



July 14, 2017

Mr. Shawn Boyle  
Finance and Administrative Services Director  
City of Winter Springs  
1126 East State Road 434  
Winter Springs, Florida 32708

**Re: City of Winter Springs Defined Benefit Plan Actuarial Valuation**

Dear Shawn:

As requested, we are pleased to enclose eleven (11) copies of the October 1, 2016 Actuarial Valuation Report for the City of Winter Springs Defined Benefit Plan.

We appreciate the opportunity to partner with you on this important project.

Per our letter dated April 3, 2017, the State issued a Memorandum announcing the activation of their new online reporting portal for pension plans. Upon approval of the Actuarial Valuation Report, we will upload the required copy of the Actuarial Valuation Report along with the newly required disclosure information to the State portal.

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.

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

Enclosures

# City Of Winter Spring Defined Benefit Plan

ACTUARIAL VALUATION AS OF OCTOBER 1, 2016

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

July 14, 2017





**City of Winter Springs  
Defined Benefit Plan**

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July 14, 2017

Board of Trustees  
c/o Mr. Shawn Boyle  
Finance and Administrative Services Director  
City of Winter Springs Defined Benefit Plan  
1126 East State Road 434  
Winter Springs, Florida 32708

Dear Board Members:

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

We are pleased to present our October 1, 2016 Actuarial Valuation for the City of Winter Springs Defined Benefit Plan (Plan). 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 Board of Trustees has retained Gabriel, Roeder, Smith and Company (GRS) to prepare an annual actuarial valuation under Section 3.02 of the Plan.

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

### **Retirement Plan Costs**

Our Actuarial Valuation develops the required minimum Plan payment for the plan year beginning October 1, 2017 under the Florida Protection of Public Employee Retirement Benefits Act. 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 payment is **\$1,909,357 (32.3%)**. The figure in parentheses is the Plan cost expressed as a percentage of projected covered annual payroll for fiscal year beginning October 1, 2017 (\$5,916,189).

This total cost is to be met by member, County and City contributions. We anticipate member contributions will be **\$295,809 (5.0%)** of projected covered payroll for fiscal year ending September 30, 2018). The resulting minimum required County and City contribution is **\$1,613,548 (27.3%)**.

We recommend the City continue to contribute not less than the dollar amount of minimum required contribution due to the closing of the Plan to future general employees.

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

The Plan provisions remain unchanged from our October 1, 2015 Actuarial Valuation. The Plan provisions are outlined on Table IX.

The mortality assumptions have been updated to use the mortality assumptions used by the Florida Retirement System (FRS) as required under F.S., Chapter 2015-157 based upon the July 1, 2016 FRS Actuarial Valuation. The remaining actuarial assumptions and methods remain unchanged from our October 1, 2015 Actuarial Valuation. The actuarial assumptions and methods are outlined on Table X.

### **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 the October 1, 2015. The center columns indicate the costs as calculated for October 1, 2016, prior to the update in actuarial assumptions. The right columns indicate the costs as calculated for October 1, 2016, after the update in actuarial assumptions.

Comparing the left and center columns of Table II shows the effect of Plan experience during the year. The number of active participants decreased by approximately 17%. Covered payroll decreased by approximately 14%. Total System membership decreased by approximately 2%. Total normal cost decreased as a dollar amount but increased as a percentage of covered payroll. The unfunded actuarial accrued liability and the net County and City minimum funding requirement decreased both as a dollar amount and as a percentage of covered payroll.

Comparing the center and right columns of Table II shows the effect of the update of the actuarial assumptions. Total normal cost decreased slightly as a dollar amount but remained level as a percentage of covered payroll. The unfunded actuarial accrued liability and the net County and City minimum funding requirement increased both as a dollar amount and as a percentage of covered payroll.

The value of vested accrued benefits exceeds Plan assets, resulting in a Vested Benefit Security Ratio (VBSR) of 85.2% (86.9% prior to assumption change) which is an increase from 79.9% as of the October 1, 2015 Actuarial Valuation. The VBSR is measured on a market value of assets basis.

### **Plan Experience**

The Plan experienced an actuarial gain in the amount of \$1,517,855 this year. This indicates actual overall Plan experience was more favorable than expected.

Table XV (salary, turnover and investment yield) provides figures on recent Plan experience. Salary experience indicates actual salary increases averaged approximately 2.4% for General and Forensic

Employees and 5.6% for Firefighters and Police Officers for the Plan Year ended September 30, 2016 when compared to the assumed salary increase of 4.2% and 4.8%, respectively. Salary increases were generally a source of actuarial gain for General Employees and Forensic Employees - a source of actuarial loss for Firefighters and Police Officers. The three and five-year average annual salary increases are 2.7% and 1.3% for General and Forensic Employees, respectively – 3.7% and 1.0% for Firefighters and Police Officers, respectively.

Employee turnover this year was 180% of the assumed turnover for General and Forensic Employees and 550% of the assumed turnover for Firefighters and Police Officers. Employee turnover was generally a source of actuarial gain. The three and five-year average annual turnover is 160% and 170%, respectively for General and Forensic Employees - 260% and 250%, respectively for Firefighters and Police Officers.

The smoothed value investment return of 10.2% was greater than the investment return assumption of 8.0%. Smoothed value investment return was an additional source of actuarial gain during the year. The three, five and ten-year average annual smoothed value investment returns are 10.0%, 8.1% and 7.8%, respectively. The one, three, five and ten-year average annual market value returns are 10.8%, 7.4%, 11.4% and 6.3%, respectively.

We recommend the Board authorize an Experience Study to assure Plan assumptions are aligned with Plan experience including review of the investment return assumption in light of future expectations.

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

The City submitted the Member census data used for this actuarial valuation to us as of October 1, 2016. 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 City updated information on inactive participants including retirees, beneficiaries and vested terminees.

Financial information concerning Plan assets was provided by the City as of September 30, 2016. We do not audit the Member census data and asset information that is provided to us; however, we perform certain reasonableness checks. The City 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 this 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.

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. 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 and a level dollar amortization payment using an initial closed amortization period of 30 years.

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 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 Funded Ratio shown in Table II is for informational purposes and 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.

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 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 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 systems. To the best of our knowledge the information contained in this report is accurate



Board of Trustees  
July 14, 2017  
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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.

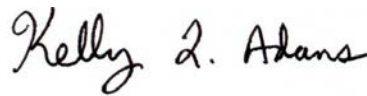
The undersigned are Members of the American Academy of Actuaries and meet the qualification standards of the American Academy of Actuaries to render the actuarial opinions contained in this report. We are available to respond to any questions with regards to matters covered in this report.

Very truly yours,



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



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

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

	<u>Prior Assumptions</u>		<u>Current Assumptions</u>	
	<u>Cost</u> <u>Data</u>	<u>% of</u> <u>Payroll</u>	<u>Cost</u> <u>Data</u>	<u>% of</u> <u>Payroll</u>
<b>A. Participant Data Summary (Table III)</b>				
1. Active Employees	109	N/A	109	N/A
2. Terminated Vested	157	N/A	157	N/A
3. Receiving Benefits	99	N/A	99	N/A
4. Total Annual Payroll of Active Employees	\$ 5,916,189	100.0%	\$ 5,916,189	100.0%
<b>B. Total Normal Costs</b>				
1. Age Retirement Benefits	\$ 515,189	8.7%	\$ 515,404	8.7%
2. Termination Benefits	152,558	2.6%	148,522	2.5%
3. Death Benefits	20,271	0.3%	24,326	0.4%
4. Disability Benefits	9,512	0.2%	9,207	0.2%
5. Estimated Expenses	28,208	0.5%	28,208	0.5%
6. Total Annual Normal Costs	\$ 725,738	12.3%	\$ 725,667	12.3%
<b>C. Total Actuarial Accrued Liability</b>				
1. Age Retirement and Termination Benefits Active Employees	\$ 18,017,758	304.6%	\$ 18,074,503	305.5%
2. Death Benefits Active Employees	469,491	7.9%	571,847	9.7%
3. Disability Benefits Active Employees	219,764	3.7%	210,603	3.6%
4. Retired or Terminated Vested Participants Receiving Benefits	24,890,578	420.7%	25,340,367	428.3%
5. Terminated Vested Participants Entitled to Future Benefits	7,444,856	125.8%	7,326,128	123.8%
6. Deceased Participants Whose Beneficiaries are Receiving Benefits (includes DROs)	1,888,232	31.9%	1,933,346	32.7%
7. Disabled Participants Receiving Benefits	0	0.0%	0	0.0%
8. Miscellaneous Liability (Refunds in Process)	59,218	1.0%	59,218	1.0%
9. Total Actuarial Accrued Liability	\$ 52,989,897	895.7%	\$ 53,516,012	904.6%
<b>D. Assets (Table V)</b>				
1. Smoothed Actuarial Value of Assets	\$ 42,001,072	709.9%	\$ 42,001,072	709.9%
2. Market Value of Assets	\$ 42,027,234	710.4%	\$ 42,027,234	710.4%
<b>E. Unfunded Actuarial Accrued Liability (C.9. - D.1.)</b>				
	\$ 10,988,825	185.7%	\$ 11,514,940	194.6%

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

	<u>Prior Assumptions</u>		<u>Current Assumptions</u>	
	<u>Cost Data</u>	<u>% of Payroll</u>	<u>Cost Data</u>	<u>% of Payroll</u>
F. Minimum Required Contribution				
1. Total Normal Cost (including expenses)	\$ 725,738	12.3%	\$ 725,667	12.3%
2. Amortization of Unfunded Liability	1,054,761	17.8%	1,098,033	18.6%
3. Interest Adjustment	83,560	1.4%	85,657	1.4%
4. Total Payment	<u>\$ 1,864,059</u>	31.5%	<u>\$ 1,909,357</u>	32.3%
G. Expected payroll of active employees for FYE 2018 (1.000 x \$5,916,189)	\$ 5,916,189	100.0%	\$ 5,916,189	100.0%
H. Contribution Sources (percent of expected 2018 payroll)				
1. County and City	\$ 1,568,250	26.5%	\$ 1,613,548	27.3%
2. Member	295,809	5.0%	295,809	5.0%
3. Total required contribution	<u>\$ 1,864,059</u>	31.5%	<u>\$ 1,909,357</u>	32.3%
I. Actuarial Gain / (Loss)	\$ 1,517,855	25.7%	\$ 1,517,855	25.7%
J. Actuarial Present Value of Vested Accrued Benefits				
1. Retired, Terminated Vested, Beneficiaries and Disabled Receiving Benefits	\$ 26,778,810	452.6%	\$ 27,273,713	461.0%
2. Terminated Vested Participants Entitled to Future Benefits and Miscellaneous	7,504,074	126.8%	7,385,346	124.8%
3. Active Participants Entitled to Future Benefits	14,588,361	246.6%	14,658,622	247.8%
4. Total Actuarial Present Value of Vested Accrued Benefits	<u>\$ 48,871,245</u>	826.1%	<u>\$ 49,317,681</u>	833.6%
K. Unfunded Actuarial Present Value of Vested Accrued Benefits (J.4. - D.2., not less than zero)	\$ 6,844,011	115.7%	\$ 7,290,447	123.2%
L. Vested Benefit Security Ratio (D.2. ÷ J.4.)	86.0%	N/A	85.2%	N/A

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

	<b>October 1, 2015</b>		<b>Prior Assumptions October 1, 2016</b>		<b>Current Assumptions October 1, 2016</b>	
	<b>Cost Data</b>	<b>% of Compensation</b>	<b>Cost Data</b>	<b>% of Compensation</b>	<b>Cost Data</b>	<b>% of Compensation</b>
A. Participants						
1. Active Employees	132	N/A	109	N/A	109	N/A
2. Terminated Vested	146	N/A	157	N/A	157	N/A
3. Receiving Benefits	93	N/A	99	N/A	99	N/A
4. Total Annual Payroll of Active Employees	\$ 6,868,214	100.0%	\$ 5,916,189	100.0%	\$ 5,916,189	100.0%
B. Total Normal Costs	\$ 820,218	11.9%	\$ 725,738	12.3%	\$ 725,667	12.3%
C. Actuarial Accrued Liability	\$ 51,164,862	745.0%	\$ 52,989,897	895.7%	\$ 53,516,012	904.6%
D. Present Value of Future Benefits	\$ 57,773,277	841.2%	\$ 58,339,503	986.1%	\$ 58,845,973	994.7%
E. Smoothed Actuarial Value of Assets	\$ 37,570,287	547.0%	\$ 42,001,072	709.9%	\$ 42,001,072	709.9%
F. Market Value of Assets	\$ 37,362,769	544.0%	\$ 42,027,234	710.4%	\$ 42,027,234	710.4%
G. Unfunded Actuarial Accrued Liability	\$ 13,594,575	197.9%	\$ 10,988,825	185.7%	\$ 11,514,940	194.6%
H. County and City Minimum Funding Payment	\$ 1,831,495	26.7%	\$ 1,568,250	26.5%	\$ 1,613,548	27.3%
I. Ratios						
1. Vested Benefit Security Ratio	79.9%	N/A	86.0%	N/A	85.2%	N/A
2. Funded Ratio (F. / C.)	73.0%	N/A	79.3%	N/A	78.5%	N/A

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

A. <u>Active Plan Participants Summary</u>	
1. Active participants fully vested	92
2. Active participants partially vested	4
3. Active participants non-vested	13
4. Total active participants	109
5. Annual rate of pay of active participants	\$ 5,916,189
B. <u>Retired and Terminated Vested Participant Summary</u>	
1. Retired or terminated vested participants receiving benefits	84
2. Terminated vested participants entitled to future benefits	157
3. Deceased participants whose beneficiaries are receiving benefits (includes DROs)	15
4. Disabled participants receiving benefits	0
C. <u>Projected Annual Retirement Benefits</u>	
1. Retired or terminated vested receiving benefits	\$ 2,419,872
2. Terminated vested entitled to future benefits	\$ 1,448,300
3. Beneficiaries of deceased participants (includes DROs)	\$ 195,838
4. Disabled participants	\$ 0

**Statement of Assets as of October 1, 2016**

<u>Assets</u>	<u>Market Value</u>
A. <u>Cash and Cash Equivalents</u>	\$ 437,098
B. <u>General Investments</u>	
1. Common Stock	\$ 21,225,417
2. Bonds	8,493,086
3. Real Estate	11,511,897
C. <u>Receivables</u>	
1. Accrued Interest	\$ 0
2. Employee Contribution Receivable	1,257
3. City and County Contributions Receivable	358,479
4. Accounts Receivable	0
D. <u>Payables</u>	
1. Accounts Payable	\$ 0
2. Due to Broker	0
E. <u>Plan Assets</u>	
(A + B + C - D)	\$ 42,027,234

**Reconciliation of Plan Assets**

A. <u>Market Value of Assets as of October 1, 2015</u>		\$	37,362,769
B. <u>Receipts During Period</u>			
1. Contributions			
a. Member	\$	479,257	
b. City and County		2,586,936	
c. Total	\$	<u>3,066,193</u>	
2. Investment Income			
a. Interest and dividends	\$	951,102	
b. Realized / unrealized gains (losses)		3,330,712	
c. Investment expenses		<u>(204,362)</u>	
d. Net investment income	\$	<u>4,077,452</u>	
3. Total receipts during period			\$ 7,143,645
C. <u>Disbursements During Period</u>			
1. Pension payments and contribution refunds	\$	2,450,972	
2. Administrative expenses		<u>28,208</u>	
3. Total disbursements during period			\$ 2,479,180
D. <u>Market Value of Assets as of September 30, 2016</u>		\$	42,027,234

**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 total smoothed actuarial value from prior year	\$ 33,841,977	\$ 37,570,287	\$ 42,001,072			
B. Market value beginning of year	36,821,261	37,362,769	42,027,234			
C. Market value end of year	37,362,769	42,027,234				
D. Non-investment net cash flow	536,348	587,013				
E. Investment return						
1. Total market value return: C. - B. - D.	5,160	4,077,452				
2. Amount for immediate recognition (8%)	2,967,155	3,012,502				
3. Amount for phased-in recognition: E.1. - E.2.	(2,961,995)	1,064,950				
F. Phased-in recognition of investment return:						
1. Current year	(592,399)	212,990				
2. First prior year	256,201	(592,399)	212,990			
3. Second prior year	438,995	256,201	(592,399)	212,990		
4. Third prior year	515,483	438,995	256,201	(592,399)	212,990	
5. Fourth prior year	(393,473)	515,483	438,996	256,202	(592,399)	212,990
6. Total phased-in recognition of investment return	224,807	831,270	315,788	(123,207)	(379,409)	212,990
G. Total smoothed actuarial value end of year						
1. Preliminary total smoothed actuarial value end of year	37,570,287	42,001,072				
A. + D. + E.2. + F.6.						
2. Upper corridor limit: 120% of C.	44,835,323	50,432,681				
3. Lower corridor limit: 80% of C.	29,890,215	33,621,787				
4. Total smoothed actuarial value end of year:						
G.1., not more than G.2., nor less than G.3.	37,570,287	42,001,072				
H. Difference between total market value and total smoothed actuarial value	(207,518)	26,162				
I. Smoothed actuarial value rate of return	9.4%	10.2%				
J. Market value rate of return	0.0%	10.8%				



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

A. Derivation of Actuarial Gain / (Loss)

1. City and County net normal cost	\$ 476,807
2. Unfunded actuarial accrued liability	13,594,575
3. City and County contributions previous year	2,586,936
4. Interest on:	
(a) City and County net normal cost	\$ 38,145
(b) Unfunded actuarial accrued liability	1,087,566
(c) City and County contributions	103,477
(d) Net total: (a) + (b) - (c)	<u>\$ 1,022,234</u>
5. Increase / (decrease) in unfunded actuarial accrued liability due to assumption changes	\$ 526,115
6. Expected unfunded actuarial accrued liability current year: (1. + 2. - 3. + 4. + 5.)	\$ 13,032,795
7. Actual unfunded actuarial accrued liability current year	<u>11,514,940</u>
8. Actuarial gain (loss): (6. - 7.)	\$ 1,517,855

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

1. Smoothed actuarial value of assets previous year	\$ 37,570,287
2. Contributions during period	3,066,193
3. Benefits and administrative expenses during period	2,479,180
4. Expected appreciation for period	<u>3,029,103</u>
5. Expected smoothed actuarial value of assets current year: (1. + 2. - 3. + 4.)	\$ 41,186,403
6. Actual smoothed actuarial value of assets current year	\$ 42,001,072
7. Approximate investment gain (loss) due to investments: (6. - 5.)	\$ 814,669

C. Approximate Portion of Gain / (Loss)  
due to Liabilities: A.7. - B.7.

\$ 703,186

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

<u>Date</u>	<u>Unfunded Liability</u>	<u>Amortization Payment</u>
October 1, 2016	\$ 11,514,940	\$ 1,098,033
October 1, 2017	\$ 11,250,260	\$ 1,098,033
October 1, 2018	\$ 10,964,405	\$ 1,098,033
October 1, 2019	\$ 10,655,682	\$ 1,098,033
October 1, 2020	\$ 10,322,261	\$ 1,098,033
...		
...		
October 1, 2046	\$ 0	\$ 0

B. Covered Payroll History\*

<u>Date</u>	<u>Covered Payroll</u>	<u>Annual Increase</u>
October 1, 2016	\$ 5,916,189	(13.9%)
October 1, 2015	\$ 6,868,214	(3.2%)
October 1, 2014	\$ 7,093,513	(4.5%)
October 1, 2013	\$ 7,431,031	(9.6%)
October 1, 2012	\$ 8,216,342	(7.4%)
October 1, 2011	\$ 8,875,836	(13.9%)
October 1, 2010	\$ 10,304,054	(4.2%)
October 1, 2009	\$ 10,752,720	(0.1%)
October 1, 2008	\$ 10,767,596	(3.8%)
October 1, 2007	\$ 11,190,013	6.7%
October 1, 2006	\$ 10,489,087	N/A
Ten-Year Average Annual Increase		(5.6%)

\* Information prior to October 1, 2008 as reported by prior actuary.

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>			
a. Retirees and beneficiaries receiving benefits	93	99	99
b. Terminated plan members entitled to but not yet receiving benefits	146	157	157
c. Active plan members	132	109	109
d. Total	<u>371</u>	<u>365</u>	<u>365</u>
<b>II. <u>Financial Accounting Standards Board Allocation as of October 1, 2016</u></b>			
<b>A. <u>Statement of Accumulated Plan Benefits</u></b>			
1. Actuarial present value of accumulated vested plan benefits			
a. Participants currently receiving benefits	\$ 24,444,446	\$ 26,778,810	\$ 27,273,713
b. Other participants	22,336,034	22,092,435	22,043,968
c. Total	<u>\$ 46,780,480</u>	<u>\$ 48,871,245</u>	<u>\$ 49,317,681</u>
2. Actuarial present value of accumulated non-vested plan benefits	<u>\$ 358,593</u>	<u>\$ 474,530</u>	<u>\$ 493,744</u>
3. Total actuarial present value of accumulated plan benefits	<u>\$ 47,139,073</u>	<u>\$ 49,345,775</u>	<u>\$ 49,811,425</u>
<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			\$ 47,139,073
2. Increase (decrease) during year attributable to:			
a. Plan amendment			\$ 0
b. Change in actuarial assumptions			465,650
c. Benefits paid including refunds			(2,450,972)
d. Other, including benefits accumulated, increase for interest due to decrease in the discount period			<u>4,657,674</u>
e. Net increase			<u>\$ 2,672,352</u>
3. Actuarial present value of accumulated plan benefits as of October 1, 2016			\$ 49,811,425
<b>C. <u>Significant Matters Affecting Calculations</u></b>			
1. Assumed rate of return used in determining actuarial present values			8.0%
2. Change in plan provisions			None.
3. Change in actuarial assumptions			See Table X, 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. <u>Total Pension Liability (TPL)</u></b>				
Service Cost	\$ 886,819	\$ 834,402	\$ 808,281	\$ 697,459
Interest	3,666,120	3,851,130	4,059,813	4,225,889
Benefit Changes	0	0	0	0
Difference Between Actual and Expected Experience	(581,481)	(107,513)	275,994	(592,087)
Assumption Changes	0	8,107	0	526,115
Benefit Payments, including Refunds of Member Contributions	(1,974,208)	(2,202,769)	(2,450,972)	(2,779,726)
Net Change in Total Pension Liability	\$ 1,997,250	\$ 2,383,357	\$ 2,693,116	\$ 2,077,650
Total Pension Liability (TPL) - (beginning of year)	46,508,261	48,505,511	50,888,868	53,581,984
Total Pension Liability (TPL) - (end of year)	<u>\$ 48,505,511</u>	<u>\$ 50,888,868</u>	<u>\$ 53,581,984</u>	<u>\$ 55,659,634</u>
<b>B. <u>Plan Fiduciary Net Position</u></b>				
Contributions - County and City	\$ 2,527,508	\$ 2,392,948	\$ 2,586,936	\$ 1,831,495
Contributions - Member	369,500	358,106	479,257	295,809
Net Investment Income	3,885,344	5,160	4,077,452	3,334,954
Benefit Payments, including Refunds of Member Contributions	(1,974,208)	(2,202,769)	(2,450,972)	(2,779,726)
Administrative Expenses	(159,424)	(11,937)	(28,208)	(28,208)
Other	0	0	0	0
Net Change in Plan Fiduciary Net Position	\$ 4,648,720	\$ 541,508	\$ 4,664,465	2,654,324
Plan Fiduciary Net Position - (beginning of year)	32,172,541	36,821,261	37,362,769	42,027,234
Plan Fiduciary Net Position - (end of year)	<u>\$ 36,821,261</u>	<u>\$ 37,362,769</u>	<u>\$ 42,027,234</u>	<u>\$ 44,681,558</u>
<b>C. <u>Net Pension Liability (NPL) - (end of year): (A) - (B)</u></b>	\$ 11,684,250	\$ 13,526,099	\$ 11,554,750	\$ 10,978,076
<b>D. <u>Plan Fiduciary Net Position as a Percentage of TPL: (B) / (A)</u></b>	75.91 %	73.42 %	78.44 %	80.28 %
<b>E. <u>Covered Employee Payroll **</u></b>	\$ 7,369,943	\$ 7,070,355	\$ 6,671,503	\$ 5,916,189
<b>F. <u>NPL as a Percentage of Covered Employee Payroll: (C) / (E)</u></b>	158.54 %	191.31 %	173.20 %	185.56 %
<b>G. <u>Notes to Schedule:</u></b>				
Valuation Date	10/01/2013	10/01/2014	10/01/2015	10/01/2016
Reporting Date (GASB No. 68)	9/30/2015	9/30/2016	9/30/2017	9/30/2018

Update procedures were used to roll forward the TPL to the measurement date.

No method or benefit changes during the year. See Table X, 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 No. 82.

**Accounting Disclosure Exhibit**

IV. Schedule of Employer Contributions (GASB No. 67 & No. 68)

<u>Fiscal Year End 9/30 <sup>1</sup></u>	<u>Actuarially Determined Contribution</u>	<u>Actual Contribution <sup>2</sup></u>	<u>Contribution Deficiency / (Excess)</u>	<u>Covered Payroll <sup>3</sup></u>	<u>Actual Contribution as a % of Covered Payroll</u>
2007	\$ 1,807,722	\$ 1,843,147	\$ (35,425)	\$ 10,489,087	17.57%
2008	2,005,100	2,009,085	(3,985)	11,190,013	17.95%
2009	1,781,651	1,781,197	454	10,767,596	16.54%
2010	2,311,058	2,311,058	0	10,752,720	21.49%
2011	2,616,924	2,616,924	0	10,304,054	25.40%
2012	1,965,643	1,913,717	51,926	8,875,836	21.56%
2013	2,258,769	2,258,798	(29)	8,216,342	27.49%
2014	2,474,578	2,527,508	(52,930)	7,369,943	34.29%
2015	2,230,908	2,392,948	(162,040)	7,070,355	33.84%
2016	2,067,445	2,586,936	(519,491)	6,671,503	38.78%
2017 <sup>4</sup>	1,831,495	1,831,495	0	5,916,189	30.96%

<sup>1</sup> Information prior to 2008 reported by prior actuary

<sup>2</sup> Per City CAFR prior to September 30, 2014

<sup>3</sup> Reported payroll on which contributions to the Plan are based as provided under GASB No. 82 (projected prior to fiscal year ended September 30, 2014)

<sup>4</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	Entry Age Normal
Amortization Method	Level dollar, closed
Amortization Period	30 years
Asset Valuation Method	5-year smoothed market
Inflation	3.0%
Salary Increases	3.0% - 7.5%
Investment Rate of Return	8.0%
Retirement Age	Experience-based table of rates that are specific to the type of eligibility condition

**Mortality** For healthy General Employee participants, RP-2000 Combined Healthy Participant Mortality Tables, separate rates for males and females, with fully generational mortality improvements projected to each future payment date with Scale AA.

For healthy Firefighter and Police Officer participants, RP-2000 Combined Healthy Participant Mortality Tables with Blue Collar Adjustment, separate rates for males and females, with fully generational mortality improvements projected to each future payment date with Scale AA.

For disabled participants, RP-2000 Disabled Mortality Tables, separate rates for males and females, with fully generational mortality improvements projected to each future payment date with Scale AA.

**Other Information:**

**Benefit Changes**

2011: Plan closed to future general employees; pensionable earnings to base pay, overtime - maximum 150 hours and accrued leave balance as of July 1, 2011; vesting schedule updated; unreduced early retirement eligibility updated; final average pay updated to five year average and future service benefit accrual rate reduced for general employees. 2008: Benefit accrual rate increased.

**Assumption Changes**

2014: Disability rates updated. 2008: Mortality, salary increase, withdrawal, disability and retirement rates updated; administrative expense assumption introduced and actuarial cost method updated.

**Accounting Disclosure Exhibit**

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

A discount rate of 8% was used to measure the TPL. This discount rate was based on the expected rate of return on Plan investments of 8%. 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 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

	<u>1% Decrease</u>	<u>Current Discount Rate</u>	<u>1% Increase</u>
Discount Rate	7%	8%	9%
NPL	\$ 17,827,379	\$ 11,554,750	\$ 6,247,409

Measurement date: September 30, 2017 \*

	<u>1% Decrease</u>	<u>Current Discount Rate</u>	<u>1% Increase</u>
Discount Rate	7%	8%	9%
NPL	\$ 17,565,694	\$ 10,978,076	\$ 5,435,046

\* 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 Ending September 30, 2017 \$ 1,448,992

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

	<u>Deferred Outflows of Resources</u>	<u>Deferred Inflows of Resources</u>
Differences between actual and expected experience on liabilities	205,226	259,761
Changes of assumptions or other inputs	4,337	0
Net difference between projected and actual earnings on pension plan investments	<u>412,835</u>	<u>0</u>
Total	<u>\$ 622,398</u>	<u>\$ 259,761</u>

Projected Deferred Outflows for County and City Contributions to Be Recognized in Pension Expense for Fiscal Year Ending September 30, 2018 \$ 1,831,495

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

<u>Year Ending 30-Sep</u>	<u>Amount</u>
2018	\$ 44,449
2019	95,013
2020	436,165
2021	(212,990)
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>	Projected <u>9/30/2017 *</u>
Service Cost	\$ 886,819	\$ 834,402	\$ 808,281	\$ 697,459
Interest on Total Pension Liability	3,666,120	3,851,130	4,059,813	4,225,889
Current-Period Benefit Changes	0	0	0	0
Contributions - Member	(369,500)	(358,106)	(479,257)	(295,809)
Projected Earnings on Plan Investments	(2,604,338)	(2,967,155)	(3,012,502)	(3,334,954)
Administrative Expenses	159,424	11,937	28,208	28,208
Other Changes in Plan Fiduciary Net Position	0	0	0	0
Recognition of Beginning Deferred Outflows / (Inflows) due to Liabilities	(126,409)	(149,527)	(78,759)	(99,375)
Recognition of Beginning Deferred Outflows / (Inflows) due to Assets	(256,201)	336,198	123,208	123,208
Total Pension Expense	<u>\$ 1,355,915</u>	<u>\$ 1,558,879</u>	<u>\$ 1,448,992</u>	<u>\$ 1,344,626</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	4.6	1.6	\$ 0	\$ 0
2014 / 2015	\$ 0	4.3	2.3	\$ 0	\$ 0
2015 / 2016	\$ 275,994	3.9	2.9	\$ 70,768	\$ 205,226
TOTAL				\$ 70,768	\$ 205,226

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	\$ (581,481)	4.6	1.6	\$ (126,409)	\$ (202,254)
2014 / 2015	\$ (107,513)	4.3	2.3	\$ (25,003)	\$ (57,507)
2015 / 2016	\$ 0	3.9	2.9	\$ 0	\$ 0
TOTAL				\$ (151,412)	\$ (259,761)

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	\$ 0	4.6	1.6	\$ 0	\$ 0
2014 / 2015	\$ 8,107	4.3	2.3	\$ 1,885	\$ 4,337
2015 / 2016	\$ 0	3.9	2.9	\$ 0	\$ 0
TOTAL				\$ 1,885	\$ 4,337

**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) (cont'd)

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	4.6	1.6	\$ 0	\$ 0
2014 / 2015	\$ 0	4.3	2.3	\$ 0	\$ 0
2015 / 2016	\$ 0	3.9	2.9	\$ 0	\$ 0
TOTAL				\$ 0	\$ 0

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	\$ (1,281,006)	5	2	\$ (256,201)	\$ (512,402)
2014 / 2015	\$ 2,961,995	5	3	\$ 592,399	\$ 1,777,197
2015 / 2016	\$ (1,064,950)	5	4	\$ (212,990)	\$ (851,960)
TOTAL				\$ 123,208	\$ 412,835

## Outline of Principal Provisions of the Retirement Plan

### A. Effective Date

Plan adopted as a Money Purchase Floor Offset plan on October 1, 1997. Plan amended and restated as a Defined Benefit Plan effective October 1, 2000. Plan most recently amended by Resolution 2011-57 adopted December 12, 2011.

### B. Eligibility Requirements

General Employees hired prior to October 1, 2011, Police Officers and Forensic Professionals working 30 or more hours per week are eligible to join the Plan on the first day of the month following completion of six (6) months of service. Electing transferring Firefighters as of October 2, 2008 under the Agreement with the County.

### C. Accrual Service

Years of Accrual Service are any Plan Years during which an Employee completes at least 1,000 hours of service, including years of service completed prior to participation in the Plan.

### D. Compensation

Wages, salaries and other amounts received (whether or not paid in cash) for personal services actually rendered in the course of employment. Effective October 10, 2011 Compensation shall exclude commissions, bonuses, overtime pay in excess of one hundred fifty (150) hours per Plan year and payments for accrued leave in excess of the dollar amount of an Employee's accrued leave balance on July 1, 2011.

### E. Final Average Compensation

Average earnings during the best five (5) consecutive years out of the last ten (10) years preceding termination or retirement, but not less than the three (3) highest consecutive compensation periods during employment with the City as of September 30, 2011.

### F. Normal Retirement

#### 1. Eligibility:

- (a) Attainment of age 65; or
- (b) Completion of 30 years of service and determined to be disabled under the City's long term disability insurance policy.

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

2. Benefit:

For Firefighters, Police Officers and Forensic Professionals, 3.00% times Final Average Compensation multiplied by Accrual Service, up to a maximum of 30 years.

For General Employees, 3.00% times Accrual Service earned through September 30, 2011 times Final Average Compensation plus 2.50% times Accrual Service earned after September 30, 2011 times Final Average Compensation, up to a maximum of 30 years of Accrual Service.

G. Early Retirement

1. Eligibility:

- (a) Attainment of age 55 and completion of 15 years of service; or
- (b) Completion of 25 years of service.

2. Benefit:

Benefit accrued to date of early retirement, actuarially reduced for each year early retirement benefit commencement precedes age 55.

H. Late Retirement

1. Eligibility:

Continued employment beyond Normal Retirement Date.

2. Benefit:

Greater of (a) and (b):

- (a) Accrued benefit calculated as for Normal Retirement based upon service and pay at Late Retirement Date.
- (b) Actuarially increased benefit as of Late Retirement Date.

I. Disability Retirement

1. Eligibility:

Completion of 30 years of service and determined to be disabled under the City's long term disability insurance policy.

2. Benefit:

Accrued benefit calculated as for Normal Retirement based upon service and pay at Disability Retirement Date.

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

J. Death Benefit

Beneficiary entitled to a monthly benefit supported by the present value of the non-forfeitable accrued benefit at the time of the participant's death. If death occurs after actual retirement, the beneficiary receives whatever is payable under the form of benefit option elected.

K. Participant Contributions

Five percent (5%) of compensation for all employees.

L. Vested Benefit Upon Termination

100% vested in required participant contributions. Participant contributions made after October 1, 2000 are included in the deferred vested benefit payable at normal or early retirement date.

Upon termination of service prior to normal or early retirement date a participant shall be entitled to a benefit payable at normal or early retirement date calculated as for normal retirement. Based on pay and service at date of termination multiplied by a percentage from the following table.

<u>Years of Service</u>	<u>Vested Percentage</u>
Less Than 7	0%
7 or More	100%

M. Normal Form of Payment of Retirement Income

Monthly benefit payable for life.

Other Options

Actuarially equivalent joint and survivor at 50%, 75%, 100%; or ten (10) years certain and life.

N. Changes Since Previous Valuation

None.

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

A. Mortality

Firefighter and Police Officer participants:

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 (2016)	Pre-retirement Future Life Expectancy (Years)		Post-retirement Future Life Expectancy (Years)	
	Men	Women	Men	Women
	55	29.61	32.40	29.10
60	24.73	27.36	24.52	27.21
62	22.86	25.40	22.74	25.29

Sample Ages (2036)	Pre-retirement Future Life Expectancy (Years)		Post-retirement Future Life Expectancy (Years)	
	Men	Women	Men	Women
	55	31.85	34.35	31.35
60	27.00	29.30	26.81	29.17
62	25.12	27.32	25.01	27.23

General Employee participants:

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.

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

A. Mortality (continued)

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, set back 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

B. Investment Return

8.0%, compounded annually, net of investment expenses - 2.75% inflation.

C. Allowances for Expenses or Contingencies

Prior year's actual administrative expenses are included in normal cost.

D. Salary Increase Factors

Current salary is assumed to increase at a rate based on the table below per year until retirement.

<u>Service</u>	General	Forensic Professionals
	<u>Employees</u>	<u>Firefighters and Police Officers</u>
Less than 5 years	6.5%	7.5%
5 - 9 years	5.5%	5.5%
10 - 14 years	4.5%	5.5%
15+ years	3.0%	3.5%



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

E. Employee Withdrawal Rates

1. Withdrawal rates for male General Employees were used in accordance with the following illustrative example:

<u>Withdrawal Rates per 100 Employees</u>											
<u>Age</u>	<u>Service</u>										
	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10+</u>
20	32.8	25.4	22.7	18.4	15.8	11.7	11.1	11.1	11.0	10.0	9.8
25	27.2	18.5	17.2	14.6	12.7	9.7	8.5	8.4	7.7	6.3	6.2
30	25.8	15.4	14.0	13.2	11.8	8.8	7.8	7.1	6.4	5.5	4.7
35	25.8	14.3	12.8	12.6	10.9	8.5	7.5	6.8	6.2	5.3	4.2
40	24.4	12.6	12.0	10.7	9.0	7.4	6.7	6.2	5.8	5.3	3.0
45	24.4	12.5	11.6	10.3	8.8	6.8	6.5	6.0	5.1	5.1	2.7
50	23.4	12.2	10.7	9.4	7.9	6.0	5.5	5.3	4.6	4.6	3.0
55	27.4	12.2	10.7	9.3	7.8	6.8	5.4	5.2	4.4	4.3	4.5
60	27.4	12.2	10.7	9.3	7.8	6.8	5.4	5.1	4.3	4.2	5.3
65	27.4	12.2	10.7	9.3	7.8	6.8	5.4	5.1	4.3	4.2	3.7

2. Withdrawal rates for female General Employees were used in accordance with the following illustrative example:

<u>Withdrawal Rates per 100 Employees</u>											
<u>Age</u>	<u>Service</u>										
	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10+</u>
20	30.3	25.8	22.1	17.4	15.4	13.5	11.4	11.3	10.5	10.2	11.6
25	26.6	19.8	17.1	13.0	12.9	10.7	9.7	9.2	7.8	7.1	5.3
30	25.4	16.9	14.5	11.6	11.3	9.4	8.7	8.1	7.1	6.5	5.4
35	25.4	15.9	13.5	11.2	10.9	9.0	8.0	7.8	6.8	6.2	4.6
40	24.4	14.0	12.1	10.0	9.1	7.0	6.5	6.3	6.1	5.0	3.3
45	24.4	13.9	11.9	9.8	8.8	6.7	6.5	6.1	5.8	4.7	3.0
50	23.2	13.4	11.0	8.8	8.4	6.2	5.9	5.5	5.5	4.6	3.0
55	23.2	13.4	11.0	8.7	8.3	6.1	5.8	5.4	5.4	4.5	3.0
60	23.2	13.4	11.0	8.7	8.3	6.1	5.8	5.4	5.4	4.5	3.0
65	23.2	13.4	11.0	8.7	8.3	6.1	5.8	5.4	5.4	4.5	3.0

The withdrawal assumptions are the withdrawal assumptions used in the July 1, 2016 Florida Retirement System (FRS) Actuarial Valuation.

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

E. Employee Withdrawal Rates (continued)

3. Withdrawal rates for male Forensic Professionals, Firefighters and Police Officers were used in accordance with the following illustrative example:

<u>Withdrawal Rates per 100 Employees</u>											
<u>Age</u>	<u>Service</u>										
	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10+</u>
20	21.4	10.3	8.6	8.4	7.5	5.3	5.2	3.1	2.9	2.6	2.3
25	20.6	9.8	8.1	7.9	7.0	5.3	5.2	3.1	2.9	2.6	2.3
30	20.6	9.5	7.7	7.5	6.7	5.3	5.2	3.1	2.9	2.6	2.1
35	20.6	8.8	7.4	7.2	6.5	5.3	5.1	3.1	2.9	2.6	2.0
40	20.6	8.0	6.8	6.7	6.0	4.8	4.6	3.1	2.9	2.6	1.9
45	20.6	7.3	6.0	6.0	5.5	4.3	4.1	3.1	2.9	2.6	1.8
50	20.6	6.5	5.3	5.3	5.0	3.8	3.6	3.1	2.9	2.6	1.8
55	20.6	5.8	4.7	4.7	4.6	3.3	3.2	3.1	2.9	2.6	1.8
60	20.6	5.3	4.7	4.7	4.6	3.3	3.2	3.1	2.9	2.6	1.8
65	20.6	5.3	4.7	4.7	4.6	3.3	3.2	3.1	2.9	2.6	1.8

4. Withdrawal rates for female Forensic Professionals, Firefighters and Police Officers were used in accordance with the following illustrative example:

<u>Withdrawal Rates per 100 Employees</u>											
<u>Age</u>	<u>Service</u>										
	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10+</u>
20	21.3	15.5	12.3	10.3	9.7	6.1	5.9	5.0	4.2	4.2	1.9
25	21.3	14.2	11.6	9.8	9.2	6.1	5.9	5.0	4.2	4.2	1.9
30	21.3	13.2	10.6	9.3	8.7	6.1	5.9	5.0	4.2	4.2	1.7
35	21.3	12.2	9.6	8.8	8.4	6.1	5.9	5.0	4.2	4.1	1.5
40	21.3	11.2	8.6	8.3	7.6	6.1	5.9	5.0	4.1	4.1	2.5
45	21.3	10.2	7.6	7.6	7.0	6.1	5.9	5.0	4.1	4.1	2.5
50	21.3	9.2	6.6	6.6	6.4	6.1	5.9	5.0	4.1	4.0	1.6
55	21.3	8.4	5.8	5.6	5.4	5.3	5.1	5.0	4.1	4.0	4.0
60	21.3	8.4	5.8	5.6	5.4	5.3	5.1	5.0	4.1	4.0	4.0
65	21.3	8.4	5.8	5.6	5.4	5.3	5.1	5.0	4.1	4.0	4.0

The withdrawal assumptions are the withdrawal assumptions used in the July 1, 2016 FRS Actuarial Valuation.

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

F. Disability Rates

1. Line-of-duty disability rates for General Employees were used in accordance with the following illustrative example.

<u>Age</u>	<u>Male</u>	<u>Female</u>
20	0.000%	0.000%
25	0.001%	0.001%
30	0.001%	0.001%
35	0.001%	0.001%
40	0.001%	0.001%
45	0.004%	0.001%
50	0.006%	0.006%
55	0.006%	0.006%
60	0.010%	0.013%
65	0.010%	0.010%

2. Non-duty disability rates for General Employees were used in accordance with the following illustrative example.

<u>Age</u>	<u>Male</u>	<u>Female</u>
20	0.000%	0.000%
25	0.010%	0.010%
30	0.010%	0.010%
35	0.020%	0.010%
40	0.020%	0.020%
45	0.080%	0.060%
50	0.160%	0.100%
55	0.250%	0.160%
60	0.300%	0.260%
65	0.100%	0.080%

The disability assumptions are the disability assumptions used in the July 1, 2016 FRS Actuarial Valuation.

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

F. Disability Rates (continued)

3. Line-of-duty disability rates for Forensic Professionals, Firefighters and Police Officers were used in accordance with the following illustrative example.

<u>Age</u>	<u>Male</u>	<u>Female</u>
20	0.010%	0.000%
25	0.010%	0.004%
30	0.010%	0.004%
35	0.010%	0.004%
40	0.020%	0.040%
45	0.060%	0.040%
50	0.140%	0.050%
55	0.100%	0.080%
60	0.140%	0.150%
65	0.260%	0.150%

4. Non-duty disability rates for Forensic Professionals, Firefighters and Police Officers were used in accordance with the following illustrative example.

<u>Age</u>	<u>Male</u>	<u>Female</u>
20	0.020%	0.000%
25	0.020%	0.020%
30	0.030%	0.020%
35	0.030%	0.030%
40	0.030%	0.030%
45	0.030%	0.060%
50	0.080%	0.110%
55	0.050%	0.110%
60	0.050%	0.110%
65	0.050%	0.110%

The disability assumptions are the disability assumptions used in the July 1, 2016 FRS Actuarial Valuation.

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

G. Assumed Retirement Age

Retirement rates were used in accordance with the following tables.

1. For Forensic Professionals, Police Officers and Firefighters:

<b><u>Age</u></b>	<b><u>Years of Service</u></b>				
	<b><u>0 - 10</u></b>	<b><u>10 - 15</u></b>	<b><u>15 - 25</u></b>	<b><u>25 - 30</u></b>	<b><u>30 or more</u></b>
Under 55	0%	0%	0%	4%	5%
55	0%	10%	15%	40%	50%
56 - 64	0%	10%	15%	15%	20%
65 and above	100%	100%	100%	100%	100%

2. For General Employees:

<b><u>Age</u></b>	<b><u>Years of Service</u></b>				
	<b><u>0 - 10</u></b>	<b><u>10 - 15</u></b>	<b><u>15 - 25</u></b>	<b><u>25 - 30</u></b>	<b><u>30 or more</u></b>
Under 55	0%	0%	0%	2%	2%
55	0%	5%	10%	20%	25%
56 - 64	0%	5%	10%	4%	5%
65 and above	100%	100%	100%	100%	100%

H. Marital Assumptions

- 100% of active members are assumed to be married.
- Females are assumed to be three (3) years younger than their male spouses.

I. Interest on Future Participant Contributions

3.75%, compounded annually.

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

J. 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 plan assets and whose upper limit is 120% of the fair market value of plan assets - adjusted for equation of balance October 1, 2010.

K. Cost Method

Normal Retirement, Termination, Disability, and Death Benefits: Entry Age Normal 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 entry age 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 assets of the Fund.

L. Changes Since Previous Valuation

Mortality was:

For healthy General Employee participants, RP-2000 Combined Healthy Participant Mortality Tables, separate rates for males and females, with fully generational mortality improvements projected to each future payment date with Scale AA.

For healthy Firefighter and Police Officer participants, RP-2000 Combined Healthy Participant Mortality Tables with Blue Collar Adjustment, separate rates for males and females, with fully generational mortality improvements projected to each future payment date with Scale AA.

For disabled participants, RP-2000 Disabled Mortality Tables, separate rates for males and females, with fully generational mortality improvements projected to each future payment date with Scale AA.

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

<u>Attained Age Group</u>	<u>Firefighters</u>							<u>Total</u>
	-----COMPLETED YEARS OF SERVICE-----							
	<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 &amp; Over</u>	
Under 25	-	-	-	-	-	-	-	0
25-29	-	-	-	-	-	-	-	0
30-34	-	-	-	-	-	-	-	0
35-39	-	-	-	-	-	-	-	0
40-44	-	-	-	-	-	-	-	0
45-49	-	-	-	-	-	-	-	0
50-54	-	-	-	-	1	4	1	6
55-59	-	-	-	-	1	1	-	2
60-64	-	-	-	-	-	-	-	0
65 & Over	-	-	-	-	-	-	-	0
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>5</b>	<b>1</b>	<b>8</b>
				<u>10/01/2015</u>		<u>10/01/2016</u>		
Average Attained Age				52.92 years		53.53 years		
Average Hire Age				27.72 years		27.78 years		
Average Pay				\$ 71,946		\$ 77,862		
Percent Female				0.0%		0.0%		

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

**General Employees**

<u>Attained Age Group</u>	-----COMPLETED YEARS OF SERVICE-----							<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 &amp; Over</u>	
Under 25	-	-	-	-	-	-	-	0
25-29	-	1	-	-	-	-	-	1
30-34	-	4	1	-	-	-	-	5
35-39	-	1	4	3	-	-	-	8
40-44	-	2	3	1	2	-	-	8
45-49	-	-	1	2	1	-	-	4
50-54	-	1	3	1	1	2	-	8
55-59	-	2	2	3	4	3	1	15
60-64	-	-	4	-	-	-	-	4
65 & Over	-	-	-	1	-	-	-	1
<b>TOTAL</b>	<b>0</b>	<b>11</b>	<b>18</b>	<b>11</b>	<b>8</b>	<b>5</b>	<b>1</b>	<b>54</b>
				<u>10/01/2015</u>		<u>10/01/2016</u>		
Average Attained Age				48.34 years		48.47 years		
Average Hire Age				34.57 years		33.30 years		
Average Pay				\$ 47,929		\$ 49,730		
Percent Female				34.4%		33.3%		



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

<u>Attained</u> <u>Age Group</u>	<u>Police Officers</u>							<u>Total</u>
	-----COMPLETED YEARS OF SERVICE-----							
	<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 &amp; Over</u>	
Under 25	-	-	-	-	-	-	-	0
25-29	3	3	-	-	-	-	-	6
30-34	2	3	1	-	-	-	-	6
35-39	2	-	6	1	-	-	-	9
40-44	2	1	-	2	4	-	-	9
45-49	-	-	1	2	1	2	-	6
50-54	-	2	1	2	-	2	-	7
55-59	-	1	-	1	-	-	-	2
60-64	-	-	1	-	-	-	-	1
65 & Over	-	-	-	-	-	-	-	0
<b>TOTAL</b>	<b>9</b>	<b>10</b>	<b>10</b>	<b>8</b>	<b>5</b>	<b>4</b>	<b>0</b>	<b>46</b>
				<u>10/01/2015</u>		<u>10/01/2016</u>		
Average Attained Age				40.51 years		41.62 years		
Average Hire Age				29.07 years		29.32 years		
Average Pay				\$ 53,189		\$ 55,639		
Percent Female				15.3%		19.6%		

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

**Forensic Professionals**

<u>Attained</u> <u>Age Group</u>	-----COMPLETED YEARS OF SERVICE-----							<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 &amp; Over</u>	
Under 25	-	-	-	-	-	-	-	0
25-29	-	-	-	-	-	-	-	0
30-34	-	-	-	-	-	-	-	0
35-39	-	-	-	-	1	-	-	1
40-44	-	-	-	-	-	-	-	0
45-49	-	-	-	-	-	-	-	0
50-54	-	-	-	-	-	-	-	0
55-59	-	-	-	-	-	-	-	0
60-64	-	-	-	-	-	-	-	0
65 & Over	-	-	-	-	-	-	-	0
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>
				<u>10/01/2015</u>		<u>10/01/2016</u>		
Average Attained Age				34.48 years		Not shown		
Average Hire Age				19.48 years		Not shown		
Average Pay				\$ 43,463		Not shown		
Percent Female				100.0%		100.0%		

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

**All Members**

<u>Attained Age Group</u>	-----COMPLETED YEARS OF SERVICE-----							<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 &amp; Over</u>	
Under 25	-	-	-	-	-	-	-	0
25-29	3	4	-	-	-	-	-	7
30-34	2	7	2	-	-	-	-	11
35-39	2	1	10	4	1	-	-	18
40-44	2	3	3	3	6	-	-	17
45-49	-	-	2	4	2	2	-	10
50-54	-	3	4	3	2	8	1	21
55-59	-	3	2	4	5	4	1	19
60-64	-	-	5	-	-	-	-	5
65 & Over	-	-	-	1	-	-	-	1
<b>TOTAL</b>	<b>9</b>	<b>21</b>	<b>28</b>	<b>19</b>	<b>16</b>	<b>14</b>	<b>2</b>	<b>109</b>
				<u>10/01/2015</u>		<u>10/01/2016</u>		
Average Attained Age				44.98 years		45.86 years		
Average Hire Age				31.37 years		31.08 years		
Average Pay				\$ 52,032		\$ 54,277		
Percent Female				24.2%		25.7%		

**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 40</b>	33	\$ 186,171	\$ 5,642
40 - 44	29	317,085	10,934
45 - 49	33	414,147	12,550
50 - 54	33	395,820	11,995
55 - 59	17	83,089	4,888
60 - 64	6	37,492	6,249
65 & Over	6	14,496	2,416
<b>TOTAL</b>	<b>157</b>	<b>\$ 1,448,300</b>	<b>\$ 9,225</b>

B. Receiving Benefits

<b>Current Age Group</b>	<b>Count</b>	<b>Total Annual Benefit</b>	<b>Average Annual Benefit</b>
<b>Less than 50</b>	3	\$ 24,124	\$ 8,041
50 - 54	1	7,526	7,526
55 - 59	22	933,597	42,436
60 - 64	20	658,592	32,930
65 - 69	26	515,399	19,823
70 - 74	15	319,519	21,301
75 - 80	9	142,331	15,815
80 & Over	3	14,622	4,874
<b>TOTAL</b>	<b>99</b>	<b>\$ 2,615,710</b>	<b>\$ 26,421</b>

**Reconciliation of Employee Data**A. Active Participants

1. Active participants previous year	132
2. Retired during year	(7)
3. Died during year	0
4. Disabled during year	0
5. Terminated non-vested during year	(5)
6. Terminated vested during year	(12)
7. New active participants	1
8. Out on military leave	0
9. Rehired during year	0
10. Transferred to DC Plan	0
11. Active participants current year	<u>109</u>

B. Participants Receiving Benefits

1. Participants receiving benefits previous year	93
2. New retired participants	7
3. New DRO recipient	1
4. New terminated vested receiving benefits	1
5. New beneficiaries receiving benefits	1
6. Died or ceased payment during year	(4)
7. Retired or terminated vested receiving benefits current year	<u>99</u>

C. Terminated Vested Participants Entitled to Future Benefits

1. Terminated vested entitled previous year	146
2. Died during year	0
3. Commenced receiving benefits during year	(1)
4. New terminated vested	12
5. Terminated vested paid lump sum	0
6. Rehired	0
7. Terminated vested entitled current year	<u>157</u>

**Projected Retirement Benefits**

<b><u>Fiscal Year Ending</u></b>	<b><u>Projected Total Annual Payout</u></b>
2017	\$ 2,779,726
2018	\$ 2,927,392
2019	\$ 3,222,599
2020	\$ 3,414,916
2021	\$ 3,601,959
2022	\$ 3,969,661
2023	\$ 4,243,302
2024	\$ 4,436,625
2025	\$ 4,711,349
2026	\$ 4,911,480

The above projected payout of Plan benefits during the next ten years is based on assumptions involving all decrements. Actual payouts may differ from the above estimates depending upon the 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 XV**

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

<u>Year Ending</u>	<u>Benefits Paid</u> <sup>2</sup>	<u>Administrative Expenses</u>	<u>Employee Contributions</u>	<u>City / County Contributions</u> <sup>3</sup>	<u>Smoothed Actuarial Value</u>
09/30/2016	\$ 2,450,972	\$ 28,208	\$ 479,257	\$ 2,586,936	\$ 42,001,072
09/30/2015	2,202,769	11,937	358,106	2,392,948	37,570,287
09/30/2014	1,974,208	159,424	369,500	2,527,508	33,841,977
09/30/2013	1,732,845	177,541	396,374	2,258,798	29,908,683
09/30/2012	1,606,752	309,874	418,635	1,824,431	26,852,721
09/30/2011	1,165,350	196,423	287,090	2,616,924	25,932,292
09/30/2010	886,521	178,530	284,866	2,311,058	23,887,446
09/30/2009	617,274	116,982	306,420	1,781,197	20,788,655
09/30/2008	384,482	70,423	365,288	1,663,951	18,746,975
09/30/2007	233,953	123,197	N/A	1,843,147	15,526,572
09/30/2006	171,697	84,340	N/A	1,505,020	11,951,383
09/30/2005	N/A	N/A	N/A	1,260,627	9,716,089
09/30/2004	140,509	62,225	N/A	1,013,379	8,134,588
09/30/2003	138,353	47,477	N/A	903,748	7,279,048

<sup>1</sup> Information prior to September 30, 2008 as reported by prior actuary.

<sup>2</sup> Includes refunds.

<sup>3</sup> Values prior to September 30, 2008 include Employee Contributions.

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

Valuation Date	General & Forensic		Police & Fire		General & Forensic	Police & Fire	Investment Return		
	Compensation				Termination		Net Market Value Yield*	Smoothed Net Actuarial Value Yield*	Assumed Rate of Return*
	Actual	% Increase / (Decrease)		Assumed	Ratio of Actual to Expected				
10/01/2016	2.4%	4.2%	5.6%	4.8%	1.8	5.5	10.8%	10.2%	8.0%
10/01/2015	3.2%	4.4%	3.8%	4.8%	1.9	1.4	0.0%	9.4%	8.0%
10/01/2014	2.5%	4.7%	1.8%	4.9%	1.2	2.3	11.9%	10.5%	8.0%
10/01/2013	0.7%	4.7%	0.7%	4.9%	1.4	2.4	16.0%	8.5%	8.0%
10/01/2012	(2.4%)	4.8%	(6.5%)	5.0%	2.4	2.4	19.5%	2.3%	8.0%
10/01/2011	4.9%	4.8%	3.5%	5.2%	1.9	2.4	(1.0%)	2.0%	8.0%
10/01/2010	0.9%	5.0%	2.8%	5.3%	1.2	1.7	12.0%	7.3%	8.0%
10/01/2009	6.4%	5.1%	11.6%	5.3%	1.1	1.1	2.1%	3.5%	8.0%
10/01/2008	3.9%	3.0%	5.6%	3.0%	1.2	3.1	(16.8%)	10.1%	8.0%
10/01/2007	N/A	N/A	N/A	N/A	N/A	N/A	13.8%	15.4%	8.0%
Last 3 Years	2.7%	4.4%	3.7%	4.8%	1.6	2.6	7.4%	10.0%	8.0%
Last 5 Years	1.3%	4.6%	1.0%	4.9%	1.7	2.5	11.4%	8.1%	8.0%
Last 10 Years	N/A	N/A	N/A	N/A	N/A	N/A	6.3%	7.8%	8.0%

\* Information prior to October 1, 2008 as reported by prior actuary.



**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>
<b>A. <u>Participant Data</u></b>			
1. Active participants	132	109	109
2. Retired participants and beneficiaries receiving benefits	93	99	99
3. Disabled participants receiving benefits	0	0	0
4. Terminated vested participants	146	157	157
5. Annual payroll of active participants	\$ 6,868,214	\$ 5,916,189	\$ 5,916,189
6. Annual benefits payable to those currently receiving benefits	\$ 2,373,101	\$ 2,615,710	\$ 2,615,710
<b>B. <u>Value of Assets</u></b>			
1. Smoothed Actuarial Value	\$ 37,570,287	\$ 42,001,072	\$ 42,001,072
2. Market Value	\$ 37,362,769	\$ 42,027,234	\$ 42,027,234
<b>C. <u>Liabilities</u></b>			
1. Actuarial present value of future expected benefit payments for active members			
a. Retirement benefits	\$ 24,859,315	\$ 22,159,187	\$ 22,203,699
b. Vesting benefits	1,526,040	988,331	947,988
c. Death benefits	683,494	614,195	752,815
d. Disability benefits	342,058	294,906	282,412
e. Total	<u>\$ 27,410,907</u>	<u>\$ 24,056,619</u>	<u>\$ 24,186,914</u>
2. Actuarial present value of future expected benefit payments for terminated vested members	\$ 5,882,198	\$ 7,444,856	\$ 7,326,128
3. Actuarial present value of future expected benefit payments for members currently receiving benefits			
a. Service retired	\$ 22,715,348	\$ 24,890,578	\$ 25,340,367
b. Disability retired	0	0	0
c. Beneficiaries	1,729,098	1,888,232	1,933,346
d. Miscellaneous (Refunds in Process)	35,726	59,218	59,218
e. Total	<u>\$ 24,480,172</u>	<u>\$ 26,838,028</u>	<u>\$ 27,332,931</u>

**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	\$ 57,773,277	\$ 58,339,503	\$ 58,845,973
5. Actuarial accrued liabilities	\$ 51,164,862	\$ 52,989,897	\$ 53,516,012
6. Unfunded actuarial accrued liabilities	\$ 13,594,575	\$ 10,988,825	\$ 11,514,940
<b>D. <u>Statement of Accumulated Plan Benefits</u></b>			
1. Actuarial present value of accumulated vested benefits			
a. Participants currently receiving benefits	\$ 24,444,446	\$ 26,778,810	\$ 27,273,713
b. Other participants	22,336,034	22,092,435	22,043,968
c. Total	<u>\$ 46,780,480</u>	<u>\$ 48,871,245</u>	<u>\$ 49,317,681</u>
2. Actuarial present value of accumulated non-vested plan benefits	<u>358,593</u>	<u>474,530</u>	<u>493,744</u>
3. Total actuarial present value of accumulated plan benefits	\$ 47,139,073	\$ 49,345,775	\$ 49,811,425
<b>E. <u>Pension Cost</u></b>			
1. Total normal cost	\$ 820,218	\$ 725,738	\$ 725,667
2. Payment required to amortize unfunded liability	1,257,178	1,054,761	1,098,033
3. Interest adjustment	97,510	83,560	85,657
4. Total required contribution	<u>\$ 2,174,906</u>	<u>\$ 1,864,059</u>	<u>\$ 1,909,357</u>
5. Item 4 as a percentage of base payroll	31.7%	31.5%	32.3%
6. Estimated employee contributions	\$ 343,411	\$ 295,809	\$ 295,809
7. Item 6 as a percentage of base payroll	5.0%	5.0%	5.0%
8. Net amount payable by County and City	\$ 1,831,495	\$ 1,568,250	\$ 1,613,548
9. Item 8 as a percentage of base payroll	26.7%	26.5%	27.3%

**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>
<b>F. <u>Past Contributions</u></b>			
1. Total contribution required (previous valuation)	\$ 2,546,702	\$ 2,174,906	\$ 2,174,906
2. Actual contributions made:			
a. Members	\$ 479,257	N/A	N/A
b. City and County	2,586,936	N/A	N/A
c. Total	<u>\$ 3,066,193</u>	N/A	N/A
<b>G. <u>Disclosure of Following Items:</u></b>			
1. Actuarial present value of future salaries - attained age	\$ 58,653,374	\$ 48,787,419	\$ 48,666,708
2. Actuarial present value of future employee contributions - attained age	\$ 2,932,669	\$ 2,439,371	\$ 2,433,336
3. Actuarial present value of future contributions from other sources	N/A	N/A	N/A
4. Amount of active members' accumulated contributions	\$ 2,850,777	\$ 2,718,646	\$ 2,718,646
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.

<u>Unfunded Actuarial Accrued Liabilities</u>		<u>Current Unfunded Liabilities</u>	<u>Amortization Payment</u>	<u>Remaining Funding Period</u>
10/01/2000	Initial	\$ 1,622,636	\$ 182,241	14 years
10/01/2002	Assumption Change	(21,573)	(2,257)	16 years
10/01/2003	Plan Amendment	138,402	14,049	17 years
10/01/2004	Plan Amendment	212,442	20,989	18 years
10/01/2005	Plan Amendment	445,008	42,905	19 years
10/01/2006	Plan Amendment	516,833	48,741	20 years
10/01/2007	Plan Amendment	533,452	49,311	21 years
10/01/2008	Plan Amendment and Assumption Change	2,413,114	219,039	22 years
10/01/2008	Method Change	5,393,669	489,586	22 years
10/01/2009	Actuarial Loss / (Gain)	2,322,052	207,312	23 years
10/01/2010	Actuarial Loss / (Gain)	(431,920)	(37,984)	24 years
10/01/2010	Plan Amendment	(2,504,169)	(220,223)	24 years
10/01/2011	Actuarial Loss / (Gain)	2,754,085	238,888	25 years
10/01/2012	Actuarial Loss / (Gain)	934,515	80,046	26 years
10/01/2013	Actuarial Loss / (Gain)	(731,562)	(61,944)	27 years
10/01/2014	Actuarial Loss / (Gain)	(782,313)	(65,547)	28 years
10/01/2014	Assumption Change	7,348	616	28 years
10/01/2015	Actuarial Loss / (Gain)	(315,339)	(26,167)	29 years
10/01/2016	Actuarial Loss / (Gain)	(1,517,855)	(124,840)	30 years
10/01/2016	Assumption Change	526,115	43,272	30 years
TOTAL		\$ 11,514,940	\$ 1,098,033	

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: July 14, 2017

  
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Lawrence F. Wilson, A.S.A.