

RETIREMENT PLAN FOR THE FIREFIGHTERS
OF THE SOUTHERN MANATEE FIRE & RESCUE DISTRICT

ACTUARIAL VALUATION
AS OF OCTOBER 1, 2017

DETERMINES THE CONTRIBUTION
FOR THE 2017/18 FISCAL YEAR



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February 1, 2018

Introduction

This report presents the results of the October 1, 2017 actuarial valuation for the Retirement Plan for the Firefighters of the Southern Manatee Fire & Rescue District. 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, 2017 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 normal cost 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 47.76% of covered payroll, which represents a decrease of 7.07% of payroll from the prior valuation.

The normal cost rate is 46.12%, which is 6.82% less than the normal cost rate that was developed in the prior valuation. Table I-C provides a breakdown of the sources of change in the normal cost rate. Significantly, the rate decreased by 5.70% of payroll due to investment gains and decreased by another 1.12% of payroll due to demographic experience. The market value of assets earned 13.33% during the 2016/17 plan year, whereas a 7.00% 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 District must contribute an amount equal to the annual normal cost of the plan plus an adjustment as necessary to reflect interest on any delayed payment of the contribution beyond the valuation date. On this basis, the District's 2017/18 minimum required contribution will be equal to 47.76% multiplied by the total pensionable earnings for the 2017/18 plan 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.

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 \$51,261,023. As illustrated in Table I-A, current assets are sufficient to cover \$35,412,405 of this amount, the employer's 2017/18 expected contribution will cover \$2,285,865 of this amount, and future employee contributions are expected to cover \$1,117,907 of this amount, leaving \$12,444,846 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.

Advance Employer Contribution

The District has made contributions to the plan in excess of the minimum amount that was required to be contributed pursuant to Chapter 112. In this report, the excess contributions are referred to as an "advance employer contribution." As of October 1, 2017, the advance employer contribution is \$179,406, which reflects the advance employer contribution of \$309,217 as of October 1, 2016 less \$129,811 that was used to cover the gap between the allowable Chapter 175/185 contribution, actual employer contributions, and the minimum funding requirement for the 2016/17 plan year as shown in Table II-F.

The District may apply all or any portion of the advance employer contribution towards the minimum required contribution for the 2017/18 plan year or for any later plan year. The minimum required contribution for that plan year will be reduced dollar-for-dollar by the amount of the advance employer contribution that is applied in this manner.

Alternatively, at any time, the District may apply all or any portion of the advance employer contribution as an *extra* contribution in excess of the minimum required contribution. In this case, the immediate application of the entire balance of the advance employer contribution as of October 1, 2017 would reduce the normal cost rate to 45.56% of payroll and would reduce the minimum required contribution for the 2017/18 plan year to 47.18% of payroll.

Excess Chapter 175/185 Contributions

As of October 1, 2017, the plan has accumulated excess Chapter 175/185 contributions of \$78,562 as shown in Table II-F. This amount is equal to the accumulated excess Chapter 175/185 contribution balance as of October 1, 2016. The total Chapter 175/185 distribution received during the 2016/17 plan year was \$403,971, all of which was allowed to be used to offset the District's minimum required contribution. The Chapter 175/185 contribution consisted



of a \$380,171 regular distribution plus a \$23,800 supplemental distribution. Table II-G provides a history of the Chapter 175/185 contributions and the portion that is allowed to be recognized.

Contents of the Report

Tables I-D through I-G 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. 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, 2017, as well as a summary of the changes that have occurred since the previous valuation report was prepared.

Refund of Participant Contributions

It is our understanding that there are 13 participants who are due a refund of their contributions. We have estimated the accumulated amount of their refunds to be \$1,268 as of October 1, 2017. The average amount owed to these individuals is only \$98. If possible, we recommend that the accumulated contributions be distributed to these individuals in order to simplify the administration of the plan and to reduce future administrative costs.

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.

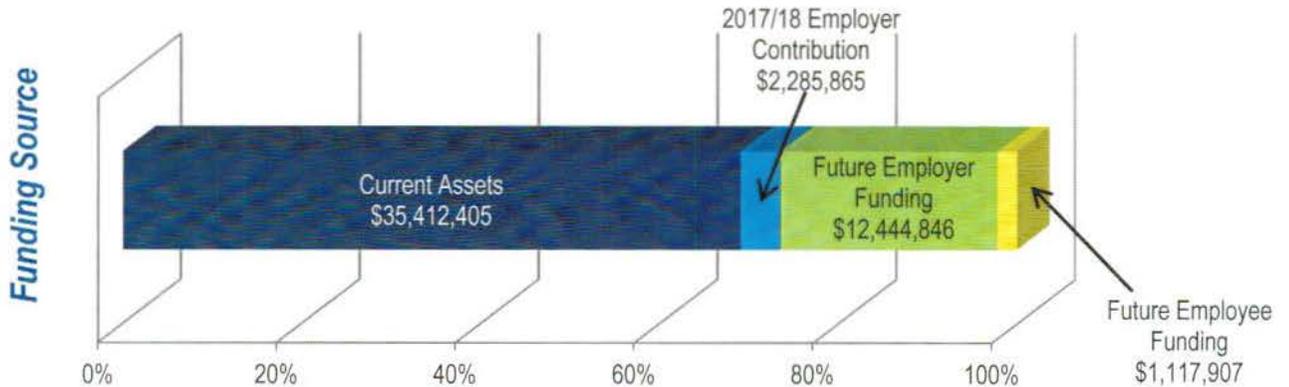
Enrolled Actuary No. 17-04927

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

Present Value of Future Benefits	\$50,753,488
Present Value of Future Administrative Expenses	\$507,535
Actuarial Value of Assets	(\$35,412,405)
Present Value of Future Employee Contributions	(\$1,117,907)
Present Value of Future Normal Costs	\$14,730,711
<hr/>	
Present Value of Future Payroll	÷ \$31,940,114
Normal Cost Rate	= 46.1198%
Expected Payroll	x \$4,785,662
<hr/>	
Normal Cost	\$2,207,137
Adjustment to Reflect Semi-Monthly Employer Contributions	\$78,728
Preliminary Employer Contribution for the 2017/18 Plan Year	\$2,285,865
<hr/>	
Expected Payroll for the 2017/18 Plan Year	÷ \$4,785,662

Minimum Required Contribution Rate **47.76%**

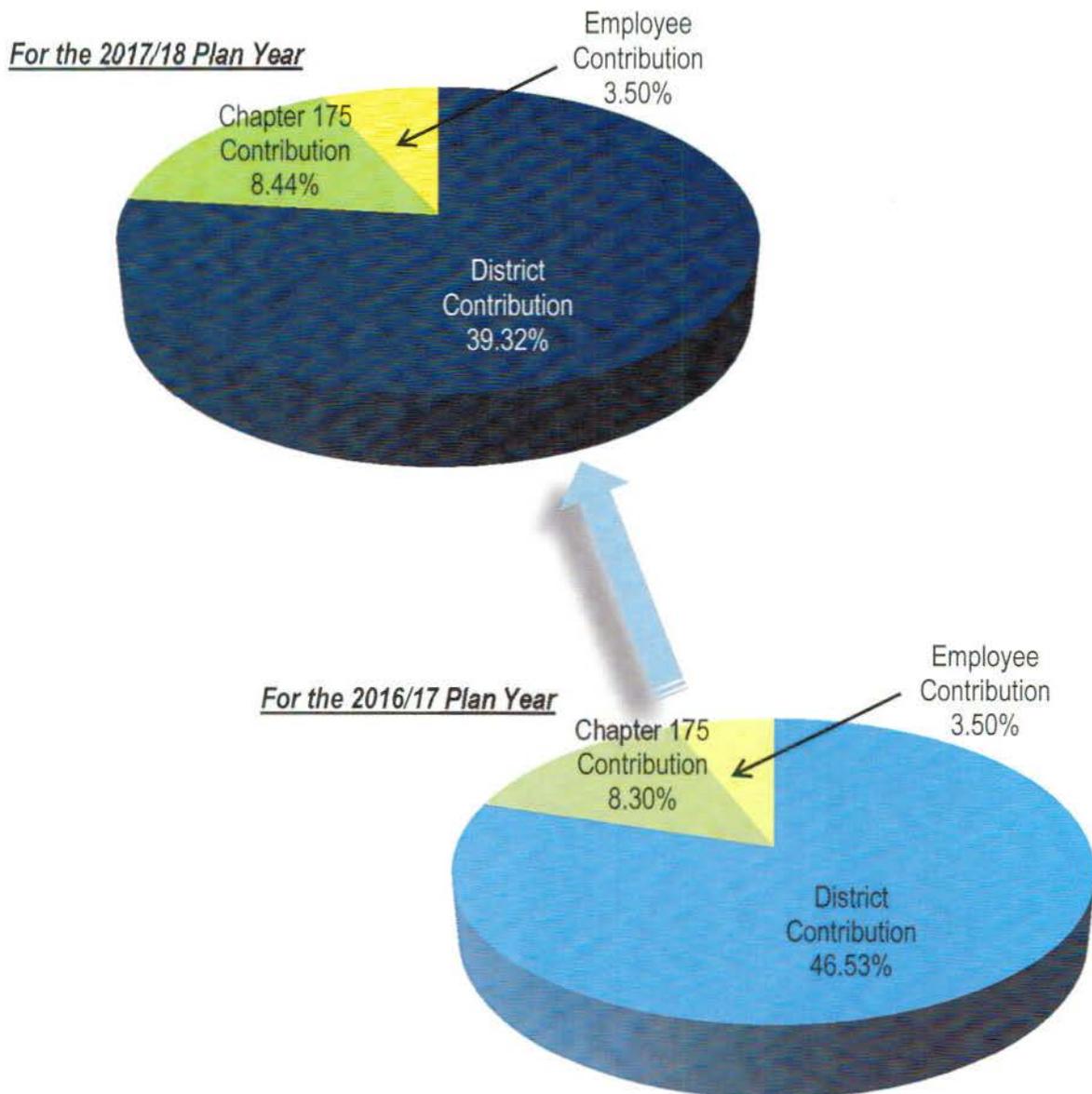
(The actual contribution should be based on the minimum required contribution rate multiplied by the actual payroll for the year.)



Minimum Required Contribution

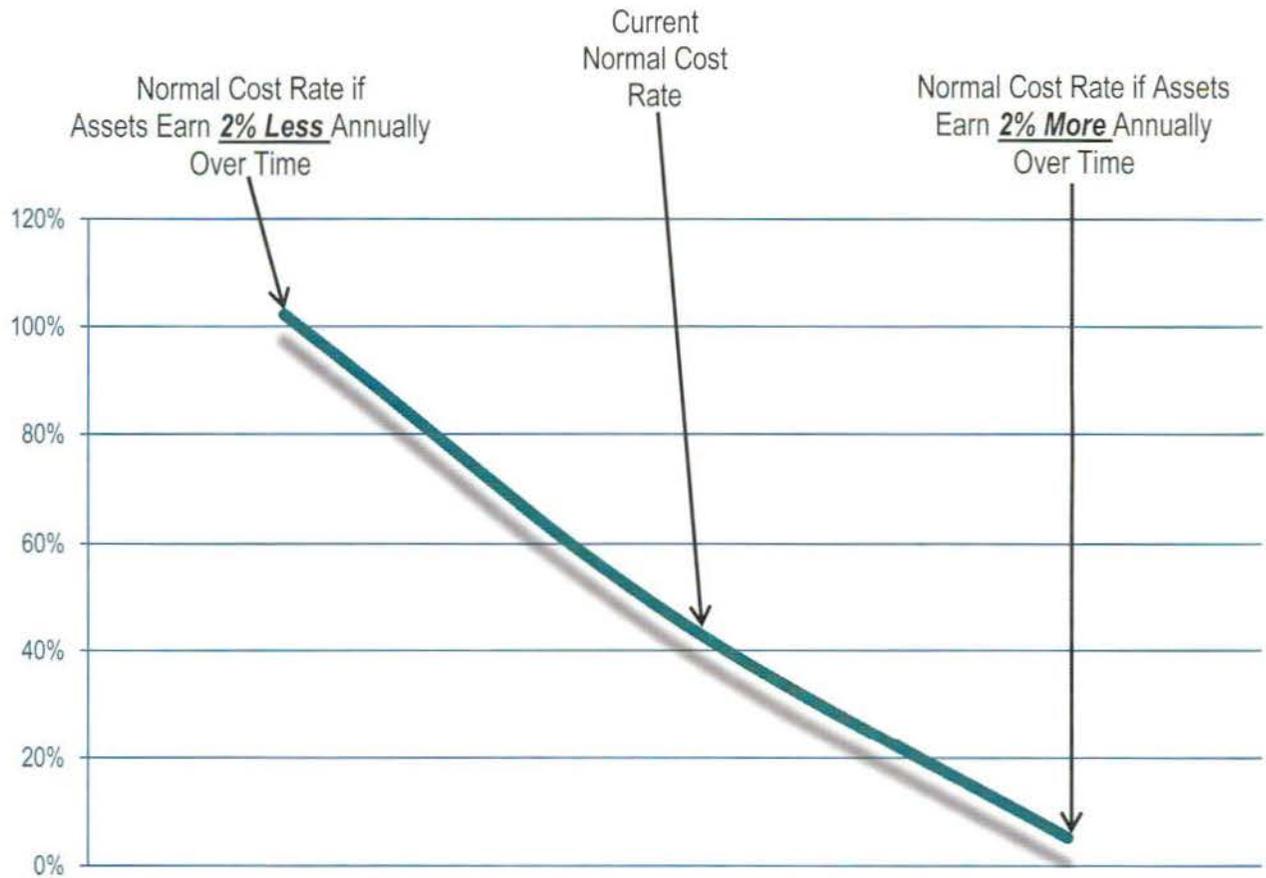
Table I-A
(continued)

The minimum required contribution rate of 47.76% includes both the District contribution and the allowable Chapter 175 contribution. In addition, employees are required to contribute 3.50% of pensionable earnings. The actual District contribution rate is expected to be approximately 39.32% based on the allowable Chapter 175 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.



Sensitivity Analysis

Table I-B



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



Gain and Loss Analysis

Table I-C

Previous normal cost rate	52.94%
Increase (decrease) due to investment gains and losses	-5.70%
Increase (decrease) due to demographic experience	-1.12%
Increase (decrease) due to plan amendments	0.00%
Increase (decrease) due to actuarial assumption changes	0.00%
Increase (decrease) due to actuarial method changes	0.00%
Current normal cost rate	<u>46.12%</u>



Present Value of Future Benefits

Table I-D

	Old Assumptions <u>w/o Amendment</u>	Old Assumptions <u>w/ Amendment</u>	New Assumptions <u>w/ Amendment</u>
<i>Actively Employed Participants</i>			
Retirement benefits	\$33,843,245	\$33,843,245	\$33,843,245
Termination benefits	\$1,672,559	\$1,672,559	\$1,672,559
Disability benefits	\$1,543,840	\$1,543,840	\$1,543,840
Death benefits	\$373,671	\$373,671	\$373,671
Refund of employee contributions	\$14,494	\$14,494	\$14,494
Sub-total	\$37,447,809	\$37,447,809	\$37,447,809
<i>Deferred Vested Participants</i>			
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
<i>Due a Refund of Contributions</i>	\$1,268	\$1,268	\$1,268
<i>Deferred Beneficiaries</i>	\$0	\$0	\$0
<i>Retired Participants</i>			
Service retirements	\$7,233,697	\$7,233,697	\$7,233,697
Disability retirements	\$1,797,435	\$1,797,435	\$1,797,435
Beneficiaries receiving	\$129,637	\$129,637	\$129,637
DROP participants	\$4,143,642	\$4,143,642	\$4,143,642
Sub-total	\$13,304,411	\$13,304,411	\$13,304,411
<i>Grand Total</i>	<u>\$50,753,488</u>	<u>\$50,753,488</u>	<u>\$50,753,488</u>
Present Value of Future Payroll	\$31,940,114	\$31,940,114	\$31,940,114
Present Value of Future Employee Contribs.	\$1,117,907	\$1,117,907	\$1,117,907
Present Value of Future Employer Contribs.	\$14,730,711	\$14,730,711	\$14,730,711



Present Value of Accrued Benefits

Table I-E

	Old Assumptions w/o Amendment	Old Assumptions w/ Amendment	New Assumptions w/ Amendment
<i><u>Actively Employed Participants</u></i>			
Retirement benefits	\$17,834,163	\$17,834,163	\$17,834,163
Termination benefits	\$1,136,122	\$1,136,122	\$1,136,122
Disability benefits	\$967,583	\$967,583	\$967,583
Death benefits	\$255,275	\$255,275	\$255,275
Refund of employee contributions	\$7,307	\$7,307	\$7,307
Sub-total	\$20,200,450	\$20,200,450	\$20,200,450
<i><u>Deferred Vested Participants</u></i>			
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
<i><u>Due a Refund of Contributions</u></i>	\$1,268	\$1,268	\$1,268
<i><u>Deferred Beneficiaries</u></i>	\$0	\$0	\$0
<i><u>Retired Participants</u></i>			
Service retirements	\$7,233,697	\$7,233,697	\$7,233,697
Disability retirements	\$1,797,435	\$1,797,435	\$1,797,435
Beneficiaries receiving	\$129,637	\$129,637	\$129,637
DROP participants	\$4,143,642	\$4,143,642	\$4,143,642
Sub-total	\$13,304,411	\$13,304,411	\$13,304,411
<i><u>Grand Total</u></i>	<u>\$33,506,129</u>	<u>\$33,506,129</u>	<u>\$33,506,129</u>
<i><u>Funded Percentage</u></i>	106.22%	106.22%	106.22%

(Note: Funded percentage is equal to the ratio of the usable portion of the market value of assets divided by the present value of accrued benefits.)



Present Value of Vested Benefits

Table I-F

	<u>Old Assumptions w/o Amendment</u>	<u>Old Assumptions w/ Amendment</u>	<u>New Assumptions w/ Amendment</u>
<i><u>Actively Employed Participants</u></i>			
Retirement benefits	\$16,814,968	\$16,814,968	\$16,814,968
Termination benefits	\$1,102,796	\$1,102,796	\$1,102,796
Disability benefits	\$967,583	\$967,583	\$967,583
Death benefits	\$255,275	\$255,275	\$255,275
Refund of employee contributions	\$13,997	\$13,997	\$13,997
Sub-total	\$19,154,619	\$19,154,619	\$19,154,619
<i><u>Deferred Vested Participants</u></i>			
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
<i><u>Due a Refund of Contributions</u></i>	\$1,268	\$1,268	\$1,268
<i><u>Deferred Beneficiaries</u></i>	\$0	\$0	\$0
<i><u>Retired Participants</u></i>			
Service retirements	\$7,233,697	\$7,233,697	\$7,233,697
Disability retirements	\$1,797,435	\$1,797,435	\$1,797,435
Beneficiaries receiving	\$129,637	\$129,637	\$129,637
DROP participants	\$4,143,642	\$4,143,642	\$4,143,642
Sub-total	\$13,304,411	\$13,304,411	\$13,304,411
<i><u>Grand Total</u></i>	<u>\$32,460,298</u>	<u>\$32,460,298</u>	<u>\$32,460,298</u>



Entry Age Normal Accrued Liability

Table I-G

	<u>Old Assumptions w/o Amendment</u>	<u>Old Assumptions w/ Amendment</u>	<u>New Assumptions w/ Amendment</u>
<i>Actively Employed Participants</i>			
Retirement benefits	\$25,711,805	\$25,711,805	\$25,711,805
Termination benefits	\$1,359,467	\$1,359,467	\$1,359,467
Disability benefits	\$1,205,962	\$1,205,962	\$1,205,962
Death benefits	\$292,378	\$292,378	\$292,378
Refund of employee contributions	\$7,437	\$7,437	\$7,437
Sub-total	\$28,577,049	\$28,577,049	\$28,577,049
<i>Deferred Vested Participants</i>			
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
<i>Due a Refund of Contributions</i>	\$1,268	\$1,268	\$1,268
<i>Deferred Beneficiaries</i>	\$0	\$0	\$0
<i>Retired Participants</i>			
Service retirements	\$7,233,697	\$7,233,697	\$7,233,697
Disability retirements	\$1,797,435	\$1,797,435	\$1,797,435
Beneficiaries receiving	\$129,637	\$129,637	\$129,637
DROP participants	\$4,143,642	\$4,143,642	\$4,143,642
Sub-total	\$13,304,411	\$13,304,411	\$13,304,411
<i>Grand Total</i>	<u>\$41,882,728</u>	<u>\$41,882,728</u>	<u>\$41,882,728</u>



Actuarial Value of Assets

Table II-A

Market Value of Assets as of October 1, 2017	\$36,627,689
Minus DROP account balances	(\$957,316)
Minus advance employer contributions	(\$179,406)
Minus excess Chapter 175/185 contributions	(\$78,562)
Actuarial Value of Assets as of October 1, 2017	<u>\$35,412,405</u>

<u>Historical Actuarial Value of Assets</u>	
October 1, 2008	\$9,901,143
October 1, 2009	\$9,778,891
October 1, 2010	\$12,806,292
October 1, 2011	\$14,407,208
October 1, 2012	\$18,425,606
October 1, 2013	\$21,754,439
October 1, 2014	\$24,788,582
October 1, 2015	\$25,839,564
October 1, 2016	\$29,496,972
October 1, 2017	\$35,412,405

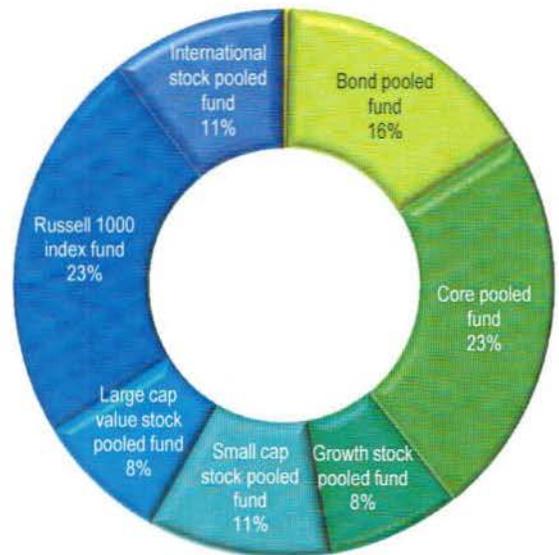


Market Value of Assets

Table II-B

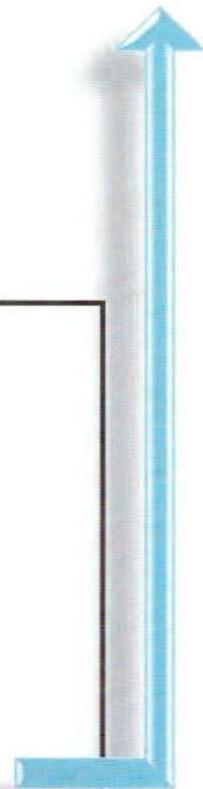
As of October 1, 2017

Market Value of Assets	<u>\$36,627,689</u>
Cash	\$146,511
Bond pooled fund	\$5,750,547
Core pooled fund	\$8,460,996
Growth stock pooled fund	\$2,930,215
Small cap stock pooled fund	\$4,029,046
Large cap value stock pooled fund	\$2,893,587
Russell 1000 index fund	\$8,534,252
International stock pooled fund	\$3,882,535



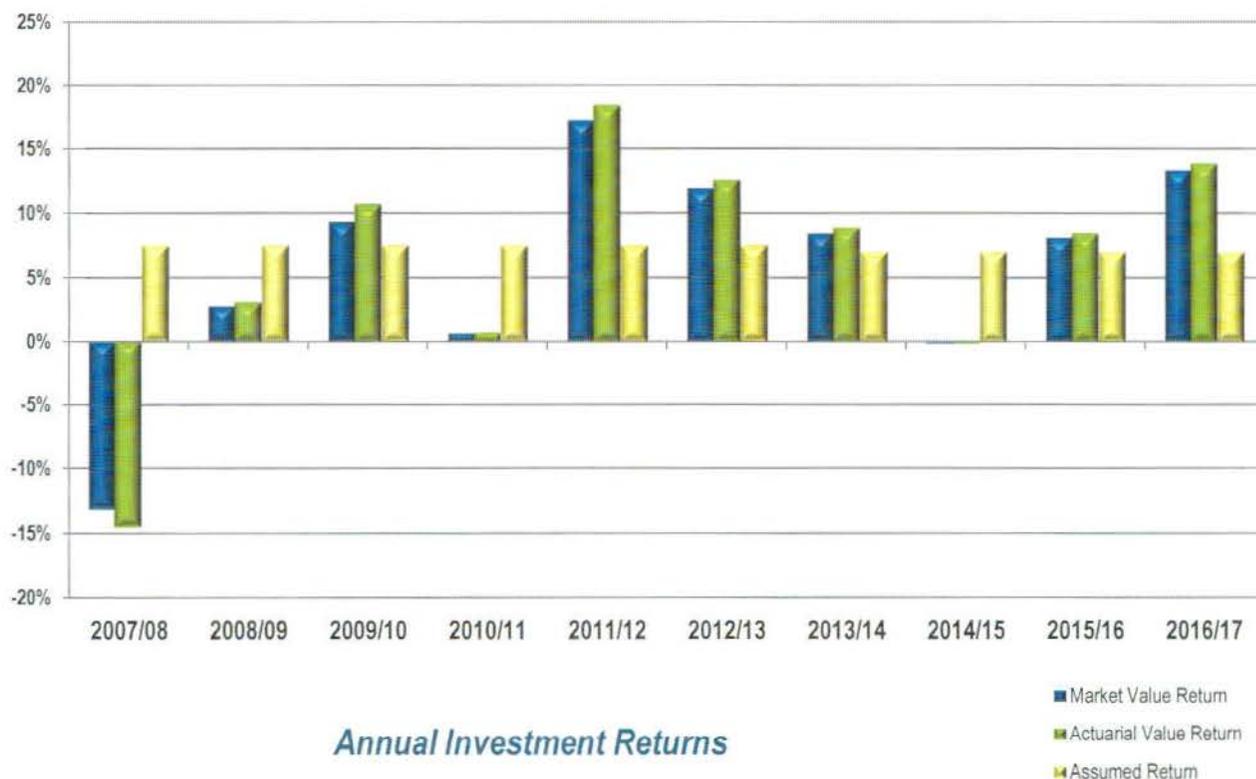
Historical Market Value of Assets

October 1, 2008	\$11,461,484
October 1, 2009	\$11,531,839
October 1, 2010	\$14,165,249
October 1, 2011	\$15,576,823
October 1, 2012	\$19,409,374
October 1, 2013	\$22,836,219
October 1, 2014	\$26,085,813
October 1, 2015	\$26,747,732
October 1, 2016	\$30,527,026
October 1, 2017	\$36,627,689



Investment Return

Table II-C



Annual Investment Returns

Plan Year	Market Value Return	Actuarial Value Return	Assumed Return
2007/08	-13.08%	-14.47%	7.50%
2008/09	2.81%	3.11%	7.50%
2009/10	9.34%	10.70%	7.50%
2010/11	0.68%	0.75%	7.50%
2011/12	17.18%	18.41%	7.50%
2012/13	11.92%	12.58%	7.50%
2013/14	8.45%	8.90%	7.00%
2014/15	-0.11%	-0.11%	7.00%
2015/16	8.14%	8.43%	7.00%
2016/17	13.33%	13.83%	7.00%
10yr. Avg.	5.53%	5.82%	7.30%



Asset Reconciliation

Table II-D

	<u>Market Value</u>	<u>Actuarial Value</u>
As of October 1, 2016	\$30,527,026	\$29,496,972
<i>Increases Due To:</i>		
Employer Contributions	\$2,133,651	\$2,133,651
Chapter 175/185 Contributions	\$403,971	\$403,971
Employee Contributions	\$170,272	\$170,272
Service Purchase Contributions	\$0	\$0
Total Contributions	<u>\$2,707,894</u>	<u>\$2,707,894</u>
Interest and Dividends	\$0	
Realized Gains (Losses)	\$0	
Unrealized Gains (Losses)	\$4,197,202	
Total Investment Income	<u>\$4,197,202</u>	\$4,197,202
Other Income	\$0	
Total Income	<u>\$6,905,096</u>	<u>\$6,905,096</u>
<i>Decreases Due To:</i>		
Monthly Benefit Payments	(\$739,639)	(\$739,639)
Refund of Employee Contributions	\$0	\$0
DROP Credits		(\$315,041)
Total Benefit Payments	<u>(\$739,639)</u>	<u>(\$1,054,680)</u>
Investment Expenses	\$0	
Administrative Expenses	(\$64,794)	(\$64,794)
Advance Employer Contribution		\$129,811
Excess Chapter 175/185 Contribution		\$0
Total Expenses	<u>(\$804,433)</u>	<u>(\$989,663)</u>
As of October 1, 2017	<u><u>\$36,627,689</u></u>	<u><u>\$35,412,405</u></u>



Historical Trust Fund Detail

Table II-E

Income

<u>Plan</u> <u>Year</u>	<u>Employer</u> <u>Contribs.</u>	<u>Chapter</u> <u>Contribs.</u>	<u>Employee</u> <u>Contribs.</u>	<u>Service</u> <u>Purchase</u> <u>Contribs.</u>	<u>Interest /</u> <u>Dividends</u>	<u>Realized</u> <u>Gains /</u> <u>Losses</u>	<u>Unrealized</u> <u>Gains /</u> <u>Losses</u>	<u>Other</u> <u>Income</u>
2007/08	\$1,342,701	\$432,471	\$153,012	\$40,772	\$0	\$0	-\$1,584,177	\$0
2008/09	\$862,274	\$463,450	\$151,515	\$0	\$0	\$0	\$319,010	\$0
2009/10	\$1,036,007	\$425,465	\$154,877	\$0	\$0	\$0	\$1,146,562	\$0
2010/11	\$1,144,422	\$398,462	\$146,195	\$0	\$0	\$0	\$101,054	\$0
2011/12	\$907,375	\$429,639	\$139,372	\$0	\$0	\$0	\$2,767,695	\$0
2012/13	\$1,598,463	\$408,775	\$136,039	\$0	\$0	\$0	\$2,376,983	\$0
2013/14	\$1,267,372	\$448,192	\$143,926	\$0	\$0	\$0	\$1,982,480	\$0
2014/15	\$1,397,570	\$483,833	\$152,860	\$0	\$0	\$0	-\$28,475	\$0
2015/16	\$1,709,287	\$414,319	\$162,048	\$0	\$0	\$0	\$2,239,144	\$0
2016/17	\$2,133,651	\$403,971	\$170,272	\$0	\$0	\$0	\$4,197,202	\$0

Expenses

<u>Plan</u> <u>Year</u>	<u>Monthly</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>Other Actuarial Adjustments</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>
2007/08	\$57,191	\$3,441	\$32,830	\$0	\$17,949	\$568,910	\$0
2008/09	\$1,685,869	\$10,590	\$29,435	\$0	\$147,617	\$2,562	\$24,479
2009/10	\$86,037	\$425	\$43,039	\$0	\$183,600	-\$577,591	\$0
2010/11	\$326,691	\$0	\$51,868	\$0	\$131,135	-\$320,477	\$0
2011/12	\$362,065	\$1,262	\$48,203	\$0	\$341,936	-\$527,783	\$0
2012/13	\$1,041,946	\$1,101	\$50,368	\$0	-\$287,641	\$385,653	\$0
2013/14	\$526,686	\$6,682	\$59,008	\$0	\$249,206	-\$42,976	\$9,221
2014/15	\$1,279,900	\$201	\$63,768	\$0	-\$426,533	-\$7,392	\$44,862
2015/16	\$680,847	\$0	\$64,657	\$0	\$285,006	-\$163,120	\$0
2016/17	\$739,639	\$0	\$64,794	\$0	\$315,041	-\$129,811	\$0

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

Advance Employer Contribution

Advance Employer Contribution as of October 1, 2016	\$309,217
Additional Employer Contribution	\$2,537,622
Minimum Required Contribution	(\$2,667,433)
Net Increase in Advance Employer Contribution	(\$129,811)
Advance Employer Contribution as of October 1, 2017	<u>\$179,406</u>

Excess Chapter 175/185 Contribution

Excess Chapter 175/185 Contribution as of October 1, 2016	\$78,562
Additional Chapter 175/185 Contribution	\$403,971
Allowable Chapter 175/185 Contribution	(\$403,971)
Net Increase in Excess Chapter 175/185 Contribution	\$0
Excess Chapter 175/185 Contribution as of October 1, 2017	<u>\$78,562</u>

DROP Account Reconciliation

DROP Balance as of October 1, 2016	\$642,275
DROP Benefit Credits	\$304,467
DROP Investment Credits	\$50,727
DROP Benefits Paid Out	(\$40,153)
Net DROP Credit	\$315,041
DROP Balance as of October 1, 2017	<u>\$957,316</u>



Historical Chapter 175/185 Contributions

Table II-G

Total Accumulated Excess Chapter 175/185 Contribution \$78,562

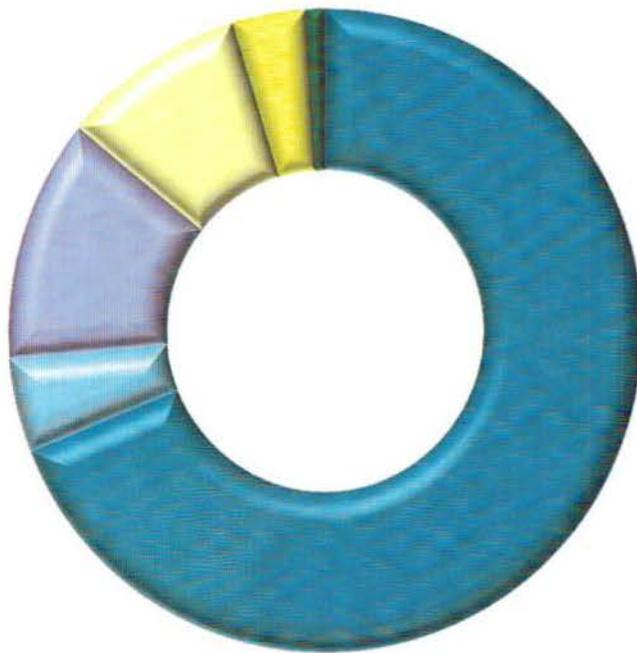
	Chapter 175 Regular <u>Distribution</u>	Chapter 175 Supplemental <u>Distribution</u>	Chapter 185 <u>Distribution</u>	Allowable <u>Amount</u>
1998 Distribution	\$38,443	\$0	\$0	(\$38,443)
1999 Distribution	\$49,368	\$0	\$0	(\$49,368)
2000 Distribution	\$76,102	\$0	\$0	(\$76,102)
2001 Distribution	\$99,756	\$0	\$0	(\$99,756)
2002 Distribution	\$132,354	\$0	\$0	(\$132,354)
2003 Distribution	\$158,638	\$0	\$0	(\$158,638)
2004 Distribution	\$196,521	\$0	\$0	(\$196,521)
2005 Distribution	\$239,425	\$0	\$0	(\$239,425)
2006 Distribution	\$273,425	\$4,264	\$0	(\$277,689)
2007 Distribution	\$297,089	\$135,382	\$0	(\$432,471)
2008 Distribution	\$329,717	\$133,733	\$0	(\$438,971)
2009 Distribution	\$324,870	\$100,595	\$0	(\$425,465)
2010 Distribution	\$324,070	\$74,392	\$0	(\$398,462)
2011 Distribution	\$333,648	\$95,991	\$0	(\$429,639)
2012 Distribution	\$304,728	\$104,047	\$0	(\$408,775)
2013 Distribution	\$315,742	\$132,450	\$0	(\$438,971)
2014 Distribution	\$348,350	\$135,483	\$0	(\$438,971)
2015 Distribution	\$356,502	\$57,817	\$0	(\$414,319)
2016 Distribution	\$380,171	\$23,800	\$0	(\$403,971)



Summary of Participant Data

Table III-A

As of October 1, 2017



Participant Distribution by Status

<u>Actively Employed Participants</u>		
◆	Active Participants	73
◆	DROP Participants	5
<u>Inactive Participants</u>		
◆	Deferred Vested Participants	0
◆	Due a Refund of Contributions	13
◆	Deferred Beneficiaries	0
<u>Participants Receiving a Benefit</u>		
◆	Service Retirements	10
◆	Disability Retirements	4
◆	Beneficiaries Receiving	1
Total Participants		106

<u>Number of Participants Included in Prior Valuations</u>					
	<i>Active</i>	<i>DROP</i>	<i>Inactive</i>	<i>Retired</i>	<i>Total</i>
October 1, 2008	N/A	N/A	N/A	N/A	N/A
October 1, 2009	89	2	22	4	117
October 1, 2010	82	2	25	5	114
October 1, 2011	81	4	26	9	120
October 1, 2012	77	4	24	11	116
October 1, 2013	74	3	25	12	114
October 1, 2014	72	4	15	12	103
October 1, 2015	73	4	13	14	104
October 1, 2016	71	6	13	14	104
October 1, 2017	73	5	13	15	106



Data Reconciliation

Table III-B

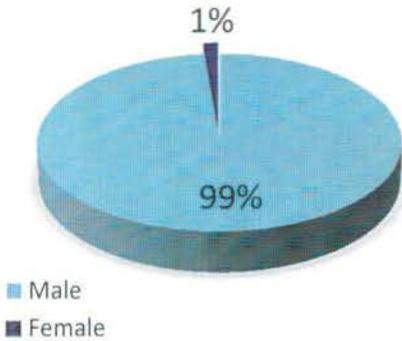
	<u>Active</u>	<u>DROP</u>	<u>Deferred Vested</u>	<u>Due a Refund</u>	<u>Def. Benef.</u>	<u>Service Retiree</u>	<u>Disabled Retiree</u>	<u>Benef. Rec'v.</u>	<u>Total</u>
<u>October 1, 2016</u>	71	6	0	13	0	9	5	0	104
<u>Change in Status</u>									
Re-employed									
Terminated									
Retired		(1)				1			
<u>Participation Ended</u>									
Transferred Out									
Cashed Out									
Died							(1)		(1)
<u>Participation Began</u>									
Newly Hired	2								2
Transferred In									
New Beneficiary								1	1
<u>Other Adjustment</u>									
<u>October 1, 2017</u>	73	5	0	13	0	10	4	1	106



Active Participant Data

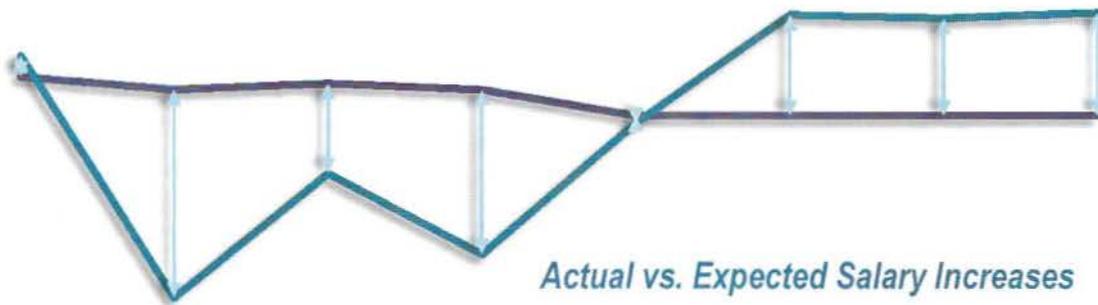
Table III-C

Gender Mix



As of October 1, 2017

Average Age	42.0 years
Average Service	14.4 years
Total Annualized Compensation for the Prior Year	\$4,925,900
Total Expected Compensation for the Current Year	\$4,785,662
Average Increase in Compensation for the Prior Year	6.97%
Expected Increase in Compensation for the Current Year	4.50%
Accumulated Contributions for Active Employees	\$1,772,608



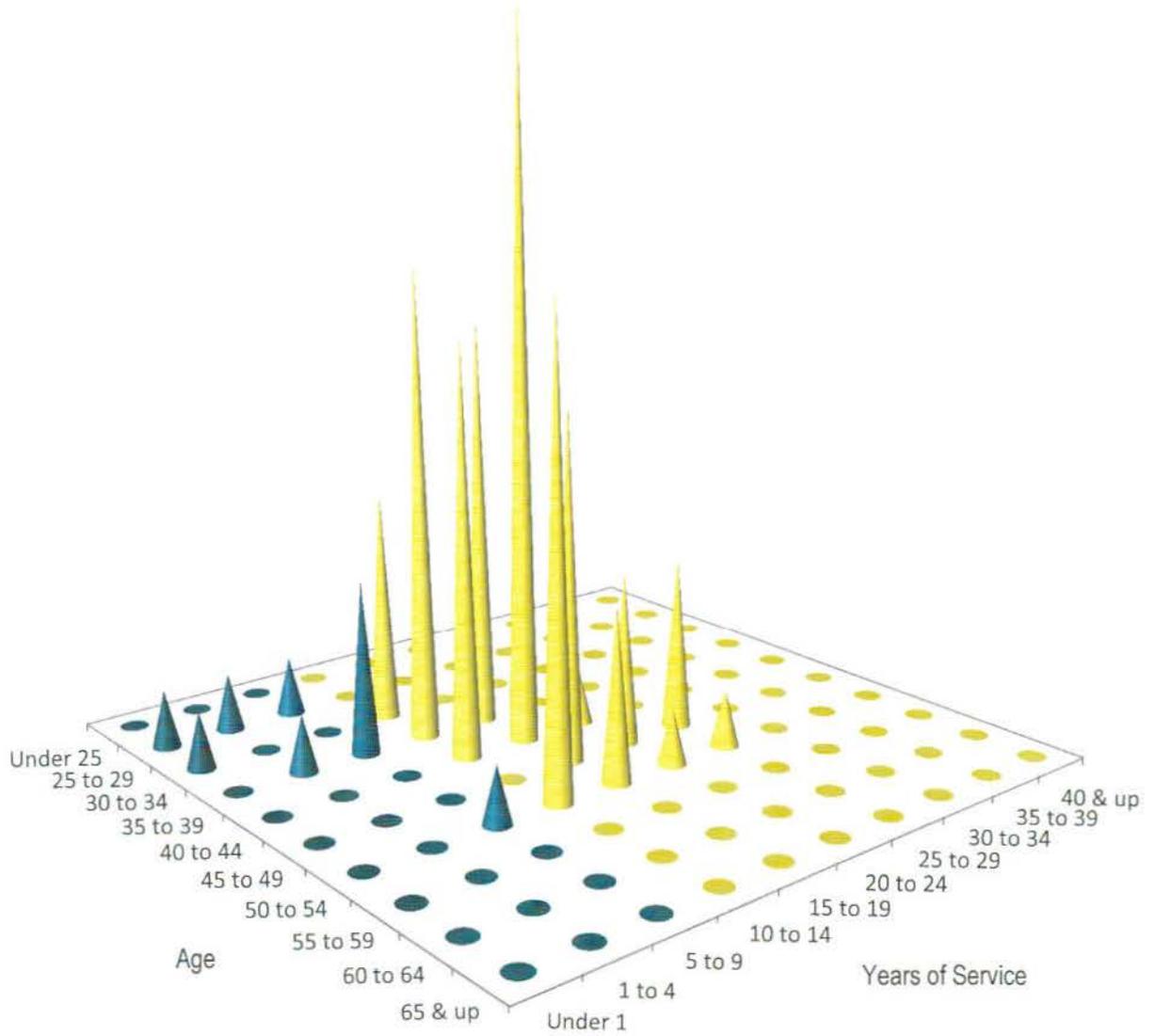
Active Participant Statistics From Prior Valuations

	Average Age	Average Service	Average Salary	Average Expected Salary Increase	Average Actual Salary Increase
October 1, 2008	N/A	N/A	N/A	5.45%	7.61%
October 1, 2009	36.2	8.7	\$47,154	5.20%	2.14%
October 1, 2010	37.7	10.1	\$53,650	5.43%	5.94%
October 1, 2011	37.0	9.6	\$48,778	5.13%	0.21%
October 1, 2012	37.9	10.5	\$50,965	5.27%	3.14%
October 1, 2013	39.3	11.7	\$52,471	5.12%	1.23%
October 1, 2014	40.2	12.7	\$56,296	4.50%	4.32%
October 1, 2015	40.6	13.0	\$58,976	4.50%	6.91%
October 1, 2016	41.3	13.8	\$63,870	4.50%	6.83%
October 1, 2017	42.0	14.4	\$67,478	4.50%	6.97%



Active Age-Service Distribution

Table III-D



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



Active Age-Service-Salary Table

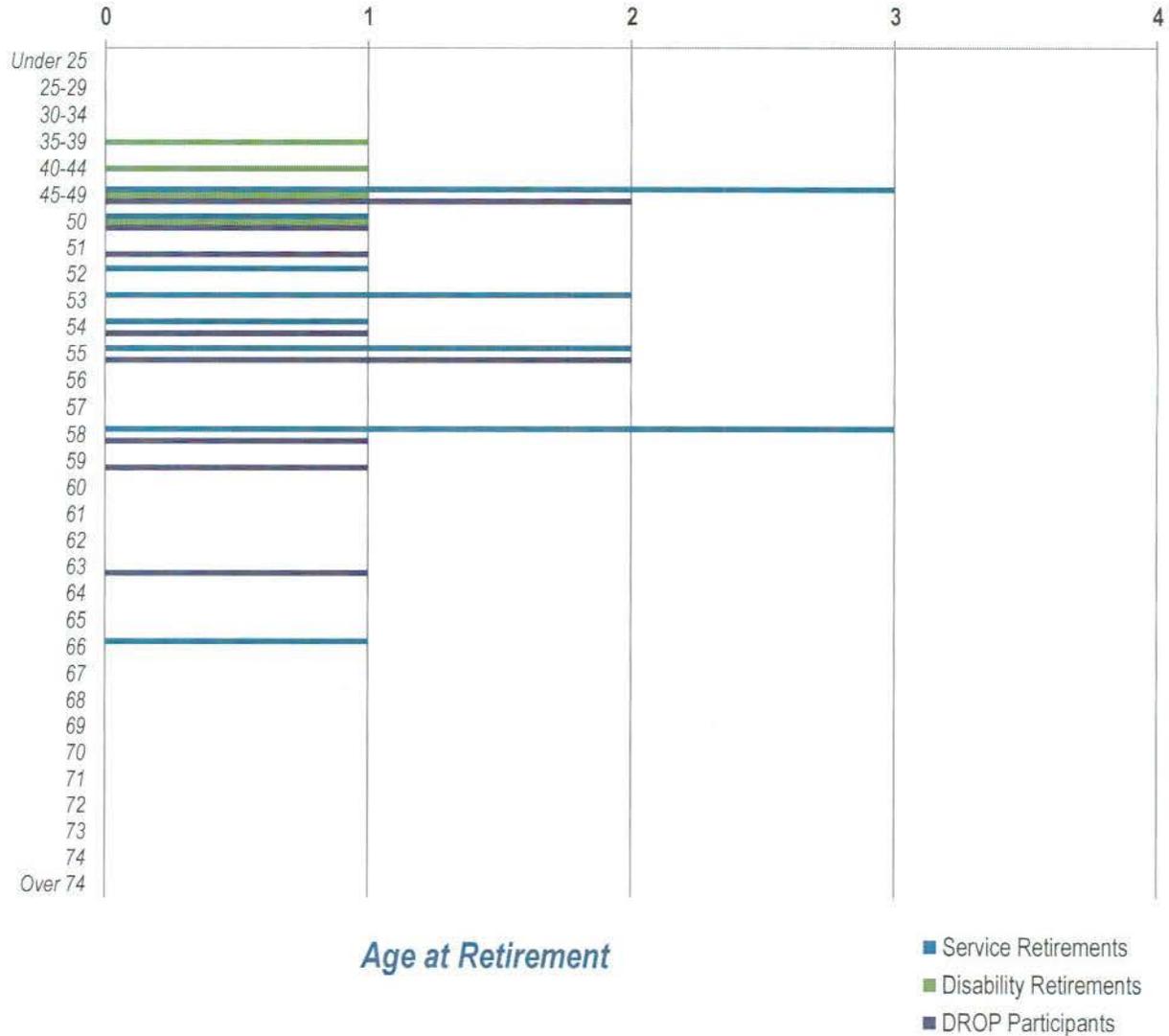
Table III-E

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	0	0	0	0	0	0	0	0	0	0	0	0
Avg.Pay	0	0	0	0	0	0	0	0	0	0	0	0
25 to 29	1	1	1	0	0	0	0	0	0	0	0	3
Avg.Pay	41,411	54,234	61,421	0	0	0	0	0	0	0	0	52,355
30 to 34	1	0	0	4	0	0	0	0	0	0	0	5
Avg.Pay	41,411	0	0	65,323	0	0	0	0	0	0	0	60,540
35 to 39	0	1	3	8	7	0	0	0	0	0	0	19
Avg.Pay	0	54,544	56,694	66,559	68,777	0	0	0	0	0	0	65,186
40 to 44	0	0	0	7	12	1	0	0	0	0	0	20
Avg.Pay	0	0	0	64,819	67,768	65,786	0	0	0	0	0	66,637
45 to 49	0	0	0	0	6	3	3	0	0	0	0	12
Avg.Pay	0	0	0	0	69,508	77,113	84,025	0	0	0	0	75,038
50 to 54	0	0	1	8	3	1	1	0	0	0	0	14
Avg.Pay	0	0	63,295	67,617	69,755	104,010	76,895	0	0	0	0	71,029
55 to 59	0	0	0	0	0	0	0	0	0	0	0	0
Avg.Pay	0	0	0	0	0	0	0	0	0	0	0	0
60 to 64	0	0	0	0	0	0	0	0	0	0	0	0
Avg.Pay	0	0	0	0	0	0	0	0	0	0	0	0
65 & up	0	0	0	0	0	0	0	0	0	0	0	0
Avg.Pay	0	0	0	0	0	0	0	0	0	0	0	0
Total	2	2	5	27	28	5	4	0	0	0	0	73
Avg.Pay	41,411	54,389	58,960	66,238	68,606	80,227	82,243	0	0	0	0	67,478



Inactive Participant Data

Table III-F



Age at Retirement

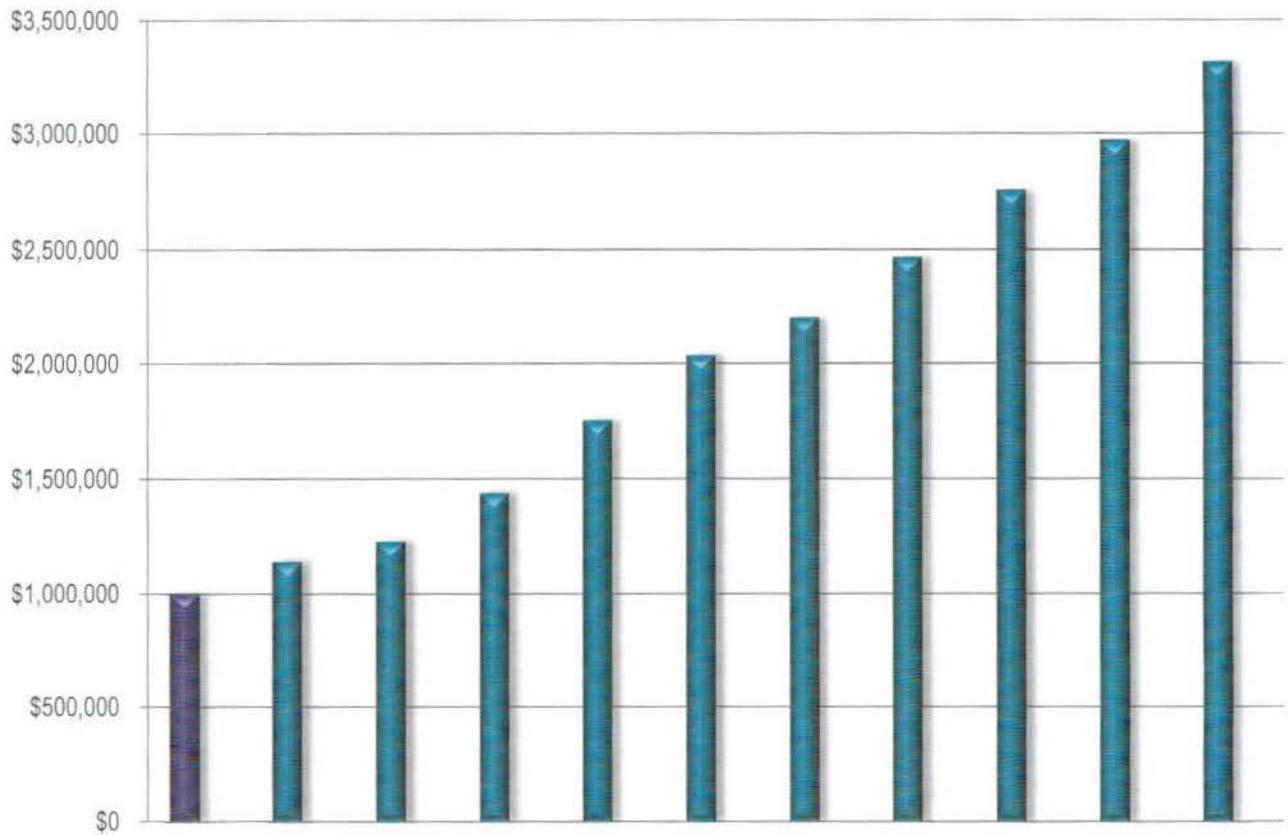
Average Monthly Benefit

Service Retirements	\$4,696.73
Disability Retirements	\$2,893.89
Beneficiaries Receiving	\$857.03
DROP Participants	\$5,218.60
Deferred Vested Participants	Not applicable
Deferred Beneficiaries	Not applicable



Projected Benefit Payments

Table III-G



Actual

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

\$1,003,953

Projected

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

\$1,144,877

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

\$1,232,834

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

\$1,442,666

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

\$1,754,891

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

\$2,039,043

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

\$2,203,822

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

\$2,469,129

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

\$2,759,674

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

\$2,973,374

For the period October 1, 2026 through September 30, 2027

\$3,316,252



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**

Aggregate cost method. Under this actuarial cost method, a funding cost is developed for the plan as a level percentage of payroll. The level funding percentage is calculated as the excess of the total future benefit liability over accumulated assets and future employee contributions, with this excess spread over the expected future payroll for current active participants. The normal cost is equal to the level funding percentage multiplied by the expected payroll for the year immediately following the valuation date. The actuarial accrued liability is equal to the accumulated assets. Therefore, under the aggregate cost method, no unfunded accrued liability is developed.

2. **Asset Method**

The actuarial value of assets is equal to the market value of assets.

3. **Interest (or Discount) Rate**

7.00% per annum

4. **Salary Increases**

Plan compensation is assumed to increase at the rate of 4.50% per annum, unless actual plan compensation is known for a prior plan year.

5. **Decrement**

- Pre-retirement mortality: Sex-distinct rates set forth in the RP-2000 Combined Mortality Table, with full generational improvements in mortality using Scale BB
- 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: Age- and gender-based rates of disability were assumed, ranging from 0.067% for males and 0.040% for females at age 25, 0.119% for males and 0.118% for females at age 35, 0.462% for males and 0.435% for females at age 45, and 1.000% for males and 0.840% for females at age 55; all disabilities are assumed to be service-related.



Summary of Actuarial Methods and Assumptions

Table IV-A

(continued)

- Termination: With respect to participants with less than 10 years of service, the termination rates are both gender- and service-based, ranging from 15.00% for males and 10.01% for females with less than two years of service to 4.30% for males and 4.75% for females with between eight and 10 years of service; with respect to participants with at least 10 years of service, the termination rates are both gender- and age-based, ranging from 4.28% for males and 5.41% for females at age 25 to 0.00% for both genders at age 55.

- Retirement: For those participants who have met the age and service requirements to retire, retirement is assumed to occur at the rate of 10% per year during each of the three years prior to normal retirement age; alternatively, 40% of participants who reach their normal retirement age are assumed to retire immediately, with 20% assumed to retire during each of the next two years after the attainment of normal retirement age and 100% assumed to retire three years after the attainment of normal retirement age. No early retirements are assumed to occur prior to age 50.

6. Form of Payment

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

7. Expenses

The total projected benefit liability has been loaded by 1.00% to account for anticipated administrative expenses. In addition, the interest rate set forth in item 3. above is assumed to be net of investment expenses and commissions.



Changes in Actuarial Methods and Assumptions

Table IV-B

No assumptions or methods were changed since the completion of the previous valuation.

The following additional assumption and method changes were made during the past 10 years:

- (1) *Effective October 1, 2016, the mortality basis was changed from a 2015 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.*
- (2) *Effective October 1, 2013, the interest (or discount) rate was decreased from 7.50% per annum to 7.00% per annum.*
- (3) *Effective October 1, 2013, the assumed increase in future salaries was changed from a range of rates based on service (8.00% for employees with less than one year of service, 7.00% for employees with at least one but less than two years of service, 6.00% for employees with at least two but less than three years of service, 5.50% for employees with at least three but less than four years of service, and 5.20% for all other employees) to a flat 4.50% per year.*
- (4) *Effective October 1, 2013, the mortality basis was changed from the RP-2000 Mortality Table, projected to 2007 by Scale AA, to the RP-2000 Mortality Table, projected to 2015 by Scale AA, both as published by the Internal Revenue Service (IRS) for purposes of Internal Revenue Code (IRC) section 430.*
- (5) *Effective October 1, 2009, the mortality basis was changed from the 1983 Group Annuity Mortality Table to the male rates set forth in the RP-2000 Mortality Table for annuitants and non-annuitants, projected to 2007 by Scale AA.*
- (6) *Effective October 1, 2009, the administrative expense assumption was changed from a flat \$20,000 per year to a 1.00% loading of the total projected benefit liability.*



Summary of Plan Provisions

Table V-A

1. **Monthly Accrued Benefit**

3.50% of Average Final Compensation multiplied by Credited Service

2. **Normal Retirement Age and Benefit**

- **Age**

Age 55 with at least 10 years of Credited Service; or
Any age with at least 25 years of Credited Service

- **Amount**

Monthly Accrued Benefit

- **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 (optional);
Actuarially reduced 66²/₃% joint and contingent annuity (optional);
Actuarially reduced 75% joint and contingent annuity (optional);
Actuarially reduced 100% joint and contingent annuity (optional); or
Any other actuarially equivalent form of payment approved by the Board other than a single lump sum payment

(Note: A participant may change his joint annuitant up to two times after retirement.)

3. **Early Retirement Age and Benefit**

- **Age**

Age 50 with at least 10 years of Credited Service

- **Amount**

Monthly Accrued Benefit (payable at Normal Retirement Age); or
Monthly Accrued Benefit reduced by 3% for each year by which the participant's Early Retirement Date precedes his Normal Retirement Date (payable at Early Retirement Age)

- **Form of Payment**

Same as for Normal Retirement



Summary of Plan Provisions

Table V-A

(continued)

4. **Service Incurred Disability Eligibility and Benefit**

- **Eligibility**

The participant is eligible if his disability was incurred during the course of his employment with the District.

- **Condition**

The Board must find that the participant has a physical or mental condition resulting from bodily injury, disease, or a mental disorder which renders him incapable of employment as a firefighter.

- **Amount Payable**

A monthly 10-year certain and life annuity equal to the larger of (a) or (b), as follows, but offset as necessary to preclude the total of the participant's worker's compensation, disability benefit, and other District-provided disability compensation from exceeding his Average Final Compensation:

- (a) Monthly Accrued Benefit; or
- (b) 42% of Average Final Compensation

5. **Non-Service Incurred Disability Eligibility and Benefit**

- **Eligibility**

The participant must have earned at least 10 years of Credited Service if his disability was incurred other than during the course of his employment with the District.

- **Condition**

Same as for a Service Incurred Disability Benefit

- **Amount Payable**

A monthly 10-year certain and life annuity equal to the larger of (a) or (b), as follows, but offset as necessary to preclude the total of the participant's worker's compensation, disability benefit, and other District-provided disability compensation from exceeding his Average Final Compensation:

- (a) Monthly Accrued Benefit; or
- (b) 25% of Average Final Compensation

6. **Delayed Retirement Age and Benefit**

- **Age**

After Normal Retirement Age

- **Amount**

Monthly Accrued Benefit

- **Form of Payment**

Same as for Normal Retirement



Summary of Plan Provisions

Table V-A

(continued)

7. Deferred Vested Benefit

- **Age**
Any age with at least 10 years of Credited Service
- **Amount**
Monthly Accrued Benefit (payable at Normal Retirement Age); or
Monthly Accrued Benefit reduced by 3% for each year by which the participant's Early Retirement Date precedes his Normal Retirement Date (payable at Early Retirement Age)
- **Form of Payment**
Same as for Normal Retirement

8. Pre-Retirement Death Benefit

In the case of the death of a participant in the line of duty prior to retirement, his beneficiary will receive the greater of the participant's Monthly Accrued Benefit or 50% of the participant's salary payable for life. In the case of the death of a vested participant other than in the line of duty prior to retirement, his beneficiary will receive the participant's Monthly Accrued Benefit payable for 10 years beginning on the participant's early or normal retirement date. In the case of the death of a non-vested participant prior to retirement, his beneficiary will receive the participant's Accumulated Contributions in lieu of any other benefits payable from the plan.

9. Average Final Compensation

Average of the highest three years of Compensation out of the last 10 years of employment (or career average, if higher).

10. Compensation

Fixed monthly compensation or, in the case of voluntary firefighters, actual compensation for services rendered; annual compensation in excess of \$200,000 (as indexed) is excluded in accordance with IRC §401(a)(17).

11. Credited Service

The elapsed time from the participant's date of hire until his date of termination, retirement, or death, provided that the participant made all required contributions. In the case of a full-time firefighter, prior service earned before January 12, 2014 as a volunteer firefighter is counted for vesting and eligibility purposes only. In addition, Credited Service includes prior service with the Oneco-Tallevast and Samoset Fire Districts.



Summary of Plan Provisions

Table V-A

(continued)

12. Participation Requirement

All firefighters of the Southern Manatee Fire & Rescue District automatically become a participant in the plan on their date of hire.

13. Accumulated Contributions

The Employee Contributions accumulated with no interest; if the participant terminates his employment with less than 10 years of Credited Service, he receives his Accumulated Contributions in lieu of any other benefits payable from the plan.

14. Participant Contribution

3.50% of earnings

15. Definition of Actuarially Equivalent

- **Interest Rate**
7.00% per annum
- **Mortality Table**
Unisex mortality table promulgated by the Internal Revenue Service (IRS) for purposes of determining the amount of lump sum distributions pursuant to Internal Revenue Service (IRC) section 417(e)(3)

16. Plan Effective Date

March 11, 1997

17. Deferred Retirement Option Plan (DROP)

A participant who reaches his Normal Retirement Age is eligible to participate in the DROP for a period of up to 96 months. Interest is credited on the DROP accounts at the rate of 6.50% per annum.

18. Retiree Health Supplement

Participants who retire from active service with a normal or disability retirement benefit receive a monthly post-retirement health supplement equal to \$15 for each year of service, with a minimum monthly benefit of \$50 and a maximum monthly benefit of \$450. In addition, this monthly supplement is paid to the participant's eligible spouse during the period that a retirement benefit is payable to the spouse, provided that the participant was either receiving a normal or disability retirement benefit or was eligible for normal retirement at his death.



Summary of Plan Amendments

Table V-B

There were no significant plan amendments adopted since the completion of the previous valuation.

The following additional plan amendments were adopted during the past 10 years and were reflected in prior valuation reports:

- (1) During the 2010/11 plan year, the plan was amended to eliminate the optional lump sum distribution.*



DISCLOSURES REQUIRED PURSUANT TO CHAPTER 2013-100, FLORIDA STATUTES

(a) City/District	Southern Manatee FD
(b) Plan Name	Retirement Plan for the Firefighters of the SMFRD
(c) Plan Type	Defined Benefit
(d) Valuation Date	10/1/2017
(e) Interest Rate:	
(1) Discount Rate, net of investment fees	7.00%
(2) Long-Term Expected Rate of Return, net of investment fees	7.00%

With respect to the reporting standards for defined benefit retirement plans or systems contained in Section 112.664(1), F.S., the actuarial disclosures required under this section were 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, meet the requirements of Section 112.664(1), F.S., and Section 60T-1.0035, F.A.C.

(f) Certification Statement:	
(1) Signature	
(2) Actuary's Name	Charles T. Carr
(3) Enrollment Number	17-04927
(4) Signature Date	2/1/2018
(5) Cover letter attached (pdf)?	N

Section 112.664(1)(a), F.S.

(g) Total pension liability:	
(1) Service cost	\$1,483,451
(2) Interest	\$2,773,190
(3) Benefit changes	\$0
(4) Difference between expected and actual experience	\$846,344
(5) Changes in assumptions	\$0
(6) Benefit payments	(\$779,792)
(7) Contribution refunds	\$0
(8) Net change in total pension liability	\$4,323,193
(9) Total pension liability - beginning of year	\$38,516,851
(10) Total pension liability - ending of year	\$42,840,044
(h) Plan fiduciary net position:	
(1) Contributions - Employer	\$2,263,462
(2) Contributions - State	\$403,971
(3) Contributions - Member	\$170,272
(4) Net investment income	\$3,459,445
(5) Benefit payments	(\$779,792)
(6) Contribution refunds	\$0
(7) Administrative expenses	(\$64,794)
(8) Other	\$0
(9) Net change in plan fiduciary net position	\$5,452,564
(10) Plan fiduciary net position - beginning of year	\$30,139,247
(11) Plan fiduciary net position - ending of year	\$35,591,811
(i) Net pension liability/(asset) [(g)(10) minus (h)(11)]	\$7,248,233

Section 112.664(1)(b), F.S.

(j) Total pension liability:	
(1) Service cost	\$2,410,057

(2) Interest	\$2,638,904
(3) Benefit changes	\$0
(4) Difference between expected and actual experience	\$1,112,451
(5) Changes in assumptions	\$0
(6) Benefit payments	(\$779,792)
(7) Contribution refunds	\$0
(8) Net change in total pension liability	\$5,381,620
(9) Total pension liability - beginning of year	\$50,753,173
(10) Total pension liability - ending of year	\$56,134,793
(k) Plan fiduciary net position:	
(1) Contributions - Employer	\$2,263,462
(2) Contributions - State	\$403,971
(3) Contributions - Member	\$170,272
(4) Net investment income	\$3,459,445
(5) Benefit payments	(\$779,792)
(6) Contribution refunds	\$0
(7) Administrative expenses	(\$64,794)
(8) Other	\$0
(9) Net change in plan fiduciary net position	\$5,452,564
(10) Plan fiduciary net position - beginning of year	\$30,139,247
(11) Plan fiduciary net position - ending of year	\$35,591,811
(l) Net pension liability/(asset) [(j)(10) minus (k)(11)]	\$20,542,982

Section 112.664(1)(c), F.S. (on last valuation basis)

(m) Number of Years, and fractional parts of Years, for which the Market Value of Assets are adequate to sustain expected retirement benefits	21.43
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Section 112.664(1)(c), F.S. (on Section 112.664(1)(a), F.S. basis)

(n) Number of Years, and fractional parts of Years, for which the Market Value of Assets are adequate to sustain expected retirement benefits	21.43
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Section 112.664(1)(c), F.S. (on Section 112.664(1)(b), F.S. basis)

(o) Number of Years, and fractional parts of Years, for which the Market Value of Assets are adequate to sustain expected retirement benefits	17.61
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Section 112.664(1)(d), F.S. (on last valuation basis)

(p) Recommended Plan contributions in Annual Dollar Value	\$2,453,364
(q) Recommended Plan contributions as a Percentage of Valuation Payroll	51.26%

Section 112.664(1)(d), F.S. (on Section 112.664(1)(a), F.S. basis)

(r) Recommended Plan contributions in Annual Dollar Value	\$2,453,364
(s) Recommended Plan contributions as a Percentage of Valuation Payroll	51.26%

Section 112.664(1)(d), F.S. (on Section 112.664(1)(b), F.S. basis)

(t) Recommended Plan contributions in Annual Dollar Value	\$5,163,595
(u) Recommended Plan contributions as a Percentage of Valuation Payroll	107.90%