

# City of Boynton Beach Municipal Firefighters' Pension Trust Fund

ACTUARIAL VALUATION REPORT AS OF  
OCTOBER 1, 2018

ANNUAL EMPLOYER CONTRIBUTION FOR THE FISCAL YEAR  
ENDING SEPTEMBER 30, 2020





March 27, 2019

Board of Trustees  
City of Boynton Beach Municipal  
Firefighters' Pension Trust Fund  
Boynton Beach, Florida

**Re: City of Boynton Beach Municipal Firefighters' Pension Trust Fund  
Actuarial Valuation as of October 1, 2018 and Actuarial Disclosures**

Dear Board Members:

The results of the October 1, 2018 Annual Actuarial Valuation of the City of Boynton Beach Municipal Firefighters' Pension Trust Fund are presented in this report.

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

The purposes of the valuation are to measure the System's funding progress, to determine the employer contribution rate for the fiscal year ending September 30, 2020, and to determine 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, 2019. 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 and other information through September 30, 2018. The valuation was based upon information furnished by the Plan Administrator concerning Retirement System benefits, financial transactions, plan provisions and active members, terminated members, retirees and beneficiaries. We checked for internal reasonability 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. 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 City of Boynton Beach Municipal Firefighters' Pension Trust Fund 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.

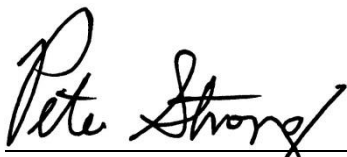
Peter N. Strong and Jeffrey Amrose actuaries are members of the American Academy of Actuaries. These actuaries meet the Academy's Qualification Standards to render the actuarial opinions contained herein. The signing actuaries are independent of the plan sponsor.

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.

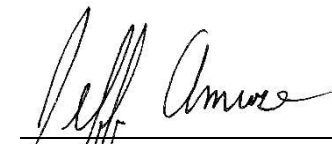
Gabriel, Roeder, Smith & Company will be pleased to review this valuation report with the Board of Trustees and to answer any questions pertaining to the valuation.

Respectfully submitted,

GABRIEL, ROEDER, SMITH & COMPANY



Peter N. Strong, FSA, MAAA, FCA  
Enrolled Actuary No. 17-06975



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## **SECTION A**

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### **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 required contribution dollar amounts shown below are estimates only. 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.

	<b>For FYE 9/30/20 Based on 10/1/2018 Valuation if contributed on 10/1/2019</b>	<b>For FYE 9/30/19 Based on 10/1/2017 Valuation if contributed on 10/1/2018</b>	<b>Increase (Decrease)</b>
Required Employer/State Contribution	\$ 5,969,275	\$ 6,409,551	\$ (440,276)
As % of Covered Payroll	56.03 %	55.42 %	0.61 %
Estimated State Contribution Allocated (Including Amounts from State contribution reserve)	\$ 1,087,954	\$ 1,087,954	\$ 0
As % of Covered Payroll	10.21 %	9.41 %	0.80 %
Prepaid Contribution	\$ 146,476	\$ 0	\$ 146,476
As % of Covered Payroll	1.37 %	0.00 %	1.37 %
Required Employer Contribution	\$ 4,734,845	\$ 5,321,597	\$ (586,752)
As % of Covered Payroll	44.45 %	46.01 %	(1.56) %

The required employer contribution has been computed under the assumption that the amount to be allocated from current and prior excess State money this year and next year will be \$1,087,954, based on the re-evaluated cost of the COLA. The required employer contribution for the fiscal year ending September 30, 2019 (calculated based on the October 1, 2017 valuation) was revised to reflect this updated State allocation amount.

The employer contribution listed above is for the City's fiscal year ending September 30, 2020 and has been calculated as though payment is made in a single lump sum on October 1, 2019. The total minimum required employer contribution for the fiscal year ending September 30, 2018 was \$6,157,171. The actual employer contribution during the fiscal year ending September 30, 2018 was \$6,226,015. The excess amount of \$68,844 has been added to the employer prepaid contribution.

Ordinance 06-692 (adopted in 2006), which added the 2% deferred COLA and increased member contributions by 5.0% of covered payroll, was intended to be cost neutral. Under the terms of this Ordinance, the actuarial cost of the COLA must be reevaluated every three years to ensure it remains cost neutral. The last reevaluation was completed as of October 1, 2015 (applicable to State money received during the fiscal year ending September 30, 2016), so a new reevaluation has recently been completed as of October 1, 2018 (applicable to State money received during the fiscal year ending September 30, 2019). This latest reevaluation has shown that the annual actuarial cost of the COLA is \$306,000 higher than it was as of October 1, 2015. Therefore, the base amount of regular Chapter 175 State contributions increased by this amount, from \$781,954 to \$1,087,954, beginning with the fiscal year ending September 30, 2019. If the actual amount received by the State is lower than this amount, the shortfall may be made up by using the Accumulated Excess Premium Tax Revenue currently being held in reserve (this amount is \$2,074,002 as of October 1, 2018).

## **Revisions in Benefits**

There have been the following revisions in benefits since the previous valuation:

- For all Firefighters who are not eligible for Normal Retirement as of October 1, 2018 the normal retirement benefit shall be limited to a “maximum benefit cap”, initially set at \$95,000 per year. This maximum benefit cap will be increased annually beginning on October 1, 2023 (and on each October 1<sup>st</sup> thereafter) by 1.5%. The maximum benefit cap shall also apply to early retirement, deferred vested retirement and disability retirement benefits. For early retirement and deferred vested retirement, the maximum benefit cap shall be applied to the normal retirement benefit before reflecting any reductions for early retirement.
- All new members hired on or after February 5, 2019 are classified as “Tier 2 members”. All members hired before February 5, 2019 are classified as “Tier 1 members”. Tier 2 benefit provisions that differ from Tier 1 benefit provisions include the following:
  - The normal retirement date will be the earlier of completion of 25 years of Credited Service regardless of age, or attainment of age 55 with 10 years of Credited Service.
  - Vested members terminating service with less than 25 years of Credited Service will be eligible for a deferred Normal Retirement benefit that begins at age 55.

The approximate impact of the above revisions in benefits was measured in the Actuarial Impact Statement dated February 8, 2019 (as if the ordinance had been effective as of October 1, 2017). The final impact has been measured in this valuation to reflect the impact on the required contribution payable October 1, 2019. The net impact of the above revisions in benefits is a decrease in the annual required employer contribution of 1.59% of covered payroll, or \$165,692.

There have been no other changes in benefits since the prior valuation.

## **Revisions in Actuarial Assumptions or Methods**

The payroll growth assumption used for amortizing the unfunded actuarial accrued liability (UAAL) as a level percentage of pay has been decreased from 4.0%, limited to the actual 10-year historical average payroll growth rate, to a forward-looking payroll growth rate of 2.5% per year. This rate is consistent with the underlying inflation assumption. In addition, the maximum amortization period for amortizing changes in the UAAL has been reduced from 30 years to 25 years. The net impact of these changes is a decrease in the annual required employer contribution of 4.67% of covered payroll, or \$497,929.



There have been no other changes in actuarial assumptions or methods since the prior valuation.

## Actuarial Experience

There was a net actuarial experience gain of \$2,764,199 for the year, which means that overall actual experience was more favorable than expected. The actuarial gain is primarily due to average salary increases that were lower than expected (4.2% actual versus 6.1% expected) and a higher than expected return on the actuarial value of assets. The net investment return on the actuarial value of assets was 8.71% versus an assumed return of 7.50%. The net investment return on the market value of assets was 8.55%.

The net actuarial gain for the year has caused a decrease in the annual required employer contribution of 1.62% of covered payroll, or about \$169,000.

## Funded Ratio

The funded ratio was 66.9% this year compared to 62.6% last year. The funded ratio would have been 66.3% this year before recognizing the revisions in benefits. 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	46.01
Revision in Benefits	(1.59)
Experience (Gains) or Losses	(1.62)
Revision in Assumptions/Methods	(4.67)
Change in Payroll Growth Assumption for UAAL	6.17
Change in Payroll Growth Assumption for UAAL Amortization and Other Changes in Amortization Payments on UAAL	2.49
Normal Cost Rate	(0.20)
Administrative Expense	0.03
State Contribution	(0.80)
Prepaid Contribution (available this year, not last year)	<u>(1.37)</u>
Contribution rate this year	44.45

According to Florida Statutes, Chapter 112.64 (5)(a), the payroll growth assumption may not exceed the average payroll growth during the last ten years. The ten year average rate this year was equal to 0.26% compared to the assumed rate of 4.0%. Using a 0.26% payroll growth assumption instead of the ten year average rate in the previous valuation of 2.51% in the amortization of the UAL caused an increase in the annual required employer contribution of 6.17% of covered payroll, or about \$643,000. In the current and future valuations, the payroll growth assumption will no longer be impacted by the ten year average rate as the method has been changed to use a forward-looking payroll growth assumption of 2.5% per year, as permitted under Florida Statutes, Chapter 112.64(5)(b). Future payroll growth is expected to at least keep pace with inflation over the long-term (and the plan's inflation assumption is 2.5%).

Covered payroll as of October 1, 2018 was \$10,393,865 versus \$11,282,228 last year. Amortization payments on the unfunded liability were scheduled to increase by 2.51% per year. When covered payroll decreases, the amortization payment as a percentage of covered payroll will increase. The change in the expected covered payroll for UAAL amortization increased the annual required employer contribution by approximately 2.49% of covered payroll.

### **Required Contributions in Later Years**

The current calculated City contribution requirement is 44.45% of payroll starting October 1, 2019. Under the asset smoothing method, market value gains and losses are recognized over five years. As of October 1, 2018, the market value of assets exceeded the actuarial value by \$4,359,109. Once all the gains and losses through September 30, 2018 have been fully recognized in the actuarial value of assets, the employer contribution rate will decrease by roughly 2.80% of payroll unless there are offsetting losses.

### **Relationship to Market Value**

If Market Value had been the basis for the valuation, the City contribution rate would have been 41.65% and the funded ratio would have been 70.1%. The funded ratio on a market value basis was 65.7% last year.

### **13<sup>th</sup> Check Provision**

The Plan provides for a 13<sup>th</sup> check if there is a net actuarial gain for the previous year. Though the Plan experienced a gain during the prior plan year, the cumulative balance of actuarial gains and losses is negative (a net loss), so no funds are available to provide 13<sup>th</sup> checks in 2018.

### **Conclusion**

The funded ratio is 66.9% this year, whereas it was over 100% in the year 2000. Steps have been taken in recent years to address this issue, such as strengthening the actuarial assumptions, including lowering the investment return assumption from 8.5% to 7.5% over time, applying an additional \$1,000,000 towards the unfunded liability, and reducing the amortization period in the amortization of the unfunded liability to a maximum of 25 years.

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 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; and
5. Other demographic risks – members may terminate, retire or become disabled at times or with benefits other than assumed resulting in actual future accrued liability and contributions differing from expected.

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

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

### **PLAN MATURITY MEASURES**

Risks facing a pension plan evolve over time. A young plan with virtually no investments and paying few benefits may experience little investment risk. An older plan with a large number of members in pay status

and a significant trust may be much more exposed to investment risk. Generally accepted plan maturity measures include the following:

	<u>2018</u>	<u>2017</u>
Ratio of the market value of assets to payroll	9.23	7.69
Ratio of actuarial accrued liability to payroll	13.18	11.71
Ratio of actives to retirees and beneficiaries	0.95	1.14
Ratio of net cash flow to market value of assets	1.5%	1.0%

## **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.

<b>Actuarial Confirmation of the Use of State Chapter Money</b>	
1. Fire Regular	\$ 781,954
Fire Supplemental	<u>0</u>
Total Base Amount Previous Plan Year	781,954
2. Fire Regular	789,121
Fire Supplemental	<u>0</u>
Total Amount Received for Previous Plan Year	789,121
3. Adjustment to Base Amount Due to Reevaluation of COLA cost	0
4. Excess Funds for Previous Plan Year	7,167
5. Accumulated Excess at Beginning of Previous Year	2,066,835
6. Prior Excess Used in Previous Plan Year	0
7. Accumulated Excess as of September 30, 2018 (Available for Benefit Improvements)	2,074,002

Note: The above exhibit confirms the use of State Chapter 175 Money for the fiscal year ending September 30, 2018. In the fiscal year ending September 30, 2019, the Base Amount for Fire Regular State Chapter 175 Money will increase to \$1,087,954 due to the reevaluation of the actuarial cost of the COLA.

## **SECTION B**

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### **VALUATION RESULTS**

<b>PARTICIPANT DATA</b>		
	<b>October 1, 2018</b>	<b>October 1, 2017</b>
<b>ACTIVE MEMBERS</b>		
Number	113	124
Covered Annual Payroll	\$ 10,393,865	\$ 11,282,228
Average Annual Payroll	\$ 91,981	\$ 90,986
Average Age	38.8	38.4
Average Past Service	10.9	10.6
Average Age at Hire	27.9	27.8
<b>RETIREES &amp; BENEFICIARIES &amp; DROP</b>		
Number	117	107
Annual Benefits	\$ 6,886,410	\$ 6,061,150
Average Annual Benefit	\$ 58,858	\$ 56,646
Average Age	61.9	62.2
<b>DISABILITY RETIREES</b>		
Number	2	2
Annual Benefits	\$ 113,033	\$ 112,644
Average Annual Benefit	\$ 56,517	\$ 56,322
Average Age	48.8	47.8
<b>TERMINATED VESTED MEMBERS</b>		
Number	2	3
Annual Benefits	\$ 74,494	\$ 109,334
Average Annual Benefit	\$ 37,247	\$ 36,445
Average Age	43.6	44.8



**ACTUARIALLY DETERMINED EMPLOYER CONTRIBUTION (ADEC)**

	October 1, 2018 <i>After Plan, Assumption and Method Changes</i>	October 1, 2018 <i>After Plan Changes</i>	October 1, 2018 <i>Before Changes</i>	October 1, 2017
A. Valuation Date				
B. ADEC to Be Paid During Fiscal Year Ending	9/30/2020	9/30/2020	9/30/2020	9/30/2019
C. Assumed Date of Employer Contrib.	10/1/2019	10/1/2019	10/1/2019	10/1/2018
D. Annual Payment to Amortize Unfunded Actuarial Liability	\$ 3,593,023	\$ 4,219,835	\$ 4,313,316	\$ 3,732,868
E. Employer Normal Cost	2,230,990	2,230,990	2,302,537	2,519,728
F. ADEC if Paid on the Valuation Date: D+E	5,824,013	6,450,825	6,615,853	6,252,596
G. ADEC Adjusted for Frequency of Payments	5,824,013	6,450,825	6,615,853	6,252,596
H. ADEC as % of Covered Payroll	56.03 %	62.06 %	63.65 %	55.42 %
I. Covered Payroll per Valuation	10,393,865	10,393,865	10,393,865	11,282,228
J. Assumed Rate of Increase in Covered Payroll to Contribution Year	2.50 %	0.26 %	0.26 %	2.51 %
K. Covered Payroll for Contribution Year	10,653,712	10,420,889	10,420,889	11,565,412
L. ADEC for Contribution Year: H x K	5,969,275	6,467,204	6,632,896	6,409,551
M. Estimate of State Allocated Revenue in Contribution Year (including amounts from Accumulated Excess Reserve)	1,087,954	1,087,954	1,087,954	1,087,954
N. Actuarially Determined Employer Contribution (ADEC) in Contribution Year	4,881,321	5,379,250	5,544,942	5,321,597
O. ADEC as % of Covered Payroll in Contribution Year: N ÷ K	45.82 %	51.62 %	53.21 %	46.01 %
P. Estimated Amount of Accumulated Excess Premium Tax Revenue Used to Offset ADEC (If Actual State Revenue = \$789,121)	298,833	298,833	298,833	298,833

**ACTUARIAL VALUE OF BENEFITS AND ASSETS**

A. Valuation Date	October 1, 2018 <i>After Plan Changes</i>	October 1, 2018 <i>Before Changes</i>	October 1, 2017
B. Actuarial Present Value of All Projected Benefits for			
1. Active Members			
a. Service Retirement Benefits	\$ 67,200,213	\$ 69,068,858	\$ 76,149,671
b. Vesting Benefits	4,079,340	4,079,340	4,279,645
c. Disability Benefits	1,820,028	1,789,885	1,891,907
d. Preretirement Death Benefits	692,568	635,470	672,670
e. Return of Member Contributions	152,268	152,268	156,915
f. Total	<u>73,944,417</u>	<u>75,725,821</u>	<u>83,150,808</u>
2. Inactive Members			
a. Service Retirees & Beneficiaries	86,816,665	86,816,665	75,205,990
b. Disability Retirees	1,696,135	1,696,135	1,691,379
c. Terminated Vested Members	898,572	898,572	1,339,205
d. Total	<u>89,411,372</u>	<u>89,411,372</u>	<u>78,236,574</u>
3. Total for All Members	163,355,789	165,137,193	161,387,382
C. Actuarial Accrued (Past Service) Liability	136,944,352	138,160,983	132,091,634
D. Actuarial Value of Accumulated Plan Benefits per FASB No. 35	126,043,268	126,043,268	119,126,697
E. Plan Assets			
1. Market Value	95,986,708	95,986,708	86,807,764
2. Actuarial Value	91,627,599	91,627,599	82,643,710
F. Unfunded Actuarial Accrued Liability: C-E2	45,316,753	46,533,384	49,447,924
G. Actuarial Present Value of Projected Covered Payroll	83,828,577	83,828,577	90,721,035
H. Actuarial Present Value of Projected Member Contributions	10,059,429	10,059,429	10,886,524
I. Accumulated Value of Member Contributions	10,119,252	10,119,252	10,603,778
J. Funded Ratio: E2/C	66.9%	66.3%	62.6%

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

A. Valuation Date	October 1, 2018 <i>After Plan Changes</i>	October 1, 2018 <i>Before Changes</i>	October 1, 2017
B. Normal Cost for			
1. Service Retirement Benefits	\$ 2,843,729	\$ 2,920,043	\$ 3,192,014
2. Vesting Benefits	259,431	259,431	286,466
3. Disability Benefits	149,319	147,721	156,770
4. Preretirement Death Benefits	38,432	35,263	37,960
5. Return of Member Contributions	<u>41,053</u>	<u>41,053</u>	<u>44,319</u>
6. Total for Future Benefits	3,331,964	3,403,511	3,717,529
7. Assumed Amount for Administrative Expenses	<u>146,290</u>	<u>146,290</u>	<u>156,066</u>
8. Total Normal Cost	3,478,254	3,549,801	3,873,595
C. Expected Member Contribution	1,247,264	1,247,264	1,353,867
D. Employer Normal Cost: B8-C	2,230,990	2,302,537	2,519,728
E. Employer Normal Cost as a % of Covered Payroll	21.46%	22.15%	22.33%

# LIQUIDATION OF THE UNFUNDED ACTUARIAL ACCRUED LIABILITY

## BEFORE CHANGES

A. UAAL Amortization Period and Payments					
Original UAAL			Current UAAL		
Date Established	Amortization Period (Years)	Amount	Years Remaining	Amount	Payment
10/1/1996	26	807,234	4	202,468	56,027
10/1/1997	30	1,201,102	9	1,097,010	158,517
10/1/1999	30	613,865	11	647,969	81,482
10/1/2000	30	(1,240,378)	12	(1,320,916)	(156,939)
10/1/2001	30	857,564	13	952,165	107,591
10/1/2003	30	4,337,161	15	5,140,630	533,780
10/1/2004	30	4,373,725	16	5,258,025	526,750
10/1/2005	30	(1,004,416)	17	(1,221,213)	(118,452)
10/1/2005	30	3,040,117	17	3,696,312	358,527
10/1/2006	30	2,426,747	18	2,957,678	278,622
10/1/2006	30	1,889,229	18	2,302,561	216,908
10/1/2007	30	(12,675)	19	(15,351)	(1,408)
10/1/2007	30	(1,424,046)	19	(1,727,483)	(158,478)
10/1/2008	30	4,046,900	20	4,877,639	436,817
10/1/2009	30	3,681,910	21	4,398,538	385,354
10/1/2010	30	1,249,043	22	1,476,855	126,817
10/1/2010	30	2,256,012	22	2,667,486	229,057
10/1/2010	30	(43,572)	22	(51,518)	(4,424)
10/1/2011	30	1,378,822	23	1,599,575	134,858
10/1/2011	30	3,739,943	23	4,338,723	365,791
10/1/2012	30	1,446,560	24	1,619,827	134,287
10/1/2012	30	(161,237)	24	(180,549)	(14,968)
10/1/2013	30	199,486	25	220,803	18,025
10/1/2013	30	818,309	25	905,752	73,939
10/1/2013	30	3,401,164	25	3,764,606	307,315
10/1/2014	30	(408,227)	26	(442,373)	(35,604)
10/1/2014	30	1,753,497	26	1,900,170	152,932
10/1/2015	30	(209,489)	27	(222,231)	(17,654)
10/1/2016	30	(1,022,696)	28	(1,062,855)	(83,424)
10/1/2016	30	5,982,170	28	6,217,078	487,983
10/1/2017	30	(691,612)	29	(699,798)	(54,322)
10/1/2018	30	(2,764,199)	30	(2,764,199)	(212,390)
		\$ 40,518,013		\$46,533,384	\$ 4,313,316

# LIQUIDATION OF THE UNFUNDED ACTUARIAL ACCRUED LIABILITY

## AFTER PLAN CHANGES

A. UAAL Amortization Period and Payments					
Original UAAL			Current UAAL		
Date Established	Amortization Period (Years)	Amount	Years Remaining	Amount	Payment
10/1/1996	26	807,234	4	202,468	56,027
10/1/1997	30	1,201,102	9	1,097,010	158,517
10/1/1999	30	613,865	11	647,969	81,482
10/1/2000	30	(1,240,378)	12	(1,320,916)	(156,939)
10/1/2001	30	857,564	13	952,165	107,591
10/1/2003	30	4,337,161	15	5,140,630	533,780
10/1/2004	30	4,373,725	16	5,258,025	526,750
10/1/2005	30	(1,004,416)	17	(1,221,213)	(118,452)
10/1/2005	30	3,040,117	17	3,696,312	358,527
10/1/2006	30	2,426,747	18	2,957,678	278,622
10/1/2006	30	1,889,229	18	2,302,561	216,908
10/1/2007	30	(12,675)	19	(15,351)	(1,408)
10/1/2007	30	(1,424,046)	19	(1,727,483)	(158,478)
10/1/2008	30	4,046,900	20	4,877,639	436,817
10/1/2009	30	3,681,910	21	4,398,538	385,354
10/1/2010	30	1,249,043	22	1,476,855	126,817
10/1/2010	30	2,256,012	22	2,667,486	229,057
10/1/2010	30	(43,572)	22	(51,518)	(4,424)
10/1/2011	30	1,378,822	23	1,599,575	134,858
10/1/2011	30	3,739,943	23	4,338,723	365,791
10/1/2012	30	1,446,560	24	1,619,827	134,287
10/1/2012	30	(161,237)	24	(180,549)	(14,968)
10/1/2013	30	199,486	25	220,803	18,025
10/1/2013	30	818,309	25	905,752	73,939
10/1/2013	30	3,401,164	25	3,764,606	307,315
10/1/2014	30	(408,227)	26	(442,373)	(35,604)
10/1/2014	30	1,753,497	26	1,900,170	152,932
10/1/2015	30	(209,489)	27	(222,231)	(17,654)
10/1/2016	30	(1,022,696)	28	(1,062,855)	(83,424)
10/1/2016	30	5,982,170	28	6,217,078	487,983
10/1/2017	30	(691,612)	29	(699,798)	(54,322)
10/1/2018	30	(2,764,199)	30	(2,764,199)	(212,390)
10/1/2018	30	(1,216,631)	30	(1,216,631)	(93,481)
		<u>\$ 39,301,382</u>		<u>\$45,316,753</u>	<u>\$ 4,219,835</u>

# LIQUIDATION OF THE UNFUNDED ACTUARIAL ACCRUED LIABILITY

## AFTER PLAN, ASSUMPTION AND METHOD CHANGES

A. UAAL Amortization Period and Payments					
Original UAAL			Current UAAL		
Date Established	Amortization Period (Years)	Amount	Years Remaining	Amount	Payment
10/1/1996	26	\$ 807,234	4	\$ 202,468	\$ 54,288
10/1/1997	30	1,201,102	9	1,097,010	146,362
10/1/1999	30	613,865	11	647,969	73,904
10/1/2000	30	(1,240,378)	12	(1,320,916)	(141,125)
10/1/2001	30	857,564	13	952,165	95,941
10/1/2003	30	4,337,161	15	5,140,630	468,340
10/1/2004	30	4,373,725	16	5,258,025	458,585
10/1/2005	30	(1,004,416)	17	(1,221,213)	(102,344)
10/1/2005	30	3,040,117	17	3,696,312	309,769
10/1/2006	30	2,426,747	18	2,957,678	238,957
10/1/2006	30	1,889,229	18	2,302,561	186,029
10/1/2007	30	(12,675)	19	(15,351)	(1,199)
10/1/2007	30	(1,424,046)	19	(1,727,483)	(134,941)
10/1/2008	30	4,046,900	20	4,877,639	369,341
10/1/2009	30	3,681,910	21	4,398,538	323,610
10/1/2010	30	1,249,043	22	1,476,855	105,793
10/1/2010	30	2,256,012	22	2,667,486	191,082
10/1/2010	30	(43,572)	22	(51,518)	(3,690)
10/1/2011	30	1,378,822	23	1,599,575	111,776
10/1/2011	30	3,739,943	23	4,338,723	303,182
10/1/2012	30	1,446,560	24	1,619,827	110,606
10/1/2012	30	(161,237)	24	(180,549)	(12,328)
10/1/2013	30	199,486	25	220,803	14,756
10/1/2013	30	818,309	25	905,752	60,529
10/1/2013	30	3,401,164	25	3,764,606	251,580
10/1/2014	30	(408,227)	25	(442,373)	(29,563)
10/1/2014	30	1,753,497	25	1,900,170	126,984
10/1/2015	30	(209,489)	25	(222,231)	(14,851)
10/1/2016	30	(1,022,696)	25	(1,062,855)	(71,028)
10/1/2016	30	5,982,170	25	6,217,078	415,474
10/1/2017	30	(691,612)	25	(699,798)	(46,766)
10/1/2018	30	(2,764,199)	25	(2,764,199)	(184,725)
10/1/2018	30	(1,216,631)	25	(1,216,631)	(81,305)
		<u>\$ 39,301,382</u>		<u>\$ 45,316,753</u>	<u>\$ 3,593,023</u>

**B. 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
2018	\$ 45,316,753
2019	44,853,020
2020	44,257,938
2021	43,519,245
2022	42,623,697
2023	41,621,416
2028	33,761,849
2033	20,172,683
2038	7,308,772
2043	-

## ACTUARIAL GAINS AND LOSSES

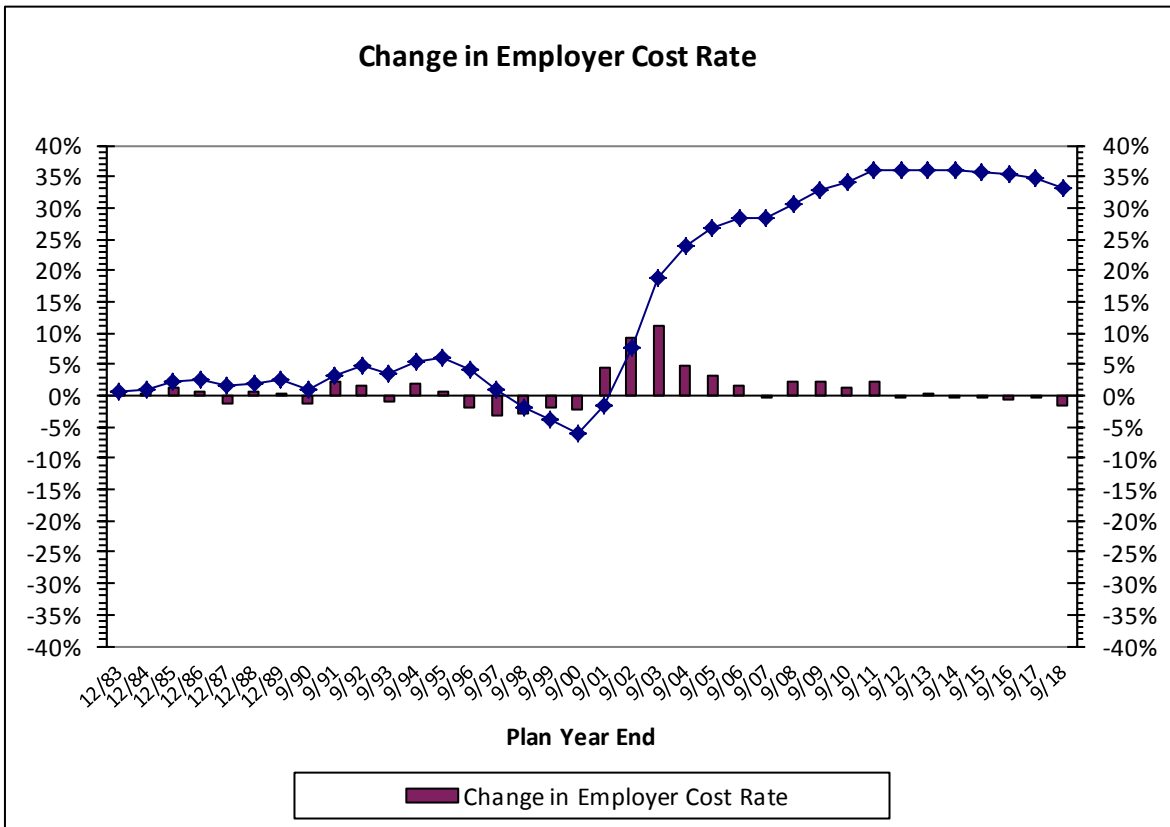
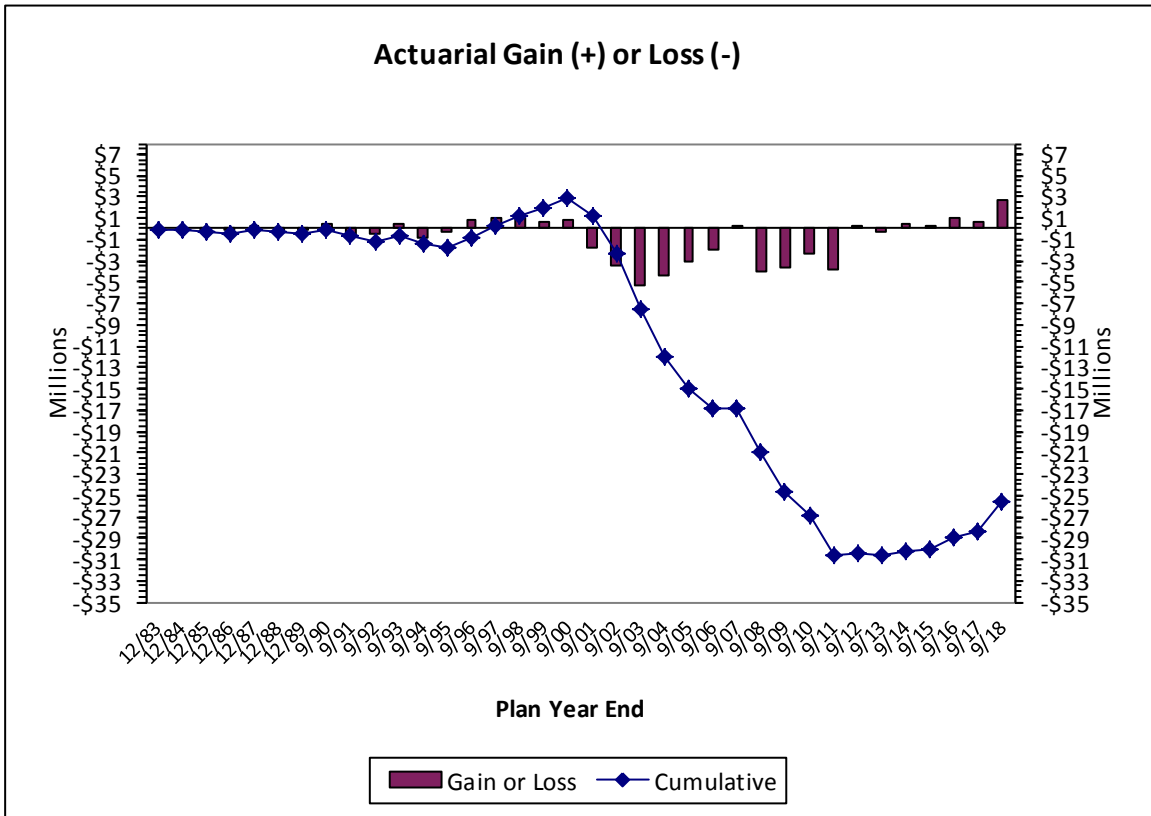
The assumptions used to anticipate mortality, employment turnover, investment income, expenses, salary increases, and other factors have been based on long range trends and expectations. Actual experience can vary from these expectations. The variance is measured by the gain and loss for the period involved. 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>A. Derivation of the Current UAAL</b>	
1. Last Year's UAAL	\$ 49,447,924
2. Last Year's Employer Normal Cost	2,519,728
3. Last Year's Contributions	6,157,171
4. Interest at the Assumed Rate on:	
a. 1 and 2 for one year	3,897,574
b. 3 from dates paid	410,472
c. a - b	3,487,102
5. This Year's Expected UAAL: 1 + 2 - 3 + 4c	49,297,583
6. This Year's Actual UAAL (Before any changes in benefits and/or assumptions)	46,533,384
7. Net Actuarial Gain (Loss): (5) - (6)	2,764,199
8. Gain (Loss) due to investments	1,250,141
9. Gain (Loss) due to other sources	1,514,058



Net actuarial gains in previous years have been as follows:

Year Ended	Change in Employer Cost Rate	Gain (Loss)
12/31/83	0.77 %	\$ (111,129)
12/31/84	0.13	(20,619)
12/31/85	1.27	(227,011)
12/31/86	0.50	(99,006)
12/31/87	(1.18)	279,837
12/31/88	0.52	(128,401)
12/31/89	0.41	(106,588)
9/30/90	(1.42)	371,790
9/30/91	2.09	(638,650)
9/30/92	1.61	(476,505)
9/30/93	(1.07)	483,965
9/30/94	1.76	(800,443)
9/30/95	0.56	(270,698)
9/30/96	(1.95)	895,789
9/30/97	(3.08)	1,049,747
9/30/98	(2.78)	1,020,121
9/30/99	(1.89)	722,161
9/30/00	(2.21)	891,463
9/30/01	4.44	(1,682,484)
9/30/02	9.11	(3,495,525)
9/30/03	11.31	(5,238,993)
9/30/04	4.88	(4,373,725)
9/30/05	3.04	(3,040,117)
9/30/06	1.44	(1,889,229)
9/30/07	(0.01)	12,675
9/30/08	2.33	(4,056,993)
9/30/09	2.16	(3,681,910)
9/30/10	1.25	(2,256,012)
9/30/11	2.12	(3,739,943)
9/30/12	(0.09)	161,237
9/30/13	0.12	(199,486)
9/30/14	(0.22)	408,227
9/30/15	(0.11)	209,489
9/30/16	(0.57)	1,022,696
9/30/17	(0.37)	691,612
9/30/18	(1.62)	2,764,199

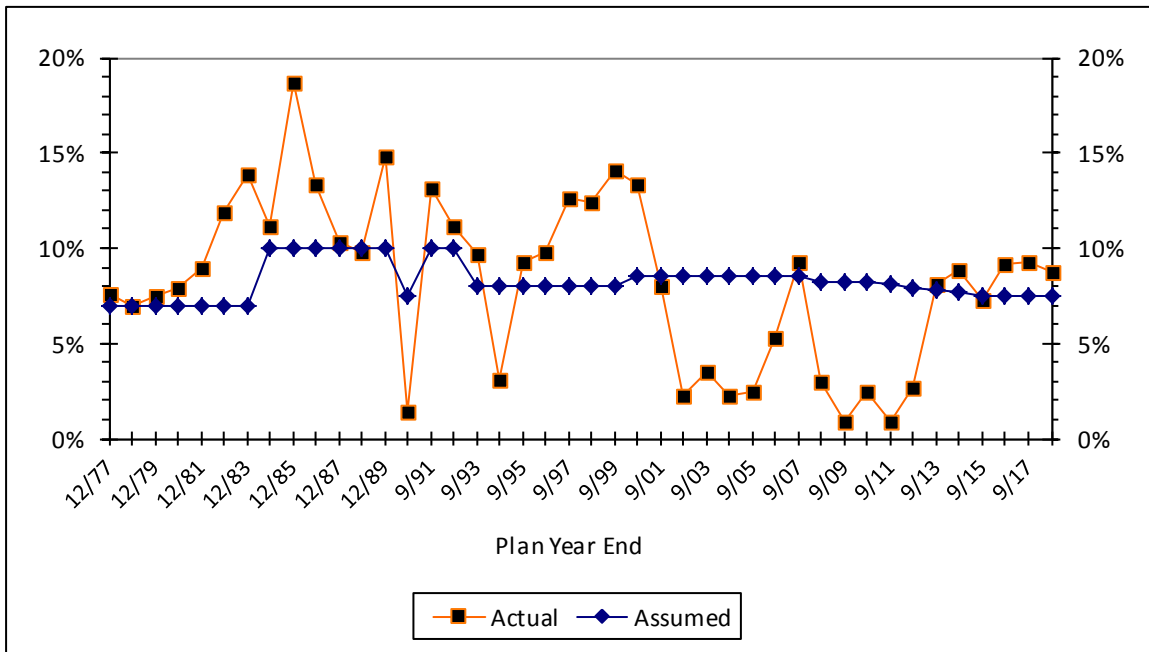


The fund earnings and salary increase assumptions have considerable impact on the cost of the Plan so it is important that they are in line with the actual experience. The following table shows the actual fund earnings and salary increase rates compared to the assumed rates for the last few years:

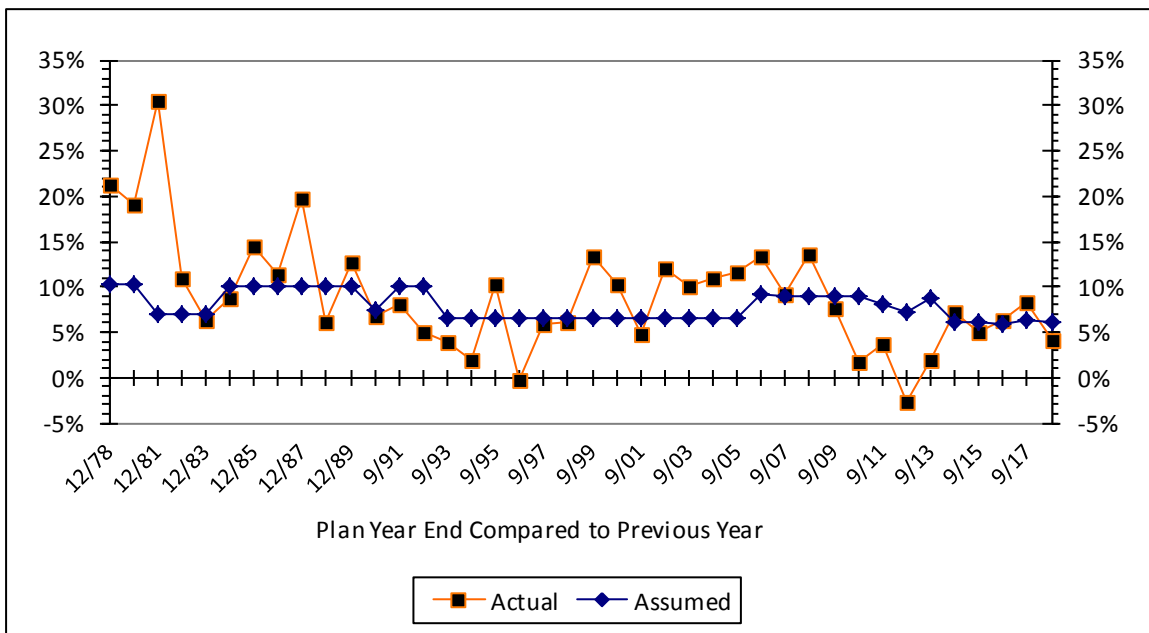
Year Ending	Investment Return		Salary Increases	
	Actual	Assumed	Actual	Assumed
12/31/1977	7.6 %	7.0 %		10.3 %
12/31/1978	7.0	7.0	21.3 %	(2 years)
12/31/1979	7.5	7.0		10.3
12/31/1980	7.9	7.0	19.0	(2 years)
12/31/1981	9.0	7.0	30.5	7.0
12/31/1982	11.9	7.0	11.0	7.0
12/31/1983	13.9	7.0	6.4	7.0
12/31/1984	11.1	10.0	8.8	10.0
12/31/1985	18.7	10.0	14.5	10.0
12/31/1986	13.4	10.0	11.4	10.0
12/31/1987	10.3	10.0	19.7	10.0
12/31/1988	9.8	10.0	6.1	10.0
12/31/1989	14.8	10.0	12.8	10.0
9/30/1990 (9 mos.)	1.4	7.5	6.7	7.5
9/30/1991	13.1	10.0	8.0	10.0
9/30/1992	11.2	10.0	4.9	10.0
9/30/1993	9.7	8.0	4.0	6.5
9/30/1994	3.1	8.0	2.0	6.5
9/30/1995	9.3	8.0	10.3	6.5
9/30/1996	9.8	8.0	(0.2)	6.5
9/30/1997	12.6	8.0	5.9	6.5
9/30/1998	12.4	8.0	6.1	6.5
9/30/1999	14.1	8.0	13.3	6.5
9/30/2000	13.3	8.5	10.3	6.5
9/30/2001	8.0	8.5	4.8	6.5
9/30/2002	2.3	8.5	12.1	6.5
9/30/2003	3.5	8.5	10.0	6.5
9/30/2004	2.2	8.5	11.0	6.5
9/30/2005	2.5	8.5	11.7	6.5
9/30/2006	5.3	8.5	13.3	9.2
9/30/2007	9.3	8.50	9.2	8.9
9/30/2008	3.0	8.25	13.6	8.9
9/30/2009	0.9	8.25	7.6	8.9
9/30/2010	2.5	8.25	1.8	8.9
9/30/2011	0.9	8.10	3.7	8.1
9/30/2012	2.7	7.95	(2.8)	7.1
9/30/2013	8.1	7.80	1.9	8.7
9/30/2014	8.8	7.65	7.2	6.0
9/30/2015	7.3	7.50	4.9	6.2
9/30/2016	9.2	7.50	6.3	5.9
9/30/2017	9.3	7.50	8.4	6.3
9/30/2018	8.7	7.50	4.2	6.1
Averages	8.2 %	---	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	1	10	6	5	0	0	0	0	1	3	4	3	<b>83</b>
9/30/2003	15	1	1	5	0	0	0	0	0	0	0	3	<b>97</b>
9/30/2004	22	14	13	4	0	0	0	0	0	1	1	3	<b>105</b>
9/30/2005	1	4	2	1	0	0	0	0	0	2	2	4	<b>102</b>
9/30/2006	19	3	0	2	0	0	0	0	1	2	3	4	<b>118</b>
9/30/2007	5	4	1	3	0	0	0	0	0	3	3	4	<b>119</b>
9/30/2008	5	1	0	5	1	0	0	0	0	0	0	4	<b>123</b>
9/30/2009	1	6	5	6	0	0	0	0	0	1	1	4	<b>118</b>
9/30/2010	11	4	3	3	0	0	0	0	0	1	1	4	<b>125</b>
9/30/2011	0	11	10	8	0	0	0	0	1	0	1	4	<b>114</b>
9/30/2012	3	2	1	2	0	0	0	0	1	0	1	4	<b>115</b>
9/30/2013	10	7	6	2	0	0	0	0	0	1	1	4	<b>118</b>
9/30/2014	3	2	0	1	0	0	0	0	0	2	2	2	<b>119</b>
9/30/2015	1	2	1	1	0	0	0	0	1	0	1	2	<b>118</b>
9/30/2016	11	7	4	1	1	0	0	0	1	1	2	2	<b>122</b>
9/30/2017	10	8	4	2	0	0	0	0	1	3	4	2	<b>124</b>
9/30/2018	1	12	10	4	0	0	0	0	0	2	2	2	<b>113</b>
9/30/2019				2		0		0				2	
17 Yr Totals *	119	98	67	55	2	0	0	0	7	22	29	55	

\* Totals are through current Plan Year only.

## Cumulative Actuarial Gains (Losses)

The Plan provides for a 13<sup>th</sup> check if there is a net actuarial gain for the previous year. There was an actuarial gain during the prior plan year. However, there is a limitation on 13<sup>th</sup> checks tied to actuarial gains provided in Chapter 112.61, Florida Statutes. The cumulative amount used to pay for 13<sup>th</sup> checks may not exceed the cumulative amount of actuarial gains. Since the cumulative amount of gains is negative (a net loss), no 13<sup>th</sup> check is payable.

<b>Cumulative Actuarial Gains (Losses)</b>				
<b>Year Ending 9/30</b>	<b>Balance at Beginning of Year</b>	<b>Gain (Loss) for Year</b>	<b>13th Check</b>	<b>Balance at End of Year</b>
2001	0	(1,682,484)	0	(1,682,484)
2002	(1,682,484)	(3,495,525)	0	(5,178,009)
2003	(5,178,009)	(5,238,993)	0	(10,417,002)
2004	(10,417,002)	(4,373,725)	0	(14,790,727)
2005	(14,790,727)	(3,040,117)	0	(17,830,844)
2006	(17,830,844)	(1,889,229)	0	(19,720,073)
2007	(19,720,073)	12,675	0	(19,707,398)
2008	(19,707,398)	(4,056,993)	0	(23,764,391)
2009	(23,764,391)	(3,681,910)	0	(27,446,301)
2010	(27,446,301)	(2,256,012)	0	(29,702,313)
2011	(29,702,313)	(3,739,943)	0	(33,442,256)
2012	(33,442,256)	161,237	0	(33,281,019)
2013	(33,281,019)	(199,486)	0	(33,480,505)
2014	(33,480,505)	408,227	0	(33,072,278)
2015	(33,072,278)	209,489	0	(32,862,789)
2016	(32,862,789)	1,022,696	0	(31,840,093)
2017	(31,840,093)	691,612	0	(31,148,481)
2018	(31,148,481)	2,764,199	0	(28,384,282)

RECENT HISTORY OF VALUATION RESULTS									
Valuation Date	Number of		Covered Annual Payroll	Actuarial Value of Assets	Actuarial Accrued Liability (AAL)	Unfunded AAL (UFAAL)	Funded Ratio	Employer Normal Cost	
	Active Members	Inactive Members						Amount	% of Payroll
10/1/91	87	14	\$ 4,140,245	\$ 10,146,641	\$ 11,062,660	\$ 916,019	91.7 %	\$ 524,296	12.66 %
10/1/92	85	15	4,161,027	11,900,656	13,491,102	1,590,446	88.2	455,150	10.94
10/1/93	89	15	4,423,684	13,756,391	14,807,586	1,051,195	92.9	437,594	9.89
10/1/94	89	16	4,481,528	14,804,836	16,168,850	1,364,014	91.6	539,543	12.04
10/1/95	89	19	4,839,178	16,884,081	18,482,980	1,598,899	91.3	604,768	12.50
10/1/96	90	22	4,695,354	19,269,217	20,604,396	1,335,179	93.5	527,257	11.23
10/1/97	88	39	4,238,988	22,220,848	23,723,850	1,503,002	93.7	361,957	8.54
10/1/98	90	39	4,543,670	24,978,058	25,301,177	323,119	98.7	258,961	5.70
10/1/99	92	40	5,083,063	28,290,983	28,286,754	(4,229)	100.0	217,814	4.29
10/1/00	90	46	5,305,002	31,629,211	29,402,853	(2,226,358)	107.6	72,822	1.37
10/1/01	92	53	5,201,958	33,397,848	34,916,820	1,518,972	95.6	475,187	9.13
10/1/02	83	60	5,143,446	33,877,028	39,432,154	5,555,126	85.9	956,733	18.60
10/1/03	97	60	6,079,095	34,694,072	42,431,717	7,737,645	81.8	979,363	16.11
10/1/04	105	73	6,135,813	35,118,847	47,240,329	12,121,482	74.3	995,918	16.23
10/1/05	102	75	6,763,318	35,386,328	49,620,257	14,233,929	71.3	1,186,288	17.54
10/1/06	118	75	8,152,400	36,863,141	55,565,182	18,702,041	66.3	1,256,931	15.42
10/1/07	119	76	8,806,744	43,503,237	61,054,498	17,551,261	71.3	1,490,649	16.93
10/1/08	123	77	10,130,185	45,330,615	67,141,898	21,811,283	67.5	1,711,705	16.90
10/1/09	118	82	10,350,054	46,448,767	72,211,379	25,762,612	64.3	1,724,525	16.66
10/1/10	125	84	10,506,008	48,521,964	78,046,241	29,524,277	62.2	1,831,347	17.43
10/1/11	114	93	9,781,772	49,140,415	84,384,761	35,244,346	58.2	1,793,275	18.33
10/1/12	115	94	9,375,520	50,548,749	88,420,130	37,871,381	57.2	1,787,181	19.06
10/1/13	118	100	9,128,801	55,474,480	98,003,969	42,529,489	56.6	1,772,505	19.42
10/1/14	119	99	9,823,480	60,766,720	105,309,014	44,542,294	57.7	2,014,298	20.50
10/1/15	118	101	10,221,317	66,257,757	110,826,525	44,568,768	59.8	2,105,539	20.60
10/1/16	122	107	10,684,549	74,236,519	123,821,633	49,585,114	60.0	2,394,174	22.41
10/1/17	124	112	11,282,228	82,643,710	132,091,634	49,447,924	62.6	2,519,728	22.33
10/1/18	113	121	10,393,865	91,627,599	136,944,352	45,316,753	66.9	2,230,990	21.46

RECENT HISTORY OF REQUIRED AND ACTUAL CONTRIBUTIONS										
Valuation	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			
10/1/91	9/30/92	634,614	15.33	158,161	3.82	476,453	11.51	467,841	166,773	634,614
10/1/92	9/30/93	647,325	15.56	166,773	4.01	480,552	11.55	489,303	158,022	647,325
10/1/93	9/30/94	626,697	14.17	158,022	3.57	468,675	10.59	423,653	203,044	626,697
10/1/94	9/30/95	737,247	16.45	195,089	4.35	542,158	12.10	518,847	218,401	737,248
10/1/95	9/30/96	807,150	16.68	218,401	4.51	588,749	12.17	521,707	285,443	807,150
10/1/96	9/30/97	776,723	16.54	285,443	6.08	491,280	10.46	422,898	353,826	776,724
10/1/97	9/30/98	710,387	16.76	349,086	8.24	361,301	8.52	349,375	361,012	710,387
10/1/98	9/30/99	597,198	13.14	351,241	7.73	245,957	5.41	245,957	361,012	606,969
10/1/99	9/30/00	512,235	10.08	351,241	6.91	160,994	3.17	80,559	365,934	446,493
10/1/00	9/30/01	292,146	5.51	365,934	6.90	0	0.00	0	365,715	365,715
10/1/01	9/30/02	825,167	15.86	384,640	7.39	440,527	8.47	361,877	463,290	825,167
10/1/02	9/30/03	1,359,690	26.44	463,290	9.01	896,400	17.43	922,724	499,520	1,422,244
10/1/03	9/30/04	1,655,219	27.23	499,520	8.22	1,155,699	19.01	1,155,699	549,804	1,705,503
10/1/04	9/30/05	1,988,852	32.41	549,804	8.96	1,439,048	23.45	1,439,048	589,543	2,028,591
10/1/05	9/30/06	2,339,568	34.59	589,543	8.72	1,750,025	25.87	1,750,025	589,543	2,339,568
10/1/06	9/30/07	2,664,373	32.68	589,543	7.23	2,074,830	25.45	2,074,830	589,543	2,664,373
10/1/07	9/30/08	2,845,292	32.31	589,543	6.70	2,255,749	25.61	2,255,749	589,543	2,845,292
10/1/08	9/30/09	3,380,771	33.37	579,772	5.73	2,800,384	27.64	2,800,384	579,772	3,380,156
10/1/09	9/30/10	3,678,119	35.54	589,543	5.60	3,088,576	29.94	3,098,347	633,115	3,731,462
10/1/09	9/30/11	3,606,278	34.04	633,115	5.98	2,973,163	28.06	3,026,506	623,344	3,649,850
10/1/10	9/30/12	3,771,466	35.16	623,344	5.81	3,148,122	29.35	3,148,122	623,344	3,771,466
10/1/11	9/30/13	4,272,215	40.87	704,322	6.74	3,567,893	34.13	3,648,871	704,322	4,353,193
10/1/12	9/30/14	4,226,469	44.58	704,322	7.43	3,522,147	37.15	3,522,147	704,322	4,226,469
10/1/13	9/30/15	4,635,318	48.78	704,322	7.41	3,930,996	41.37	3,930,996	704,322	4,635,318
10/1/14	9/30/16	4,856,683	49.44	781,954	7.96	4,074,729	41.48	4,117,788	781,954	4,899,742
10/1/15	9/30/17	5,075,517	49.10	781,954	7.56	4,293,563	41.54	4,293,563	781,954	5,075,517
10/1/16	9/30/18	6,157,171	56.09	781,954	7.12	5,375,217	48.97	5,375,217	781,954	6,157,171
10/1/17	9/30/19	6,409,551	55.42	1,087,954	9.41	5,321,597	46.01	N/A	N/A	N/A
10/1/18	9/30/20	5,969,275	56.03	1,087,954	10.21	4,881,321	45.82	N/A	N/A	N/A

\*Including amount allocated from Accumulated Excess State Contribution Reserve.



# ACTUARIAL ASSUMPTIONS AND COST METHOD

**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 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.

## Economic Assumptions

**The investment return rate** assumed in the valuation is 7.50% per year, compounded annually (net after investment expenses).

The **Wage Inflation Rate** assumed in this valuation is 3.5% per year. The Wage Inflation Rate is defined to be the portion of total pay increases for an individual that are due to macroeconomic 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 is 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 inflation rate. Considering other economic assumptions, the 7.50% investment return rate translates to an assumed real rate of return over price inflation of 5.0%.

The active member population is assumed to remain constant. For purposes of financing the unfunded liabilities, total payroll is assumed to grow at 2.50% per year. Before the assumption changes, the payroll

growth rate assumption was 4.0%, limited to the actual 10-year historical average payroll growth rate but not less than zero. The average increase over the most recent ten years is 0.26%.

**Pay increase assumptions** for individual active members are shown below. Part of the assumption for each age is for merit and/or seniority increase, and the other 3.5% recognizes wage inflation, including price inflation, productivity increases, and other macroeconomic forces.

**The rates of salary increase** used for individual members are in accordance with the following table. This assumption is used to project a member’s current salary to the salaries upon which benefits will be based.

Years of Service	% Increase in Salary		
	Merit and Seniority	Wage Inflation	Total Increase
1	11.0%	3.5%	14.5%
2	8.5%	3.5%	12.0%
3	8.5%	3.5%	12.0%
4	6.0%	3.5%	9.5%
5	1.5%	3.5%	5.0%
6	4.0%	3.5%	7.5%
7	1.5%	3.5%	5.0%
8	1.5%	3.5%	5.0%
9	4.0%	3.5%	7.5%
10-15	0.5%	3.5%	4.0%
16-19	5.0%	3.5%	8.5%
20 & Over	0.0%	3.5%	3.5%

### 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 currently in use for Special Risk Class members of the Florida Retirement System (FRS), as required under Florida Statutes, Chapter 112.63.

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

Sample Attained Ages (in 2018)	Probability of Dying Next Year		Future Life Expectancy (years)	
	Men	Women	Men	Women
	50	0.53 %	0.23 %	34.01
55	0.67	0.32	29.37	33.39
60	0.90	0.47	24.80	28.48
65	1.29	0.73	20.40	23.74
70	1.98	1.22	16.26	19.27
75	3.21	2.07	12.52	15.19
80	5.29	3.47	9.30	11.56

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 2018)	Probability of Dying Next Year		Future Life Expectancy (years)	
	Men	Women	Men	Women
50	0.22 %	0.15 %	35.00	38.75
55	0.39	0.24	29.88	33.61
60	0.71	0.39	25.00	28.59
65	1.21	0.70	20.44	23.76
70	1.98	1.22	16.26	19.27
75	3.21	2.07	12.52	15.19
80	5.29	3.47	9.30	11.56

This assumption is used to measure the probabilities of active members dying prior to retirement.

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 currently in use for Special Risk Class members of the Florida Retirement System (FRS), as required under Florida Statutes, Chapter 112.63.

**FRS Disabled Mortality for Special Risk Class Members**

Sample Attained Ages (in 2018)	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 during the next year were as follows:

S e r v i c e	Retirement Rates					
		Age				
		<50	50 - 54	55	56 - 59	60+
	10 - 19	N/A	10.0%	40.0%	40.0%	100.0%
	20	40.0%	80.0%	80.0%	100.0%	100.0%
	21 - 24	40.0%	80.0%	100.0%	100.0%	100.0%
	25+	50.0%	80.0%	100.0%	100.0%	100.0%

The rate of retirement is 10% for each year of eligibility for early retirement.

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

<b>Sample Ages</b>	<b>% of Active Members Separating Within Next Year</b>
20	1.5 %
25	1.5
30	1.5
35	1.5
40	2.5
45	1.5
50	1.0
55	0.0

**Rates of disability** among active members (75% of disabilities are assumed to be service-connected).

<b>Sample Ages</b>	<b>% Becoming Disabled within Next Year</b>
20	0.09 %
25	0.10
30	0.12
35	0.15
40	0.20
45	0.34
50	0.67
55	1.03

## Miscellaneous and Technical Assumptions

<b><i>Administrative &amp; Investment Expenses</i></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 prior two years' expenses. Assumed administrative expenses are added to the Normal Cost.
<b><i>Benefit Service</i></b>	Exact fractional service is used to determine the amount of benefit payable.
<b><i>Cost of Living Increases</i></b>	Benefits are increased by 2% per year beginning five years after benefit commencement.
<b><i>Decrement Operation</i></b>	Disability and mortality decrements operate during retirement eligibility.
<b><i>Decrement Timing</i></b>	Decrement of all types are assumed to occur at the beginning of the year.
<b><i>Eligibility Testing</i></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><i>Forfeitures</i></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><i>Incidence of Contributions</i></b>	The employer contribution is assumed to be made in one full payment on October 1 <sup>st</sup> of each year (at the beginning of the fiscal year). Member contributions are assumed to be received continuously throughout the year based upon the computed percent of payroll shown in this report, and the actual payroll payable at the time contributions are made.
<b><i>Liability Load</i></b>	Projected 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 sick and vacation reported for each member as of September 27, 2013.
<b><i>Marriage Assumption</i></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.

***Normal Form of Benefit***

A ten year certain and life thereafter annuity is the Normal Form of Benefit.

***Pay Increase Timing***

Beginning of fiscal year. This is equivalent to assuming that reported pays represent amounts paid to members during the year ended on the valuation date.

***Service Credit Accruals***

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

## GLOSSARY

<b><i>Actuarial Accrued Liability (AAL)</i></b>	The difference between the Actuarial Present Value of Future Benefits, and the Actuarial Present Value of Future Normal Costs.
<b><i>Actuarial Assumptions</i></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><i>Actuarial Cost Method</i></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><i>Actuarial Equivalent</i></b>	Of equal Actuarial Present Value, determined as of a given date and based on a given set of Actuarial Assumptions.
<b><i>Actuarial Present Value (APV)</i></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><i>Actuarial Present Value of Future Benefits (APVFB)</i></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><i>Actuarial Valuation</i></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.
<b><i>Actuarial Value of Assets</i></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 employer contribution (ADEC).

***Actuarially Determined Employer Contribution (ADEC)***

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.

***Amortization Method***

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.

***Amortization Payment***

That portion of the plan contribution or ADEC which is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability.

***Amortization Period***

The period used in calculating the Amortization Payment.

***Closed Amortization Period***

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.

***Employer Normal Cost***

The portion of the Normal Cost to be paid by the employer. This is equal to the Normal Cost less expected member contributions.

***Equivalent Single Amortization Period***

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.

***Experience Gain/Loss***

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

## SUMMARY OF ASSETS

Item	September 30	
	2018	2017
A. Cash and Cash Equivalents (Operating Cash)	\$ -	\$ 685,956
B. Receivables:		
1. Member Contributions	\$ -	\$ -
2. Employer Contributions	-	-
3. State Contributions	789,121	-
4. Investment Income and Other Receivables	259,985	322,209
5. Prepaid Expenses	8,235	3,622
6. Total Receivables	<u>\$ 1,057,341</u>	<u>\$ 325,831</u>
C. Investments		
1. Short Term Investments	\$ 2,621,179	\$ 3,208,149
2. Domestic Equities	54,673,575	48,162,026
3. International Equities	18,061,651	15,104,332
4. Domestic Fixed Income	28,973,214	27,627,431
5. International Fixed Income	-	-
6. Real Estate	10,229,669	9,358,834
7. Private Equity	-	-
8. Total Investments	<u>\$ 114,559,288</u>	<u>\$ 103,460,772</u>
D. Liabilities		
1. Benefits Payable	\$ -	\$ -
2. Accrued Expenses and Other Payables	(213,243)	(102,816)
3. Prepaid City Contribution	(146,476)	(77,632)
4. Total Liabilities	<u>\$ (359,719)</u>	<u>\$ (180,448)</u>
E. Total Market Value of Assets Available for Benefits	\$ 115,256,910	\$ 104,292,111
F. Reserves		
1. State Contribution Reserve	\$ (2,074,002)	\$ (2,066,835)
2. DROP Accounts	(17,196,200)	(15,417,512)
3. Total Reserves	<u>\$ (19,270,202)</u>	<u>\$ (17,484,347)</u>
G. Market Value Net of Reserves	\$ 95,986,708	\$ 86,807,764
F. Allocation of Investments		
1. Short Term Investments	2.29%	3.10%
2. Domestic Equities	47.72%	46.55%
3. International Equities	15.77%	14.60%
4. Domestic Fixed Income	25.29%	26.70%
5. International Fixed Income	0.00%	0.00%
6. Real Estate	8.93%	9.05%
7. Private Equity	0.00%	0.00%
8. Total Investments	<u>100.00%</u>	<u>100.00%</u>

## PENSION FUND INCOME & DISBURSEMENTS

Item	September 30	
	2018	2017
A. Market Value of Assets at Beginning of Year	\$ 104,292,111	\$ 91,063,794
B. Revenues and Expenditures		
1. Contributions		
a. Employee Contributions	\$ 1,336,051	\$ 1,346,307
b. Employer Contributions	5,375,217	4,293,563
d. State Contributions	789,121	883,314
e. Service Purchase	137,465	130,808
f. Rollover to DROP	323,472	70,279
g. Total	<u>\$ 7,961,326</u>	<u>\$ 6,724,271</u>
2. Investment Income		
a. Interest, Dividends, and Other Income	\$ 1,812,908	\$ 1,796,842
b. Net Realized Gains/(Losses)	2,476,066	3,521,426
c. Net Unrealized Gains/(Losses)	5,300,396	7,159,343
d. Investment Expenses	<u>(367,634)</u>	<u>(312,505)</u>
e. Net Investment Income	<u>\$ 9,221,736</u>	<u>\$ 12,165,106</u>
3. Benefits and Refunds		
a. Refunds	\$ (105,981)	\$ (53,290)
b. Regular Monthly Benefits	(5,141,447)	(4,975,760)
c. DROP Distributions	(829,266)	(481,000)
d. Ad Hoc Payments from State Reserve	-	-
e. Total	<u>\$ (6,076,694)</u>	<u>\$ (5,510,050)</u>
4. Administrative and Miscellaneous Expenses	\$ (141,569)	\$ (151,010)
5. Transfers	\$ -	\$ -
C. Market Value of Assets at End of Year	\$ 115,256,910	\$ 104,292,111
D. Reserves		
1. State Contribution Reserve	\$ (2,074,002)	\$ (2,066,835)
2. DROP Accounts	<u>(17,196,200)</u>	<u>(15,417,512)</u>
3. Total Reserves	<u>\$ (19,270,202)</u>	<u>\$ (17,484,347)</u>
E. Market Value Net of Reserves	\$ 95,986,708	\$ 86,807,764

## ACTUARIAL VALUE OF ASSETS

Valuation Date - September 30	2017	2018	2019	2020	2021	2022
A. Actuarial Value of Assets Beginning of Year	\$ 90,417,218	\$ 100,128,057	\$ -	\$ -	\$ -	\$ -
B. Market Value End of Year	104,292,111	115,256,910	-	-	-	-
C. Market Value Beginning of Year	91,063,794	104,292,111	-	-	-	-
D. Non-Investment/Administrative Net Cash Flow	1,063,211	1,743,063	-	-	-	-
E. Investment Income						
E1. Actual Market Total: B-C-D	12,165,106	9,221,736	-	-	-	-
E2. Assumed Rate of Return	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%
E3. Assumed Amount of Return	6,982,170	7,776,540	-	-	-	-
E4. Amount Subject to Phase-In: E1-E3	5,182,936	1,445,196	-	-	-	-
F. Phase-In Recognition of Investment Income						
F1. Current Year: 0.2 x E4	1,036,587	289,039	-	-	-	-
F2. First Prior Year	579,455	1,036,587	289,039	-	-	-
F3. Second Prior Year	(1,065,718)	579,455	1,036,587	289,039	-	-
F4. Third Prior Year	410,780	(1,065,718)	579,455	1,036,587	289,039	-
F5. Fourth Prior Year	704,354	410,778	(1,065,719)	579,454	1,036,588	289,040
F6. Total Phase-Ins	1,665,458	1,250,141	839,362	1,905,080	1,325,627	289,040
<b>G. Actuarial Value of Assets End of Year</b>						
G1. Preliminary Actuarial Value of Assets End of Year:	\$ 100,128,057	\$ 110,897,801	\$ -	\$ -	\$ -	\$ -
G2. Upper Corridor Limit: 120%*B	125,150,533	138,308,292	-	-	-	-
G3. Lower Corridor Limit: 80%*B	83,433,689	92,205,528	-	-	-	-
G4. Funding Value End of Year	100,128,057	110,897,801	-	-	-	-
G5. Less: State Contribution Reserve	(2,066,835)	(2,074,002)	-	-	-	-
G6. Less: DROP Account Balance	(15,417,512)	(17,196,200)	-	-	-	-
G7. Final Funding Value End of Year	82,643,710	91,627,599	-	-	-	-
G8. Final Market Value End of Year	86,807,764	95,986,708	-	-	-	-
H. Difference between Market & Actuarial Value of Assets	4,164,054	4,359,109	-	-	-	-
I. <b>Actuarial Rate of Return</b>	9.29%	8.71%	0.00%	0.00%	0.00%	0.00%
J. <b>Market Value Rate of Return</b>	12.98%	8.55%	0.00%	0.00%	0.00%	0.00%
K. <b>Ratio of Actuarial Value of Assets to Market Value</b>	96.01%	96.22%	0.00%	0.00%	0.00%	0.00%

<b>RECONCILIATION OF DROP ACCOUNTS</b>	
Value at beginning of year	\$ 15,417,512
Adjustment to beginning of year balance	+ 0
Payments credited to accounts	+ 1,223,584
Rollovers into DROP	+ 323,472
Net Loan Activity	- 67,297
Investment Earnings credited	+ 1,128,195
Withdrawals from accounts	- <u>829,266</u>
Value at end of year	17,196,200

## INVESTMENT RATE OF RETURN

Year Ended	Investment Rate of Return	
	Market Value	Actuarial Value
12/31/1982	NA %	11.9 %
12/31/1983	15.2	13.9
12/31/1984	11.7	11.1
12/31/1985	23.1	18.7
12/31/1986	11.8	13.4
12/31/1987	5.3	10.3
12/31/1988	10.9	9.8
12/31/1989	15.9	14.8
9/30/1990 (9 mos.)	(1.6)	1.4
9/30/1991	19.6	13.1
9/30/1992	12.7	11.2
9/30/1993	13.1	9.7
9/30/1994	0.2	3.1
9/30/1995	18.8	9.3
9/30/1996	13.1	9.8
9/30/1997	24.5	12.6
9/30/1998	11.4	12.4
9/30/1999	11.8	14.1
9/30/2000	9.4	13.3
9/30/2001	(7.7)	8.0
9/30/2002	(5.6)	2.3
9/30/2003	15.3	3.5
9/30/2004	6.4	2.2
9/30/2005	7.9	2.5
9/30/2006	5.2	5.3
9/30/2007	12.3	9.3
9/30/2008	(17.1)	3.0
9/30/2009	(0.2)	0.9
9/30/2010	8.5	2.5
9/30/2011	(0.9)	0.9
9/30/2012	17.1	2.7
9/30/2013	13.6	8.1
9/30/2014	10.2	8.8
9/30/2015	0.4	7.3
9/30/2016	11.1	9.2
9/30/2017	13.0	9.3
9/30/2018	8.6	8.7
<b>Average Returns:</b>		
<b>Last Five Years</b>	8.6 %	8.7 %
<b>Last Ten Years</b>	8.0 %	5.8 %
<b>All Years</b>	8.7 %	8.2 %

## SECTION D

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### FINANCIAL ACCOUNTING INFORMATION



**FASB NO. 35 INFORMATION**

	October 1, 2018	October 1, 2017
A. Valuation Date		
B. Actuarial Present Value of Accumulated Plan Benefits		
1. Vested Benefits		
a. Members Currently Receiving Payments	\$ 88,512,800	\$ 76,897,369
b. Terminated Vested Members	898,572	1,339,205
c. Other Members	34,703,701	38,748,680
d. Total	<u>124,115,073</u>	<u>116,985,254</u>
2. Non-Vested Benefits	1,928,195	2,141,443
3. Total Actuarial Present Value of Accumulated Plan Benefits: 1d + 2	126,043,268	119,126,697
4. Accumulated Contributions of Active Members	10,119,252	10,603,778
C. Changes in the Actuarial Present Value of Accumulated Plan Benefits		
1. Total Value at Beginning of Year	119,126,697	111,634,458
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	13,387,583	13,520,109
d. Benefits Paid net of DROP activity	<u>(6,471,012)</u>	<u>(6,027,870)</u>
e. Net Increase	6,916,571	7,492,239
3. Total Value at End of Period	126,043,268	119,126,697
D. Market Value of Assets	95,986,708	86,807,764
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,	<b>2019*</b>	<b>2018</b>	<b>2017</b>	<b>2016</b>	<b>2015</b>	<b>2014</b>
<b>Total pension liability</b>						
Service Cost	\$ 3,403,511	\$ 3,717,529	\$ 3,330,443	\$ 3,204,682	\$ 2,988,536	\$ 2,772,724
Interest	11,888,616	11,208,637	10,066,945	9,542,671	8,955,215	8,188,369
Benefit Changes	(1,384,791)	-	-	-	-	-
Difference between actual & expected experience	(1,516,079)	1,224,054	668,799	(498,197)	708,071	(28,363)
Assumption Changes	-	-	6,644,861	-	1,809,581	-
Benefit Payments	(7,133,796)	(5,970,713)	(5,456,760)	(5,176,836)	(4,304,149)	(4,292,070)
Refunds	(27,604)	(105,981)	(53,290)	-	(4,622)	(50,673)
Other (Increase in Excess State Reserve)	(298,833)	(326,167)	(231,973)	(192,041)	259,251	312,239
Other (Rollovers into DROP)	-	323,472	70,279	271,411	139,860	343,843
<b>Net Change in Total Pension Liability</b>	<b>4,931,024</b>	<b>10,070,831</b>	<b>15,039,304</b>	<b>7,151,690</b>	<b>10,551,743</b>	<b>7,246,069</b>
<b>Total Pension Liability - Beginning</b>	<b>158,841,491</b>	<b>148,770,660</b>	<b>133,731,356</b>	<b>126,579,666</b>	<b>116,027,923</b>	<b>108,781,854</b>
<b>Total Pension Liability - Ending (a)</b>	<b>\$ 163,772,515</b>	<b>\$ 158,841,491</b>	<b>\$ 148,770,660</b>	<b>\$ 133,731,356</b>	<b>\$ 126,579,666</b>	<b>\$ 116,027,923</b>
<b>Plan Fiduciary Net Position</b>						
Contributions - Employer (from City)	\$ 5,321,597	\$ 5,444,061	\$ 4,293,563	\$ 4,195,420	\$ 3,930,996	\$ 3,522,147
Contributions - Employer (from State)	789,121	789,121	883,314	923,246	963,573	1,016,561
Contributions - Non-Employer Contributing Entity	-	-	-	-	-	-
Contributions - Members	1,247,264	1,473,516	1,477,115	1,485,128	1,251,530	1,291,773
Net Investment Income	8,834,506	9,221,736	12,165,106	9,197,486	282,853	7,187,580
Benefit Payments	(7,133,796)	(5,970,713)	(5,456,760)	(5,176,836)	(4,304,149)	(4,292,070)
Refunds	(27,604)	(105,981)	(53,290)	-	(4,622)	(50,673)
Administrative Expense	(146,290)	(141,569)	(151,010)	(161,122)	(132,439)	(122,390)
Other (Rollovers into DROP)	-	323,472	70,279	271,411	139,860	343,843
<b>Net Change in Plan Fiduciary Net Position</b>	<b>8,884,798</b>	<b>11,033,643</b>	<b>13,228,317</b>	<b>10,734,733</b>	<b>2,127,602</b>	<b>8,896,771</b>
<b>Plan Fiduciary Net Position - Beginning</b>	<b>115,403,386</b>	<b>104,369,743</b>	<b>91,141,426</b>	<b>80,406,693</b>	<b>78,279,091</b>	<b>69,382,320</b>
<b>Plan Fiduciary Net Position - Ending (b)</b>	<b>\$ 124,288,184</b>	<b>\$ 115,403,386</b>	<b>\$ 104,369,743</b>	<b>\$ 91,141,426</b>	<b>\$ 80,406,693</b>	<b>\$ 78,279,091</b>
<b>Net Pension Liability - Ending (a) - (b)</b>	<b>39,484,331</b>	<b>43,438,105</b>	<b>44,400,917</b>	<b>42,589,930</b>	<b>46,172,973</b>	<b>37,748,832</b>
<b>Plan Fiduciary Net Position as a Percentage of Total Pension Liability</b>	<b>75.89 %</b>	<b>72.65 %</b>	<b>70.15 %</b>	<b>68.15 %</b>	<b>63.52 %</b>	<b>67.47 %</b>
<b>Covered Employee Payroll</b>	<b>\$ 10,393,865</b>	<b>\$ 11,133,758</b>	<b>\$ 11,219,225</b>	<b>\$ 10,906,700</b>	<b>\$ 9,962,067</b>	<b>\$ 9,925,925</b>
<b>Net Pension Liability as a Percentage of Covered Employee Payroll</b>	<b>379.88 %</b>	<b>390.15 %</b>	<b>395.76 %</b>	<b>390.49 %</b>	<b>463.49 %</b>	<b>380.31 %</b>

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

**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 Coverd Payroll
2014	\$ 116,027,923	\$ 78,279,091	\$ 37,748,832	67.47%	\$ 9,925,925	380.31%
2015	126,579,666	80,406,693	46,172,973	63.52%	9,962,067	463.49%
2016	133,731,356	91,141,426	42,589,930	68.15%	10,906,700	390.49%
2017	148,770,660	104,369,743	44,400,917	70.15%	11,219,225	395.76%
2018	158,841,491	115,403,386	43,438,105	72.65%	11,133,758	390.15%
2019*	163,772,515	124,288,184	39,484,331	75.89%	10,393,865	379.88%

\* 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, 2018  
Measurement Date: September 30, 2019

**Methods and Assumptions Used to Determine Net Pension Liability:**

Actuarial Cost Method	Entry Age Normal
Inflation	2.5%
Salary Increases	Varies by years of service from 3.5% to 14.5% (see Table in Actuarial Assumptions Section)
Investment Rate of Return	7.50%
Retirement Age	Rates vary by age and years of service (see Table in Actuarial Assumptions Section)
Mortality	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 currently in use for Special Risk Class members of the Florida Retirement System (FRS), as mandated by Chapter 112.63, Florida Statutes.

**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	\$ 4,226,469	\$ 4,226,469	\$ -	\$ 9,925,925	42.58%
2015	4,635,318	4,635,318	-	9,962,067	46.53%
2016	4,899,742	4,977,374	(77,632) **	10,906,700	45.64%
2017	5,075,517	5,075,517	-	11,219,225	45.24%
2018	6,157,171	6,226,015	(68,844) **	11,133,758	55.92%
2019*	6,409,551	6,110,718	298,833 ***	10,393,865	58.79%

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

\*\*Prepaid contributions (resulting from the previous years' excess contributions) will be applied toward the Actuarially Determined Contribution for Fiscal Year Ending September 30, 2020.

\*\*\*The Deficiency in actual contribution is funded through the use of Accumulated Excess Premium Tax Revenue Reserves (which total \$2,074,002 as of October 1, 2018).

## NOTES TO SCHEDULE OF CONTRIBUTIONS GASB Statement No. 67

**Valuation Date:** October 1, 2017  
**Notes** Actuarially determined contribution rates are calculated as of the October 1st, 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 Percentage of Payroll, Closed
Remaining Amortization Period	21 years (Single equivalent amortization period)
Asset Valuation Method	5-year smoothed market
Inflation	2.5%
Salary Increases	Varies by years of service from 3.5% to 14.5% (see Table in Actuarial Assumptions Section)
Investment Rate of Return	7.50%
Retirement Age	Rates vary by age and years of service (see Table in Actuarial Assumptions Section)
Mortality	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 currently in use for Special Risk Class members of the Florida Retirement System (FRS), as mandated by Chapter 112.63, Florida Statutes.

**Other Information:**

**Notes** See Discussion of Valuation Results on Page 1 of the October 1, 2017 Actuarial Valuation Report.

## SINGLE DISCOUNT RATE GASB Statement No. 67

A single discount rate of 7.50% 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 7.50%. 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 (7.50%) 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 7.50%, 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
6.50%	7.50%	8.50%
\$57,819,302	\$39,484,331	\$24,470,264

\* 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 10/1/17 To 10/1/18</b>	<b>From 10/1/16 To 10/1/17</b>
<b>A. Active Members</b>		
1. Number Included in Last Valuation	124	122
2. New Members Included in Current Valuation	1	10
3. Non-Vested Employment Terminations	(2)	(3)
4. Vested Employment Terminations	0	(1)
5. DROP Participation	(8)	(4)
6. Service Retirements	(2)	0
7. Disability Retirements	0	0
8. Deaths	0	0
9. Transfer from General Employees	0	0
10. Number Included in This Valuation	<u>113</u>	<u>124</u>
<b>B. Terminated Vested Members</b>		
1. Number Included in Last Valuation	3	3
2. Additions from Active Members	0	1
3. Lump Sum Payments/Refund of Contributions	0	0
4. Payments Commenced	(1)	(1)
5. Deaths	0	0
6. Other	0	0
7. Number Included in This Valuation	<u>2</u>	<u>3</u>
<b>C. DROP Plan Members</b>		
1. Number Included in Last Valuation	13	10
2. Additions from Active Members	8	4
3. Retirements	(5)	(1)
4. Deaths Resulting in No Further Payments	0	0
5. Other (Death Resulting in Survivor Benefits)	0	0
6. Number Included in This Valuation	<u>16</u>	<u>13</u>
<b>D. Service Retirees, Disability Retirees and Beneficiaries</b>		
1. Number Included in Last Valuation	96	94
2. Additions from Active Members	2	0
3. Additions from Terminated Vested Members	1	1
4. Additions from DROP Plan	5	1
5. Deaths Resulting in No Further Payments	(3)	0
6. Deaths Resulting in New Survivor Benefits	2	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>103</u>	<u>96</u>

## ACTIVE PARTICIPANT DISTRIBUTION

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+		
15-19 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
20-24 NO.	0	0	1	0	0	1	0	0	0	0	0	2
TOT PAY	0	0	67,739	0	0	92,379	0	0	0	0	0	160,118
AVG PAY	0	0	67,739	0	0	92,379	0	0	0	0	0	80,059
25-29 NO.	1	5	3	0	0	3	0	0	0	0	0	12
TOT PAY	44,131	263,606	193,891	0	0	249,913	0	0	0	0	0	751,541
AVG PAY	44,131	52,721	64,630	0	0	83,304	0	0	0	0	0	62,628
30-34 NO.	0	3	0	0	0	7	4	0	0	0	0	14
TOT PAY	0	159,079	0	0	0	550,491	355,673	0	0	0	0	1,065,243
AVG PAY	0	53,026	0	0	0	78,642	88,918	0	0	0	0	76,089
35-39 NO.	0	0	2	0	2	6	23	2	0	0	0	35
TOT PAY	0	0	130,778	0	151,635	523,503	2,054,185	218,965	0	0	0	3,079,066
AVG PAY	0	0	65,389	0	75,818	87,251	89,312	109,483	0	0	0	87,973
40-44 NO.	0	1	0	0	1	3	10	9	0	0	0	24
TOT PAY	0	52,422	0	0	78,103	246,148	974,415	944,038	0	0	0	2,295,126
AVG PAY	0	52,422	0	0	78,103	82,049	97,442	104,893	0	0	0	95,630
45-49 NO.	0	0	1	0	0	1	6	12	0	0	0	20
TOT PAY	0	0	114,538	0	0	86,223	552,633	1,311,884	0	0	0	2,065,278
AVG PAY	0	0	114,538	0	0	86,223	92,106	109,324	0	0	0	103,264
50-54 NO.	0	0	0	0	0	0	1	4	0	0	0	5
TOT PAY	0	0	0	0	0	0	77,901	436,929	0	0	0	514,830
AVG PAY	0	0	0	0	0	0	77,901	109,232	0	0	0	102,966
55-59 NO.	0	0	1	0	0	0	0	0	0	0	0	1
TOT PAY	0	0	141,011	0	0	0	0	0	0	0	0	141,011
AVG PAY	0	0	141,011	0	0	0	0	0	0	0	0	141,011
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
65-99 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
<b>TOT NO.</b>	<b>1</b>	<b>9</b>	<b>8</b>	<b>0</b>	<b>3</b>	<b>21</b>	<b>44</b>	<b>27</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>113</b>
<b>TOT AMT</b>	<b>44,131</b>	<b>475,107</b>	<b>647,957</b>	<b>0</b>	<b>229,738</b>	<b>1,748,657</b>	<b>4,014,807</b>	<b>2,911,816</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>10,072,213</b>
<b>AVG AMT</b>	<b>44,131</b>	<b>52,790</b>	<b>80,995</b>	<b>0</b>	<b>76,579</b>	<b>83,269</b>	<b>91,246</b>	<b>107,845</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>89,135</b>

## INACTIVE PARTICIPANT DISTRIBUTION

Age	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	1	22,894	-	-	-	-	-	-
40-44	-	-	1	68,693	1	76,005	-	-
45-49	1	51,600	-	-	11	883,726	-	-
50-54	-	-	1	44,340	20	1,529,504	-	-
55-59	-	-	-	-	17	1,309,624	2	87,659
60-64	-	-	-	-	21	856,579	1	34,603
65-69	-	-	-	-	26	1,495,448	1	41,929
70-74	-	-	-	-	5	220,399	-	-
75-79	-	-	-	-	4	174,234	3	67,809
80-84	-	-	-	-	-	-	2	21,468
85-89	-	-	-	-	-	-	-	-
90-94	-	-	-	-	1	17,708	2	69,715
95-99	-	-	-	-	-	-	-	-
100 & Over	-	-	-	-	-	-	-	-
<b>Total</b>	<b>2</b>	<b>74,494</b>	<b>2</b>	<b>113,033</b>	<b>106</b>	<b>6,563,227</b>	<b>11</b>	<b>323,183</b>
Average Age		44		49		60		75
Liability		898,572		1,696,135		83,977,867		2,838,798

## **SECTION F**

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### **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 IV, and was most recently amended under Ordinance No. 19-009 passed and adopted on its second reading on February 5, 2019. The Plan is also governed by certain provisions of Chapter 175, Florida Statutes, Part VII, Chapter 112, Florida Statutes and the Internal Revenue Code.

## B. Effective Date

Date was not provided.

## 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 firefighters are eligible to participate. Members hired before February 5, 2019 are classified as "Tier 1 members" and members hired on or after February 5, 2019 are classified as "Tier 2 members."

## F. Credited Service

Service is measured as the total length of employment for which the firefighter received Compensation from the City and 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

Cash compensation exclusive of bonuses and incentive pay, but including overtime earnings not to exceed 300 hours and lump sum payment of accumulated unused sick and vacation hours, but not to exceed the number of accumulated sick and vacation hours as of September 27, 2013.

## H. Final Average Compensation (FAC)

The average of Compensation over the highest 3 years during the last 10 years of Credited Service.

## I. Normal Retirement

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

Tier 1:

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

Tier 2:

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

Benefit: 3.00% of FAC multiplied by years of Credited Service.

Effective October 1, 2018, for all Firefighters who are not eligible for Normal Retirement as of October 1, 2018 the normal retirement benefit shall be limited to a maximum benefit cap, initially set at \$95,000 per year. This maximum benefit cap will be increased annually beginning on October 1, 2023 (and on each October 1<sup>st</sup> thereafter) by 1.5%. In accordance with Chapter 175 minimum benefit provisions, in no event will a Firefighter's retirement benefit be less than 2.75% of FAC multiplied by years of Credited Service.

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

COLA: Each retiree, beneficiary and disability retiree who retires or enters the DROP on or after December 1, 2006 will receive a 2.0% increase in benefits on October 1<sup>st</sup> of each year beginning 5 years after retirement.

**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.

Effective October 1, 2018, for all Firefighters who are not eligible for Normal Retirement as of October 1, 2018 the early retirement benefit shall be limited to a maximum benefit cap, initially set at \$95,000 per year, applied to the normal retirement benefit before reflecting any reductions for early retirement.

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

COLA: Each retiree, beneficiary and disability retiree who retires or enters the DROP on or after December 1, 2006 will receive a 2.0% increase in benefits on October 1<sup>st</sup> of each year beginning 5 years after retirement.

**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 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 Compensation in effect on the date of disability, reduced by amounts payable under Social Security PIA with a minimum benefit equal to 42% of FAC.

Effective October 1, 2018, for all Firefighters who are not eligible for Normal Retirement as of October 1, 2018 the disability benefit shall be limited to a maximum benefit cap, initially set at \$95,000 per year.

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

**COLA:** Each disability retiree who retires on or after December 1, 2006 will receive a 2.0% increase in benefits on October 1<sup>st</sup> of each year beginning 5 years after retirement.

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

**Eligibility:** Any member with 10 years of Credited Service who becomes totally and permanently disabled is immediately eligible for a disability benefit.

**Benefit:** 2.5% of FAC multiplied by years of Credited Service with a minimum benefit equal to 25% of FAC.

Effective October 1, 2018, for all Firefighters who are not eligible for Normal Retirement as of October 1, 2018 the disability benefit shall be limited to a maximum benefit cap, initially set at \$95,000 per year.

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

**COLA:** Each disability retiree who retires on or after December 1, 2006 will receive a 2.0% increase in benefits on October 1<sup>st</sup> of each year beginning 5 years after retirement.

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

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

**Benefit:** Spouse will receive 2.5% of the member's FAC multiplied by years of Credited Service.

Effective October 1, 2018, for all Firefighters who are not eligible for Normal Retirement as of October 1, 2018 the death benefit shall be limited to a maximum benefit cap, initially set at \$95,000 per year.

Normal Form  
of Benefit: Paid until death or remarriage of spouse.

COLA: Each surviving spouse whose benefits began on or after December 1, 2006 will receive a 2.0% increase in benefits on October 1<sup>st</sup> of each year beginning 5 years after benefits began.

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.

#### **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 2.5% of the member's FAC multiplied by years of Credited Service.

Effective October 1, 2018, for all Firefighters who are not eligible for Normal Retirement as of October 1, 2018 the death benefit shall be limited to a maximum benefit cap, initially set at \$95,000 per year.

Normal Form  
of Benefit: Paid until death or remarriage of spouse.

COLA: Each surviving spouse whose benefits began on or after December 1, 2006 will receive a 2.0% increase in benefits on October 1<sup>st</sup> of each year beginning 5 years after benefits began.

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 or the 50%, 66 2/3%, 75% and 100% Joint and Survivor options. A Social Security option is also available for members retiring prior to the time they are eligible for Social Security retirement benefits.

#### **R. Vested Termination**

Eligibility: A member has earned a non-forfeitable right to Plan benefits after the completion of 10 years of Credited Service.



**Benefit:** The benefit is the member's accrued Normal Retirement Benefit as of the date of termination. For Tier 1 members, benefit begins on the date that would have been the member's Normal Retirement date had they continued employment. For Tier 2 members, benefit begins at age 55. Alternatively, members can elect a reduced Early Retirement benefit any time after age 50.

Effective October 1, 2018, for all Firefighters who are not eligible for Normal Retirement as of October 1, 2018 the deferred vested retirement benefit shall be limited to a maximum benefit cap, initially set at \$95,000 per year, applied to the normal retirement benefit before reflecting any reductions for early retirement.

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

**COLA:** Each member who retires on or after December 1, 2006 will receive a 2.0% increase in benefits on October 1<sup>st</sup> of each year beginning 5 years after retirement.

Members terminating employment with less than 10 years of Credited Service will receive a refund of their own accumulated contributions.

#### **S. Refunds**

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

**Benefit:** Refund of the member's contributions.

#### **T. Member Contributions**

12% of compensation

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

Chapter 175 Premium Tax Refunds and any additional amount determined by the actuary needed to fund the plan properly according to State laws.

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

Each retiree, beneficiary and disability retiree who retires or enters the DROP on or after December 1, 2006 will receive a 2.0% increase in benefits on October 1<sup>st</sup> of each year beginning 5 years after retirement.

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

In years in which a cumulative net actuarial gain has been determined, there shall be payable an ad-hoc thirteenth check paid in December.

## X. 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 with 10 years of Credited Service, or
- (2) 20 years of Credited Service (25 years for Tier 2 members) 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:** The member's DROP account is credited at an interest rate based upon the option chosen by the member. Members must elect from 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. The rate earned by a self-directed account utilizing mutual funds selected by the Board.

**Normal Form**

**of Benefit:** Options include a lump sum or equal periodic payments.

**COLA:** Each member who enters the DROP on or after December 1, 2006 will receive a 2.0% increase in benefits on October 1<sup>st</sup> of each year beginning 5 years after retirement.

## Y. Other Ancillary Benefits

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

## Z. Changes from Previous Valuation

There have been the following revisions in benefits since the previous valuation:

- For all Firefighters who are not eligible for Normal Retirement as of October 1, 2018 the normal retirement benefit shall be limited to a "maximum benefit cap", initially set at \$95,000 per year. This maximum benefit cap will be increased annually beginning on October 1, 2023 (and on each October 1st thereafter) by 1.5%. In accordance with Chapter 175 minimum benefit provisions, in no event will a Firefighter's retirement benefit be less than 2.75% of FAC multiplied by years of Credited Service. The maximum benefit cap shall also apply to early retirement, deferred vested retirement and disability retirement benefits. For early retirement and deferred vested retirement, the maximum benefit cap shall

be applied to the normal retirement benefit before reflecting any reductions for early retirement.

- All new members hired on or after February 5, 2019 are classified as “Tier 2 members”. All members hired before February 5, 2019 are classified as “Tier 1 members”. Tier 2 benefit provisions that differ from Tier 1 benefit provisions include the following:
  - The normal retirement date will be the earlier of completion of 25 years of Credited Service regardless of age, or attainment of age 55 with 10 years of Credited Service.
  - Vested members terminating service with less than 25 years of Credited Service will be eligible for a deferred Normal Retirement benefit that begins at age 55.

The approximate impact of the above revisions in benefits was measured in the Actuarial Impact Statement dated February 8, 2019.