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

Actuarial Valuation
As of October 1, 2019

DETERMINES THE CONTRIBUTION FOR THE 2019/20 FISCAL YEAR



TABLE OF CONTENTS

		E	age
Discussion			1
Funding Res	ults		
Table I-A	Minimum Required Contribution		1-1
Table I-B Table I-C	Sensitivity Analysis		1-3
Table I-D	Gain and Loss Analysis Present Value of Future Benefits		I-4 I-5
Table I-E	Present Value of Accrued Benefits		1-6
Table I-F	Present Value of Vested Benefits		1-7
Table I-G	Entry Age Normal Accrued Liability		1-8
Accounting F			
GASB 67/68 S	Supplement as of September 30, 2019		
Assets Table II-A	Actuarial Value of Assets		
Table II-A	Actuarial Value of Assets Market Value of Assets		11-1
Table II-C	Investment Return		II-2 II-3
Table II-D	Asset Reconciliation		11-4
Table II-E	Historical Trust Fund Detail		11-5
Table II-F	Other Reconciliations		11-6
Table II-G	Historical Chapter 175/185 Contributions		11-7
<u>Data</u>	Commence of Destining and Dest		
Table III-A Table III-B	Summary of Participant Data Data Reconciliation		III-1
Table III-C	Active Participant Data		III-2 III-3
Table III-D	Active Age-Service Distribution		111-4
Table III-E	Active Age-Service-Salary Table		III - 5
Table III-F	Inactive Participant Data		111-6
Table III-G	Projected Benefit Payments		III-7
Methods & As			
Table IV-A	Summary of Actuarial Methods and Assumptions		V-1
Table IV-B	Changes in Actuarial Methods and Assumptions	I	V-3
Plan Provision Table V-A	The second secon		\ / 4
Table V-A	Summary of Plan Provisions Summary of Plan Amendments		V-1 V-5
TOTAL STATE OF THE			10



January 11, 2020

Introduction

This report presents the results of the October 1, 2019 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, 2019 and to determine the minimum required contribution under Chapter 112, Florida Statutes, for the 2019/20 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 <u>estimate</u> 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 2019/20 plan year. The minimum required contribution rate is 38.53% of covered payroll, which represents an increase of 0.01% of payroll from the prior valuation.

The normal cost rate is 37.20%, which is 0.01% of payroll more 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 increased by 1.31% of payroll due to investment losses and decreased by 1.31% of payroll due to demographic experience. The market value of assets only earned 5.53% during the 2018/19 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 2019/20 minimum required contribution will be equal to 38.53% multiplied by the total pensionable earnings for the 2019/20 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 2019/20 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 \$58,119,552. As illustrated in Table I-A, current assets are sufficient to cover \$44,538,280 of this amount, the employer's 2019/20 expected contribution will cover \$2,004,733 of this amount, and future employee contributions are expected to cover \$1,167,781 of this amount, leaving \$10,408,758 to be covered by future employer funding beyond the 2019/20 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, 2019, the advance employer contribution is \$1,322,035, which reflects the advance employer contribution of \$469,243 as of October 1, 2018 plus \$852,792 in actual employer contributions above the minimum funding requirement for the 2018/19 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 2019/20 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 <u>extra</u> 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, 2019 would reduce the normal cost rate to 33.24% of payroll and would reduce the minimum required contribution for the 2019/20 plan year to 34.43% of payroll.

Excess Chapter 175/185 Contributions

As of October 1, 2019, 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, 2018. The total Chapter 175/185 distribution received during the 2018/19 plan year was \$449,109, all of which was allowed to be used to offset the District's minimum required contribution. Table II-G provides a history of the Chapter 175/185 contributions and the portion that is allowed to be recognized.



Identification and Assessment of Risk

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 <u>estimate</u> 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, there is always a risk that, should these assumptions not be realized, the liabilities of the plan, the contributions required to fund the plan, and the funded status of the plan may be significantly different than the amounts shown in this report.

Although a thorough analysis of the risk of not meeting the assumptions is beyond the scope of this report, this discussion is intended to identify the significant risks faced by the plan. In some cases, a more detailed review of the risks, including numerical analysis, may be appropriate to help the plan sponsor and other interested parties assess the specific impact of not realizing certain assumptions. For example, Table I-B illustrates the impact that alternative long-term investment returns would have on the contribution rate. Note that this report is not intended to provide advice on the management or reduction of the identified risks nor is this report intended to provide investment advice.

The most significant risk faced by most defined benefit pension plans is investment risk, i.e. the risk that long-term investment returns will be less than assumed. Other related risks include a risk that, if the investments of the plan decline dramatically over a short period of time (such as occurred with many pension plans in 2008), the plan's assets may not have sufficient time to recover before benefits become due. Even if the assets of the plan grow in accordance with the assumed investment return over time, if benefit payments are expected to be large in the short-term (for example, if the plan provides an actuarial equivalent lump sum payment option and a large number of participants are expected to become entitled to such a lump sum in the near future), the plan's assets may not be sufficient to support such a high level of benefit payments. We have provided a 10-year projection of the expected benefit payments in Table III-G to help the Trustees in formulating an investment policy that is expected to provide an investment return that meets both the short- and long-term cash flow needs of the pension plan.

Another source of risk is demographic experience. This is the risk that participants will receive salary increases that are different than the amount assumed, that participants will retire, become disabled, or terminate their employment at a rate that is different than assumed, and that participants will live longer than assumed, just to cite a few examples of the demographic risk faced by the plan. Although for most pension plans, the demographic risk is not as significant as the investment risk, particularly in light of the fact that the mortality assumption includes a component for future life expectancy increases, the demographic risk can nevertheless be a significant contributing factor to liabilities and contribution rates that become higher than anticipated.

A third source of risk is the risk that the plan sponsor (or other contributing entities) will not make, or will not have the ability to make, the contributions that are required to keep the plan funded at a sufficient level. Material changes in the number of covered employees, covered payroll, and, in some cases, hours worked by active participants can also significantly impact the plan's liabilities and the level of contributions received by the plan.



Finally, an actuarial funding method has been used to allocate the gap between projected liablities and assets to each year in the future. The contribution rate under some funding methods is higher during the early years of the plan and then is lower during the later years of the plan. Other funding methods provide for lower contribution rates initially, with increasing contribution rates over time.

The Trustees have adopted the aggregate funding method for this plan, which is expected to result in a contribution rate that is level as a percentage of payroll over the working life of the plan's active participants. A brief description of the actuarial funding method is provided in Table IV-A.

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, 2019, 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 10 participants who are due a refund of their contributions. We have estimated the accumulated amount of their refunds to be \$562 as of October 1, 2019. The average amount owed to these individuals is only \$56. 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 an

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

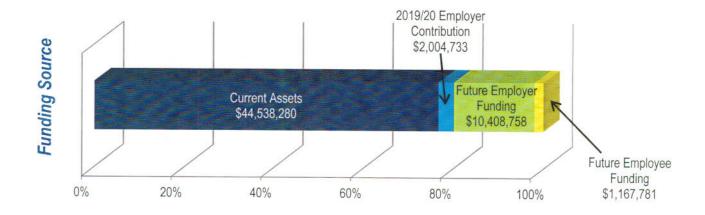
Enrolled Actuary No. 17-04927

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 2019/20 Plan Year

Present Value of Future Benefits	\$57,544,111
Present Value of Future Administrative Expenses	\$575,441
Actuarial Value of Assets	(\$44,538,280)
Present Value of Future Employee Contributions	(\$1,167,781)
Present Value of Future Normal Costs	\$12,413,491
Present Value of Future Payroll	÷ \$33,365,179
Normal Cost Rate	= 37.2049%
Expected Payroll	x \$5,202,771
Normal Cost	\$1,935,687
Adjustment to Reflect Semi-Monthly Employer Contributions	\$69,046
Preliminary Employer Contribution for the 2019/20 Plan Year	\$2,004,733
Expected Payroll for the 2019/20 Plan Year	÷ \$5,202,771
Minimum Required Contribution Rate	38.53%

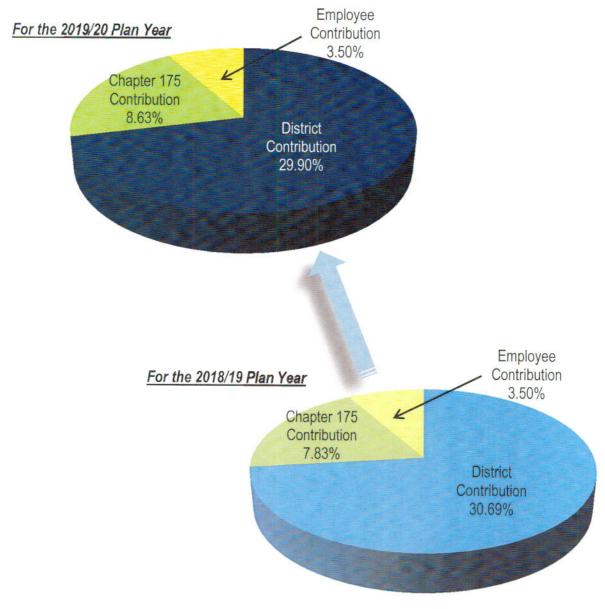
(The actual contribution should be based on the minimum required contribution rate multiplied by the actual payroll for the year.)



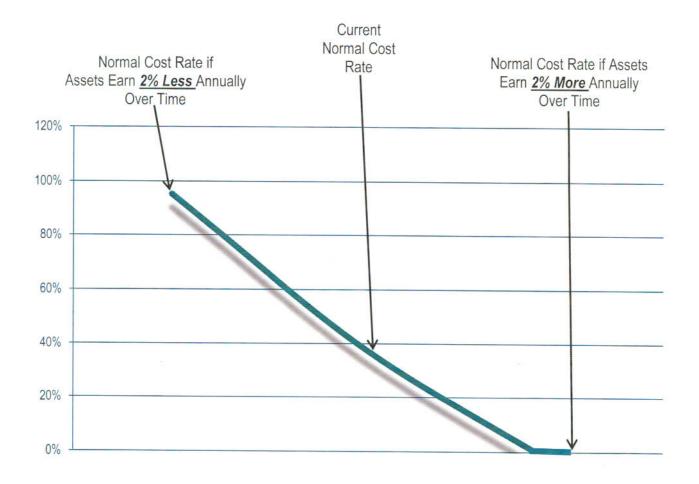
Minimum Required Contribution

Table I-A (continued)

The minimum required contribution rate of 38.53% 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 29.90% based on the allowable Chapter 175 contribution for the previous year. The chart below shows the expected contribution rate by source for the 2019/20 plan year based on the expected payroll. A comparative chart shows the contribution rate by source for the previous plan year.







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	37.19%
Increase (decrease) due to investment gains and losses Increase (decrease) due to demographic experience	1.31% -1.30%
Increase (decrease) due to plan amendments Increase (decrease) due to actuarial assumption changes Increase (decrease) due to actuarial method changes	0.00% 0.00% 0.00%
Current normal cost rate	37.20%



Present Value of Future Benefits

Table I-D

	Old Assumptions	Old Assumptions	New Assumptions
	w/o Amendment	w/ Amendment	w/ Amendment
Activaly France and Particle auto			
Actively Employed Participants Retirement benefits	\$20,462,060	¢20,400,000	# 20 400 000
Termination benefits	\$38,462,060	\$38,462,060	\$38,462,060
	\$1,547,498	\$1,547,498	\$1,547,498
Disability benefits Death benefits	\$1,597,971	\$1,597,971	\$1,597,971
	\$524,156	\$524,156	\$524,156
Refund of employee contributions	\$44,681	\$44,681	\$44,681
Sub-total	\$42,176,366	\$42,176,366	\$42,176,366
Deferred Vested Participants			
Retirement benefits	\$166,376	\$166,376	\$166,376
Termination benefits	\$0	\$0	\$0
Disability benefits	\$0	\$0	\$0
Death benefits	\$0	\$0	\$0
Refund of employee contributions	\$0	\$0	\$0
Sub-total	\$166,376	\$166,376	\$166,376
Due a Refund of Contributions	\$562	\$562	\$562
<u>Deferred Beneficiaries</u>	\$0	\$0	\$0
Retired Participants			
Service retirements	\$8,397,430	\$8,397,430	\$8,397,430
Disability retirements	\$1,740,827	\$1,740,827	\$1,740,827
Beneficiaries receiving	\$126,225	\$126,225	\$126,225
DROP participants	\$4,936,325	\$4,936,325	\$4,936,325
Sub-total	\$15,200,807	\$15,200,807	\$15,200,807
Grand Total	\$57,544,111	<u>\$57,544,111</u>	<u>\$57,544,111</u>
Present Value of Future Payroll	\$33,365,179	\$33,365,179	\$33,365,179
Present Value of Future Employee Contribs.	\$1,167,781	\$1,167,781	\$1,167,781
Present Value of Future Employer Contribs.	\$12,413,491	\$12,413,491	\$12,413,491



Present Value of Accrued Benefits

Table I-E

	Old Assumptions w/o Amendment	Old Assumptions w/ Amendment	New Assumptions w/ Amendment
Actively Employed Participants			
Retirement benefits	\$22,765,129	\$22,765,129	\$22,765,129
Termination benefits	\$1,036,499	\$1,036,499	\$1,036,499
Disability benefits	\$1,066,056	\$1,066,056	\$1,066,056
Death benefits	\$365,075	\$365,075	\$365,075
Refund of employee contributions	\$20,008	\$20,008	\$20,008
Sub-total	\$25,252,767	\$25,252,767	\$25,252,767
Deferred Vested Participants			
Retirement benefits	\$166,376	\$166,376	\$166,376
Termination benefits	\$0	\$0	\$0
Disability benefits	\$0	\$0	\$0
Death benefits	\$0	\$0	\$0
Refund of employee contributions	\$0	\$0	\$0
Sub-total	\$166,376	\$166,376	\$166,376
<u>Due a Refund of Contributions</u>	\$562	\$562	\$562
<u>Deferred Beneficiaries</u>	\$0	\$0	\$0
Retired Participants			
Service retirements	\$8,397,430	\$8,397,430	\$8,397,430
Disability retirements	\$1,740,827	\$1,740,827	\$1,740,827
Beneficiaries receiving	\$126,225	\$126,225	\$126,225
DROP participants	\$4,936,325	\$4,936,325	\$4,936,325
Sub-total	\$15,200,807	\$15,200,807	\$15,200,807
Grand Total	\$40,620,512	<u>\$40,620,512</u>	\$40,620,512
Funded Percentage	112.90%	112.90%	112.90%

(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

	Old Assumptions w/o Amendment	Old Assumptions w/ Amendment	New Assumptions w/ Amendment
Actively Employed Participants			
Retirement benefits	\$21,323,278	\$21,323,278	\$21,323,278
Termination benefits	\$988,315	\$988,315	\$988,315
Disability benefits	\$1,066,056	\$1,066,056	\$1,066,056
Death benefits	\$365,075	\$365,075	\$365,075
Refund of employee contributions	\$27,416	\$27,416	\$27,416
Sub-total	\$23,770,140	\$23,770,140	\$23,770,140
Deferred Vested Participants			
Retirement benefits	\$166,376	\$166,376	\$166,376
Termination benefits	\$0	\$0	\$0
Disability benefits	\$0	\$0	\$0
Death benefits	\$0	\$0	\$0
Refund of employee contributions	\$0	\$0	\$0
Sub-total	\$166,376	\$166,376	\$166,376
Due a Refund of Contributions	\$562	\$562	\$562
<u>Deferred Beneficiaries</u>	\$0	\$0	\$0
Retired Participants			
Service retirements	\$8,397,430	\$8,397,430	\$8,397,430
Disability retirements	\$1,740,827	\$1,740,827	\$1,740,827
Beneficiaries receiving	\$126,225	\$126,225	\$126,225
DROP participants	\$4,936,325	\$4,936,325	\$4,936,325
Sub-total	\$15,200,807	\$15,200,807	\$15,200,807
Grand Total	<u>\$39,137,885</u>	<u>\$39,137,885</u>	\$39,137,885



Entry Age Normal Accrued Liability

Table I-G

	Old Assumptions w/o Amendment	Old Assumptions w/ Amendment	New Assumptions w/ Amendment
Actively Employed Participants			
Retirement benefits	\$30,401,229	\$30,401,229	\$30,401,229
Termination benefits	\$1,204,529	\$1,204,529	\$1,204,529
Disability benefits	\$1,240,610	\$1,240,610	\$1,240,610
Death benefits	\$404,559	\$404,559	\$404,559
Refund of employee contributions	\$22,914	\$22,914	\$22,914
Sub-total	\$33,273,841	\$33,273,841	\$33,273,841
Deferred Vested Participants			
Retirement benefits	\$166,376	\$166,376	\$166,376
Termination benefits	\$0	\$0	\$0
Disability benefits	\$0	\$0	\$0
Death benefits	\$0	\$0	\$0
Refund of employee contributions	\$0	\$0	\$0
Sub-total	\$166,376	\$166,376	\$166,376
Due a Refund of Contributions	\$562	\$562	\$562
<u>Deferred Beneficiaries</u>	\$0	\$0	\$0
Retired Participants			
Service retirements	\$8,397,430	\$8,397,430	\$8,397,430
Disability retirements	\$1,740,827	\$1,740,827	\$1,740,827
Beneficiaries receiving	\$126,225	\$126,225	\$126,225
DROP participants	\$4,936,325	\$4,936,325	\$4,936,325
Sub-total	\$15,200,807	\$15,200,807	\$15,200,807
Grand Total	\$48,641,586	<u>\$48,641,586</u>	\$48,641,586



Actuarial Value of Assets

Table II-A

Market Value of	Assets as	of October 1.	2019	\$46.829.732
-----------------	-----------	---------------	------	--------------

Minus DROP account balances	(\$890,855)
Minus advance employer contributions	(\$1,322,035)
Minus excess Chapter 175/185 contributions	(\$78,562)

Actuarial Value of Assets as of October 1, 2019 \$44,538,280

Historical Actuarial Value of Assets

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
October 1, 2018	\$40,946,547
October 1, 2019	\$44,538,280

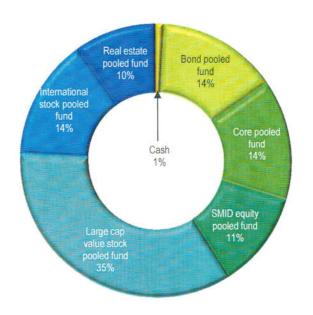


Market Value of Assets

Table II-B

As of October 1, 2019

Market Value of Assets	\$46,829,732
Cash	\$421,468
Bond pooled fund	\$6,743,481
Core pooled fund	\$6,696,652
SMID equity pooled fund	\$5,385,419
Large cap value stock pooled fund	\$16,249,917
International stock pooled fund	\$6,790,311
Real estate pooled fund	\$4,542,484

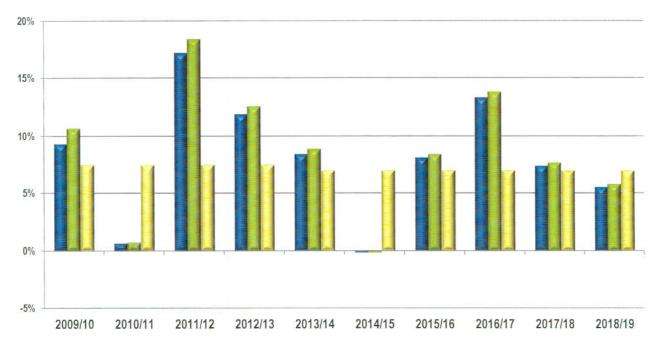






Investment Return

Table II-C



Annual Investment Returns

■ Market Value Return
■ Actuarial Value Return
Assumed Return

	Market	Actuarial	
Plan	Value	Value	Assumed
Year	Return	Return	Return
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%
2017/18	7.41%	7.69%	7.00%
2018/19	5.53%	5.79%	7.00%
10yr. Avg	g. 8.07%	8.56%	7.20%



Asset Reconciliation		Table II-D
	Market Value	Actuarial Value
As of October 1, 2018	\$42,564,666	\$40,946,547
Increases Due To:		
Employer Contributions Chapter 175/185 Contributions Employee Contributions Service Purchase Contributions Total Contributions	\$2,612,470 \$449,109 \$200,695 \$0 \$3,262,274	\$2,612,470 \$449,109 \$200,695 \$0 \$3,262,274
Interest and Dividends Realized Gains (Losses) Unrealized Gains (Losses) Total Investment Income	\$0 \$0 \$2,404,265 \$2,404,265	\$2,404,265
Other Income	\$0	
Total Income	\$5,666,539	\$5,666,539
Decreases Due To:		
Monthly Benefit Payments Refund of Employee Contributions DROP Credits Total Benefit Payments	(\$1,297,023) (\$21,863) ————————————————————————————————————	(\$1,297,023) (\$21,863) \$179,459 (\$1,139,427)
Investment Expenses Administrative Expenses	\$0 (\$82,587)	(\$82,587)
Advance Employer Contribution Excess Chapter 175/185 Contribution		(\$852,792) \$0
Total Expenses	(\$1,401,473)	(\$2,074,806)
As of October 1, 2019	\$46,829,732	\$44,538,280



Historical Trust Fund Detail

Table II-E

Income								
				Service		Realized	Unrealized	
Plan	Employer	Chapter	Employee	Purchase	Interest /	Gains /	Gains I	Other
Year	Contribs.	Contribs.	Contribs.	Contribs.	Dividends	Losses	Losses	Income
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
2017/18	\$3,527,797	\$410,300	\$191,645	\$0	\$0	\$0	\$2,828,414	\$0
2018/19	\$2,612,470	\$449,109	\$200,695	\$0	\$0	\$0	\$2,404,265	\$0

Expenses					Other Ac	tuarial Adj	ustments
	Monthly					Advance	Excess
Plan	Benefit	Contrib.	Admin.	Invest.	DROP	Employer	Chapter
Year	<u>Payments</u>	Refunds	Expenses	Expenses	Credits	Contribs.	Contribs.
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
2017/18	\$955,125	\$720	\$65,334	\$0	\$112,998	\$289,837	\$0
2018/19	\$1,297,023	\$21,863	\$82,587	\$0	-\$179,459	\$852,792	\$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, 2018	\$469,243
Additional Employer Contribution Minimum Required Contribution Net Increase in Advance Employer Contribution	\$3,061,579 (\$2,208,787) \$852,792
Advance Employer Contribution as of October 1, 2019	\$1,322,035
Excess Chapter 175/185 Contribution	
Excess Chapter 175/185 Contribution as of October 1, 2018	\$78,562
Additional Chapter 175/185 Contribution Allowable Chapter 175/185 Contribution Net Increase in Excess Chapter 175/185 Contribution	\$449,109 (\$449,109) \$0
Excess Chapter 175/185 Contribution as of October 1, 2019	\$78,562
DROP Account Reconciliation	
DROP Balance as of October 1, 2018	\$1,070,314
DROP Benefit Credits DROP Investment Credits DROP Benefits Paid Out Net DROP Credit	\$264,857 \$62,395 (\$506,711) (\$179,459)
DROP Balance as of October 1, 2019	\$890,855



Historical Chapter 175/185 Contributions

Table II-G

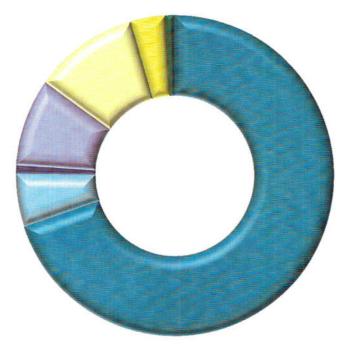
	Total Accumulate	d Excess Chapter 175/	185 Contribution	\$78,562
	Chapter 175 Regular	Chapter 175 Supplemental	Chapter 185	Allowable
	Distribution	Distribution	Distribution	Amount
1998 Distribution	\$38,443	\$0	\$0	(\$38,443)
1999 Distribution	\$49,368	\$0	\$0	(\$49,368)
2000 Distribution	\$76,102	\$0	\$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)
2017 Distribution	\$407,121	\$3,179	\$0	(\$410,300)
2018 Distribution	\$449,109	\$0	\$0	(\$449,109)



Summary of Participant Data

Table III-A

As of October 1, 2019



Partici	pant	Distribution	bv	Status
ul tivi	Duile	DIGHTNUCTO	$\sim y$	Oracao

Actively Employed Participants	
Active Participants	79
DROP Participants	6
Inactive Participants	
Deferred Vested Participants	1
Due a Refund of Contributions	10
Deferred Beneficiaries	0
Participants Receiving a Benefit	
Service Retirements	12
Disability Retirements	4
◆ Beneficiaries Receiving	1
Total Participants	113

	Active	DROP	Inactive	Retired	Total
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
October 1, 2018	83	4	10	16	113
October 1, 2019	79	6	11	17	113



Data Reconciliation Table III-B

	Active	DROP	Deferred Vested	Due a Refund	Def. Benef.	Service Retiree	Disabled Retiree	Benef. Rec'v.	Total
October 1, 2018	83	4	0	10	0	11	4	1	113
Change in Status Re-employed Terminated Retired	(3)	(1)	1	2		1			
Participation Ended Transferred Out Cashed Out Died	(3)	3		(2)					(2)
Participation Began Newly Hired Transferred In New Beneficiary	2								2
Other Adjustment									
October 1, 2019	79	6	1	10	0	12	4	1	113

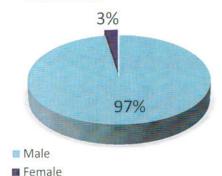


Active Participant Data

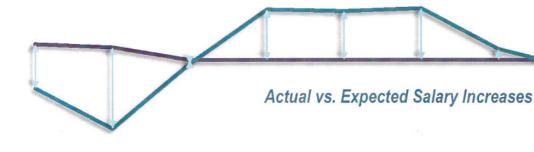
Table III-C

Gender Mix

As of October 1, 2019



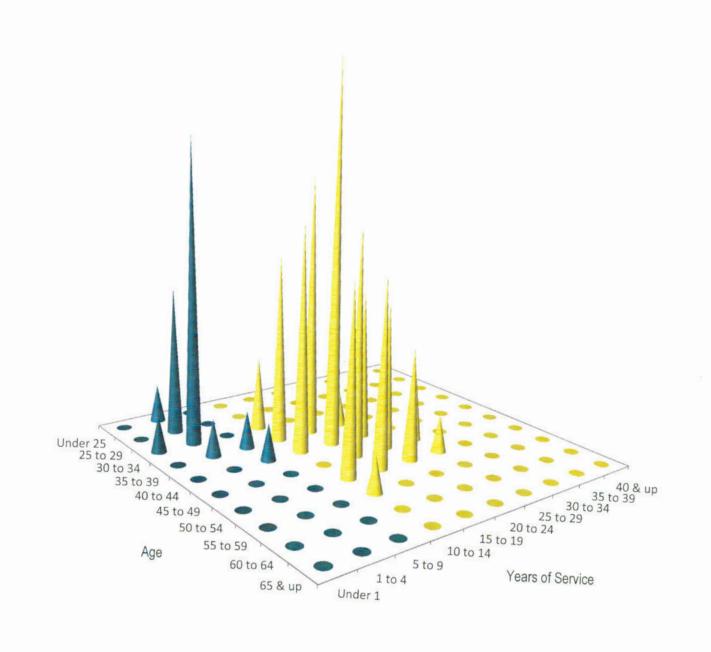
Average Age
Average Service
Total Annualized Compensation for the Prior Year
Total Expected Compensation for the Current Year
Average Increase in Compensation for the Prior Year
Expected Increase in Compensation for the Current Year
Accumulated Contributions for Active Employees
41.6 years
14.1 years
\$5,549,484
\$5,202,771
4.10%
\$2,002,190

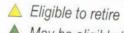


Active Participant Statistics From Prior Valuations

	•			Average	Average	
	Average	Average	Average	Expected Salary	Actual Salary	
	Average Age	Service	Average Salary	Increase	Increase	
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%	
October 1, 2018	41.1	13.5	\$67,560	4.50%	5.02%	
October 1, 2019	41.6	14.1	\$70,247	4.50%	4.10%	







May be eligible to retire

▲ Not eligible to retire



Active Age-Service-Salary Table

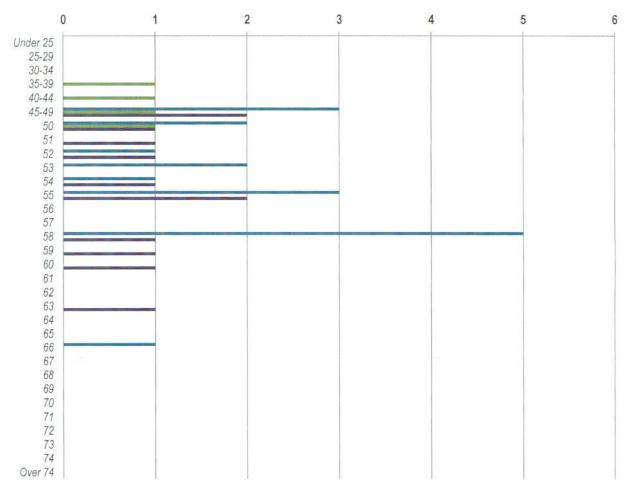
Table III-E

Attained					Complet	ed Years o	f Service				
Age	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	Total
Under 25	0	1	0	0	0	0	0	0	0	0	1
Avg.Pay	0	50,105	0	0	0	0	0	0	0	0	50,105
05.4.00					0						
25 to 29 Avg.Pay	0	51,393	0	0	0	0	0	0	0 0	0	51,393
Avg.ray	٥	01,000	U	0	0	0	U	U	0	0	01,000
30 to 34	1	8	0	2	0	0	0	0	0	0	11
Avg.Pay	40,270	54,089	0	68,033	0	0	0	0	0	0	55,368
35 to 39	0	1	1	5	7	1	0	0	0	0	15
Avg.Pay	0	64,659	67,579	71,373	76,077	68,714	0	0	0	0	72,691
10000 0000				Ca.		5500	160				
40 to 44	0	0	1	6	10	4	0	0	0	0	21
Avg.Pay	0	0	61,008	70,852	71,893	76,451	0	0	0	0	71,946
45 to 49	0	0	0	0	6	4	2	0	0	0	12
Avg.Pay	0	0	0	0	72,396	79,423	83,207	0	0	0	76,540
Avg.ray	0	0	U	U	72,390	73,423	03,207	0	0	U	70,040
50 to 54	0	0	0	5	5	3	1	0	0	0	14
Avg.Pay	0	0	0	69,376	76,392	88,070	101,861	0	0	0	78,208
,											
55 to 59	0	0	0	1	0	0	0	0	0	0	1
Avg.Pay	0	0	0	70,161	0	0	0	0	0	0	70,161
	19						-				
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
/ right dy	J	J	0		0					0	J
Total	1	14	2	19	28	12	3	0	0	0	79
Avg.Pay	40,270	53,789	64,294	70,267	73,850	79,702	89,425	0	0	0	70,247



Inactive Participant Data

Table III-F



Age at Retirement

- Service Retirements
- Disability Retirements
- DROP Participants

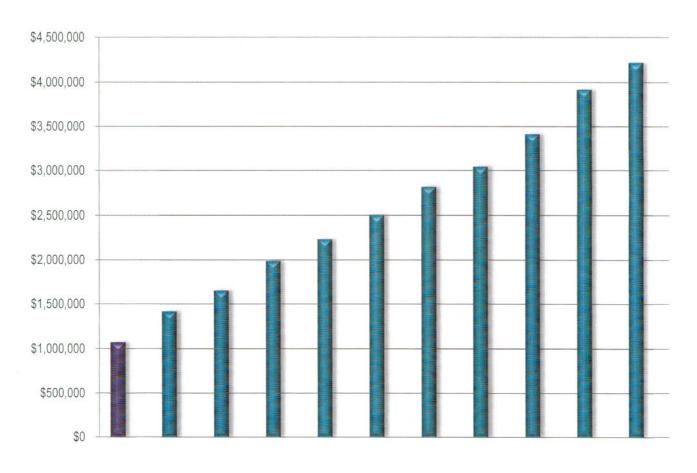
Average Monthly Benefit

Service Retirements	\$4,667.66
Disability Retirements	\$2,893.89
Beneficiaries Receiving	\$857.03
DROP Participants	\$5,293.56
Deferred Vested Participants	\$2,354.66
Deferred Beneficiaries	Not applicable



Projected Benefit Payments

Table III-G



Actual	
For the period October 1, 2018 through September 30, 2019	\$1,077,032
<u>Projected</u>	
For the period October 1, 2019 through September 30, 2020	\$1,421,467
For the period October 1, 2020 through September 30, 2021	\$1,656,954
For the period October 1, 2021 through September 30, 2022	\$1,993,084
For the period October 1, 2022 through September 30, 2023	\$2,239,471
For the period October 1, 2023 through September 30, 2024	\$2,512,410
For the period October 1, 2024 through September 30, 2025	\$2,821,204
For the period October 1, 2025 through September 30, 2026	\$3,048,048
For the period October 1, 2026 through September 30, 2027	\$3,417,101
For the period October 1, 2027 through September 30, 2028	\$3,921,968
For the period October 1, 2028 through September 30, 2029	\$4,222,618



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. Decrements

Pre-retirement mortality:

Sex-distinct rates set forth in the RP-2000 Blue Collar Mortality Table, with full generational improvements in mortality using Scale BB; all pre-retirement deaths are assumed to occur in the line of duty.

Post-retirement mortality:

Sex-distinct rates set forth in the RP-2000 Blue Collar 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, 2018, the mortality basis was changed from the RP-2000 Combined Mortality Table to the RP-2000 Blue Collar Mortality Table, both with full generational improvements using Scale BB.
- (2) 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.
- (3) Effective October 1, 2013, the interest (or discount) rate was decreased from 7.50% per annum to 7.00% per annum.
- (4) 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.
- (5) 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.
- (6) 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.
- (7) 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.



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



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



Table V-A

(continued)

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.



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 postretirement 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.

