

CITY OF SATELLITE BEACH
POLICE OFFICERS' AND FIREFIGHTERS'
RETIREMENT SYSTEM

ACTUARIAL VALUATION
AS OF OCTOBER 1, 2016

DETERMINES THE CONTRIBUTION
FOR THE 2017/18 FISCAL YEAR



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January 21, 2017

Introduction

This report presents the results of the October 1, 2016 actuarial valuation of the City of Satellite Beach Police Officers' and Firefighters' Retirement System. The report is based on the participant data and asset information provided by the pension plan administrator and, except for a cursory review for reasonableness including a comparison to the data provided for the previous valuation, we have not attempted to verify the accuracy of this information.

The primary purpose of this report is to provide a summary of the funded status of the plan as of October 1, 2016 and to determine the minimum required contribution under Chapter 112, Florida Statutes, for the 2017/18 plan year. In addition, this report provides a projection of the long-term funding requirements of the plan, statistical information concerning the assets held in the trust, statistical information concerning the participant population, and a summary of any recent plan changes.

The liabilities and cost presented in this report are based on numerous assumptions concerning the cost of benefits to be provided in the future, long-term investment returns, and the future demographic experience of the current participants. Anyone referring to this report should remember that the cost developed herein is only an *estimate* of the true cost of providing post-employment pension benefits. No one can predict with certainty whether the true cost will be higher or lower than the cost presented in this report. The calculated cost is entirely dependent upon the assumptions that are described in Table IV-A. If any of the assumptions is changed, then the cost shown in this report will change accordingly. Likewise, if any of the assumptions is not completely realized, then the cost shown in this report will change in the future.

Certain assumptions play a bigger role than others in determining the cost of the post-employment pension benefits. In some cases, relatively small changes in a particular assumption can have a dramatic impact on the anticipated cost of benefits. Although a thorough analysis of the impact of such changes is beyond the scope of this report, Table I-B illustrates the impact that alternative long-term investment returns would have on the minimum required contribution rate.

Minimum Required Contribution

Table I-A shows the development of the minimum required contribution for the 2017/18 plan year. The minimum required contribution rate is 38.67% of covered payroll, which represents an increase of 6.10% of payroll from the prior valuation.

Table I-C provides a breakdown of the sources of change in the contribution rate. Significantly, the rate increased by 0.51% of payroll due to investment losses, increased by 0.41% of payroll due to demographic experience, and increased by another 5.18% of payroll due to the assumption change that is described below. The market value of assets earned 6.21% during the 2015/16 plan year. However, the actuarial value of assets is based on a four-year



average of the market value returns. On this basis, the actuarial value of assets earned 6.56% during the 2015/16 plan year, whereas a 7.50% annual investment return was required to maintain a stable contribution rate.

Chapter 112, Florida Statutes, sets forth the rules concerning the minimum required contribution for public pension plans within the state. Essentially, the City must contribute an amount equal to the annual normal cost of the plan plus an amortization payment towards the unfunded liability, where the amortization period is no longer than 30 years and where both amounts are adjusted as necessary for administrative expenses and to reflect interest on any delayed payment of the contribution beyond the valuation date. On this basis, the City's 2017/18 minimum required contribution will be equal to 38.67% multiplied by the total pensionable earnings for the 2017/18 fiscal year for the active employees who are covered by the plan and reduced by the portion of the Chapter 175/185 contribution that is allowed to be recognized during the 2017/18 plan year. With respect to the 2015/16, 2016/17, and 2017/18 plan years, the allowable portion of the Chapter 175/185 contribution is the entire distribution each year.

Based on the current assets, participant data, and actuarial assumptions and methods that are used to value the plan, the present-day value of the total long-term funding requirement is \$24,756,797. As illustrated in Table I-A, current assets are sufficient to cover \$16,318,310 of this amount, the employer's 2016/17 expected contribution will cover \$770,701 of this amount, the employer's 2017/18 expected contribution will cover \$958,472 of this amount, and future employee contributions are expected to cover \$1,148,557 of this amount, leaving \$5,560,757 to be covered by future employer funding beyond the 2017/18 fiscal year. Again, demographic and investment experience that differs from that assumed will either increase or decrease the future employer funding requirement.

Amortization of the Unfunded Liability

This plan uses the entry age normal cost method to develop an unfunded liability each year. The unfunded liability is then amortized or "paid off" over a period of time. The period over which the unfunded liability is amortized is often referred to as the "funding period" of the plan. Although under Chapter 112 the maximum allowable funding period is 30 years, the unfunded liability should be paid off within a period that does not exceed the expected future working life of the active employees who are covered by the plan. We recommend a 10-year amortization period for amortization components that arise after October 1, 2008. However, it is our understanding that the Board of Trustees has adopted a 30-year amortization period for this purpose and this report reflects the Board's decision. Table I-I shows the various components of the unfunded liability and the respective funding period for each component.

Contents of the Report

Tables I-D through I-H provide a detailed breakdown of various liability amounts by type of benefit and by participant group. Tables II-A through II-F provide information concerning the assets of the trust fund. Specifically, Table II-A shows the development of the actuarial value of assets, which is based on the four-year average return on the market value of assets in order to provide a more stable and predictable contribution rate for the employer. Tables III-A through III-G provide statistical information concerning the plan's participant population. In particular, Table III-G gives a 10-year projection of the cash that is expected to be required from the trust fund in order to pay benefits to the current group of participants. Finally, Tables IV-A through V-B provide a summary of the actuarial assumptions and



methods that are used to value the plan's benefits and of the relevant plan provisions as of October 1, 2016, as well as a summary of the changes that have occurred since the previous valuation report was prepared.

Assumption Change

Pursuant to the requirements of State law, the mortality basis has been changed from a 2007 projection of the RP-2000 Mortality Table for annuitants to a full generational projection using Scale BB of the RP-2000 Combined Mortality Table. This change increased the minimum required contribution for the 2017/18 plan year by 5.18% of payroll.

Certification

This actuarial valuation was prepared 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 Chapter 112, Florida Statutes. There is no benefit or expense to be provided by the plan and/or paid from the plan's assets for which liabilities or current costs have not been established or otherwise taken into account in the valuation. All known events or trends which may require a material change in plan costs or required contribution rates have been taken into account in the valuation.

For the firm,



Charles T. Carr
Consulting Actuary
Southern Actuarial Services Company, Inc.

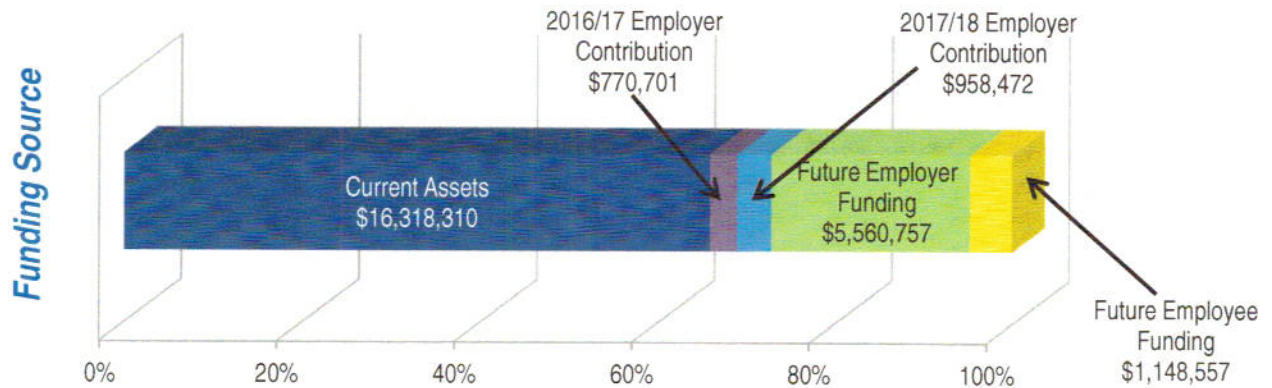
Enrolled Actuary No. 14-04927

The individual above is a member of the American Academy of Actuaries and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.



Minimum Required Contribution

Table I-A



For the 2017/18 Plan Year

Entry Age Normal Cost for the 2016/17 Plan Year	\$643,803
Unfunded Liability Amortization Payment for the 2016/17 Plan Year	\$424,291
Expense Allowance for the 2016/17 Plan Year	\$29,579
Expected Employee Contribution for the 2016/17 Plan Year	(\$193,896)
	<hr/>
	\$903,777
Adjustment to Reflect End-of-Quarter Employer Contributions	\$41,595
Expected Employer Contribution for the 2016/17 Plan Year	(\$770,701)
Remaining Contribution Due/(Credit) for the 2016/17 Plan Year	<hr/>
	\$174,671
	<hr/>
	x 0.075
One Year's Interest Charge/(Credit) on the Remaining Contribution	<hr/>
	\$13,100
Preliminary Employer Contribution for the 2017/18 Plan Year	\$958,472
Expected Payroll for the 2017/18 Plan Year	÷ \$2,478,690

Minimum Required Contribution Rate **38.67%**

(The actual contribution should be based on the minimum required contribution rate multiplied by the actual payroll for the year.)

Additional Disclosures

Present Value of Future Compensation	\$14,356,949
Present Value of Future Employer Contributions	\$7,289,930
Present Value of Future Employee Contributions	\$1,148,557

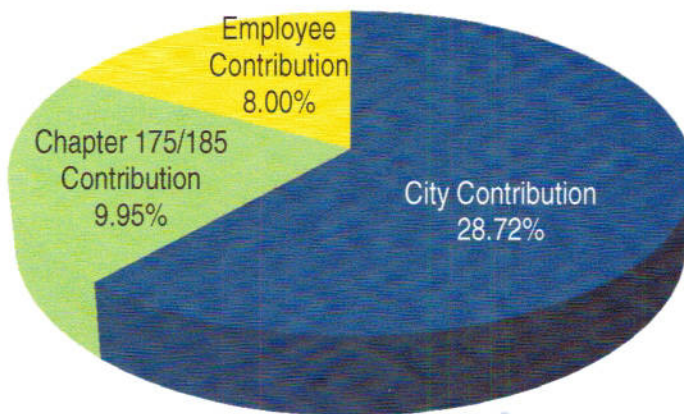


Minimum Required Contribution

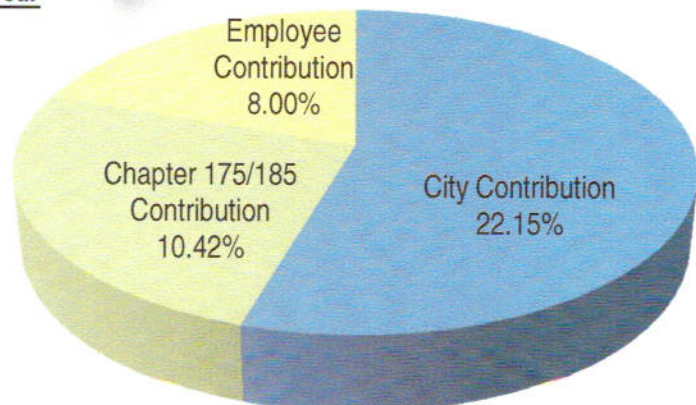
Table I-A
(continued)

The minimum required contribution rate of 38.67% includes both the City contribution and the allowable Chapter 175/185 contribution. In addition, employees are required to contribute 8.00% of pensionable earnings. The actual City contribution rate is expected to be approximately 28.72% based on the allowable Chapter 175/185 contribution for the previous year. The chart below shows the expected contribution rate by source for the 2017/18 plan year based on the expected payroll. A comparative chart shows the contribution rate by source for the previous plan year.

For the 2017/18 Plan Year

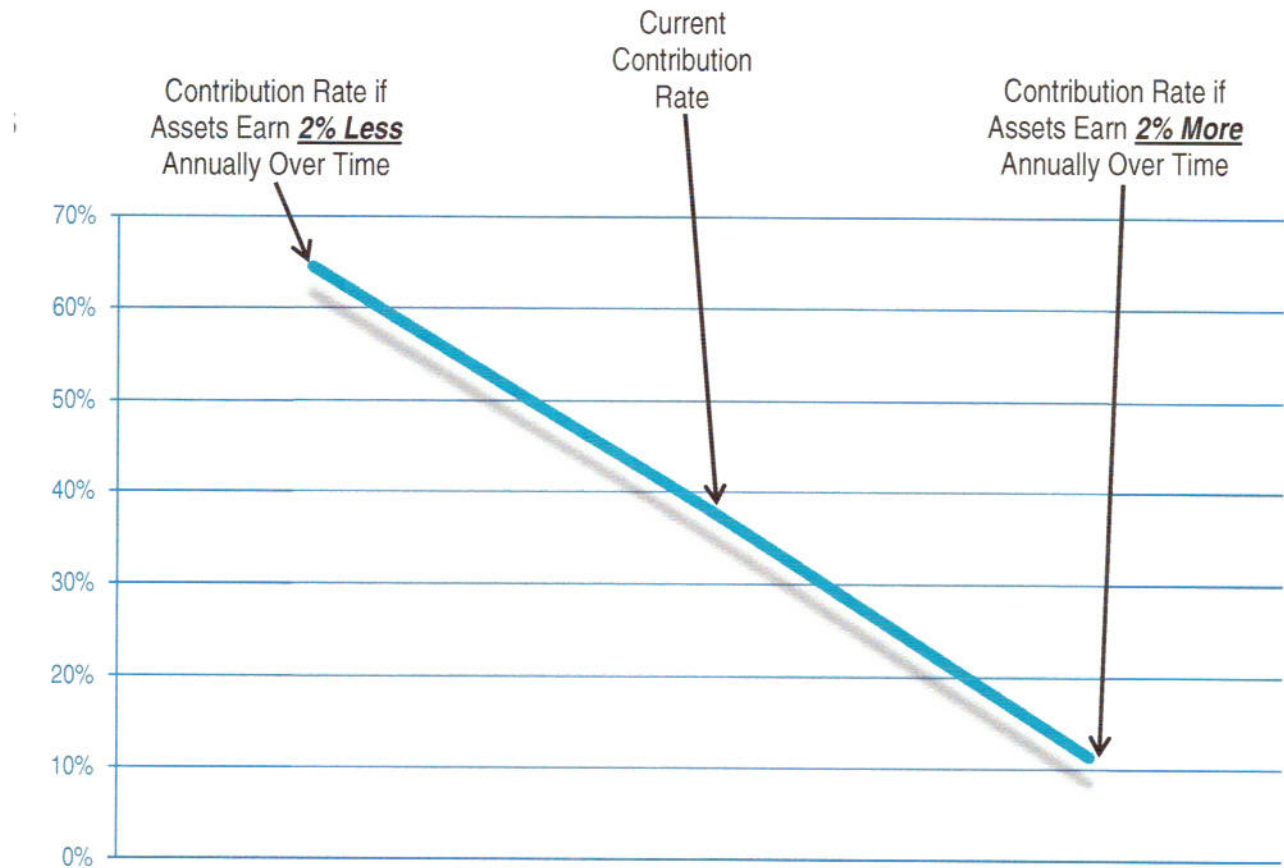


For the 2016/17 Plan Year



Sensitivity Analysis

Table I-B



The line above illustrates the sensitivity of the contribution rate to changes in the long-term investment return.



Gain and Loss Analysis

Table I-C

Source of Change in the Contribution Rate

Previous minimum required contribution rate	32.57%
Increase (decrease) due to investment gains and losses	0.51%
Increase (decrease) due to demographic experience	0.41%
Increase (decrease) due to plan amendments	0.00%
Increase (decrease) due to actuarial assumption changes	5.18%
Increase (decrease) due to actuarial method changes	0.00%
Current minimum required contribution rate	<u>38.67%</u>

Source of Change in the Unfunded Liability

Previous unfunded liability	\$3,271,688
Increase due to employer normal cost for the prior year	\$396,069
Increase due to interest on normal cost and unfunded liability	\$275,082
Decrease due to employer contributions	(\$732,952)
Decrease due to interest on employer contributions	(\$26,989)
Expected unfunded liability	<u>\$3,182,898</u>
Increase (decrease) due to plan experience	\$521,014
Increase (decrease) due to plan amendments	\$0
Increase (decrease) due to actuarial assumption changes	\$1,070,143
Increase (decrease) due to actuarial method changes	\$0
Current unfunded liability	<u>\$4,774,055</u>



Present Value of Future Benefits

Table I-D

	Old Assumptions w/o Amendment	Old Assumptions w/ Amendment	New Assumptions w/ Amendment
<u>Actively Employed Participants</u>			
Retirement benefits	\$14,215,098	\$14,215,098	\$14,906,670
Termination benefits	\$406,656	\$406,656	\$430,012
Disability benefits	\$1,039,257	\$1,039,257	\$1,081,002
Death benefits	\$43,566	\$43,566	\$46,184
Refund of employee contributions	\$12,195	\$12,195	\$12,232
Sub-total	\$15,716,772	\$15,716,772	\$16,476,100
<u>Deferred Vested Participants</u>			
Retirement benefits	\$290,609	\$290,609	\$308,622
Termination benefits	\$0	\$0	\$0
Disability benefits	\$0	\$0	\$0
Death benefits	\$0	\$0	\$0
Refund of employee contributions	\$0	\$0	\$0
Sub-total	\$290,609	\$290,609	\$308,622
<u>Due a Refund of Contributions</u>	\$12,239	\$12,239	\$12,239
<u>Deferred Beneficiaries</u>	\$0	\$0	\$0
<u>Retired Participants</u>			
Service retirements	\$4,506,425	\$4,506,425	\$4,787,175
Disability retirements	\$2,132,634	\$2,132,634	\$2,278,489
Beneficiaries receiving	\$101,576	\$101,576	\$111,326
DROP participants	\$575,101	\$575,101	\$603,384
Sub-total	\$7,315,736	\$7,315,736	\$7,780,374
<u>Grand Total</u>	<u>\$23,335,356</u>	<u>\$23,335,356</u>	<u>\$24,577,335</u>
Present Value of Future Payroll	\$14,358,659	\$14,358,659	\$14,356,949
Present Value of Future Employee Contribs.	\$1,148,697	\$1,148,697	\$1,148,557
Present Value of Future Employer Contribs.	\$6,047,832	\$6,047,832	\$7,289,930



Present Value of Accrued Benefits

Table I-E

	Old Assumptions w/o Amendment	Old Assumptions w/ Amendment	New Assumptions w/ Amendment
<u>Actively Employed Participants</u>			
Retirement benefits	\$8,714,448	\$8,714,448	\$9,124,784
Termination benefits	\$213,542	\$213,542	\$225,218
Disability benefits	\$717,221	\$717,221	\$745,109
Death benefits	\$26,232	\$26,232	\$28,017
Refund of employee contributions	\$6,903	\$6,903	\$6,904
Sub-total	\$9,678,346	\$9,678,346	\$10,130,032
<u>Deferred Vested Participants</u>			
Retirement benefits	\$290,609	\$290,609	\$308,622
Termination benefits	\$0	\$0	\$0
Disability benefits	\$0	\$0	\$0
Death benefits	\$0	\$0	\$0
Refund of employee contributions	\$0	\$0	\$0
Sub-total	\$290,609	\$290,609	\$308,622
<u>Due a Refund of Contributions</u>	\$12,239	\$12,239	\$12,239
<u>Deferred Beneficiaries</u>	\$0	\$0	\$0
<u>Retired Participants</u>			
Service retirements	\$4,506,425	\$4,506,425	\$4,787,175
Disability retirements	\$2,132,634	\$2,132,634	\$2,278,489
Beneficiaries receiving	\$101,576	\$101,576	\$111,326
DROP participants	\$575,101	\$575,101	\$603,384
Sub-total	\$7,315,736	\$7,315,736	\$7,780,374
<u>Grand Total</u>	<u>\$17,296,930</u>	<u>\$17,296,930</u>	<u>\$18,231,267</u>
<u>Funded Percentage</u>	84.47%	84.47%	80.15%



Present Value of Vested Benefits

Table I-F

	Old Assumptions <u>w/o Amendment</u>	Old Assumptions <u>w/ Amendment</u>	New Assumptions <u>w/ Amendment</u>
<u>Actively Employed Participants</u>			
Retirement benefits	\$8,708,380	\$8,708,380	\$9,118,754
Termination benefits	\$201,579	\$201,579	\$212,466
Disability benefits	\$717,221	\$717,221	\$745,109
Death benefits	\$25,876	\$25,876	\$27,653
Refund of employee contributions	\$16,400	\$16,400	\$16,404
Sub-total	\$9,669,456	\$9,669,456	\$10,120,386
<u>Deferred Vested Participants</u>			
Retirement benefits	\$290,609	\$290,609	\$308,622
Termination benefits	\$0	\$0	\$0
Disability benefits	\$0	\$0	\$0
Death benefits	\$0	\$0	\$0
Refund of employee contributions	\$0	\$0	\$0
Sub-total	\$290,609	\$290,609	\$308,622
<u>Due a Refund of Contributions</u>	\$12,239	\$12,239	\$12,239
<u>Deferred Beneficiaries</u>	\$0	\$0	\$0
<u>Retired Participants</u>			
Service retirements	\$4,506,425	\$4,506,425	\$4,787,175
Disability retirements	\$2,132,634	\$2,132,634	\$2,278,489
Beneficiaries receiving	\$101,576	\$101,576	\$111,326
DROP participants	\$575,101	\$575,101	\$603,384
Sub-total	\$7,315,736	\$7,315,736	\$7,780,374
<u>Grand Total</u>	<u>\$17,288,040</u>	<u>\$17,288,040</u>	<u>\$18,221,621</u>



Entry Age Normal Accrued Liability

Table I-G

	Old Assumptions w/o Amendment	Old Assumptions w/ Amendment	New Assumptions w/ Amendment
<u>Actively Employed Participants</u>			
Retirement benefits	\$11,337,824	\$11,337,824	\$11,878,066
Termination benefits	\$273,789	\$273,789	\$288,925
Disability benefits	\$751,425	\$751,425	\$781,391
Death benefits	\$33,099	\$33,099	\$35,247
Refund of employee contributions	\$7,501	\$7,501	\$7,501
Sub-total	\$12,403,638	\$12,403,638	\$12,991,130
<u>Deferred Vested Participants</u>			
Retirement benefits	\$290,609	\$290,609	\$308,622
Termination benefits	\$0	\$0	\$0
Disability benefits	\$0	\$0	\$0
Death benefits	\$0	\$0	\$0
Refund of employee contributions	\$0	\$0	\$0
Sub-total	\$290,609	\$290,609	\$308,622
<u>Due a Refund of Contributions</u>	\$12,239	\$12,239	\$12,239
<u>Deferred Beneficiaries</u>	\$0	\$0	\$0
<u>Retired Participants</u>			
Service retirements	\$4,506,425	\$4,506,425	\$4,787,175
Disability retirements	\$2,132,634	\$2,132,634	\$2,278,489
Beneficiaries receiving	\$101,576	\$101,576	\$111,326
DROP participants	\$575,101	\$575,101	\$603,384
Sub-total	\$7,315,736	\$7,315,736	\$7,780,374
<u>Grand Total</u>	<u>\$20,022,222</u>	<u>\$20,022,222</u>	<u>\$21,092,365</u>
less Actuarial Value of Assets	(\$16,318,310)	(\$16,318,310)	(\$16,318,310)
<u>Unfunded Accrued Liability</u>	<u>\$3,703,912</u>	<u>\$3,703,912</u>	<u>\$4,774,055</u>



Entry Age Normal Cost

Table I-H

	Old Assumptions <u>w/o Amendment</u>	Old Assumptions <u>w/ Amendment</u>	New Assumptions <u>w/ Amendment</u>
<u>Actively Employed Participants</u>			
Retirement benefits	\$527,513	\$527,513	\$553,659
Termination benefits	\$23,242	\$23,242	\$24,626
Disability benefits	\$58,917	\$58,917	\$61,212
Death benefits	\$1,658	\$1,658	\$1,728
Refund of employee contributions	\$2,564	\$2,564	\$2,578
Sub-total	\$613,894	\$613,894	\$643,803
<u>Deferred Vested Participants</u>			
Retirement benefits	\$0	\$0	\$0
Termination benefits	\$0	\$0	\$0
Disability benefits	\$0	\$0	\$0
Death benefits	\$0	\$0	\$0
Refund of employee contributions	\$0	\$0	\$0
Sub-total	\$0	\$0	\$0
<u>Due a Refund of Contributions</u>	\$0	\$0	\$0
<u>Deferred Beneficiaries</u>	\$0	\$0	\$0
<u>Retired Participants</u>			
Service retirements	\$0	\$0	\$0
Disability retirements	\$0	\$0	\$0
Beneficiaries receiving	\$0	\$0	\$0
DROP participants	\$0	\$0	\$0
Sub-total	\$0	\$0	\$0
<u>Grand Total</u>	<u>\$613,894</u>	<u>\$613,894</u>	<u>\$643,803</u>



Unfunded Liability Bases

Table I-I

<u>Description</u>	<u>Original Amount</u>	<u>Outstanding Balance</u>	<u>Amortization Payment</u>	<u>Years Rem.</u>
	Total	\$4,774,055	\$424,291	
		↓	↓	
Initial Unfunded Liability	\$2,458,670	\$2,265,839	\$217,160	18
11/2004 Amendment	\$402,499	\$408,265	\$38,134	19
2004/05 Experience Loss	\$224,223	\$227,440	\$21,244	19
10/1/2005 Assumption Change	(\$497,315)	(\$504,441)	(\$47,118)	19
2005/06 Experience Gain	(\$200,230)	(\$202,118)	(\$18,443)	20
2006/07 Experience Gain	(\$208,490)	(\$218,495)	(\$19,518)	21
2007/08 Experience Loss	\$393,490	\$407,019	\$35,661	22
2008/09 Experience Loss	\$335,935	\$302,529	\$26,041	23
10/1/2009 Assumption Change	\$806,677	\$726,461	\$62,533	23
2009/10 Experience Loss	\$310,935	\$294,641	\$24,955	24
2010/11 Experience Loss	\$54,064	\$51,276	\$4,279	25
7/1/2011 Amendment	\$385,205	\$365,335	\$30,488	25
2011/12 Experience Gain	(\$128,845)	(\$121,080)	(\$9,968)	26
2012/13 Experience Gain	(\$534,105)	(\$508,082)	(\$41,309)	27
2013/14 Experience Gain	\$470,403	(\$456,865)	(\$36,721)	28
2014/15 Experience Gain	(\$244,295)	(\$241,188)	(\$19,182)	29
10/1/2015 Assumption Change	\$391,339	\$386,362	\$30,729	29
2015/16 Experience Loss	\$521,014	\$521,014	\$41,037	30
10/1/2016 Assumption Change	\$1,070,143	\$1,070,143	\$84,289	30



Actuarial Value of Assets

Table II-A

Market Value Rate of Return

For the 2012/13 plan year	11.88%
For the 2013/14 plan year	8.57%
For the 2014/15 plan year	-0.04%
For the 2015/16 plan year	6.21%

Average return for the preceding four years

6.56%

Actuarial Value of Assets as of October 1, 2015	\$15,163,385
Plus contributions for the 2015/16 plan year	\$922,170
Minus benefit payments and administrative expenses for the 2015/16 plan year	(\$712,240)
Minus DROP account credits	(\$55,431)
Minus advance employer contribution	\$0
Minus excess Chapter 175/185 contribution	\$0

Adjustment for interest at the average rate shown above,
but restricted to an amount that keeps the actuarial value
of assets within an 80%-120% corridor of the market value

\$1,000,426

Actuarial Value of Assets as of October 1, 2016**\$16,318,310**Historical Actuarial Value of Assets

October 1, 2007	\$8,060,797
October 1, 2008	\$8,687,759
October 1, 2009	\$9,018,455
October 1, 2010	\$9,659,594
October 1, 2011	\$10,103,821
October 1, 2012	\$10,993,450
October 1, 2013	\$12,361,582
October 1, 2014	\$13,724,189
October 1, 2015	\$15,163,385
October 1, 2016	\$16,318,310

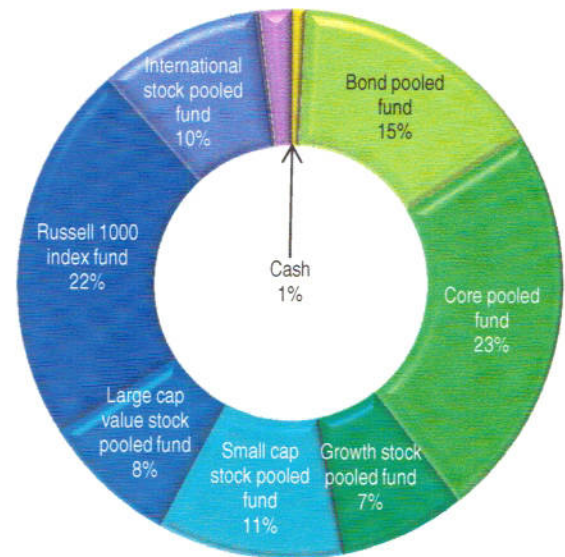


Market Value of Assets

Table II-B

As of October 1, 2016

Market Value of Assets	<u>\$14,703,110</u>
Cash	\$119,642
Bond pooled fund	\$2,333,027
Core pooled fund	\$3,559,361
Growth stock pooled fund	\$1,136,603
Small cap stock pooled fund	\$1,689,949
Large cap value stock pooled fund	\$1,226,334
Russell 1000 index fund	\$3,424,763
International stock pooled fund	\$1,465,619
Employer contribution receivable	\$36,304
Share plan assets	(\$288,492)

**Historical Market Value of Assets**

October 1, 2007	\$8,369,047
October 1, 2008	\$7,733,161
October 1, 2009	\$8,291,005
October 1, 2010	\$8,928,751
October 1, 2011	\$9,107,800
October 1, 2012	\$11,154,771
October 1, 2013	\$12,666,934
October 1, 2014	\$13,423,754
October 1, 2015	\$13,640,167
October 1, 2016	\$14,703,110



Investment Return

Table II-C

*Annual Investment Returns*

■ Market Value Return
 ■ Actuarial Value Return
 ■ Assumed Return

Plan Year	Market Value Return	Actuarial Value Return	Assumed Return
2006/07	11.91%	8.53%	8.00%
2007/08	-12.64%	3.90%	8.00%
2008/09	2.32%	1.80%	8.00%
2009/10	8.99%	2.17%	7.75%
2010/11	0.92%	-0.44%	7.75%
2011/12	16.89%	7.08%	7.75%
2012/13	11.88%	9.50%	7.75%
2013/14	8.57%	9.41%	7.75%
2014/15	-0.04%	9.15%	7.75%
2015/16	6.21%	6.56%	7.50%
10yr. Avg.	5.19%	5.71%	7.80%



Asset Reconciliation

Table II-D

	<u>Market Value</u>	<u>Actuarial Value</u>
As of October 1, 2015	\$13,640,167	\$15,163,385
<i>Increases Due To:</i>		
Employer Contributions	\$486,422	\$486,422
Chapter 175/185 Contributions	\$246,530	\$246,530
Employee Contributions	\$184,625	\$184,625
Service Purchase Contributions	\$4,593	\$2,860
Total Contributions	<u>\$922,170</u>	<u>\$920,437</u>
Interest and Dividends	\$0	
Realized Gains (Losses)	\$0	
Unrealized Gains (Losses)	<u>\$1,141,505</u>	
Total Investment Income	<u>\$1,141,505</u>	\$713,667
Other Income	(\$288,492)	
Total Income	<u>\$1,775,183</u>	<u>\$1,634,104</u>
<i>Decreases Due To:</i>		
Monthly Benefit Payments	(\$671,112)	(\$671,112)
Refund of Employee Contributions	(\$4,247)	(\$4,247)
DROP Benefit Payments / Credits		(\$55,431)
Total Benefit Payments	<u>(\$675,359)</u>	<u>(\$730,790)</u>
Investment Expenses	\$0	
Administrative Expenses	(\$36,881)	(\$36,881)
Advance Employer Contribution		\$0
Excess Chapter 175/185 Contribution		\$288,492
Total Expenses	<u>(\$712,240)</u>	<u>(\$479,179)</u>
As of October 1, 2016	<u><u>\$14,703,110</u></u>	<u><u>\$16,318,310</u></u>



Historical Trust Fund Detail

Table II-E

Income

Plan	Employer	Chapter	Employee	Service	Interest /	Realized	Unrealized	Other
<u>Year</u>	<u>Contribs.</u>	<u>Contribs.</u>	<u>Contribs.</u>	<u>Contribs.</u>	<u>Dividends</u>	<u>Gains /</u> <u>Losses</u>	<u>Gains /</u> <u>Losses</u>	<u>Income</u>
2006/07	\$257,374	\$184,831	\$162,931	\$7,640	\$0	\$0	\$872,847	\$0
2007/08	\$302,622	\$226,228	\$169,488	\$68,455	\$0	\$0	-\$1,086,611	\$0
2008/09	\$282,091	\$209,311	\$175,934	\$4,593	\$0	\$0	\$183,618	\$103
2009/10	\$424,435	\$166,029	\$167,321	\$4,593	\$0	\$0	\$740,771	\$0
2010/11	\$654,482	\$163,393	\$160,499	\$4,593	\$0	\$0	\$82,578	\$353
2011/12	\$707,925	\$173,205	\$157,080	\$4,593	\$0	\$0	\$1,577,562	\$0
2012/13	\$560,152	\$219,955	\$156,539	\$4,593	\$0	\$0	\$1,335,905	\$0
2013/14	\$312,623	\$226,179	\$165,766	\$4,593	\$0	\$0	\$1,071,547	\$0
2014/15	\$511,600	\$243,714	\$169,730	\$4,593	\$0	\$0	-\$5,385	\$0
2015/16	\$486,422	\$246,530	\$184,625	\$4,593	\$0	\$0	\$1,141,505	-\$288,492

Expenses

Plan	Monthly				<u>Other Actuarial Adjustments</u>		
<u>Year</u>	<u>Benefit</u> <u>Payments</u>	<u>Contrib.</u> <u>Refunds</u>	<u>Admin.</u> <u>Expenses</u>	<u>Invest.</u> <u>Expenses</u>	<u>DROP</u> <u>Credits</u>	<u>Advance</u> <u>Employer</u> <u>Contribs.</u>	<u>Excess</u> <u>Chapter</u> <u>Contribs.</u>
2006/07	\$249,159	\$3,422	\$23,826	\$0	\$164,667	\$0	\$14,057
2007/08	\$249,159	\$36,172	\$30,737	\$0	\$88,501	\$0	\$55,454
2008/09	\$259,030	\$13,514	\$25,262	\$0	\$162,753	\$0	\$38,537
2009/10	\$429,220	\$29,993	\$31,483	\$0	-\$175,597	\$6,304	\$0
2010/11	\$492,323	\$1,875	\$29,946	\$0	-\$194,612	\$165,647	\$0
2011/12	\$540,329	\$0	\$33,065	\$0	\$127,131	\$171,252	\$2,431
2012/13	\$572,045	\$15,203	\$33,749	\$0	-\$48,144	\$9,673	\$49,181
2013/14	\$952,875	\$34,912	\$36,101	\$0	-\$271,135	-\$289,696	\$55,405
2014/15	\$670,595	\$0	\$37,244	\$0	\$36,221	-\$63,180	\$72,940
2015/16	\$671,112	\$4,247	\$36,881	\$0	\$55,431	\$0	-\$288,492

Note: Information was not available to separate the investment expenses from the investment income nor was information available to separate the investment income by source.



Other Reconciliations

Table II-F

DROP Account Reconciliation

DROP Balance as of October 1, 2015	\$36,221
DROP Benefit Credits	\$50,290
DROP Investment Credits	\$5,141
DROP Benefits Paid Out	\$0
Net DROP Credit	\$55,431
DROP Balance as of October 1, 2016	<u>\$91,652</u>

Advance Employer Contribution

Advance Employer Contribution as of October 1, 2015	\$0
Additional Employer Contribution	\$732,952
Minimum Required Contribution	(\$732,952)
Net Increase in Advance Employer Contribution	\$0
Advance Employer Contribution as of October 1, 2016	<u>\$0</u>

Excess Chapter 175/185 Contribution

Excess Chapter 175/185 Contribution as of October 1, 2015	\$288,492
Additional Chapter 175/185 Contribution	\$246,530
Allowable Chapter 175/185 Contribution	(\$246,530)
Transfer to Share Plan	(\$288,492)
Net Increase in Excess Chapter 175/185 Contribution	(\$288,492)
Excess Chapter 175/185 Contribution as of October 1, 2016	<u>\$0</u>



Historical Chapter 175/185 Contributions

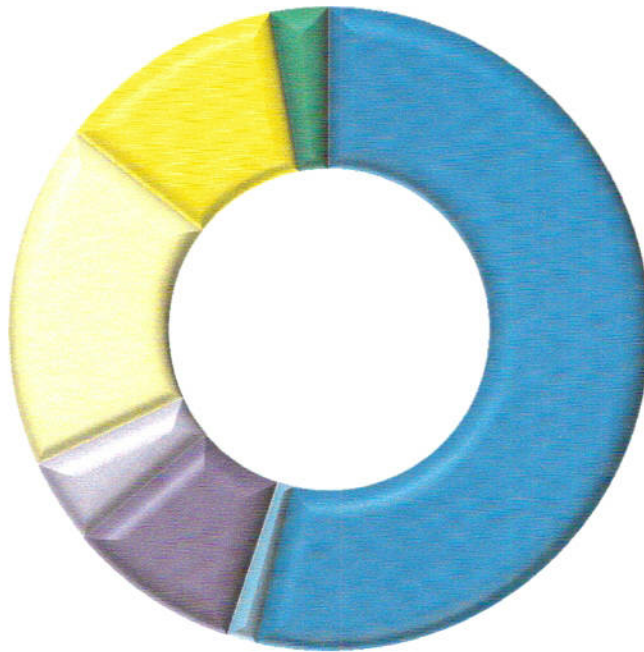
Table II-G

	<i>Total Accumulated Excess Chapter 175/185 Contribution</i>				\$0
	<u>Chapter 175 Regular Distribution</u>	<u>Chapter 175 Supplemental Distribution</u>	<u>Chapter 185 Distribution</u>	<u>Allowable Amount</u>	
1998 Distribution	\$28,094	\$0	\$60,060	(\$97,181)	
1999 Distribution	\$33,941	\$15,339	\$56,457	(\$93,578)	
2000 Distribution	\$31,740	\$19,366	\$58,257	(\$95,378)	
2001 Distribution	\$37,929	\$16,678	\$67,811	(\$98,013)	
2002 Distribution	\$41,006	\$21,026	\$71,249	(\$98,013)	
2003 Distribution	\$43,820	\$22,849	\$82,900	(\$98,013)	
2004 Distribution	\$49,580	\$26,317	\$84,223	(\$104,387)	
2005 Distribution	\$57,269	\$28,635	\$85,357	(\$354,853)	
2006 Distribution	\$67,822	\$31,885	\$85,124	(\$170,774)	
2007 Distribution	\$83,675	\$57,762	\$84,791	(\$170,774)	
2008 Distribution	\$68,416	\$65,678	\$75,217	(\$170,774)	
2009 Distribution	\$68,791	\$21,629	\$75,609	(\$166,029)	
2010 Distribution	\$63,479	\$22,142	\$77,772	(\$163,393)	
2011 Distribution	\$65,192	\$27,640	\$80,373	(\$170,774)	
2012 Distribution	\$101,389	\$35,399	\$83,167	(\$170,774)	
2013 Distribution	\$114,037	\$22,671	\$89,471	(\$170,774)	
2014 Distribution	\$113,359	\$35,056	\$95,299	(\$170,774)	
2015 Distribution	\$123,692	\$24,066	\$98,772	(\$246,530)	
Transfer to Share Plan				(\$288,492)	



Summary of Participant Data

Table III-A

As of October 1, 2016Actively Employed Participants

Active Participants	37
DROP Participants	1

Inactive Participants

Deferred Vested Participants	6
Due a Refund of Contributions	3
Deferred Beneficiaries	0

Participants Receiving a Benefit

Service Retirements	12
Disability Retirements	8
Beneficiaries Receiving	2

Total Participants 69Number of Participants Included in Prior Valuations

	<i>Active</i>	<i>DROP</i>	<i>Inactive</i>	<i>Retired</i>	<i>Total</i>
October 1, 2007	35	2	7	12	56
October 1, 2008	37	2	4	12	55
October 1, 2009	36	3	5	17	61
October 1, 2010	36	3	5	17	61
October 1, 2011	37	2	4	17	60
October 1, 2012	36	2	3	19	60
October 1, 2013	34	1	6	20	61
October 1, 2014	34	0	7	21	62
October 1, 2015	36	1	8	22	67
October 1, 2016	37	1	9	22	69



Data Reconciliation

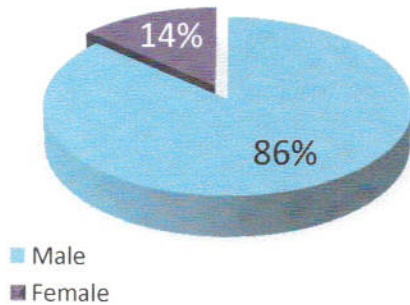
Table III-B

	<u>Active</u>	<u>DROP</u>	<u>Deferred Vested</u>	<u>Due a Refund</u>	<u>Def. Benef.</u>	<u>Service Retiree</u>	<u>Disabled Retiree</u>	<u>Benef. Rec'v.</u>	<u>Total</u>
<u>October 1, 2015</u>	36	1	6	2	0	12	8	2	67
<u>Change in Status</u>									
Re-employed									
Terminated	(2)			2					
Retired									
<u>Participation Ended</u>									
Transferred Out									
Cashed Out				(1)					(1)
Died									
<u>Participation Began</u>									
Newly Hired	3								3
Transferred In									
New Beneficiary									
<u>Other Adjustment</u>									
<u>October 1, 2016</u>	37	1	6	3	0	12	8	2	69



Active Participant Data

Table III-C

Gender Mix**As of October 1, 2016**

Average Age	41.1 years
Average Service	11.6 years
Total Annualized Compensation for the Prior Year	\$2,330,070
Total Expected Compensation for the Current Year	\$2,366,291
Average Increase in Compensation for the Prior Year	7.66%
Expected Increase in Compensation for the Current Year	4.75%
Accumulated Contributions for Active Employees	\$2,882,562

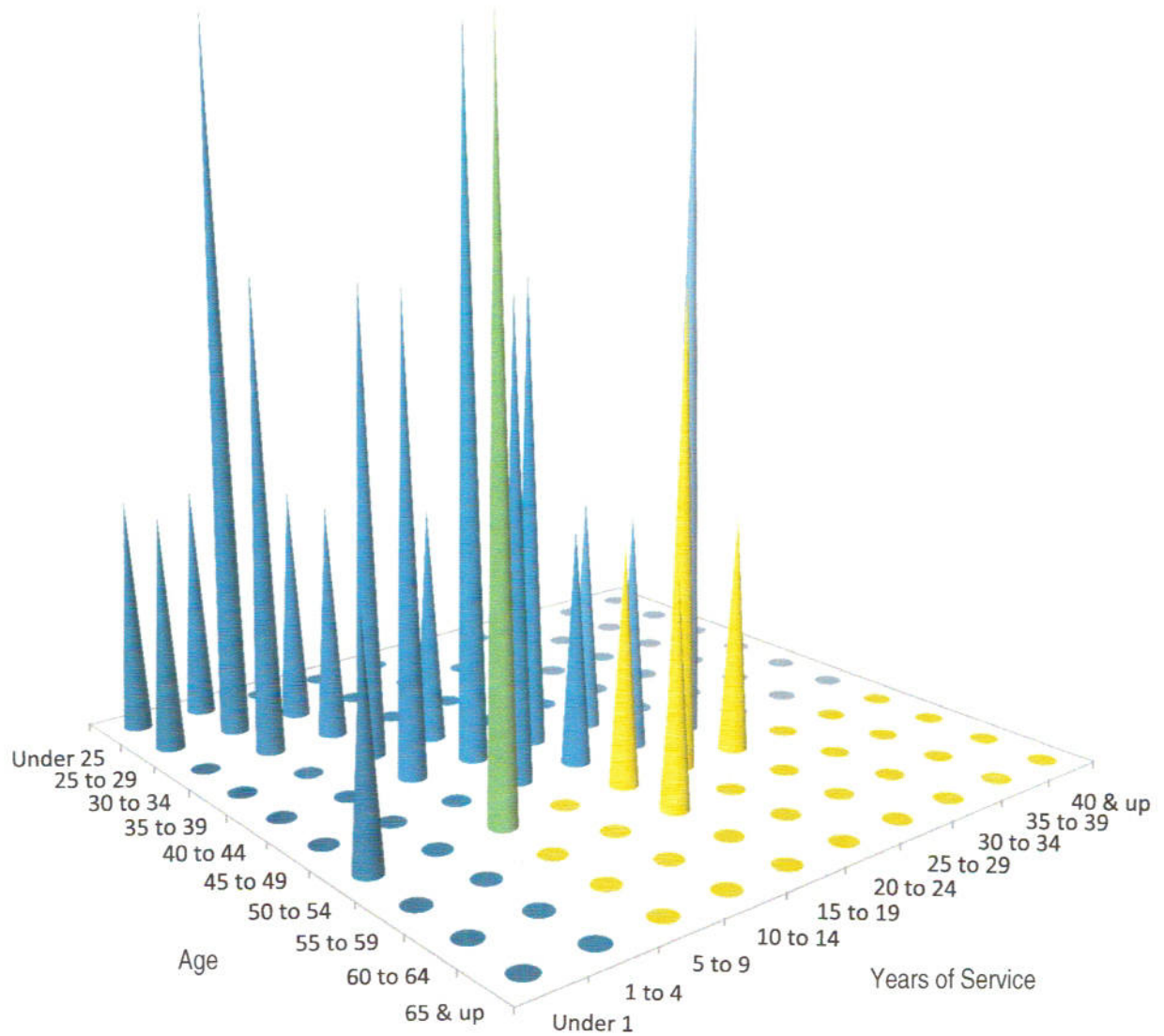
Actual vs. Expected Salary Increases**Active Participant Statistics From Prior Valuations**

	Average Age	Average Service	Average Salary	Average Expected Salary Increase	Average Actual Salary Increase
October 1, 2007	38.3	8.9	\$54,686	5.00%	4.77%
October 1, 2008	39.9	9.5	\$57,159	5.00%	7.42%
October 1, 2009	40.6	9.3	\$55,114	5.00%	2.72%
October 1, 2010	37.9	7.8	\$55,906	4.75%	5.32%
October 1, 2011	39.2	8.7	\$54,458	4.75%	-2.72%
October 1, 2012	39.6	9.8	\$54,107	4.75%	-1.15%
October 1, 2013	41.0	10.8	\$57,116	4.75%	3.97%
October 1, 2014	41.2	11.5	\$58,428	4.75%	1.97%
October 1, 2015	40.1	11.0	\$57,527	4.75%	3.98%
October 1, 2016	41.1	11.6	\$62,975	4.75%	7.66%



Active Age-Service Distribution

Table III-D



- ▲ Eligible to retire
- ▲ May be eligible to retire
- ▲ Not eligible to retire



Active Age-Service-Salary Table

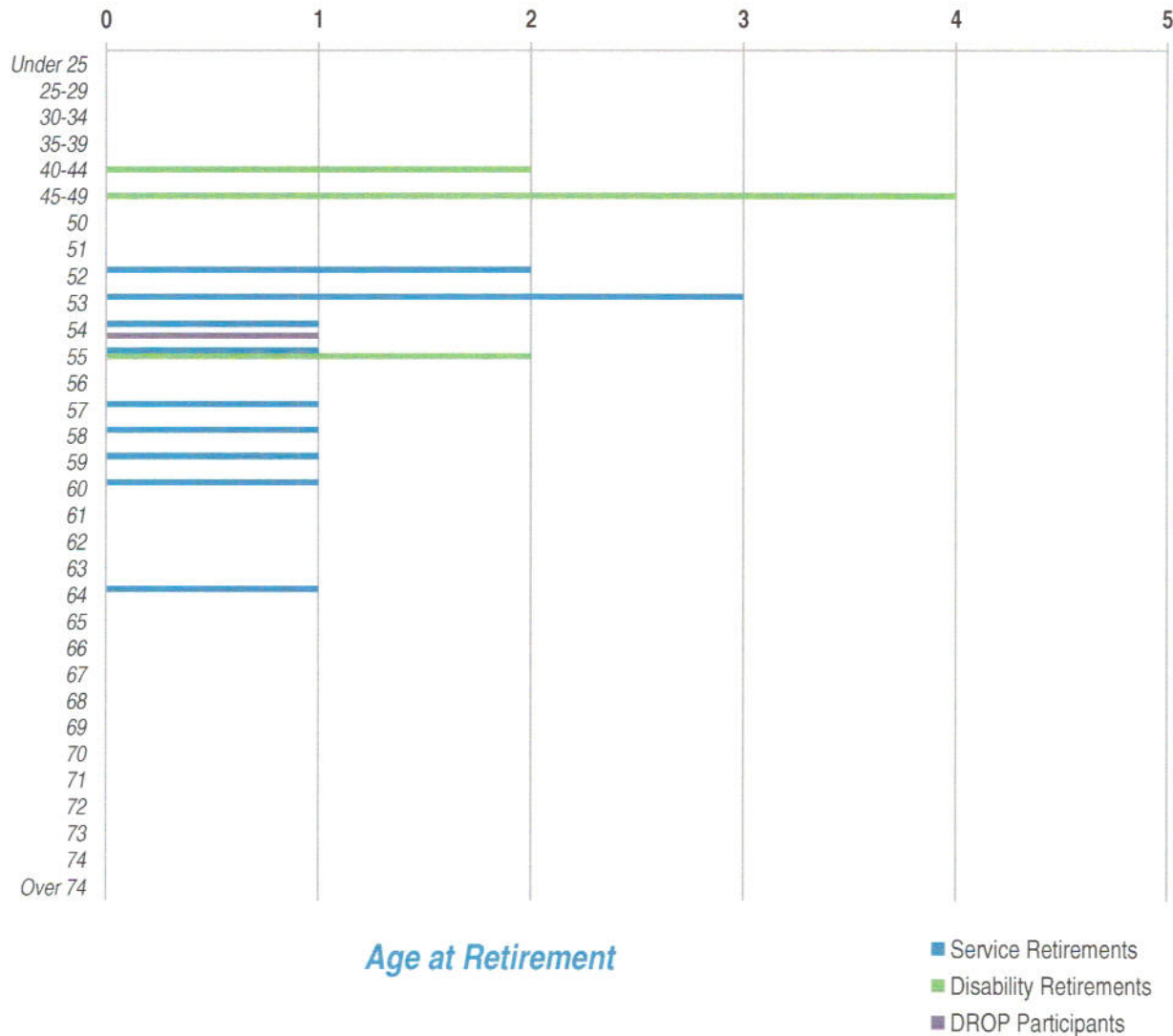
Table III-E

Attained Age	Completed Years of Service										Total
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up	
Under 25	1	1	0	0	0	0	0	0	0	0	2
Avg.Pay	41,812	45,687	0	0	0	0	0	0	0	0	43,750
25 to 29	1	3	1	0	0	0	0	0	0	0	5
Avg.Pay	41,783	43,337	44,505	0	0	0	0	0	0	0	43,260
30 to 34	0	2	1	0	0	0	0	0	0	0	3
Avg.Pay	0	48,891	46,339	0	0	0	0	0	0	0	48,040
35 to 39	0	0	2	1	0	0	0	0	0	0	3
Avg.Pay	0	0	55,893	69,608	0	0	0	0	0	0	60,464
40 to 44	0	0	2	3	2	1	0	0	0	0	8
Avg.Pay	0	0	43,962	54,268	86,629	74,309	0	0	0	0	62,287
45 to 49	0	0	0	2	1	1	3	0	0	0	7
Avg.Pay	0	0	0	64,090	68,721	78,175	98,229	0	0	0	81,395
50 to 54	1	0	3	0	1	2	1	0	0	0	8
Avg.Pay	53,800	0	48,809	0	75,990	91,379	95,860	0	0	0	69,354
55 to 59	0	0	0	0	1	0	0	0	0	0	1
Avg.Pay	0	0	0	0	77,870	0	0	0	0	0	77,870
60 to 64	0	0	0	0	0	0	0	0	0	0	0
Avg.Pay	0	0	0	0	0	0	0	0	0	0	0
65 & up	0	0	0	0	0	0	0	0	0	0	0
Avg.Pay	0	0	0	0	0	0	0	0	0	0	0
Total	3	6	9	6	5	4	4	0	0	0	37
Avg.Pay	45,798	45,580	48,553	60,098	79,168	83,811	97,637	0	0	0	62,975



Inactive Participant Data

Table III-F

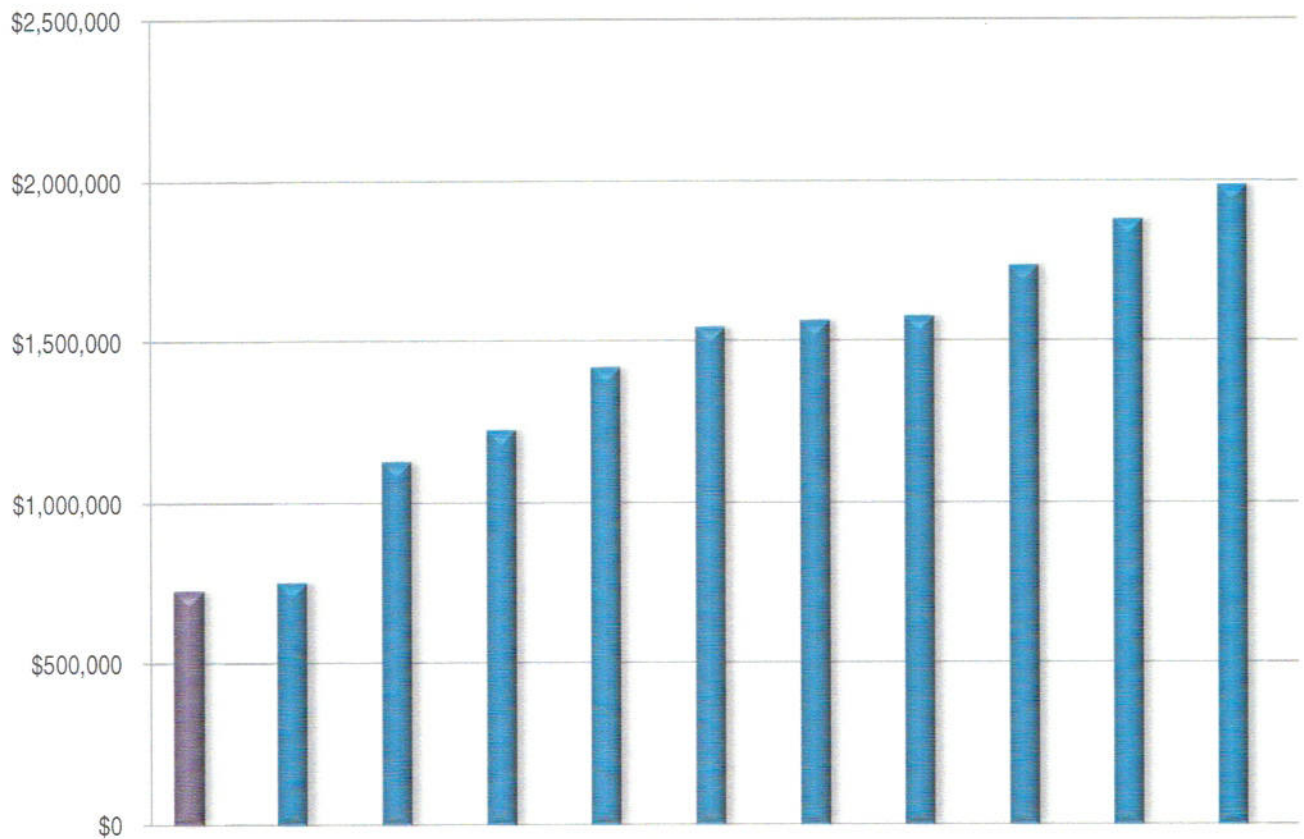
Average Monthly Benefit

Service Retirements	\$3,053.76
Disability Retirements	\$2,228.13
Beneficiaries Receiving	\$735.29
DROP Participants	\$4,190.80
Deferred Vested Participants	\$791.49
Deferred Beneficiaries	Not applicable



Projected Benefit Payments

Table III-G

Actual

For the period October 1, 2015 through September 30, 2016

\$725,649

Projected

For the period October 1, 2016 through September 30, 2017

\$753,600

For the period October 1, 2017 through September 30, 2018

\$1,130,329

For the period October 1, 2018 through September 30, 2019

\$1,227,610

For the period October 1, 2019 through September 30, 2020

\$1,420,455

For the period October 1, 2020 through September 30, 2021

\$1,544,019

For the period October 1, 2021 through September 30, 2022

\$1,564,441

For the period October 1, 2022 through September 30, 2023

\$1,578,347

For the period October 1, 2023 through September 30, 2024

\$1,738,169

For the period October 1, 2024 through September 30, 2025

\$1,882,476

For the period October 1, 2025 through September 30, 2026

\$1,987,557



Summary of Actuarial Methods and Assumptions

Table IV-A

NOTE: The following assumptions and methods have been selected and approved by the Board of Trustees based in part on the advice of the plan's enrolled actuary in accordance with the authority granted to the Board under the pension ordinances and State law.

1. Actuarial Cost Method

Individual entry age normal cost method. Under this actuarial cost method, a level funding cost is developed with respect to each benefit for each participant. The level funding cost for each benefit applies to the period beginning when the participant's service commences and ends when the participant is assumed to cease active participation due to each respective decrement. The actuarial accrued liability is equal to the accumulated level funding cost to the valuation date for all participants. The normal cost is equal to the level funding cost for the year immediately following the valuation date for all active participants.

2. Amortization Method

The unfunded actuarial accrued liability is amortized as a level dollar amount over a period of up to 30 years.

3. Asset Method

The actuarial value of assets is equal to the prior year's actuarial value of assets adjusted for contributions, benefit payments, and expenses and further adjusted by the average return on the market value of assets for the preceding four years; the actuarial value of assets is restricted to 80% to 120% of the market value.

4. Interest (or Discount) Rate

7.50% per annum

5. Salary Increases

Plan compensation is assumed to increase at the rate of 4.75% per annum, unless actual plan compensation is known for a prior plan year. In addition, average monthly earnings have been adjusted for each active participant to reflect the anticipated payment of the number of hours of accrued sick leave and annual leave that were accumulated as of June 30, 2011.

6. Decrements

- Pre-retirement mortality: Sex-distinct rates set forth in the RP-2000 Combined Mortality Table, with full generational improvements in mortality using Scale BB



Summary of Actuarial Methods and Assumptions

Table IV-A

(continued)

- Post-retirement mortality: Sex-distinct rates set forth in the RP-2000 Combined Mortality Table, with full generational improvements in mortality using Scale BB
- Disability: Sex-distinct rates set forth in the Wyatt 1985 Disability Study (Class 4); All disabilities are assumed to be service-related.
- Termination: Sex-distinct rates set forth in the Scale 155 Table
- Retirement: Retirement is assumed to occur upon the attainment of age 52 with at least five years of service, except that those participants who have attained their normal retirement age as of the valuation date are assumed to retire one year after the valuation date. Alternatively, participants who have attained age 50 with at least 10 years of service are assumed to retire at the rate of 2.50% per annum.

7. Form of Payment

Future retirees have been assumed to select the 10-year certain and life annuity.

8. Beneficiary Age and Gender

Where beneficiary information is unavailable, beneficiaries have been assumed to be of the opposite gender of the participant, with males assumed to be three years older than females.

9. Expenses

Administrative expenses are assumed to be 1.25% of future payroll. In addition, the interest rate set forth in item 4. above is assumed to be net of investment expenses and commissions.



Changes in Actuarial Methods and Assumptions

Table IV-B

Since the completion of the previous valuation, the mortality basis was changed from a 2007 projection of the RP-2000 Mortality Table for annuitants to a full generational projection using Scale BB of the RP-2000 Combined Mortality Table as required by State law.



Summary of Plan Provisions

Table V-A

1. Benefit Formula

3% of Average Monthly Earnings multiplied by Credited Service (§46-58(b)(1))

2. Service Retirement

Normal retirement: Age 52 with at least five years of participation (§46-58(a)(1))

Early retirement: Age 50 with at least 10 years of credited service (§46-58(a)(2))

(Note: In the case of early retirement, the participant's benefit is reduced by 3% for each year by which the participant's early retirement age precedes his normal retirement age.) (§46-58(b)(2))

3. Disability Retirement

Service-based disability: Participant must be disabled during the course of his employment with the City. (§46-58(c)(1))

Non-service disability: Participant must have earned at least 10 years of credited service. (§46-58(c)(1))

The disability benefit is a monthly 10-year certain and life annuity equal to the larger of the monthly accrued benefit or either 42% of average monthly earnings (for service-based disability) or 25% of average monthly earnings (for non-service disability), but offset as necessary to preclude the total of the participant's worker's compensation, disability benefit, and other City-financed disability or salary continuation benefit (excluding social security benefits) from exceeding his average monthly earnings. A partial month's payment is made to cover the period between the date of the Board's approval and the end of the month. (§46-58(c)(4),(5),&(6))

(A participant is disabled if he is found to be mentally or physically incapacitated so as to be wholly unable to properly perform his duties as a police officer or firefighter and is likely to remain so disabled continuously and permanently. However, a participant will not be eligible for a disability benefit if his disability is caused by excessive and habitual use of drugs, intoxicants, or narcotics; by injury or disease sustained while serving in the armed forces; by injury or disease sustained while willfully and illegally participating in fights, riots, or civil insurrections, or while committing a crime; by injury or disease sustained after termination of employment; or by a self-inflicted injury.) (§§46-58(c)(1)&(2))



Summary of Plan Provisions

Table V-A

(continued)

4. Deferred Vested Retirement

A vested participant who terminates employment before becoming eligible for retirement receives a deferred vested retirement benefit payable at the participant's early or normal retirement age. If the benefit is payable prior to normal retirement age, then the benefit is actuarially reduced to account for the earlier commencement of the benefit. (§46-58(e)(1))

A non-vested participant who terminates employment receives his accumulated contributions. (§46-58(e)(2))

5. Vesting

A participant becomes 100% vested upon the attainment of five years of credited service. For this purpose, service includes service earned under the City of Satellite Beach General Employees' Retirement System. (§46-58(e)(1))

6. Pre-Retirement Death Benefit

If a vested participant dies prior to retirement, the participant's beneficiary receives a 10-year certain annuity equal to the participant's monthly accrued benefit payable beginning at the participant's early or normal retirement age. At the beneficiary's election and upon approval by the Board of Trustees, an actuarially equivalent benefit is payable at any time following the participant's death. In any event, the pre-retirement death benefit guarantees at least the return of the participant's accumulated contributions. (§46-58(d))

If a non-vested participant dies prior to retirement, the participant's beneficiary receives the participant's accumulated contributions. (§46-58(d)(1))

7. Form of Payment

Actuarially increased single life annuity (*optional*);

10-year certain and life annuity (*normal form of payment*);

Actuarially reduced 50% joint and contingent annuity with a relative as the joint annuitant (*optional*);

Actuarially reduced 66⅔% joint and contingent annuity with a relative as the joint annuitant (*optional*);

Actuarially reduced 75% joint and contingent annuity with a relative as the joint annuitant (*optional*);



Summary of Plan Provisions

Table V-A

(continued)

Actuarially reduced 100% joint and contingent annuity with a relative as the joint annuitant *(optional)*; or

Any other actuarially equivalent form of payment approved by the Board of Trustees *(optional)*

(Note: All forms of payment guarantee at least the return of the participant's accumulated contributions.)

(§46-58(b)(1), §46-59, & §46-60(a)(2))

8. Average Monthly Earnings

Average monthly earnings during the highest consecutive three years out of the 10 years immediately preceding the determination. Earnings include base pay, commissions, bonuses, maintenance pay, overtime pay, payments for accrued sick leave, and vacation pay, although payment for accrued sick and annual leave are limited to the number of hours accumulated as of June 30, 2011 multiplied by the pay rate that is in effect at the time of employment termination. Earnings cannot exceed the maximum amount allowed under IRC section 401(a)(17). (§46-56)

9. Credited Service

The service, expressed in years and completed months, from the participant's date of hire until his date of termination, retirement, or death, excluding periods during which the participant does not make the required employee contribution. Participants may also purchase up to five years of credited service for benefit accrual purposes only for previous full-time employment as a police officer or full-time or volunteer employment as a firefighter with any federal, state, county, or city government, including military service, by paying into the plan the full actuarial cost thereof, provided that no other retirement benefit is paid for such service. Payment for purchased service must be made within a period of time equal to the length of service being purchased. (§46-56 & §46-67)

10. Employee Contribution

Employees must contribute 8.00% of earnings and such contributions are accumulated with interest at the rate of 5.50% per annum. (§46-56 & §46-60(a)(1))

11. City Contribution

The City is required to make quarterly contributions as determined in the most recent actuarial valuation of the retirement system. (§46-60(b))



Summary of Plan Provisions

Table V-A

(continued)

12. Deferred Retirement Option Plan (DROP)

A DROP is available to those participants who have attained their normal retirement age, whereby the participant's monthly retirement benefit is accumulated on his behalf in a DROP account while he continues in active employment with the City. Individuals may participate in the DROP for a period of 12 to 60 months and neither earn additional benefits nor make the required employee contribution during the period of their DROP participation. DROP participants are considered to be retired for all other purposes under the plan and are not eligible for disability or pre-retirement death benefits. DROP accounts earn interest equal to the investment return realized by the market value of assets or the investment return realized by a stable return investment vehicle (as elected by the participant from time to time).
(\$46-66)

13. Participant Requirement

All full-time firefighters and sworn police officers of the City of Satellite Beach, Florida, excluding civilian members of the fire and police departments and temporary and contract employees, are eligible to participate in the plan. (\$46-57(a))

14. Actuarial Equivalence

Based on 8.00% interest per annum and the 1984 Uninsured Pensioner Mortality Table (\$46-56)

15. Retiree Increases

Retirement benefits in payment status on October 1, 1997 were increased by 1.00%. (\$46-58(b)(3))

16. Plan Effective Date

The plan was originally effective on May 22, 1973.



Summary of Plan Amendments

Table V-B

No significant plan changes were adopted since the completion of the previous valuation.

