



October 3, 2017

Ms. Patti McLaughlin  
Administrator, City of Key West  
Employees' Retirement Plan  
City of Key West  
1300 White Street  
Key West, Florida 33040

**Re: Retirement Plan for Employees of the City of Key West  
Projection Actuarial Valuation**

Dear Patti:

As requested, we are pleased to enclose ten (10) copies of the October 1, 2016 Projection Actuarial Valuation Report for the Retirement Plan for Employees of the City of Key West.

We appreciate the opportunity to work with the Board on this important project and look forward to presenting the key financial results of our Report at an upcoming Board Meeting. Please let us know the date and time of the Board Meeting.

Upon approval by the Board, we recommend you provide a copy of our Report to the following State department head:

Mr. Douglas E. Beckendorf, A.S.A.  
Bureau of Local Retirement Services  
Division of Retirement  
Building 8  
Post Office Box 9000  
Tallahassee, Florida 32315-9000

If you should have any questions concerning the above, please do not hesitate to contact us.

Sincerest regards,

A handwritten signature in black ink that reads "L. F. Wilson". The signature is written in a cursive style with a large initial "L" and "W".

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

Enclosures

# Retirement Plan for Employees of the City of Key West

Actuarial Valuation as of October 1, 2016

This Valuation Determines the Annual Contribution for Plan Year October 1, 2017 through September 30, 2018 to Be Paid in Fiscal Year October 1, 2017 to September 30, 2018





**Retirement Plan for Employees  
of the City of Key West**

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October 3, 2017

General Employees' Retirement Committee  
c/o Ms. Patti McLauchlin  
Administrator, City of Key West  
Employees' Retirement Plan  
City of Key West  
1300 White Street  
Key West, Florida 33040

Dear Committee Members:

### **October 1, 2016 Actuarial Valuation**

We are pleased to present our October 1, 2016 Projection Actuarial Valuation for the Retirement Plan for Employees of the City of Key West. The purpose of this report is to indicate appropriate contribution levels, comment on the actuarial stability of the Plan and to satisfy State requirements. The Retirement Committee has retained Gabriel, Roeder, Smith & Company (GRS) to prepare an annual actuarial valuation under Section 46.72(a) of the Plan.

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

### **Retirement Plan Costs**

Our Projection Actuarial Valuation develops the required minimum Retirement Plan payment under the Florida Protection of Public Employee Retirement Benefits Act. The minimum payment consists of payment of the annual normal costs including expenses as prescribed by law. **The minimum payment for fiscal year ending September 30, 2018 is \$1,733,494 (13.7%).** The figure in parentheses is the Plan cost expressed as a percentage of projected covered annual payroll for fiscal year ending September 30, 2018 (\$12,878,506).

This total cost is to be met by member and City contributions. We anticipate member contributions will be **\$772,710 (6.0%)**. The resulting minimum required City contribution is **\$991,645 (7.7%)**.

### **Changes in Actuarial Assumptions, Methods and Plan Benefits**

Plan benefits remain unchanged from the previous valuation. Plan benefits are summarized on Table VIII.

The actuarial cost method was updated from the aggregate method to the entry age normal level percent of pay method.

The mortality assumptions have been updated to the mortality assumptions used by the Florida Retirement System in the July 1, 2016 Actuarial Valuation. The remaining actuarial assumptions and methods remain unchanged from the actuarial assumptions and methods used in the previous Actuarial Valuation and are outlined on Table IX.

### **Comparison of October 1, 2015 and October 1, 2016 Valuation Results**

Table II of our report provides information of a comparative nature. The left columns of the Table indicate the costs as calculated for October 1, 2015. The center-left columns indicate the costs as calculated for October 1, 2016, prior to the update in actuarial cost method and assumptions. The center-right columns indicate the costs as calculated for October 1, 2016, after the update in actuarial cost method but prior to the update in actuarial assumptions. The right columns indicate the costs as calculated for October 1, 2016, after the update in actuarial cost method and assumptions.

Comparing the left and center-left columns of Table II shows the effect of Plan experience during the year. The number of active participants increased by approximately 4%. Covered payroll increased by approximately 12%. Total Plan membership increased by approximately 4%. Total normal cost and net City minimum funding requirement increased both as a dollar amount and as a percentage of covered payroll.

Comparing the center-right and center-left columns of Table II shows the effect of the update of the actuarial cost method. Total normal cost decreased both as a dollar amount and as a percentage of covered payroll. An unfunded actuarial accrued liability was established. The net City minimum funding requirement remained the same both as a dollar amount and as a percentage of covered payroll.

Comparing the right and center-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 all increased slightly both as a dollar amount and as a percentage of covered payroll.

Your Plan continues to have assets in excess of the value of vested accrued benefits, resulting in a Vested Benefit Security Ratio of 116.0%, which is a decrease from 118.4% as of October 1, 2015. The Vested Benefit Security Ratio is measured on a market value of assets basis.

### **Plan Experience**

Table VI indicates that the Plan experienced an actuarial loss of \$1,310,894. This suggests actual overall Plan experience was less favorable than expected.

Table XIV (salary, turnover and investment yield) provides figures on recent Plan experience. The salary experience indicates actual salary increases this year averaged approximately 9.4%. Salary experience was the primary source of actuarial loss when compared to the assumed 4.5% average annual increase. Three, five and ten-year average salary increases are 7.8%, 6.3% and 3.7%, respectively.

Employee turnover this year was 70% of the assumed and was generally an additional source of actuarial loss. Three, five and ten-year turnover has averaged 90%, 90% and 100% of assumed turnover, respectively.

Smoothed actuarial value investment return of 8.7% exceeded the investment return assumption of 7.5%. Smoothed investment return was an offsetting source of actuarial gain during the previous year. Three, five and ten-year average annual smoothed actuarial value investment returns are 8.6%, 7.6% and 7.2%, respectively. One, three, five and ten-year average market value returns are 7.5%, 6.2%, 9.4% and 6.5%, respectively.

### **Member Census and Financial Data**

The Board submitted the Member census data as of October 1, 2016 used for this Actuarial Valuation to us. This information contains name, Social Security number, date of birth, date of hire, October 1, 2016 rate of pay, actual salary paid and Member contributions for the previous year. Dates of termination and retirement are provided where applicable. The Board updated information on inactive Members including retirees, beneficiaries and vested terminees.

We received financial information concerning Plan assets as of September 30, 2016 from the Comprehensive Annual Financial Report (CAFR). We do not audit the Member census data and asset information that is provided to us; however, we perform certain reasonableness checks. The Plan is responsible for the accuracy of the data.

### **Summary**

In our opinion the benefits provided for under the current Plan will be sufficiently funded through the payment of the amount as indicated in the current and future Actuarial Valuation reports. We will continue to update you on the future payment requirements for the Plan through our actuarial reports. These reports will also continue to monitor the future experience of the Plan.

The actuarial assumptions used in this Actuarial Valuation are as adopted by the Board of Trustees. The mortality assumptions were updated with this Actuarial Valuation. The remaining economic and demographic actuarial assumptions are based upon the results of an Actuarial Experience Study for the period October 1, 2007 – September 30, 2012. Each assumption represents an estimate of future Plan experience.

If all actuarial assumptions are met and if all future minimum required contributions are paid, Plan assets will be sufficient to pay all Plan benefits, future contributions are expected to remain relatively stable as a percentage of payroll and the funded status of the plan is expected to improve. Plan minimum required contributions are determined in compliance with the requirements of the Florida Protection of Public Employee Retirement Benefits Act with normal cost determined as a level percent of covered payroll.

The Unfunded Actuarial Accrued Liability (UAAL) may not be appropriate for assessing the sufficiency of Plan 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 would be different if it reflected the market value of assets rather than the 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 Plan 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 Unfunded Actuarial Present Value of Vested Accrued Benefits and the corresponding Vested Benefit Security Ratio are based upon the market value of assets.

The GASB Net Pension Liability and Plan Fiduciary Net Position as a Percentage of Total Pension Liability may not be appropriate for assessing the sufficiency of Plan 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 GASB Net Pension Liability and Plan Fiduciary Net Position as a Percentage of Total Pension Liability are based upon the market value of assets.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: Plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; 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 Plan 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 plans. To the best of our knowledge the information contained in this report is accurate and fairly presents the actuarial position of the Plan 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 Plan sponsor.

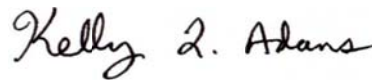
The undersigned are Members of the American Academy of Actuaries and meet the qualification standards of the American Academy of Actuaries to render the actuarial opinions contained in this report. We are available to respond to any questions with regards to matters covered in this report.

Very truly yours,



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



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

**Summary of Retirement Plan Costs as of October 1, 2016**

	<b>Current Method Prior Assumptions</b>		<b>Current Method Current Assumptions</b>	
	<b>Cost Data</b>	<b>% of Payroll</b>	<b>Cost Data</b>	<b>% of Payroll</b>
<b>A. Participant Data Summary (Table III)</b>				
1. Active employees	261	N/A	261	N/A
2. Terminated vested	11	N/A	11	N/A
3. Receiving benefits (including DROPs)	150	N/A	150	N/A
4. Annual payroll of active employees	\$ 12,688,183	100.0%	\$ 12,688,183	100.0%
5. Projected annual payroll of active employees	\$ 12,878,506	101.5%	\$ 12,878,506	101.5%
<b>B. Total Normal Costs</b>				
1. Age retirement benefits	\$ 983,116	7.7%	\$ 1,004,203	7.9%
2. Termination benefits	271,494	2.1%	272,817	2.2%
3. Death benefits	58,645	0.5%	42,539	0.3%
4. Disability benefits	108,029	0.9%	108,384	0.9%
5. Assumed expenses	202,210	1.6%	202,210	1.6%
6. Total annual normal costs	\$ 1,623,494	12.8%	\$ 1,630,153	12.8%
<b>C. Actuarial Accrued Liability (Entry Age Normal)</b>				
1. Age retirement benefits active employees	\$ 19,538,761	154.0%	\$ 19,739,469	155.6%
2. Termination benefits active employees	1,170,895	9.2%	1,169,004	9.2%
3. Death benefits active employees	635,244	5.0%	477,217	3.8%
4. Disability benefits active employees	392,062	3.1%	394,953	3.1%
5. Retired or terminated vested participants receiving benefits (including DROPs)	26,500,381	208.9%	26,500,381	208.9%
6. Terminated vested participants entitled to future benefits	591,936	4.7%	591,936	4.7%
7. Deceased participants whose beneficiaries are receiving benefits	1,581,672	12.5%	1,581,672	12.5%
8. Disabled participants receiving benefits	23,999	0.2%	23,999	0.2%
9. Miscellaneous liability	165,957	1.3%	165,957	1.3%
10. Total actuarial accrued liability	\$ 50,600,907	398.8%	\$ 50,644,588	399.1%
<b>D. Net Assets (Table V)</b>				
1. Actuarial value	\$ 50,120,040	395.0%	\$ 50,120,040	395.0%
2. Market value	\$ 49,222,011	387.9%	\$ 49,222,011	387.9%
<b>E. Unfunded Entry Age Normal Actuarial Accrued Liability (C.10 - D.1.)</b>	\$ 480,867	3.8%	\$ 524,548	4.1%



Summary of Retirement Plan Costs as of October 1, 2016

	Current Method Prior Assumptions		Current Method and Assumptions	
	Cost Data	% of Payroll	Cost Data	% of Payroll
F. Minimum Required Contribution				
1. Total Normal Cost	\$ 1,623,494	12.8%	\$ 1,630,153	12.8%
2. Amortization of Unfunded Actuarial Accrued Liability	39,300	0.3%	42,870	0.3%
3. Interest Adjustment	60,101	0.5%	60,471	0.5%
4. Total Minimum Required Contribution	<u>\$ 1,722,895</u>	13.6%	<u>\$ 1,733,494</u>	13.7%
G. Expected Payroll of Active Members for 2017 - 2018 Plan Year (\$12,688,183 x 1.015)	\$ 12,878,506	101.5%	\$ 12,878,506	101.5%
H. Contribution Sources for <b>Fiscal Year Ending September 30, 2018</b> (% of expected payroll of Active Members)				
1. City	\$ 978,766	7.6%	\$ 991,645	7.7%
2. Member	772,710	6.0%	772,710	6.0%
3. Total Minimum Required Contribution	<u>\$ 1,751,476</u>	13.6%	<u>\$ 1,764,355</u>	13.7%
I. Actuarial Present Value of Vested Accrued Benefits				
1. Retired, Terminated Vested, Beneficiaries and Disabled Receiving Benefits (including DROPs)	\$ 28,106,052	221.5%	\$ 28,106,052	221.5%
2. Terminated Vested Participants Entitled to Future Benefits and Miscellaneous	757,893	6.0%	757,893	6.0%
3. Active Participants Entitled to Future Benefits	<u>13,559,035</u>	106.9%	<u>13,563,413</u>	106.9%
4. Total Actuarial Present Value of Vested Accrued Benefits	<u>\$ 42,422,980</u>	334.4%	<u>\$ 42,427,358</u>	334.4%
J. Unfunded Actuarial Present Value of Vested Accrued Benefits (I.4. - D.2., not less than zero)	\$ 0	0.0%	\$ 0	0.0%
K. Vested Benefit Security Ratio (D.2. ÷ I.4.)	116.0%	N/A	116.0%	N/A



Comparison of Cost Data of October 1, 2015 and October 1, 2016 Valuations

	October 1, 2015		Prior Method / Prior Assumptions October 1, 2016		Current Method / Prior Assumptions October 1, 2016		Current Method / Current Assumptions October 1, 2016	
	Cost Data	% of Annual Payroll	Cost Data	% of Annual Payroll	Cost Data	% of Annual Payroll	Cost Data	% of Annual Payroll
A. Members								
1. Active Members	250	N/A	261	N/A	261	N/A	261	N/A
2. Terminated vested Members	13	N/A	11	N/A	11	N/A	11	N/A
3. Receiving benefits (including DROPs)	143	N/A	150	N/A	150	N/A	150	N/A
4. Annual payroll of active Members	\$ 11,339,923	100.0%	\$ 12,688,183	100.0%	\$ 12,688,183	100.0%	\$ 12,688,183	100.0%
5. Projected annual payroll of active Members	\$ 11,441,982	100.9%	\$ 12,878,506	101.5%	\$ 12,878,506	101.5%	\$ 12,878,506	101.5%
B. Present Value of Future Benefits	\$ 54,579,004	481.3%	\$ 59,322,018	467.5%	\$ 59,322,018	467.5%	\$ 59,476,115	468.8%
C. Total Entry Age Normal Actuarial Accrued Liability	\$ 46,751,976	412.3%	\$ 50,600,907	398.8%	\$ 50,600,907	398.8%	\$ 50,644,588	399.1%
D. Smoothed Actuarial Value of Assets	\$ 47,501,146	418.9%	\$ 50,120,040	395.0%	\$ 50,120,040	395.0%	\$ 50,120,040	395.0%
E. Unfunded Entry Age Normal Actuarial Accrued Liability	\$ (749,170)	(6.6%)	\$ 480,867	3.8%	\$ 480,867	3.8%	\$ 524,548	4.1%
F. Total Normal Costs (including expenses)								
1. Aggregate Cost Method	\$ 1,289,184	11.4%	\$ 1,671,502	13.2%	\$ 1,671,502	13.2%	\$ 1,685,459	13.3%
2. Entry Age Normal	\$ 1,432,370	12.6%	\$ 1,623,494	12.8%	\$ 1,623,494	12.8%	\$ 1,630,153	12.8%
G. City Minimum Funding Payment (% of projected payroll)	\$ 663,635	5.8%	\$ 978,766	7.6%	\$ 978,766	7.6%	\$ 991,645	7.7%
H. Actuarial Gain / (Loss)	\$ (948,743)	(8.4%)	\$ (1,310,894)	(10.3%)	\$ (1,310,894)	(10.3%)	\$ (1,310,894)	(10.3%)
I. Unfunded Actuarial Present Value of Vested Accrued Benefits	\$ 0	0.0%	0.0%	0.0%	\$ 0	0.0%	\$ 0	0.0%
J. Vested Benefit Security Ratio	118.4%	N/A	116.0%	N/A	116.0%	N/A	116.0%	N/A



**Characteristics of Members in  
Actuarial Valuation as of October 1, 2016**

A. Active Plan Members Summary

1. Active Members fully vested	75
2. Active Members partially vested	73
3. Active Members non-vested	113
4. Total active Members	261
5. Annual rate of pay of active Members	\$ 12,688,183

B. Retired and Terminated Vested Member Summary

1. Retired or terminated vested Members receiving benefits (including DROPs)	118
2. Terminated vested Members entitled to future benefits	11
3. Deceased participants whose beneficiaries are receiving benefits	31
4. Disabled Members receiving benefits	1

C. Projected Annual Retirement Benefits

1. Retired or terminated vested receiving benefits (including DROPs)	\$ 2,530,084
2. Terminated vested Members entitled to future benefits	\$ 97,895
3. Beneficiaries of deceased Members receiving benefits	\$ 164,388
4. Disabled Members receiving benefits	\$ 3,633



Table IV

Statement of Assets as of October 1, 2016

<u>Assets</u>	<u>Market Value</u>
A. <u>Cash</u>	\$ 740,115
B. <u>General Investments</u>	
1. Corporate Bonds	10,012,721
2. Templeton Global Bond Mutual Fund	2,186,008
3. U.S. Government Securities	2,528,991
4. Equities	27,794,360
5. American Core Realty Fund LLC	5,952,584
C. <u>Accrued Interest</u>	117,515
D. <u>Accounts Payable</u>	110,283
E. <u>Benefits / Distributions Payable</u>	0
F. <u>Pending Trades</u>	0
G. <u>Total Plan Assets</u> (A. + B. + C. - D. - E. - F.)	\$ 49,222,011



Table V

Reconciliation of Plan Assets<sup>1</sup>

A. <u>Market Value of Assets as of October 1, 2015</u>	\$ 47,155,911
B. <u>Receipts During Period</u>	
1. Contributions	
(a) Employee	\$ 769,999
(b) City	730,895
(c) Total	<u>\$ 1,500,894</u>
2. Investment income	
(a) Dividends, interest and other	\$ 1,270,177
(b) Investment expenses	<u>(233,269)</u>
(c) Net investment income	\$ 1,036,908
3. Realized and unrealized appreciation	<u>2,465,532</u>
4. Total receipts during period	\$ 5,003,334
C. <u>Disbursements During Period</u>	
1. Pension benefit payments and contribution refunds	\$ 2,469,444
2. DROP distributions	265,580
3. Administrative expenses	<u>202,210</u>
4. Total disbursements during period	\$ 2,937,234
D. <u>Market Value of Assets as of September 30, 2016</u>	\$ 49,222,011
E. <u>Reconciliation of DROP Account Balances</u>	
1. DROP account balances as of October 1, 2015	\$ 637,835
2. Benefit payments into DROP accounts during year	276,772
3. Investment gains / (losses) during year <sup>2</sup>	51,847
4. Distributions from DROP accounts during year	<u>(265,580)</u>
5. DROP account balances as of October 1, 2016	\$ 700,874

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<sup>1</sup> As reported in the Plan's financial statements.

<sup>2</sup> Based on actual fund performance.



**Development of Smoothed Actuarial Value of Assets as of September 30**

	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>
A. Preliminary smoothed actuarial value from prior year	45,337,795	47,501,146	50,120,040			
B. Market value end of year	47,155,911	49,222,011				
C. Market value beginning of year	47,883,789	47,155,911	49,222,011			
D. Non-investment net cash flow	(1,283,682)	(1,436,340)				
E. Investment return						
1. Total market value return: B. - C. - D.	555,804	3,502,440				
2. Amount for immediate recognition (7.5%)	3,543,146	3,482,831				
3. Amount for phased-in recognition: E.1. - E.2.	(2,987,342)	19,609				
F. Phased-in recognition of investment return						
1. Current year: 20% of E.3.	(597,468)	3,922				
2. First prior year	228,195	(597,468)	3,922			
3. Second prior year	422,299	228,195	(597,468)	3,922		
4. Third prior year	515,456	422,299	228,195	(597,468)	3,922	
5. Fourth prior year	(664,595)	515,455	422,299	228,196	(597,470)	3,921
6. Total phased-in recognition of investment return	(96,113)	572,403	56,948	(365,350)	(593,548)	3,921
G. Total smoothed actuarial value end of year						
1. Preliminary total smoothed actuarial value end of year: A. + D. + E.2. + F.6.	47,501,146	50,120,040				
2. Upper corridor limit: 120% of B.	56,587,093	59,066,413				
3. Lower corridor limit: 80% of B.	37,724,729	39,377,609				
4. Total smoothed actuarial value end of year: G.1., not more than G.2., nor less than G.3.	47,501,146	50,120,040				
H. Difference between market value and smoothed actuarial value	(345,235)	(898,029)				
I. Smoothed actuarial value rate of return	7.7%	8.7%				
J. Market value rate of return	1.2%	7.5%				





**Actuarial Gain / (Loss) for**  
**Plan Year Ended September 30, 2016**

A. Derivation of Actuarial Gain / (Loss)

1. Actuarial present value of projected payroll (prior to change in method and assumptions)	\$ 79,448,094
2. Normal cost for benefits as a percentage of payroll	
(a) Prior valuation	9.93%
(b) Current valuation (prior to change in method and assumptions)	11.58%
(c) Difference (a) - (b)	<u>(1.65%)</u>
3. Actuarial gain / (loss): (1. x 2.c)	\$ (1,310,894)

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

1. Smoothed actuarial value of assets previous year	\$ 47,501,146
2. Contributions during year	1,500,894
3. Benefits and administrative expenses during year	2,937,234
4. Expected net appreciation for period	<u>3,508,723</u>
5. Expected smoothed actuarial value of assets current year: (1. + 2. - 3. + 4.)	\$ 49,573,529
6. Smoothed actual actuarial value of assets current year	\$ 50,120,040
7. Approximate gain / (loss) due to investments: (6. - 5.)	\$ 546,511

C. Approximate Portion of Gain / (Loss)  
from Other Sources: A. - B.

\$ (1,857,405)



**Actuarial Gain / (Loss) for  
Plan Year Ended September 30, 2016**

D. Amortization of Unfunded Accrued Liability

<u>Date</u>	<u>Unfunded Liability</u>	<u>Amortization Payment</u>
October 1, 2016	\$ 524,548	\$ 42,870
October 1, 2017	\$ 517,804	\$ 43,513
October 1, 2018	\$ 509,863	\$ 44,166
October 1, 2019	\$ 500,625	\$ 44,828
October 1, 2020	\$ 489,982	\$ 45,501
October 1, 2021	\$ 477,817	\$ 46,183
October 1, 2022	\$ 464,006	\$ 46,876
October 1, 2023	\$ 448,415	\$ 47,579
October 1, 2024	\$ 430,898	\$ 48,293
October 1, 2025	\$ 411,301	\$ 49,017
...		
...		
October 1, 2036	\$ 0	\$ 0

D. Covered Payroll History

<u>Year Ended</u>	<u>Pensionable Payroll</u>	<u>Annual Increase</u>
September 30, 2016	\$ 12,688,183	11.9%
September 30, 2015	\$ 11,339,923	12.0%
September 30, 2014	\$ 10,127,588	2.0%
September 30, 2013	\$ 9,932,184	(0.1%)
September 30, 2012	\$ 9,945,221	3.5%
September 30, 2011	\$ 9,608,967	(3.3%)
September 30, 2010	\$ 9,938,506	(3.3%)
September 30, 2009	\$ 10,277,176	(6.4%)
September 30, 2008	\$ 10,982,201	(6.2%)
September 30, 2007	\$ 11,705,277	7.6%
September 30, 2006	\$ 10,882,478	N/A
Ten-Year Average Annual Increase		1.5%



Accounting Disclosure Exhibit

	<u>10/01/2015</u>	<u>Prior Assumptions 10/01/2016</u>	<u>Current Assumptions 10/01/2016</u>
<b>I. <u>Number of Plan Members</u></b>			
1. Retirees and beneficiaries receiving benefits	143	150	150
2. Terminated plan members due deferred benefits	13	11	11
3. Active plan members	250	261	261
4. Total plan members	<u>406</u>	<u>422</u>	<u>422</u>
<b>II. <u>Financial Accounting Standards Board Allocation</u></b>			
<b><u>As of October 1, 2016</u></b>			
<b>A. <u>Statement of Accumulated Plan Benefits</u></b>			
1. Actuarial present value of accumulated veated plan benefits			
a. Participants currently receiving benefits	\$ 26,968,493	\$ 28,106,052	\$ 28,106,052
b. Other participants	12,866,809	14,316,928	14,321,306
c. Total	<u>\$ 39,835,302</u>	<u>\$ 42,422,980</u>	<u>\$ 42,427,358</u>
2. Actuarial present value of accumulated non-vested plan benefits	<u>\$ 1,620,885</u>	<u>\$ 1,744,665</u>	<u>\$ 1,739,717</u>
3. Total actuarial present value of accumulated plan benefits	\$ 41,456,187	\$ 44,167,645	\$ 44,167,075
<b>B. <u>Statement of Change in Accumulated Plan Benefits</u></b>			
1. Actuarial present value of accumulated plan benefits as of October 1, 2015			\$ 41,456,187
2. Increase (decrease) during year attributable to:			
a. Plan amendment			\$ 0
b. Change in actuarial assumptions			(570)
c. Benefits paid including contribution refunds			(2,735,024)
d. Other, including benefits accumulated, increase for interest due to decrease in the discount period			<u>5,446,482</u>
e. Net increase			<u>\$ 2,710,888</u>
3. Actuarial present value of accumulated plan benefits as of October 1, 2016			\$ 44,167,075
<b>C. <u>Significant Matters Affecting Calculations</u></b>			
1. Assumed rate of return used in determining actuarial present values			7.5%
2. Change in plan provisions			None
3. Change in actuarial assumptions			See Table IX, Item L.



Accounting Disclosure Exhibit

III. Net Pension Liability and Related Ratios (GASB No. 67 & No. 68)

Measurement date	9/30/2014	9/30/2015	9/30/2016	Projected 9/30/2017*
<b>A. Total Pension Liability (TPL)</b>				
Service Cost	\$ 1,134,108	\$ 1,154,040	\$ 1,269,240	\$ 1,427,943
Interest	3,149,825	3,277,233	3,499,027	3,799,147
Benefit Changes	0	0	0	0
Difference Between Actual and Expected Experience	(795,460)	(189,114)	1,253,381	1,812,098
Assumption Changes	1,479,338	0	(97,983)	43,681
Benefit Payments, including Refunds of Member Contributions	(2,261,393)	(2,671,762)	(2,735,024)	(2,834,483)
Net Change in Total Pension Liability	\$ 2,706,418	\$ 1,570,397	\$ 3,188,641	\$ 4,248,386
Total Pension Liability (TPL) - (beginning of year)	41,323,353	44,029,771	45,600,168	48,788,809
Total Pension Liability (TPL) - (end of year)	\$ 44,029,771	\$ 45,600,168	\$ 48,788,809	\$ 53,037,195
<b>B. Plan Fiduciary Net Position</b>				
Contributions - City	\$ 919,864	\$ 842,957	\$ 730,895	\$ 663,635
Contributions - Member	655,206	708,253	769,999	761,291
Net Investment Income	4,431,002	555,804	3,502,440	3,631,210
Benefit Payments, including Refunds of Member Contributions	(2,261,393)	(2,671,762)	(2,735,024)	(2,834,483)
Administrative Expenses	(142,131)	(163,130)	(202,210)	(202,210)
Other	0	0	0	0
Net Change in Plan Fiduciary Net Position	\$ 3,602,548	\$ (727,878)	\$ 2,066,100	\$ 2,019,443
Plan Fiduciary Net Position - (beginning of year)	44,281,241	47,883,789	47,155,911	49,222,011
Plan Fiduciary Net Position - (end of year)	\$ 47,883,789	\$ 47,155,911	\$ 49,222,011	\$ 51,241,454
<b>C. Net Pension Liability (NPL) - (end of year): (A) - (B)</b>	\$ (3,854,018)	\$ (1,555,743)	\$ (433,202)	\$ 1,795,741
<b>D. Plan Fiduciary Net Position as a Percentage of TPL: (B) / (A)</b>	108.75 %	103.41 %	100.89 %	96.61 %
<b>E. Covered Employee Payroll **</b>	\$ 10,500,212	\$ 11,773,303	\$ 13,093,472	\$ 12,688,183
<b>F. NPL as a Percentage of Covered Employee Payroll: (C) / (E)</b>	(36.70)%	(13.21)%	(3.31)%	14.15 %
<b>G. Notes to Schedule:</b>				
Valuation Date	10/01/2013	10/1/2014	10/1/2015	10/01/2016
Reporting Date (GASB No. 68)	9/30/2015	9/30/2016	9/30/2017	9/30/2018

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 Part V, Notes to the Schedule of Contributions for assumption changes prior to fiscal year ended September 30, 2017.

See Table IX, Item L. for assumption changes during the year.

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

\*\* Reported payroll on which contributions to the Plan are based as provided under GASB Statement No. 82.



**Accounting Disclosure Exhibit**

IV. Schedule of Employer Contributions (GASB No. 67 & No. 68)<sup>1</sup>

<u>Fiscal Year End (9/30)</u>	<u>Actuarially Determined Contribution</u>	<u>Actual Contribution</u>	<u>Contribution Deficiency (Excess)</u>	<u>Covered Payroll<sup>2</sup></u>	<u>Actual Contribution as a % of Covered Payroll</u>
2007	961,724	1,250,735	(289,011)	10,882,478	11.49%
2008	893,546	1,331,364	(437,818)	11,705,277	11.37%
2009	745,087	1,265,870	(520,783)	10,982,201	11.53%
2010	640,444	1,163,828	(523,384)	10,277,176	11.32%
2011	684,153	1,133,177	(449,024)	9,938,506	11.40%
2012	842,538	879,008	(36,470)	9,608,967	9.15%
2013	987,241	987,241	0	9,945,221	9.93%
2014	635,941	919,864	(283,923)	10,500,212	8.76%
2015	474,597	842,957	(368,360)	11,773,303	7.16%
2016	474,597	730,895	(256,298)	13,093,472	5.58%
2017 <sup>3</sup>	663,635	663,635	0	12,688,183	5.23%

<sup>1</sup> Per City CAFR prior to September 30, 2017

<sup>2</sup> Reported payroll on which contributions to the Plan are based as provided under GASB Statement No. 82

<sup>3</sup> Projected - actual amounts will be available after fiscal year end



**Accounting Disclosure Exhibit**

V. Notes to Schedule of Contributions (GASB No. 67 & No. 68)

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

**Methods and Assumptions Used to Determine Contribution Rates:**

Actuarial Cost Method	Aggregate
Amortization Method	N/A
Amortization Period	N/A
Asset Valuation Method	5-year smoothed market
Inflation	3.0%
Salary Increases	3.75% - 6.00%
Investment Rate of Return	7.5%
Payroll Growth Assumption	None.
Retirement Age	Experience-based table of rates that are specific to the type of eligibility condition
Mortality	For healthy male participants, RP 2000 Annuitant Male Mortality Table, with 50% White Collar / 50% Blue Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For healthy female participants, RP 2000 Annuitant Female Mortality Table, with White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For disabled male participants, RP 2000 Disabled Male Mortality Table, setback four years, without projected mortality improvements. For disabled female participants, RP 2000 Disabled Female Mortality Table, set forward two years, without projected mortality improvements.
Cost-of-Living Increases	None.

**Other Information:**

Benefit Changes

2005: Final Monthly Compensation updated to average of best thirty-six (36) consecutive months; multiplier updated to 2.5% and members receiving benefits will receive a 2.0% ad hoc COLA.

Assumption Changes

2015: Mortality assumption updated - first affects required contribution for fiscal year ending September 30, 2017. 2013: Investment return assumption updated to 7.5% compounded annually, net of investment expenses; withdrawal, salary increase and retirement rates updated. 2011: Funding method updated to Aggregate Actuarial Cost Method; mortality, withdrawal, salary increase and retirement rates updated.



**Accounting Disclosure Exhibit**

VI. Discount Rate (GASB No. 67 & No. 68)

A discount rate of 7.5% was used to measure the TPL effective September 30, 2016. This discount rate was based on the expected rate of return on Plan investments of 7.5%. 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 pension Plan's fiduciary net position was projected to be available to make all projected future expected benefit payments of current Plan members. Therefore, the long-term expected rate of return on Plan 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 & No. 68)

Measurement date: September 30, 2016

	1% Decrease	Current Discount Rate	1% Increase
Discount Rate	6.5%	7.5%	8.5%
NPL	\$ 5,070,779	\$ (433,202)	\$ (5,039,838)

Measurement date: September 30, 2017 \*

	1% Decrease	Current Discount Rate	1% Increase
Discount Rate	6.5%	7.5%	8.5%
NPL	\$ 7,804,959	\$ 1,795,741	\$ (3,233,706)

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



**Accounting Disclosure Exhibit**

VIII. Pension Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions - Reporting Date (GASB No. 68)

Pension Expense for Fiscal Year Ended September 30, 2017 \$ 1,431,903

Summary of Outstanding Deferred Inflows and Outflows of Resources as of September 30, 2017

	Deferred Outflows of Resources	Deferred Inflows of Resources
	<u>                    </u>	<u>                    </u>
Differences between actual and expected experience on liabilities	986,704	408,613
Changes of assumptions or other inputs	554,753	77,136
Net difference between projected and actual earnings on pension plan investments	<u>1,320,328</u>	<u>0</u>
Total	<u>\$ 2,861,785</u>	<u>\$ 485,749</u>

Projected Deferred Outflows for City Contributions to Be Recognized in Pension Expense for Fiscal Year Ending September 30, 2018 \$ 663,635

Summary of Deferred Outflows and Inflows of Resources that will be Recognized in Pension Expense in Future Years.

Year Ending 30-Sep	Amount
<u>                    </u>	<u>                    </u>
2018	\$ 714,256
2019	685,764
2020	807,856
2021	168,160
2022	0
Thereafter	0





**Accounting Disclosure Exhibit**

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

IX. Components of Pension Expense (GASB No. 68)

Measurement Date	<u>9/30/2014</u>	<u>9/30/2015</u>	<u>9/30/2016</u>	<u>Projected 9/30/2017 *</u>
Service Cost	\$ 1,134,108	\$ 1,154,040	\$ 1,269,240	\$ 1,427,943
Interest on Total Pension Liability	3,149,825	3,277,233	3,499,027	3,799,147
Current-Period Benefit Changes	0	0	0	0
Contributions - Member	(655,206)	(708,253)	(769,999)	(761,291)
Projected Earnings on Plan Investments	(3,290,026)	(3,543,146)	(3,482,831)	(3,631,210)
Administrative Expenses	142,131	163,130	202,210	202,210
Other Changes in Plan Fiduciary Net Position	0	0	0	0
Recognition of Beginning Deferred Outflows / (Inflows) due to Liabilities	142,474	103,075	348,905	743,752
Recognition of Beginning Deferred Outflows / (Inflows) due to Assets	<u>(228,195)</u>	<u>369,273</u>	<u>365,351</u>	<u>365,351</u>
Total Pension Expense	<u>\$ 395,111</u>	<u>\$ 815,352</u>	<u>\$ 1,431,903</u>	<u>\$ 2,145,902</u>

\* Projected - actual amounts will be available after measurement date



**Accounting Disclosure Exhibit**

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

X. Recognition of Deferred Outflows and (Inflows) due to Liabilities - Measurement Date (GASB No. 68)

Recognition of Deferred Outflows due to Differences Between Actual and Expected Experience on Liabilities

Established	Initial Balance	Initial Recognition Period	Remaining Recognition Period as of 9/30/2016	Recognition Amount for 2015 / 2016	Balance as of 9/30/2016
2013 / 2014	\$ 0	4.8	1.8	\$ 0	\$ 0
2014 / 2015	0	4.8	2.8	0	0
2015 / 2016	1,253,381	4.7	3.7	266,677	986,704
TOTAL				\$ 266,677	\$ 986,704

Recognition of Deferred (Inflows) due to Differences Between Actual and Expected Experience on Liabilities

Established	Initial Balance	Initial Recognition Period	Remaining Recognition Period as of 9/30/2016	Recognition Amount for 2015 / 2016	Balance as of 9/30/2016
2013 / 2014	\$ (795,460)	4.8	1.8	\$ (165,721)	\$ (298,297)
2014 / 2015	(189,114)	4.8	2.8	(39,399)	(110,316)
2015 / 2016	0	4.7	3.7	0	0
TOTAL				\$ (205,120)	\$ (408,613)

Recognition of Deferred Outflows due to Changes of Assumptions or Other Inputs

Established	Initial Balance	Initial Recognition Period	Remaining Recognition Period as of 9/30/2016	Recognition Amount for 2015 / 2016	Balance as of 9/30/2016
2013 / 2014	\$ 1,479,338	4.8	1.8	\$ 308,195	\$ 554,753
2014 / 2015	0	4.8	2.8	0	0
2015 / 2016	0	4.7	3.7	0	0
TOTAL				\$ 308,195	\$ 554,753



**Accounting Disclosure Exhibit**

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

X. Recognition of Deferred Outflows and (Inflows) due to Liabilities - Measurement Date (GASB No. 68) (Co

Recognition of Deferred (Inflows) due to Changes of Assumptions or Other Inputs

Established	Initial Balance	Initial Recognition Period	Remaining Recognition Period as of 9/30/2016	Recognition Amount for 2015 / 2016	Balance as of 9/30/2016
2013 / 2014	\$ 0	4.8	1.8	\$ 0	\$ 0
2014 / 2015	0	4.8	2.8	0	0
2015 / 2016	(97,983)	4.7	3.7	(20,847)	(77,136)
TOTAL				\$ (20,847)	\$ (77,136)

XI. Recognition of Deferred Outflows and (Inflows) due to Assets - Measurement Date (GASB No. 68)

Recognition of Deferred Outflows / (Inflows) due to Difference Between Projected and Actual Earnings on Pension Plan Investments

Established	Initial Balance	Initial Recognition Period	Remaining Recognition Period as of 9/30/2016	Recognition Amount for 2015 / 2016	Balance as of 9/30/2016
2013 / 2014	\$ (1,140,976)	5	2	\$ (228,195)	\$ (456,391)
2014 / 2015	2,987,342	5	3	597,468	1,792,406
2015 / 2016	(19,609)	5	4	(3,922)	(15,687)
TOTAL				\$ 365,351	\$ 1,320,328



**Outline of Principal Provisions of the Retirement Plan**

A. Effective Date:

January 1, 1973, as amended through Ordinance 09-04.

B. Eligibility Requirements:

Full-time employee, other than police officers and firefighters.

C. Credited Service:

Service in completed calendar months from date of employment to the earlier of date of retirement or termination.

D. Earnable Compensation:

Base salary paid including overtime pay *pick-up* contributions, but excluding bonuses, expense allowances, unused accumulated leave time, etc.

E. Final Monthly Compensation (FMC) :

Average monthly rate of earnable compensation during the best thirty-six (36) consecutive months out of the last one hundred twenty (120) months preceding date of retirement (or termination).

F. Employee Contributions:

6% of basic annual compensation.

G. Normal Retirement:

(1) Eligibility: The earlier of attainment of age 60 and completion of 10 years of credited service or completion of 20 years of credited service, irrespective of age. Employees participating in the plan prior to March 1, 1993 may retire fully vested at age 60 with 5 years of credited service. Employees hired on or after March 1, 1993 may retire at age 60 with 5 years of credited service but less than 10 years of credited service with reduced benefits.

(2) Benefit: 2.5% times FMC times credited service. 1.25% times FMC times credited service for employees hired on or after March 1, 1993 with less than 10 years of credited service.



**Outline of Principal Provisions of the Retirement Plan**

H. Early Retirement:

- (1) Eligibility: Attainment of age 55 and completion of 10 years credited service.
- (2) Benefit: Benefit accrued to date of retirement, reduced by 1/15<sup>th</sup> for each year prior to normal retirement to reflect commencement of benefit at an earlier age.

I. Deferred Retirement:

- (1) Eligibility: Continued employment beyond normal retirement date.
- (2) Benefit: Benefit accrued at deferred retirement date based on credited service and FMC at deferred retirement date.

J. Disability Retirement:

- (1) Eligibility: Total and permanent qualifying disability. If non-service incurred, requires completion of ten (10) years of credited service.
- (2) Benefit: Benefit (payable for ten (10) years certain and life thereafter or prior recovery)

Incurred in Line-of-Duty: Greatest of (a), (b) or (c), where

- (a) is 42% of FMC as of date of disability,
- (b) is the benefit supported by the present value of accrued benefit as of date of disability deferred to normal retirement date and
- (c) is the benefit supported by eighteen (18) times FMC.  
Benefit under (c) shall not exceed 60% of anticipated retirement benefit.

Not Incurred in Line-of-Duty: Greater of (a) or (b), where

- (a) is the benefit supported by the present value of accrued benefit as of date of disability deferred to normal retirement date and
- (b) is the benefit supported by eighteen (18) times FMC.



**Outline of Principal Provisions of the Retirement Plan**

K. Death Benefit:

Benefit to beneficiary (payable for ten (10) years certain and life thereafter) which can be supported by the greater of A or B, where A is the single-sum value of the accrued benefit at date of death deferred to normal retirement date and B is the lesser of (i) and (ii), where (i) is 18 times FMC at date of death and (ii) is 100 times the anticipated monthly normal retirement benefit.

L. Vested Benefit Upon Termination:

(1) Eligibility:

Vesting schedule with no vesting until completion of 5 years of credited service (50%) increasing by 10% per year until 100% vesting upon completion of 10 years of credited service.

(2) Benefit at payable at Normal Retirement Date:

Benefit equal to accrued benefit based upon credited service and FMC at date of termination times vested percentage.

M. Cash Termination Benefit:

(1) Accumulated employee contributions without interest for non-vested employees.

(2) Accumulated employee contributions without interest in lieu of deferred vested benefit for vested employees.

N. Normal Form of Retirement Income:

Monthly life annuity with guaranteed return of employee contributions.



**Outline of Principal Provisions of the Retirement Plan**

O. Deferred Retirement Option Plan (DROP):

- (1) Eligibility: Upon meeting the eligibility for normal or early retirement.
- (2) Participation in the DROP must be exercised within the first thirty (30) years of employment; provided, however, that participation in the DROP, when combined with participation in the retirement plan as an active member may not exceed thirty (30) years. The maximum period of participation in the DROP is five (5) years.
- (3) An employee's account in the DROP program shall be credited with interest based upon the actual earnings of the retirement fund.
- (4) No payment may be made from the DROP until the employee actually separates from service with the City.

P. Cost of Living Adjustment (COLA):

Effective January 1, 2006, members receiving benefits received a 2.0% *ad hoc* COLA.

Q. Changes From Previous Valuation:

None.

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

A. Mortality

For healthy male participants during employment, RP 2000 Combined Male Healthy Participant Mortality Table, with 50% White Collar / 50% Blue Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For healthy female participants during employment, RP 2000 Combined Female Healthy Participant Mortality Table, with White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB.

For healthy male participants post employment, RP 2000 Annuitant Male Mortality Table, with 50% White Collar / 50% Blue Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For healthy female participants post employment, RP 2000 Annuitant Female Mortality Table, with White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB.

For disabled male participants, RP 2000 Disabled Male Mortality Table, setback four years, without projected mortality improvements. For disabled female participants, RP 2000 Disabled Female Mortality Table, set forward two years, without projected mortality improvements.

Sample Ages (2016)	Pre-retirement Future Life Expectancy (Years)		Post-retirement Future Life Expectancy (Years)	
	Male	Female	Male	Female
	55	30.30	33.37	29.88
60	25.37	28.35	25.21	28.25
62	23.47	26.40	23.37	26.33

Sample Ages (2036)	Pre-retirement Future Life Expectancy (Years)		Post-retirement Future Life Expectancy (Years)	
	Male	Female	Male	Female
	55	32.47	35.23	32.06
60	27.57	30.20	27.42	30.12
62	25.66	28.23	25.57	28.17





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

B. Investment Return

7.5%, net of investment expenses, compounded annually - includes inflation of 2.75%.

C. Allowances for Expenses or Contingencies

Previous year's actual administrative expenses added to normal cost.

D. Employee Withdrawal Rates

Withdrawal rates for males and for females were used in accordance with the following illustrative example:

<u>Service</u>	<u>Withdrawal Rates</u>
0-1	22.0%
1-2	22.0%
2-3	16.0%
3-4	16.0%
4-5	10.0%
5-6	10.0%
6-7	9.0%
7-8	9.0%
8-9	8.0%
9-10	8.0%
10+	4.0%

E. Disability Rates

Class (01) Inter-Company disability rates were used with separate rates for males and females. 50% of all disablements are assumed to be service related.

F. Marital Assumptions

100% of all active participants are assumed to be married.

Females are assumed to be three years younger than their male spouses.



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

G. Salary Increase Factors

Current salary was assumed to increase at a rate based on the table below per year until retirement - includes assumed wage inflation of 3.75%.

<u>Service</u>	<u>Salary Increase</u>
0-1	6.00%
1-2	6.00%
2-3	5.00%
3-4	5.00%
4-5	5.00%
5-6	4.75%
6-7	4.75%
7-8	4.50%
8-9	4.25%
9-10	4.00%
10+	3.75%

H. Assumed Retirement Age

Rates of early retirement were used in accordance with the following table.

<u>Age</u>	<u>Retirement Rate</u>
55	15%
56 - 59	5%

Rates of normal retirement were used in accordance with the following table.

<u>Age</u>	<u>Retirement Rate</u>
Less than 55	15%
55 - 59	40%
60 - 61	25%
62 - 64	35%
65 - 74	50%
75 & older	100%

However, all active members on the valuation date are assumed to have a minimum of one year of future service.

I. Payroll Growth Assumption

Payroll is assumed to increase at a rate equal to the historical 10-year average (1.5% as of October 1, 2016) - not less than 0.0%.



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

J. Valuation of Assets

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 plan assets and whose upper limit is 120% of the fair market value of plan assets.

K. Actuarial Cost Methods

Normal Retirement, Termination, Death and Disability Benefits: Entry Age Normal

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.

L. Changes from Previous Valuation

Actuarial Cost Method was:

Normal Retirement, Termination, Death and Disability Benefits: Aggregate

Under this method the excess of the Actuarial Present Value of Projected Benefits of the group included in the valuation, over the sum of the Smoothed Actuarial Value of Assets is allocated as a level percentage of earnings of the group between the valuation date and the assumed retirement age. This allocation is performed for the group as a whole, not as a sum of individual allocations. The portion of this Actuarial Present Value allocated to a specific year is called the Normal Cost. Under this method, actuarial gains (losses) reduce (increase) future Normal Costs.

Mortality was:

For healthy male participants, RP 2000 Annuitant Male Mortality Table, with 50% White Collar / 50% Blue Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For healthy female participants, RP 2000 Annuitant Female Mortality Table, with White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB.

For disabled male participants, RP 2000 Disabled Male Mortality Table, setback four years, without projected mortality improvements. For disabled female participants, RP 2000 Disabled Female Mortality Table, set forward two years, without projected mortality improvements.

Table X

**Distribution by Attained Age and Service**  
**Groups as of October 1, 2016**

Attained Age Group	-----COMPLETED YEARS OF SERVICE-----							Total
	0-4	5-9	10-14	15-19	20-24	25-29	30 & Over	
Under 25	15	-	-	-	-	-	-	15
25 - 29	15	1	-	-	-	-	-	16
30 - 34	14	5	6	-	-	-	-	25
35 - 39	9	8	2	-	-	-	-	19
40 - 44	13	9	7	3	-	-	-	32
45 - 49	11	11	6	8	1	-	1	38
50 - 54	10	11	9	5	3	-	-	38
55 - 59	10	16	6	2	1	-	-	35
60 - 64	9	7	2	1	3	-	-	22
65 - 69	4	3	2	-	-	-	-	9
70 - 74	3	1	2	1	1	1	-	9
75 & Over	-	1	1	1	-	-	-	3
<b>TOTAL</b>	<b>113</b>	<b>73</b>	<b>43</b>	<b>21</b>	<b>9</b>	<b>1</b>	<b>1</b>	<b>261</b>

	<u>10/01/2015</u>	<u>10/01/2016</u>
Average Attained Age	46.32 years	46.72 years
Average Hire Age	39.15 years	39.51 years
Average Pay	\$ 45,360	\$ 48,614
Percent Female	33.6%	33.0%



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

A. Entitled to Deferred Benefits

<b>Current Age Group</b>	<b>Count</b>	<b>Total Annual Benefit</b>	<b>Average Annual Benefit</b>
<b>Less than 50</b>	7	\$ 68,694	\$ 9,813
50 - 54	0	-	-
55 - 59	2	11,427	5,714
60 - 64	1	13,942	13,942
65 - 69	0	-	-
70 & Over	1	3,832	3,832
<b>TOTAL</b>	<b>11</b>	<b>\$ 97,895</b>	<b>\$ 8,900</b>

B. Receiving Benefits (including DROPs)

<b>Current Age Group</b>	<b>Count</b>	<b>Total Annual Benefit</b>	<b>Average Annual Benefit</b>
<b>Less than 50</b>	12	\$ 88,078	\$ 7,340
50 - 54	7	158,076	22,582
55 - 59	13	404,637	31,126
60 - 64	25	600,999	24,040
65 - 69	22	452,300	20,559
70 - 74	38	617,060	16,238
75 - 79	14	172,352	12,311
80 - 84	12	161,389	13,449
85 - 89	6	40,085	6,681
90 & Over	1	3,129	3,129
<b>TOTAL</b>	<b>150</b>	<b>\$ 2,698,105</b>	<b>\$ 17,987</b>

Reconciliation of Member Data

<u>A. Active Participants</u>	
1. Active participants previous year	250
2. Retired during year	(5)
3. Entered DROP during year	(1)
4. Died during year	(1)
5. Disabled during year	0
6. Terminated refunded during year	(16)
7. Terminated not refunded during year	(3)
8. Terminated vested	(1)
9. Rehired	4
10. New active participants	34
11. Active participants current year	<u>261</u>
<u>B. Participants Receiving Benefits</u>	
1. Participants receiving benefits previous year	132
2. New retired participants	7
3. New terminated vested receiving benefits	1
4. New disabled receiving benefits	0
5. New beneficiaries receiving benefits	2
6. Died or ceased payment during year	(2)
7. Retired or terminated vested receiving benefits current year	<u>140</u>
<u>C. DROP Participants</u>	
1. DROP participants previous year	11
2. Died during year	0
3. Became disabled during year	0
4. Employment terminated and retired during year	(2)
5. Entered DROP during year	1
6. DROP participants current year	<u>10</u>
<u>D. Terminated Vested Participants Entitled to Future Benefits</u>	
1. Terminated vested entitled previous year	13
2. Died during year	0
3. Commenced receiving benefits during year	(1)
4. New terminated vested	1
5. Refunded member contributions	(2)
6. Rehired	0
7. Terminated vested entitled to future benefits current year	<u>11</u>



Projected Retirement Benefits

<u>Fiscal Year</u>	<u>Projected Total Annual Payout</u>
2017	\$ 2,834,483
2018	\$ 3,096,813
2019	\$ 3,273,373
2020	\$ 3,427,604
2021	\$ 3,591,820
2022	\$ 3,809,413
2023	\$ 4,008,114
2024	\$ 4,219,284
2025	\$ 4,421,114
2026	\$ 4,636,111

The above projected payout of Plan benefits during the next ten years is based on assumptions involving all decrements. The actual payout may differ from the above estimated depending upon death, salary and retirement experience of the Plan. 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.

**Table XIV**

**Recent Compensation, Termination and Investment Return Experience**

Fiscal Year	Compensation		Termination	Investment Return		
	% Increase (Decrease)	Assumed Increase	Ratio of Actual to Expected	Smoothed Actuarial Value	Market Value	Assumed Rate
2016	9.4%	4.5%	0.7	8.7%	7.5%	7.5%
2015	9.2%	4.4%	0.8	7.7%	1.2%	7.5%
2014	4.9%	4.5%	1.1	9.3%	10.1%	7.5%
2013	3.3%	7.6%	1.1	8.8%	13.3%	8.0%
2012	5.0%	7.7%	0.9	3.6%	15.3%	8.0%
2011	3.0%	7.6%	1.4	3.7%	(1.1%)	8.0%
2010	0.9%	7.9%	0.9	5.4%	9.2%	8.0%
2009	(2.8%)	7.9%	1.1	5.5%	7.2%	8.0%
2008	1.0%	7.9%	1.2	7.5%	(10.7%)	8.0%
2007	4.0%	7.7%	1.2	12.6%	15.8%	8.0%
Last 3 Years	7.8%	4.5%	0.9	8.6%	6.2%	7.5%
Last 5 Years	6.3%	5.7%	0.9	7.6%	9.4%	7.7%
Last 10 Years	3.7%	6.8%	1.0	7.2%	6.5%	7.8%





**Summary of Transaction Information <sup>1</sup>**

Year Ended	Benefits Paid <sup>2</sup>	Total Expenses	Member Contributions	City Contributions	Market Value <sup>3</sup>
09/30/2016	\$ 2,735,024	\$ 435,479	\$ 769,999	\$ 730,895	\$ 49,222,011
09/30/2015	\$ 2,671,762	\$ 389,039	\$ 708,253	\$ 842,957	\$ 47,155,911
09/30/2014	\$ 2,261,393	\$ 393,806	\$ 655,206	\$ 919,864	\$ 47,883,789
09/30/2013	\$ 2,736,270	\$ 240,579	\$ 629,220	\$ 987,241	\$ 44,281,241
09/30/2012	\$ 2,324,314	\$ 267,219	\$ 610,375	\$ 879,008	\$ 39,746,668
09/30/2011	\$ 2,123,714	\$ 301,844	\$ 601,769	\$ 1,133,177	\$ 35,519,181
09/30/2010	\$ 1,933,345	\$ 312,100	\$ 612,574	\$ 1,163,828	\$ 36,586,205
09/30/2009	\$ 1,710,341	\$ 208,043	\$ 632,457	\$ 1,265,870	\$ 33,939,905
09/30/2008	\$ 1,450,151	\$ 212,667	\$ 713,251	\$ 1,331,364	\$ 31,679,524
09/30/2007	\$ 1,316,275	\$ 205,055	\$ 710,429	\$ 1,250,735	\$ 35,050,475
09/30/2006	\$ 1,380,767	\$ 185,896	\$ 661,533	\$ 1,199,176	\$ 29,866,340
09/30/2005	\$ 1,235,748	\$ 163,673	\$ 633,086	\$ 1,147,792	\$ 26,857,011
09/30/2004	\$ 1,060,839	\$ 176,274	\$ 575,902	\$ 995,293	\$ 23,582,251
09/30/2003	\$ 811,942	\$ 158,084	\$ 531,715	\$ 967,755	\$ 20,778,117
09/30/2002	\$ 772,089	\$ 165,553	\$ 511,158	\$ 860,526	\$ 17,619,387
09/30/2001	\$ 993,003	\$ 178,606	\$ 473,658	\$ 779,043	\$ 18,534,124
09/30/2000	\$ 750,178	\$ 128,816	\$ 472,597	\$ 782,111	\$ 19,303,795
09/30/1999	\$ 806,251	\$ 155,394	\$ 450,523	\$ 746,460	\$ 17,137,828
09/30/1998	\$ 608,403	\$ 120,276	\$ 422,195	\$ 1,326,594	\$ 14,411,390
09/30/1997	\$ 443,102	\$ 90,986	\$ 403,334	\$ 675,729	\$ 13,308,000
09/30/1996	\$ 402,987	\$ 87,094	\$ 377,636	\$ 631,346	\$ 10,649,000
09/30/1995	\$ 300,345	\$ 77,881	\$ 349,544	\$ 607,151	\$ 9,279,000
09/30/1994	\$ 234,960	\$ 76,288	\$ 299,289	\$ 535,230	\$ 7,568,000
09/30/1993	\$ 197,031	\$ 73,915	\$ 283,713	\$ 501,617	\$ 6,855,000
09/30/1992	\$ 177,419	\$ 98,730	\$ 255,096	\$ 446,212	\$ 5,666,000

<sup>1</sup> Information prior to October 1, 2000 as reported by prior actuaries

<sup>2</sup> Effective for year ending September 30, 2013, includes DROP distributions (previously included DROP benefit payments)

<sup>3</sup> Effective for year ending September 30, 2013, includes DROP account balances



**City Contribution Information**

<u>Valuation Date</u>	<u>Contribution Fiscal Year End</u>	<u>Minimum Required Employer Contributions</u>	<u>Actual Employer Contributions Made</u>
10/01/2016	09/30/2018	\$ 991,645	N/A
10/01/2015	09/30/2017	\$ 663,635	N/A
10/01/2014	09/30/2016	\$ 474,597	\$ 730,895
10/01/2014	09/30/2015	\$ 474,597	\$ 842,957
10/01/2013	09/30/2014	\$ 635,941	\$ 919,864
10/01/2012	09/30/2013	\$ 987,241	\$ 987,241
10/01/2011	09/30/2012	\$ 842,538	\$ 879,008
10/01/2010	09/30/2011	\$ 684,153	\$ 1,133,177
10/01/2009	09/30/2010	\$ 640,444	\$ 1,163,828
10/01/2008	09/30/2009	\$ 745,087	\$ 1,265,870
10/01/2007	09/30/2008	\$ 893,546	\$ 1,331,364
10/01/2006	09/30/2007	\$ 961,724	\$ 1,250,735
10/01/2005	09/30/2006	\$ 1,136,922	\$ 1,199,176
10/01/2004	09/30/2005	\$ 999,852	\$ 1,147,792
10/01/2003	09/30/2004	\$ 760,180	\$ 995,293
10/01/2002	09/30/2003	\$ 967,755	\$ 967,755



**Actuarial Valuation as of October 1, 2016****State Required Exhibit**

	10/01/2015	Prior Assumptions 10/01/2016	Current Assumptions 10/01/2016
<b>A. <u>Member Data</u></b>			
1. Active Members	250	261	261
2. Retired Members and Beneficiaries receiving benefits (including DROPs)	142	149	149
3. Disabled Members receiving benefits	1	1	1
4. Terminated vested Members	13	11	11
5. Annual payroll of active Members	\$ 11,339,923	\$ 12,688,183	\$ 12,688,183
6. Annual benefits payable to Members currently receiving benefits	\$ 2,561,530	\$ 2,698,105	\$ 2,698,105
<b>B. <u>Value of Assets</u></b>			
1. Smoothed actuarial value of assets	\$ 47,501,146	\$ 50,120,040	\$ 50,120,040
2. Market value of assets	\$ 47,155,911	\$ 49,222,011	\$ 49,222,011
<b>C. <u>Liabilities</u></b>			
1. Actuarial present value of future expected benefit payments for active members			
a. Retirement benefits	\$ 22,544,546	\$ 25,628,829	\$ 26,018,058
b. Termination benefits	2,520,075	2,811,671	2,830,104
c. Death benefits	867,434	973,052	710,120
d. Disability benefits	931,005	1,044,521	1,053,888
e. Total	\$ 26,863,060	\$ 30,458,073	\$ 30,612,170
2. Actuarial present value of future expected benefit payments for terminated vested members	\$ 593,668	\$ 591,936	\$ 591,936
3. Actuarial present value of future expected benefit payments for members currently receiving benefits			
a. Service retired (including DROPs)	\$ 25,550,409	\$ 26,500,381	\$ 26,500,381
b. Disability retired	24,674	23,999	23,999
c. Beneficiaries	1,393,410	1,581,672	1,581,672
d. Miscellaneous	153,783	165,957	165,957
e. Total	\$ 27,122,276	\$ 28,272,009	\$ 28,272,009



Actuarial Valuation as of October 1, 2016

State Required Exhibit

	<u>10/01/2015</u>	<u>Prior Assumptions 10/01/2016</u>	<u>Current Assumptions 10/01/2016</u>
4. Total actuarial present value of future expected benefit payments	\$ 54,579,004	\$ 59,322,018	\$ 59,476,115
5. Actuarial accrued liabilities (Entry Age Normal)	\$ 46,751,976	\$ 50,600,907	\$ 50,644,588
6. Unfunded actuarial accrued liabilities (Entry Age Normal)	\$ (749,170)	\$ 480,867	\$ 524,548
<b>D. <u>Statement of Accumulated Plan Benefits</u></b>			
1. Actuarial present value of accumulated vested benefits			
a. Participants currently receiving benefits including DROPs	\$ 26,968,493	\$ 28,106,052	\$ 28,106,052
b. Other participants	12,866,809	14,316,928	14,321,306
c. Total	<u>\$ 39,835,302</u>	<u>\$ 42,422,980</u>	<u>\$ 42,427,358</u>
2. Actuarial present value of accumulated non-vested plan benefits	<u>1,620,885</u>	<u>1,744,665</u>	<u>1,739,717</u>
3. Total actuarial present value of accumulated plan benefits	\$ 41,456,187	\$ 44,167,645	\$ 44,167,075
<b>E. <u>Statement of Change in Accumulated Plan Benefits</u></b>			
1. Actuarial present value of accumulated plan benefits as of October 1, 2015			\$ 41,456,187
2. Increase (decrease) during year attributable to:			
a. Plan amendment			\$ 0
b. Change in actuarial assumptions			(570)
c. Benefits paid including contribution refunds			(2,735,024)
d. Other, including benefits accumulated and increase for interest due to decrease in the discount period			5,446,482
e. Net increase			<u>\$ 2,710,888</u>
3. Actuarial present value of accumulated plan benefits as of October 1, 2016			\$ 44,167,075



**Actuarial Valuation as of October 1, 2016**

**State Required Exhibit**

	10/01/2015	Prior Assumptions 10/01/2016	Current Assumptions 10/01/2016
<b>F. <u>Pension Cost</u></b>			
1. Total normal cost	\$ 1,289,184	\$ 1,623,494	\$ 1,630,153
2. Payment required to amortize unfunded liability	N/A	39,300	42,870
3. Interest adjustment	46,597	60,101	60,471
4. Total required contribution	\$ 1,335,781	\$ 1,722,895	\$ 1,733,494
5. Item 3 as a percentage of payroll	11.8%	13.6%	13.7%
6. Estimated employee contributions	\$ 680,395	\$ 761,291	\$ 761,291
7. Item 5 as a percentage of payroll	6.0%	6.0%	6.0%
8. Net amount payable by City	\$ 655,386	\$ 961,604	\$ 972,203
9. Item 7 as a percentage of payroll	5.8%	7.6%	7.7%
<b>G. <u>Past Contributions</u></b>			
1. Total contribution required	\$ 1,082,252	\$ 1,335,781	\$ 1,335,781
2. Actual contributions made:			
a. Employees	\$ 769,999	N/A	N/A
b. City	730,895	N/A	N/A
c. Total	\$ 1,500,894	N/A	N/A
<b>H. <u>Net Actuarial Gain (Loss)</u></b>	\$ (948,743)	\$ (1,310,894)	\$ (1,310,894)
<b>I. <u>Disclosure of Following Items:</u></b>			
1. Actuarial present value of future salaries - attained age	\$ 71,312,187	\$ 79,448,094	\$ 80,054,319
2. Actuarial present value of future employee contributions - attained age	\$ 4,278,731	\$ 4,766,886	\$ 4,803,259
3. Actuarial present value of future contributions from other sources	N/A	N/A	N/A
4. Amount of active members' accumulated contributions	\$ 4,359,981	\$ 4,756,453	\$ 4,756,453
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**

		<b><u>Prior Method</u></b>		
<b><u>Unfunded Actuarial Accrued Liabilities</u></b>		<b><u>Current Unfunded Liabilities</u></b>	<b><u>Amortization Payment</u></b>	<b><u>Remaining Funding Period</u></b>
10/01/2016	Method Change - Initial Unfunded	480,867	39,300	20 years
10/01/2016	Assumption Change	<u>43,681</u>	<u>3,570</u>	20 years
TOTAL		\$ 524,548	\$ 42,870	

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 Plan and/or paid from the Plan's 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 Plan costs or required contribution rates have been taken into account in the valuation.

Enrollment Number: 17-02802  
Dated: October 3, 2017



\_\_\_\_\_  
Lawrence F. Wilson, A.S.A.

