3. Lump Sum Payments/Refund of Contributions	(1)	0
4. Payments Commenced	(1)	(1)
5. Deaths	0	0
6. Other - Rehires	<u>0</u>	<u>0</u>
7. Number Included in This Valuation	4	5
<b>C. DROP Plan Members</b>		
1. Number Included in Last Valuation	4	4
2. Additions from Active Members	3	0
3. Retirements	(2)	0
4. Deaths Resulting in No Further Payments	0	0
5. Other	<u>0</u>	<u>0</u>
6. Number Included in This Valuation	5	4
<b>D. Service Retirees, Disability Retirees and Beneficiaries</b>		
1. Number Included in Last Valuation	40	40
2. Additions from Active Members	0	0
3. Additions from Terminated Vested Members	1	1
4. Additions from DROP Plan	2	0
5. Deaths Resulting in No Further Payments	0	(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	<u>0</u>	<u>0</u>
9. Number Included in This Valuation	43	40



## ACTIVE MEMBERS AS OF OCTOBER 1, 2019

Age Group	Years of Service to Valuation Date												Totals
	0-1	1-2	2-3	3-4	4-5	5-9	10-14	15-19	20-24	25-29	30-34	35+	
20-24 NO.	2	1	1	0	0	0	0	0	0	0	0	0	4
TOT PAY	101,719	56,541	60,544	0	0	0	0	0	0	0	0	0	218,804
AVG PAY	50,859	56,541	60,544	0	0	0	0	0	0	0	0	0	54,701
25-29 NO.	0	2	1	1	1	1	0	0	0	0	0	0	6
TOT PAY	0	116,920	59,274	64,183	63,857	67,171	0	0	0	0	0	0	371,405
AVG PAY	0	58,460	59,274	64,183	63,857	67,171	0	0	0	0	0	0	61,901
30-34 NO.	1	0	0	3	1	0	1	0	0	0	0	0	6
TOT PAY	53,388	0	0	186,689	68,503	0	80,175	0	0	0	0	0	388,755
AVG PAY	53,388	0	0	62,230	68,503	0	80,175	0	0	0	0	0	64,793
35-39 NO.	1	0	1	0	0	2	2	2	0	0	0	0	8
TOT PAY	50,859	0	70,795	0	0	158,175	162,024	186,784	0	0	0	0	628,637
AVG PAY	50,859	0	70,795	0	0	79,088	81,012	93,392	0	0	0	0	78,580
40-44 NO.	0	0	0	0	0	0	1	1	0	0	0	0	2
TOT PAY	0	0	0	0	0	0	70,231	83,852	0	0	0	0	154,083
AVG PAY	0	0	0	0	0	0	70,231	83,852	0	0	0	0	77,042
45-49 NO.	0	0	0	0	0	0	1	2	1	0	0	0	4
TOT PAY	0	0	0	0	0	0	80,229	208,350	80,120	0	0	0	368,699
AVG PAY	0	0	0	0	0	0	80,229	104,175	80,120	0	0	0	92,175
50-54 NO.	0	0	0	1	1	0	0	0	0	1	0	0	3
TOT PAY	0	0	0	65,330	83,461	0	0	0	0	111,223	0	0	260,014
AVG PAY	0	0	0	65,330	83,461	0	0	0	0	111,223	0	0	86,671
55-59 NO.	0	0	0	0	0	0	1	1	0	0	0	0	2
TOT PAY	0	0	0	0	0	0	98,693	110,504	0	0	0	0	209,197
AVG PAY	0	0	0	0	0	0	98,693	110,504	0	0	0	0	104,599
60-64 NO.	0	0	0	0	0	0	0	0	0	0	0	0	0
TOT PAY	0	0	0	0	0	0	0	0	0	0	0	0	0
AVG PAY	0	0	0	0	0	0	0	0	0	0	0	0	0
TOT NO.	4	3	3	5	3	3	6	6	1	1	0	0	35
TOT AMT	205,966	173,461	190,613	316,202	215,821	225,346	491,352	589,490	80,120	111,223	0	0	2,599,594
AVG AMT	51,492	57,820	63,538	63,240	71,940	75,115	81,892	98,248	80,120	111,223	0	0	74,274



**INACTIVE MEMBERS AS OF OCTOBER 1, 2019**

Age	Terminated Vested		Disabled		Retired		Beneficiaries		Total	
	Number	Total Benefits	Number	Total Benefits	Number	Total Benefits	Number	Total Benefits	Number	Total Benefits
Under 20	-	-	-	-	-	-	-	-	-	-
20 - 24	-	-	-	-	-	-	-	-	-	-
25 - 29	-	-	-	-	-	-	-	-	-	-
30 - 34	-	-	-	-	-	-	-	-	-	-
35 - 39	-	-	-	-	-	-	-	-	-	-
40 - 44	-	-	-	-	-	-	-	-	-	-
45 - 49	2	66,000	-	-	1	11,138	-	-	3	77,138
50 - 54	1	9,634	-	-	6	327,638	-	-	7	337,272
55 - 59	-	-	-	-	8	365,760	1	6,788	9	372,548
60 - 64	1	19,224	-	-	4	232,204	1	12,908	6	264,336
65 - 69	-	-	-	-	12	774,064	-	-	12	774,064
70 - 74	-	-	-	-	5	174,417	-	-	5	174,417
75 - 79	-	-	-	-	4	161,873	-	-	4	161,873
80 - 84	-	-	-	-	2	25,476	1	53,909	3	79,385
85 - 89	-	-	-	-	-	-	-	-	-	-
90 - 94	-	-	-	-	-	-	1	3,782	1	3,782
95 - 99	-	-	-	-	1	12,677	1	6,583	2	19,260
100 & Over	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>4</b>	<b>94,858</b>	<b>-</b>	<b>-</b>	<b>43</b>	<b>2,085,247</b>	<b>5</b>	<b>83,970</b>	<b>52</b>	<b>2,264,075</b>



## **SECTION F**

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### **SUMMARY OF PLAN PROVISIONS**

## SUMMARY OF PLAN PROVISIONS

### A. Ordinances

The Plan was established under the Code of Ordinances for the City of Miami Springs, Florida, Chapter 35, Article II, and was most recently amended under Ordinance No. 1114-2019 passed and adopted on June 24, 2019. The Plan is also governed by certain provisions of Chapters 175 and 185, Florida Statutes, Part VII, Chapter 112, Florida Statutes and the Internal Revenue Code.

### B. Effective Date

December 13, 1976

### 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; the chief of police has the option to participate.

### F. Credited Service

Service is measured as the total number years and completed months from the date of employment to the date of termination, retirement, disability or death. Vacations and other paid leaves of absence are included. Unpaid leaves of absence are not included. No service is credited for any periods of employment for which the member received a refund of their contributions.

### G. Compensation/Earnings

Regular basic compensation, excluding overtime or any lump sum payments of unused leave.

### H. Average Monthly Earnings (AME)

For benefits earned prior to October 12, 2014, the average of Earnings over the 3 consecutive years of Credited Service prior to October 12, 2014 which produce the highest average. For benefits earned on or after October 12, 2014, the average of Earnings over the highest 5 consecutive years of Credited Service out of the last 10 which produce the highest average.



For members who were employed and within 3 years of Normal Retirement eligibility on October 12, 2014, the average of Earnings over the 3 consecutive years of Credited Service which produce the highest average.

## I. Normal Retirement

**Eligibility:** Members hired before October 12, 2014 may retire on the first day of the month coincident with or next following the earlier of:

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

Members hired on or after October 12, 2014 may retire on the first day of the month coincident with or next following the earlier of:

- (1) age 55 and 10 years of Credited Service, or
- (2) age 52 and 25 years of Credited Service.

**Benefit:** For members hired before October 12, 2014, all benefits accrued up to October 12, 2014 are frozen at 3.5% of AME as of October 12, 2014 times years of credited service as of October 12, 2014. Benefit accruals on and after October 12, 2014 are 3.50% of AME for each year of Credited Service up to twenty years and 3.0% of AME for each year thereafter. The maximum benefit is 85% of AME.

For members hired on or after October 12, 2014, the benefit is 2.5% of AME per year of Credited Service. The maximum benefit is 70% of AME. The minimum benefit is 2.0% per year of service.

Members within 3 years of Normal Retirement eligibility on October 12, 2014 continue to accrue benefits at 3.5% of AME per year of service with no cap.

**Normal Form of Benefit:**

Single Life Annuity, with guaranteed refund of Member contributions and amount of premium tax refund as of the effective date; other options also available.

**COLA:** None

## 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 3.0% for each year by which the Early Retirement date precedes the Normal Retirement date.

**Normal Form of Benefit:** Single Life Annuity, with guaranteed refund of member contributions and amount of premium tax refund as of the effective date; other options also available.

**COLA:** None

#### **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 receives a service-incurred injury, disease or disability which permanently incapacitates the member from performing their regular and continuous duties is immediately eligible for a disability benefit.

**Benefit:** 66 2/3% of Earnings in affect as of the date of disability less Worker's Compensation and Social Security PIA.

**Normal Form of Benefit:** Payable for life or until recovery from disability; other options are also available.

**COLA:** None

#### **M. Non-Service Connected Disability**

**Eligibility:** Any member who has 10 or more years of Credited Service who receives a nonservice-incurred injury, disease or disability which permanently incapacitates the member from gainful employment is immediately eligible for a disability benefit.

**Benefit:** The accrued Normal Retirement Benefit taking into account compensation earned, service credited and the member contribution rate on the date of disability, with a minimum benefit equal to 25% AME.

**Normal Form of Benefit:** Payable for life or until recovery from disability.

**COLA:** None



## **N. Death in the Line of Duty**

**Eligibility:** Any member who dies as a direct result of an occurrence arising in the performance of service to the City is eligible for survivor benefits regardless of Credited Service.

**Benefit:** 25% of Earnings is payable to the spouse; 7 1/2% of Earnings is payable to each eligible child.

Maximum family benefit is 40% of Earnings. Upon death or remarriage of spouse, each child's benefit is increased from 7 1/2% to 15%, with a maximum of 30% to all children.

**Normal Form of Benefit:** Spouse benefits payable until death or remarriage. Children's benefits are payable until the earlier of death, marriage or age 18 (22 if a full-time student).

**COLA:** None

## **O. Other Pre-Retirement Death**

**Eligibility:** Any member who is eligible for Normal Retirement, but dies while still actively employed is eligible for survivor benefits.

**Benefit:** The designated beneficiary will receive the member's accrued Normal Retirement Benefit taking into account compensation earned and service credited as of the date of death.

**Normal Form of Benefit:** Payable immediately as though the member had retired on the date of death and elected the 100% Joint & Survivor option if married or the 10 year Certain and Life option if unmarried.

**COLA:** None

The beneficiary of a plan member who dies prior to being eligible for Normal Retirement will receive a refund of the member's accumulated contributions with interest.

## **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 10 Year Certain and Life Annuity and the 50%, 75% and 100% Joint and Survivor 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.

**Benefit:** The member's accrued Normal Retirement Benefit taking into account compensation earned and service credited as of the date of termination. Benefit is payable at the member's Normal Retirement date.

**Normal Form of Benefit:** Single life Annuity; other options are also available.

**COLA:** None

Members terminating employment with less than 5 years of Credited Service will receive a refund of their own accumulated contributions with interest.

## S. Refunds

**Eligibility:** All members terminating employment with less than 5 years of Credited Service are eligible. Optionally, vested members (those with 5 or more years of Credited Service) may elect a refund in lieu of the vested benefits otherwise due.

**Benefit:** Refund of the member's contributions with interest. Interest is currently credited at a rate of 4% compounded annually.

## T. Member Contributions

The regular Member contribution rate is 9% of Earnings. If the combined City and Member contribution required for a year is less than 14% of covered payroll, the difference under 14% is divided in two and the resulting amount is used to reduce to the City and Member contribution rates for the year. If the combined City and Member contribution required for a year is more than 18% of covered payroll, the excess over 18% is divided in two and the resulting amount is used to increase the City and Member contribution rates for the year. For the fiscal years ending September 30, 2018 through September 30, 2019, the member contribution rate is reduced to a maximum of 12.5%, and for the fiscal year ending September 30, 2020, the member contribution rate is reduced to a maximum of 10.5%. The reduction in member contribution rate is funded using all accumulated excess and annual Chapter 185 premium tax money. The City contribution is increased to make up for anything the premium tax money does not cover.

#### **U. Employer Contributions**

Any additional amount determined by the actuary needed to fund the plan properly according to State laws. Chapter 185 monies received by the City will be deposited into the pension trust fund for the benefit of police officers in the Plan.

#### **V. Cost of Living Increases**

Not Applicable

#### **W. 13<sup>th</sup> Check**

Not Applicable

#### **X. Deferred Retirement Option Plan**

**Eligibility:** Plan members are eligible for the DROP upon attainment of Normal Retirement eligibility.

Members must make a written election to participate in the DROP.

**Benefit:** The member's Credited Service and AME 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 AME.

**Maximum**

**DROP Period:** 5 years for members with less than 27 years of service; 3 years for members with at least 27 but less than 35 years of service; 2 years for members with 35 or more years of service.

**Interest**

**Credited:** The member's DROP account is credited or debited at an interest rate equal to the actual investment return earned by the pension plan.

**Normal Form**

**of Benefit:** The plan member may elect from 1 of the 2 following options:

- (1) Lump Sum, or
- (2) An annuity based upon a retirement option selected by the participant.

**COLA:** None

**Y. Other Ancillary Benefits**

There are no ancillary retirement type benefits not required by statutes but which might be deemed a Miami Springs Police Officers and Firefighters Retirement System liability if continued beyond the availability of funding by the current funding source.

**Z. Changes Since Previous Valuation**

Under Ordinance No. 1114-2019, for the fiscal year ending September 30, 2020, the member contribution rate is reduced to a maximum of 10.5%.