

CITY OF TAMPA
GENERAL EMPLOYEES' PENSION PLAN
ACTUARIAL VALUATION
AS OF JANUARY 1, 2019
CONTRIBUTIONS APPLICABLE TO THE
FISCAL YEAR ENDING SEPTEMBER 30, 2020
GASB 68 DISCLOSURE INFORMATION
AS OF SEPTEMBER 30, 2019



FOSTER & FOSTER
ACTUARIES AND CONSULTANTS

May 3, 2019

Board of Trustees
City of Tampa
306 E. Jackson Street, 7E
Tampa, FL 33602

Re: City of Tampa General Employees' Pension Plan

Dear Board:

We are pleased to present to the Board this report of the annual actuarial valuation of the City of Tampa General Employees' Pension Plan. Included are the related results for GASB Statements No. 68 as of September 30, 2019. The funding valuation was performed to determine whether the assets and contributions are sufficient to provide the prescribed benefits and to develop the appropriate funding requirements for the applicable plan year. The calculation of the liability for GASB results was performed for the purpose of satisfying the requirements of GASB Statements No. 68. Use of the results for other purposes may not be applicable and may produce significantly different results.

The valuations have been conducted in accordance with generally accepted actuarial principles and practices, including the applicable Actuarial Standards of Practice as issued by the Actuarial Standards Board, and reflect laws and regulations issued to date pursuant to the provisions of Chapter 112, Florida Statutes, as well as applicable federal laws and regulations. In our opinion, the assumptions used in the valuations, as adopted by the Board of Trustees, represent reasonable expectations of anticipated plan experience. Future actuarial measurements may differ significantly from the current measurements presented in this report for a variety of reasons including: changes in applicable laws, changes in plan provisions, changes in assumptions, or plan experience differing from expectations. Due to the limited scope of the valuation, we did not perform an analysis of the potential range of such future measurements.

For determining required contributions under Florida Statutes, funded percentages and unfunded liabilities are measured on an actuarial value of assets basis. The same measurements using market value of assets would result in different funded percentages and unfunded liabilities. The funded percentage and unfunded liabilities are appropriate for assessing the need and level of future contributions but do not assess the funded status of the plan if the plan were to settle all or a portion of its liabilities.

In reviewing the results presented herein, it should be noted that there are risks that may not be inherently apparent to the reader that should be carefully considered. While providing numerical analysis of such risks is out of the scope of the valuation, additional risks are identified in the Discussion of Risks section on Page 17.

In conducting the valuations, we have relied on personnel, plan design, and asset information supplied by the City of Tampa, financial reports prepared by the custodian bank, and the actuarial assumptions and methods described in the Actuarial Assumptions section of this report. While we cannot verify the accuracy of all this information, the supplied information was reviewed for consistency and reasonableness. As a result of this review, we have no reason to doubt the substantial accuracy of the information and believe that it has produced appropriate results. This information, along with any adjustments or modifications, is summarized in various sections of this report.

Please note that we have relied on actuarial reports provided by Aon for all historical information prior to January 1, 2019. We have not verified and cannot certify the accuracy of this information.

The total pension liability, net pension liability, and certain sensitivity information shown in this report are based on an actuarial valuation performed as of January 1, 2019. It is our opinion that the assumptions used for this purpose are internally consistent, reasonable, and comply with the requirements under GASB No. 68.

The undersigned are familiar with the immediate and long-term aspects of pension valuations and meet the Qualification Standards of the American Academy of Actuaries necessary to render the actuarial opinions contained herein. All of the sections of this report are considered an integral part of the actuarial opinions.

To our knowledge, no associate of Foster & Foster, Inc. working on valuations of the program has any direct financial interest or indirect material interest in the City of Tampa, nor does anyone at Foster & Foster, Inc. act as a member of the Board of Trustees of the General Employees' Pension Plan. Thus, there is no relationship existing that might affect our capacity to prepare and certify this actuarial report.

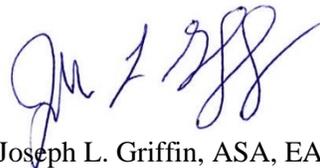
If there are any questions, concerns, or comments about any of the items contained in this report, please contact us at 239-433-5500.

Respectfully submitted,

Foster & Foster, Inc.



Timothy G. Bowen, EA, MAAA, FCA
Senior Consulting Actuary



Joseph L. Griffin, ASA, EA, MAAA
Senior Consulting Actuary

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SUMMARY OF REPORT

The regular annual actuarial valuation of the City of Tampa General Employees' Pension Plan (“Plan”), performed as of January 1, 2019, has been completed and the results are presented in this Report. The contribution amounts set forth herein are applicable to the fiscal year ending September 30, 2020.

The contribution requirements, compared with those set forth in the January 1, 2018 actuarial valuation report provided by Aon, are as follows:

Valuation Date Applicable to Fiscal Year Ending	1/1/2019 <u>9/30/2020</u>	1/1/2018 <u>9/30/2019</u>
Minimum Required Contribution	\$16,530,959	
% of Projected Annual Payroll	10.8%	
Member Contributions (Est.)	13,191	
% of Projected Annual Payroll	0.0%	
City Required Contribution	\$16,517,768	\$21,400,156
% of Projected Annual Payroll	10.8%	14.2%

As you can see, the Minimum Required Contribution reflects a decrease when compared to the results determined in the January 1, 2018 actuarial valuation report. The decrease is largely attributable to the prior year required contributions being determined by including investment related expenses with administrative expenses and the change from the Frozen Initial Liability Cost Method to the Entry Age Normal (level percentage of payroll) Cost Method with a 25-year amortization of Unfunded Actuarial Accrued Liabilities.

Plan experience was unfavorable overall on the basis of the plan's actuarial assumptions. The primary source of unfavorable experience was an investment return of 4.86% (Actuarial Asset Basis) which fell short of the 7.90% assumption, resulting in an actuarial loss of \$21.5 million. The Entry Age Normal Accrued Liability was \$4.6 million lower than expected. This decrease was due to offsetting gains and losses which included a \$4.7 million increase in Actuarial Accrued Liability due to data adjustments, a \$3.5 million increase due to lower than expected inactive mortality and \$9.0 million decrease due to transition of actuarial services and associated refinements to valuation methods.

CHANGES SINCE PRIOR VALUATION

Plan Changes

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

Actuarial Assumption/Method Changes

As a result of an Experience Study dated September 10, 2018, the Board approved the following changes as outlined in the Actuarial Assumptions and Funding Methods section of this report:

- 1.) Change to the actuarial cost method from the Frozen Entry Age Actuarial Cost Method to the Entry Age Normal Actuarial Cost Method (level percentage of payroll) with a 25-year, level dollar amortization of future Unfunded Accrued Liabilities.
- 2.) The investment return assumption was decreased from 7.90% to 7.80% per year compounded annually, net of investment related expenses.
- 3.) Based on a study of actual versus expected experience for the 3-year period ending December 31, 2017, the following changes to demographic assumptions were made:
 - i. Updates to the expected rates of non-retirement turnover from an age-and-service-based assumption to a service-based assumption.
 - ii. Updates to the expected rates of retirement for Division B.
 - iii. Updates to the assumed rates of disability retirements.
- 4.) Administrative expenses for the fiscal year ending September 30, 2020 of \$610,000 are assumed based on actual administrative expenses in previous years.

The above changes resulted in an increase in the Unfunded Accrued Liability of \$68,867,017, a decrease in the Normal Cost of \$7,333,649, and a decrease in the required City contribution for the fiscal year ending September 30, 2020 of 3.5% of payroll.

COMPARATIVE SUMMARY OF PRINCIPAL VALUATION RESULTS

	New Asmp/Mthd <u>1/1/2019</u>	Old Asmp/Mthd <u>1/1/2019</u>	<u>1/1/2018</u>
A. Participant Data			
Actives	2,449	2,449	2,412
Service Retirees	1,517	1,517	1,487
DROP Retirees	181	181	173
Beneficiaries	467	467	478
Disability Retirees	78	78	82
Terminated Vested	<u>622</u>	<u>622</u>	<u>609</u>
Total	5,314	5,314	5,241
Total Annual Payroll	\$147,518,672	\$147,518,672	\$148,153,185
Payroll Under Assumed Ret. Age	146,620,834	146,620,834	147,577,982
Annual Rate of Payments to:			
Service Retirees	38,461,049	38,461,049	48,458,160
DROP Retirees	3,730,591	3,730,591	Included Above
Beneficiaries	6,290,978	6,290,978	Included Above
Disability Retirees	1,036,571	1,036,571	Included Above
Terminated Vested	5,319,130	5,319,130	5,199,480
B. Assets			
Actuarial Value (AVA) ¹	727,228,822	727,228,822	723,168,848
Market Value (MVA) ¹	678,298,665	678,298,665	738,837,282
C. Liabilities			
Present Value of Benefits			
Actives			
Retirement Benefits	247,159,494	226,091,106	216,292,665
Disability Benefits	12,507,844	14,837,032	14,798,495
Death Benefits	5,093,641	4,645,600	4,543,326
Vested Benefits	15,483,485	21,534,155	23,691,945
Refund of Contributions	0	0	0
Service Retirees	418,549,912	415,132,970	453,481,533
DROP Retirees ¹	56,983,656	56,566,718	13,369,470
Beneficiaries	56,148,587	55,740,951	55,999,615
Disability Retirees	10,091,947	10,012,472	11,377,672
Terminated Vested	<u>37,125,052</u>	<u>36,565,960</u>	<u>36,008,672</u>
Total	859,143,618	841,126,964	829,563,393

C. Liabilities - (Continued)	New Asmp/Mthd <u>1/1/2019</u>	Old Asmp/Mthd <u>1/1/2019</u>	<u>1/1/2018</u>
Present Value of Future Salaries	1,124,206,298	1,046,168,701	1,062,419,174
Present Value of Future Member Contributions	21,532	21,480	11,763
Normal Cost (Retirement)	6,119,758		
Normal Cost (Disability)	440,871		
Normal Cost (Death)	216,901		
Normal Cost (Vesting)	1,205,821		
Normal Cost (Refunds)	<u>0</u>		
Total Normal Cost	7,983,351	15,317,000	14,034,666
Present Value of Future Normal Costs	58,439,464	109,289,827	101,035,275
Accrued Liability (Retirement)	203,586,668	190,937,670	
Accrued Liability (Disability)	9,077,186	11,297,823	
Accrued Liability (Death)	3,534,304	3,315,196	
Accrued Liability (Vesting)	5,606,842	11,362,958	
Accrued Liability (Refunds)	0	0	
Accrued Liability (Inactives) ¹	<u>578,899,154</u>	<u>574,019,071</u>	
Total Actuarial Accrued Liability (EAN AL)	800,704,154	790,932,718	779,465,374
Total Actuarial Accrued Liability (FIL)	N/A	731,837,137	728,528,118
Unfunded Actuarial Accrued Liability (UAAL)	73,475,332	4,608,315	5,359,270
Funded Ratio (AVA / EAN AL)	90.8%	91.9%	92.8%

D. Actuarial Present Value of Accrued Benefits	New Asmp/Mthd <u>1/1/2019</u>	Old Asmp/Mthd <u>1/1/2019</u>	<u>1/1/2018</u>
Vested Accrued Benefits			
Inactives ¹	578,899,154	574,019,071	570,236,962
Actives	145,639,918	144,243,574	143,528,580
Member Contributions	<u>414,353</u>	<u>414,353</u>	<u>Included Above</u>
Total	724,953,425	718,676,998	713,765,542
Non-vested Accrued Benefits	<u>6,848,212</u>	<u>6,838,313</u>	<u>3,847,139</u>
Total Present Value			
Accrued Benefits (PVAB)	731,801,637	725,515,311	717,612,681
Funded Ratio (MVA / PVAB)	92.7%	93.5%	103.0%
Increase (Decrease) in Present Value of Accrued Benefits Attributable to:			
Plan Amendments	0	0	
Assumption Changes	6,286,326	0	
New Accrued Benefits	0	4,606,982	
Benefits Paid	0	(51,366,767)	
Interest	0	54,662,415	
Other	<u>0</u>	<u>0</u>	
Total	6,286,326	7,902,630	

	New Asmp/Mthd	Old Asmp/Mthd	
Valuation Date	1/1/2019	1/1/2019	1/1/2018
Applicable to Fiscal Year Ending	<u>9/30/2020</u>	<u>9/30/2020</u>	<u>9/30/2019</u>

E. Pension Cost

Normal Cost ²	\$8,500,399	\$16,313,017	\$14,872,319
% of Total Annual Payroll ²	5.6	10.7	9.9
Administrative Expenses ²	610,000	4,234,442	5,330,965
% of Total Annual Payroll ²	0.4	2.8	3.5
Payment Required to Amortize Unfunded Actuarial Accrued Liability (over 25 years as of 01/1/2019) ²	7,420,560	1,159,128	1,196,872
% of Total Annual Payroll ²	4.8	0.8	0.8
Minimum Required Contribution	16,530,959	21,706,587	21,400,156
% of Total Annual Payroll ²	10.8	14.3	14.2
Expected Member Contributions ²	13,191	13,194	Excluded Above
% of Total Annual Payroll ²	0.0	0.0	
Expected City Contribution	16,517,768	21,693,393	21,400,156 ³
% of Total Annual Payroll ²	10.8	14.3	14.2

F. Past Contributions

Fiscal Years Ending:	<u>9/30/2018</u>
Total Required Contribution	19,450,888
City Requirement	19,427,886
Actual Contributions Made:	
Members (excluding buyback)	23,002
City	<u>20,479,928</u>
Total	20,502,930

G. Net Actuarial (Gain)/Loss 0

¹ The asset values and liabilities include accumulated DROP Plan Balances as of 12/31/2018. As of 1/1/2018, only includes the DROP balance as of 12/31/2017 as reported by the prior actuary. The remainder of the DROP liabilities as of 1/1/2018 are included with service retirements.

² Contributions developed as of 1/1/2019 displayed above have been adjusted to account for assumed salary increase and interest components. Contributions as of 1/1/2018 include investment expenses and a make-up for shortfall in prior estimate of expenses.

³ Payable quarterly.

H. Schedule Illustrating the Amortization of the Total Unfunded Actuarial Accrued Liability as of:

<u>Year</u>	<u>Projected Unfunded Actuarial Accrued Liability</u>
2019	73,475,332
2020	71,693,616
2021	69,840,552
2027	58,624,860
2033	45,714,477
2038	29,494,829
2044	0

I. (i) 5 Year Comparison of Actual and Assumed Salary Increases

	<u>Actual</u>	<u>Assumed</u>
Year Ended 12/31/2018	5.61%	4.67%
Year Ended 12/31/2017	6.10%	
Year Ended 12/31/2016	3.70%	
Year Ended 12/31/2015	0.00%	
Year Ended 12/31/2014	3.70%	

(ii) 5 Year Comparison of Investment Return on Market Value and Actuarial Value

	<u>Market Value</u>	<u>Actuarial Value</u>	<u>Assumed</u>
Year Ended 12/31/2018	-4.31%	4.86%	7.90%
Year Ended 12/31/2017	17.50%	8.50%	8.00%
Year Ended 12/31/2016	6.80%	8.30%	8.00%
Year Ended 12/31/2015	0.10%	7.60%	8.00%
Year Ended 12/31/2014	5.60%	10.70%	8.00%

(iii) Average Annual Payroll Growth

(a) Payroll as of:	1/1/2019	\$146,620,834
	1/1/2009	145,192,334
(b) Total Increase		0.98%
(c) Number of Years		10.00
(d) Average Annual Rate		0.10%

STATEMENT BY ENROLLED ACTUARY

This actuarial valuation 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, and in my opinion, the techniques and assumptions used are reasonable and meet the requirements and intent of Part VII, Chapter 112, Florida Statutes. 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.



Timothy G. Bowen, EA, MAAA
Enrolled Actuary #14-7204

Please let us know when the report is approved by the Board and unless otherwise directed we will provide a copy of the report to the following office to comply with Chapter 112, Florida Statutes:

Mr. Keith Brinkman
Bureau of Local
Retirement Systems
Post Office Box 9000
Tallahassee, FL 32315-9000

RECONCILIATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITIES

(1)	Unfunded Actuarial Accrued Liability as of January 1, 2018	\$5,359,270
(2)	Amortization of UAAL under FIL	1,088,357
(3)	Expected interest on (1) and (2)	337,402
(4)	Unfunded Actuarial Accrued Liability as of December 31, 2018 (1)-(2)+(3)	4,608,315
(5)	Change to UAAL due to Assumption and Method Changes	68,867,017
(6)	Unfunded Actuarial Accrued Liability as of January 1, 2019	73,475,332

Type of <u>Base</u>	Date <u>Established</u>	Years <u>Remaining</u>	1/1/2019 <u>Amount</u>	Amortization <u>Amount</u>
Benefit Change	1/1/2004	1.0000	62,733	62,733
Benefit Change	1/1/2005	4.1566	1,902,075	513,229
Benefit Change	1/1/2006	6.2500	2,643,507	510,560
Asmp/Mthd Change	1/1/2019	25.0000	<u>68,867,017</u>	<u>5,882,673</u>
			73,475,332	6,969,195

ACTUARIAL ASSUMPTIONS AND METHODS

Mortality Rate

Healthy Active Lives:

Female: RP2000 Generational, 100% Combined Healthy White Collar, Scale BB

Male: RP2000 Generational, 50% Combined Healthy White Collar / 50% Combined Healthy Blue Collar, Scale BB

Healthy Inactive Lives:

Female: RP2000 Generational, 100% Annuitant White Collar, Scale BB

Male: RP2000 Generational, 50% Annuitant White Collar / 50% Annuitant Blue Collar, Scale BB

Disabled Lives:

Female: 100% RP2000 Disabled Female set forward two years with no projection for mortality improvement

Male: 100% RP2000 Disabled Male setback four years with no projection for mortality improvement

The assumed rates of mortality are mandated by Chapter 2015-157, Laws of Florida. This law mandates the use of the assumption used in either of the two most recent valuations of the Florida Retirement System (FRS). The above rates are those outlined in the July 1, 2018 FRS actuarial valuation report for non-special risk lives. This assumption sufficiently accommodates future mortality improvements.

Interest Rate

7.80% (prior year 7.90%) per year compounded annually, net of investment related expenses. This is supported by the target asset allocation of the trust and the expected long-term return by asset class.

Administrative Expenses

\$610,000 for the fiscal year ending September 30, 2020, based on actual expenses incurred in previous fiscal years. Previously, investment related expenses were included with administrative expenses in determining required contributions.

Inflation

2.50% annually.

Marital Assumptions

70% of active males and 55% of active females are assumed to be married, with males 3 years older than females. To reflect the impact of remarriage, Division A members are valued assuming a 73.63% survivor annuity for active, vested terminated, retired and disabled participants, and 99.16% of the actual monthly benefit for beneficiaries currently in receipt.

Salary Increases

Rates of salary increases are shown below. The assumed salary increase rates are supported by an actuarial experience study dated September 10, 2018.

<u>Age</u>	<u>Salary Increase</u>	<u>Age</u>	<u>Salary Increase</u>
< 20	10.0%	45-49	4.5%
20-24	9.0	50-54	4.0
25-29	8.0	55-59	3.5
30-34	7.0	60-64	3.0
35-39	6.0	65+	2.5
40-44	5.0		

Retirement Rates

Rates of retirement are shown below. The assumed rates of retirement for Division B are based on an actuarial experience study dated September 10, 2018.

Division A:

<u>Age</u>	<u>Retirement Rates</u>	<u>Age</u>	<u>Retirement Rates</u>
55	95%	61	70%
56	85	62	90
57	40	63	10
58	50	64	10
59	20	65	70
60	60	66+	100

Division B:

<u>Age</u>	<u>Retirement Rates</u>	<u>Age</u>	<u>Retirement Rates</u>
55	7.0%	62	50%
56-58	4.0	63-65	35
59-60	10.0	66	45
61	25	67-69	30
		70+	100

Terminated vested participants are assumed to retire at age 62.

Disability Rates

Sample rates of disability are shown below. The assumed rates of disability are based on an actuarial experience study dated September 1, 2018. (Current rates are 75% of previous rates at every age)

<u>Age</u>	<u>Disability Rates</u>	<u>Age</u>	<u>Disability Rates</u>
20	0.0675%	50	0.2475%
25	0.0750	55	0.435
30	0.0825	60	0.885
35	0.0900	65	1.785
40	0.1125	70	3.225
45	0.1613	75	3.225

Termination Rates

Rates of termination are shown below. The assumed rates of termination are based on an actuarial experience study dated September 10, 2018.

<u>Years of Service</u>	<u>Termination Rates</u>
0-3	15.0%
4	8.0
5-8	6.5
9-11	5.0
12-20	4.0
21-24	3.0
25+	2.0

Payroll Growth

Not Applicable. Unfunded liabilities are amortized on a level dollar basis.

Funding Method

Entry Age Normal Actuarial Cost Method (previously Frozen Initial Liability).

Actuarial Asset Method

Assets are smoothed by recognizing investment gains or losses ratably over a five-year period. The investment gain or loss is determined based on the difference between the actual investment return for the year and the expected investment return by applying the assumed rate of return to the beginning of year market value of assets and cash flows during the year. The resulting asset value is constrained to no less than 80% nor greater than 120% of the market value of assets.

Amortization Periods

Changes in unfunded liability are amortized on a level dollar basis over 25 years. Outstanding bases established for benefit improvements (under the Frozen Initial Liability method) are continued to be amortized under the existing schedule as of January 1, 2018.

DISCUSSION OF RISK

In reviewing this report, it should be noted that there are risks that may not be inherently apparent to the reader that should be carefully considered. Below is a summary of the key risks factors that should be considered:

1. Investment risk: The liabilities and corresponding funded status presented in this report assume a long-term return expectation of 7.8% in each future year, net of investment expenses. Due to the nature of investments, long-term expectations are not a guarantee and actual average long-term returns may be above or below 7.8% per year. It should be noted that the liabilities and the corresponding funded status presented in this report would vary to the extent the long-term rate of return varies from current expectations. Furthermore, short-term volatility in actual returns is expected and will result in year-over-year fluctuation in financial metrics.
2. Demographic risk: The results in this report assume demographic characteristics of the plan will follow a pattern consistent with assumptions disclosed for termination of employment, incidence of disabilities, salary increases, timing of retirement, and duration of payments throughout retirement. Actuarial assumptions are applied to large groups of individuals to reasonably estimate plan liabilities and are not intended to be applied on an individual basis. As such, demographic changes may differ significantly than those assumed and result in varying liabilities and funded status.
3. Contribution risk: Risks associated with items 1 and 2 above will inherently create varying liabilities and assets resulting in volatility in contribution requirements. Actuarial losses on assets and liabilities will lead to higher contribution amounts, while actuarial gains on assets and liabilities will lead to lower contribution amounts. It should be noted that investment risk is generally a greater risk to most plans than demographic risk. Prolonged periods of investment performance below the assumed rate of return can result in a decrease in funded status (i.e. increases unfunded liabilities) and an increase in contributions required in future years.

Impact of Plan Maturity on Risk

For newer pension plans, most of the participants and associated liabilities are related to active members who have not yet reached retirement age. As pension plans continue in operation and active members reach retirement ages, liabilities begin to shift from being primarily related to active members to being shared amongst active and retired members. Plan maturity is a measure of the extent to which this shift has occurred. It is important to understand that plan maturity can have an impact on risk tolerance and the

DISCUSSION OF RISK (CONTINUED)

overall risk characteristics of the plan. For example, plans with a large amount of retired liability do not have as long of a time horizon to recover from losses (such as losses on investments due to lower than expected investment returns) as plans where the majority of the liability is attributable to active members. For this reason, less tolerance for investment risk may be warranted for highly mature plans with a substantial inactive liability. Similarly, mature plans paying substantial retirement benefits resulting in a small positive or net negative cash flow can be more sensitive to near term investment volatility, particularly if the size of the fund is shrinking, which can result in less assets being available for investment in the market.

To assist with determining the maturity of the plan, we have provided a couple relevant metrics. Approximately 68% of the Actuarial Accrued Liability is associate with those receiving payments (inclusive of DROP members). This means that losses due to lower than expected investment returns or demographic factors will need to be made up for over a time horizon that is acceptable to a plan of this maturity. Additionally, expected benefit payments are approximately 3.2 times expected contributions, resulting in a negative net cash flow (contributions less benefit payments). A negative net cash flow makes it more difficult to recover from investment losses than a plan with a positive net cash flow.

It is important to note that the we have identified the risks above as the most significant risks based on the characteristics of the plan and the nature of the actuarial valuation, however, it is not an exhaustive list of protentional risks that could be considered. Advanced modelling, as well as the identification of additional risks, can be helpful and can be provided upon request of the Board.

GLOSSARY

Total Annual Payroll is the projected annual rate of pay for the fiscal year beginning on the valuation date of all covered Members.

Present Value of Benefits is the single sum value on the valuation date of all future benefits to be paid to current active Members, Retirees, Beneficiaries, Disability Retirees and Vested Terminations.

Normal (Current Year's) Cost is determined for each participant as the present value of future benefits, determined as of the Member's entry age, amortized as a level percentage of compensation over the anticipated number of years of participation, determined as of the entry age.

Individual Entry Age Normal Actuarial Cost Method (Level Percent of Compensation) is the method used to determine required contributions under the Plan. The use of this method involves the systematic funding of the Normal Cost (described above) and the Unfunded Accrued (Past Service) Liability. The actuarial accrued liability for active participants is the difference between the present value of future benefits and the present value of future Normal Costs. The actuarial accrued liability for inactive participants is the present value of future benefits.

Unfunded Actuarial Accrued Liability (UAAL) is the difference between the actuarial accrued liability (described above) and the actuarial value of assets. Under the Entry Age Normal Actuarial Cost Method, an actuarial gain or loss, based on actual versus expected UAAL, is determined in conjunction with each valuation of the plan.

Total Required Contribution is equal to the Normal Cost plus an amount sufficient to amortize the Unfunded Accrued Liability over no more than 30 years. The required amount is adjusted for interest according to the timing of contributions during the year.

STATEMENT OF FIDUCIARY NET POSITION
DECEMBER 31, 2018

<u>ASSETS</u>	MARKET VALUE
Cash and Cash Equivalents:	
Short Term Investments	11,248,901
Cash	339,333
Total Cash and Equivalents	11,588,234
Receivables:	
Accounts Receivable	80,978
Investment Income	1,399,701
Total Receivable	1,480,679
Investments:	
Fixed Income	202,300,671
Equities	396,184,615
Real Estate	66,722,256
Total Investments	665,207,542
Total Assets	678,276,455
<u>LIABILITIES</u>	
Payables:	
Accounts Payable	977,790
Total Liabilities	977,790
NET POSITION RESTRICTED FOR PENSIONS	677,298,665

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION
FOR THE YEAR ENDED DECEMBER 31, 2018
Market Value Basis

ADDITIONS

Contributions:

Member	23,446
City	21,312,069

Total Contributions 21,335,515

Investment Income:

Net Realized Gain (Loss)	68,579,779
Unrealized Gain (Loss)	(109,364,800)
Net Increase in Fair Value of Investments	(40,785,021)
Interest & Dividends	13,253,557
Less Investment Expense ¹	(3,674,041)

Net Investment Income (31,205,505)

Total Additions (9,869,990)

DEDUCTIONS

Distributions to Members:

Benefit Payments	45,255,595
Lump Sum DROP Distributions	6,111,172

Total Distributions 51,366,767

Administrative Expense 301,860

Total Deductions 51,668,627

Net Increase in Net Position (61,538,617)

NET POSITION RESTRICTED FOR PENSIONS

Beginning of the Year 738,837,282

End of the Year 677,298,665

¹Investment related expenses include investment advisory, custodial and performance monitoring fees.

ACTUARIAL ASSET VALUATION

December 31, 2018

Actuarial Assets for funding purposes are developed by recognizing the total actuarial investment gain or loss for each Plan Year over a five year period. In the first year, 20% of the gain or loss is recognized. In the second year 40%, in the third year 60%, in the fourth year 80%, and in the fifth year 100% of the gain or loss is recognized. The actuarial investment gain or loss is defined as the actual return on investments minus the actuarial assumed investment return. Actuarial Assets shall not be less than 80% nor greater than 120% of Market Value of Assets.

Plan Year Ending	Gain/(Loss)	<u>Gains/Losses Not Yet Recognized</u>				
		Amounts Not Yet Recognized by Valuation Year				
		2019	2020	2021	2022	2023
12/31/2014	(19,242,075)	0	0	0	0	0
12/31/2015	(53,967,648)	(10,793,528)	0	0	0	0
12/31/2016	(8,705,603)	(3,482,240)	(1,741,119)	0	0	0
12/31/2017	57,909,087	34,745,453	23,163,636	11,581,819	0	0
12/31/2018	(87,999,803)	(70,399,842)	(52,799,881)	(35,199,920)	(17,599,959)	0
Total		(49,930,157)	(31,377,364)	(23,618,101)	(17,599,959)	0

Development of Investment Gain/(Loss)

Market Value of Assets, 12/31/2017	738,837,282
Contributions Less Benefit Payments & Admin Expenses	(30,333,112)
Expected Investment Earnings*	56,794,298
Actual Net Investment Earnings	(31,205,505)
2019 Actuarial Investment Gain/(Loss)	<u>(87,999,803)</u>

Development of Actuarial Value of Assets

(1) Market Value of Assets, 12/31/2018	677,298,665
(2) Gains/(Losses) Not Yet Recognized	<u>(49,930,157)</u>
(3) Actuarial Value of Assets, 12/31/2018, (1) - (2)	727,228,822

(A) 12/31/2017 Actuarial Assets: 723,168,848

(I) Net Investment Income:

1. Interest and Dividends	13,253,557
2. Realized & Unrealized Gains (Losses)	(40,785,021)
3. Change in Actuarial Value	65,598,591
4. Investment Expenses	<u>(3,674,041)</u>

Total 34,393,086

(B) 12/31/2018 Actuarial Assets: 727,228,822

Actuarial Assets Rate of Return = $2I/(A+B-I)$:	4.86%
Market Value of Assets Rate of Return:	-4.31%

Actuarial Gain/(Loss) due to Investment Return (actuarial Asset Basis) (21,539,095)

01/01/2019 Limited Actuarial Assets: 727,228,822

DEFERRED RETIREMENT OPTION PLAN ACTIVITY
January 1, 2018 to December 31, 2018

Beginning of the Year Balance	13,369,470.16
Plus Correction to Beginning Balance	10,148.80
Plus Additions	3,695,705.15
Investment Return Earned	520,432.23
Less Distributions	6,111,171.76
Less Admin Fee	3,315.00
End of the Year Balance	11,481,269.58

HISTORICAL STATISTICAL DATA

	<u>1/1/2016</u>	<u>1/1/2017</u>	<u>1/1/2018</u>	<u>1/1/2019</u>
<u>Actives</u>				
Number	2,329	2,367	2,412	2,449
Average Current Age	47.0	46.8	46.6	46.7
Average Age at Employment	33.7	33.9	34.0	34.2
Average Past Service	13.3	12.9	12.6	12.5
Average Annual Salary	\$53,488	\$54,599	\$56,930	\$60,236
<u>Service Retirees</u>				
Number	1,422	1,456	1,487	1,517 ¹
Average Current Age	71.7	71.9	72.0	72.4
Average Annual Benefit			\$24,996	\$25,353
<u>DROP Retirees</u>				
Number	185	174	173	181
Average Current Age	63.4	63.7	64.3	64.3
Average Annual Benefit			\$21,924	\$20,611
<u>Beneficiaries</u>				
Number	483	488	478	467
Average Current Age	76.4	76.7	76.7	76.6
Average Annual Benefit				\$13,471
<u>Disability Retirees</u>				
Number	78	81	82	78
Average Current Age	61.1	61.5	61.9	61.5
Average Annual Benefit			\$14,198	\$13,289
<u>Terminated Vested ²</u>				
Number	558	583	609	622
Average Current Age	50.3	50.7	50.9	51.3
Average Annual Benefit	\$8,376	\$8,700	\$8,538	\$8,552

¹ There are 7 retirees in 2019 receiving Service Retiree benefits in both Division A and Division B.

² 2018 Includes 1 deferred beneficiary for Division A, and 3 deferred beneficiaries for Division B, and 2019 Includes 1 deferred beneficiary for Division A, and 8 deferred beneficiaries for Division B.

STATISTICAL DATA BY DIVISION

	Division A <u>1/1/2019</u>	Division B <u>1/1/2019</u>
<u>Actives</u>		
Number	4	2,445
Average Current Age	60.9	46.7
Average Age at Employment	21.3	34.2
Average Past Service	39.6	12.5
Average Annual Salary	\$63,759	\$60,231
<u>Service Retirees ¹</u>		
Number	687	830
Average Current Age	74.6	70.5
Average Annual Benefit	\$40,394	\$12,904
<u>DROP Retirees</u>		
Number	15	166
Average Current Age	59.5	64.8
Average Annual Benefit	\$47,742	\$18,159
<u>Beneficiaries</u>		
Number	330	137
Average Current Age	79.7	69.1
Average Annual Benefit	\$16,884	\$5,250
<u>Disability Retirees</u>		
Number	15	63
Average Current Age	73.9	58.5
Average Annual Benefit	\$21,370	\$11,365
<u>Terminated Vested ²</u>		
Number	1	621
Average Current Age	89.5	51.3
Average Annual Benefit	\$10,477	\$8,549

¹ There are 7 retirees who are receiving Service Retiree benefits in both Division A and Division B.

² Includes 1 deferred beneficiary for Division A, and 3 deferred beneficiaries for Division B.

AGE AND SERVICE DISTRIBUTION

PAST SERVICE

AGE	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30+	Total
15 - 19	6	1	0	0	0	0	0	0	0	0	0	7
20 - 24	25	25	13	15	4	2	0	0	0	0	0	84
25 - 29	22	36	20	17	10	26	1	0	0	0	0	132
30 - 34	32	40	19	29	10	44	26	0	0	0	0	200
35 - 39	39	27	25	16	18	50	53	25	5	0	0	258
40 - 44	17	22	19	21	8	51	59	47	17	0	0	261
45 - 49	29	18	26	16	15	48	61	64	54	28	1	360
50 - 54	14	19	18	15	14	51	62	80	65	45	50	433
55 - 59	17	8	16	12	4	40	64	76	52	52	89	430
60 - 64	8	10	1	9	8	30	30	29	35	20	53	233
65+	2	2	0	0	3	14	10	7	2	5	6	51
Total	211	208	157	150	94	356	366	328	230	150	199	2,449

VALUATION PARTICIPANT RECONCILIATION

1. Active lives

a. Number in prior valuation 1/1/2018	2,412
b. Terminations	
i. Vested (partial or full) with deferred benefits	(36)
ii. Non-vested or full lump sum distribution received	(80)
c. Deaths	
i. Beneficiary receiving benefits	(3)
ii. No future benefits payable	(2)
d. Disabled	(3)
e. Retired	(15)
f. DROP	<u>(48)</u>
g. Continuing participants	2,225
h. New entrants	<u>224</u>
i. Total active life participants in valuation	2,449

2. Non-Active lives (including beneficiaries receiving benefits)

	Service Retirees, Vested Receiving <u>Benefits</u>	DROP <u>Benefits</u>	Receiving Death <u>Benefits</u>	Receiving Disability <u>Benefits</u>	Vested <u>Deferred</u>	<u>Total</u>
a. Number prior valuation	1,487	173	478	82	609	2,829
Retired	72	(39)	0	0	(18)	15
DROP	0	48	0	0	0	48
Vested Deferred	0	0	0	0	36	36
Death, With Survivor	(23)	(1)	32	(5)	0	3
Death, No Survivor	(26)	0	(36)	(2)	0	(64)
Disabled	0	0	0	3	0	3
Refund of Contributions	0	0	0	0	0	0
Rehires	0	0	0	0	(4)	(4)
Expired Annuities	(1)	0	0	0	0	(1)
Data Corrections	8	0	(7)	0	(1)	0
b. Number current valuation	1,517	181	467	78	622	2,865

SUMMARY OF CURRENT PLAN

<u>Plan Effective Date</u>	Created as Chapter 23559, Laws of Florida of 1945. Restated in its present form as of October 1, 1981. Summary includes all amendments through Chapter 2013-253, Special Act of 2013
<u>Plan Year</u>	October 1 to September 30
<u>Eligibility</u>	Full-time, part-time, or temporary employees who have taken the required physical exam. Elective officers, department heads, and appointive officers eligible to participate in the Plan. Division A covers those hired before October 1, 1981. Division B covers employees hired on or after October 1, 1981 or former Division A employees who made an election to participate in Division B
<u>Salaries</u>	Salaries shall equal the base amounts earned plus regular longevity bonuses, overtime, and shift premiums. Salaries shall also include elective amounts that are excludible from the Employee's gross income under Sections 125, 403(b), 457, and 132(f)(4) of the Internal Revenue Code. Salaries shall exclude other premiums, other than shift premiums, allowances, special payments, or any casual nonrecurring or unpredictable bonuses; payments for unused accrued bona fide sick, vacation, or other leave; payments received by an Employee pursuant to a nonqualified unfunded deferred salary plan; and severance pay that is paid after an Employee severs employment with the City (provided it was not earned by the severance date).
<u>Member Contributions</u>	Division A: 7.0% of Salaries Division B: None
<u>Continuous Service</u>	Continuous Service ("Service") is unbroken service by an employee credited in completed months. Temporary interruptions due to Military Service, illness or involuntary severance through no fault of the employee, provided the employee is reinstated, shall not be deemed to be breaks in service. Certain time spent on authorized leave of absence shall be recognized. Military service for up to five years, or as required by the Uniformed Services Employee and Re-Employment Rights Act may be counted as years of Service.
<u>Average Monthly Salary ("AMS")</u>	The average of an employee's salary for the highest three (3) of the last six (6) years of Service, divided by twelve (12).

Accrued Pension

Division A: 2.0% of AMS times years of Service plus an additional 0.5% of AMS times years of Service in excess of 15 years, for years after January 1, 1975, with a maximum of 30 years of Service.

Division B: 1.2% of AMS times years of Service.

Vesting

Schedule

100% after six (6) years of Service.

Benefit Amount

Accrued Pension payable at Normal Retirement Date, provided no refund of contributions occurred for a Division A member.

Refund of Contributions

Division A members who terminate with less than six (6) years of Service are eligible for refund of employee contributions without interest.

Retirement – Division A

Normal Retirement Date

Attainment of age fifty-five (55) and completion of at least six (6) years of Service.

Normal Retirement Benefit

Accrued Pension.

Early Retirement Date

None.

Cost-of-Living Adjustment (“COLA”)

2.2% commencing January 1st for each retiree or beneficiary (whether attributable to retirement, termination, death, or disability benefits)

Retirement – Division B

Normal Retirement Date

Attainment of age sixty-two (62) and completion of at least six (6) years of Service.

Normal Retirement Benefit

Accrued Pension.

Early Retirement Date

Attainment of age fifty-five (55) and completion of at least six (6) years of Service.

Early Retirement Benefit

Accrued Pension reduced 5/12 of 1.0% for each month the Early Retirement date precedes the Normal Retirement date.

Cost-of-Living Adjustment

1.2% commencing January 1st for each retiree or beneficiary (whether attributable to retirement, termination, death, or disability benefits)

Disability

Eligibility

Total and permanent disability after the completion of at least six (6) years of Service. DROP members are not eligible for disability benefits.

Benefit

Accrued Pension, payable immediately.

Death Benefits – Division A

Post-Retirement Death

The following benefits are payable:

1. Spouse shall receive monthly benefit of 75% of the member's Accrued Pension. The benefit ceases upon death of the spouse and reduces to 50% of the member's benefit upon remarriage of spouse.
2. Dependent children under 18 shall receive \$100 a month until marriage or the attainment of age 18. Total benefit payable to spouse and children shall not exceed the amount of the member's Accrued Pension.
3. If there is no spouse or dependent children, dependent parents, who are solely dependent on the earnings of the member, shall receive spouse's benefit until their death or withdraw employee contributions in lieu of the monthly benefit.
4. Orphaned children under 18 shall receive monthly benefit of 75% of the member's Accrued Pension until marriage or the attainment of age 18.
5. If a member dies and is not survived by a spouse, children, or dependent parents, the excess, if any, of member's total contributions without interest over total benefits received until death shall be paid in a lump sum to the legal heirs.

Pre-Retirement Death Benefits

Active Non-Vested Death

The full amount of the contributions without interest shall be paid to the legal heirs.

Active Vested Death

The spouse, children, or dependent parents of an active vested member who dies shall receive the immediate survivor annuity payable as of the date of death as if the death occurred under the Post-Retirement Death section above. If the member is not survived by a spouse, children, or dependent parents, the full amount of contributions without interest shall be paid to the legal heirs.

Terminated Vested Death

The death benefits, as described in the Post-Retirement Death section above, is payable on or after the date the member would have attained age fifty-five (55).

Death Benefits – Division B

Post-Retirement

Spouse shall receive monthly benefit of 50% of the member’s benefit.

Pre-Retirement Death Benefits

Active Vested Death

A lump sum equal to member’s annual salary is paid to the legal heirs. Additionally, a surviving spouse shall receive a monthly benefit equal to 50% of the member’s Accrued Pension payable at the member’s normal or early retirement date.

Terminated Vested

Upon death of terminated vested member, a surviving spouse shall receive a monthly benefit equal to 50% of the member’s Accrued Pension payable at the date the member would have attained age sixty-two (62).

Deferred Retirement Option Plan (“DROP”)

Eligibility

Attainment of age fifty-five (55) and completion of at least six (6) years of Service .

Participation

A maximum of 7 years.

DROP Accrued Benefit

Accrued Pension calculated as of the date of entry into DROP.

Balance Accumulation

Member’s accrued monthly normal or early retirement pension, calculated at the beginning of the DROP period, accumulated with interest (positive or negative), including annual COLAs, less the cost of administering the DROP program.

Rate of Return

Members elect to have interest accumulate annually during the DROP calculation period at either:

1. Rate reflecting the Fund’s net investment performance, as determined by the Board of Trustees, or
2. Rate reflective of low risk variable rate selected annually by the Board of Trustees, in its sole discretion.

NOTES TO THE FINANCIAL STATEMENTS
(For the Year Ended September 30, 2019)

General Information about the Pension Plan

Plan Description

Each qualified employee is included in one of two separate single-employer defined benefit retirement plans. Both plans are pension trust funds covering full-time employees and are reported herein as part of the City's reporting entity. The two plans are:

- General Employees' Pension Plan Division A - eligible full-time non-sworn employees hired prior to October 1, 1981, (no social security component) and is currently closed to new enrollees.
- General Employees' Pension Plan Division B - eligible full-time non-sworn employees hired on and after October 1, 1981, has a social security component and is open.

The General Employees' Retirement Fund combines the benefits of Division A and B. The plan is administered by a seven-member Board of Trustees. Three of the members are appointed by the Mayor, three of the members are to be employees participating in the fund and elected by members of the fund, and the remaining member is the City of Tampa Chief Financial Officer.

Plan Membership as of January 1, 2019:

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	2,243
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	622
Active Plan Members	2,449
	5,314

Benefits Provided

The Plan provides retirement, termination, disability and death benefits.

Accrued Pension:

Division A: 2.0% of AMS times years of Service plus an additional 0.5% of AMS times years of Service in excess of 15 years, for years after January 1, 1975, with a maximum of 30 years of Service.

Division B: 1.2% of AMS times years of Service.

Vesting:

Schedule: 100% after six (6) years of Service.

Benefit Amount: Accrued Pension payable at Normal Retirement Date, provided no refund of contributions occurred for a Division A member.

Refund of Contributions: Division A members who terminate with less than six (6) years of Service are eligible for refund of employee contributions without interest.

Retirement - Division A:

Normal Retirement Date: Attainment of age fifty-five (55) and completion of at least six (6) years of Service.

Normal Retirement Benefit: Accrued Pension.

Early Retirement Date: None.

Cost-of-Living Adjustment ("COLA"): 2.2% commencing January 1st for each retiree or beneficiary (whether attributable to retirement, termination, death, or disability benefits).

Retirement - Division B:

Normal Retirement Date: Attainment of age sixty-two (62) and completion of at least six (6) years of Service.

Normal Retirement Benefit: Accrued Pension.

Early Retirement Date: Accrued Pension reduced 5/12 of 1.0% for each month the Early Retirement date precedes the Normal Retirement date.

Cost-of-Living Adjustment ("COLA"): 1.2% commencing January 1st for each retiree or beneficiary (whether attributable to retirement, termination, death, or disability benefits)

Disability:

Eligibility: Total and permanent disability after the completion of at least six (6) years of Service. DROP members are not eligible for disability benefits.

Benefit: Accrued Pension, payable immediately.

Death Benefits - Division A:

Post-Retirement Death:

The following benefits are payable:

1. Spouse shall receive monthly benefit of 75% of the member's Accrued Pension. The benefit ceases upon death of the spouse and reduces to 50% of the member's benefit upon remarriage of spouse.
2. Dependent children under 18 shall receive \$100 a month until marriage or the attainment of age 18. Total benefit payable to spouse and children shall not exceed the amount of the member's Accrued Pension.
3. If there is no spouse or dependent children, dependent parents, who are solely dependent on the earnings of the member, shall receive spouse's benefit until their death or withdraw employee contributions in lieu of the monthly benefit.
4. Orphaned children under 18 shall receive monthly benefit of 75% of the member's Accrued Pension until marriage or the attainment of age 18.
5. If a member dies and is not survived by a spouse, children, or dependent parents, the excess, if any, of member's total contributions without interest over total benefits received until death shall be paid in a lump sum to the legal heirs.

Pre-Retirement Death Benefits:

Active Non-Vested Death: The full amount of the contributions without interest shall be paid to the legal heirs.

Active Vested Death: The spouse, children, or dependent parents of an active vested member who dies shall receive the immediate survivor annuity payable as of the date of death as if the death occurred under the Post-Retirement Death section above. If the member is not survived by a spouse, children, or dependent parents, the full amount of contributions without interest shall be paid to the legal heirs.

Terminated Vested Death: The death benefits, as described in the Post-Retirement Death section above, is payable on or after the date the member would have attained age fifty-five (55).

Death Benefits - Division B:

Post-Retirement: Spouse shall receive monthly benefit of 50% of the member's benefit.

Pre-Retirement Death Benefits: Active Vested Death: A lump sum equal to member's annual salary is paid to the legal heirs.

Additionally, a surviving spouse shall receive a monthly benefit equal to 50% of the member's Accrued Pension payable at the member's normal or early retirement date.

Terminated Vested: Upon death of terminated vested member, a surviving spouse shall receive a monthly benefit equal to 50% of the member's Accrued Pension payable at the date the member would have attained age sixty-two (62).

Contributions

Member Contributions: Division A: 7.0% of Salaries
 Division B: None

City: Remaining amount necessary for payment of Normal (current year's) Costs and amortization of the accrued past service liability as provided in Part VII of Chapter 112, Florida Statutes.

Net Pension Liability

The measurement date is December 31, 2018.

The measurement period for the pension expense was January 1, 2018 to December 31, 2018.

The reporting period is October 1, 2018 through September 30, 2019.

The Sponsor's Net Pension Liability was measured as of December 31, 2018.

The Total Pension Liability used to calculate the Net Pension Liability was determined as of that date.

Actuarial Assumptions:

The Total Pension Liability was determined by an actuarial valuation as of January 1, 2019 using the following actuarial assumptions:

Inflation	2.50%
Salary Increases	Age based
Discount Rate	7.80%
Investment Rate of Return	7.80%

Mortality Rate Healthy Active Lives:

Female: RP2000 Generational, 100% White Collar, Scale BB.

Male: RP2000 Generational, 50% White Collar / 50% Blue Collar, Scale BB.

Mortality Rate Healthy Inactive Lives:

Female: RP2000 Generational, 100% Annuitant White Collar, Scale BB.

Male: RP2000 Generational, 50% Annuitant White Collar / 50% Annuitant Blue Collar, Scale BB.

Mortality Rate Disabled Lives:

Female: 100% RP2000 Disabled Female set forward two years.

Male: 100% RP2000 Disabled Male setback four years.

The most recent actuarial experience study used to review the other significant assumptions was dated September 10, 2018.

The Long-Term Expected Rate of Return on Pension Plan investments can be determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of Pension Plan investment expenses and inflation) are developed for each major asset class.

For 2018, the inflation rate assumption of the investment advisor was 2.75%.

These ranges are combined to produce the Long-Term Expected Rate of Return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation.

Best estimates of arithmetic real rates of return for each major asset class included in the Pension Plan's target asset allocation as of December 31, 2018 are unsummarized in the following table:

Asset Class	Target Allocation	Long Term Expected Real Rate of Return
Core Bonds	20.00%	2.62%
Multi-Sector	10.00%	3.49%
US Large Cap Equity	25.00%	7.20%
US Small Cap Equity	10.00%	8.41%
International Developed Equity	20.00%	8.14%
Emerging Market Equity	5.00%	9.39%
Core Real Estate	7.00%	6.79%
Opportunistic Real Estate	3.00%	9.79%
Total	100.00%	

Discount Rate:

The Discount Rate used to measure the Total Pension Liability was 7.80 percent.

The projection of cash flows used to determine the Discount Rate assumed that Plan Member contributions will be made at the current contribution rate and that Sponsor contributions will be made at rates equal to the difference between actuarially determined contribution rates and the Member rate. Based on those 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 was applied to all periods of projected benefit payments to determine the Total Pension Liability. For purpose of this valuation, the expected rate of return on pension plan investments is 7.80%; the municipal bond rate is 4.10% (based on the weekly rate closest to but not later than the measurement date of the Bond Buyer 20-Bond Index as published by the Bond Buyer); and the resulting single discount rate is 7.80%.

CHANGES IN NET PENSION LIABILITY

	Increase (Decrease)		
	Total Pension Liability	Plan Fiduciary Net Position	Net Pension Liability
	(a)	(b)	(a)-(b)
Balances as of September 30, 2018	\$ 779,465,374	\$ 738,837,282	\$ 40,628,092
Changes for a Year:			
Service Cost	7,342,442	-	7,342,442
Interest	60,128,830	-	60,128,830
Differences between Expected and Actual Experience	(4,637,161)	-	(4,637,161)
Changes of assumptions	9,771,436	-	9,771,436
Changes of benefit terms	-	-	-
Contributions - Employer	-	21,312,069	(21,312,069)
Contributions - Employee	-	23,446	(23,446)
Net Investment Income	-	(31,205,505)	31,205,505
Benefit Payments, including Refunds of Employee Contributions	(51,366,767)	(51,366,767)	-
Administrative Expense	-	(301,860)	301,860
Net Changes	21,238,780	(61,538,617)	82,777,397
Balances as of September 30, 2019	\$ 800,704,154	\$ 677,298,665	\$ 123,405,489

Sensitivity of the Net Pension Liability to changes in the Discount Rate.

	Current Discount		
	1% Decrease	Rate	1% Increase
	6.80%	7.80%	8.80%
Sponsor's Net Pension Liability	\$ 212,560,203	\$ 123,405,489	\$ 48,312,584

Pension Plan Fiduciary Net Position.

Detailed information about the pension Plan's Fiduciary Net Position is available in a separately issued Plan financial report.

**PRELIMINARY PENSION EXPENSE AND DEFERRED OUTFLOWS OF RESOURCES
AND DEFERRED INFLOWS OF RESOURCES RELATED TO PENSIONS
FISCAL YEAR SEPTEMBER 30, 2019**

For the year ended September 30, 2019, the Sponsor will recognize a Pension Expense of \$41,595,632.

On September 30, 2019, the Sponsor reported Deferred Outflows of Resources and Deferred Inflows of Resources related to pensions from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between Expected and Actual Experience	2,901,956	4,905,011
Changes of assumptions	10,884,124	-
Net difference between Projected and Actual Earnings on Pension Plan investments	48,678,480	-
Employer contributions subsequent to the measurement date	TBD	
Total	TBD	\$ 4,905,011

The outcome of the Deferred Outflows of resources related to pensions resulting from Employer contributions subsequent to the measurement date will be recognized as a reduction of the Net Pension Liability in the year ended September 30, 2019.

Amounts reported as Deferred Outflows of Resources and Deferred Inflows of Resources related to pensions will be recognized in Pension Expense as follows:

Year ended September 30:	
2020	\$ 21,426,630
2021	\$ 10,684,945
2022	\$ 6,826,469
2023	\$ 18,621,505
2024	\$ -
Thereafter	\$ -

SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS

Last 10 Years

Reporting Period Ending Measurement date ¹	09/30/2019 12/31/2018	09/30/2018 12/31/2017	09/30/2017 12/31/2016
Total Pension Liability			
Service Cost	7,342,442	7,010,114	6,751,373
Interest	60,128,830	58,667,019	57,831,275
Changes of benefit terms	-	-	-
Differences between Expected and Actual Experience	(4,637,161)	6,440,926	(5,677,587)
Changes of assumptions	9,771,436	6,807,187	-
Contributions - Buy Back	-	-	-
Benefit Payments, including Refunds of Employee Contributions	(51,366,767)	(50,601,534)	(47,805,921)
Net Change in Total Pension Liability	21,238,780	28,323,712	11,099,140
Total Pension Liability - Beginning	779,465,374	751,141,662	740,042,522
Total Pension Liability - Ending (a)	\$800,704,154	\$779,465,374	\$751,141,662
Plan Fiduciary Net Position			
Contributions - Employer	21,312,069	17,600,000	17,000,000
Contributions - Employee	23,446	26,864	38,435
Net Investment Income	(31,205,505)	110,425,406	43,218,798
Benefit Payments, including Refunds of Employee Contributions	(51,366,767)	(50,601,534)	(47,805,921)
Administrative Expense	(301,860)	(4,450,982)	(4,107,109)
Net Change in Plan Fiduciary Net Position	(61,538,617)	72,999,754	8,344,203
Plan Fiduciary Net Position - Beginning	738,837,282	665,837,528	657,493,325
Plan Fiduciary Net Position - Ending (b)	\$677,298,665	\$738,837,282	\$665,837,528
Net Pension Liability - Ending (a) - (b)	\$123,405,489	\$ 40,628,092	\$ 85,304,134
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	84.59%	94.79%	88.64%
Covered Payroll	\$146,620,834	\$150,529,542	\$141,162,745
Net Pension Liability as a percentage of Covered Payroll	84.17%	26.99%	60.43%

Notes to Schedule:

¹ The results for measurement 2014-2017 were provided by the prior actuary, AON Retirement & Investment, Tampa (FL).

Changes of assumptions:

For measurement date 12/31/2018, amounts reported as changes of assumptions resulted from an Experience Study dated September 10, 2018, the Board approved the following changes:

- The investment return assumption was decreased from 7.90% to 7.80% per year compounded annually, net of investment related expenses. This return assumption is scheduled to decrease to 7.65% as of January 1, 2020 and to 7.50% for the January 1, 2021 valuation and each subsequent valuation.
- Updates to the expected rates of non-retirement turnover from an age-and-service-based assumption to a service-based assumption.
- Updates to the assumed rates of disability retirements by reducing the rate at each age by 25% to better reflect actual plan experience.

SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS

Last 10 Fiscal Years

Reporting Period Ending	09/30/2016	09/30/2015
Measurement date ¹	12/31/2015	12/31/2014
Total Pension Liability		
Service Cost	6,178,852	5,622,896
Interest	54,397,153	54,286,720
Changes of benefit terms	-	-
Differences between Expected and Actual Experience	(705,417)	(18,993,096)
Changes of assumptions	29,092,119	5,509,188
Contributions - Buy Back	-	-
Benefit Payments, including Refunds of Employee Contributions	(45,411,498)	(45,791,000)
Net Change in Total Pension Liability	43,551,209	634,708
Total Pension Liability - Beginning	696,491,313	695,856,605
Total Pension Liability - Ending (a)	<u>\$740,042,522</u>	<u>\$696,491,313</u>
Plan Fiduciary Net Position		
Contributions - Employer	13,264,540	17,047,000
Contributions - Employee	61,870	81,000
Net Investment Income	580,412	37,277,445
Benefit Payments, including Refunds of Employee Contributions	(45,411,498)	(45,791,000)
Administrative Expense	(3,570,999)	(3,549,445)
Net Change in Plan Fiduciary Net Position	(35,075,675)	5,065,000
Plan Fiduciary Net Position - Beginning	692,569,000	687,504,000
Plan Fiduciary Net Position - Ending (b)	<u>\$657,493,325</u>	<u>\$692,569,000</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ 82,549,197</u>	<u>\$ 3,922,313</u>
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	88.85%	99.44%
Covered Payroll	138,663,748	127,097,787
Net Pension Liability as a percentage of Covered Payroll	59.53%	3.09%

Notes to Schedule:

¹ The results for measurement 2014-2017 were provided by the prior actuary, AON Retirement & Investment, Tampa (FL).

SCHEDULE OF CONTRIBUTIONS
Last 10 Years

Reporting Period Ending	Actuarially Determined Contribution ¹	Contributions in relation to the Actuarially Determined Contributions	Contribution Deficiency (Excess)	Covered Payroll	Contributions as a percentage of Covered Payroll
09/30/2018	\$ 20,479,927	\$ 20,479,927	\$ -	\$150,529,542	13.61%
09/30/2017	\$ 17,607,540	\$ 17,000,000	\$ 607,540	\$141,162,745	12.04%
09/30/2016	\$ 13,927,551	\$ 13,264,540	\$ 663,011	\$138,663,748	9.57%
09/30/2015	\$ 16,757,642	\$ 17,047,000	\$ (289,358)	\$127,097,787	13.41%
09/30/2014	\$ 24,369,057	\$ 24,627,660	\$ (258,603)	\$124,594,728	19.77%

¹ Minimum Required Contribution provided by prior actuary, AON Retirement & Investment, Tampa (FL).

Notes to Schedule

Valuation Date: 01/01/2018

Actuarially Determined Required contribution rates are calculated as of January 1 of the following year in which contributions are reported.

Methods and assumptions used to determine contribution rates:

Discount Rate: 7.90%.

Salary Increases: See Table 1 on page 42 of the 01/01/2018 VAL.

Payroll Growth: For purposes of projecting Total Participants Compensation (under maximum assumed retirement age) from the calendar year forward nine months to the plan year beginning October 1, a 2% increase assumption is applied.

General inflation: 2.5%

Benefit and Compensation Limits: N/A

Maximum Compensation: Compensation is limited to \$270,000 per year, projected to increase at the rate of 2.5% per year.

Maximum Benefit: The maximum accrued benefit payable as a life annuity (the value of the Plan's Survivor Annuity is not subject to this limitation) commencing between ages 62 and 65 is \$215,000, projected to increase at the rate of 2.5% per year.

Retirement Age Active Participants: See Table 2 and-3 on page 43-44 of the 01/01/2018 VAL.

Retirement Age Terminated Vested

Participants: Age 70.

Mortality Rates Active: Female: RP-2000 Generational, 100% Combined Healthy with White Collar Adjustment, Scale BB.

Male: RP-2000 Generational, 50% Combined Healthy with White Collar Adjustment/50% Combined Healthy with Blue Collar Adjustment, Scale BB.

Mortality Rate Inactive: Female: RP-2000 Generational, 100% Annuitant White Collar, Scale BB.

Male: RP-2000 Generational, 50% Combined Healthy with White Collar Adjustment/50% Combined Healthy with Blue Collar Adjustment, Scale BB.

Post-Disablement Mortality: RP-2000 Disabled Male setback four years and Disabled Female set forward two years.

Withdrawal Rates: See Table 4 on page 45 of the 01/01/2018 VAL.

Disability Rates: See Table 5 on page 46 of the 01/01/2018 VAL.

Decrement Timing: Middle of year decrements, with 100% retirement occurring at beginning of year.

Surviving Spouse Benefit: It is assumed that 70% of all active males and 55% of all active females have an eligible spouse and that males are three years older than their spouse.

The marital status of a terminated vested participant who has not yet elected a form of benefit payment is assumed to be that reported by the participant at his or her date of termination and recorded in the Pension Office.

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Remarriage:	See Table 6 on page 48 of the 01/01/2018 VAL. Using the October 1, 2001, valuation results, an analysis was made of the impact of the reduction in the Survivor Annuity from 75% to 50% upon remarriage (Division A). Based on these remarriage rates, the analysis showed that the impact was equivalent to valuing (1) a 73.63% Survivor Annuity for active, terminated vested, retired and disabled participants and (2) a benefit equal to 99.16% of the actual monthly benefit for beneficiaries already receiving the Survivor Annuity.
Asset Method:	Assets are valued using five year smoothed market value without phase-in.
Timing of Contribution:	The contribution is assumed to be made at the beginning of the fiscal year.
Employees Covered:	All Participants as of the actuarial valuation date.
Actuarial Cost Method:	Entry Age Normal with Frozen Initial Liability - Changes in plan provisions, to the extent unfunded, are reflected in a supplemental component of the Unfunded Frozen Initial Liability. Changes in actuarial assumptions are reflected in future Normal Costs.

EXPENSE DEVELOPMENT AND AMORTIZATION SCHEDULES

The following information is not required to be disclosed but is provided for informational purposes.

PRELIMINARY COMPONENTS OF PENSION EXPENSE
FISCAL YEAR SEPTEMBER 30, 2019

	Net Pension Liability	Deferred Inflows	Deferred Outflows	Pension Expense
Beginning Balance	\$ 40,628,092	\$ 50,025,269	\$ 45,090,984	\$ -
Employer Contributions made after 12/31/2018			TBD*	
Total Pension Liability Factors:				
Service Cost	7,342,442	-	-	7,342,442
Interest	60,128,830	-	-	60,128,830
Changes in benefit terms	-	-	-	-
Differences between Expected and Actual Experience with regard to economic or demographic assumptions	(4,637,161)	4,637,161	-	-
Current year amortization of experience difference	-	(2,577,275)	(1,769,485)	(807,790)
Change in assumptions about future economic or demographic factors or other inputs	9,771,436	-	9,771,436	-
Current year amortization of change in assumptions	-	-	(10,247,327)	10,247,327
Benefit Payments, including Refunds of Employee Contributions	(51,366,767)	-	-	-
Net change	<u>21,238,780</u>	<u>2,059,886</u>	<u>(2,245,376)</u>	<u>76,910,809</u>
Plan Fiduciary Net Position:				
Contributions - Employer	21,312,069	-	-	-
Contributions - Employee	23,446	-	-	(23,446)
Projected Net Investment Income	56,767,746	-	-	(56,767,746)
Difference between projected and actual earnings on Pension Plan investments	(87,973,251)	-	87,973,251	-
Current year amortization	-	(11,795,036)	(32,969,191)	21,174,155
Benefit Payments, including Refunds of Employee Contributions	(51,366,767)	-	-	-
Administrative Expenses	(301,860)	-	-	301,860
Net change	<u>(61,538,617)</u>	<u>(11,795,036)</u>	<u>55,004,060</u>	<u>(35,315,177)</u>
Ending Balance	<u>\$ 123,405,489</u>	<u>\$ 40,290,119</u>	<u>TBD</u>	<u>\$ 41,595,632</u>

* Employer Contributions made subsequent to the measurement date of December 31, 2018 and before September 30, 2019 should be included as deferred outflows of resources.

AMORTIZATION SCHEDULE - INVESTMENTS

Increase (Decrease) in Pension Expense Arising from the Recognition of the of Differences Between Projected and Actual Earnings on Pension Plan Investments

Year Base Established	Differences Between Expected and Actual Earnings	Recognition Period (Years)	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
2014	\$ 16,093,437	5	\$ 3,218,689	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2015	\$ 53,133,574	5	\$ 10,626,715	\$ 10,626,714	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2016	\$ 7,645,684	5	\$ 1,529,137	\$ 1,529,137	\$ 1,529,136	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2017	\$ (58,975,180)	5	\$ (11,795,036)	\$ (11,795,036)	\$ (11,795,036)	\$ (11,795,036)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2018	\$ 87,973,251	5	\$ 17,594,650	\$ 17,594,650	\$ 17,594,650	\$ 17,594,650	\$ 17,594,651	\$ -	\$ -	\$ -	\$ -	\$ -
Net Increase (Decrease) in Pension Expense			\$ 21,174,155	\$ 17,955,465	\$ 7,328,750	\$ 5,799,614	\$ 17,594,651	\$ -	\$ -	\$ -	\$ -	\$ -

AMORTIZATION SCHEDULE - CHANGES OF ASSUMPTIONS

Increase (Decrease) in Pension Expense Arising from the Recognition of the Effects of Changes of Assumptions

Year Base Established	Changes of Assumptions	Recognition Period (Years)	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
2015	\$ 29,092,119	3.85	\$ 6,422,934	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2017	\$ 6,807,187	3.64	\$ 1,870,106	\$ 1,870,106	\$ 1,196,869	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2018	\$ 9,771,436	5	\$ 1,954,287	\$ 1,954,287	\$ 1,954,287	\$ 1,954,287	\$ 1,954,288	\$ -	\$ -	\$ -	\$ -	\$ -
Net Increase (Decrease) in Pension Expense			\$ 10,247,327	\$ 3,824,393	\$ 3,151,156	\$ 1,954,287	\$ 1,954,288	\$ -	\$ -	\$ -	\$ -	\$ -

AMORTIZATION SCHEDULE - EXPERIENCE

Increase (Decrease) in Pension Expense Arising from the Recognition of the Effects of Differences between Expected and Actual Experience

Year Base Established	Differences Between Expected and Actual Experience	Recognition Period (Years)	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
2015	\$ (705,417)	3.85	\$ (155,742)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2016	\$ (5,677,587)	3.8	\$ (1,494,102)	\$ (1,195,281)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2017	\$ 6,440,926	3.64	\$ 1,769,485	\$ 1,769,485	\$ 1,132,471	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2018	\$ (4,637,161)	5	\$ (927,431)	\$ (927,432)	\$ (927,432)	\$ (927,432)	\$ (927,434)	\$ -	\$ -	\$ -	\$ -	\$ -
Net Increase (Decrease) in Pension Expense			\$ (807,790)	\$ (353,228)	\$ 205,039	\$ (927,432)	\$ (927,434)	\$ -	\$ -	\$ -	\$ -	\$ -