

CITY OF ACTUARIES
GENERAL EMPLOYEES PENSION PLAN
ACTUARIAL VALUATION
AS OF OCTOBER 1, 2019
CONTRIBUTIONS APPLICABLE TO THE
PLAN/FISCAL YEAR ENDING SEPTEMBER 30, 2021

May 4, 2020

Board of Trustees
City of Actuaries
General Employees Pension Plan

Re: City of Actuaries 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 Actuaries General Employees Pension Plan ("Plan"). The 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. Use of the results for other purposes may not be applicable and may produce significantly different results.

The valuation has 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 reflects 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 valuation, as adopted by the Board of Trustees, represent reasonable expectations of anticipated plan experience.

The funding percentages and unfunded accrued liability as measured based on the actuarial value of assets will differ from similar measures based on the market value of assets. These measures, as provided, are appropriate for determining the adequacy of future contributions, but may not be appropriate for the purpose of settling a portion or all of the Plan's liabilities. 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.

In conducting the valuation, we have relied on personnel, plan design, and asset information supplied by the City of Actuaries 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.

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 ABC Actuaries, Inc. working on valuations of the program has any direct financial interest or indirect material interest in the City of Actuaries, nor does anyone at ABC Actuaries, 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,

ABC Actuaries, Inc.

By: _____
Joe Actuary, ASA, EA, MAAA
Enrolled Actuary #20-99999

Enclosures

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SUMMARY OF REPORT

The regular annual actuarial valuation of the City of Actuaries General Employees Pension Plan, performed as of October 1, 2019, has been completed and the results are presented in this Report.

Below is a brief summary of results:

Contribution Requirements

The contribution amounts set forth herein are applicable to the plan/fiscal year ending September 30, 2021. The contribution requirements, compared with those set forth in the October 1, 2018 actuarial valuation report, are as follows:

Valuation Date Applicable to Fiscal Year Ending	10/1/2019 <u>9/30/2021</u>	10/1/2018 <u>9/30/2020</u>
Minimum Required Contribution % of Projected Annual Payroll	23.58%	23.82%
Member Contributions (Est.) % of Projected Annual Payroll	5.00%	5.00%
City Required Contribution % of Projected Annual Payroll	18.58%	18.82%

The City's required contribution decreased by 0.24% of payroll compared to the required contribution amount determined in the October 1, 2018 actuarial valuation report. A complete reconciliation of the change in contribution requirements can be found on page 8 of this report.

Plan Experience

Plan experience was favorable overall on the basis of the plan's actuarial assumptions. Sources of actuarial gain included inactive mortality experience and an investment return of 8.45% (Actuarial Asset Basis) which exceeded the 7.90% assumption. There were no significant sources of actuarial loss. A detailed actuarial gain and loss analysis can be found on page 16 of this report.

Discussion of Risks

In reviewing the actuarial results contained in this report, it is important to consider key risk factors that may impact the future solvency of the Plan and/or future City contribution requirements. One of the most significant risks is the risk of adverse investment performance. Prolonged periods of investment performance below the assumed rate of investment return will reduce the Plan's funded status and increase contribution requirements over the long term.

The current funding policy is to amortize gains and losses over a 30-year period using a payment schedule that increases with the expected growth in payroll. The current schedule is projected to reduce 90% of the Plan's unfunded liability over a period of 20 years. Future losses/gains will increase/decrease the time horizon to fund the majority of the Plan's liabilities. Also, variances in actual payroll growth from the level expected may result in larger or smaller than anticipated contributions when calculated as a percentage of payroll. A detailed discussion of risks can be found on page 22.

CHANGES SINCE PRIOR VALUATION

Plan Changes

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

Actuarial Assumption/Method Changes

The assumed payroll growth rate has been decreased from 3.85% to 3.20% for this valuation.

Assumed administrative expenses were changed to be based on a two-year historical average of actual administrative expenses. This change was made to reduce volatility associated with annual fluctuations in expenses.

CONTRIBUTION IMPACT OF ANNUAL CHANGES

(1) Contribution Determined as of October 1, 2018	18.82%
(2) Summary of Contribution Impact by component:	
Change in Normal Cost Rate	-0.09%
Change in Administrative Expense Percentage	-0.12%
Payroll Change Effect on UAAL Amortization	-0.51%
Investment Return (Actuarial Asset Basis)	-0.13%
Salary Increases	0.04%
Active Decrements	0.00%
Inactive Mortality	-0.06%
Change in Payroll Growth Assumption	0.67%
Other	<u>-0.04%</u>
Total Change in Contribution	-0.24%
(3) Contribution Determined as of October 1, 2019	18.58%

COMPARATIVE SUMMARY OF PRINCIPAL VALUATION RESULTS

	<u>10/1/2019</u>	<u>10/1/2018</u>
A. Participant Data		
Actives	1,640	1,553
Service Retirees	1,175	1,139
DROP Retirees	36	45
Beneficiaries	128	128
Disability Retirees	37	40
Terminated Vested	<u>427</u>	<u>428</u>
Total	3,443	3,333
Total Annual Payroll	\$95,709,008	\$88,540,570
Payroll Under Assumed Ret. Age	95,462,199	88,443,898
Annual Rate of Payments to:		
Service Retirees	31,187,648	29,850,116
DROP Retirees	1,619,398	2,047,834
Beneficiaries	2,202,610	2,084,070
Disability Retirees	202,977	226,781
Terminated Vested	2,868,066	2,755,335
B. Assets		
Actuarial Value (AVA) ¹	418,180,262	399,538,409
Market Value (MVA) ¹	415,287,016	432,508,135
C. Liabilities		
Present Value of Benefits		
Actives		
Retirement Benefits	210,230,992	198,603,129
Disability Benefits	5,948,111	5,655,006
Death Benefits	4,095,641	3,865,999
Vested Benefits	8,053,882	7,401,522
Refund of Contributions	996,426	818,274
Service Retirees	361,109,044	348,153,328
DROP Retirees ¹	26,696,830	32,640,014
Beneficiaries	21,880,504	21,017,078
Disability Retirees	1,548,351	1,767,336
Terminated Vested	<u>11,723,231</u>	<u>11,628,075</u>
Total	652,283,012	631,549,761

C. Liabilities - (Continued)	<u>10/1/2019</u>	<u>10/1/2018</u>
Present Value of Future Salaries	768,579,247	713,050,804
Present Value of Future Member Contributions	38,428,962	35,652,540
Normal Cost (Retirement)	6,890,892	6,468,197
Normal Cost (Disability)	438,438	410,119
Normal Cost (Death)	193,750	178,715
Normal Cost (Vesting)	742,494	676,121
Normal Cost (Refunds)	<u>429,420</u>	<u>400,320</u>
Total Normal Cost	8,694,994	8,133,472
Present Value of Future Normal Costs	67,099,390	63,047,039
Accrued Liability (Retirement)	157,417,219	148,714,567
Accrued Liability (Disability)	2,528,295	2,460,049
Accrued Liability (Death)	2,593,247	2,478,597
Accrued Liability (Vesting)	2,002,805	1,923,016
Accrued Liability (Refunds)	(2,315,904)	(2,279,338)
Accrued Liability (Inactives) ¹	<u>422,957,960</u>	<u>415,205,831</u>
Total Actuarial Accrued Liability (EAN AL)	585,183,622	568,502,722
Unfunded Actuarial Accrued Liability (UAAL)	167,003,360	168,964,313
Funded Ratio (AVA / EAN AL)	71.5%	70.3%

D. Actuarial Present Value of
Accrued Benefits

	<u>10/1/2019</u>	<u>10/1/2018</u>
Vested Accrued Benefits		
Inactives ¹	422,957,960	415,205,831
Actives	57,354,779	53,513,121
Member Contributions	<u>37,066,495</u>	<u>35,383,548</u>
Total	517,379,234	504,102,500
Non-vested Accrued Benefits	<u>25,423,301</u>	<u>24,062,776</u>
Total Present Value		
Accrued Benefits (PVAB)	542,802,535	528,165,276
Funded Ratio (MVA / PVAB)	76.5%	81.9%

Increase (Decrease) in Present Value of
Accrued Benefits Attributable to:

Plan Amendments	0
Assumption Changes	0
Plan Experience	11,859,594
Benefits Paid	(37,467,428)
Interest	40,245,093
Other	<u>0</u>
Total	14,637,259

Valuation Date	10/1/2019	10/1/2018
Applicable to Fiscal Year Ending	<u>9/30/2021</u>	<u>9/30/2020</u>

E. Pension Cost

Normal Cost (with interest)		
% of Total Annual Payroll ²	9.47	9.56
Administrative Expenses (with interest)		
% of Total Annual Payroll ²	0.70	0.82
Payment Required to Amortize Unfunded Actuarial Accrued Liability over 30 years (as of 10/1/2019, with interest)		
% of Total Annual Payroll ²	13.41	13.44
Minimum Required Contribution		
% of Total Annual Payroll ²	23.58	23.82
Expected Member Contributions		
% of Total Annual Payroll ²	5.00	5.00
Expected City Contribution		
% of Total Annual Payroll ²	18.58	18.82

F. Past Contributions

Plan Years Ending:	<u>9/30/2019</u>
Total Required Contribution	21,539,232
City Requirement	16,936,832
Actual Contributions Made:	
Members (excluding buyback)	4,602,400
City	16,939,286
Total	21,541,686

G. Net Actuarial (Gain)/Loss	(2,430,664)
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¹ The asset values and liabilities include accumulated DROP Plan Balances as of 9/30/2019 and 9/30/2018.

² Contributions developed as of 10/1/2019 are expressed as a percentage of total annual payroll at 10/1/2019 of \$95,462,199.

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	167,003,360
2020	166,906,172
2021	166,376,007
2028	145,948,226
2035	78,833,098
2040	10,717,613

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

	<u>Actual</u>	<u>Assumed</u>
Year Ended 9/30/2019	5.93%	3.96%
Year Ended 9/30/2018	4.08%	3.96%
Year Ended 9/30/2017	3.42%	5.50%
Year Ended 9/30/2016	12.39%	5.32%
Year Ended 9/30/2015	2.74%	5.56%

(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 9/30/2019	-0.64%	8.45%	7.90%
Year Ended 9/30/2018	12.63%	10.84%	8.00%
Year Ended 9/30/2017	16.86%	11.79%	8.10%
Year Ended 9/30/2016	12.01%	13.77%	8.20%
Year Ended 9/30/2015	-0.17%	9.81%	8.30%

(iii) Average Annual Payroll Growth

(a) Payroll as of:	10/1/2019	\$95,462,199
	10/1/2009	79,691,765
(b) Total Increase		19.79%
(c) Number of Years		10.00
(d) Average Annual Rate		1.82%

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.

Joe Actuary, ASA, EA, MAAA
Enrolled Actuary #20-9999

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 October 1, 2018	\$168,964,313
(2)	Sponsor Normal Cost developed as of October 1, 2018	3,711,277
(3)	Expected administrative expenses for the year ended September 30, 2019	697,884
(4)	Expected interest on (1), (2) and (3)	13,668,938
(5)	Sponsor contributions to the System during the year ended September 30, 2019	16,939,286
(6)	Expected interest on (5)	669,102
(7)	Expected Unfunded Actuarial Accrued Liability as of September 30, 2019 (1)+(2)+(3)+(4)-(5)-(6)	169,434,024
(8)	Change to UAAL due to Assumption Change	0
(9)	Change to UAAL due to Actuarial (Gain)/Loss	(2,430,664)
(10)	Unfunded Actuarial Accrued Liability as of October 1, 2019	167,003,360

Type of Base	Date Established	Years Remaining	10/1/2019 Amount	Amortization Amount
2004 Fresh Start	10/1/2004	15	10,021,593	895,834
Actuarial Loss	10/1/2006	17	7,419,599	608,664
Actuarial Gain	10/1/2007	18	(2,679,335)	(211,655)
Actuarial Loss	10/1/2008	19	20,679,290	1,577,659
Actuarial Loss	10/1/2009	20	43,417,796	3,207,431
Assumption Change	10/1/2009	20	34,574,936	2,554,176
Actuarial Loss	10/1/2010	21	1,328,915	95,283
Assumption Change	10/1/2010	21	(9,844,154)	(705,827)
Actuarial Loss	10/1/2011	22	42,106,356	2,936,395
Assumption Change	10/1/2011	22	(9,819,868)	(684,814)
Actuarial Loss	10/1/2012	23	25,952,050	1,763,662
Actuarial Gain	10/1/2013	24	(2,303,847)	(152,837)
Assumption Change	10/1/2013	24	5,005,580	332,069
Actuarial Gain	10/1/2014	25	(13,386,286)	(868,264)
Assumption Change	10/1/2014	25	18,498,933	1,199,882
Actuarial Gain	10/1/2015	26	(5,088,032)	(323,137)
Assumption Change	10/1/2015	26	5,153,599	327,301
Actuarial Gain	10/1/2016	27	(13,096,880)	(815,503)
Assumption Change	10/1/2016	27	21,071,211	1,312,041
Actuarial Gain	10/1/2017	28	(17,217,911)	(1,052,419)
Assumption Change	10/1/2017	28	5,802,101	354,645
Actuarial Gain	10/1/2018	29	(4,207,357)	(252,729)
Assump Change	10/1/2018	29	6,045,735	363,158
Actuarial Gain	10/1/2019	30	(2,430,664)	(143,635)
			167,003,360	12,317,380

DETAILED ACTUARIAL (GAIN)/LOSS ANALYSIS

(1) Unfunded Actuarial Accrued Liability (UAAL) as of October 1, 2018	\$168,964,313
(2) Expected UAAL as of October 1, 2019	169,434,024
(3) Summary of Actuarial (Gain)/Loss, by component:	
Investment Return (Actuarial Asset Basis)	(2,140,417)
Salary Increases	590,392
Active Decrements	(73,798)
Inactive Mortality	(1,017,714)
Rehired Vested Terminated Participants	403,211
Other	<u>(192,338)</u>
Increase in UAAL due to (Gain)/Loss	(2,430,664)
Assumption Changes	<u>0</u>
(4) Actual UAAL as of October 1, 2019	\$167,003,360

ACTUARIAL ASSUMPTIONS AND METHODS

Mortality Rate

Healthy Active Lives:

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

Male: RP2000 Generational, 50% White Collar / 50% 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

Male: 100% RP2000 Disabled Male setback four years

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. We feel this assumption sufficiently accommodates future mortality improvements.

Interest Rate

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.

Salary Increase Rate

Salaries are assumed to increase annual based on years of service as shown in the table below:

Service	Rate
Less than 7	5.0%
7 – 11	4.0%
More than 11	3.0%

Payroll Growth

3.20% (prior year 3.85%) for purposes of amortizing the Unfunded Actuarial Accrued Liability.

Administrative Expenses

\$640,959 annually, based on the average of actual expenses incurred in the prior two fiscal years. Previously, the actual expense in the prior fiscal year was used. Using a two-year average results in a less volatile estimate than the prior method.

Marital Assumptions

100% of active members are assumed to be married with males 2 years older than females.

Retirement Rates

Hired Before October 2, 2007

<u>Age</u>	<u>Years of Service</u>					
	<u>10–14</u>	<u>15–19</u>	<u>20</u>	<u>21–24</u>	<u>25–26</u>	<u>27+</u>
< 57	0.0%	7.5%	20.0%	5.0%	10.0%	25.0%
57 – 59	0.0%	7.5%	30.0%	7.5%	10.0%	25.0%
60 – 64	0.0%	7.5%	30.0%	30.0%	10.0%	25.0%
65+	33.0%	33.0%	50.0%	30.0%	20.0%	100.0%

Hired October 2, 2007 Through October 1, 2012

<u>Age</u>	<u>Years of Service</u>				
	<u>10–14</u>	<u>15–24</u>	<u>25</u>	<u>26–29</u>	<u>30+</u>
< 57	0.0%	5.0%	20.0%	10.0%	25.0%
57 – 59	0.0%	5.0%	30.0%	10.0%	25.0%
60 – 64	0.0%	5.0%	30.0%	10.0%	25.0%
65+	33.0%	33.0%	50.0%	20.0%	100.0%

Hired On or After October 2, 2012

<u>Age</u>	<u>Years of Service</u>			
	<u>10–14</u>	<u>15–19</u>	<u>20–29</u>	<u>30+</u>
< 57	0.0%	5.0%	5.0%	25.0%
57 – 59	0.0%	5.0%	5.0%	25.0%
60 – 61	0.0%	5.0%	5.0%	25.0%
62	0.0%	7.5%	15.0%	50.0%
63 – 64	0.0%	5.0%	5.0%	50.0%
65+	33.0%	33.0%	33.0%	100.0%

Disability Rates

Sample rates of disability are shown below.

<u>Age</u>	<u>Male</u>	<u>Female</u>
25	0.0300%	0.0100%
30	0.0580%	0.0250%
35	0.0730%	0.0480%
40	0.1020%	0.0750%
45	0.1880%	0.1650%
50	0.3130%	0.2850%
55	0.5230%	0.4780%
60	0.6860%	0.5990%
65	0.2390%	0.1500%

33.3% of disablements are assumed to be service related and 30% of all disablements are assumed to qualify for Social Security benefits.

Termination Rates

For members with less than 5 years of service

<u>Service</u>	<u>Males</u>	<u>Females</u>
0	14.0%	22.0%
1	12.0%	16.0%
2	8.0%	13.0%
3	6.0%	11.0%
4	5.0%	10.0%

For members with at least 5 years of service

<u>Age</u>	<u>Males</u>	<u>Females</u>
< 30	4.0%	7.0%
30 – 34	3.0%	5.0%
35 – 39	2.5%	4.0%
40 – 64	2.0%	3.0%
65+	0.0%	0.0%

Non-vested members are assumed to withdraw their contributions and vested members are assumed to commence an annuity at age 65.

Accumulated Sick Leave

Service at termination was increased by 0.15 years for employees in the paid-time-off (PTO) program and 0.25 years for all other employees to recognize any accumulated unused sick leave.

Vacation Payout upon Termination

The final year of earnings is increased at termination for vacation payouts based on the following:

<u>Service</u>	<u>Rate</u>
< 7	2.0%
7 – 12	4.0%
13 – 17	6.0%
18 – 23	8.0%
> 24	10.0%

Final earnings are not adjusted for PTO employees.

Funding Method

Entry Age Normal Actuarial Cost Method.

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 percentage of payroll basis over 30 years.

GLOSSARY

Actuarial Accrued Liability (AAL) is the portion of the Present Value of Future Benefits determined under the Individual Entry Age Normal Actuarial Cost Method that is not provided for by future normal costs.

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 and the Unfunded Actuarial Accrued Liability.

Normal Cost (NC) is the portion of the Present Value of Future Benefits that is allocated to the upcoming year. Under the Individual Entry Age Normal Actuarial Cost Method it 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.

Present Value of Accumulated Plan Benefits (PVAB) is the single sum value on the valuation date of the benefits earned based on past service to be paid to current active Members, Retirees, Beneficiaries, Disability Retirees and Vested Terminations.

Present Value of Future Benefits (PVFB) 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.

Present Value of Future Normal Costs (PVFNC) 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 less the Actuarial Accrued Liability.

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

DISCUSSION OF RISK

ASOP No. 51, Assessment and Disclosure of Risk Associated with Measuring Pension Obligations and Determining Pension Plan Contributions, states that the actuary should identify risks that, in the actuary's professional judgment, may reasonably be anticipated to significantly affect the plan's future financial condition.

Throughout this report, actuarial results are determined using various actuarial assumptions. These results are based on the premise that all future plan experience will align with the plan's actuarial assumptions; however, there is no guarantee that actual plan experience will align with the plan's assumptions. It is possible that actual plan experience will differ from anticipated experience in an unfavorable manner that will negatively impact the plan's funded position.

Below are examples of ways in which plan experience can deviate from assumptions and the potential impact of that deviation. Typically, this results in an actuarial gain or loss representing the current-year financial impact on the plan's unfunded liability of the experience differing from assumptions; this gain or loss is amortized over a period of time determined by the plan's amortization method. When assumptions are selected that adequately reflect plan experience, gains and losses typically offset one another in the long term, resulting in a relatively low impact on the plan's contribution requirements associated with plan experience. When assumptions are too optimistic, losses can accumulate over time and the plan's amortization payment could potentially grow to an unmanageable level.

- Investment Return: When the rate of return on the Actuarial Value of Assets falls short of the assumption, this produces a loss representing assumed investment earnings that were not realized. Further, it is unlikely that the plan will experience a scenario that matches the assumed return in each year as capital markets can be volatile from year to year. Therefore, contribution amounts can vary in the future.
- Salary Increases: When a plan participant experiences a salary increase that was greater than assumed, this produces a loss representing the cost of an increase in anticipated plan benefits for the participant as compared to the previous year. The total gain or loss associated with salary increases for the plan is the sum of salary gains and losses for all active participants.
- Payroll Growth: The plan's payroll growth assumption, if one is used, causes a predictable annual increase in the plan's amortization payment in order to produce an amortization payment that remains constant as a percentage of payroll if all assumptions are realized. If payroll does not increase according to the plan's payroll growth assumption, the plan's amortization payment can increase significantly as a percentage of payroll even if all assumptions other than the payroll growth assumption are realized.
- Demographic Assumptions: Actuarial results take into account various potential events that could happen to a plan participant, such as retirement, termination, disability, and death. Each of these potential events is assigned a liability based on the likelihood of the event and the financial consequence of the event for the plan. Accordingly, actuarial liabilities reflect a blend of financial consequences associated with various possible outcomes (such as retirement at one of various possible ages). Once the outcome is known (e.g. the participant retires) the liability is adjusted to reflect the known outcome. This adjustment produces a gain or loss depending on whether the outcome was more or less favorable than other outcomes that could have occurred.

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 overall risk characteristics of the plan. For example, closed 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 closed plans with a substantial inactive liability. Similarly, mature closed 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 some relevant metrics in the table following titled “Plan Maturity Measures and Other Risk Metrics”. Highlights of this information are discussed below:

- The Support Ratio, determined as the ratio of active to inactive members, has stayed about the same from October 1, 2016 to October 1, 2019, indicating that the plan's maturity level has not significantly changed during the period.
- The Accrued Liability Ratio, determined as the ratio of the Inactive Accrued Liability, which is the liability associated with members who are no longer employed but are due a benefit from the plan, to the Total Accrued Liability, is 72.3%. With a plan of this maturity, losses due to lower than expected investment returns or demographic factors may result in larger increases in contribution requirements than would be needed for a less mature plan. Please note Chapter 112, Florida Statutes, requires that the plan sponsor contributes the minimum required contribution; thus, there is minimal solvency risk to the plan.
- The Funded Ratio, determined as the ratio of the Actuarial Value of Assets to the Total Accrued Liability, has increased from 66.9% on October 1, 2016 to 71.5% on October 1, 2019.
- The Net Cash Flow Ratio, determined as the ratio of the Net Cash Flow (contributions minus benefit payments and administrative expenses) to the Market Value of Assets, stayed approximately the same from October 1, 2016 to October 1, 2019. The current Net Cash Flow Ratio of -3.5% indicates that contributions are not currently covering the plan's benefit payments and administrative expenses.

It is important to note that the actuary has identified the risks in this section as the most significant risks based on the characteristics of the plan and the nature of the project, however, it is not an exhaustive list of potential risks that could be considered. Additional advanced modeling, as well as the identification of additional risks, can be provided at the request of the audience addressed on page 2 of this report.

PLAN MATURITY MEASURES AND OTHER RISK METRICS

	<u>10/1/2016</u>	<u>10/1/2017</u>	<u>10/1/2018</u>	<u>10/1/2019</u>
<u>Support Ratio</u>				
Total Actives	1,519	1,514	1,553	1,640
Total Inactives ¹	1,694	1,757	1,754	1,784
Actives / Inactives ¹	89.7%	86.2%	88.5%	91.9%
 <u>Asset Volatility Ratio</u>				
Market Value of Assets (MVA)	357,298,271	396,313,562	432,508,135	415,287,016
Total Annual Payroll	87,219,116	86,102,369	88,540,570	95,709,008
MVA / Total Annual Payroll	409.7%	460.3%	488.5%	433.9%
 <u>Accrued Liability (AL) Ratio</u>				
Inactive Accrued Liability	382,997,223	392,320,327	415,205,831	422,957,960
Total Accrued Liability (EAN)	526,326,537	538,735,346	568,502,722	585,183,622
Inactive AL / Total AL	72.8%	72.8%	73.0%	72.3%
 <u>Funded Ratio</u>				
Actuarial Value of Assets (AVA)	352,075,915	372,844,666	399,538,409	418,180,262
Total Accrued Liability (EAN)	526,326,537	538,735,346	568,502,722	585,183,622
AVA / Total Accrued Liability (EAN)	66.9%	69.2%	70.3%	71.5%
 <u>Net Cash Flow Ratio</u>				
Net Cash Flow ²	(16,495,754)	(19,590,011)	(13,025,220)	(14,489,753)
Market Value of Assets (MVA)	357,298,271	396,313,562	432,508,135	415,287,016
Ratio	-4.6%	-4.9%	-3.0%	-3.5%

¹ Excludes terminated participants awaiting a refund of member contributions.

² Determined as total contributions minus benefit payments and administrative expenses.

STATEMENT OF FIDUCIARY NET POSITION
SEPTEMBER 30, 2019

<u>ASSETS</u>	COST VALUE	MARKET VALUE
Cash and Cash Equivalents:		
Short Term Investments	4,194,211	4,194,211
Equity in Pooled Cash	2,044,175	2,044,175
Total Cash and Equivalents	6,238,386	6,238,386
Investments:		
U. S. Bonds and Bills	5,144,049	5,941,085
Federal Agency Guaranteed Securities	5,381,642	6,022,587
Corporate Bonds	4,914,018	5,624,914
MLP/Alternative	24,074,499	20,152,653
Equities	208,817,452	327,346,009
Mutual Funds:		
Pooled/Common/Commingled Funds:		
Real Estate	21,844,920	44,034,774
Total Investments	270,176,580	409,122,022
Total Assets	276,414,966	415,360,408
<u>LIABILITIES</u>		
Payables:		
Accrued Expenses/Payroll	73,392	73,392
Total Liabilities	73,392	73,392
NET POSITION RESTRICTED FOR PENSIONS	276,341,574	415,287,016

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION
FOR THE YEAR ENDED SEPTEMBER 30, 2019
Market Value Basis

ADDITIONS

Contributions:

Member	4,602,400
Buy-Back	121,500
City	16,939,286
Employee - Through DROP	1,898,522

Total Contributions	23,561,708
---------------------	------------

Investment Income:

Net Increase in Fair Value of Investments	(8,876,082)
Interest & Dividends	8,114,659
Less Investment Expense ¹	(1,969,943)

Net Investment Income	(2,731,366)
-----------------------	-------------

Total Additions	20,830,342
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DEDUCTIONS

Distributions to Members:

Benefit Payments - Regular Pension	32,588,558
Retiree DROP Monthly Additions	1,898,522
Benefit Payments - Disability Pension	196,505
Lump Sum DROP Distributions	2,271,385
Refunds of Member Contributions	512,458

Total Distributions	37,467,428
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Administrative Expense	584,033
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Total Deductions	38,051,461
------------------	------------

Net Increase in Net Position	(17,221,119)
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NET POSITION RESTRICTED FOR PENSIONS

Beginning of the Year	432,508,135
-----------------------	-------------

End of the Year	415,287,016
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¹Investment related expenses include investment advisory, custodial and performance monitoring fees.

ACTUARIAL ASSET VALUATION
September 30, 2019

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				
		<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>
09/30/2015	(27,504,055)	0	0	0	0	0
09/30/2016	13,339,875	2,667,975	0	0	0	0
09/30/2017	31,016,544	12,406,617	6,203,308	0	0	0
09/30/2018	18,155,826	10,893,496	7,262,331	3,631,166	0	0
09/30/2019	(36,076,668)	<u>(28,861,334)</u>	<u>(21,646,000)</u>	<u>(14,430,666)</u>	<u>(7,215,332)</u>	<u>0</u>
Total		(2,893,246)	(8,180,361)	(10,799,500)	(7,215,332)	0

<u>Development of Investment Gain/(Loss)</u>	
Market Value of Assets, 09/30/2018, net of DROP Balance	427,621,086
Contributions Less Benefit Payments & Admin Expenses	(14,116,890)
Expected Investment Earnings*	33,235,047
Actual Net Investment Earnings	<u>(2,841,621)</u>
2019 Actuarial Investment Gain/(Loss)	<u>(36,076,668)</u>

*Expected Investment Earnings = $427,621,086 * 0.079 + [(14,116,890) * [1+0.079]^{0.5} - (14,116,890)]$

<u>Development of Actuarial Value of Assets</u>	
(1) Market Value of Assets, 09/30/2019	415,287,016
(2) Gains/(Losses) Not Yet Recognized	<u>(2,893,246)</u>
(3) Actuarial Value of Assets, 09/30/2019, (1) - (2)	<u>418,180,262</u>

(A) 09/30/2018 Actuarial Assets, including DROP Balances: 399,538,409

(I) Net Investment Income:	
1. Interest and Dividends	8,114,659
2. Unrealized Gains (Losses)	(8,876,082)
3. Change in Actuarial Value	35,862,972
4. Investment Expenses	<u>(1,969,943)</u>
Total	<u>33,131,606</u>

(B) 09/30/2019 Actuarial Assets, including DROP Balances: 418,180,262

Actuarial Assets Rate of Return = $2I/(A+B-I)$: 8.45%
Market Value of Assets Rate of Return: -0.64%

Actuarial Gain/(Loss) due to Investment Return (Actuarial Asset Basis) 2,140,417

10/01/2019 Limited Actuarial Assets, including DROP Accounts: 418,180,262

CHANGES IN NET ASSETS AVAILABLE FOR BENEFITS
SEPTEMBER 30, 2019
Actuarial Asset Basis

REVENUES

Contributions:		
Member	4,602,400	
Buy-Back	121,500	
City	16,939,286	
Employee - Through DROP	1,898,522	
Total Contributions		23,561,708
Earnings from Investments:		
Interest & Dividends	8,114,659	
Net Increase in Fair Value of Investments	(8,876,082)	
Change in Actuarial Value	35,862,972	
Total Earnings and Investment Gains		35,101,549

EXPENDITURES

Distributions to Members:		
Benefit Payments - Regular Pension	32,588,558	
Retiree DROP Monthly Additions	1,898,522	
Benefit Payments - Disability Pension	196,505	
Lump Sum DROP Distributions	2,271,385	
Refunds of Member Contributions	512,458	
Total Distributions		37,467,428
Expenses:		
Investment related ¹	1,969,943	
Administrative	584,033	
Total Expenses		2,553,976
Change in Net Assets for the Year		18,641,853
Net Assets Beginning of the Year		399,538,409
Net Assets End of the Year ²		418,180,262

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

²Net Assets may be limited for actuarial consideration.

DEFERRED RETIREMENT OPTION PLAN ACTIVITY
October 1, 2018 to September 30, 2019

Beginning of the Year Balance	4,887,049
Plus Additions	1,898,522
Investment Return Earned	110,255
Less Distributions	<u>(2,271,385)</u>
End of the Year Balance	4,624,441

CITY CONTRIBUTIONS IN EXCESS OF MINIMUM REQUIREMENT
FOR THE FISCAL YEAR ENDED (FYE) SEPTEMBER 30, 2019

(1) Total Required Contribution Rate	23.40%
(2) Pensionable Payroll Derived from Member Contributions	\$92,048,000.00
(3) Total Required Contribution (1) x (2)	21,539,232.00
(4) Less Actual Member Contributions	(4,602,400.00)
(5) Equals Required City Contribution for Fiscal 2019	16,936,832.00
(6) Less 2018 Prepaid Contribution	0.00
(7) Less Actual City Contributions	<u>(16,939,286.00)</u>
(8) City Contributions in Excess of Minimum Requirement Applied to Reduce Unfunded Actuarial Accrued Liability as of September 30, 2019	(\$2,454.00)

STATISTICAL DATA

	<u>10/1/2016</u>	<u>10/1/2017</u>	<u>10/1/2018</u>	<u>10/1/2019</u>
<u>Actives</u>				
Number	1,519	1,514	1,553	1,640
Average Current Age	46.2	46.3	46.1	46.2
Average Age at Employment	36.6	36.6	36.7	37.0
Average Past Service	9.6	9.7	9.4	9.2
Average Annual Salary	\$57,419	\$56,871	\$57,013	\$58,359
<u>Service Retirees</u>				
Number	1,122	1,123	1,139	1,175
Average Current Age	66.5	67.3	67.6	67.9
Average Annual Benefit	\$26,298	\$25,646	\$26,207	\$26,543
<u>DROP Retirees</u>				
Number	<i>Included Above</i>	40	45	36
Average Current Age		58.6	59.1	59.3
Average Annual Benefit		\$44,538	\$45,507	\$44,983
<u>Beneficiaries</u>				
Number	105	113	128	128
Average Current Age	72.4	72.1	72.4	72.8
Average Annual Benefit	\$15,684	\$15,983	\$16,282	\$17,208
<u>Disability Retirees</u>				
Number	39	40	40	37
Average Current Age	62.9	63.7	62.6	63.9
Average Annual Benefit	\$5,792	\$5,779	\$5,670	\$5,486
<u>Terminated Vested (including limited participants)</u>				
Number	428	441	428	427
Average Current Age ¹		60.7	50.1	50.2
Average Annual Benefit ²	\$6,235	\$6,366	\$6,854	\$7,030

¹ Effective 10/1/2018, the Average Current Age excludes participants awaiting a refund of contributions.

² The Average Annual Benefit excludes participants awaiting a refund of contributions.

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												0
20 - 24	23	18	4	4	1							50
25 - 29	38	25	13	3	12	6						97
30 - 34	36	26	16	20	11	28	22					159
35 - 39	38	28	14	15	11	31	41	19				197
40 - 44	18	20	10	15	8	40	46	43	12			212
45 - 49	23	14	7	11	16	36	47	46	19	5		224
50 - 54	27	12	15	13	6	36	47	50	32	19	2	259
55 - 59	26	13	8	11	5	30	47	39	25	18	2	224
60 - 64	9	5	16	6	6	18	28	28	12	9	1	138
65+	5	2	4	3	2	12	25	16	8	1	2	80
Total	243	163	107	101	78	237	303	241	108	52	7	1,640

VALUATION PARTICIPANT RECONCILIATION

1. Active lives

a. Number in prior valuation 10/1/2018	1,553
b. Terminations	
i. Vested (partial or full) with deferred annuity	(23)
ii. Vested in refund of member contributions only	(8)
iii. Refund of member contributions or full lump sum distribution received	(94)
c. Deaths	
i. Beneficiary receiving benefits	(1)
ii. No future benefits payable	(4)
d. Disabled	(1)
e. Retired	(33)
f. DROP	(4)
g. Continuing participants	1,385
h. New entrants	<u>255</u>
i. Total active life participants in valuation	1,640

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 (Deferred Annuity)	Vested (Due Refund)	<u>Total</u>
a. Number prior valuation	1,139	45	128	40	402	26	1,780
Retired	61	(13)			(15)		33
DROP		4					4
Vested (Deferred Annuity)					29	(6)	23
Vested (Due Refund)						8	8
Hired/Terminated in Same Year					4	11	15
Death, With Survivor	(5)		6				1
Death, No Survivor	(22)		(6)	(3)	(2)		(33)
Disabled				1			1
Refund of Contributions					(5)	(20)	(25)
Rehires					(4)		(4)
Expired Annuities				(2)			(2)
Data Corrections	2			1	(1)		2
b. Number current valuation	1,175	36	128	37	408	19	1,803

SUMMARY OF CURRENT PLAN

Eligibility

Any full-time regular employee of the City or Gas Company (excluding police officers and firefighters)

Credited Service

Credited Service means the total number of months of service with the City, expressed in terms of full and fractional years. Credited Service will include unused sick leave credits and personal critical leave bank (PLCB) credits. For service earned on or after October 1, 2012, no service shall be credited for unused sick leave or PLCB credits earned on or after October 1, 2012. In calculating credited service on or after October 1, 2012, the lesser number of months between the additional months of service credited for unused sick leave or PLCB credits earned on or before September 30, 2012 and months of unused sick leave or PLCB credits available to a member at the time of his or her retirement shall be used.

Employees who previously chose to participate in the City's 457 plan or defined contribution plan and elect to transfer to this Plan may purchase Credited Service for periods of employment during which they participated in the previous plan.

Limited Participant Service

Service worked for the City as an eligible member of the plan will be counted for any purpose of the Plan, except for the purpose of determining the member's accrued benefit and vesting.

Earnings

Pay received by a member as compensation for services to the City, including vacation termination pay, overtime pay, longevity pay and certain other specified pay. For members with hire dates on or before October 1, 2012, no more than 300 hours of overtime pay earned after October 1, 2012 will be included, nor will termination vacation pay. For members with hire dates on or after October 2, 2012, no more than 150 hours of overtime pay earned after October 1, 2012 will be included, nor will termination vacation pay.

Final Average Earnings (FAE)

Final Average Earnings mean average earnings for the highest 36 consecutive months for those hired on or before October 1, 2007, highest 48 consecutive months for members hired from October 2, 2007 through October 1, 2012, and highest 60 consecutive months for members hired on or after October 2, 2012.

Monthly Accrued Benefit

For those hired on or before October 1, 2012:
2.0% times FAE times Credited Service

For those hired after October 1, 2012:
1.8% times FAE times Credited Service

For Gas Company Employees, a monthly benefit payable for life starting at Normal Retirement Age, equal to:

- (i) the accrued benefit earned under the Gas Company Employees' Pension Plan ("predecessor plan") as of January 10, 1990; plus
- (ii) 2% of Final Average Earnings times Credited Service earned after January 10, 1990; plus
- (iii) for each year of service earned after January 10, 1990, an additional 2% of Final Average Earnings will be credited, not to exceed the service years earned under the accrued benefit formula under the predecessor plan; less
- (iv) for each year of predecessor plan service credited under (iii) above, the portion of the accrued benefit determined under (i) above based on such years.

Member Contributions

Members are required to contribute 5.0% of earnings.

Vesting

Schedule

100% after 5 years of Credited Service.

Benefit Amount

Members that terminate employment with 5 or more years of Credited Service, the Monthly Accrued Benefit is payable unreduced at age 65.

Members that terminate employment with less than 5 years of service will receive a refund of Member contributions without interest.

Normal Retirement

Date

First day of the month coincident with or following the earlier of:

- (1) Age 65 with 10 years of Credited Service
- (2) 20 or more years of Credited Service for those hired on or before October 1, 2007
- (3) 25 or more years of Credited Service for those hired from October 2, 2007 through October 1, 2012
- (4) 30 or more years of Credited Service for those hired after October 1, 2012

Benefit

Monthly Accrued Benefit

Early Retirement

Date	Age 55 with 15 or more years of Credited Service for those hired on or before October 1, 2012 Age 60 with 20 or more years of Credited Service for those hired after October 1, 2012
Benefit	Monthly Accrued Benefit reduced actuarially by 5.0% per year benefits commence prior to age 65.

Delayed Retirement

Date	Termination of employment following eligibility for Normal Retirement.
Benefit	Monthly Accrued Benefit

Deferred Retirement Option Plan (“DROP”)

Eligibility	A Member who has earned at least 27 years of Credited Service.
Participation	Members may participate for a maximum of 60 months or the attainment of 35 years of service.
Rate of Return	DROP benefits accumulate with interest as follows: <ul style="list-style-type: none">• For those who enter DROP on or before October 1, 2012 - 6.0% per year.• For those who enter DROP after October 1, 2012 - 2.25% per year.• For those who enter DROP on or after May 1, 2016 - One-time election for interest to accrue at (1) 2.25% per year or (2) a variable rate between 0.0% and 4.5% per year based on the plan’s actual return for the previous plan year.
Distribution	Lump sum and/or rollover to qualified retirement plan(s) at termination of employment.

Death Benefits – Pre Retirement

Pre-Retirement	
Eligibility	Death prior to retirement.
Benefit	If the Member dies prior to eligibility for normal or early retirement, the beneficiary will receive the member’s contributions without interest. If the Member dies subsequent to normal or early retirement, the beneficiary will receive the benefit payable in the form selected by the Member as though the Member had retired the day before his or her death. If no option is selected, beneficiaries of married members will receive the survivor portion of the joint and survivor option and beneficiaries of members not married receive contributions without interest.

Death Benefits – Post Retirement

Benefits payable to beneficiary in accordance with option selected at retirement provided that amounts contributed by members in excess of retirement benefits paid to the member under the normal form shall be paid to the beneficiary without interest.

Disability

Eligibility

Service Incurred

Permanent and totally disabled in the line of duty.

Non-Service Incurred

Permanent and totally disabled not in the line of duty after completion of 5 years of credited service.

Disability Benefit Percentage

Service Incurred

The greater of 2.0% times Credited Service, but not less than 42%.

Non-Service Incurred

The greater of 2.0% times Credited Service, but not less than 25% of Final Average Earnings.

Disability Benefit

Benefit Amount

Disability Benefit Percentage times FAE.

Offset

Disability Benefit Percentage (up to a maximum of 50%) times Social Security primary insurance amount (PIA).

Maximum

In no event shall the disability benefit payable by the city to a disabled employee exceed the lesser of \$3,750.00 per month or an amount equal to his/her maximum benefit percent, less any reductions for offsets and the initially determined wage replacement benefit made to the employee under workers' compensation laws. The deductions for workers' compensation payments shall not be made if the board determines that the disability for which benefits are payable is not, directly or indirectly, related to the injury for which workers' compensation payments were made. Unless otherwise provided by law, the reduction attributable to workers' compensation payments shall not reduce the disability benefit below the amount which, when such is combined with Social Security disability and workers' compensation benefits received by the employee, equals 80 percent of the employee's AWW or 80 percent of the employee's ACE (on a weekly basis), whichever is greater. A disabled employee's maximum benefit percent will be 80 percent if the employee's disability is due to a job-related injury in the course of employment with the city resulting in payment of workers' compensation, and otherwise shall be 70 percent.

Normal Form of Payment

Optional Forms of Payment

Actuarial Equivalence

Form of Payment

Cost of Living Adjustment ("COLA")

Retired Prior to October 1, 2000

Hired On or Prior to October 1, 2012

20 Years of Credited Service or
More on October 1, 2012

Less Than 20 Years of Credited
Service on October 1, 2012

Hired After October 1, 2012

Life Annuity

Interest rate: 9.5%

Mortality Table: 1994 Group Annuity Mortality Basic
Table-Unisex 50/50

Life Annuity

66 2/3% Joint and Last Survivor

66 2/3% Joint and Survivor

Social Security Option

Joint and Last Survivor reduces upon death of the
Member or Beneficiary. Joint and Survivor reduces
only upon death of the Member. All forms above
guarantee the Member will receive the Member's
contributions.

COLA's do not apply during the DROP period.

2.0% increase each October 1st following age 62.

If member subsequently retires with 25 years of
Credited Service, 2.0% per year increase for retired
members and their beneficiaries, commencing
October 1 following member's age 60

If member subsequently retires with less than 25
years of Credited Service, 2.0% per year increase for
retired members and their beneficiaries,
commencing October 1 following member's age 62.

If member subsequently retires with at least 25 years of
Credited Service, 2.0% per year increase for retired
members and their beneficiaries commencing October 1
following member's age 65.

If member retires with at least 30 years of Credited
Service, 2.0% per year increase for retired members
and their beneficiaries commencing October 1
following the member's age 65.