

City of Lakeland Employees' Pension and Retirement System

Actuarial Valuation Report as of October 1, 2019

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





March 20, 2020

Board of Trustees
City of Lakeland
Employees' Pension and Retirement System
Lakeland, Florida

**Re: City of Lakeland Employees' Pension and Retirement System
Actuarial Valuation as of October 1, 2019**

Dear Board Members:

The results of the October 1, 2019 Annual Actuarial Valuation of the City of Lakeland Employees' Pension and Retirement System 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, 2021, and to determine the actuarial information for GASB Statement No. 67 for the fiscal year ending September 30, 2019. This report should not be relied on for any purpose other than the purposes described herein. Determinations of financial results, associated with the benefits described in this report, for purposes other than those identified above may be significantly different.

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

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

The findings in this report are based on data or other information through September 30, 2019. The valuation was based upon information furnished by the Plan Administrator concerning Retirement System benefits, financial transactions, plan provisions and active members, terminated members, retirees and beneficiaries. We checked for internal and year-to-year consistency, but did not audit the data. We are not responsible for the accuracy or completeness of the information provided by the Plan Administrator.

This report was prepared using certain assumptions approved by the Board as authorized under Florida Statutes and prescribed by the Florida Statutes as described in the section of this report entitled Actuarial Assumptions and Methods. The investment return assumption was prescribed by the Board and the assumed mortality rates detailed in the Actuarial Assumptions and Methods section were prescribed by the Florida Statutes in accordance with Chapter 112.63, Florida Statutes. 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 Retirement System as of the valuation date. All calculations have been made in conformity with generally accepted actuarial principles and practices, with the Actuarial Standards of Practice issued by the Actuarial Standards Board and with applicable statutes.

Jeffrey Amrose and Trisha Amrose are members of the American Academy of Actuaries. These actuaries meet the Academy's Qualification Standards to render the actuarial opinions contained herein.

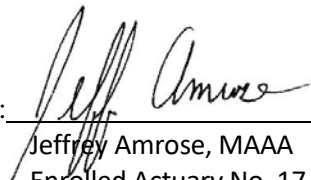
The signing actuaries are independent of the plan sponsor.

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


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

Respectfully submitted,

GABRIEL, ROEDER, SMITH AND COMPANY

By: 

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SECTION A

DISCUSSION OF VALUATION RESULTS

DISCUSSION OF VALUATION RESULTS

Comparison of Required Contributions

The required contributions this year compared with the preceding year are as follows.

	For FYE 9/30/2021 Based on 10/1/2019 Valuation	For FYE 9/30/2020 Based on 10/1/2018 Valuation	Increase (Decrease)
<u>Before Cost Sharing</u>			
Actuarially Determined Employer Contribution	\$ 18,100,623	\$ 17,448,013	\$ 652,610
As % of Covered Payroll	19.41 %	19.31 %	0.10 %
<u>After Cost Sharing</u>			
Employer Contribution Rate	19.33 %	19.26 %	0.07 %
Employee Contribution Rate			
Plan A / B	11.08 %	11.05 %	0.03 %
Plan C	6.33 %	6.30 %	0.03 %
<u>After Credit Balances Applied</u>			
Employer Contribution Rate from above	19.33 %	19.26 %	0.07 %
Use of Credit Balances	<u>(7.73)</u>	<u>(7.94)</u>	<u>0.21</u>
Net Employer Contribution Rate	11.60	11.32	0.28
Employee Contribution Rate from above	11.08/6.33 %	N/A *	N/A
Use of Credit Balances	<u>(0.52)</u> %	N/A *	N/A
Plan A / B **	10.56 %	N/A *	N/A
Plan C **	5.81 %	N/A *	N/A

* The Employee Contribution Rates for FYE 2020 reflecting the Credit Balance will be adjusted by the City.

** The adjusted Employee Contribution Rates for union employees are subject to collective bargaining.

The contribution developed in this valuation has been calculated as though payments are made at the end of each month. For the fiscal year ending September 30, 2021, the amount contributed by the City plus \$1,546,989 and \$5,666,095 for the application of the Credit Balances must equal at least 19.33% of covered payroll. For the fiscal year ending September 30, 2020, the amount contributed by the City plus \$1,546,989 and \$5,630,314 for the application of the Credit Balances must equal at least 19.26% of covered payroll.



The actual employer contribution received during the year ending September 30, 2019 was \$17,330,768, or 19.81% of covered payroll based on covered payroll of \$87,469,893. The actual employer contribution includes \$15,783,779 from this year's City contribution plus \$1,546,989 for the application of the Credit Balance for the year (please see further details below). The actuarially determined minimum required contribution was 19.68% of covered payroll.

Pursuant to Resolution No. 5242, adopted on October 19, 2015, \$15,000,000 was transferred from the Public Improvement Endowment Fund to the Plan on November 10, 2015, and a credit balance reserve in the amount of \$15,000,000 was established. The Resolution details that this credit balance reserve is amortized over a period of sixteen years using a level dollar payment method and the current investment return assumption of 7.25%. The resulting amortization amount of \$1,546,989 is used as a credit against the annual employer required contribution after the cost sharing calculations are applied starting with the fiscal year ending September 30, 2016.

This Report reflects the proceeds from a Pension Obligation Bond in the amount of \$57,457,050 deposited into fund assets in March 2020. As approved by the Board, a credit balance reserve using the Pension Obligation Bond proceeds was established in the amount of \$57,457,050. The annual offset to the required contribution is based on the credit schedule dated January 22, 2020 as approved by the Board. The amortization amount is used as a credit against the annual required contribution after the cost sharing calculations are applied starting with the fiscal year ending September 30, 2020. A portion of the credit is allocated to offset employee contributions. The employee portion of the credit equals 41.67% of the predetermined savings due to the issuance of the Pension Obligation Bond, where the savings is equal to the annual credit generated from the Pension Obligation Bond less the actual debt servicing amount. The City will receive the remaining amount of the credit.

Revisions in Benefits

There were no revisions in benefits since the previous valuation.

Revisions in Actuarial Assumptions or Methods

There were no revisions in actuarial assumptions or methods since the previous valuation.

Actuarial Experience

There was a net actuarial loss of \$6,788,275 (not including the gain or loss from the variable interest rate option for DROP members detailed below) since the last valuation which means that actual experience was less favorable than expected. The loss is primarily due to recognized investment return below the assumed rate of 7.25%. The investment return was 3.7% based on the market value of assets (as determined by the Investment Consultant) and 6.4% based on the actuarial value of assets. The net loss caused the required contribution to increase by 0.65% of covered payroll.

Actuarial Gains or Losses from Variable Interest Rate Option for DROP Members

According to Ordinance No. 5434, any actuarial gains or losses incurred by the Plan as a result of the variable interest rate compared to the actual return for DROP members shall not be applied in the cost sharing analysis to affect the employee contribution rates.



For the plan year ending September 30, 2019 the affected DROP members earned \$579,890 in interest. If the actual Plan investment return of 3.7% (as determined by the Investment Consultant) was applied for that period, the interest earned would be \$715,198, resulting in a gain of \$135,308. On a cumulative basis, the variable interest rate option for DROP members has resulted in a decrease in the required contribution rate determined in this valuation of 0.39% of covered payroll.

Funded Ratio

The funded ratio, one measure of the Plan’s financial health, is equal to the actuarial value of assets divided by the actuarial accrued (past service) liability. The funded ratio is 83.4% this year compared to 83.2% last year.

Analysis of Change in Employer Contribution

The components of change in the required contribution reflecting cost sharing, but before applying the Credit Balances, are as follows:

Contribution Rate Last Year	19.26 %
Change in Cost Sharing	(0.03)
Change in Normal Cost Rate	(0.01)
Amortization Payment on UAAL	(0.52)
Actuarial Experience	0.65
Actuarial Experience from DROP	
Variable Interest Rate Option	<u>(0.02)</u>
Contribution Rate This Year	19.33 %

Variability of Future Contribution Rates

The Actuarial Cost Method used to determine the contribution rate is intended to produce contribution rates which are generally level as a percent of payroll. Even so, when experience differs from the assumptions, as it often does, the employer’s contribution rate can vary significantly from year-to-year. Over time, if the year-to-year gains and losses offset each other, the contribution rate would be expected to return to the current level, but this does not always happen.

The Actuarial Value of Assets exceeds the Market Value of Assets by \$20,284,542 as of the valuation date (see Section C). This difference will be gradually recognized and, in the absence of offsetting gains, the computed contribution rate will gradually increase by approximately 2.0% of covered payroll (prior to cost sharing).

Another potential area of variability has to do with the annual payment on the unfunded accrued liability (UAL). This payment is computed as a level percent of covered payroll under the assumption that covered payroll will rise by 2.5% per year or, if less, the average payroll growth over the most recent ten years. The most recent ten-year average is 0.80% compared to 0.66% last year. If the ten-year average falls below this rate next year, the amortization payments will increase. For example, if the payroll growth assumption was lowered to 0%, the UAL payment would have increased from \$12,707,208 to \$13,233,701. If the 2.50% payroll growth assumption was used this year, the amortization payment would have been \$11,637,403.



Relationship to Market Value

If Market Value had been the basis for the valuation, the contribution rate would have been 21.37% (before cost sharing) and the funded ratio would have been 80.5%. In the absence of other gains and losses, the contribution rate before allowing for the cost sharing mechanism should increase to that level over the next several years.

Conclusion

The remainder of this Report includes detailed actuarial valuation results, information relating to the pension fund, financial accounting information, miscellaneous employee data and a summary of plan provisions.

RISKS ASSOCIATED WITH MEASURING THE ACCRUED LIABILITY AND ACTUARIALLY DETERMINED CONTRIBUTION

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

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

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

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

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

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

PLAN MATURITY MEASURES

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

	<u>2019</u>	<u>2018</u>
Ratio of the market value of assets to payroll	6.21	6.50
Ratio of actuarial accrued liability to payroll	7.71	7.76
Ratio of actives to retirees and beneficiaries	1.0	1.1
Ratio of net cash flow to market value of assets	5.35 %	-3.11 %

RATIO OF MARKET VALUE OF ASSETS TO PAYROLL

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

RATIO OF ACTUARIAL ACCRUED LIABILITY TO PAYROLL

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

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

RATIO OF ACTIVES TO RETIREES AND BENEFICIARIES

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

RATIO OF NET CASH FLOW TO MARKET VALUE OF ASSETS

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



ADDITIONAL RISK ASSESSMENT

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

SECTION B

VALUATION RESULTS

PARTICIPANT DATA		
	October 1, 2019	October 1, 2018
ACTIVE MEMBERS		
Number	1,434	1,417
Covered Annual Payroll	\$ 90,979,621	\$ 88,153,554
Average Annual Payroll	\$ 63,445	\$ 62,211
Average Age	43.6	43.6
Average Past Service	9.6	9.8
Average Age at Hire	34.0	33.8
ACTIVE CROSS-CREDIT MEMBERS		
Number	13	16
Covered Annual Payroll	\$ 1,050,963	\$ 1,309,193
Average Annual Payroll	\$ 80,843	\$ 81,825
Average Age	42.3	42.6
Average Past Service	4.9	5.0
RETIREES & BENEFICIARIES		
Number	1,183	1,151
Annual Benefits	\$ 35,591,084	\$ 34,058,467
Average Annual Benefit	\$ 30,085	\$ 29,590
Average Age	69.3	69.0
DROP MEMBERS		
Number	193	193
Annual Benefits	\$ 9,498,667	\$ 9,256,983
Average Annual Benefit	\$ 49,216	\$ 47,964
Average Age	59.6	59.5
TERMINATED VESTED MEMBERS		
Number	110	94
Annual Benefits	\$ 1,729,365	\$ 1,433,645
Average Annual Benefit	\$ 15,722	\$ 15,252
Average Age	46.1	45.5

ACTUARIALLY DETERMINED CONTRIBUTION (ADC)		
	October 1, 2019	October 1, 2018
A. Valuation Date	October 1, 2019	October 1, 2018
B. ADC to Be Paid During Fiscal Year Ending	9/30/2021	9/30/2020
C. Assumed Date of Employer Contributions	Monthly	Monthly
D. Annual Payment to Amortize Unfunded Actuarial Liability	\$ 12,707,208	\$ 12,220,023
E. Employer Normal Cost	4,307,535	4,183,000
F. ADC if Paid on the Valuation Date: D + E	17,014,743	16,403,023
G. ADC Adjusted for Frequency of Payments	17,661,473	17,026,502
H. ADC as % of Covered Payroll	19.41 %	19.31 %
I. Assumed Rate of Increase in Covered Payroll to Contribution Year	2.50 %	2.50 %
J. Covered Payroll for Contribution Year	93,254,112	90,357,393
K. ADC for Contribution Year Before Cost Sharing: H x J	18,100,623	17,448,013
L. ADC Before Cost Sharing as % of Covered Payroll in Contribution Year: K ÷ J	19.41 %	19.31 %
M. ADC for Contribution Year After Cost Sharing*	18,026,019	17,402,834
N. ADC After Cost Sharing as % of Covered Payroll in Contribution Year*	19.33 %	19.26 %
O. ADC for Contribution Year After Credit Balance Use*	10,812,935	10,225,531
P. ADC After Credit Balance Use as % of Covered Payroll in Contribution Year*	11.60 %	11.32 %

* See next three pages for details.

**REQUIRED CONTRIBUTIONS FOR FISCAL YEAR ENDING SEPTEMBER 30, 2021
AFTER REFLECTING COST SHARING FEATURE AND CREDIT BALANCES**

I. Cost Sharing Feature

a. Base Employer Contribution	19.60%		
b. Required Employer Contribution	19.41%		
c. (Gain)/Loss Due to DROP Variable Interest Rate Option	-0.39%		
d. Required Employer Contribution for Cost Sharing: b. - c.	19.80%		
e. Change in Required Contribution: d. - a.	0.20%		
	Base	Sharing	After Cost
	Contribution	Amount	Sharing
f. Employer Contribution Rate	19.60%	0.12%	19.72%
g. Plan A / B Employee Contribution Rate	11.00%	0.08%	11.08%
h. Plan C Employee Contribution Rate	6.25%	0.08%	6.33%

II. Determination of Employer Contribution After Cost Sharing

a. Before Cost Sharing	% of Payroll	\$ Amount	Payroll
Employer Contribution	19.41%	18,100,623	93,254,112
Employee Contribution			
Plan A / B	11.00%	4,748,071	43,164,286
Plan C	6.25%	<u>3,130,614</u>	<u>50,089,826</u>
		25,979,308	93,254,112
b. After Cost Sharing			
Employer Contribution	19.33%	18,026,019	93,254,112
Employee Contribution			
Plan A / B	11.08%	4,782,603	43,164,286
Plan C	6.33%	<u>3,170,686</u>	<u>50,089,826</u>
		25,979,308	93,254,112

III. Preliminary Contribution Rates After Cost Sharing

a. Employer Contribution as a % of Total Covered Payroll	19.33%
b. Plan A / B Employee Contribution Rate	11.08%
c. Plan C Employee Contribution Rate	6.33%

IV. Credit Balances to Reduce Contribution Rates

a. Employer Portion	7.73%	7,213,084	93,254,112
b. Employee Portion	0.52%	484,242	93,254,112

V. Final Contribution Rates After Reflecting Credit Balances (III. - IV.)

a. Employer Contribution as a % of Total Covered Payroll	11.60%
b. Plan A / B Employee Contribution Rate *	10.56%
c. Plan C Employee Contribution Rate *	5.81%

* The adjusted Employee Contribution Rates for union employees are subject to collective bargaining.



**Reconciliation of Credit Balance
Pursuant to Resolution No. 5242**

Credit Balance at 11/10/2015	\$ 15,000,000
Amount to be used in FYE 9/30/2016	- 1,546,989
Interest on Credit Balance	<u>+ 911,009</u>
Credit Balance at 9/30/2016	14,364,020
Amount to be used in FYE 9/30/2017	- 1,546,989
Interest on Credit Balance	<u>+ 986,294</u>
Credit Balance at 9/30/2017	13,803,325
Amount to be used in FYE 9/30/2018	- 1,546,989
Interest on Credit Balance	<u>+ 945,644</u>
Credit Balance at 9/30/2018	13,201,980
Amount to be used in FYE 9/30/2019	- 1,546,989
Interest on Credit Balance	<u>+ 902,046</u>
Credit Balance at 9/30/2019	12,557,037
Amount to be used in FYE 9/30/2020	- 1,546,989
Interest on Credit Balance	<u>+ 855,288</u>
Credit Balance at 9/30/2020	11,865,336
Amount to be used in FYE 9/30/2021	- 1,546,989
Interest on Credit Balance	<u>+ 805,140</u>
Credit Balance at 9/30/2021	11,123,487

**Reconciliation of Credit Balance
from Proceeds of Pension Obligation Bond**

Credit Balance in March 2020	\$ 57,457,050
Amount to be used in FYE 9/30/2020	
Employer portion (to reduce City Rate)	5,630,314
Employee portion (to reduce Employee Rate)*	<u>479,698</u>
Total	- 6,110,012
Interest on Credit Balance	<u>+ 1,828,764</u>
Credit Balance at 9/30/2020	53,175,802
Amount to be used in FYE 9/30/2021	
Employer portion (to reduce City Rate)	5,666,095
Employee portion (to reduce Employee Rate)*	<u>484,242</u>
Total	- 6,150,337
Interest on Credit Balance	<u>+ 3,636,197</u>
Credit Balance at 9/30/2021	50,661,662

* 41.67% (1.0/2.4) of the predetermined savings due to the issuance of the Pension Obligation Bond, where the savings is equal to the annual credit generated from the Pension Obligation Bond less the actual debt servicing amount.

ACTUARIAL VALUE OF BENEFITS AND ASSETS

A. Valuation Date	October 1, 2019	October 1, 2018
B. Actuarial Present Value of All Projected Benefits for		
1. Active Members		
a. Service Retirement Benefits	\$ 282,312,622	\$ 283,616,322
b. Vesting Benefits	11,836,031	11,434,343
c. Disability Benefits	-	-
d. Preretirement Death Benefits	4,964,443	4,930,711
e. Return of Member Contributions	1,336,523	1,404,543
f. Total	<u>300,449,619</u>	<u>301,385,919</u>
2. Inactive Members		
a. Service Retirees & Beneficiaries	477,142,079	459,650,113
b. Disability Retirees	-	-
c. Terminated Vested Members	8,748,066	7,208,887
d. Total	<u>485,890,145</u>	<u>466,859,000</u>
3. Total for All Members	786,339,764	768,244,919
C. Actuarial Accrued (Past Service) Liability (Entry Age Normal)	701,108,842	684,507,921
D. Actuarial Value of Accumulated Plan Benefits per FASB No. 35	660,716,901	645,140,060
E. Plan Assets		
1. Market Value	564,657,913	572,612,193
2. Actuarial Value	584,942,455	569,593,822
F. Unfunded Actuarial Accrued Liability	116,166,387	114,914,099
G. Funded Ratio: E2 ÷ C	83.4%	83.2%
H. Actuarial Present Value of Projected Covered Payroll	724,826,344	699,936,435
I. Actuarial Present Value of Projected Member Contributions	59,381,442	58,913,392
J. Accumulated Member Contribution Balances for Active Members	58,597,680	58,093,748



CALCULATION OF EMPLOYER NORMAL COST		
A. Valuation Date	October 1, 2019	October 1, 2018
B. Normal Cost for		
1. Service Retirement Benefits	\$ 10,002,207	\$ 9,844,307
2. Vesting Benefits	843,116	828,424
3. Disability Benefits	-	-
4. Preretirement Death Benefits	191,934	188,347
5. Return of Member Contributions	<u>719,072</u>	<u>727,743</u>
6. Total for Future Benefits	11,756,329	11,588,821
7. Assumed Amount for Administrative Expenses	<u>237,729</u>	<u>232,082</u>
8. Total Normal Cost	11,994,058	11,820,903
C. Expected Member Contribution	7,686,523	7,637,903
D. Employer Normal Cost: B8-C	4,307,535	4,183,000
E. Employer Normal Cost as % of Covered Payroll	4.73 %	4.75 %

UNFUNDED ACTUARIAL ACCRUED LIABILITY

A. UAAL Amortization Period and Payments						
Original UAAL				Current UAAL		
Year Established	Source	Amortization Period (Years)**	Amount	Years Remaining**	Amount	Payment
10/1/2003	Initial UAAL	30	\$ 31,242,440	14	\$ 19,559,630	\$ 2,026,897
10/1/2005	Amendment	30	1,034,749	16	828,978	79,221
10/1/2006	Assumption Changes	30	17,560,651	17	12,136,483	1,120,140
10/1/2007	Amendment	30	(158,872)	17	(132,958)	(12,271)
10/1/2009	Method Change	20	59,737,604	10	38,749,212	5,042,069
10/1/2009	Amendment	30	219,402	17	213,697	19,723
10/1/2010	(Gain)/Loss	20	(6,389,984)	11	(4,321,899)	(525,587)
10/1/2010	Amendment	30	(62,751)	17	(60,625)	(5,595)
10/1/2011	(Gain)/Loss	20	26,305,265	12	18,404,234	2,108,530
10/1/2011	Amendment	30	(2,818,497)	17	(2,698,161)	(249,028)
10/1/2012	(Gain)/Loss	20	(5,107,779)	13	(3,648,811)	(396,457)
10/1/2013	(Gain)/Loss	20	5,643,846	14	4,910,742	508,883
10/1/2014	(Gain)/Loss -- DROP*	20	7,621	15	6,849	680
10/1/2014	(Gain)/Loss	20	2,742,619	15	2,464,782	244,772
10/1/2015	(Gain)/Loss	20	9,518,262	16	8,817,749	842,667
10/1/2015	(Gain)/Loss -- DROP*	20	140,181	16	129,863	12,410
10/1/2015	Amendment	20	(1,234,175)	17	(1,169,697)	(107,958)
10/1/2016	(Gain)/Loss	20	12,399,039	17	11,745,869	1,084,089
10/1/2016	(Gain)/Loss -- DROP*	20	(537,826)	17	(509,494)	(47,024)
10/1/2016	Assumption Changes	20	7,722,319	17	7,315,515	675,188
10/1/2017	(Gain)/Loss	20	3,618,621	18	3,463,805	309,733
10/1/2017	(Gain)/Loss -- DROP*	20	(2,218,969)	18	(2,124,035)	(189,931)
10/1/2018	(Gain)/Loss	20	(3,381,535)	19	(3,301,816)	(286,849)
10/1/2018	(Gain)/Loss -- DROP*	20	(1,297,070)	19	(1,266,492)	(110,028)
10/1/2019	(Gain)/Loss	20	6,788,275	20	6,788,275	574,383
10/1/2019	(Gain)/Loss -- DROP*	20	(135,308)	20	(135,308)	(11,449)
					116,166,387	12,707,208

* Actuarial gains or losses resulting from the variable interest rate option for DROP members shall not be applied in the cost sharing analysis to affect the employee contribution rates.

** As of October 1, 2016, the amortization period for any bases with more than 20 years remaining was lowered to 20 years.



B. Amortization Period

The Unfunded Actuarial Accrued Liability is currently being amortized as a level percent of pay over the remaining amortization period. The expected amortization schedule is as follows:

Amortization Schedule	
Year	Expected UAAL
2019	\$ 116,166,387
2020	110,959,966
2021	105,267,055
2022	99,051,508
2023	92,274,555
2024	84,894,606
2029	37,270,076
2034	8,028,444
2039	-

ACTUARIAL GAINS AND LOSSES

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

1. Last Year's UAAL	\$ 114,914,099
2. Last Year's Employer Normal Cost (after reflecting cost-sharing)	3,941,312
3. Last Year's Contributions (Including Credit Balance Application)	17,330,768
4. Interest at the Assumed Rate on:	
a. 1 and 2 for one year	8,617,017
b. 3 from dates paid	<u>628,240</u>
c. a - b	7,988,777
5. This Year's Expected UAAL Prior to Revision: 1 + 2 - 3 + 4c	109,513,420
6. Change in UAAL Due to Assumption/Plan Changes	0
7. This Year's Expected UAAL (after changes): 5 + 6	109,513,420
8. This Year's Actual UAAL (after changes)	116,166,387
9. Total Actuarial Gain/(Loss): 7 - 8	(6,652,967)
10. Gain/(Loss) from DROP Variable Interest Rate Option	135,308
11. Gain/(Loss) Due to Investment	(5,071,136)
12. Gain/(Loss) Due to Other Sources	(1,717,139)

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

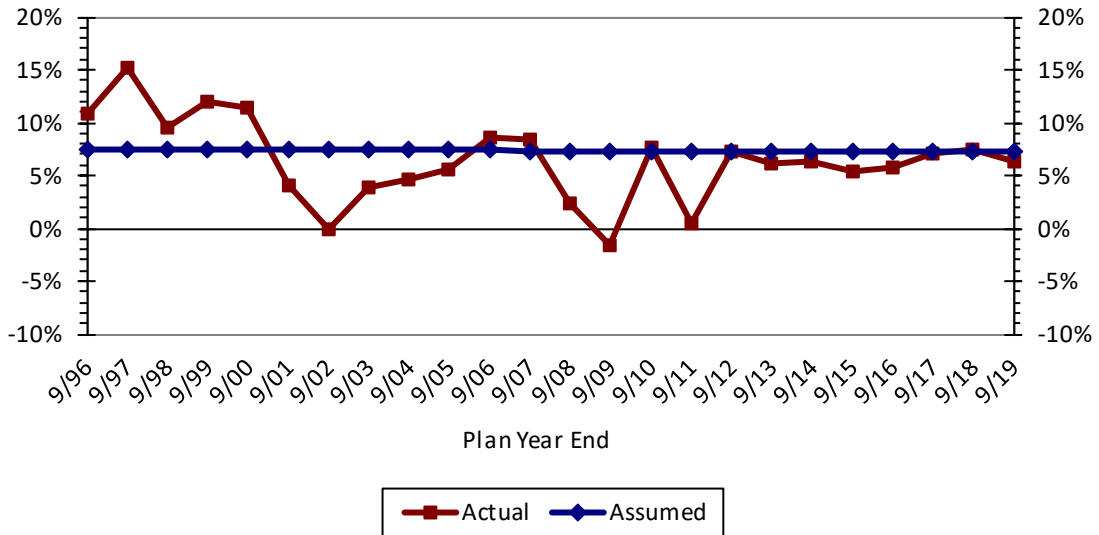
Year Ending	Investment Return		Salary Increases	
	Actual	Assumed	Actual	Assumed
9/30/1996	10.8 %	7.50 %	(1.0) %	5.0 %
9/30/1997	15.2	7.50	6.4	5.0
9/30/1998	9.5	7.50	4.4	5.0
9/30/1999	12.0	7.50	4.9	5.0
9/30/2000	11.4	7.50	4.3	5.0
9/30/2001	4.0	7.50	5.1	5.0
9/30/2002	0.0	7.50	9.6	5.0
9/30/2003	3.9	7.50	4.4	5.0
9/30/2004	4.7	7.50	4.2	5.0
9/30/2005	5.5	7.50	8.3	5.0
9/30/2006	8.6	7.50	1.3	5.0
9/30/2007	8.4	7.25	7.7	5.2
9/30/2008	2.3	7.25	7.6	6.4
9/30/2009	(1.6)	7.25	4.9 *	6.5 **
9/30/2010	7.7	7.25	3.7 *	6.3 **
9/30/2011	0.5	7.25	2.1 *	6.3 **
9/30/2012	7.2	7.25	3.1 *	6.3 **
9/30/2013	6.1	7.25	3.7	6.6
9/30/2014	6.4	7.25	4.4	6.7
9/30/2015	5.4	7.25	5.2	6.7
9/30/2016	5.7	7.25	5.1	6.9
9/30/2017	7.0	7.25	6.9	6.0
9/30/2018	7.4	7.25	4.0	6.1
9/30/2019	6.4	7.25	5.8	6.2
Averages	6.4 %	---	4.8 %	---

* 2009 - 4.9%G, 4.6%F; 2010 - 3.7%G, 4.1%F; 2011 - 1.8%G, 4.7%F; 2012 - 3.0%G, 3.8%F

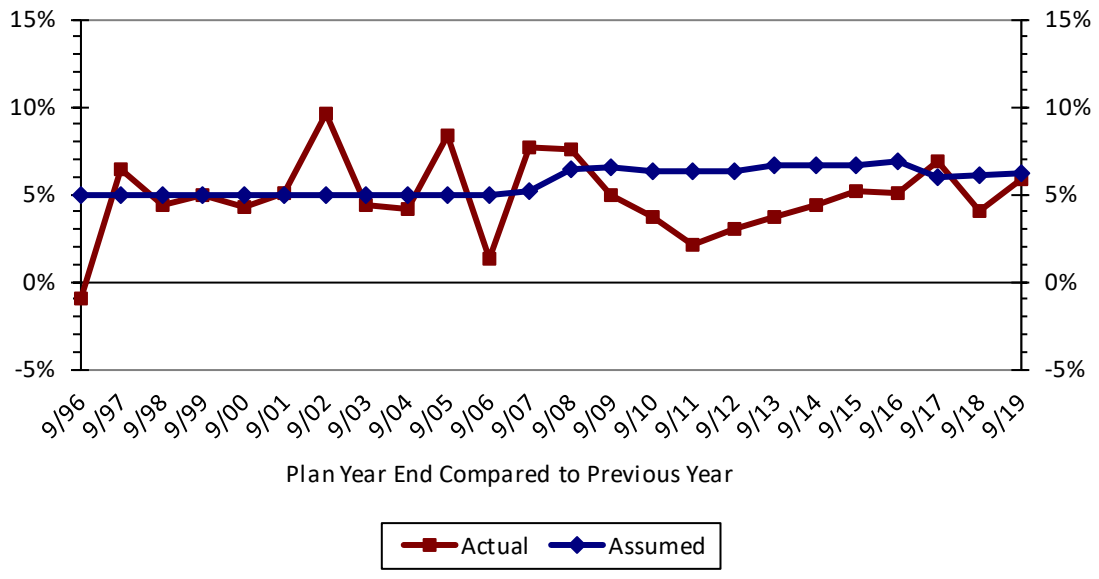
** 2009 - 6.7%G, 5.0%F; 2010 - 6.5%G, 5.0%F; 2011 - 6.5%G, 5.0%F; 2012 - 6.4%G, 5.0%F

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 valuation both at the beginning and at 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	
9/30/2007	175	146	42	67	1	0	1	2	15	87	102	81	1,969
9/30/2008	109	171	48	75	0	0	1	2	7	115	122	81	1,907
9/30/2009*	70	98	49	72	0	0	0	2	9	40	49	66	1,674
9/30/2010	82	110	67	81	0	0	4	2	6	33	39	60	1,646
9/30/2011	85	146	82	86	0	0	3	2	12	49	61	55	1,585
9/30/2012	120	153	93	115	0	0	4	2	8	48	56	53	1,552
9/30/2013**	116	120	57	92	0	0	2	2	11	50	61	53	1,417
9/30/2014	93	121	62	94	0	0	1	2	15	43	58	55	1,389
9/30/2015	166	144	73	100	0	0	2	1	23	46	69	54	1,411
9/30/2016	145	134	72	92	0	0	2	1	8	52	60	63	1,422
9/30/2017	156	171	65	81	0	0	0	2	26	80	106	71	1,407
9/30/2018	166	156	59	83	0	0	3	2	29	65	94	72	1,417
9/30/2019	166	149	45	77	0	0	2	1	30	72	102	76	1,434
9/30/2020				77		0		1				78	
13 Yr Totals ***	1649	1819	814	1115	1	0	25	23	199	780	979	840	

* In addition to the status changes shown above, 206 members were transferred to the Police Officers Plan.

** In addition to the status changes shown above, 131 members were transferred to the Firefighters Plan.

*** Totals are through current Plan Year only.

RECENT HISTORY OF VALUATION RESULTS

Valuation Date	Number of		Covered Annual Payroll*	Actuarial Value of Assets	UAAL	Employer Normal Cost	
	Active Members	Inactive Members				Amount	% of Payroll
10/1/2000	1911	658	\$ 78,039,882	\$ 360,077,327	\$ 0	\$ 9,049,216	11.60 %
10/1/2001	1928	712	81,181,245	374,690,753	0	10,732,707	13.22
10/1/2002	1976	746	89,217,248	374,790,773	0	15,845,033	17.76
10/1/2003	1972	783	91,854,151	389,641,017	31,242,440	8,715,573	9.49
10/1/2004	2009	820	95,390,235	410,451,251	30,940,287	9,433,212	9.89
10/1/2005	1,928	935	95,815,348	433,459,145	31,650,221	10,915,937	11.39
10/1/2006	1,940	988	95,616,093	478,396,090	49,240,044	9,838,896	10.29
10/1/2007	1,969	1,025	101,485,956	515,648,042	51,721,135	11,143,158	10.98
10/1/2008	1,702	944	91,735,753	456,592,011	45,120,629	12,622,840	13.76
10/1/2009	1,674	976	93,375,914	463,240,621	104,427,811 **	8,390,589	8.99
10/1/2010	1,646	1,024	93,636,946	495,690,765	98,095,048	7,127,766	7.61
10/1/2011	1,585	1,095	90,161,635	491,568,515	121,453,591	6,101,572	6.77
10/1/2012	1,421	1,088	80,195,531	468,025,901	99,754,910	5,390,505	6.72
10/1/2013	1,417	1,138	81,094,749	483,929,773	103,487,792	5,231,024	6.45
10/1/2014	1,389	1,197	81,117,022	502,318,406	103,568,520	5,184,222	6.39
10/1/2015	1,411	1,266	83,131,770	516,243,462	108,763,663	4,671,136	5.62
10/1/2016	1,422	1,330	84,708,279	528,469,381	125,153,619	4,081,148	4.82
10/1/2017	1,407	1,377	87,043,956	548,069,252	123,982,382	4,150,218	4.77
10/1/2018	1,417	1,438	88,153,554	569,593,822	114,914,099	4,183,000	4.75
10/1/2019	1,434	1,486	90,979,621	584,942,455	116,166,387	4,307,535	4.73

* Covered payroll was 12.67% of the total on October 1, 2008 for Police Officers and 10.05% of the total on October 1, 2012 for Firefighters. These same percentages were assumed for prior years to determine the covered payroll without Police Officers and Firefighters for the calculation of the 10-year average payroll growth as required in the Florida Statute.

** Increase compared to the previous year is due to a change in the actuarial cost method.

RECENT HISTORY OF REQUIRED AND ACTUAL CONTRIBUTIONS

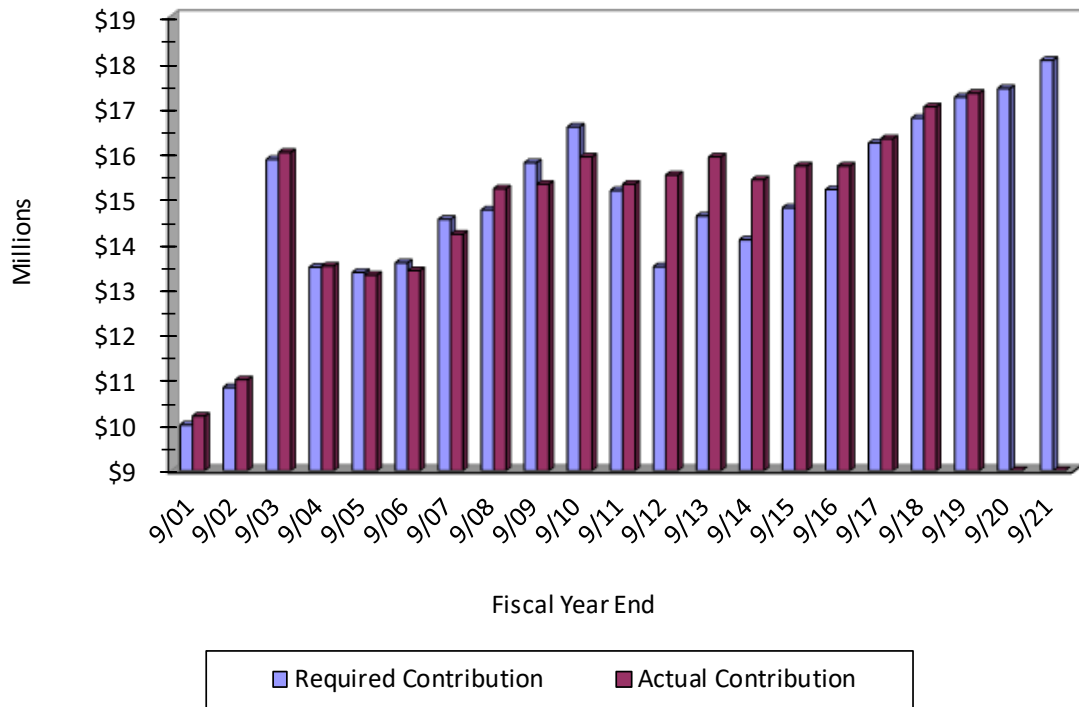
Valuation	End of Year To Which Valuation Applies	Required Contributions		
		Amount ¹	% of Payroll	Actual Contributions ²
10/1/2000	9/30/2001	\$ 10,008,022	12.82 %	\$ 10,193,680
10/1/2001	9/30/2002	10,827,050	13.34	11,047,917
10/1/2002	9/30/2003	15,845,033	17.76	15,958,265
10/1/2003	9/30/2004	13,475,290	14.67	13,474,963
10/1/2004	9/30/2005	13,359,809	14.01	13,283,684
10/1/2005	9/30/2006	13,570,341	14.16	13,359,576
10/1/2005	9/30/2007	14,528,242	14.65	14,151,537
10/1/2006	9/30/2008	14,735,539	14.89	15,219,761
10/1/2007	9/30/2009	15,773,098	15.02	15,316,870
10/1/2008	9/30/2010	16,558,670	17.44	15,874,500
10/1/2009	9/30/2011	15,161,256 ³	17.04	15,349,432
10/1/2010	9/30/2012	13,485,762 ³	15.54	15,476,342
10/1/2011	9/30/2013	14,599,408 ³	17.81	15,877,730
10/1/2012	9/30/2014	14,078,112 ³	18.00	15,395,603
10/1/2013	9/30/2015	14,781,148 ³	18.54	15,697,557
10/1/2014	9/30/2016	15,181,468 ³	18.89	15,722,772
10/1/2015	9/30/2017	16,206,619 ³	19.27	16,286,819
10/1/2016	9/30/2018	16,751,336 ³	19.75	17,020,340
10/1/2017	9/30/2019	17,214,075 ³	19.68	17,330,768
10/1/2018	9/30/2020	17,402,834	19.26	---
10/1/2019	9/30/2021	18,026,019	19.33	---

¹ Reflects the maximum of the actuarially required contribution and 180% of the employee contributions (no longer applies starting in the fiscal year ending September 30, 2012) expressed as a dollar amount.

² The actual contribution made is based on the percent of payroll figures but not less than 180% of the actual employee contributions (no longer applies starting in the fiscal year ending September 30, 2012).

³ The dollar amount was adjusted to represent the required contribution determined as a percentage of actual payroll.

Recent History of Required and Actual Contributions



RECENT HISTORY OF UAAL AND FUNDED RATIO

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) - Entry Age (b)	Unfunded AAL (UAAL) - Entry Age (b) - (a)	Funded Ratio (a) / (b)	Covered Payroll (c)	UAAL As % of Covered Payroll (b - a) / c
10/1/1999	\$ 320,834,597	\$ 294,041,163	\$ (26,793,434)	109.1 %	\$ 75,797,598	(35.3) %
10/1/2000	360,077,327	328,083,441	(31,993,886)	109.8	78,039,882	(41.0)
10/1/2001	374,690,753	351,628,383	(23,062,370)	106.6	81,181,245	(28.4)
10/1/2002	374,790,773	390,193,196	15,402,423	96.1	89,217,248	17.3
10/1/2003	389,641,017	404,103,398	14,462,381	96.4	91,854,151	15.7
10/1/2004	410,451,251	439,216,904	28,765,653	93.5	95,390,235	30.2
10/1/2005	433,459,145	483,329,674	49,870,529	89.7	95,815,348	52.0
10/1/2006	478,396,090	540,833,785	62,437,695	88.5	95,616,093	65.3
10/1/2007	515,648,042	589,120,143	73,472,101	87.5	101,485,956	72.4
10/1/2008	456,592,011	544,406,925	87,814,914	83.9	91,735,753	95.7
10/1/2009	463,240,621	567,668,432	104,427,811	81.6	93,375,914	111.8
10/1/2010	495,690,765	593,785,813	98,095,048	83.5	93,636,946	104.8
10/1/2011	491,568,515	613,022,106	121,453,591	80.2	90,161,635	134.7
10/1/2012	468,025,901	567,780,811	99,754,910	82.4	80,195,531	124.4
10/1/2013	483,929,773	587,417,565	103,487,792	82.4	81,094,749	127.6
10/1/2014	502,318,406	605,886,926	103,568,520	82.9	81,117,022	127.7
10/1/2015	516,243,462	625,007,125	108,763,663	82.6	83,131,770	130.8
10/1/2016	528,469,381	653,623,000	125,153,619	80.9	84,708,279	147.7
10/1/2017	548,069,252	672,051,634	123,982,382	81.6	87,043,956	142.4
10/1/2018	569,593,822	684,507,921	114,914,099	83.2	88,153,554	130.4
10/1/2019	584,942,455	701,108,842	116,166,387	83.4	90,979,621	127.7

ACTUARIAL ASSUMPTIONS AND COST METHOD

Valuation Methods

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

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

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

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

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

Valuation Assumptions

The actuarial assumptions used in the valuation are shown in this Section. Both the economic and decrement assumptions were established following the Experience Study Report as of October 1, 2016. The covered group is too small to provide statistically significant experience on which to base the mortality assumption. Mortality is based on a commonly used mortality table and projection scale.

Economic Assumptions

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

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

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

The active member population is assumed to remain constant. For purposes of financing the unfunded liabilities, total payroll is assumed to grow at 2.5% per year but not more than the most recent ten-year average which is 0.80%.

Pay increase assumptions for individual active members are shown below. Part of the assumption for each service year is for productivity, merit and/or seniority increases, and the other 2.5% recognizes inflation.

The rates of salary increase used for general employees 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	Base (Economic)	Total Increase
0	10.0%	2.5%	12.5%
1	5.0%	2.5%	7.5%
2	5.0%	2.5%	7.5%
3	5.0%	2.5%	7.5%
4	4.0%	2.5%	6.5%
5	4.0%	2.5%	6.5%
6	4.0%	2.5%	6.5%
7	3.3%	2.5%	5.8%
8	3.3%	2.5%	5.8%
9	3.3%	2.5%	5.8%
10 - 19	2.5%	2.5%	5.0%
20 and Higher	1.5%	2.5%	4.0%

Demographic Assumptions

The mortality table is the mortality assumption used by the Florida Retirement System (FRS) for Regular Class members in their actuarial valuation as of July 1, 2018.

For healthy post-retirement mortality, the mortality table is the RP-2000 Mortality Table for Annuitants, with mortality improvement projected to all future years after 2000 using Scale BB. For males, the base mortality rates include a 50% blue collar adjustment and a 50% white collar adjustment. For females, the base mortality rates include a 100% white collar adjustment. This assumption is used to measure the probabilities of each benefit payment being made after retirement.

FRS Healthy Post-Retirement Mortality for Regular Class Members

Sample Attained Ages (in 2019)	Probability of Dying Next Year		Future Life Expectancy (years)	
	Men	Women	Men	Women
	50	0.55 %	0.23 %	34.88
55	0.60	0.32	30.26	33.48
60	0.75	0.46	25.59	28.58
65	1.12	0.72	21.06	23.83
70	1.73	1.21	16.79	19.36
75	2.88	2.04	12.91	15.26
80	4.88	3.42	9.54	11.62

For active members, the probabilities of dying before retirement were based upon the RP-2000 Combined Healthy Participant Mortality Table, with mortality improvement projected to all future years after 2000 using Scale BB. For males, the base mortality rates include a 50% blue collar adjustment and a 50% white collar adjustment. For females, the base mortality rates include a 100% white collar adjustment.

The rates of retirement used to measure the probability of eligible members retiring during the next year were as follows:

Normal Retirement (Plan A)

Age	Probability of Normal Retirement
60	60 %
61	38
62	38
63	38
64	38
65	38
66	38
67	38
68	38
69	38
70+	100

Normal Retirement (Plans B and C)

Age	Probability of Normal Retirement
62	60 %
63	38
64	38
65	38
66	38
67	38
68	38
69	38
70	38
71	38
72+	100

The rate of retirement is 17% for each year of eligibility for early retirement, except under the 30 and out early retirement condition shown in the table below.

Early Retirement Under 30 and Out Condition (Plans A and B)

Service	Probability of Early Retirement
30	50 %
31	25
32	25
33	25
34	25
35	25
36+	100

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

Termination Rates (Plans A and B)

Sample Ages	Years of Service	% of Active Members Separating Within Next Year
ALL	Under 1	18.0 %
	1	13.0
	2	10.0
	3	9.5
	4	7.0
	5	5.0
	6	4.0
	7	4.0
	8	3.5
9	3.5	
25 - 29	10 & Over	3.5
30 - 34		3.5
35 - 39		3.0
40 - 44		3.0
45 & Over		2.0

Termination Rates (Plan C)

Sample Ages	Years of Service	% of Active Members Separating Within Next Year
ALL	Under 1	13.0 %
	1	12.0
	2	11.0
	3	10.0
	4	9.0
Under 25	5 & Over	7.0
25 - 29		6.5
30 - 34		5.5
35 - 39		4.0
40 - 44		3.0
45 & Over		2.0

Rates of disability are not applicable.

Changes from Previous Valuation None



Miscellaneous and Technical Assumptions

<i>Administrative & Investment Expenses</i>	The investment return assumption is intended to be the return net of investment expenses. Annual administrative expenses are assumed to be equal to the average of the actual administrative expenses paid in the prior two fiscal years. Assumed administrative expenses are added to the Normal Cost.
<i>Benefit Service</i>	Exact fractional service is used to determine the amount of benefit payable.
<i>Decrement Operation</i>	Disability and mortality decrements operate during retirement eligibility.
<i>Decrement Timing</i>	Decrements of all types are assumed to occur at the beginning of the year.
<i>Eligibility Testing</i>	Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.
<i>Forfeitures</i>	For vested separations from service, it is assumed that 0% of members separating will withdraw their contributions and forfeit an employer financed benefit. It was further assumed that the liability at termination is the greater of the vested deferred benefit (if any) or the member's accumulated contributions.
<i>Incidence of Contributions</i>	Contributions are assumed to be received continuously throughout the year based upon the computed percent of payroll shown in this report, and the actual payroll payable at the time contributions are made.
<i>Liability Load</i>	Liabilities for eligible active members (Plan A and B) are loaded by 4.9% to recognize accumulated vacation and sick leave in the calculation of service and salary.
<i>Marriage Assumption</i>	100% of males and 100% of females are assumed to be married for purposes of death-in-service benefits. Male spouses are assumed to be three years older than female spouses for active member valuation purposes.
<i>Normal Form of Benefit</i>	A life annuity is the normal form of benefit.
<i>Pay Increase Timing</i>	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.
<i>Service Credit Accruals</i>	It is assumed that members accrue one year of service credit per year.

GLOSSARY

<i>Actuarial Accrued Liability (AAL)</i>	The difference between the Actuarial Present Value of Future Benefits, and the Actuarial Present Value of Future Normal Costs.
<i>Actuarial Assumptions</i>	Assumptions about future plan experience that affect costs or liabilities, such as: mortality, withdrawal, disablement, and retirement; future increases in salary; future rates of investment earnings; future investment and administrative expenses; characteristics of members not specified in the data, such as marital status; characteristics of future members; future elections made by members; and other items.
<i>Actuarial Cost Method</i>	A procedure for allocating the Actuarial Present Value of Future Benefits between the Actuarial Present Value of Future Normal Costs and the Actuarial Accrued Liability.
<i>Actuarial Equivalent</i>	Of equal Actuarial Present Value, determined as of a given date and based on a given set of Actuarial Assumptions.
<i>Actuarial Present Value (APV)</i>	The amount of funds required to provide a payment or series of payments in the future. It is determined by discounting the future payments with an assumed interest rate and with the assumed probability each payment will be made.
<i>Actuarial Present Value of Future Benefits (APVFB)</i>	The Actuarial Present Value of amounts which are expected to be paid at various future times to active members, retired members, beneficiaries receiving benefits, and inactive, nonretired members entitled to either a refund or a future retirement benefit. Expressed another way, it is the value that would have to be invested on the valuation date so that the amount invested plus investment earnings would provide sufficient assets to pay all projected benefits and expenses when due.
<i>Actuarial Valuation</i>	The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a plan. An Actuarial Valuation for a governmental retirement system typically also includes calculations of items needed for compliance with GASB No. 67.
<i>Actuarial Value of Assets</i>	The value of the assets as of a given date, used by the actuary for valuation purposes. This may be the market or fair value of plan assets or a smoothed value in order to reduce the year-to-year volatility of calculated results, such as the funded ratio and the actuarially determined contribution (ADC).

<i>Amortization Method</i>	A method for determining the Amortization Payment. The most common methods used are level dollar and level percentage of payroll. Under the Level Dollar method, the Amortization Payment is one of a stream of payments, all equal, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the Amortization Payment is one of a stream of increasing payments, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the stream of payments increases at the rate at which total covered payroll of all active members is assumed to increase.
<i>Amortization Payment</i>	That portion of the plan contribution or ADC which is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability.
<i>Amortization Period</i>	The period used in calculating the Amortization Payment.
<i>Actuarially Determined Contribution (ADC)</i>	The employer's periodic required contributions, expressed as a dollar amount or a percentage of covered plan compensation. The ADC consists of the Employer Normal Cost and Amortization Payment.
<i>Closed Amortization Period</i>	A specific number of years that is reduced by one each year, and declines to zero with the passage of time. For example if the amortization period is initially set at 30 years, it is 29 years at the end of one year, 28 years at the end of two years, etc.
<i>Employer Normal Cost</i>	The portion of the Normal Cost to be paid by the employer. This is equal to the Normal Cost less expected member contributions.
<i>Equivalent Single Amortization Period</i>	For plans that do not establish separate amortization bases (separate components of the UAAL), this is the same as the Amortization Period. For plans that do establish separate amortization bases, this is the period over which the UAAL would be amortized if all amortization bases were combined upon the current UAAL payment.
<i>Experience Gain/Loss</i>	A measure of the difference between actual experience and that expected based upon a set of Actuarial Assumptions, during the period between two actuarial valuations. To the extent that actual experience differs from that assumed, Unfunded Actuarial Accrued Liabilities emerge which may be larger or smaller than projected. Gains are due to favorable experience, e.g., the assets earn more than projected, salaries do not increase as fast as assumed, members retire later than assumed, etc. Favorable experience means actual results produce actuarial liabilities not as large as projected by the actuarial assumptions. On the other hand, losses are the result of unfavorable experience, i.e., actual results that produce Unfunded Actuarial Accrued Liabilities which are larger than projected.

<i>Funded Ratio</i>	The ratio of the Actuarial Value of Assets to the Actuarial Accrued Liability.
<i>GASB</i>	Governmental Accounting Standards Board.
<i>GASB No. 67 and GASB No. 68</i>	These are the governmental accounting standards that set the accounting rules for public retirement systems and the employers that sponsor or contribute to them. Statement No. 68 sets the accounting rules for the employers that sponsor or contribute to public retirement systems, while Statement No. 67 sets the rules for the systems themselves.
<i>Normal Cost</i>	The annual cost assigned, under the Actuarial Cost Method, to the current plan year.
<i>Open Amortization Period</i>	An open amortization period is one which is used to determine the Amortization Payment but which does not change over time. In other words, if the initial period is set as 30 years, the same 30-year period is used in determining the Amortization Period each year. In theory, if an Open Amortization Period is used to amortize the Unfunded Actuarial Accrued Liability, the UAAL will never completely disappear, but will become smaller each year, either as a dollar amount or in relation to covered payroll.
<i>Unfunded Actuarial Accrued Liability</i>	The difference between the Actuarial Accrued Liability and Actuarial Value of Assets.
<i>Valuation Date</i>	The date as of which the Actuarial Present Value of Future Benefits are determined. The benefits expected to be paid in the future are discounted to this date.

SECTION C

PENSION FUND INFORMATION

Statement of Plan Assets at Market Value

Item	September 30	
	2019	2018
A. Cash and Cash Equivalents (Operating Cash)	\$ -	\$ -
B. Receivables		
1. Member Contributions	\$ 1,064,421	\$ 949,817
2. Employer Contributions	-	-
3. Proceeds of Pension Obligation Bond	57,457,050	-
4. Investment Income and Other Receivables	905,260	5,303,336
5. Total Receivables	\$ 59,426,731	\$ 6,253,153
C. Investments		
1. Short Term Investments	\$ 7,166,906	\$ 5,232,617
2. Domestic Equities/Alternatives/Private Equity	271,015,324	350,436,217
3. International Equities	72,640,667	88,182,636
4. Domestic Fixed Income	149,017,734	76,386,955
5. International Fixed Income	29,619,622	26,180,292
6. Real Estate	70,300,972	60,233,080
7. Total Investments	\$ 599,761,225	\$ 606,651,797
D. Liabilities		
1. Benefits Payable	\$ -	\$ -
2. Accrued Expenses and Other Payables	(1,089,094)	(3,468,638)
3. Total Liabilities	\$ (1,089,094)	\$ (3,468,638)
E. Total Market Value of Assets Available for Benefits	\$ 658,098,862	\$ 609,436,312
F. Reserves		
1. DROP Accounts	\$ (23,426,862)	\$ (23,622,139)
2. Endowment Fund Credit Balance*	(12,557,037)	(13,201,980)
3. Pension Obligation Bond Credit Balance	(57,457,050)	-
4. Total Reserves	\$ (93,440,949)	\$ (36,824,119)
G. Market Value Net of Reserves	\$ 564,657,913	\$ 572,612,193
H. Allocation of Investments		
1. Short Term Investments	1.2%	0.9%
2. Domestic Equities/Alternatives/Private Equity	45.3%	57.8%
3. International Equities	12.1%	14.5%
4. Domestic Fixed Income	24.8%	12.6%
5. International Fixed Income	4.9%	4.3%
6. Real Estate	11.7%	9.9%
7. Total Investments	100.0%	100.0%

*Pursuant to Resolution No. 5242.



Reconciliation of Plan Assets

Item	September 30	
	2019	2018
A. Market Value of Assets at Beginning of Year	\$ 609,436,312	\$ 577,095,007
B. Revenues and Expenditures		
1. Contributions		
a. Member Contributions*	\$ 7,755,783	\$ 7,593,222
b. Employer Contributions	15,783,779	15,473,351
c. Proceeds of Pension Obligation Bond	57,457,050	-
d. Total	<u>\$ 80,996,612</u>	<u>\$ 23,066,573</u>
2. Investment Income		
a. Interest, Dividends, and Other Income	\$ 8,922,892	\$ 10,460,196
b. Net Realized/Unrealized Gains/(Losses)**	7,706,394	42,519,265
c. Investment Expenses	<u>(1,891,094)</u>	<u>(2,170,571)</u>
d. Net Investment Income	\$ 14,738,192	\$ 50,808,890
3. Benefits and Refunds		
a. Regular Monthly Benefits	\$ (35,510,170)	\$ (33,298,892)
b. Refunds	(1,377,268)	(1,028,249)
c. One Time Payment to Retirees	-	-
d. DROP Distributions	<u>(9,932,350)</u>	<u>(6,984,026)</u>
e. Total	\$ (46,819,788)	\$ (41,311,167)
4. Administrative and Miscellaneous Expenses	\$ (252,466)	\$ (222,991)
5. Transfers	\$ -	\$ -
C. Market Value of Assets at End of Year	\$ 658,098,862	\$ 609,436,312
D. Reserves		
1. DROP Accounts	\$ (23,426,862)	\$ (23,622,139)
2. Endowment Fund Credit Balance	(12,557,037)	(13,201,980)
3. Pension Obligation Bond Credit Balance	<u>(57,457,050)</u>	<u>-</u>
4. Total Reserves	\$ (93,440,949)	\$ (36,824,119)
E. Market Value Net of Reserves	\$ 564,657,913	\$ 572,612,193

* Includes member contributions to purchase service.

** The breakdown of this amount between realized gains/(losses) and unrealized gains/(losses)



Calculation of Actuarial Value of Assets

	Year Ending	
	9/30/2019	9/30/2018
A. Beginning of Year Assets		
1. Market Value*	\$ 609,436,312	\$ 577,095,007
2. Actuarial Value*	606,417,941	582,564,460
B. End of Year Market Value of Assets*	658,098,862	609,436,312
C. Net of Contributions Less Disbursements	33,924,358	(18,467,585)
D. Actual Net Investment Earnings	14,738,192	50,808,890
E. Expected Investment Earnings	43,112,241	41,566,473
F. Expected Actuarial Value End of Year: A2 + C + E	683,454,540	605,663,348
G. End of Year Market Value Less Expected Actuarial Value: B - F	(25,355,678)	3,772,964
H. 20% of Difference	(5,071,136)	754,593
I. End of Year Assets		
1. Actuarial Value: F + H	678,383,404	606,417,941
2. Final Actuarial Value Within 80% to 120% of Market Value	678,383,404	606,417,941
J. Reserves		
1. DROP Account Balance	23,426,862	23,622,139
2. Endowment Fund Credit Balance	12,557,037	13,201,980
3. Pension Obligation Bond Credit Balance	57,457,050	0
4. Total Reserves	93,440,949	36,824,119
K. Adjusted Actuarial Value of Assets	584,942,455	569,593,822
L. Recognized Investment Earnings	38,041,105	42,321,066
M. Recognized Rate of Return	6.4%	7.4%
N. Gain (Loss) Due to Investments	(5,071,136)	754,593

* Before offset of DROP Account Balance and Credit Balances.



Reconciliation of DROP Accounts

Year Ended 9/30	Balance at Beginning of Year	Adjustment	Credits	Interest	Distributions	Balance at End of Year
2010	\$ 12,792,607	\$ -	\$ 3,494,539	\$ 474,026	\$ (9,259,325)	\$ 7,501,847
2011	7,501,847	-	4,161,454	527,311	(2,628,631)	9,561,981
2012	9,561,981	172,872	6,044,389	682,654	(3,521,481)	12,940,415
2013	12,940,415	7,345	6,661,398	809,861	(5,220,441) *	15,198,578
2014	15,198,578	110,082	7,153,669	861,259	(5,323,948)	17,999,640
2015	17,999,640	278,076	7,646,782	904,876	(6,635,655)	20,193,719
2016	20,193,719	-	8,695,701	901,365	(8,516,961)	21,273,824
2017	21,273,824	-	8,514,981	694,591	(9,791,513)	20,691,883
2018	20,691,883	-	9,124,060	790,222	(6,984,026)	23,622,139
2019	23,622,139	-	8,972,007	765,066	(9,932,350)	23,426,862

* Includes \$1,090,687 transfer of Firefighter DROP accounts.

Year Ending	Investment Rate of Return	
	Market Value*	Actuarial Value*
9/30/1996	12.1 %	10.8 %
9/30/1997	24.2	15.2
9/30/1998	0.1	9.5
9/30/1999	14.4	12.0
9/30/2000	11.2	11.4
9/30/2001	(8.2)	4.0
9/30/2002	(7.9)	0.0
9/30/2003	15.0	3.9
9/30/2004	9.3	4.7
9/30/2005	9.5	5.5
9/30/2006	8.4	8.6
9/30/2007	13.0	8.4
9/30/2008	(18.2)	2.3
9/30/2009	0.4	(1.6)
9/30/2010	9.4	7.7
9/30/2011	(0.5)	0.5
9/30/2012	18.1	7.2
9/30/2013	11.3	6.1
9/30/2014	8.4	6.4
9/30/2015	1.2	5.4
9/30/2016	6.8	5.7
9/30/2017	13.0	7.0
9/30/2018	8.9	7.4
9/30/2019	3.7 **	6.4

Average Returns:

Last 5 Years	6.6 %	6.4 %
Last 10 Years	7.9 %	6.0 %
All Years	6.4 %	6.4 %

* Net of investment expenses after 9/30/2005.

** Determined by the Investment Consultant Starting in FYE 2019.

The above rates are based on the retirement system's financial information reported to the actuary. The Market Value rates prior to FYE 2019 may differ from figures that the investment consultant reports, in part because of differences in the handling of administrative and investment expenses, and in part because of differences in the handling of cash flows.



SECTION D

FINANCIAL ACCOUNTING INFORMATION

FASB NO. 35 INFORMATION

A. Valuation Date	October 1, 2019	October 1, 2018
B. Actuarial Present Value of Accumulated Plan Benefits		
1. Vested Benefits		
a. Members Currently Receiving Payments	\$ 477,142,079	\$ 459,650,113
b. Terminated Vested Members	8,748,066	7,208,887
c. Other Members	169,093,645	172,896,088
d. Total	<u>654,983,790</u>	<u>639,755,088</u>
2. Non-Vested Benefits	5,733,111	5,384,972
3. Total Actuarial Present Value of Accumulated Plan Benefits: 1d + 2	660,716,901	645,140,060
4. Accumulated Contributions of Active Members	58,597,680	58,093,748
C. Changes in the Actuarial Present Value of Accumulated Plan Benefits		
1. Total Value at Beginning of Year	645,140,060	629,489,335
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	61,436,286	59,101,926
d. Benefits Paid	<u>(45,859,445)</u>	<u>(43,451,201)</u>
Net Increase	15,576,841	15,650,725
3. Total Value at End of Period	660,716,901	645,140,060
D. Market Value of Assets	564,657,913	572,612,193
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,	2019	2018	2017	2016	2015	2014
Total Pension Liability						
Service Cost	\$ 11,588,821	\$ 11,698,378	\$ 12,438,914	\$ 12,454,643	\$ 12,479,291	\$ 12,663,875
Interest	50,814,102	49,542,535	47,570,311	46,369,839	45,023,294	43,427,938
Benefit Changes	-	-	-	(1,360,522)	-	-
Difference between actual & expected experience	(4,906,876)	472,973	2,417,270	(189,908)	(2,104,773)	(200,874)
Assumption Changes	-	-	7,390,055	-	-	-
Benefit Payments	(45,442,520)	(40,282,918)	(41,464,441)	(38,124,534)	(33,851,002)	(31,125,640)
Refunds	(1,377,268)	(1,028,249)	(970,232)	(840,967)	(783,779)	(1,532,384)
Other	-	-	-	-	-	-
Net Change in Total Pension Liability	10,676,259	20,402,719	27,381,877	18,308,551	20,763,031	23,232,915
Total Pension Liability - Beginning	712,705,236	692,302,517	664,920,640	646,612,089	625,849,058	602,616,143
Total Pension Liability - Ending (a)	\$ 723,381,495	\$ 712,705,236	\$ 692,302,517	\$ 664,920,640	\$ 646,612,089	\$ 625,849,058
Plan Fiduciary Net Position						
Contributions - Employer (from City)	\$ 15,783,779	\$ 15,473,351	\$ 14,739,830	\$ 29,175,783	\$ 15,697,557	\$ 15,395,603
Contributions - Employer (from State)	-	-	-	-	-	-
Contributions - Non-Employer Contributing Entity	-	-	-	-	-	-
Contributions - Member	7,755,783	7,593,222	7,600,019	7,468,541	7,394,407	7,129,361
Net Investment Income	14,738,192	50,808,890	67,569,392	33,659,515	6,072,542	39,349,445
Benefit Payments	(45,442,520)	(40,282,918)	(41,464,441)	(38,124,534)	(33,851,002)	(31,125,640)
Refunds	(1,377,268)	(1,028,249)	(970,232)	(840,967)	(783,779)	(1,532,384)
Administrative Expense	(252,466)	(222,991)	(241,172)	(246,010)	(217,810)	(288,901)
Other	-	-	-	-	-	-
Net Change in Plan Fiduciary Net Position	(8,794,500)	32,341,305	47,233,396	31,092,328	(5,688,085)	28,927,484
Plan Fiduciary Net Position - Beginning	609,436,312	577,095,007	529,861,611	498,769,283	504,457,368	475,529,884
Plan Fiduciary Net Position - Ending (b)	\$ 600,641,812	\$ 609,436,312	\$ 577,095,007	\$ 529,861,611	\$ 498,769,283	\$ 504,457,368
Net Pension Liability - Ending (a) - (b)	122,739,683	103,268,924	115,207,510	135,059,029	147,842,806	121,391,690
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	83.03 %	85.51 %	83.36 %	79.69 %	77.14 %	80.60 %
Covered Payroll	\$ 87,469,893	\$ 84,816,890	\$ 84,102,850	\$ 80,367,748	\$ 79,725,716	\$ 78,211,736
Net Pension Liability as a Percentage of Covered Payroll	140.32 %	121.76 %	136.98 %	168.05 %	185.44 %	155.21 %



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

FY Ending September 30,	Total Pension Liability	Plan Fiduciary Net Position	Net Pension Liability	Plan Fiduciary Net Position as a % of Total Pension Liability	Covered Payroll	Net Pension Liability as a % of Covered Payroll
2014	\$ 625,849,058	\$ 504,457,368	\$ 121,391,690	80.60%	\$ 78,211,736	155.21%
2015	646,612,089	498,769,283	147,842,806	77.14%	79,725,716	185.44%
2016	664,920,640	529,861,611	135,059,029	79.69%	80,367,748	168.05%
2017	692,302,517	577,095,007	115,207,510	83.36%	84,102,850	136.98%
2018	712,705,236	609,436,312	103,268,924	85.51%	84,816,890	121.76%
2019	723,381,495	600,641,812	122,739,683	83.03%	87,469,893	140.32%

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

Valuation Date: October 1, 2018
Measurement Date: September 30, 2019
Roll Forward Procedures: The Total Pension Liability was developed by using standard actuarial techniques to roll forward amounts from the October 1, 2018 actuarial valuation one year to the measurement date.

Methods and Assumptions Used to Determine Net Pension Liability:

Actuarial Cost Method	Entry Age Normal
Inflation	2.5%
Salary Increases	4.0% to 12.5% depending on service, including inflation.
Investment Rate of Return	7.25%
Retirement Age	Experience-based table of rates that are specific to the type of eligibility condition.
Mortality	The healthy post-retirement mortality table is the RP-2000 Mortality Table for annuitants with future improvements in mortality projected to all future years using Scale BB. For females, the base mortality rates include a 100% white collar adjustment. For males, the base mortality rates include a 50% blue collar adjustment and a 50% white collar adjustment. The pre-retirement mortality table is the RP-2000 Combined Healthy Participant Mortality Table with the same white and blue collar adjustments and the same mortality improvement projection scales. These are the same rates used for Regular Class members of the Florida Retirement System (FRS) in the July 1, 2017 FRS actuarial valuation, as mandated by Chapter 112.63, Florida Statutes.

Other Information:

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

SCHEDULE OF CONTRIBUTIONS
GASB Statement No. 67

<u>FY Ending September 30,</u>	<u>Actuarially Determined Contribution*</u>	<u>Actual Contribution**</u>	<u>Contribution Deficiency (Excess)</u>	<u>Covered Payroll</u>	<u>Actual Contribution as a % of Covered Payroll</u>
2014	\$ 14,078,112	\$ 15,395,603	\$ (1,317,491)	\$ 78,211,736	19.68%
2015	14,781,148	15,697,557	(916,409)	79,725,716	19.69%
2016	15,181,468	29,175,783	(13,994,315)	80,367,748	36.30%
2017	16,206,619	14,739,830	1,466,789	84,102,850	17.53%
2018	16,751,336	15,473,351	1,277,985	84,816,890	18.24%
2019	17,214,075	15,783,779	1,430,296	87,469,893	18.04%

***Note: The Actuarially Determined Contribution is calculated as the Actuarially Determined Contribution Percentage multiplied by the actual pensionable payroll for the fiscal year.**

****A portion of the Plan's Credit Balance was applied to meet the remainder of the actuarially determined contribution for the fiscal years ending September 30, 2017, 2018, and 2019.**

NOTES TO SCHEDULE OF CONTRIBUTIONS
GASB Statement No. 67

Valuation Date: October 1, 2017
Notes Actuarially determined contribution rates are calculated as of October 1, 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 Percent of Pay, Closed
Remaining Amortization Period	20 years
Asset Valuation Method	5-year smoothed market
Inflation	2.5%
Salary Increases	4.0% to 12.5% depending on service, including inflation.
Investment Rate of Return	7.25%
Retirement Age	Experience-based table of rates that are specific to the type of eligibility condition.
Mortality	The healthy post-retirement mortality table is the RP-2000 Mortality Table for annuitants with future improvements in mortality projected to all future years using Scale BB. For females, the base mortality rates include a 100% white collar adjustment. For males, the base mortality rates include a 50% blue collar adjustment and a 50% white collar adjustment. The pre-retirement mortality table is the RP-2000 Combined Healthy Participant Mortality Table with the same white and blue collar adjustments and the same mortality improvement projection scales. These are the same rates used for Regular Class members of the Florida Retirement System (FRS) in the July 1, 2016 FRS actuarial valuation, as mandated by Chapter 112.63, Florida Statutes.

Other Information:

Notes See Discussion of Valuation Results in the October 1, 2017 Actuarial Valuation Report.

**SINGLE DISCOUNT RATE
GASB Statement No. 67**

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

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

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

1% Decrease 6.25%	Current Single Discount Rate Assumption 7.25%	1% Increase 8.25%
\$198,855,433	\$122,739,683	\$58,683,495

SECTION E

MISCELLANEOUS INFORMATION

RECONCILIATION OF MEMBERSHIP DATA		
	From 10/1/18 To 10/1/19	From 10/1/17 To 10/1/18
A. Active Members		
1. Number Included in Last Valuation	1,417	1,407
2. New Members Included in Current Valuation	166	164
3. Non-Vested Employment Terminations	(72)	(64)
4. Vested Employment Terminations	(30)	(29)
5. Service Retirements	(7)	(17)
6. Disability Retirements	0	0
7. Deaths	(2)	(3)
8. DROP Retirements	(38)	(42)
9. Data Corrections/Rehires	0	2
10. Transfers to Defined Contribution Plan	0	0
11. Transfers to Police Officers or Firefighters Plan	0	(1)
12. Number Included in This Valuation	<u>1,434</u>	<u>1,417</u>
B. Active Cross-Credit Members		
1. Number Included in Last Valuation	16	17
2. Additions	0	0
3. Non-Vested Employment Terminations	0	0
4. Vested Employment Terminations	(2)	(1)
5. Service Retirements	0	0
6. DROP Retirements	(1)	0
7. Data Corrections	<u>0</u>	<u>0</u>
8. Number Included in This Valuation	13	16
C. Terminated Vested Members		
1. Number Included in Last Valuation	94	76
2. Additions from Active/Cross-Credit Members	32	30
3. Lump Sum Payments/Refund of Contributions	(5)	(7)
4. Payments Commenced	(9)	(5)
5. Rehires	0	0
6. Deaths	<u>(2)</u>	<u>0</u>
7. Number Included in This Valuation	110	94
D. DROP Plan Members		
1. Number Included in Last Valuation	193	198
2. Additions from Active/Cross-Credit Members	39	42
3. Retirements	(39)	(47)
4. Deaths Resulting in No Further Payments	0	0
5. Data Corrections	<u>0</u>	<u>0</u>
6. Number Included in This Valuation	193	193
E. Service Retirees, Disability Retirees and Beneficiaries		
1. Number Included in Last Valuation	1,151	1,103
2. Additions from Active/Cross-Credit Members	7	17
3. Additions from Terminated Vested Members	9	5
4. Additions from DROP Plan	39	47
5. Deaths Resulting in No Further Payments	(23)	(20)
6. Deaths Resulting in New Survivor Benefits	1	2
7. End of Certain Period - No Further Payments	0	0
8. Lump Sum Distribution	(1)	(3)
9. Data Corrections	<u>0</u>	<u>0</u>
10. Number Included in This Valuation	1,183	1,151

ACTIVE PARTICIPANT SCATTER

Age Group	Years of Service to Valuation Date												Totals	
	0-1	1-2	2-3	3-4	4-5	5-9	10-14	15-19	20-24	25-29	30-34	35 & Up		
15-19 NO.	4	1												5
TOT PAY	124,703	30,591												155,294
AVG PAY	31,176	30,591												31,059
20-24 NO.	17	16	12	3	2	1								51
TOT PAY	571,728	613,099	420,011	103,843	76,223	34,218								1,819,122
AVG PAY	33,631	38,319	35,001	34,614	38,112	34,218								35,669
25-29 NO.	27	23	16	14	23	20								123
TOT PAY	982,981	804,976	666,015	560,912	940,834	1,115,739								5,071,457
AVG PAY	36,407	34,999	41,626	40,065	40,906	55,787								41,231
30-34 NO.	33	23	21	18	18	41	22	1						177
TOT PAY	1,502,146	871,981	883,769	732,558	809,372	2,474,099	1,455,860	95,815						8,825,600
AVG PAY	45,520	37,912	42,084	40,698	44,965	60,344	66,175	95,815						49,862
35-39 NO.	22	17	12	8	14	40	36	28	2					179
TOT PAY	820,855	725,778	676,499	349,369	770,312	2,337,654	2,234,668	2,177,190	154,542					10,246,867
AVG PAY	37,312	42,693	56,375	43,671	55,022	58,441	62,074	77,757	77,271					57,245
40-44 NO.	19	17	16	9	13	35	37	38	9					193
TOT PAY	917,630	668,524	821,839	492,730	613,174	2,183,109	2,277,866	2,978,208	584,196					11,537,276
AVG PAY	48,296	39,325	51,365	54,748	47,167	62,375	61,564	78,374	64,911					59,779
45-49 NO.	20	9	12	11	7	36	30	35	32	9				201
TOT PAY	1,000,589	415,066	693,232	769,483	441,915	2,388,195	1,862,765	2,608,281	2,490,720	657,044				13,327,290
AVG PAY	50,029	46,118	57,769	69,953	63,131	66,339	62,092	74,522	77,835	73,005				66,305
50-54 NO.	14	10	7	6	12	34	39	43	36	15	14			230
TOT PAY	694,024	534,550	332,030	309,842	937,954	2,052,417	2,456,015	3,080,380	2,718,896	1,375,814	1,333,516			15,825,438
AVG PAY	49,573	53,455	47,433	51,640	78,163	60,365	62,975	71,637	75,525	91,721	95,251			68,806
55-59 NO.	9	5	13	13	7	24	34	29	27	12	13	1		187
TOT PAY	366,313	380,692	662,903	679,519	417,937	1,611,286	1,847,416	2,106,372	2,090,809	1,105,831	1,148,061	68,867		12,486,006
AVG PAY	40,701	76,138	50,993	52,271	59,705	67,137	54,336	72,634	77,437	92,153	88,312	68,867		66,770
60-64 NO.	1	6	6	3	4	14	14	10	4		2			64
TOT PAY	71,306	266,265	531,247	175,579	323,365	939,785	1,213,868	805,500	276,273		149,285			4,752,473
AVG PAY	71,306	44,378	88,541	58,526	80,841	67,128	86,705	80,550	69,068		74,643			74,257
65 & Up NO.				2	1	8	6	5	1		1			24
TOT PAY				155,518	29,822	590,877	414,301	430,051	131,698		105,832			1,858,099
AVG PAY				77,759	29,822	73,860	69,050	86,010	131,698		105,832			77,421
TOT NO.	166	127	115	87	101	253	218	189	111	36	30	1		1,434
TOT AMT	7,052,275	5,311,522	5,687,545	4,329,353	5,360,908	15,727,379	13,762,759	14,281,797	8,447,134	3,138,689	2,736,694	68,867		85,904,922
AVG AMT	42,484	41,823	49,457	49,763	53,078	62,164	63,132	75,565	76,100	87,186	91,223	68,867		59,906



INACTIVE PARTICIPANT SCATTER

Age Group	Terminated Vested		Disabled		Retired		Deceased with Beneficiary	
	Number	Total Benefits	Number	Total Benefits	Number	Total Benefits	Number	Total Benefits
Under 20	-	-	-	-	-	-	3	16,076
20-24	-	-	-	-	-	-	-	-
25-29	2	7,862	-	-	-	-	2	40,620
30-34	8	94,613	-	-	-	-	1	24,539
35-39	20	227,013	-	-	-	-	1	5,552
40-44	15	272,025	-	-	-	-	3	76,483
45-49	31	571,616	-	-	-	-	1	18,015
50-54	14	263,908	-	-	56	2,105,508	3	55,319
55-59	15	239,146	-	-	184	7,709,009	4	168,512
60-64	5	53,182	-	-	294	11,179,554	10	296,545
65-69	-	-	-	-	288	9,762,786	14	281,738
70-74	-	-	-	-	195	5,780,331	18	330,870
75-79	-	-	-	-	135	3,832,773	16	295,806
80-84	-	-	-	-	65	1,585,974	11	150,133
85-89	-	-	-	-	39	907,244	15	192,392
90-94	-	-	-	-	10	159,103	4	79,512
95-99	-	-	-	-	3	27,884	1	7,473
100 & Over	-	-	-	-	-	-	-	-
Total	110	1,729,365	-	-	1,269	43,050,166	107	2,039,585
Average Age		46		N/A		68		70

SECTION F

SUMMARY OF PLAN PROVISIONS

SUMMARY OF PLAN PROVISIONS

A. Ordinances

The Plan was established under the Code of Ordinances for the City of Lakeland, Florida, Division II, Article II, and was most recently amended under Ordinance No. 5434 passed and adopted on March 3, 2014. The Plan is also governed by certain provisions of Part VII, Chapter 112, Florida Statutes (F.S.) and the Internal Revenue Code.

B. Effective Date

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 regular full-time employees who are contributing to the pension plan.

F. Credited Service

Service is measured as the total number of years and fractional parts of years of continuous employment with the City in which the employee has made contributions to the fund. No service is credited for any periods of employment for which the member received a refund of employee contributions.

For purposes of computing pension benefits, all accrued sick leave at the date of retirement shall be credited as additional time of continuous employment at an equivalency ratio of 1 month of service for every 21 days of accrued sick leave.

G. Compensation

All regular pay, including salary, wages, bonuses and overtime plus any special educational allowances and proficiency payments. Compensation also includes accumulated sick and vacation leave. For non-union general employees, pay for overtime hours in excess of 300 hours and pay for accumulated sick and vacation leave accrued after July 1, 2011 are not included. For members hired after February 25, 2012, Compensation is base pay.



H. Final Average Compensation (FAC)

Members hired before October 1, 2003: The average of Compensation over the highest 3 consecutive years of Credited Service prior to termination or retirement.

Members hired after September 30, 2003: The average of Compensation over the highest 5 consecutive years of Credited Service prior to termination or retirement.

I. Normal Retirement

Eligibility: Members hired before October 1, 2003: A member may retire on the first day of the month coincident with or next following age 60 with 10 years of Credited Service.

Members hired after September 30, 2003 and before February 26, 2012: A member may retire on the first day of the month coincident with or next following age 62 with 10 years of Credited Service.

Members hired after February 25, 2012: A member may retire on the first day of the month coincident with or next following age 62 with 5 years of Credited Service.

Benefit: Members hired before October 1, 2003: 3.0% of FAC multiplied by years of Credited Service up to 25 years, plus 1.0% of FAC multiplied by years of Credited Service in excess of 25 years.

Members hired after September 30, 2003 and before February 26, 2012: 2.0% of FAC for the first 10 years of Credited Service, plus 3.0% of FAC for each of the next 20 years of Credited Service, plus 1.0% of FAC for each year thereafter.

Members hired after February 25, 2012: 2.41% of FAC for each year of Credited Service.

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

COLA: None

J. Early Retirement

Eligibility: Members hired before October 1, 2003: A member may elect to retire earlier than the Normal Retirement Eligibility upon attainment of:

- (1) age 50 with 10 years of Credited Service, or
- (2) 30 years of Credited Service regardless of age.

Members hired after September 30, 2003 and before February 26, 2012: A member may elect to retire earlier than the Normal Retirement Eligibility upon attainment of:



- (1) age 52 with 10 years of Credited Service, or
- (2) 30 years of Credited Service regardless of age.

Members hired after February 25, 2012: A member may elect to retire earlier than the Normal Retirement Eligibility upon attainment of age 52 with 5 years of Credited Service.

Benefit: Members hired before October 1, 2003: The Normal Retirement Benefit is reduced by 2.04% for each year from age 60 to 55 and 3.0% for each year from age 55 to age 50 that the Early Retirement date precedes the Normal Retirement date.

Members hired after September 30, 2003: The Normal Retirement Benefit is reduced by 5.0% for each year by which the Early Retirement date precedes the Normal Retirement date.

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

COLA: None

K. Delayed Retirement

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

L. Service Connected Disability

Not applicable

M. Non-Service Connected Disability

Not applicable

N. Death in the Line of Duty

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

Benefit: If the member had not reached age 50, the death benefit payable to the member's spouse or dependent(s) is the actuarial equivalent of 50% of the retirement benefit the member would have received had they retired on the date of death.

If the member had reached age 50, the death benefit payable to the member's spouse or dependent(s) is the actuarial equivalent of 75% of the retirement benefit the member would have received had they retired on the date of death.

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

COLA: None

The designated beneficiary of a plan member with less than 10 years of Credited Service 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 years of Credited Service.

Benefit: If the member had not reached age 50, the death benefit payable to the member's spouse or dependent(s) is the actuarial equivalent of 50% of the retirement benefit the member would have received had they retired on the date of death.

If the member had reached age 50, the death benefit payable to the member's spouse or dependent(s) is the actuarial equivalent of 75% of the retirement benefit the member would have received had they retired on the date of death.

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

COLA: None

The designated beneficiary of a plan member with less than 10 years of Credited Service 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 the 50%, 75%, 66 2/3% and 100% Joint and Survivor options, with or without the pop-up feature, with or without a guaranteed annual increase of 1%, 2% or 3%. A lump sum option is available for members not subject to collective bargaining who attain Normal Retirement status or 30 years of Credited Service.

R. Vested Termination

Eligibility: For members hired before February 26, 2012: A member has earned a non-forfeitable right to Plan benefits after the completion of 10 years of Credited Service.



For members hired after February 25, 2012: A member has earned a non-forfeitable right to Plan benefits after the completion of 5 years of Credited Service.

Benefit: The benefit is the member's accrued Normal Retirement Benefit as of the date of termination. Benefit begins at the member's Early or Normal Retirement age and will be reduced for Early Retirement if applicable.

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

COLA: None

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 (5 years of Credited Service for members hired after February 25, 2012) are eligible. Optionally, vested members may elect a refund in lieu of the vested benefits otherwise due.

Benefit: A refund of the member's contributions.

T. Member Contributions (Before Cost Sharing Mechanism)

11.0% of Compensation for members hired before February 26, 2012. 6.25% of Compensation for members hired after February 25, 2012 and members hired before February 26, 2012 who have elected to transfer to the tier of benefits covering members hired after February 25, 2012.

U. Employer Contributions

The amount determined by the actuary needed to fund the plan properly according to State laws. The Employer contribution is 19.6% of payroll for the fiscal year beginning October 1, 2012. After the fiscal year ending September 30, 2013, if the final required contribution is different than 19.6% of payroll, then the difference (positive or negative) is added to the Employer and member contribution rates based on a ratio of 1.4 to 1.0, respectively. Any actuarial gains or losses incurred by the Plan as a result of the variable interest rate for DROP members shall not be applied in the cost sharing analysis to affect the employee contribution rates.

V. One-Time Additional Benefit Payment

The Plan may provide a one-time payment to retirees if there are cumulative actuarial gains since October 1, 2011. If there are cumulative net actuarial gains since October 1, 2011, the Board of Trustees may recommend a one-time additional benefit payment to members who have been retired for at least five years.

W. Deferred Retirement Option Plan (DROP)

Eligibility: Members who attain Normal Retirement status or 30 years of Credited Service are eligible to enter the DROP. Effective December 31, 2011, members are eligible to enter the DROP upon reaching Normal or Early Retirement status or when the sum of Credited Service and age equals at least 75.

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:** 60 months

**Interest
Credited:** For members who enter the DROP prior to December 31, 2011, the member's DROP account is credited with interest at a rate equal to 6.5% per annum compounded monthly on the prior month's ending balance. For members who enter the DROP on or after December 31, 2011, interest earned is based on a variable interest rate not to exceed 3% per year set annually by the Board of Trustees, unless the member elects to transfer DROP accruals to the City of Lakeland Defined Contribution Plan.

**Normal Form
of Benefit:** Lump Sum, Direct Rollover, or Partial Lump Sum with a Direct Rollover of remaining balance.

COLA: None

X. Other Ancillary Benefits

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

Y. Changes from Previous Valuation

None.