

RETIREMENT PLAN FOR THE GENERAL EMPLOYEES  
OF THE SOUTHERN MANATEE FIRE & RESCUE DISTRICT

ACTUARIAL VALUATION  
AS OF OCTOBER 1, 2020

DETERMINES THE CONTRIBUTION  
FOR THE 2020/21 FISCAL YEAR



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December 9, 2020

## Introduction

This report presents the results of the October 1, 2020 actuarial valuation for the Retirement Plan for the General Employees 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, 2020 and to determine the minimum required contribution under Chapter 112, Florida Statutes, for the 2020/21 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 2020/21 plan year. The minimum required contribution rate is 51.13% of covered payroll, which represents an increase of 2.48% of payroll from the prior valuation.

The normal cost rate is 49.37%, which is 2.40% of payroll greater 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 0.29% of payroll due to investment gains, increased by 4.02% of payroll due to demographic experience, and decreased by 1.33% of payroll due to the assumption change that is described below. The market value of assets earned 6.71% during the 2019/20 plan year and the actuarial value of assets earned 7.15% during the 2019/20 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 2020/21 minimum required contribution will be equal to 51.13% multiplied by the total pensionable earnings for the 2020/21 fiscal year for the active employees who are covered by the plan.

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 \$4,432,527. As illustrated in Table I-A, current assets are sufficient to cover \$3,567,359 of this amount, the employer's 2020/21 expected contribution will cover \$120,823 of this amount, and future employee contributions are expected to cover \$57,273 of this amount, leaving \$687,072 to be covered by future employer funding beyond the 2020/21 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, 2020, the advance employer contribution is \$21,950, which reflects the advance employer contribution of \$38,080 as of October 1, 2019 less \$16,130 to cover the shortfall between actual employer contributions and the minimum funding requirement for the 2019/20 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 2020/21 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, 2020 would reduce the normal cost rate to 48.03% of payroll and would reduce the minimum required contribution for the 2020/21 plan year to 49.74% of payroll.

### Actuarial Assumption Change

Since the completion of the previous valuation, the mortality basis was changed from the RP-2000 Combined Mortality Table with generational improvements in mortality using Scale BB to selected PUB-2010 Mortality Tables with generational improvements in mortality using Scale MP-2018. The impact of this assumption change was to decrease the normal cost rate by 1.33% of payroll.



### 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 *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, 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 liabilities 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, 2020, as well as a summary of the changes that have occurred since the previous valuation report was prepared.

### 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 J. Carr*

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

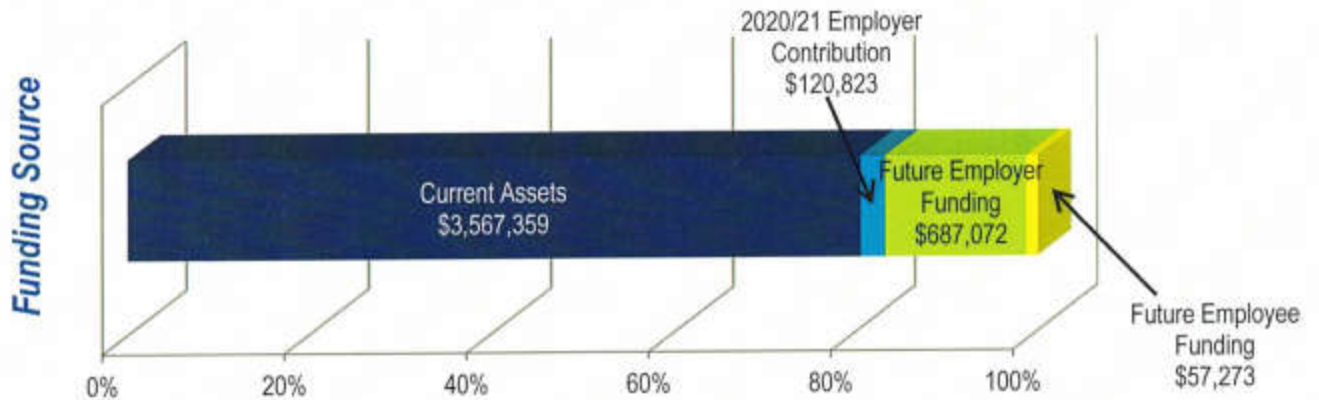
Enrolled Actuary No. 20-04927

*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 2020/21 Plan Year

Present Value of Future Benefits	\$4,324,417
Present Value of Future Administrative Expenses	\$108,110
Actuarial Value of Assets	(\$3,567,359)
Present Value of Future Employee Contributions	(\$57,273)
Present Value of Future Normal Costs	\$807,895
<hr/>	
Present Value of Future Payroll	+ \$1,636,384
Normal Cost Rate	= 49.3707%
Expected Payroll	x \$236,297
<hr/>	
Normal Cost	\$116,662
Adjustment to Reflect Semi-Monthly Employer Contributions	\$4,161
Preliminary Employer Contribution for the 2020/21 Plan Year	\$120,823
<hr/>	
Expected Payroll for the 2020/21 Plan Year	+ \$236,297

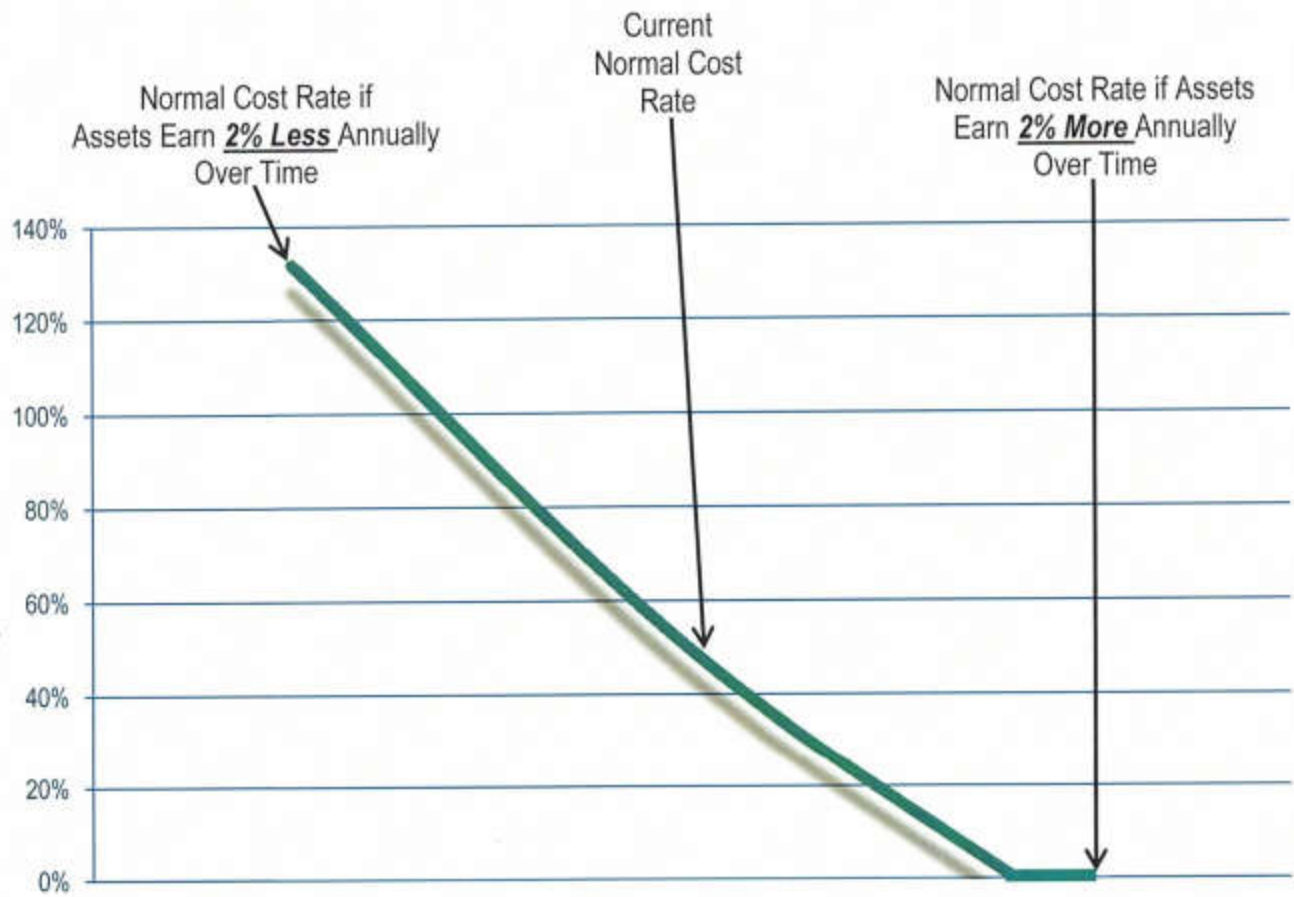
**Minimum Required Contribution Rate** 51.13%

*(The actual contribution should be based on the minimum required contribution rate multiplied by the actual payroll for the 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	46.97%
Increase (decrease) due to investment gains and losses	-0.29%
Increase (decrease) due to demographic experience	4.02%
Increase (decrease) due to plan amendments	0.00%
Increase (decrease) due to actuarial assumption changes	-1.33%
Increase (decrease) due to actuarial method changes	0.00%
Current normal cost rate	<u>49.37%</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><u>Actively Employed Participants</u></i>			
Retirement benefits	\$1,399,769	\$1,399,769	\$1,398,572
Termination benefits	\$23,473	\$23,473	\$23,126
Disability benefits	\$33,812	\$33,812	\$27,931
Death benefits	\$19,749	\$19,749	\$15,372
Refund of employee contributions	\$11,492	\$11,492	\$11,206
Sub-total	<b>\$1,488,295</b>	<b>\$1,488,295</b>	<b>\$1,476,207</b>
<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	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<i><u>Due a Refund of Contributions</u></i>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<i><u>Deferred Beneficiaries</u></i>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<i><u>Retired Participants</u></i>			
Service retirements	\$748,046	\$748,046	\$735,387
Disability retirements	\$0	\$0	\$0
Beneficiaries receiving	\$0	\$0	\$0
DROP participants	\$2,107,443	\$2,107,443	\$2,112,823
Sub-total	<b>\$2,855,489</b>	<b>\$2,855,489</b>	<b>\$2,848,210</b>
<i><u>Grand Total</u></i>	<b><u>\$4,343,784</u></b>	<b><u>\$4,343,784</u></b>	<b><u>\$4,324,417</u></b>
Present Value of Future Payroll	\$1,632,750	\$1,632,750	\$1,636,384
Present Value of Future Employee Contribs.	\$57,146	\$57,146	\$57,273
Present Value of Future Employer Contribs.	\$827,874	\$827,874	\$807,895



## Present Value of Accrued Benefits

Table I-E

	<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	\$743,045	\$743,045	\$738,943
Termination benefits	\$17,993	\$17,993	\$17,717
Disability benefits	\$21,772	\$21,772	\$17,983
Death benefits	\$11,773	\$11,773	\$9,529
Refund of employee contributions	\$6,620	\$6,620	\$6,396
Sub-total	<b>\$801,203</b>	<b>\$801,203</b>	<b>\$790,568</b>
<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	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<i><u>Due a Refund of Contributions</u></i>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<i><u>Deferred Beneficiaries</u></i>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<i><u>Retired Participants</u></i>			
Service retirements	\$748,046	\$748,046	\$735,387
Disability retirements	\$0	\$0	\$0
Beneficiaries receiving	\$0	\$0	\$0
DROP participants	\$2,107,443	\$2,107,443	\$2,112,823
Sub-total	<b>\$2,855,489</b>	<b>\$2,855,489</b>	<b>\$2,848,210</b>
<i><u>Grand Total</u></i>	<b><u>\$3,656,692</u></b>	<b><u>\$3,656,692</u></b>	<b><u>\$3,638,778</u></b>
<i><u>Funded Percentage</u></i>	105.01%	105.01%	105.52%

(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	\$727,740	\$727,740	\$723,373
Termination benefits	\$17,993	\$17,993	\$17,717
Disability benefits	\$21,772	\$21,772	\$17,983
Death benefits	\$10,576	\$10,576	\$8,786
Refund of employee contributions	\$7,010	\$7,010	\$6,652
Sub-total	<b>\$785,091</b>	<b>\$785,091</b>	<b>\$774,511</b>
<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	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<i><u>Due a Refund of Contributions</u></i>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<i><u>Deferred Beneficiaries</u></i>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<i><u>Retired Participants</u></i>			
Service retirements	\$748,046	\$748,046	\$735,387
Disability retirements	\$0	\$0	\$0
Beneficiaries receiving	\$0	\$0	\$0
DROP participants	\$2,107,443	\$2,107,443	\$2,112,823
Sub-total	<b>\$2,855,489</b>	<b>\$2,855,489</b>	<b>\$2,848,210</b>
<i><u>Grand Total</u></i>	<b><u>\$3,640,580</u></b>	<b><u>\$3,640,580</u></b>	<b><u>\$3,622,721</u></b>



## 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><u>Actively Employed Participants</u></i>			
Retirement benefits	\$1,065,339	\$1,065,339	\$1,062,371
Termination benefits	\$20,753	\$20,753	\$20,441
Disability benefits	\$24,575	\$24,575	\$20,391
Death benefits	\$15,261	\$15,261	\$11,971
Refund of employee contributions	\$7,146	\$7,146	\$6,904
Sub-total	<b>\$1,133,074</b>	<b>\$1,133,074</b>	<b>\$1,122,078</b>
<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	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<i><u>Due a Refund of Contributions</u></i>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<i><u>Deferred Beneficiaries</u></i>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<i><u>Retired Participants</u></i>			
Service retirements	\$748,046	\$748,046	\$735,387
Disability retirements	\$0	\$0	\$0
Beneficiaries receiving	\$0	\$0	\$0
DROP participants	\$2,107,443	\$2,107,443	\$2,112,823
Sub-total	<b>\$2,855,489</b>	<b>\$2,855,489</b>	<b>\$2,848,210</b>
<i><u>Grand Total</u></i>	<b><u>\$3,988,563</u></b>	<b><u>\$3,988,563</u></b>	<b><u>\$3,970,288</u></b>



Actuarial Value of Assets

Table II-A

Market Value of Assets as of October 1, 2020	\$3,839,722
Minus DROP account balances	(\$250,413)
Minus advance employer contributions	(\$21,950)
<b>Actuarial Value of Assets as of October 1, 2020</b>	<b><u>\$3,567,359</u></b>

<b>Historical Actuarial Value of Assets</b>	
October 1, 2011	\$1,120,735
October 1, 2012	\$1,436,085
October 1, 2013	\$1,690,602
October 1, 2014	\$1,916,144
October 1, 2015	\$2,007,307
October 1, 2016	\$2,309,516
October 1, 2017	\$2,774,541
October 1, 2018	\$3,151,966
October 1, 2019	\$3,361,200
October 1, 2020	\$3,567,359

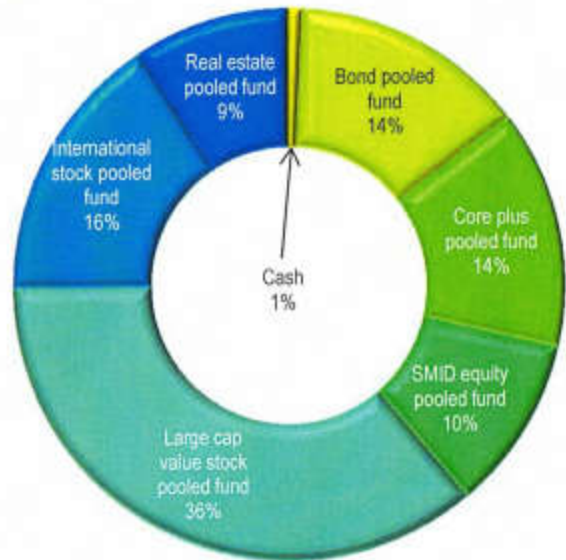


Market Value of Assets

Table II-B

As of October 1, 2020

<b>Market Value of Assets</b>	<b><u>\$3,839,722</u></b>
Cash	\$30,718
Bond pooled fund	\$533,721
Core plus pooled fund	\$537,561
SMID equity pooled fund	\$391,652
Large cap value stock pooled fund	\$1,386,139
International stock pooled fund	\$610,516
Real estate pooled fund	\$349,415

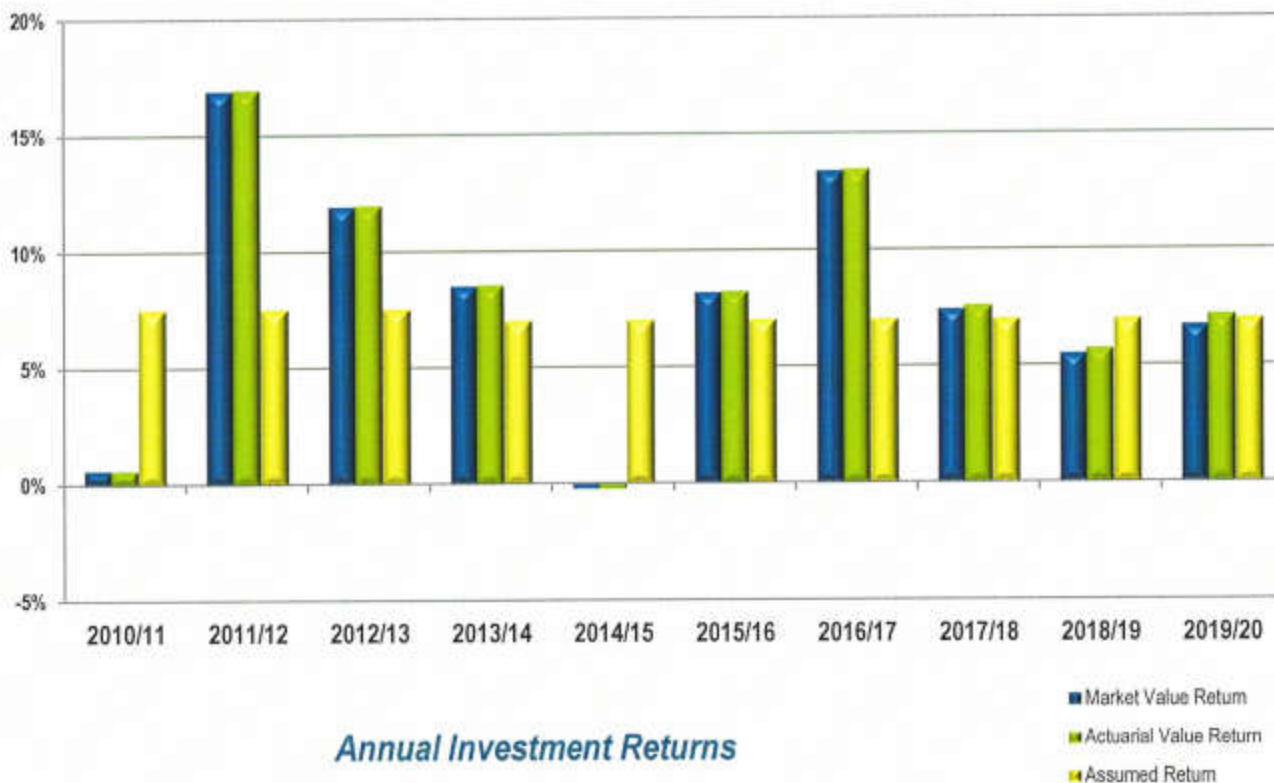


<u>Historical Market Value of Assets</u>	
October 1, 2011	\$1,127,172
October 1, 2012	\$1,436,085
October 1, 2013	\$1,697,452
October 1, 2014	\$1,928,539
October 1, 2015	\$2,019,702
October 1, 2016	\$2,314,211
October 1, 2017	\$2,799,311
October 1, 2018	\$3,230,261
October 1, 2019	\$3,536,240
October 1, 2020	\$3,839,722



Investment Return

Table II-C



Plan Year	Market Value Return	Actuarial Value Return	Assumed Return
2010/11	0.62%	0.62%	7.50%
2011/12	16.93%	16.98%	7.50%
2012/13	11.94%	11.97%	7.50%
2013/14	8.48%	8.53%	7.00%
2014/15	-0.20%	-0.20%	7.00%
2015/16	8.18%	8.21%	7.00%
2016/17	13.36%	13.44%	7.00%
2017/18	7.43%	7.56%	7.00%
2018/19	5.50%	5.72%	7.00%
2019/20	6.71%	7.15%	7.00%
10yr. Avg.	7.78%	7.88%	7.15%





## Asset Reconciliation

Table II-D

	<u>Market Value</u>	<u>Actuarial Value</u>
As of October 1, 2019	\$3,536,240	\$3,361,200
<i>Increases Due To:</i>		
Employer Contributions	\$130,818	\$130,818
Employee Contributions	\$10,572	\$10,572
Service Purchase Contributions	\$0	\$0
Total Contributions	<u>\$141,390</u>	<u>\$141,390</u>
Interest and Dividends	\$0	
Realized Gains (Losses)	\$0	
Unrealized Gains (Losses)	\$239,272	
Total Investment Income	<u>\$239,272</u>	\$239,272
Other Income	\$0	
<b>Total Income</b>	<u><b>\$380,662</b></u>	<u><b>\$380,662</b></u>
<i>Decreases Due To:</i>		
Monthly Benefit Payments	(\$64,191)	(\$64,191)
Refund of Employee Contributions	\$0	\$0
DROP Credits		(\$113,453)
Total Benefit Payments	<u>(\$64,191)</u>	<u>(\$177,644)</u>
Investment Expenses	\$0	
Administrative Expenses	(\$12,989)	(\$12,989)
Advance Employer Contribution		\$16,130
<b>Total Expenses</b>	<u><b>(\$77,180)</b></u>	<u><b>(\$174,503)</b></u>
<b>As of October 1, 2020</b>	<u><u><b>\$3,839,722</b></u></u>	<u><u><b>\$3,567,359</b></u></u>



## Historical Trust Fund Detail

Table II-E

Income

Plan Year	Employer Contribs.	Employee Contribs.	Service Purchase Contribs.	Interest / Dividends	Realized Gains / Losses	Unrealized Gains / Losses	Other Income
2010/11	\$137,306	\$12,687	\$0	\$0	\$0	\$6,583	\$0
2011/12	\$139,775	\$13,095	\$0	\$0	\$0	\$200,050	\$0
2012/13	\$119,945	\$12,794	\$0	\$0	\$0	\$176,601	\$0
2013/14	\$119,977	\$13,572	\$0	\$0	\$0	\$147,511	\$0
2014/15	\$131,597	\$15,608	\$0	\$0	\$0	-\$3,978	\$0
2015/16	\$161,687	\$16,611	\$0	\$0	\$0	\$170,229	\$0
2016/17	\$205,151	\$15,690	\$0	\$0	\$0	\$320,145	\$0
2017/18	\$265,758	\$14,460	\$0	\$0	\$0	\$215,839	\$0
2018/19	\$184,689	\$14,925	\$0	\$0	\$0	\$181,188	\$0
2019/20	\$130,818	\$10,572	\$0	\$0	\$0	\$239,272	\$0

Expenses

Plan Year	Monthly Benefit Payments	Contrib. Refunds	Admin. Expenses	Invest. Expenses	Other Actuarial Adjustments DROP Credits	Advance Employer Contribs.
2010/11	\$39,491	\$0	\$5,604	\$0	\$0	\$5,909
2011/12	\$38,126	\$0	\$5,881	\$0	\$0	-\$6,437
2012/13	\$40,901	\$0	\$7,072	\$0	\$0	\$6,850
2013/14	\$41,965	\$0	\$8,008	\$0	\$0	\$5,545
2014/15	\$43,062	\$0	\$9,002	\$0	\$0	\$0
2015/16	\$44,192	\$0	\$9,826	\$0	\$0	-\$7,700
2016/17	\$45,355	\$0	\$10,531	\$0	\$24,770	-\$4,695
2017/18	\$53,737	\$0	\$11,370	\$0	\$53,525	\$0
2018/19	\$62,532	\$0	\$12,291	\$0	\$58,665	\$38,080
2019/20	\$64,191	\$0	\$12,989	\$0	\$113,453	-\$16,130

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, 2019	\$38,080
Additional Employer Contribution	\$130,818
Minimum Required Contribution	(\$146,948)
Net Increase in Advance Employer Contribution	(\$16,130)
Advance Employer Contribution as of October 1, 2020	<u>\$21,950</u>

**DROP Account Reconciliation**

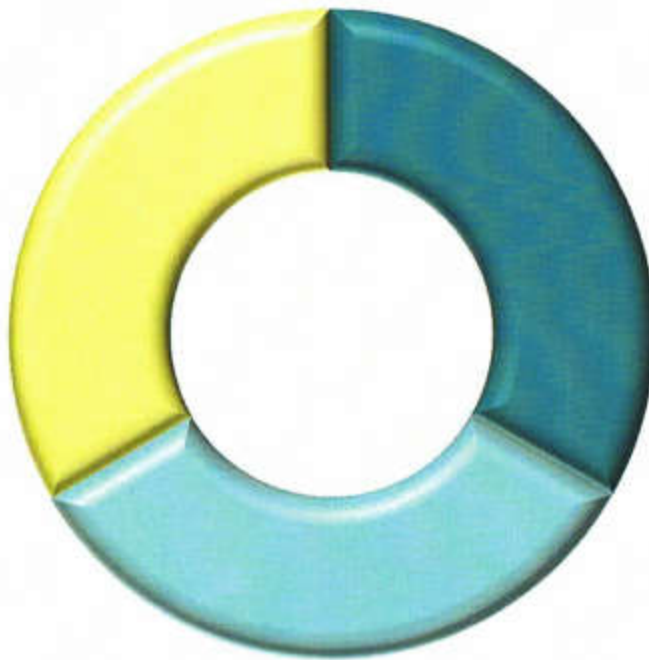
DROP Balance as of October 1, 2019	\$136,960
DROP Benefit Credits	\$103,008
DROP Investment Credits	\$10,445
DROP Benefits Paid Out	\$0
Net DROP Credit	\$113,453
DROP Balance as of October 1, 2020	<u>\$250,413</u>



Summary of Participant Data

Table III-A

As of October 1, 2020



Participant Distribution by Status

<u>Actively Employed Participants</u>		
◆	Active Participants	4
◆	DROP Participants	4
<u>Inactive Participants</u>		
◆	Deferred Vested Participants	0
◆	Due a Refund of Contributions	0
◆	Deferred Beneficiaries	0
<u>Participants Receiving a Benefit</u>		
◆	Service Retirements	4
◆	Disability Retirements	0
◆	Beneficiaries Receiving	0
<b>Total Participants</b>		<b>12</b>

Number of Participants Included in Prior Valuations

	<i>Active</i>	<i>DROP</i>	<i>Inactive</i>	<i>Retired</i>	<i>Total</i>
October 1, 2011	7	0	0	3	10
October 1, 2012	7	0	0	3	10
October 1, 2013	7	0	0	3	10
October 1, 2014	7	0	0	3	10
October 1, 2015	8	0	0	3	11
October 1, 2016	8	0	0	3	11
October 1, 2017	7	1	0	3	11
October 1, 2018	7	1	0	4	12
October 1, 2019	6	2	0	4	12
October 1, 2020	4	4	0	4	12



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, 2019</u>	6	2	0	0	0	4	0	0	12
<u>Change in Status</u>									
Re-employed									
Terminated									
Retired									
<u>Participation Ended</u>									
Transferred Out	(2)	2							
Cashed Out									
Died									
<u>Participation Began</u>									
Newly Hired									
Transferred In									
New Beneficiary									
<u>Other Adjustment</u>									
<u>October 1, 2020</u>	4	4	0	0	0	4	0	0	12

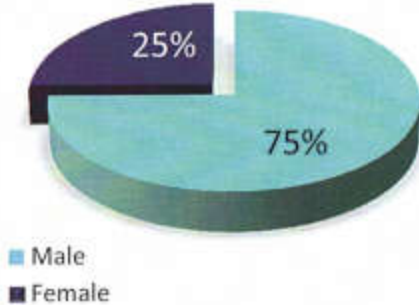


Active Participant Data

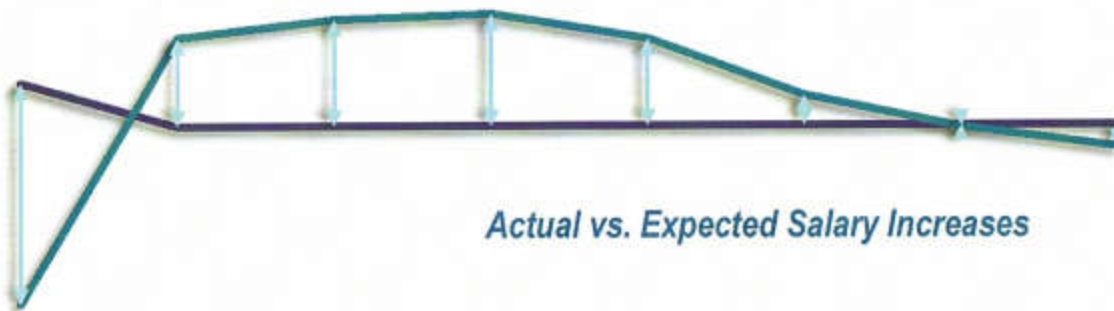
Table III-C

As of October 1, 2020

Gender Mix



Average Age	52.3 years
Average Service	12.0 years
Total Annualized Compensation for the Prior Year	\$237,128
Total Expected Compensation for the Current Year	\$236,297
Average Increase in Compensation for the Prior Year	3.35%
Expected Increase in Compensation for the Current Year	4.00%
Accumulated Contributions for Active Employees	\$85,703



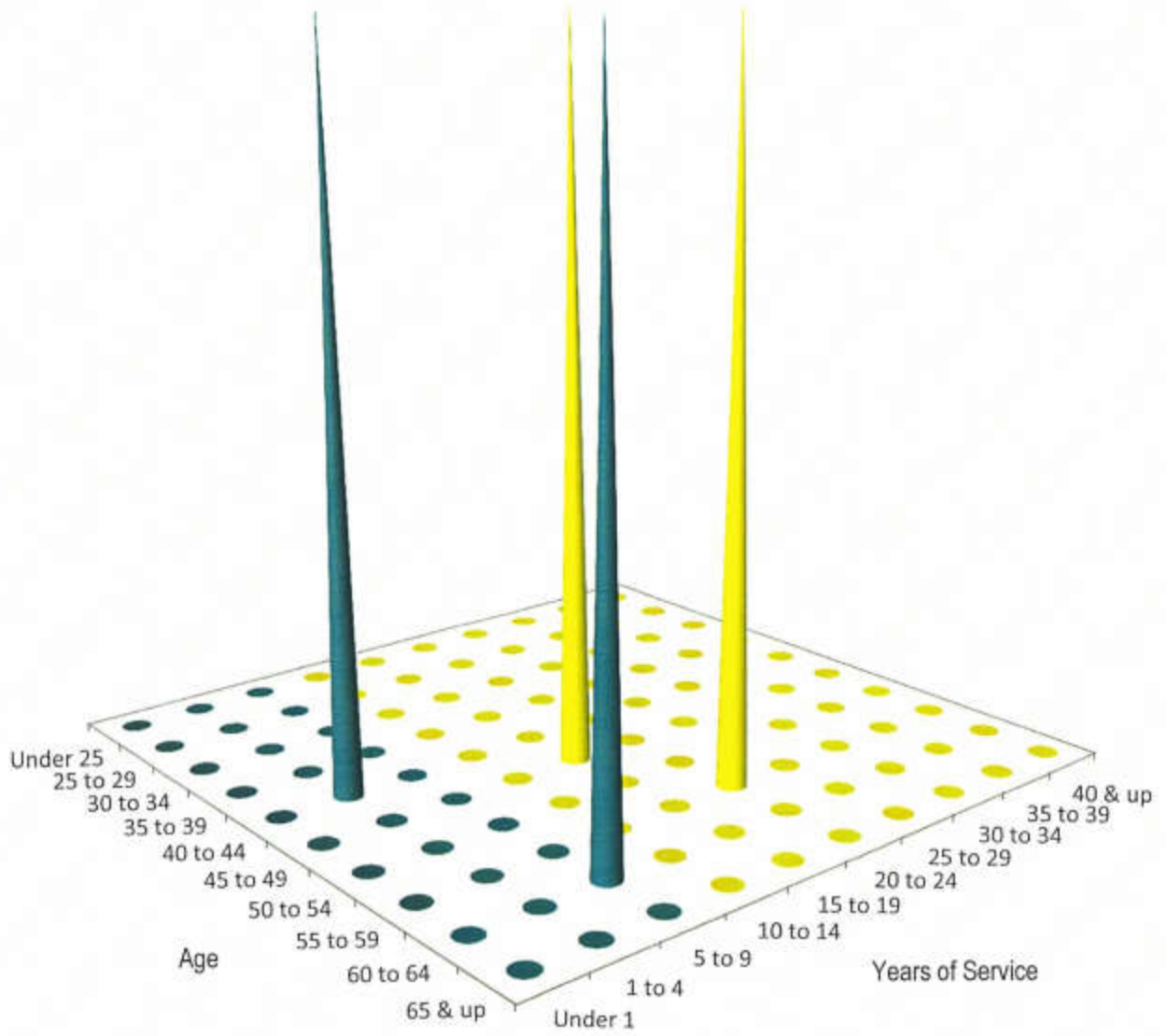
Active Participant Statistics From Prior Valuations

	Average Age	Average Service	Average Salary	Average Expected Salary Increase	Average Actual Salary Increase
October 1, 2011	53.6	7.4	\$51,782	6.00%	1.96%
October 1, 2012	54.6	8.4	\$53,448	5.64%	2.81%
October 1, 2013	55.6	9.4	\$52,218	5.29%	-1.19%
October 1, 2014	56.6	10.4	\$55,396	4.00%	6.59%
October 1, 2015	57.8	10.1	\$55,743	4.00%	7.11%
October 1, 2016	58.8	11.1	\$59,326	4.00%	7.27%
October 1, 2017	59.4	10.9	\$56,773	4.00%	6.54%
October 1, 2018	56.1	10.4	\$58,310	4.00%	4.88%
October 1, 2019	56.3	10.3	\$57,767	4.00%	3.95%
October 1, 2020	52.3	12.0	\$59,282	4.00%	3.35%



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

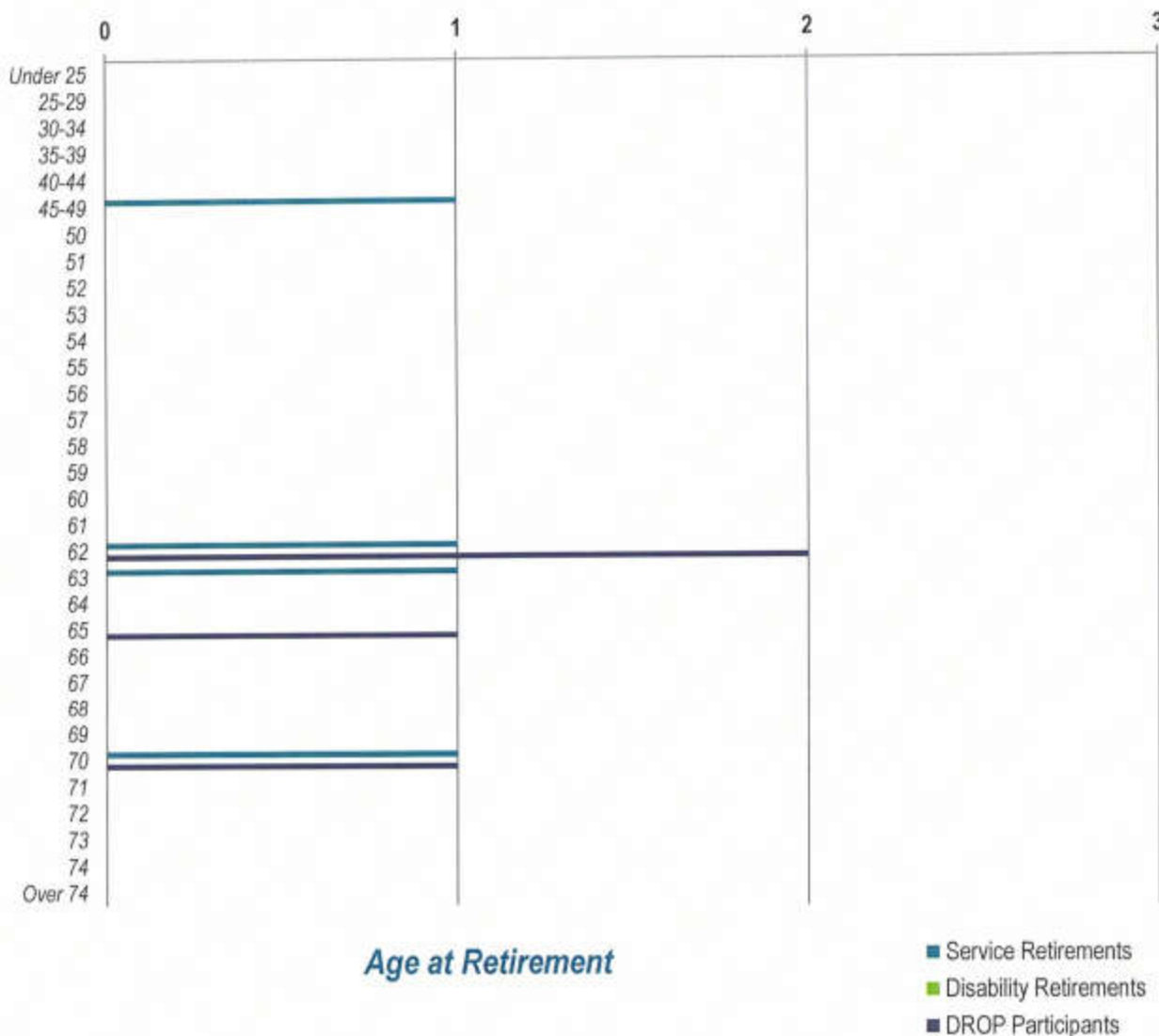
Attained Age	Completed Years of Service										Total	
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up		
Under 25	0	0	0	0	0	0	0	0	0	0	0	0
Avg.Pay	0	0	0	0	0	0	0	0	0	0	0	0
25 to 29	0	0	0	0	0	0	0	0	0	0	0	0
Avg.Pay	0	0	0	0	0	0	0	0	0	0	0	0
30 to 34	0	0	0	0	0	0	0	0	0	0	0	0
Avg.Pay	0	0	0	0	0	0	0	0	0	0	0	0
35 to 39	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
40 to 44	0	1	0	0	0	0	0	0	0	0	0	1
Avg.Pay	0	52,692	0	0	0	0	0	0	0	0	0	52,692
45 to 49	0	0	0	0	1	0	0	0	0	0	0	1
Avg.Pay	0	0	0	0	54,513	0	0	0	0	0	0	54,513
50 to 54	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
55 to 59	0	0	0	0	0	1	0	0	0	0	0	1
Avg.Pay	0	0	0	0	0	81,951	0	0	0	0	0	81,951
60 to 64	0	0	1	0	0	0	0	0	0	0	0	1
Avg.Pay	0	0	47,972	0	0	0	0	0	0	0	0	47,972
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
<b>Total</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>
Avg.Pay	0	52,692	47,972	0	54,513	81,951	0	0	0	0	0	59,282





Inactive Participant Data

Table III-F



Age at Retirement

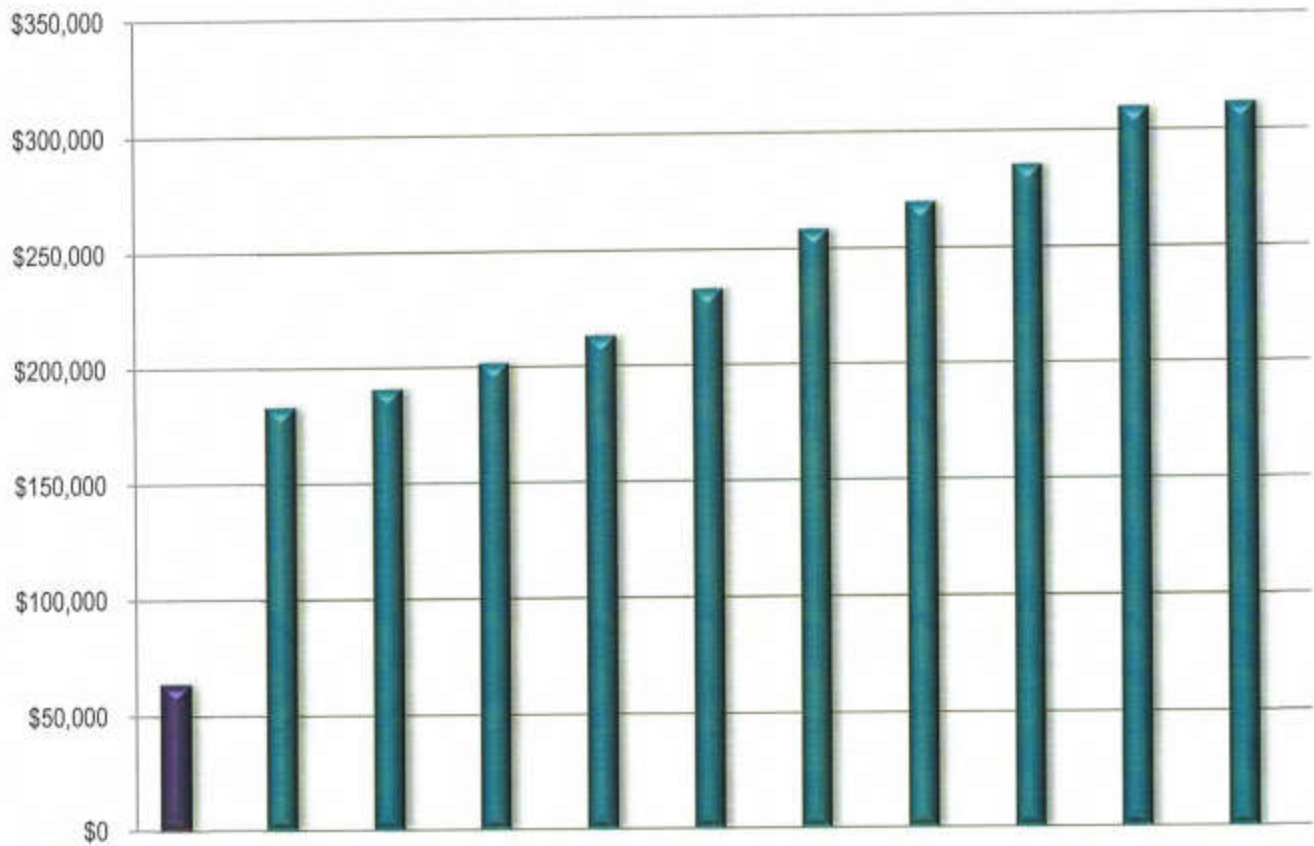
Average Monthly Benefit

Service Retirements	\$1,222.44
Disability Retirements	Not applicable
Beneficiaries Receiving	Not applicable
DROP Participants	\$2,443.20
Deferred Vested Participants	Not applicable
Deferred Beneficiaries	Not applicable



Projected Benefit Payments

Table III-G



Actual

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

\$64,191

Projected

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

\$183,400

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

\$191,124

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

\$202,163

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

\$213,506

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

\$233,215

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

\$258,687

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

\$270,097

For the period October 1, 2027 through September 30, 2028

\$285,911

For the period October 1, 2028 through September 30, 2029

\$310,094

For the period October 1, 2029 through September 30, 2030

\$311,634



## 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 4.00% 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 PUB-2010 Headcount-Weighted Below Median Employee Mortality Table for general employees, with full generational improvements in mortality using Scale MP-2018 and with male ages set back one year
- Post-retirement mortality: Sex-distinct rates set forth in the PUB-2010 Headcount-Weighted Below Median Healthy Retiree Mortality Table for general employees, with full generational improvements in mortality using Scale MP-2018 and with male ages set back one year



## Summary of Actuarial Methods and Assumptions

## Table IV-A

(continued)

- **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.
- **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, except that participants who are under age 40 or who have earned less than 15 years of service are assumed to receive a refund of their employee contributions.

**7. Expenses**

The total projected benefit liability has been loaded by 2.50% 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

Since the completion of the previous valuation, the mortality basis was changed from the RP-2000 Combined Mortality Table with generational improvements in mortality using Scale BB to selected PUB-2010 Mortality Tables with generational improvements in mortality using Scale MP-2018.

*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 4.00% 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.*



Summary of Plan Provisions

Table V-A

1. **Monthly Accrued Benefit**

2.50% of Average Final Compensation multiplied by Credited Service

2. **Normal Retirement Age and Benefit**

- **Age**

Age 62 with at least 10 years of Credited Service; or  
Any age with at least 30 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 66<sup>2</sup>/<sub>3</sub>% joint and contingent annuity (optional);  
Actuarially reduced 75% joint and contingent annuity (optional);  
Actuarially reduced 100% joint and contingent annuity (optional);  
Any other actuarially equivalent form of payment approved by the Board; or  
Actuarially equivalent lump sum distribution (automatic if the single sum value of the participant's benefit is less than or equal to \$5,000 or the monthly annuity is less than \$100)

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

3. **Early Retirement Age and 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 5% 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. Disability Eligibility and Benefit

- **Eligibility**  
The participant must have earned at least 10 years of Credited Service.
- **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.
- **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

5. Delayed Retirement Age and Benefit

- **Age**  
After Normal Retirement Age
- **Amount**  
Monthly Accrued Benefit
- **Form of Payment**  
Same as for Normal Retirement

6. 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 5% 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)

**7. Pre-Retirement Death Benefit**

In the case of the death of a vested participant 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.

**8. Average Final Compensation**

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

**9. Compensation**

Compensation includes regular earnings, incentive pay, merit pay, vacation pay, and sick pay, plus all tax-deferred and tax-exempt items of income, but excludes lump sum payments; annual compensation in excess of \$200,000 (as indexed) is excluded in accordance with IRC §401(a)(17).

**10. 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 addition, Credited Service includes prior service with the Oneco-Tallevast and Somoset Fire Districts.

**11. Participation Requirement**

All full-time general employees of the Southern Manatee Fire & Rescue District automatically become a participant in the plan on their date of hire.

**12. 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.

**13. Participant Contribution**

3.50% of earnings





Summary of Plan Provisions

Table V-A

(continued)

14. **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 calculating lump sum distributions pursuant to Internal Revenue Code (IRC) 417(e)(3)

15. **Plan Effective Date**

October 1, 1999

16. **Automatic Annual Cost-of-Living Adjustment (COLA)**

All retirement and disability benefits, other than the retiree health supplement, include an automatic annual 3% cost-of-living adjustment.

17. **Retiree Health Supplement**

Participants 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.

18. **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 60 months. Interest is credited on the DROP accounts at the rate of 6.50% per annum.



Summary of Plan Amendments

Table V-B

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

