

CITY PENSION FUND FOR FIREFIGHTERS AND POLICE OFFICERS IN THE CITY OF MIAMI BEACH

ACTUARIAL VALUATION AS OF OCTOBER 1, 2017

This Valuation Determines the Annual Contribution for the Fund Year October 1, 2018 through September 30, 2019 to be paid in Fiscal Year October 1, 2018 to September 30, 2019



**City Pension Fund for Firefighters and Police Officers
in the City of Miami Beach**

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April 16, 2018

Ms. Donna Brito
Executive Director
City Pension Fund for Firefighters and Police Officers
in the City of Miami Beach
1691 Michigan Avenue, Suite 355
Miami Beach, Florida 33139

Dear Donna:

October 1, 2017 Actuarial Valuation

We are pleased to present our October 1, 2017 Actuarial Valuation Report for the City Pension Fund for Firefighters and Police Officers in the City of Miami Beach (Fund). The purpose of this Report is to indicate appropriate contribution levels, comment on the actuarial stability of the Fund and to satisfy State requirements. The Board of Trustees has retained Gabriel, Roeder, Smith and Company (GRS) to prepare an annual actuarial valuation under Section 63 of the Fund Ordinance.

This Report consists of this commentary, detailed Tables I through XVIII, the State Required Exhibit on Table XIX and a Glossary on Table XX. The Tables contain basic Fund cost figures plus significant details on the benefits, liabilities and experience of the Fund. We suggest that you thoroughly review this Report at your convenience and contact us with any questions that may arise.

Retirement Fund Costs

Our Actuarial Valuation develops the required minimum Retirement Fund payment under the Florida Protection of Public Employee Retirement Benefits Act and for Fire and Police Retirement Chapters 175 and 185. The minimum payment consists of payment of annual normal costs including amortization of the components of the unfunded actuarial accrued liability over various periods as prescribed by law. The **minimum required contribution for fiscal year ending September 30, 2019 is \$46,310,664 (71.2% / 57.0%)**. The figures in parentheses is the Fund cost expressed as a percentage of projected annual pensionable payroll excluding DROP payroll (\$65,082,802) and projected annual pensionable payroll including DROP payroll (\$81,240,579) respectively for fiscal year ending September 30, 2019.

This total cost is to be met by member, City and State (Share Plan) contributions. We anticipate member contributions will be **\$6,563,515 (10.1% / 8.1%)**. The State (Share Plan) will contribute **\$120,549 (0.2% / 0.1%)** and the resulting minimum required City contribution will be **\$39,626,600 (60.9% / 48.8%)**. The minimum required City contribution does not include an interest adjustment

and must be increased if State (Share Plan) contributions are less than \$120,549. The City minimum required contribution requirement reflects an annual City payment at the beginning of the fiscal year.

Changes in Actuarial Assumptions, Methods and Fund Benefits

Fund provisions remain unchanged from the Fund provisions considered in the October 1, 2016 Actuarial Valuation. Fund provisions are summarized on Table IX.

Assumed investment return has been updated to 7.80%, net of investment expenses, compounded annually.

The remaining actuarial assumptions and methods are unchanged from the actuarial assumptions and methods utilized in the October 1, 2016 Actuarial Valuation. The actuarial assumptions and methods are outlined on Table X.

Comparison of October 1, 2016 and October 1, 2017 Valuation Results

Table II of this Report provides information of a comparative nature. The left columns of the Table indicate the costs as calculated for October 1, 2016. The center columns indicate the costs as calculated for October 1, 2017, prior to the update in actuarial assumptions. The right columns indicate the costs as calculated for October 1, 2017, after the update in actuarial assumptions.

Comparing the left and center columns of Table II shows the effect of Fund experience during the year. The number of active participants increased by approximately 2%. Projected pensionable payroll increased by approximately 9%. Total Fund membership increased by approximately 2%. Total normal cost increased as a dollar amount but decreased as a percentage of projected pensionable payroll. The unfunded actuarial accrued liability increased as a dollar amount but decreased as a percentage of projected pensionable payroll. The net City minimum funding requirement also increased as a dollar amount but decreased as a percentage of projected pensionable payroll.

Comparing the center and right columns of Table II shows the effect of the update of the actuarial assumptions. Total normal cost, unfunded actuarial accrued liability and net City minimum funding requirement increased both as a dollar amount and as a percentage of projected pensionable payroll.

The value of vested accrued benefits exceeds Fund assets, resulting in a Vested Benefit Security Ratio (VBSR) of 77.6% (78.1% before the update in actuarial assumptions) which is an increase from 75.5% as of the October 1, 2016 Actuarial Valuation. The VBSR is measured on a market value of assets basis.

Fund Experience

The Fund experienced an actuarial loss in the amount of \$8,002,730 this year. This indicates net Fund experience was less favorable than expected based upon the prior actuarial assumptions.

Table XVI (salary, turnover, mortality and investment yield) provides figures on recent Fund experience. Salary experience indicates actual salary increases averaged approximately 10.2% for Fund Year ended September 30, 2017. The average salary increase assumption was 5.8%. Salary increase experience was a significant source of actuarial loss. Three, five and ten-year average annual salary increases are 8.1%, 6.4% and 6.0%, respectively.

Employee turnover this year was approximately 110% of expected turnover based upon the turnover assumption and was generally an offsetting source of actuarial gain. Three and five-year turnover has averaged 120% and 110% of assumed turnover, respectively.

Mortality this year was approximately 50% of the assumed mortality and was generally an additional source of loss. Three and five-year mortality experience has averaged 90% and 90% of the assumed mortality, respectively.

This year's smoothed value investment return of 8.45% exceeded the Fund's prior year investment return assumption of 7.85%. Smoothed investment return was a source of actuarial gain during the year. Three, five and ten-year average annual investment returns are 8.94%, 9.3% and 6.6%, respectively on a smoothed actuarial value basis. Average annual market value returns for the one, three, five and ten-year periods have been 10.76%, 6.91%, 8.8% and 6.2%, respectively.

The Funded Ratio based on the actuarial accrued liability compared to the smoothed actuarial value of assets increased slightly from 72.3% to 72.6% (73.0% prior to the actuarial assumption changes).

Member Census and Financial Data

The Board submitted the Member census data as of October 1, 2017 used for this actuarial valuation to us. This information contains name, Social Security number, date of birth, date of hire, October 1, 2017 rate of pay and member contributions for the previous year. Dates of termination and retirement are provided where applicable. The Board updated information on inactive participants including retirees, beneficiaries and vested terminees.

We received financial information as of September 30, 2017 concerning Fund assets from the Fund Auditors. We do not audit the Member census data and asset information that is provided to us;

however, we perform certain reasonableness checks. The Fund is responsible for the accuracy of the data.

Summary

In our opinion the benefits provided for under the Fund will be sufficiently funded through the payment of the amount as indicated in this and future Actuarial Valuation Reports. We will continue to update you on future payment requirements for the Fund through future Actuarial Valuation Reports. In addition, these Reports will continue to monitor future experience of the Fund.

The actuarial assumptions used in this Actuarial Valuation are as adopted by the Board. The demographic actuarial assumptions are based on the results of an Experience Study for the period October 1, 2009 – September 30, 2014. The investment return assumption is based upon a Capital Market Assumption Study completed in 2014 and based upon recommendations from the Investment Consultant. The mortality assumptions are prescribed by statute. Each assumption represents an estimate of future Fund experience.

If all actuarial assumptions are met and if all future minimum required contributions are paid, Fund assets will be sufficient to pay all Fund benefits, future contributions are expected to remain relatively stable as a percent of payroll and the funded status is expected to improve. Fund minimum required contributions are determined in compliance with the requirements of the Florida Protection of Public Employee Retirement Benefits Act, Firefighters Retirement Chapter 175 and Police Officers Retirement Chapter 185 with normal cost determined as a level percent of covered payroll and with a level percent amortization payment using a closed amortization period of 30-years.

The Unfunded Actuarial Accrued Liability (UAAL) and the Funded Ratio may not be appropriate for assessing the sufficiency of Fund assets to meet the estimated cost of settling benefit obligations but may be appropriate for assessing the need for or the amount of future contributions. The UAAL and Funded Ratio would be different if it reflected the market value of assets rather than the smoothed actuarial value of assets.

The Unfunded Actuarial Present Value of Vested Accrued Benefits and the corresponding Vested Benefit Security Ratio may be appropriate for assessing the sufficiency of Fund assets to meet the estimated cost of settling benefit obligations but may not be appropriate for assessing the need for or the amount of future contributions.

The Government Accounting Standards Board Net Pension Liability and Fund Fiduciary Net Position as a Percentage of Total Pension Liability may not be appropriate for assessing the sufficiency of

Ms. Donna Brito
April 16, 2018
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Fund assets to meet the estimated cost of settling benefit obligations but may be appropriate for assessing the need for or the amount of future contributions.

Future actuarial measurements may differ significantly from the current measurements presented in this Report due to such factors as the following: Fund experience differing from anticipated under the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period) and changes in Fund provisions or applicable law. Due to the limited scope of the actuary's assignment, the actuary did not perform an analysis of the potential range of such future measurements.

This Report should not be relied on for any purpose other than the purpose described in the primary communication. Determinations of the financial results associated with the benefits described in this Report in a manner other than the intended purpose may produce significantly different results.

This Report has been prepared by actuaries who have substantial experience valuing public employee retirement systems. To the best of our knowledge the information contained in this Report is accurate and fairly presents the actuarial position of the Fund as of the valuation date. All calculations have been made in conformity with generally accepted actuarial principles and practices, with the Actuarial Standards of Practice issued by the Actuarial Standards Board and with applicable statutes.

This Report may be provided to parties other than the Board only in its entirety and only with the permission of an approved representative of the Board.

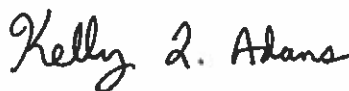
The signing actuaries are independent of the Fund sponsor.

The undersigned are Members of the American Academy of Actuaries and meet the qualification standards of the American Academy of Actuaries to render the actuarial opinions contained in this Report. We are available to respond to any questions with regards to matters covered in this Report.

Very truly yours,



Lawrence F. Wilson, A.S.A.
Senior Consultant and Actuary



Kelly L. Adams, A.S.A.
Consultant and Actuary

Summary of Pension Fund Costs as of October 1, 2017

	Prior Assumptions		Current Assumptions	
	<u>Cost Data</u>	<u>% of Projected Pensionable Payroll</u>	<u>Cost Data</u>	<u>% of Projected Pensionable Payroll</u>
A. Participant Data Summary (Table III)				
1. Active Employees	503	N/A	503	N/A
2. Terminated Vested (including dormants)	21	N/A	21	N/A
3. Receiving Benefits (including DROPs)	757	N/A	757	N/A
4. Annual Pensionable Payroll ¹	\$ 63,495,417	97.6%	\$ 63,495,417	97.6%
5. Projected Annual Pensionable Payroll ²	65,082,802	100.0%	65,082,802	100.0%
6. Projected Annual Pensionable Payroll including DROP ³	81,240,579	124.8%	81,240,579	124.8%
B. Total Normal Costs				
1. Age Retirement Benefits	\$ 14,261,638	21.9%	\$ 14,436,239	22.2%
2. Termination Benefits	1,051,417	1.6%	1,063,522	1.6%
3. Death Benefits	625,611	1.0%	630,438	1.0%
4. Disability Benefits	2,314,031	3.6%	2,332,762	3.6%
5. Estimated Expenses	769,079	1.2%	769,079	1.2%
6. Total Annual Normal Costs	\$ 19,021,776	29.2%	\$ 19,232,040	29.6%
C. Total Actuarial Accrued Liability				
1. Age Retirement Benefits Active Employees	\$ 215,792,663	331.6%	\$ 217,622,076	334.4%
2. Termination Benefits Active Employees	3,963,308	6.1%	3,996,124	6.1%
3. Death Benefits Active Employees	2,097,836	3.2%	2,110,604	3.2%
4. Disability Benefits Active Employees	11,204,849	17.2%	11,278,732	17.3%
5. Retired or Terminated Vested Participants Receiving Benefits (including DROPs)	854,729,054	1313.3%	859,263,736	1320.3%
6. Terminated Vested Participants Entitled to Future Benefits (including dormants)	4,524,204	7.0%	4,564,330	7.0%
7. Deceased Participants Whose Beneficiaries are Receiving Benefits	47,833,842	73.5%	48,029,296	73.8%
8. Disabled Participants Receiving Benefits	47,523,600	73.0%	47,756,029	73.4%
9. Total Actuarial Accrued Liability	\$ 1,187,669,356	1824.9%	\$ 1,194,620,927	1835.5%

¹ Annual Pensionable Payroll - Participant's pensionable pay for year ending September 30th increased by assumed salary increases to reflect pay increases.

² Projected Annual Pensionable Payroll - Annual Pensionable Payroll projected to the end of year (and beginning of fiscal year for which the City contributions are determined) by assuming an aggregate increase in payroll of 2.5%.

³ Projected Annual Pensionable Payroll including DROP - Projected Annual Pensionable Payroll plus DROP participants pay for year ending September 30th increased by assumed salary increases to reflect pay increases then projected to the end of the year assuming an aggregate increase in payroll of 2.5%.

Summary of Pension Fund Costs as of October 1, 2017

	Prior Assumptions		Current Assumptions	
	Cost Data	% of Projected Pensionable Payroll	Cost Data	% of Projected Pensionable Payroll
D. Assets (Table V)				
1. Smoothed Actuarial Value of Assets	\$ 867,403,683	1332.8%	\$ 867,403,683	1332.8%
2. Market Value of Assets	\$ 874,437,400	1343.6%	\$ 874,437,400	1343.6%
E. Unfunded Actuarial Accrued Liability (C. - D.1.)	\$ 320,265,673	492.1%	\$ 327,217,244	502.8%
F. Preliminary Minimum Required Contribution				
1. Total Normal Cost (including expenses)	\$ 19,021,776	29.2%	\$ 19,232,040	29.6%
2. Amortization of Unfunded Liability	25,173,228	38.7%	25,521,155	39.2%
3. Interest Adjustment	238,867	0.4%	237,455	0.4%
4. Expected Service Buyback	190,486	0.3%	190,486	0.3%
5. Total Preliminary Minimum Required Contribution	\$ 44,624,357	68.6%	\$ 45,181,136	69.4%
G. Projected Payroll of Active Employees for 2018-2019 Fund Year (A.5)	\$ 65,082,802	100.0%	\$ 65,082,802	100.0%
H. Contribution Sources for Fiscal Year Ending September 30, 2019				
1. City	\$ 39,055,902	60.0%	\$ 39,626,600	60.9%
2. State (Share Plan)	\$ 120,549	0.2%	\$ 120,549	0.2%
3. Member	\$ 6,563,515	10.1%	\$ 6,563,515	10.1%
I. City Contribution (% of Projected Annual Pensionable Payroll including DROP)	\$ 39,055,902	48.1%	\$ 39,626,600	48.8%
J. Actuarial Gain / (Loss)	\$ (8,002,730)	(12.3%)	\$ (8,002,730)	(12.3%)
K. Actuarial Present Value of Vested Accrued Benefits				
1. Retired, Terminated Vested, Beneficiaries and Disabled Receiving Benefits (including DROPs)	\$ 950,086,496	1459.8%	\$ 955,049,061	1467.4%
2. Terminated Vested Participants Entitled to Future Benefits and Miscellaneous	4,524,204	7.0%	4,564,330	7.0%
3. Active Participants Entitled to Future Benefits	165,531,001	254.3%	167,096,380	256.7%
4. Total Actuarial Present Value of Vested Accrued Benefits	\$ 1,120,141,701	1721.1%	\$ 1,126,709,771	1731.2%
L. Unfunded Actuarial Present Value of Vested Accrued Benefits (K. - D.2., not less than zero)	\$ 245,704,301	377.5%	\$ 252,272,371	387.6%
M. Vested Benefit Security Ratio (D.2. ÷ K.)	78.1%	N/A	77.6%	N/A

Comparison of Cost Data of October 1, 2016 and October 1, 2017 Valuations

	October 1, 2016			Prior Assumptions October 1, 2017			Current Assumptions October 1, 2017		
	Cost Data	% of Projected		Cost Data	% of Projected		Cost Data	% of Projected	
		Pensionable Payroll			Pensionable Payroll			Pensionable Payroll	
A. Participants									
1. Active Employees	494	N/A	N/A	503	N/A	503	503	N/A	N/A
2. Terminated Vested (including dormants)	25	N/A	N/A	21	N/A	21	21	N/A	N/A
3. Receiving Benefits (including DROPs)	742	N/A	N/A	757	N/A	757	757	N/A	N/A
4. Projected Annual Pensionable Payroll	\$ 59,793,025	100.0%	100.0%	\$ 65,082,802	100.0%	\$ 65,082,802	\$ 65,082,802	100.0%	100.0%
5. Projected Annual Pensionable Payroll (including DROPs)	\$ 71,375,310	119.4%	119.4%	\$ 81,240,579	124.8%	\$ 81,240,579	\$ 81,240,579	124.8%	124.8%
B. Present Value of Future Benefits	\$ 1,304,067,417	2181.0%	2181.0%	\$ 1,366,034,496	2098.9%	\$ 1,375,580,582	\$ 1,375,580,582	2113.6%	2113.6%
C. Total Normal Costs	\$ 18,357,026	30.7%	30.7%	\$ 19,021,776	29.2%	\$ 19,232,040	\$ 19,232,040	29.6%	29.6%
D. Actuarial Accrued Liability	\$ 1,129,476,584	1889.0%	1889.0%	\$ 1,187,669,356	1824.9%	\$ 1,194,620,927	\$ 1,194,620,927	1835.5%	1835.5%
E. Fund Assets									
1. Market Value of Assets	\$ 806,424,132	1348.7%	1348.7%	\$ 874,437,400	1343.6%	\$ 874,437,400	\$ 874,437,400	1343.6%	1343.6%
2. Smoothed Actuarial Value of Assets	\$ 816,917,537	1366.2%	1366.2%	\$ 867,403,683	1332.8%	\$ 867,403,683	\$ 867,403,683	1332.8%	1332.8%
F. Unfunded Actuarial Accrued Liability	\$ 312,559,047	522.7%	522.7%	\$ 320,265,673	492.1%	\$ 327,217,244	\$ 327,217,244	502.8%	502.8%
G. City Minimum Funding Payment (% of Projected Annual Payroll including DROP)	\$ 37,519,388	62.7%	62.7%	\$ 39,055,902	60.0%	\$ 39,626,600	\$ 39,626,600	60.9%	60.9%
		52.6%	52.6%		48.1%			48.8%	48.8%
H. Vested Benefit Security Ratio	75.5%	N/A	N/A	78.1%	N/A	77.6%	77.6%	N/A	N/A

**Characteristics of Participants in
Actuarial Valuation as of October 1, 2017**

A. Active Fund Participants Summary

1. Active participants fully vested	342
2. Active participants partially vested	0
3. Active participants non-vested	161
4. Total active participants	503
5. Annual Pensionable Payroll	\$ 63,495,417
6. Projected Annual Pensionable Payroll	\$ 65,082,802
7. Projected Annual Pensionable Payroll (Including DROPs)	\$ 81,240,579

B. Retired and Terminated Vested Participant Summary

1. Retired or terminated vested participants receiving benefits (including DROPs)	584
2. Terminated vested participants entitled to future benefits (including dormants)	21
3. Beneficiaries receiving benefits	120
4. Disabled participants receiving benefits	53

C. Projected Annual Retirement Benefits

1. Retired or terminated vested receiving benefits (including DROPs)	\$ 58,431,975
2. Terminated vested entitled to future benefits	\$ 537,971
3. Beneficiaries of deceased participants	\$ 4,963,847
4. Disabled participants	\$ 3,785,675

Statement of Assets as of October 1, 2017

<u>Assets</u>	<u>Market Value</u>
A. <u>Cash and Cash Equivalents</u>	\$ 21,539
B. <u>General Investments</u>	
1. Short Term Investments	\$ 6,027,546
2. U.S. Government Securities	39,911,871
3. Common Stocks	324,225,831
4. Domestic Equity Fund	146,447,456
5. International Equity Fund	35,156,846
6. Domestic Corporate Bonds	202,131,813
7. International Fixed Income	46,952,870
8. Real Estate Fund	43,655,948
9. Mutual Funds Self-Directed DROP Participants	27,732,355
C. <u>Receivables</u>	
1. Accrued Interest	\$ 2,516,192
2. Due from Broker	172
3. Member Buybacks	0
D. <u>Payables</u>	
1. Accounts Payable	\$ 343,039
2. Due to Broker	0
E. <u>Total Assets</u> (A. + B. + C. - D.)	\$ 874,437,400

Reconciliation of Fund Assets

A. <u>Market Value of Assets as of October 1, 2016</u>		\$ 806,424,132
B. <u>Receipts during Period</u>		
1. Contributions		
a. Member	\$ 6,034,612	
b. Buybacks	163,632	
c. City	35,247,317	
d. State (Share Plan)	120,549	
e. Total	<u>\$ 41,566,110</u>	
2. Investment Income		
a. Interest and dividends	\$ 15,385,449	
b. Realized gains	34,284,115	
c. Unrealized gains	39,373,858	
d. Investment expenses	<u>(3,252,248)</u>	
e. Net investment income	\$ 85,791,174	
3. Total receipts during period		\$ 127,357,284
C. <u>Disbursements during Period</u>		
1. Pension payments	\$ 55,645,481	
2. DROP distributions	2,864,477	
3. Contribution refunds	64,979	
4. Administrative expenses	<u>769,079</u>	
5. Total disbursements during period		\$ 59,344,016
D. <u>Market Value of Assets as of September 30, 2017</u>		\$ 874,437,400
E. <u>Reconciliation of DROP Account Balances</u>		
1. DROP Accounts Balance as of October 1, 2016	\$ 19,626,380	
2. Benefit Payments into DROP Accounts during Year	9,488,673	
3. Investment Gains / (Losses) during Year	1,481,779	
4. Distributions from DROP Accounts during Year	<u>(2,864,477)</u>	
5. DROP Accounts Balance as of September 30, 2017		\$ 27,732,355

Development of Smoothed Value of Assets as of September 30

	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>
A. Preliminary smoothed value of assets prior year	\$ 759,327,614	\$ 816,917,537	\$ 867,403,683			
B. Market value of assets beginning of year	750,617,498	806,424,132	874,437,400			
C. Market value of assets end of year	806,424,132	874,437,400				
D. Non-investment net cash flow	(14,732,666)	(17,777,906)				
E. Investment return						
1. Market value return: C. - B. - D.	70,539,300	85,791,174				
2. Amount for immediate recognition (7.90% / 7.85%)	58,716,842	62,606,512				
3. Amount for phased-in recognition: E.1. - E.2.	11,822,458	23,184,662				
F. Phased-in recognition of investment return						
1. Current year: 20% of E.3.	2,364,492	4,636,932				
2. First prior year	(10,900,236)	2,364,492	4,636,932			
3. Second prior year	3,192,985	(10,900,236)	2,364,492	4,636,932		
4. Third prior year	6,363,369	3,192,985	(10,900,236)	2,364,492	4,636,932	
5. Fourth prior year	12,585,137	6,363,367	3,192,985	(10,900,236)	2,364,490	4,636,934
6. Total phased-in recognition of investment return	13,605,747	5,657,540	(705,827)	(3,898,812)	7,001,422	4,636,934
G. Smoothed value of assets end of year						
1. Preliminary smoothed value of assets end of year:						
A. + D. + E.2. + F.6.	816,917,537	867,403,683				
2. Upper corridor limit: 120% of C.	967,708,958	1,049,324,880				
3. Lower corridor limit: 80% of C.	645,139,306	699,549,920				
4. Smoothed value of assets end of year:						
G.1., not more than G.2., nor less than G.3.	816,917,537	867,403,683				
H. Difference - market value less smoothed value	(10,493,405)	7,033,717				
I. Smoothed value rate of return	9.62%	8.45%				
J. Market value rate of return	9.49%	10.76%				

Actuarial Gain / (Loss) for Fund Year
Ended September 30, 2017

A. Derivation of Actuarial Gain / (Loss)

1. Employer normal cost previous actuarial valuation	\$ 12,343,305
2. Unfunded actuarial accrued liability previous actuarial valuation	\$ 312,559,047
3. Employer contributions previous year:	
(a) City	\$ 35,247,317
(b) State	120,549
(c) Total	<u>\$ 35,367,866</u>
4. Interest on:	
(a) Employer normal cost	\$ 968,949
(b) Unfunded actuarial accrued liability	24,535,885
(c) Employer contributions	2,776,377
(d) Net total: (a) + (b) - (c)	<u>\$ 22,728,457</u>
5. Increase / (decrease) due to assumption changes	\$ 6,951,571
6. Expected unfunded actuarial liability current year: (1. + 2. - 3. + 4. + 5.)	\$ 319,214,514
7. Actual unfunded actuarial liability current year	<u>327,217,244</u>
8. Actuarial gain / (loss): (6. - 7.)	<u>\$ (8,002,730)</u>

B. Approximate Portion of Gain / (Loss) due to Investments

1. Smoothed actuarial value of assets previous year	\$ 816,917,537
2. Contributions during period	41,566,110
3. Benefits, refunds and administrative expenses during period	59,344,016
4. Expected net appreciation for period	<u>64,818,433</u>
5. Expected smoothed actuarial value assets current year: (1. + 2. - 3. + 4.)	\$ 863,958,064
6. Actual smoothed actuarial value of assets current year	\$ 867,403,683
7. Approximate gain / (loss) due to investments: (6. - 5.)	\$ 3,445,619

C. Approximate Portion of Gain / (Loss) due to Liabilities: (A. - B.) \$ (11,448,349)

Amortization of Unfunded Actuarial Accrued Liability**A. Unfunded Actuarial Accrued Liability**

<u>Valuation Date</u>	<u>Unfunded Liability</u>	<u>Amortization Payment</u>
October 1, 2017	\$ 327,217,244	\$ 25,521,155
October 1, 2018	\$ 325,228,380	\$ 26,159,182
October 1, 2019	\$ 322,396,598	\$ 26,813,161
October 1, 2020	\$ 318,638,944	\$ 27,483,489
October 1, 2021	\$ 313,865,584	\$ 28,170,575
October 1, 2022	\$ 307,979,220	\$ 28,874,843
October 1, 2023	\$ 300,874,520	\$ 29,596,712
October 1, 2024	\$ 292,437,476	\$ 30,336,632
October 1, 2025	\$ 282,544,710	\$ 31,095,049
October 1, 2026	\$ 271,062,735	\$ 31,872,424
October 1, 2027	\$ 257,847,155	\$ 32,669,239
October 1, 2028	\$ 242,741,795	\$ 33,485,971
October 1, 2029	\$ 225,577,776	\$ 34,323,121
October 1, 2030	\$ 206,172,520	\$ 35,181,221
October 1, 2031	\$ 184,328,622	\$ 34,495,481
October 1, 2032	\$ 161,520,124	\$ 33,602,520
October 1, 2033	\$ 137,895,175	\$ 29,779,836
October 1, 2034	\$ 116,548,333	\$ 25,718,903
October 1, 2035	\$ 97,914,126	\$ 26,581,992
October 1, 2036	\$ 76,896,041	\$ 25,131,293
October 1, 2037	\$ 55,802,400	\$ 22,557,503
October 1, 2038	\$ 35,837,998	\$ 18,147,616
October 1, 2039	\$ 19,070,233	\$ 6,964,160
October 1, 2040	\$ 13,050,349	\$ 4,352,981
October 1, 2041	\$ 9,375,765	\$ 1,372,492
October 1, 2042	\$ 8,417,101	\$ 1,518,097
October 1, 2043	\$ 7,255,733	\$ 1,679,150
October 1, 2044	\$ 5,864,933	\$ 1,857,287
October 1, 2045	\$ 4,214,871	\$ 2,272,264
October 1, 2046	\$ 2,054,324	\$ 2,054,324
October 1, 2047	\$ -	\$ -

Amortization of Unfunded Actuarial Accrued Liability

B. **Covered Payroll History**

<u>Year Ended</u>	<u>Pensionable Payroll</u>	<u>Annual Increase</u>
September 30, 2017	\$ 59,907,014	5.5%
September 30, 2016	\$ 56,759,632	0.4%
September 30, 2015	\$ 56,545,113	11.4%
September 30, 2014	\$ 50,740,542	7.6%
September 30, 2013	\$ 47,164,030	(11.5%)
September 30, 2012	\$ 53,273,735	8.6%
September 30, 2011	\$ 49,041,435	(0.2%)
September 30, 2010	\$ 49,144,179	(2.5%)
September 30, 2009	\$ 50,393,490	2.4%
September 30, 2008	\$ 49,192,010	5.4%
September 30, 2007	\$ 46,668,370	N/A
 Ten-Year Average Annual Increase		 2.5%

Accounting Disclosure Exhibit

	<u>10/01/2016</u>	<u>Prior Assumptions 10/01/2017</u>	<u>Current Assumptions 10/01/2017</u>
I. <u>Number of Fund Members</u>			
a. Retirees and beneficiaries receiving benefits	742	757	757
b. Terminated Fund members entitled to but not yet receiving benefits (including dormant members)	25	21	21
c. Active Fund members	494	503	503
d. Total	<u>1,261</u>	<u>1,281</u>	<u>1,281</u>
II. <u>Financial Accounting Standards Board Allocation as of October 1, 2017</u>			
A. <u>Statement of Accumulated Fund Benefits</u>			
1. Actuarial present value of accumulated vested Fund benefits			
a. Participants currently receiving benefits	\$ 901,438,792	\$ 950,086,496	\$ 955,049,061
b. Other participants	166,245,279	170,055,205	171,660,710
c. Total	<u>\$ 1,067,684,071</u>	<u>\$ 1,120,141,701</u>	<u>\$ 1,126,709,771</u>
2. Actuarial present value of accumulated non-vested Fund benefits	<u>\$ 6,812,616</u>	<u>\$ 7,187,447</u>	<u>\$ 7,226,378</u>
3. Total actuarial present value of accumulated fund benefits	<u>\$ 1,074,496,687</u>	<u>\$ 1,127,329,148</u>	<u>\$ 1,133,936,149</u>
B. <u>Statement of Change in Accumulated Fund Benefits</u>			
1. Actuarial present value of accumulated fund benefits as of October 1, 2016			\$ 1,074,496,687
2. Increase / (decrease) during year attributable to:			
a. Fund amendment			\$ 0
b. Change in actuarial assumptions			6,607,001
c. Benefits paid including refunds			(58,574,937)
d. Other, including benefits accumulated, increase for interest due to decrease in the discount period			111,407,398
e. Net increase			<u>\$ 59,439,462</u>
3. Actuarial present value of accumulated fund benefits as of October 1, 2017			\$ 1,133,936,149
C. <u>Significant Matters Affecting Calculations</u>			
1. Assumed rate of return used in determining actuarial present values			7.80%
2. Change in fund provisions			None.
3. Change in actuarial assumptions and methods			See Table X, Item O.

Accounting Disclosure Exhibit

III. Net Pension Liability and Related Ratios (GASB No. 67)

Measurement date	9/30/2014	9/30/2015	9/30/2016	9/30/2017 ¹	Projected 9/30/2018 ²
A. Total Pension Liability (TPL)					
Service Cost	\$ 14,763,595	\$ 16,098,560	\$ 17,803,602	\$ 17,530,982	\$ 18,462,961
Interest	75,108,912	78,415,039	82,627,847	87,422,136	92,235,488
Benefit Changes	0	0	0	(9,688,441)	0
Difference Between Actual and Expected Experience	7,685,043	12,428,547	14,588,712	141,740	11,814,591
Assumption Changes	0	5,686,196	2,447,885	34,969,254	6,951,571
Benefit Payments including Refunds of Member Contributions	(53,605,094)	(62,686,716)	(54,861,660)	(58,574,937)	(61,155,260)
Net Change in Total Pension Liability	\$ 43,952,456	\$ 49,941,626	\$ 62,606,386	\$ 71,800,734	\$ 68,309,351
Total Pension Liability (TPL) - (beginning of year)	947,553,563	991,506,019	1,041,447,645	1,104,054,031	1,175,854,765
Total Pension Liability (TPL) - (end of year)	\$ 991,506,019	\$ 1,041,447,645	\$ 1,104,054,031	\$ 1,175,854,765	\$ 1,244,164,116
B. Fund Fiduciary Net Position					
Contributions - City and State	\$ 35,960,326	\$ 33,149,388	\$ 34,970,641	\$ 35,367,866	\$ 37,639,937
Contributions - Member	5,258,974	5,944,414	5,984,397	6,198,244	6,403,429
Net Investment Income	72,259,674	5,689,333	70,539,300	85,791,174	68,976,717
Benefit Payments including Refunds of Member Contributions	(53,605,094)	(62,686,716)	(54,861,660)	(58,574,937)	(61,155,260)
Administrative Expenses	(905,130)	(777,493)	(826,044)	(769,079)	(769,079)
Other	0	0	0	0	0
Net Change in Fund Fiduciary Net Position	\$ 58,968,750	\$ (18,681,074)	\$ 55,806,634	\$ 68,013,268	\$ 51,095,744
Fund Fiduciary Net Position - (beginning of year)	710,329,822	769,298,572	750,617,498	806,424,132	874,437,400
Fund Fiduciary Net Position - (end of year)	\$ 769,298,572	\$ 750,617,498	\$ 806,424,132	\$ 874,437,400	\$ 925,533,144
C. Net Pension Liability (NPL) - (end of year): (A) - (B)	\$ 222,207,447	\$ 290,830,147	\$ 297,629,899	\$ 301,417,365	\$ 318,630,972
D. Fund Fiduciary Net Position as a Percentage of TPL: (B) / (A)	77.59 %	72.07 %	73.04 %	74.37 % ³	74.39 %
E. Covered Employee Payroll⁴	\$ 50,740,542	\$ 56,545,113	\$ 56,759,632	\$ 59,907,167	\$ 63,495,417
F. NPL as a Percentage of Covered Employee Payroll: (C) / (E)	437.93 %	514.33 %	524.37 %	503.14 %	501.82 %
G. Notes to Schedule:					
Valuation Date	10/01/2013	10/01/2014	10/01/2015	10/01/2016	10/01/2017
Update procedures used to roll forward TPL excluding DROP account balances to the measurement dates - actual DROP account balances as of measurement dates included in TPL.					
See Table VIII, Item V, for prior benefit and assumption changes.					
See Table X., Item O, for assumption changes during the year. No benefit changes were made during the year.					

¹ Per Audit Report

² Projected - actual amounts will be available after fiscal year end

³ The percentage projected in the prior year's valuation report was 72.39% assuming no gains or losses on assets or benefit payments. The information in this footnote is shown as requested by the Board and is not a required disclosure under GASB No. 67.

⁴ Reported payroll used to determine contribution as provided under GASB No. 82.

Accounting Disclosure Exhibit

IV. Schedule of Employer Contributions (GASB No. 67)

<u>Fiscal Year Ended 9/30</u>	<u>Actuarially Determined Contribution</u>	<u>Actual Contribution</u>	<u>Contribution Deficiency (Excess)</u>	<u>Covered Payroll¹</u>	<u>Actual Contribution as a % of Covered Payroll</u>
2008	\$ 17,618,045	\$ 17,618,045	\$ 0	\$ 49,192,010	35.81%
2009	20,159,995	20,159,995	0	50,393,490	40.01%
2010	23,403,818	23,403,818	0	49,144,179	47.62%
2011	32,811,570	32,811,570	0	49,041,435	66.91%
2012	36,297,459	36,297,459	0	53,273,735	68.13%
2013	39,492,050	39,492,050	0	47,164,030	83.73%
2014	35,960,326	35,960,326	0	50,740,542	70.87%
2015	33,149,388	33,149,388	0	56,545,113	58.62%
2016	34,970,641	34,970,641	0	56,759,632	61.61%
2017	35,367,866	35,367,866	0	59,907,167	59.04%
2018 ²	37,639,937	37,639,937	0	63,495,417	59.28%

¹ Reported payroll used to determine contribution as provided under GASB Statement No. 82

² Projected - actual amounts will be available after fiscal year end

Accounting Disclosure Exhibit

V. Notes to Schedule of Contributions (GASB No. 67)

Valuation Date: Actuarially determined contributions are calculated as of October 1st - two years prior the fiscal year end in which contributions are reported.

Methods and Assumptions Used to Determine Contribution Rates:

Actuarial Cost Method	Entry Age Normal
Amortization Method	Level Percentage, Closed
Amortization Period	30 years
Asset Valuation Method	5-year smoothed market
Inflation	3.0%
Payroll Growth	2.6%
Salary Increases	2.88% - 10.7%
Investment Rate of Return	7.85%
Retirement Age	Experience-based table of rates that are specific to the type of eligibility condition

Mortality For healthy participants during employment, RP-2000 Combined Healthy Participant Mortality Tables, separate rates for males and females, with 90% Blue Collar Adjustment / 10% White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB.

For healthy participants post employment, RP-2000 Annuitant Mortality Tables, separate rates for males and females, with 90% Blue Collar Adjustment / 10% White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB.

For disabled male participants, 60% RP 2000 Disabled Male Mortality Table setback four years / 40% RP 2000 Annuitant Male Mortality Table with White Collar Adjustment with no setback, without projected mortality improvements. For disabled female participants, 60% RP 2000 Disabled Female Mortality Table set forward two years / 40% RP 2000 Annuitant Female Mortality Table with White Collar Adjustment with no setback, without projected mortality improvements.

Cost-of-Living Increases 1.5%, 2.0% or 2.5%

Other Information:

Benefit Changes

In 2016, a Tier 4 was added for Fire Department members hired on or after June 8, 2016 and Police Department members hired on or after July 20, 2016. Tier 4 members Final Average Monthly Earnings (FAME) is average of the 5 highest paid years prior to date of retirement taking into consideration the overtime limit, the Normal Retirement eligibility is earlier of attainment of age 52 with 5 years of creditable service or Rule of 70 but must be at least attained age 48. Members currently participating in the DROP were permitted to extend DROP participation but no COLA will be paid during the extended years of participation. Members who elect the DROP in the future can participate for up to 96 months - no COLA will be provided for the first through fourth year of DROP participation for these members. In 2013, participants were categorized into different Tiers: Tier 1 - members hired prior to July 14, 2010, Tier 2 - members hired on or after July 14, 2010 but prior to September 30, 2013 and Tier 3 - members hired on or after September 30, 2013. Final average monthly earnings (FAME) were updated to the greater of the average of the 2 highest paid years prior to date of retirement or the 2 last paid years after taking into consideration the overtime limit (Tier 1 and eligible to retire prior to September 30, 2015), the greater of the average of the 3 highest paid years prior to date of retirement or the 3 last paid years after taking into consideration the overtime limit (Tier 1 and eligible to retire on or after September 30, 2015), the greater of the average of the 3 highest paid years prior to date of retirement or the 3 last paid years after taking into consideration the overtime limit (Tier 2) and the greater of the average of the 5 highest paid years prior to date of retirement or the 5 last paid years after taking into consideration the overtime limit (Tier 3).

Accounting Disclosure Exhibit

Other Information:

Benefit Changes (cont'd)

Additionally in 2013, normal retirement eligibility was updated to the earlier of attainment of age 50 or Rule of 70 (Tier 1 and eligible to retire prior to September 30, 2013), the earlier of attainment of age 50 or Rule of 70 and attainment of age 47 (Tier 1 and eligible to retire on or after September 30, 2013) and the earlier of attainment of age 50 or Rule of 70 and attainment of age 48 (Tier 2 and 3). Benefits were updated to not exceed 85% of FAME (if eligible to retire on or after September 30, 2013) unless exceeded 85% as of September 30, 2013 (Tier 1 and eligible to retire on or after September 30, 2013 but prior to September 30, 2015). Pensionable salary was updated to exclude overtime pay in excess of 300 hours per calendar year, withdrawal benefit eligibility was updated to any age prior to 50 with at least 5 years of service for members who terminate employment on or after September 30, 2013, member contributions were updated to 10.0% of salary per year for members hired prior to September 30, 2013 and 10.5% of salary per year for members hired on or after September 30, 2013, members will no longer be able to purchase an additional multiplier or pre-employment public safety service as a police officer or firefighter and overtime for police officer's was limited in each year to an amount that is equal to 11% of highest annualized pay rate for the same salary rank that the member is in at the time of retirement.

In 2010, for members who enter the DROP on or after September 1, 2012, the DROP period was updated to a maximum of 60 months and a 2.5% COLA will be paid annually on the anniversary date of the member's retirement. Pensionable pay was updated to include off-duty pay, overtime for police officers was limited in each year to an amount that is equal to 70% of the difference between the member's annualized pay rate at retirement and the highest annualized pay rate for the next higher salary rank, overtime for firefighters was limited in each year to an amount that is equal to 11% of highest annualized pay rate for the same salary rank that the member is in at the time of retirement and members with ten or more years of service were allowed to purchase up to four years of pre-employment military service, up to two years pre-employment public safety service, or either 3% or 6% additional benefit multiplier. In 2010, for new hires on or after July 14, 2010, the pension multiplier was updated to 3% for each year of service up to 20 years and 4% for each year of service thereafter (subject to a maximum of 90%), the Rule of 70 retirement was updated to state that members must attain age 48 to be eligible, final average salary was updated to the three highest paid years of last three years prior to retirement and the cost of living adjustment was updated to 1.5% annually.

Assumption Changes

In 2016, investment return was decreased from 7.90% to 7.85% and the mortality assumption was updated to the assumption used in the Florida Retirement System July 1, 2016 Actuarial Valuation. In 2015, investment return was decreased from 7.95% to 7.90%, withdrawal and retirement rates were updated, disability incidence was updated to 65% service incurred / 35% non-service incurred and the load for compensation and projected pensionable payroll was replaced with actual pensionable pay - these changes do not affect the contribution until the fiscal year ending September 30, 2017. In 2014, investment return was decreased from 8.00% to 7.95% and payroll growth assumption was limited to 10 year average. In 2013, the asset valuation method was updated to phase in the deviation between the expected and actual return on assets at the rate of 20% per year and the load for projected pensionable payroll was decreased to 16%. In 2012, investment return was updated to 8.0%, expected salary increases for final years 2013 and 2014 were reduced by 2.17% and increased by 3.00% respectively, contingency compensation load for overtime and other pays was decreased to 16% and contingency pre-employment service load was decreased to 0.275%. In 2011, investment return was updated to 8.1%, mortality tables for healthy pre and post retirement participants were projected 15 and 7 years from the valuation date and the contingency compensation load for overtime and other pays was increased to 18%. In 2010, investment return was updated to 8.2% and the freeze on the cost of living increase component of the salary scale was extended to March 31, 2012.

Accounting Disclosure Exhibit

Other Information:

Assumption Changes (cont'd)

In 2009, investment return was updated to 8.3%, mortality rates were changed to the RP-2000 Combined Mortality Table with a blue collar adjustment for healthy lives and the RP-2000 Disabled Mortality table for disabled participants, a 20% load was added to the projected base payroll, retirement and withdrawal rates were updated to reflect the results of the October 1, 2003 through October 1, 2008 experience study, salary increase rates were updated to 3.83% for plan year 2009 and 6.0% for all subsequent plan years and the load for overtime and other pays was updated to 16%. In 2008, investment return was updated to 8.5%, the salary scale was reduced by 50 basis points, loadings for contingencies were increased by 100 basis points and the retirement assumption was updated to reflect an increase in the level of retirements starting at age 45.

VI. Discount Rate (GASB No. 67)

Discount rates of 7.85% and 7.80% were used to measure the September 30, 2017 TPL and the September 30, 2018 TPL, respectively. These discount rates were based on the expected rate of return on Fund investments of 7.85% and 7.80%, respectively. The projection of cash flows used to determine this discount rate assumed member contributions will be made at the current member contribution rate and employer contributions will be made at rates equal to the difference between actuarially determined current contribution rates and the member contribution rate. Based on these assumptions, the Fund's fiduciary net position was projected to be available to make all projected future expected benefit payments to current Fund members. Therefore, the long-term expected rate of return on Fund investments was applied to all periods of projected benefit payments to determine the TPL.

VII. Sensitivity of the NPL to the Discount Rate Assumption (GASB No. 67)

Measurement date: September 30, 2017

	<u>1% Decrease</u>	<u>Current Discount Rate</u>	<u>1% Increase</u>
Discount Rate	6.85%	7.85%	8.85%
NPL	\$ 453,430,256	\$ 301,417,365	\$ 177,550,349
Fund Fiduciary Net Position as a Percentage of TPL **	65.85%	74.37%	83.12%

Measurement date: September 30, 2018 *

	<u>1% Decrease</u>	<u>Current Discount Rate</u>	<u>1% Increase</u>
Discount Rate	6.80%	7.80%	8.80%
NPL	\$ 478,143,461	\$ 318,630,972	\$ 188,691,241
Fund Fiduciary Net Position as a Percentage of TPL **	65.94%	74.39%	83.07%

* Projected - actual amounts will be available after fiscal year end

** Information requested by Board - not required under GASB No. 67

Outline of Principal Provisions of the Pension Fund

A. Relevant Provisions:

The Fund was created under Chapter 23414, Laws of Florida, Special Act of 1945, as amended by Ordinance No. 2016-4035 adopted September 27, 2016.

B. Eligibility Requirements:

Any full-time employee of the City who is certified as a Firefighter or Police Officer as a condition of employment.

C. Membership Tiers:

Tier 1 - Members hired prior to July 14, 2010

Tier 2 - Members hired on or after July 14, 2010 but prior to September 30, 2013

Tier 3 - Members hired on or after September 30, 2013 but prior to June 8, 2016 for the Fire Department and July 20, 2016 for the Police Department

Tier 4 - Members hired on or after June 8, 2016 for the Fire Department and July 20, 2016 for the Police Department

D. Credited Service:

All periods of employment as an Employee for which contributions have been made to the Fund together with all service in the uniformed services of the United States required to be included.

E. Pre-Employment Service:

Effective September 30, 2013 members with at least 5 years of service but not more than 10 years may contribute an additional amount of 10.0% for those hired prior to September 30, 2013 and 10.5% for those hired on or after September 30, 2013 to receive credit for pre-employment military service. A member may purchase up to 2 total years of additional pension service at the accrual rate of 3% per year for time spent on active pre-employment military duty. The total of all combinations of pre-employment benefit purchased cannot exceed a 12% increase in accrual.

Pre-employment military service must be purchased within 36 months for Police Officers and 24 months for Firefighters following the date the member completes 5 years of creditable pension service under the pension fund.

Effective September 30, 2013, members will no longer be able to purchase an increase in benefit multiplier or pre-employment public safety service credit as a Police Officer or Firefighter.

Outline of Principal Provisions of the Pension Fund

F. Pensionable Pay:

Salary is defined as base pay, longevity pay, overtime, shift differential and extra compensation allowance such as uniform allowance and any pays which are negotiated as pensionable. Effective July 14, 2010, off-duty pay is pensionable for any member who is eligible for overtime and receives off-duty compensation through the City. Effective September 30, 2013, pensionable overtime is limited to 300 hours per calendar year.

1. Overtime and Off-Duty pay included in pension computation for Police Officers:

- Pensionable overtime pay not exceeding 300 hours per calendar year and off duty is limited in each year to an amount that is equal to 11% of highest annualized pay rate for the same salary rank that the member is in at time of retirement.
- The 11% limitation shall not apply to any member who holds the rank of sergeant or lieutenant on September 30, 2013, or any Police Officer promoted to the rank of sergeant prior to the date the 2013 Certified Police Sergeant Promotional Register expired in 2015. For these members, the inclusion of overtime and / or off duty in the member's salary shall be limited in each year to an amount which is equal to 70% of the difference between the member's annualized pay rate at retirement and the highest annualized pay rate for the next higher salary rank. For any of these members who self-demote they will become subject to the eleven percent (11%) limitation on overtime and off-duty compensation.

2. Overtime and Off-Duty pay included in pension computation for Firefighters:

- Pensionable overtime pay not exceeding 300 hours per calendar year and off duty is limited in each year to an amount that is equal to 11% of highest annualized pay rate for the same salary rank that the member is in at time of retirement.

G. Final Average Monthly Earnings (FAME):

Tier 1 and eligible to retire prior to September 30, 2015 - the greater of the average of the 2 highest paid years or the 2 last paid years prior to date of retirement after taking into consideration the overtime limit.

Tier 1 and eligible to retire on or after September 30, 2015 - the greater of the average of the 3 highest paid years or the 3 last paid years prior to date of retirement after taking into consideration the overtime limit.

Tier 2 - the greater of the average of the 3 highest paid years or the 3 last paid years prior to date of retirement after taking into consideration the overtime limit.

Outline of Principal Provisions of the Pension Fund

Tier 3 - the greater of the average of the 5 highest paid years or the 5 last paid years prior to date of retirement after taking into consideration the overtime limit.

Tier 4 - the average of the 5 highest paid years prior to date of retirement taking into consideration the overtime limit.

H. Normal Retirement:

1. Eligibility:

Tier 1 and eligible to retire prior to September 30, 2013 - the earlier of attainment of age 50 or Rule of 70

Tier 1 and eligible to retire on or after September 30, 2013 - the earlier of attainment of age 50 or Rule of 70 (must attain age 47)

Tier 2 and Tier 3 - the earlier of attainment of age 50 with 5 years of creditables service or Rule of 70 (must attain age 48)

Tier 4 - the earlier of attainment of age 52 with 5 years of creditables service or Rule of 70 (must attain age 48)

2. Benefit:

Tier 1 and eligible to retire prior to September 30, 2013:

3% x FAME x Credited Service up to 15 years plus 4% x Credited Service after 15 years
Benefit shall not exceed 90% of FAME.

Tier 1 and eligible to retire on or after September 30, 2013 but prior to September 30, 2015:

3% x FAME x Credited Service up to 20 years plus 4% x Credited Service after 20 years
Benefit shall not exceed 85% of FAME (exception if exceeded 85% as of September 30, 2013).

Tier 1 and eligible to retire on or after September 30, 2015, Tier 2, Tier 3 and Tier 4:

3% x FAME x Credited Service up to 20 years plus 4% x Credited Service after 20 years
Benefit shall not exceed 85% of FAME.

A member's benefit multiplier for credited service earned before October 1, 2013 shall not be reduced.

I. Deferred Retirement:

1. Eligibility:

Any first day of the month past Normal Retirement Date.

2. Benefit:

Benefit calculated as for Normal Retirement based upon service and pay to Deferred Retirement Date.

Outline of Principal Provisions of the Pension Fund

J. Disability Retirement:

1. Eligibility:

Totally and permanently disabled meaning incapacity to perform regular duty as Firefighter or Police Officer (and completion of at least 5 years of Credited Service for non-service incurred disability).

2. Benefit:

Accrued benefit (minimum of 85% of current salary at time of disability for service incurred disability).

K. Death Benefit:

1. Service Incurred:

Greater of accrued benefit or 85% of members salary payable as a monthly benefit to the spouse until death or remarriage, to a Domestic Partner until death, marriage or entry into another Domestic Partnership, to unmarried children in equal shares until age 18 (until age 22 if a full-time student or until recovery from handicap if handicapped), or to dependent parents in equal shares.

2. Non-Service Incurred:

For members with at least 5 years of service, accrued benefit is payable for the first 12 months after death and 75% of the accrued benefit is payable thereafter (with a minimum benefit of 25% of average monthly salary); Benefits are payable to the spouse until death or remarriage, to a Domestic Partner until death, marriage or entry into another Domestic Partnership, to unmarried children in equal shares until age 18 (until age 22 if a full-time student or until recovery from handicap or until marriage if handicapped), or to dependent parents in equal shares. However, if the member has been married for less than 10 years, benefits are payable to the spouse only for the life expectancy of the deceased member at time of death.

L. Vested Benefit:

1. Eligibility:

Any age prior to 50 with at least 5 years of service for members who terminate employment on or after September 30, 2013.

2. Benefit:

Return of employee contributions or accrued benefit upon attainment of age 50. If a member terminates employment with less than 10 years of service and passes away prior to the normal retirement date, the return of employee contributions is the only benefit.

Outline of Principal Provisions of the Pension Fund

M. Employee Contributions:

10.0% of pensionable wages per year (on a pre-tax basis) for members hired prior to September 30, 2013 and 10.5% of pensionable wages per year (on a pre-tax basis) for members hired on or after September 30, 2013; If contributions are refunded to the member or to his beneficiaries, then interest is credited at the rate of 3% per annum.

N. Normal Form of Payment of Retirement Benefit:

Benefit is payable to the member for his or her life. Upon death of member, except those retiring prior to November 5, 2003, the standard benefit is a 75% joint and survivor annuity with a specified beneficiary as provided under the plan. The specified beneficiary will receive a survivor annuity equal to 100% of the total benefit for one year following the death of the member and thereafter 75% of the total benefit until death or remarriage. However, upon death, if the member has been married for less than 10 years, the survivor annuity is payable only for the life expectancy of the deceased member at time of death.

In lieu of the standard benefit, the members may also elect the actuarial equivalent of the 10 year certain and life annuity, with a designated beneficiary, any of the following optional forms of payment:

- 75% joint and contingent survivor annuity with a designated beneficiary
- 66 ⅔% joint and contingent survivor annuity with a designated beneficiary
- 50% joint and contingent survivor annuity with a designated beneficiary
- 25% joint and contingent survivor annuity with a designated beneficiary
- 10 year certain and life annuity with a designated beneficiary
- Life of member only

Members who retired prior to November 5, 2003 were subject to different normal and optional forms of payment.

O. Deferred Retirement Option Program (DROP):

Police Officers and Firefighters are eligible to participate in a Deferred Retirement Option Program (DROP) upon meeting eligibility for a normal service retirement.

Operations of the DROP:

1. Member contributions to the Pension Plan will cease upon entering the DROP.
2. The member's monthly retirement benefit, based on final average earnings and service, will be calculated as of the date prior to them entering the DROP.
3. The member will cease to accrue additional pension benefits (with the exception of the COLA under the pension plan).
4. The member will no longer be eligible for Disability or Service Connected Death benefits from the Pension Plan.
5. The member's monthly pension will be deposited into the selected investment vehicles.

Outline of Principal Provisions of the Pension Fund

- Members who enter the DROP on or after June 8, 2016 for Fire Department members and July 20, 2016 for Police Department members may participate in DROP for a period not to exceed ninety-six (96) months.

Notwithstanding the above, participation may not continue beyond the date when the member's combined years of creditable service and time in the DROP equals 456 months for members who enter the DROP on or after September 1, 2012.

Members who enter the DROP on or before September 30, 2015 may extend their DROP participation period by 12 months for a total maximum DROP participation period not to exceed seventy-two (72) months.

Members who enter the DROP on or after October 1, 2015 but prior to June 8, 2016 for Fire Department members and July 20, 2016 for Police Department members may extend their DROP participation period by up to 36 months for a total maximum DROP participation period not to exceed ninety-six (96) months.

- The member will not have access or be able to borrow against any of the funds accumulated in their DROP account.
- The member may sever employment with the City at any time during the DROP period. Such separation will terminate their participation in the DROP.
- No payment will be made from the DROP account until the member severs employment with the City.
- Following severance of employment, the funds in the DROP will be paid under the *DROP Account Payment Options* the member selected. The member will also start receiving their monthly pension which was previously being deposited in the DROP.
- A 2.5% COLA (1.5% per year for participants hired on or after July 14, 2010) is paid annually on the anniversary date of the member's retirement.

Members hired before June 8, 2016 for Fire Department members and July 20, 2016 for Police Department members who elect to extend or enter the DROP and participate for more than 5 years will have no COLA adjustment applied for years six (6), seven (7), and eight (8) while participating in the DROP. Members hired on or after June 8, 2016 for Fire Department members and July 20, 2016 for Police Department members will receive a zero percent (0%) COLA for the first (1st), second (2nd), third (3rd) and fourth (4th) annual adjustment dates while participating in the DROP.

Outline of Principal Provisions of the Pension Fund

P. **Cost-of-Living Adjustment:**

Effective October 1, 2010, after 1 year of retirement, benefits are increased by 2.5% per year (1.5% per year for participants hired on or after July 14, 2010), compounded annually, on the anniversary date of each member's retirement. Members whose grandfathered Base Plan benefit is greater than the benefit otherwise provided by this plan will receive the applicable cost-of-living adjustment on that basis (2% a year beginning the October three years after retirement) until such time as the benefit from this plan with 2.5% cost-of-living exceeds that comparable grandfathered Base Plan benefit.

For members retired prior to October 1, 2010, benefit increases occur on the first of October each year.

Q. **Changes Since Previous Actuarial Valuation**

None.

Actuarial Assumptions and Actuarial Cost Methods
Used in the Valuation

A. Mortality

For healthy participants during employment, RP-2000 Combined Healthy Participant Mortality Tables, separate rates for males and females, with 90% Blue Collar Adjustment / 10% White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB.

For healthy participants post employment, RP-2000 Annuitant Mortality Tables, separate rates for males and females, with 90% Blue Collar Adjustment / 10% White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB.

For disabled male participants, 60% RP 2000 Disabled Male Mortality Table setback four years / 40% RP 2000 Annuitant Male Mortality Table with White Collar Adjustment with no setback, without projected mortality improvements. For disabled female participants, 60% RP 2000 Disabled Female Mortality Table set forward two years / 40% RP 2000 Annuitant Female Mortality Table with White Collar Adjustment with no setback, without projected mortality improvements.

Sample Ages (2017)	Pre-retirement Future Life Expectancy (Years)		Post-retirement Future Life Expectancy (Years)	
	Male	Female	Male	Female
	45	40.05	42.82	38.61
50	34.84	37.63	33.86	37.44
55	29.73	32.50	29.21	32.30
60	24.84	27.46	24.64	27.31
62	22.97	25.50	22.85	25.39

Sample Ages (2037)	Pre-retirement Future Life Expectancy (Years)		Post-retirement Future Life Expectancy (Years)	
	Male	Female	Male	Female
	45	42.20	44.70	40.78
50	37.03	39.54	36.06	39.38
55	31.96	34.44	31.46	34.27
60	27.11	29.40	26.92	29.27
62	25.23	27.41	25.12	27.33

**Actuarial Assumptions and Actuarial Cost Methods
Used in the Valuation**

B. Investment Return

7.80%, compounded annually, net of investment expenses includes inflation at 3.00%.

C. Expenses

Prior year's actual administrative expenses.

D. Employee Withdrawal Rates

Representative values of the assumed annual rates of withdrawal among members in active service are as follows:

<u>Age</u>	<u>Withdrawal Rate</u>	<u>Age</u>	<u>Withdrawal Rate</u>
20	2.00%	35	1.25%
25	1.75%	40	1.00%
30	1.50%	45	0.75%

E. Disability Rates

Representative values of the assumed annual rates of disability among members in active service are as follows:

<u>Age</u>	<u>Disability Rates</u>	<u>Age</u>	<u>Disability Rate</u>
20	0.07%	45	0.58%
25	0.11%	50	0.99%
30	0.16%	55	1.42%
35	0.22%	60	2.00%
40	0.32%	64	2.69%

35% of disabilities are assumed to be non-service incurred - 65% service incurred.

**Actuarial Assumptions and Actuarial Cost Methods
Used in the Valuation**

F. Salary Increase Factors

Representative values of the assumed annual rates of future salary increase are as follows:

<u>Age</u>	<u>Merit Salary Increase</u>	<u>Age</u>	<u>Merit Salary Increase</u>
20	3.7%	45	2.7%
25	7.7%	50	2.7%
30	6.7%	55	2.7%
35	3.7%	60	1.7%
40	2.7%	64	0.7%

In addition to the average assumed salary increase rates shown above the expected cost of living increases are as follows:

<u>FYE</u>	<u>COLA Salary Increase</u>	<u>Weighted Average Increase*</u>
2018	3.00%	7.05%
2019	2.79%	6.64%
2020 and thereafter	2.18%	5.83%

The cost of living increases shown above are based on a 3% increase as of July 1, 2017 and 3% increase as of July 1, 2018 contained in the collective bargaining agreement and long term expected increases of 2.18% annually each July.

* The weighted average increase shown is based on aging of the current active census demographics.

G. Payroll Growth Assumption

The aggregate compensation used to compute the accrued liability contribution rate is assumed to increase at a rate of 3.5% per year - not greater than historical 10-year average (2.5% as of October 1, 2017).

**Actuarial Assumptions and Actuarial Cost Methods
Used in the Valuation**

H. Retirement

All members are assumed to retire at age 50 with 26.25 years of service, but not later than age 65. Retirement is assumed to occur in accordance with the following rates:

Service	Rate of Retirement	
	Meeting Rule of 70	Not Meeting Rule of 70
Less than 20	20%	4%
20	25%	5%
21	30%	10%
22	35%	10%
23	40%	20%
24	50%	60%
25	70%	60%
26	100%	100%
More than 26	100%	100%

I. DROP Assumption

80% of all active participants will participate in the DROP.

Leave DROP	Enter DROP on or before September 30, 2015	Enter the DROP on or after October 1, 2015
Prior to 5 years	0%	0%
After 5 years	5%	5%
After 6 years	N/A	5%
After 7 years	N/A	10%
After 8 years	N/A	100%

The recent extension of the DROP may alter the retirement experience of the Fund.

DROP assumptions will need to be monitored in light of future DROP experience.

Actuarial Assumptions and Actuarial Cost Methods
Used in the Valuation

J. **Overtime and Off-Duty Pay Limitation**

No members excluded from the eleven percent (11%) limitation on overtime and off-duty compensation are assumed to self-demote.

K. **Loadings for Contingencies**

Pre-Employment Service: A City contribution of 0.275% of annual pensionable payroll is added to provide for the purchase (or *buyback*) of pre-employment military service and any probationary service by the membership.

Transfers into Fund from other City pension systems: A City contribution of 0.025% of annual pensionable payroll is added to provide for the transfer of service under another City pension system.

L. **Marital Assumptions**

1. 77% of members are assumed married or entitled to benefits for dependents, including registered domestic partners.
2. Male spouses are assumed to be three years older than female spouses.

M. **Smoothed Asset Valuation Method**

The method used for determining the smoothed actuarial value of assets phases in the deviation between the expected and actual return on assets at the rate of 20% per year. The smoothed actuarial value of assets will be further adjusted to the extent necessary to fall within the corridor whose lower limit is 80% of the fair market value of fund assets and whose upper limit is 120% of the fair market value of fund assets.

N. **Actuarial Cost Method**

Normal Retirement, Termination, Disability, and Death Benefits: Entry-Age-Actuarial Cost Method.

Under this method the normal cost for each active employee is the amount which is calculated to be a level percentage of pay that would be required annually from his age at hire to his assumed retirement age to fund his estimated benefits, assuming the Fund had always been in effect. The normal cost for the Fund is the sum of such amounts for all employees. The actuarial accrued liability as of any valuation date for each active employee or inactive employee who is eligible to receive benefits under the Fund is the excess of the actuarial present value of estimated future benefits over the actuarial present value of current and future normal costs. The unfunded actuarial accrued liability as of any valuation date is the excess of the actuarial accrued liability over the smoothed actuarial value of assets of the Fund.

**Actuarial Assumptions and Actuarial Cost Methods
Used in the Valuation**

O. **Changes Since Previous Actuarial Valuation**

Investment Return was:

7.85%, compounded annually, net of investment expenses.

Assumption Change History**A. Effective October 1, 2002:**

The actuarial cost method was changed from frozen initial liability to entry age.

The amortization of the unfunded accrued liability was changed from level dollar to level percentage of pay, with aggregate payroll assumed to increase at 3.50% per year.

B. Effective October 1, 2005:

The *fresh start* method was applied to the actuarial value of assets to begin a new five-year phase-in of realized and unrealized gains and losses.

The retirement rates were increased to reflect retirement experience for participants meeting the age 50 and *Rule of 70* eligibility criteria.

The loadings for contingencies and pre-employment service were increased from 5.00% to 7.00% and from 4.50% to 5.50% respectively.

C. Effective October 1, 2006:

The actuarial valuation system used by Buck Consultants was upgraded effective October 1, 2006. The gain resulting from this upgrade was amortized over 30 years.

D. Effective October 1, 2008:

The interest rate used to calculate all liabilities was reduced to 8.40% from 8.50%.

The salary scale used to project future pay increases was reduced by 50 basis points at each age to reflect the current and projected economic climate.

The loadings for contingencies were increased by 100 basis points (50 basis points for salary rates and 50 basis points for buybacks).

The retirement assumption was updated to reflect an increase in the level of retirements starting at age 45.

E. Effective October 1, 2009:

The interest rate used to calculate all liabilities was reduced from 8.40% to 8.30%.

The mortality rates were changed from the 1983 Group Annuity Mortality Table to the RP-2000 Combined Mortality Table with a blue collar adjustment for healthy lives and the RP-2000 Disabled Mortality Table for disabled participants.

A load of 20% was added to the projected base payroll to estimate the projected pensionable payroll used to determine the expected member contributions.

Assumption Change History

E. Effective October 1, 2009 (cont'd):

An experience study was performed on the fund over the 5 year period October 1, 2003 through October 1, 2008 and the following assumptions were changed to more accurately reflect fund experience:

- **Retirement Rates:** The retirement assumption was changed to reflect the results of the experience study.
- **Withdrawal Rates:** The withdrawal assumption was changed to reflect the results of the experience study.
- **Salary Increase Rates:** The salary increase assumption was changed to an average increase of 3.83% for fund year 2009 to reflect the freeze on COLA for the fund year and to an average increase of 6.00% for all subsequent fund years.
- **Load for Overtime and Other Pays:** The load for overtime and other pays was changed from 7.50% to 16.00% to reflect the results of the experience study.

F. Effective October 1, 2010:

The interest rate used to calculate all liabilities was reduced from 8.30% to 8.20%.

The freeze on the cost of living increase component of the salary scale was extended to March 31, 2012.

G. Effective October 1, 2011:

The interest rate used to calculate all liabilities was reduced from 8.20% to 8.10%.

The mortality tables for healthy pre and post retirement participants was projected 15 and 7 years respectively from the valuation date to reflect mortality improvements.

The contingency compensation load for overtime and other pays was increased from 16% to 18% to account for the expected increase in pensionable pay due to the inclusion of off duty pay in the computation of pensionable pay.

H. Effective October 1, 2012:

The interest rate used to calculate all liabilities was reduced from 8.10% to 8.00%.

The expected salary increases for FYE 2014 and 2015 were reduced by 2.17% to reflect a freeze in the cost of living increases and increased by 3.00% to reflect a 3.00% cost of living increase in FYE 2016.

Assumption Change History

H. Effective October 1, 2012 (cont'd):

The contingency compensation load for overtime and other pays was decreased from 18% to 16% to account for the expected decrease in pensionable pay due to the cap on overtime hours in the computation of pensionable pay.

The contingency pre-employment service load was decreased from 6.000% to 0.275% to account for the elimination of certain buybacks.

The expected salary increases were adjusted to account for the extension of ranges for Firefighter I, Police Officer, Sergeant of Police and Police Lieutenant effective April 1, 2015.

I. Effective October 1, 2013:

The asset valuation method was updated to phase in the deviation between the expected and actual return on assets at the rate of 20% per year - further adjusted to the extent necessary to fall within the corridor whose lower limit is 80% of the fair market value of fund assets and whose upper limit is 120% of the fair market value of fund assets.

The load for projected pensionable payroll was decreased from 20% to 16% to account for the expected decrease in pensionable pay due to the cap on overtime hours in the computation of pensionable pay.

J. Effective October 1, 2014:

The interest rate used to calculate all liabilities was reduced from 8.00% to 7.95%.

Payroll growth assumption is limited to 10-year average.

K. Effective October 1, 2015:

The interest rate used to calculate all liabilities was decreased from 7.95% to 7.90%.

An experience study was performed on the fund over the 5 year period October 1, 2009 through September 30, 2014 and the following assumptions were changed to more accurately reflect fund experience:

- **Withdrawal Rates:** The withdrawal assumption was updated to reflect the results of the experience study.
- **Disability Incidence:** The disability incidence assumption was changed to 65% service incurred / 35% non-service incurred.
- **The load for compensation and projected pensionable payroll** was replaced with actual pensionable pay.
- **Retirement Rates:** The retirement assumption was updated to reflect the results of the experience study.

Assumption Change History

K. Effective October 1, 2015 (cont'd):

Updated DROP assumptions to reflect updated DROP provisions.

A City contribution of 0.025% of annual pensionable payroll is added to provide for the transfer of service under another City pension system.

The salary increase assumptions were updated to better reflect anticipated merit and COLA increases.

L. Effective October 1, 2016:

The interest rate used to calculate all liabilities was reduced from 7.90% to 7.85%.

The mortality assumption was updated to use the mortality assumption used by the Florida Retirement System (FRS) as required under F.S., Chapter 2015-157 based upon the July 1, 2016 FRS Actuarial Valuation.

M. Effective October 1, 2017:

The interest rate used to calculate all liabilities was reduced from 7.85% to 7.80%.

**Distribution by Attained Age Groups
and Service Groups as of October 1, 2017**

<u>Attained Age Group</u>	<u>Active Firefighters</u>							
	<u>COMPLETED YEARS OF SERVICE</u>							
	<u>0 - 4</u>	<u>5 - 9</u>	<u>10 - 14</u>	<u>15 - 19</u>	<u>20 - 24</u>	<u>25 - 29</u>	<u>30 & Over</u>	<u>Total</u>
Under 25	6	-	-	-	-	-	-	6
25 - 29	22	6	-	-	-	-	-	28
30 - 34	6	23	13	-	-	-	-	42
35 - 39	8	14	20	3	-	-	-	45
40 - 44	2	13	5	13	-	-	-	33
45 - 49	1	2	5	5	1	-	-	14
50 - 54	-	-	-	2	-	-	-	2
55 - 59	2	-	1	-	-	-	-	3
60 - 64	1	-	-	-	-	-	-	1
65 & Over	-	-	-	-	-	-	-	-
TOTAL	48	58	44	23	1	-	-	174
				<u>10/01/2016</u>		<u>10/01/2017</u>		
				37.33 years		36.77 years		
				28.24 years		28.13 years		
				\$ 105,646		\$ 110,691		
				6.5%		7.5%		
				Average Attained Age				
				Average Hire Age				
				Average Base Pay				
				Percent Female				

Table XII
(Cont'd)

**Distribution by Attained Age Groups
and Service Groups as of October 1, 2017**

<u>Attained Age Group</u>	<u>Active Police Officers</u>							<u>Total</u>
	<u>0 - 4</u>	<u>5 - 9</u>	<u>10 - 14</u>	<u>15 - 19</u>	<u>20 - 24</u>	<u>25 - 29</u>	<u>30 & Over</u>	
Under 25	3	-	-	-	-	-	-	3
25 - 29	36	3	-	-	-	-	-	39
30 - 34	42	20	6	-	-	-	-	68
35 - 39	15	19	24	5	-	-	-	63
40 - 44	10	12	12	21	2	-	-	57
45 - 49	3	6	15	30	25	-	-	79
50 - 54	3	4	4	5	-	-	-	16
55 - 59	-	-	-	2	-	-	-	2
60 - 64	2	-	-	-	-	-	-	2
65 & Over	-	-	-	-	-	-	-	-
TOTAL	114	64	61	63	27	-	-	329
				<u>10/01/2016</u>		<u>10/01/2017</u>		
				Average Attained Age	39.32 years	39.45 years		
				Average Hire Age	28.82 years	28.88 years		
				Average Base Pay	\$ 82,056	\$ 86,216		
				Percent Female	13.8%	14.3%		

**Distribution by Attained Age Groups
and Service Groups as of October 1, 2017**

<u>Attained Age Group</u>	<u>All Active Members</u>							<u>Total</u>
	<u>COMPLETED YEARS OF SERVICE</u>							
	<u>0 - 4</u>	<u>5 - 9</u>	<u>10 - 14</u>	<u>15 - 19</u>	<u>20 - 24</u>	<u>25 - 29</u>	<u>30 & Over</u>	
Under 25	9	-	-	-	-	-	-	9
25 - 29	58	9	-	-	-	-	-	67
30 - 34	48	43	19	-	-	-	-	110
35 - 39	23	33	44	8	-	-	-	108
40 - 44	12	25	17	34	2	-	-	90
45 - 49	4	8	20	35	26	-	-	93
50 - 54	3	4	4	7	-	-	-	18
55 - 59	2	-	1	2	-	-	-	5
60 - 64	3	-	-	-	-	-	-	3
65 & Over	-	-	-	-	-	-	-	-
TOTAL	162	122	105	86	28	-	-	503

	<u>10/01/2016</u>	<u>10/01/2017</u>
Average Attained Age	38.64 years	38.52 years
Average Hire Age	28.62 years	28.62 years
Average Base Pay	\$ 90,079	\$ 94,683
Percent Female	11.3%	11.9%

**Statistics for Participants Entitled to Deferred Benefits
and Participants Receiving Benefits**

A. Entitled to Deferred Benefits *

<u>Current Age Group</u>	<u>Count</u>	<u>Total Annual Benefit</u>	<u>Average Annual Benefit</u>
Less than 40	3	\$ 103,122	\$ 34,374
40 - 44	3	101,590	33,863
45 - 49	4	223,739	55,935
50 - 54	-	-	-
55 - 59	-	-	-
60 - 64	-	-	-
65 & Over	-	-	-
TOTAL	10	\$ 428,451	\$ 42,845

* Excludes 9 dormant members and 2 deferred payments to estate

B. Receiving Benefits (including DROPs)

<u>Current Age Group</u>	<u>Count</u>	<u>Total Annual Benefit</u>	<u>Average Annual Benefit</u>
Less than 50	33	\$ 2,714,156	\$ 82,247
50 - 54	126	13,017,641	103,315
55 - 59	152	16,487,714	108,472
60 - 64	125	12,074,572	96,597
65 - 69	89	7,604,887	85,448
70 - 74	89	7,258,927	81,561
75 - 79	52	3,796,658	73,013
80 - 84	42	2,420,562	57,632
85 - 89	30	1,116,078	37,203
90 - 94	17	650,856	38,286
95 & Over	2	39,448	19,724
TOTAL	757	\$ 67,181,498	\$ 88,747

Reconciliation of Employee Data

A. <u>Active Participants</u>	
1. Active participants previous year	494
2. Retired during year	(1)
3. Entered DROP	(22)
4. Died during year	0
5. Disabled during year	(1)
6. Terminated during year	(3)
7. New active participants	36
8. Rehired during year	3
9. Dormant during the year	(3)
10. Data corrections	0
11. Active participants current year	<u>503</u>
B. <u>Participants Receiving Benefits</u>	
1. Participants receiving benefits previous year	653
2. New retired participants	1
3. New terminated vested receiving benefits	0
4. New disabled receiving benefits	1
5. New beneficiaries receiving benefits	4
6. Former DROPs now receiving benefits	8
7. Died or ceased payment during year	(13)
8. Data corrections	0
9. Retired or terminated vested receiving benefits current year	<u>654</u>
C. <u>DROP Participants</u>	
1. DROP participants previous year	89
2. Died during year	0
3. Became disabled during year	0
4. Employment terminated and retired during year	(8)
5. Entered DROP during year	22
6. DROP participants current year	<u>103</u>
D. <u>Terminated Vested Participants Entitled to Future Benefits (including dormants)</u>	
1. Terminated vested entitled previous year	25
2. Died during year	0
3. Commenced receiving benefits during year	0
4. Rehired during the year	(3)
5. New terminated vested	5
6. Cashed out during year	(6)
7. Terminated vested entitled current year	<u>21</u>

Projected Retirement Benefits

<u>Fiscal Year Ending</u>	<u>Projected Annual Payout</u>
2018	\$ 68,158,589
2019	\$ 70,093,196
2020	\$ 72,629,030
2021	\$ 75,382,105
2022	\$ 78,395,090
2023	\$ 81,355,503
2024	\$ 84,605,572
2025	\$ 87,874,118
2026	\$ 91,418,597
2027	\$ 94,886,192

The above projected payout of Fund benefits during the next ten years is based on assumptions involving all decrements and includes payments going into DROP accounts. Actual payouts may differ from the above estimates depending upon the death, disability, salary and retirement experience of the Fund. However, since the projected payment is recomputed each valuation date, there is an automatic correction to the extent that actual experience varies from expected experience.

Analysis of Investment Yield as of October 1, 2017

This Table sets forth the results of an analysis made of investment yields on the assets held under the City Pension Fund for Firefighters and Police Officers in the City of Miami Beach.

The basic sources for this analysis were the Statements produced by the Fund Auditors.

The basic data was initially checked for internal consistency. Since no difficulties were encountered with the data, yield rates were calculated directly from the transaction information submitted. A summary of the transaction information is set forth on the following page.

**Table XVI
(Cont'd)**

Summary of Transaction Information

Year Ended	Benefits Paid ¹	Administrative Expenses	Employee Contributions ²	City Contributions	State Contributions	Smoothed Actuarial Value ³
09/30/2017	\$ 58,574,937	\$ 769,079	\$ 6,198,244	\$ 35,247,317	\$ 120,549	\$ 867,403,683
09/30/2016	54,861,660	826,044	5,984,397	34,850,092	120,549	816,917,537
09/30/2015	62,686,716	777,493	5,944,414	33,028,839	120,549	759,327,614
09/30/2014	53,605,094	905,130	5,258,974	35,839,777	120,549	721,567,277
09/30/2013	52,104,605	805,919	9,717,336	39,371,501	120,549	663,233,454
09/30/2012	48,725,783	859,125	7,504,966	36,176,910	120,549	545,067,653
09/30/2011	44,934,423	971,906	5,783,503	32,691,021	120,549	531,821,181
09/30/2010	42,314,959	697,141	5,989,852	23,283,269	120,549	525,709,407
09/30/2009	38,195,186	767,484	6,542,597	20,039,446	120,549	517,602,834
09/30/2008	35,014,659	641,844	5,577,298	17,497,496	120,549	507,363,812
09/30/2007	32,367,302	646,588	5,194,282	15,110,868	120,549	495,993,903
09/30/2006	30,109,229	633,113	4,915,270	14,481,287	120,549	470,603,144
09/30/2005	27,202,700	581,953	4,982,579	11,857,606	120,549	457,680,582
09/30/2004	24,173,338	564,532	4,588,390	9,387,091	107,000	418,089,222
09/30/2003	22,072,374	521,173	4,437,529	8,577,326	0	410,423,595

¹ Includes DROP distributions and contribution refunds

² Includes buybacks

³ Effective for fiscal years ending on or after September 30, 2013, includes DROP account balances

**Table XVI
(Cont'd)**

Recent Compensation, Termination, Mortality and Investment Return Experience

Valuation Date	Compensation		Termination		Mortality *		Market		Investment Return	
	% Increase (Decrease)	Assumed Increase	Ratio of Actual to Expected	Ratio of Actual to Expected	Ratio of Actual to Expected	Market Value Yield	Smoothed Actuarial Value Yield	Assumed Rate of Return		
10/01/2017	10.2%	5.8%	1.1	0.5	10.76%	8.45%	7.85%			
10/01/2016	4.3%	4.4%	1.0	1.5	9.49%	9.62%	7.90%			
10/01/2015	9.8%	3.9%	1.5	1.1	0.75%	8.76%	7.95%			
10/01/2014	4.0%	3.7%	0.8	1.1	10.3%	10.9%	8.0%			
10/01/2013	3.9%	3.8%	1.1	0.8	13.1%	8.8%	8.0%			
10/01/2012	5.6%	3.9%	1.7	1.1	20.2%	3.6%	8.1%			
10/01/2011	3.4%	3.9%	2.1	0.8	(0.6%)	2.6%	8.2%			
10/01/2010	2.7%	3.8%	1.3	1.2	10.9%	4.3%	8.3%			
10/01/2009	7.9%	4.4%	N/A	N/A	1.4%	4.5%	8.4%			
10/01/2008	8.8%	4.9%	N/A	N/A	(10.4%)	4.9%	8.5%			
Last 3 Years	8.1%	4.7%	1.2	0.9	6.91%	8.94%	7.90%			
Last 5 Years	6.4%	4.3%	1.1	0.9	8.8%	9.3%	7.9%			
Last 10 Years	6.0%	4.3%	N/A	N/A	6.2%	6.6%	8.1%			

* Does not include beneficiaries of members currently alive

**Table XVI
(Cont'd)**

**Schedule of Funding Progress
(Dollar Amounts in Thousands)**

Actuarial Valuation Date		Smoothed Actuarial Value of Assets (a)	Actuarial Accrued Liability (EAN) (AAL) (b)	Unfunded AAL (UAAL) (b - a)	Funded Ratio (a/b)
10/01/2011	¹	\$ 531,821	\$ 871,119	\$ 339,298	61.1%
10/01/2012	¹	\$ 545,068	\$ 902,778	\$ 357,711	60.4%
10/01/2013	^{2,3}	\$ 663,233	\$ 955,239	\$ 292,006	69.4%
10/01/2014	³	\$ 721,567	\$ 1,009,621	\$ 288,054	71.5%
10/01/2015	³	\$ 759,328	\$ 1,050,155	\$ 290,827	72.3%
10/01/2016	^{3,5}	\$ 816,918	\$ 1,129,477	\$ 312,559	72.3%
10/01/2017	^{3,4}	\$ 867,404	\$ 1,187,669	\$ 320,265	73.0%
10/01/2017	^{3,5}	\$ 867,404	\$ 1,194,621	\$ 327,217	72.6%

¹ As shown in the City's Comprehensive Annual Financial Report (CAFR)

² Update in actuarial method applied

³ Includes DROP accounts in assets and liabilities

⁴ Prior to update in actuarial assumptions

⁵ After update in actuarial assumptions

Table XVII

Employer Contribution Information

<u>Valuation Date</u>	<u>Contribution Fiscal Year End</u>	<u>Minimum Required Employer Contributions</u>	<u>Actual City Contributions Made</u>	<u>Actual State (Share Plan) Contributions Made</u>	<u>Actual Employer Contributions Made</u>
10/01/2017	09/30/2019	\$ 39,747,149	N/A	N/A	N/A
10/01/2016	09/30/2018	\$ 37,639,937	N/A	N/A	N/A
10/01/2015	09/30/2017	\$ 35,367,866	\$ 35,247,317	\$ 120,549	\$ 35,367,866
10/01/2014	09/30/2016	\$ 34,970,641	\$ 34,850,092	\$ 120,549	\$ 34,970,641
10/01/2013	09/30/2015	\$ 33,149,388	\$ 33,028,839	\$ 120,549	\$ 33,149,388
10/01/2012	09/30/2014	\$ 35,960,326	\$ 35,839,777	\$ 120,549	\$ 35,960,326
10/01/2011	09/30/2013	\$ 39,492,050	\$ 39,371,501	\$ 120,549	\$ 39,492,050
10/01/2010	09/30/2012	\$ 36,296,459	\$ 36,176,910	\$ 120,549	\$ 36,297,459
10/01/2009	09/30/2011	\$ 34,537,068	\$ 32,691,021	\$ 120,549	\$ 32,811,570
10/01/2008	09/30/2010	\$ 23,403,818	\$ 23,283,269	\$ 120,549	\$ 23,403,818
10/01/2007	09/30/2009	\$ 20,159,995	\$ 20,039,446	\$ 120,549	\$ 20,159,995

20-Year Projections

Throughout the forecast period, new members are assumed to be hired each year at a rate sufficient to maintain a constant active employee headcount – stationary population. Newly employed members are assumed to have the same average demographic characteristics (age, gender and salary – adjusted each year for inflation) as those of members hired during the past five (5) years. State (Share Plan) contributions are projected to remain \$120,549 during the projection period.

Projections are deterministic – assume all actuarial assumptions are realized - reflect investment return assumption decreasing by 0.05% each year until 7.75% for contribution FYE 2020. Payroll growth is assumed to remain the same as current year (2.5%) for all projection years. Administrative expenses included in the normal cost are assumed to grow at 3% per year.

Contribution Fiscal Year	Projected Annual Pensionable Payroll	Projected Net City Required Contribution	
		Amount	% of Pay
2018 - 2019	65,082,802	39,626,600	60.9%
2019 - 2020	68,676,353	41,381,040	60.3%
2020 - 2021	71,405,777	41,995,828	58.8%
2021 - 2022	73,911,562	42,854,896	58.0%
2022 - 2023	76,533,956	43,619,182	57.0%
2023 - 2024	79,084,958	44,267,598	56.0%
2024 - 2025	81,481,082	44,939,381	55.2%
2025 - 2026	83,838,711	45,419,274	54.2%
2026 - 2027	86,285,908	45,877,963	53.2%
2027 - 2028	88,541,698	46,401,855	52.4%
2028 - 2029	90,973,903	47,115,587	51.8%
2029 - 2030	93,681,817	47,663,845	50.9%
2030 - 2031	96,119,856	47,785,854	49.7%
2031 - 2032	98,099,657	48,261,369	49.2%
2032 - 2033	100,202,720	46,782,778	46.7%
2033 - 2034	102,561,139	45,249,200	44.1%
2034 - 2035	104,980,298	40,603,765	38.7%
2035 - 2036	107,503,534	35,661,502	33.2%
2036 - 2037	109,844,606	35,890,991	32.7%
2037 - 2038	112,475,149	33,925,211	30.2%
5 Year Totals	355,610,450	209,477,546	58.9%
10 Year Totals	774,842,807	436,383,617	56.3%
20 Year Totals	1,791,285,486	865,323,719	48.3%

Actuarial Valuation as of October 1, 2017**State Required Exhibit - All Members**

	<u>10/01/2016</u>	<u>Prior Assumptions 10/01/2017</u>	<u>Current Assumptions 10/01/2017</u>
A. <u>Participant Data</u>			
1. Active participants	494	503	503
2. Retired participants and beneficiaries receiving benefits (including DROPs)	690	704	704
3. Disabled participants receiving benefits	52	53	53
4. Terminated vested participants (including dormants)	25	21	21
5. Annual Pensionable Payroll	\$ 58,277,802	\$ 63,495,417	\$ 63,495,417
6. Projected Annual Pensionable Payroll	\$ 59,793,025	\$ 65,082,802	\$ 65,082,802
7. Annual benefits payable to those currently receiving benefits (including DROPs)	\$ 64,158,316	\$ 67,181,498	\$ 67,181,498
B. <u>Value of Assets</u>			
1. Smoothed Actuarial Value	\$ 816,917,537	\$ 867,403,683	\$ 867,403,683
2. Market Value	\$ 806,424,132	\$ 874,437,400	\$ 874,437,400
C. <u>Liabilities</u>			
1. Actuarial present value of future expected benefit payments for active members			
a. Retirement benefits	\$ 346,580,183	\$ 355,625,219	\$ 359,587,587
b. Vesting benefits	13,766,898	14,607,897	14,795,155
c. Death benefits	7,540,271	7,964,322	8,039,809
d. Disability benefits	31,463,334	33,226,358	33,544,640
e. Total	<u>\$ 399,350,686</u>	<u>\$ 411,423,796</u>	<u>\$ 415,967,191</u>
2. Actuarial present value of future expected benefit payments for terminated vested members (including dormants)	\$ 3,277,939	\$ 4,524,204	\$ 4,564,330
3. Actuarial present value of future expected benefit payments for members currently receiving benefits			
a. Service retired (includes DROPs)	\$ 808,781,158	\$ 854,729,054	\$ 859,263,736
b. Beneficiaries	46,673,753	47,833,842	48,029,296
c. Disability retired	45,983,881	47,523,600	47,756,029
e. Total	<u>\$ 901,438,792</u>	<u>\$ 950,086,496</u>	<u>\$ 955,049,061</u>

Actuarial Valuation as of October 1, 2017

State Required Exhibit - All Members

	<u>10/01/2016</u>	<u>Prior Assumptions 10/01/2017</u>	<u>Current Assumptions 10/01/2017</u>
4. Total actuarial present value of future expected benefit payments	\$ 1,304,067,417	\$ 1,366,034,496	\$ 1,375,580,582
5. Actuarial accrued liabilities	\$ 1,129,476,584	\$ 1,187,669,356	\$ 1,194,620,927
6. Unfunded actuarial liabilities	\$ 312,559,047	\$ 320,265,673	\$ 327,217,244
D. <u>Statement of Accumulated Fund Benefits</u>			
1. Actuarial present value of accumulated vested benefits			
a. Participants currently receiving benefits	\$ 901,438,792	\$ 950,086,496	\$ 955,049,061
b. Other participants	166,245,279	170,055,205	171,660,710
c. Total	<u>\$ 1,067,684,071</u>	<u>\$ 1,120,141,701</u>	<u>\$ 1,126,709,771</u>
2. Actuarial present value of accumulated non-vested fund benefits	<u>\$ 6,812,616</u>	<u>\$ 7,187,447</u>	<u>\$ 7,226,378</u>
3. Total actuarial present value of accumulated fund benefits	<u>\$ 1,074,496,687</u>	<u>\$ 1,127,329,148</u>	<u>\$ 1,133,936,149</u>
E. <u>Pension Cost</u>			
1. Total normal cost (including admin expenses)	\$ 18,357,026	\$ 19,021,776	\$ 19,232,040
2. Payment required to amortize unfunded liability	23,796,708	25,173,228	25,521,155
3. Interest adjustment	218,858	238,867	237,455
4. Expected service buyback	174,833	190,486	190,486
5. Total required contribution	<u>\$ 42,547,425</u>	<u>\$ 44,624,357</u>	<u>\$ 45,181,136</u>
6. Item 5 as a percentage of projected pensionable payroll	71.2%	68.6%	69.4%
7. Estimated employee contributions	\$ 6,013,721	\$ 6,563,515	\$ 6,563,515
8. Item 7 as a percentage of projected pensionable payroll	10.1%	10.1%	10.1%
9. Estimated State contributions	\$ 120,549	\$ 120,549	\$ 120,549
10. Item 9 as a percentage of projected pensionable payroll	0.2%	0.2%	0.2%
11. Net amount payable by City	\$ 37,519,388	\$ 39,055,902	\$ 39,626,600
12. Item 11 as a percentage of projected pensionable payroll	62.7%	60.0%	60.9%

Actuarial Valuation as of October 1, 2017

State Required Exhibit - All Members

	<u>10/01/2016</u>	<u>Prior Assumptions 10/01/2017</u>	<u>Current Assumptions 10/01/2017</u>
F. <u>Past Contributions</u>			
1. Total contribution required (prior valuation)	\$ 39,048,488	\$ 42,547,425	\$ 42,547,425
2. Actual contributions made:			
a. Members	\$ 6,034,612	N/A	N/A
b. City	35,247,317	N/A	N/A
c. State	120,549	N/A	N/A
d. Total	<u>\$ 41,402,478</u>	N/A	N/A
G. <u>Disclosure of Following Items:</u>			
1. Actuarial present value of future salaries excluding DROP payroll - attained age	\$ 591,872,003	\$ 645,187,162	\$ 647,152,806
2. Actuarial present value of future employee contributions - attained age	\$ 59,694,946	\$ 65,327,450	\$ 65,527,336
3. Actuarial present value of future contributions from other sources	N/A	N/A	N/A
4. Amount of active members' accumulated contributions	\$ 52,481,716	\$ 54,445,434	\$ 54,445,434
5. Actuarial present value of future salaries and future benefits at entry age	N/A	N/A	N/A
6. Actuarial present value of future employee contributions at entry age	N/A	N/A	N/A

Actuarial Valuation as of October 1, 2017

State Required Exhibit - Firefighters

	<u>10/01/2016</u>	<u>Prior Assumptions 10/01/2017</u>	<u>Current Assumptions 10/01/2017</u>
A. Participant Data			
1. Active participants	168	174	174
2. Retired participants and beneficiaries receiving benefits (including DROPs)	276	283	283
3. Disabled participants receiving benefits	7	7	7
4. Terminated vested participants (including dormants)	5	4	4
5. Annual Pensionable Payroll	\$ 20,887,154	\$ 23,244,255	\$ 23,244,255
6. Projected Annual Pensionable Payroll	\$ 21,430,220	\$ 23,825,361	\$ 23,825,361
7. Annual benefits payable to those currently receiving benefits (including DROPs)	\$ 26,120,166	\$ 27,691,155	\$ 27,691,155
B. Liabilities			
1. Actuarial present value of future expected benefit payments for active members			
a. Retirement benefits	\$ 132,164,709	\$ 133,967,717	\$ 135,569,216
b. Vesting benefits	5,942,226	6,714,113	6,802,869
c. Death benefits	3,049,760	3,367,573	3,400,184
d. Disability benefits	12,219,556	13,479,317	13,611,518
e. Total	<u>\$ 153,376,251</u>	<u>\$ 157,528,720</u>	<u>\$ 159,383,787</u>
2. Actuarial present value of future expected benefit payments for terminated vested members (including dormants)	\$ 486,260	\$ 523,206	\$ 529,337
3. Actuarial present value of future expected benefit payments for members currently receiving benefits			
a. Service retired (includes DROPs)	\$ 345,576,678	\$ 370,784,643	\$ 372,750,481
b. Beneficiaries	17,357,240	17,449,983	17,519,294
c. Disability retired	7,292,790	7,386,659	7,419,888
d. Total	<u>\$ 370,226,708</u>	<u>\$ 395,621,285</u>	<u>\$ 397,689,663</u>

Actuarial Valuation as of October 1, 2017

State Required Exhibit - Firefighters

	<u>10/01/2016</u>	<u>Prior Assumptions 10/01/2017</u>	<u>Current Assumptions 10/01/2017</u>
4. Total actuarial present value of future expected benefit payments	\$ 524,089,219	\$ 553,673,211	\$ 557,602,787
5. Actuarial accrued liabilities	\$ 451,769,931	\$ 476,562,888	\$ 479,354,810
C. <u>Statement of Accumulated Fund Benefits</u>			
1. Actuarial present value of accumulated vested benefits			
a. Participants currently receiving benefits	\$ 370,226,708	\$ 395,621,285	\$ 397,689,663
b. Other participants	56,917,820	51,905,005	52,445,326
c. Total	<u>\$ 427,144,528</u>	<u>\$ 447,526,290</u>	<u>\$ 450,134,989</u>
2. Actuarial present value of accumulated non-vested fund benefits	<u>\$ 2,602,881</u>	<u>\$ 2,671,948</u>	<u>\$ 2,688,636</u>
3. Total actuarial present value of accumulated fund benefits	\$ 429,747,409	\$ 450,198,238	\$ 452,823,625
D. <u>Disclosure of Following Items:</u>			
1. Actuarial present value of future salaries - attained age	\$ 223,525,168	\$ 256,378,677	\$ 257,178,673
2. Actuarial present value of future employee contributions - attained age	\$ 22,505,916	\$ 25,941,032	\$ 26,022,277
3. Actuarial present value of future contributions from other sources	N/A	N/A	N/A
4. Amount of active members' accumulated contributions	\$ 16,678,270	\$ 16,626,546	\$ 16,626,546
5. Actuarial present value of future salaries and future benefits at entry age	N/A	N/A	N/A
6. Actuarial present value of future employee contributions at entry age	N/A	N/A	N/A

Actuarial Valuation as of October 1, 2017

State Required Exhibit - Police Officers

	<u>10/01/2016</u>	<u>Prior Assumptions 10/01/2017</u>	<u>Current Assumptions 10/01/2017</u>
A. Participant Data			
1. Active participants	326	329	329
2. Retired participants and beneficiaries receiving benefits (including DROPs)	414	421	421
3. Disabled participants receiving benefits	45	46	46
4. Terminated vested participants (including dormants)	20	17	17
5. Annual Pensionable Payroll	\$ 37,390,648	\$ 40,251,162	\$ 40,251,162
6. Projected Annual Pensionable Payroll	\$ 38,362,805	\$ 41,257,441	\$ 41,257,441
7. Annual benefits payable to those currently receiving benefits (including DROPs)	\$ 38,038,150	\$ 39,490,343	\$ 39,490,343
B. Liabilities			
1. Actuarial present value of future expected benefit payments for active members			
a. Retirement benefits	\$ 214,415,474	\$ 221,657,502	\$ 224,018,371
b. Vesting benefits	7,824,672	7,893,784	7,992,286
c. Death benefits	4,490,511	4,596,749	4,639,625
d. Disability benefits	19,243,778	19,747,041	19,933,122
e. Total	<u>\$ 245,974,435</u>	<u>\$ 253,895,076</u>	<u>\$ 256,583,404</u>
2. Actuarial present value of future expected benefit payments for terminated vested members (including dormants)	\$ 2,791,679	\$ 4,000,998	\$ 4,034,993
3. Actuarial present value of future expected benefit payments for members currently receiving benefits			
a. Service retired (includes DROPs)	\$ 463,204,480	\$ 483,944,411	\$ 486,513,255
b. Beneficiaries	29,316,513	30,383,859	30,510,002
c. Disability retired	38,691,091	40,136,941	40,336,141
d. Miscellaneous	0	0	0
e. Total	<u>\$ 531,212,084</u>	<u>\$ 554,465,211</u>	<u>\$ 557,359,398</u>

Actuarial Valuation as of October 1, 2017

State Required Exhibit - Police Officers

	<u>10/01/2016</u>	<u>Prior Assumptions 10/01/2017</u>	<u>Current Assumptions 10/01/2017</u>
4. Total actuarial present value of future expected benefit payments	\$ 779,978,198	\$ 812,361,285	\$ 817,977,795
5. Actuarial accrued liabilities	\$ 677,706,653	\$ 711,106,468	\$ 715,266,117
C. <u>Statement of Accumulated Fund Benefits</u>			
1. Actuarial present value of accumulated vested benefits			
a. Participants currently receiving benefits	\$ 531,212,084	\$ 554,465,211	\$ 557,359,398
b. Other participants	\$ 109,327,459	118,150,200	119,215,384
c. Total	<u>\$ 640,539,543</u>	<u>\$ 672,615,411</u>	<u>\$ 676,574,782</u>
2. Actuarial present value of accumulated non-vested fund benefits	<u>\$ 4,209,735</u>	<u>\$ 4,515,499</u>	<u>\$ 4,537,742</u>
3. Total actuarial present value of accumulated fund benefits	\$ 644,749,278	\$ 677,130,910	\$ 681,112,524
D. <u>Disclosure of Following Items:</u>			
1. Actuarial present value of future salaries - attained age	\$ 368,346,835	\$ 388,808,485	\$ 389,974,133
2. Actuarial present value of future employee contributions - attained age	\$ 37,189,030	\$ 39,386,418	\$ 39,505,059
3. Actuarial present value of future contributions from other sources	N/A	N/A	N/A
4. Amount of active members' accumulated contributions	\$ 35,803,446	\$ 37,818,888	\$ 37,818,888
5. Actuarial present value of future salaries and future benefits at entry age	N/A	N/A	N/A
6. Actuarial present value of future employee contributions at entry age	N/A	N/A	N/A


State Required Exhibit

Amortization balances are written down in proportion to amortization payments.

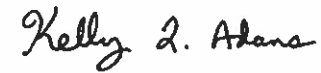
Valuation Date		Current Unfunded	Prior	Current	Remaining
<u>Established</u>	<u>Unfunded Actuarial Accrued Liabilities</u>	<u>Liabilities</u>	<u>Assumptions</u> <u>Amortization</u> <u>Payment</u>	<u>Assumptions</u> <u>Amortization</u> <u>Payment</u>	<u>Funding</u> <u>Period</u>
10/01/2001	Initial Unfunded Liability	\$ 11,407,479	\$ 1,110,687	\$ 1,107,763	14 years
10/01/2002	Method Update	13,079,714	1,215,455	1,212,042	15 years
10/01/2003	Fund Amendment	1,136,996	101,270	100,968	16 years
10/01/2003	Actuarial (Gain) / Loss	34,232,515	3,049,029	3,039,944	16 years
10/01/2004	Actuarial (Gain) / Loss	36,972,646	3,168,068	3,158,096	17 years
10/01/2005	Method Update	(32,983,059)	(2,727,792)	(2,718,756)	18 years
10/01/2005	Assumption Update	6,634,223	548,669	546,852	18 years
10/01/2005	Actuarial (Gain) / Loss	24,636,255	2,037,488	2,030,739	18 years
10/01/2006	Method Update	(4,982,713)	(398,883)	(397,497)	19 years
10/01/2006	Actuarial (Gain) / Loss	21,569,165	1,726,683	1,720,686	19 years
10/01/2007	Actuarial (Gain) / Loss	25,245,124	1,961,241	1,954,120	20 years
10/01/2008	Assumption Update	6,033,981	455,963	454,237	21 years
10/01/2008	Actuarial (Gain) / Loss	33,304,216	2,516,662	2,507,138	21 years
10/01/2009	Assumption Update	23,758,801	1,749,927	1,743,041	22 years
10/01/2009	Actuarial (Gain) / Loss	68,378,726	5,036,355	5,016,537	22 years
10/01/2010	Assumption Update	4,610,817	331,629	330,276	23 years
10/01/2010	Actuarial (Gain) / Loss	17,424,104	1,253,215	1,248,099	23 years
10/01/2011	Fund Amendment	(3,134,748)	(220,542)	(219,610)	24 years
10/01/2011	Assumption Update	17,311,705	1,217,948	1,212,802	24 years
10/01/2011	Actuarial (Gain) / Loss	30,794,298	2,166,503	2,157,349	24 years
10/01/2012	Assumption Update	7,911,970	545,324	542,944	25 years
10/01/2012	Actuarial (Gain) / Loss	26,638,607	1,836,039	1,828,024	25 years
10/01/2012	Fund Amendment	(20,359,800)	(1,403,279)	(1,397,153)	25 years
10/01/2013	Actuarial (Gain) / Loss	1,580,331	106,858	106,377	26 years
10/01/2013	Method Update	(65,560,199)	(4,433,033)	(4,413,075)	26 years
10/01/2014	Actuarial (Gain) / Loss	(6,056,860)	(402,305)	(400,440)	27 years
10/01/2014	Assumption Update	5,854,754	388,881	387,078	27 years
10/01/2015	Actuarial (Gain) / Loss	8,825,136	576,484	573,737	28 years
10/01/2015	Assumption Update	2,498,886	163,235	162,457	28 years
10/01/2015	Fund Amendment	(8,503,140)	(555,450)	(552,803)	28 years
10/01/2016	Actuarial (Gain) / Loss	(11,422,917)	(734,632)	(731,038)	29 years
10/01/2016	Assumption Update	35,425,930	2,278,317	2,267,171	29 years
10/01/2017	Actuarial (Gain) / Loss	8,002,730	507,214	504,669	30 years
10/01/2017	Assumption Update	6,951,571	N/A	438,381	30 years
TOTAL		\$ 327,217,244	\$ 25,173,228	\$ 25,521,155	

This actuarial valuation and/or cost determination was prepared and completed by me or under my direct supervision, and I acknowledge responsibility for the results. To the best of my knowledge, the results are complete and accurate, 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 fund and / or paid from fund assets for which liabilities or current costs have not been established or other wise provided for in the valuation. All known events or trends which may require material increase in fund costs or required contribution rates have been taken into account in the valuation.

Enrollment Number: 17-02802
Dated: April 16, 2018


Lawrence F. Wilson, A.S.A.

Enrollment Number: 17-06857
Dated: April 16, 2018


Kelly L. Adams, A.S.A.



Glossary

Actuarial Accrued Liability. The difference between the Actuarial Present Value of Future Benefits, and the Actuarial Present Value of Future Normal Costs.

Actuarial Assumptions. Assumptions about future plan experience that affect costs or liabilities, such as: mortality, withdrawal, disablement, and retirement; future increases in salary; future rates of investment earnings; future investment and administrative expenses; characteristics of members not specified in the data, such as marital status; characteristics of future members; future elections made by members and other items.

Actuarial Cost Method. Actuarial Cost Method A procedure for allocating the Actuarial Present Value of Future Benefits between the Actuarial Present Value of Future Normal Costs and the Actuarial Accrued Liability.

Actuarial Equivalent. Of equal Actuarial Present Value, determined as of a given date and based on a given set of Actuarial Assumptions.

Actuarial Present Value of Future Benefits. The Actuarial Present Value of amounts which are expected to be paid at various future times to active members, retired members, beneficiaries receiving benefits and inactive, non-retired members entitled to either a refund or a future retirement benefit. Expressed another way, it is the value that would have to be invested on the valuation date so that the amount invested plus investment earnings would provide sufficient assets to pay all projected benefits and expenses when due.

Actuarial Valuation. The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a plan. An Actuarial Valuation for a governmental retirement system typically also includes calculations of items needed for compliance with GASB No. 67.

Actuarial Value of Assets. The value of the assets as of a given date, used by the actuary for valuation purposes. This may be the market or fair value of plan assets or a smoothed value in order to reduce the year-to-year volatility of calculated results, such as the funded ratio and the actuarially required contribution.

Amortization Method. A method for determining the Amortization Payment. The most common methods used are level dollar and level percentage of payroll. Under the Level Dollar method, the Amortization Payment is one of a stream of payments, all equal, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the Amortization Payment is one of a stream of increasing payments, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the stream of payments increases at the rate at which total covered payroll of all active members is assumed to increase.

Glossary

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

Amortization Period. The period used in calculating the Amortization Payment.

Annual Required Contribution. The employer's periodic required contributions, expressed as a dollar amount or a percentage of covered plan compensation. The annual required contribution consists of the Employer Normal Cost and Amortization Payment plus interest adjustment.

Closed Amortization Period. A specific number of years that is reduced by one each year, and declines to zero with the passage of time. For example if the amortization period is initially set at 30 years, it is 29 years at the end of one year, 28 years at the end of two years, etc.

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

Equivalent Single Amortization Period. For plans that do not establish separate amortization bases (separate components of the UAAL), this is the same as the Amortization Period. For plans that do establish separate amortization bases, this is the period over which the UAAL would be amortized if all amortization bases were combined upon the current UAAL payment.

Experience Gain/Loss. A measure of the difference between actual experience and that expected based upon a set of Actuarial Assumptions, during the period between two actuarial valuations. To the extent that actual experience differs from that assumed, Unfunded Actuarial Accrued Liabilities emerge which may be larger or smaller than projected. Gains are due to favorable experience, e.g., the assets earn more than projected, salaries do not increase as fast as assumed, members retire later than assumed, etc. Favorable experience means actual results produce actuarial liabilities not as large as projected by the actuarial assumptions. Losses are the result of unfavorable experience, i.e., actual results that produce Unfunded Actuarial Accrued Liabilities which are larger than projected.

Funded Ratio. The ratio of the Actuarial Value of Assets to the Actuarial Accrued Liability.

GASB. Governmental Accounting Standards Board.

Glossary

GASB No. 67 and GASB No. 68. These are the governmental accounting standards that set the accounting rules for public retirement plans and the employers that sponsor or contribute to them. Statement No. 67 sets the accounting rules for the plans themselves, while Statement No. 68 sets the accounting rules for the employers that sponsor or contribute to public retirement plans.

Normal Cost. The annual cost assigned, under the Actuarial Cost Method, to the current plan year.

Open Amortization Period. An open amortization period is one which is used to determine the Amortization Payment but which does not change over time. In other words, if the initial period is set as 30 years, the same 30-year period is used in determining the Amortization Period each year. In theory, if an Open Amortization Period is used to amortize the Unfunded Actuarial Accrued Liability, the UAAL will never completely disappear, but will become smaller each year, either as a dollar amount or in relation to covered payroll.

Unfunded Actuarial Accrued Liability. The difference between the Actuarial Accrued Liability and Actuarial Value of Assets.

Valuation Date. The date as of which the Actuarial Present Value of Future Benefits are determined. The benefits expected to be paid in the future are discounted to this date.