

# Retirement Plan for the Firefighters of the City of Marathon

**Actuarial Valuation**  
As of October 1, 2021

**Determines the Contribution**  
For the 2022/23 Fiscal Year



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July 26, 2022

## Introduction

This report presents the results of the October 1, 2021 actuarial valuation for the Retirement Plan for the Firefighters of the City of Marathon. 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, 2021 and to determine the minimum required contribution under Chapter 112, Florida Statutes, for the 2022/23 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 2022/23 plan year. The minimum required contribution rate is 23.29% of covered payroll, which represents an increase of 6.71% of payroll from the prior valuation.

The normal cost rate is 22.80%, which is 6.23% higher 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 1.88% of payroll due to investment gains, increased by 3.20% of payroll due to demographic experience, and increased by another 4.91% of payroll due to the assumption change that is described below. Although the market value of assets earned 19.45% during the 2020/21 plan year, the actuarial value of assets is based on a five-year phase-in of the



unexpected investment gains and losses. On this basis, the actuarial value of assets earned 9.65% during the 2020/21 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 City 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 City's 2022/23 minimum required contribution will be equal to 23.29% multiplied by the total pensionable earnings for the 2022/23 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 2022/23 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 \$16,902,386. As illustrated in Table I-A, current assets are sufficient to cover \$12,141,824 of this amount, the employer's 2021/22 expected contribution will cover \$324,554 of this amount, the employer's 2022/23 expected contribution will cover \$474,206 of this amount, and future employee contributions are expected to cover \$771,046 of this amount, leaving \$3,190,756 to be covered by future employer funding beyond the 2022/23 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 City 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, 2021, the advance employer contribution is \$36,585, which reflects the advance employer contribution of \$59,035 as of October 1, 2020 minus \$22,450 to cover the shortfall between actual employer contributions and the minimum required contribution for the 2020/21 plan year as shown in Table II-F.

The City may apply all or any portion of the advance employer contribution towards the minimum required contribution for the 2021/22 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 City 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, 2021 would reduce the minimum required contribution for the 2022/23 plan year to 23.04% of payroll.

#### Assumption Change

Since the completion of the previous valuation, assumed interest (or discount) rate was decreased from 7.00% per annum to 6.75% per annum. The impact of this assumption change was to increase the normal cost rate by 4.91% 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, 2021, 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. Carrington*

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

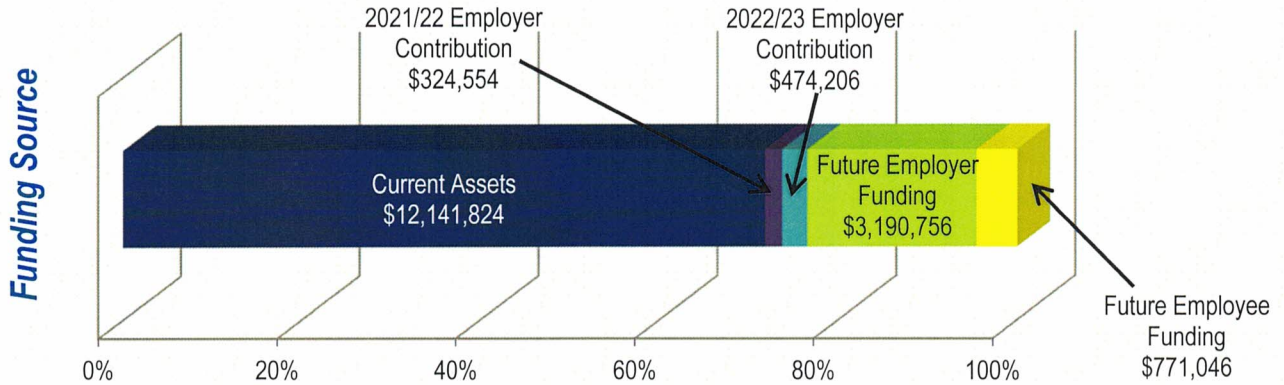
Enrolled Actuary No. 20-04927

*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 2022/23 Plan Year**

Present Value of Future Benefits	\$16,106,059
Present Value of Future Administrative Expenses	\$322,121
Actuarial Value of Assets	(\$12,141,824)
Present Value of Future Employee Contributions	(\$771,046)
Present Value of Future Normal Costs	\$3,515,310
<hr/>	
Present Value of Future Payroll	÷ \$15,420,934
Normal Cost Rate	= 22.7957%
Expected Payroll	x \$1,957,500
<hr/>	
Normal Cost	\$446,226
Adjustment to Reflect Quarterly Employer Contributions	\$18,517
Expected Employer Contribution for the 2021/22 Plan Year	(\$324,554)
Remaining Contribution Due/(Credit) for the 2021/22 Plan Year	\$140,189
	x 0.0675
One Year's Interest Charge/(Credit) on the Remaining Contribution	\$9,463
<hr/>	
Preliminary Employer Contribution for the 2022/23 Plan Year	\$474,206
Expected Payroll for the 2022/23 Plan Year	÷ \$2,035,800

**Minimum Required Contribution Rate** **23.29%**

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

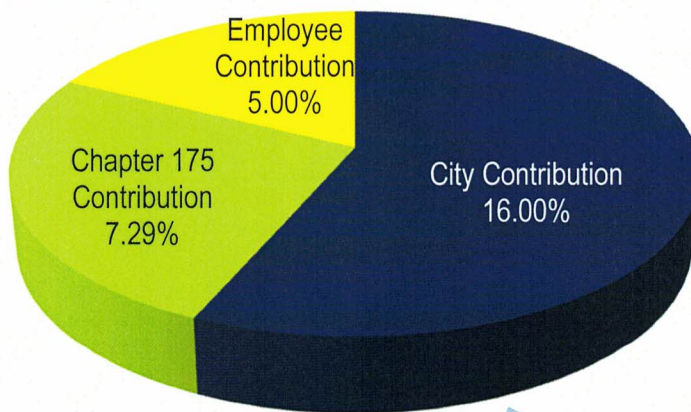


Minimum Required Contribution

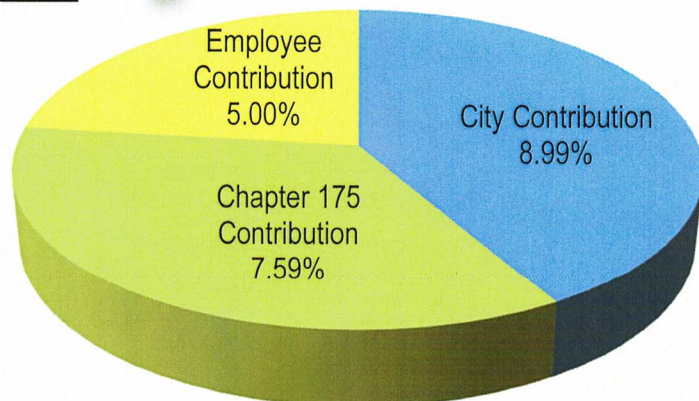
Table I-A  
(continued)

The minimum required contribution rate of 23.29% includes both the City contribution and the allowable Chapter 175 contribution. In addition, employees are required to contribute 5.00% of pensionable earnings. The actual City contribution rate is expected to be approximately 16.00% based on the allowable Chapter 175 contribution for the previous year. The chart below shows the expected contribution rate by source for the 2022/23 plan year based on the expected payroll. A comparative chart shows the contribution rate by source for the previous plan year.

**For the 2022/23 Plan Year**

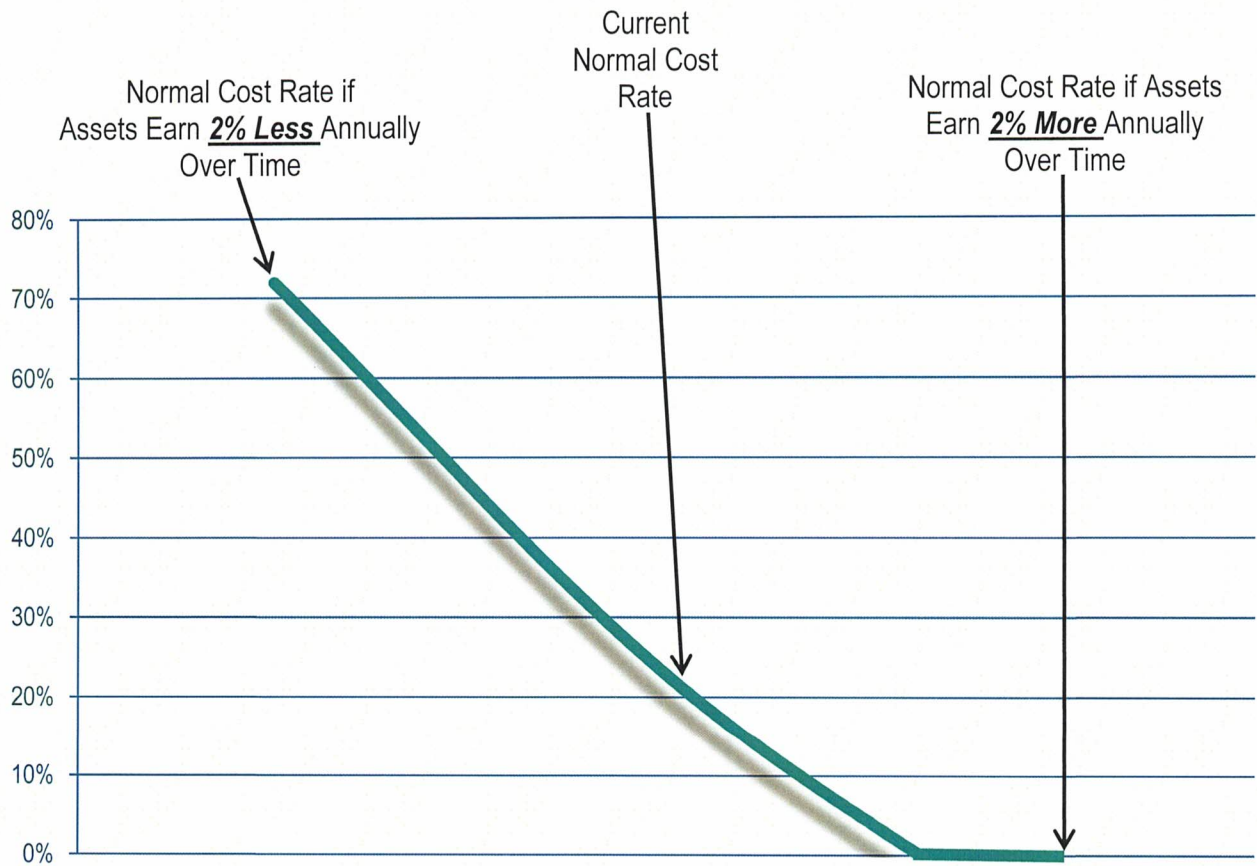


**For the 2021/22 Plan Year**



Sensitivity Analysis

Table I-B



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



## Gain and Loss Analysis

Table I-C

Previous normal cost rate	16.57%
Increase (decrease) due to investment gains and losses	-1.88%
Increase (decrease) due to demographic experience	3.20%
Increase (decrease) due to plan amendments	0.00%
Increase (decrease) due to actuarial assumption changes	4.91%
Increase (decrease) due to actuarial method changes	0.00%
Current normal cost rate	<u>22.80%</u>



## Present Value of Future Benefits

Table I-D

	Old Assumptions w/o Amendment	Old Assumptions w/ Amendment	New Assumptions w/ Amendment
<i>Actively Employed Participants</i>			
Retirement benefits	\$13,525,846	\$13,525,846	\$14,242,753
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>\$13,525,846</b>	<b>\$13,525,846</b>	<b>\$14,242,753</b>
<i>Deferred Vested Participants</i>			
Retirement benefits	\$1,144,344	\$1,144,344	\$1,200,904
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>\$1,144,344</b>	<b>\$1,144,344</b>	<b>\$1,200,904</b>
<i>Due a Refund of Contributions</i>	<b>\$3,592</b>	<b>\$3,592</b>	<b>\$3,592</b>
<i>Deferred Beneficiaries</i>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<i>Retired Participants</i>			
Service retirements	\$356,072	\$356,072	\$365,218
Disability retirements	\$0	\$0	\$0
Beneficiaries receiving	\$0	\$0	\$0
DROP participants	\$284,431	\$284,431	\$293,592
Sub-total	<b>\$640,503</b>	<b>\$640,503</b>	<b>\$658,810</b>
<i>Grand Total</i>	<b><u>\$15,314,285</u></b>	<b><u>\$15,314,285</u></b>	<b><u>\$16,106,059</u></b>
Present Value of Future Payroll	\$15,200,886	\$15,200,886	\$15,420,934
Present Value of Future Employee Contribs.	\$760,041	\$760,041	\$771,046
Present Value of Future Employer Contribs.	\$2,718,706	\$2,718,706	\$3,515,310



## Present Value of Accrued Benefits

Table I-E

	Old Assumptions <u>w/o Amendment</u>	Old Assumptions <u>w/ Amendment</u>	New Assumptions <u>w/ Amendment</u>
<u>Actively Employed Participants</u>			
Retirement benefits	\$6,023,700	\$6,023,700	\$6,280,972
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>\$6,023,700</b>	<b>\$6,023,700</b>	<b>\$6,280,972</b>
<u>Deferred Vested Participants</u>			
Retirement benefits	\$1,144,344	\$1,144,344	\$1,200,904
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>\$1,144,344</b>	<b>\$1,144,344</b>	<b>\$1,200,904</b>
<u>Due a Refund of Contributions</u>	<b>\$3,592</b>	<b>\$3,592</b>	<b>\$3,592</b>
<u>Deferred Beneficiaries</u>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<u>Retired Participants</u>			
Service retirements	\$356,072	\$356,072	\$365,218
Disability retirements	\$0	\$0	\$0
Beneficiaries receiving	\$0	\$0	\$0
DROP participants	\$284,431	\$284,431	\$293,592
Sub-total	<b>\$640,503</b>	<b>\$640,503</b>	<b>\$658,810</b>
<u>Grand Total</u>	<b><u>\$7,812,139</u></b>	<b><u>\$7,812,139</u></b>	<b><u>\$8,144,278</u></b>
<u>Funded Percentage</u>	168.91%	168.91%	162.02%

(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 <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	\$3,862,855	\$3,862,855	\$4,013,340
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>\$3,862,855</b>	<b>\$3,862,855</b>	<b>\$4,013,340</b>
<i><u>Deferred Vested Participants</u></i>			
Retirement benefits	\$1,144,344	\$1,144,344	\$1,200,904
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>\$1,144,344</b>	<b>\$1,144,344</b>	<b>\$1,200,904</b>
<i><u>Due a Refund of Contributions</u></i>	<b>\$3,592</b>	<b>\$3,592</b>	<b>\$3,592</b>
<i><u>Deferred Beneficiaries</u></i>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<i><u>Retired Participants</u></i>			
Service retirements	\$356,072	\$356,072	\$365,218
Disability retirements	\$0	\$0	\$0
Beneficiaries receiving	\$0	\$0	\$0
DROP participants	\$284,431	\$284,431	\$293,592
Sub-total	<b>\$640,503</b>	<b>\$640,503</b>	<b>\$658,810</b>
<i><u>Grand Total</u></i>	<b><u>\$5,651,294</u></b>	<b><u>\$5,651,294</u></b>	<b><u>\$5,876,646</u></b>



## Entry Age Normal Accrued Liability

Table I-G

	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	\$7,804,114	\$7,804,114	\$8,107,036
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>\$7,804,114</b>	<b>\$7,804,114</b>	<b>\$8,107,036</b>
<i><u>Deferred Vested Participants</u></i>			
Retirement benefits	\$1,144,344	\$1,144,344	\$1,200,904
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>\$1,144,344</b>	<b>\$1,144,344</b>	<b>\$1,200,904</b>
<i><u>Due a Refund of Contributions</u></i>	<b>\$3,592</b>	<b>\$3,592</b>	<b>\$3,592</b>
<i><u>Deferred Beneficiaries</u></i>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<i><u>Retired Participants</u></i>			
Service retirements	\$356,072	\$356,072	\$365,218
Disability retirements	\$0	\$0	\$0
Beneficiaries receiving	\$0	\$0	\$0
DROP participants	\$284,431	\$284,431	\$293,592
Sub-total	<b>\$640,503</b>	<b>\$640,503</b>	<b>\$658,810</b>
<i><u>Grand Total</u></i>	<b><u>\$9,592,553</u></b>	<b><u>\$9,592,553</u></b>	<b><u>\$9,970,342</u></b>



Actuarial Value of Assets

Table II-A

	<u>Unexpected Investment Gain (Loss)</u>		<u>Unrecognized Gain (Loss)</u>
For the 2017/18 plan year	\$1,606	x 20%	\$321
For the 2018/19 plan year	(\$157,987)	x 40%	(\$63,195)
For the 2019/20 plan year	(\$51,917)	x 60%	(\$31,150)
For the 2020/21 plan year	\$1,388,586	x 80%	\$1,110,869
			\$1,016,845

Market Value of Assets as of October 1, 2021	\$13,211,218
Minus DROP account balances	(\$15,964)
Minus advance employer contributions	(\$36,585)
Minus excess Chapter 175/185 contributions	\$0

Adjustment for unrecognized gain or loss as shown above,  
but restricted to an amount that keeps the actuarial value  
of assets within an 80%-120% corridor of the market value

(\$1,016,845)

**Actuarial Value of Assets as of October 1, 2021** **\$12,141,824**

<u>Historical Actuarial Value of Assets</u>	
October 1, 2012	N/A
October 1, 2013	N/A
October 1, 2014	N/A
October 1, 2015	\$5,252,172
October 1, 2016	\$6,790,899
October 1, 2017	\$7,759,986
October 1, 2018	\$8,709,048
October 1, 2019	\$9,719,229
October 1, 2020	\$10,780,960
October 1, 2021	\$12,141,824

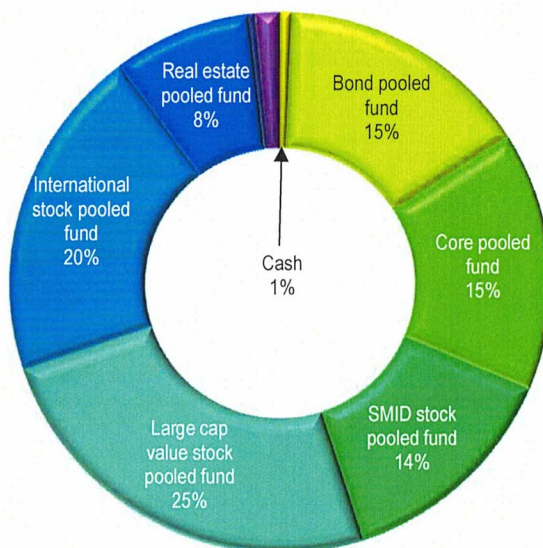


Market Value of Assets

Table II-B

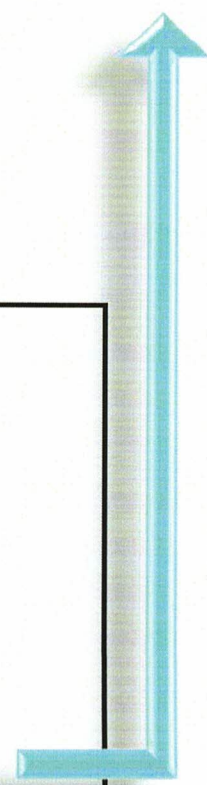
As of October 1, 2021

<b>Market Value of Assets</b>	<b><u>\$13,211,218</u></b>
Cash	\$93,465
Bond pooled fund	\$2,069,576
Core pooled fund	\$2,109,633
SMID stock pooled fund	\$1,855,943
Large cap value stock pooled fund	\$3,378,083
International stock pooled fund	\$2,723,829
Real estate pooled fund	\$1,121,577
Employer contribution receivable	\$47,829
Employee contribution receivable	\$10,989
Payable to share plan	(\$199,706)



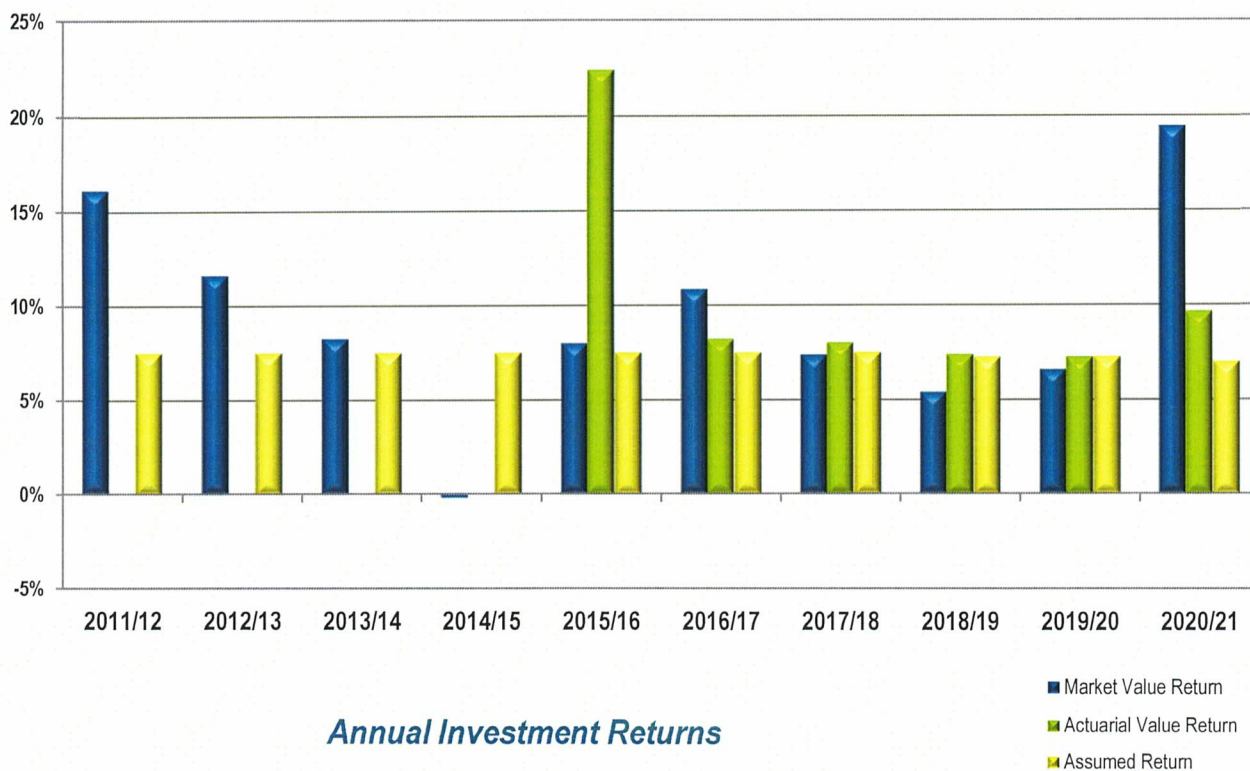
Historical Market Value of Assets

October 1, 2012	\$4,048,543
October 1, 2013	\$4,892,087
October 1, 2014	\$5,631,838
October 1, 2015	\$5,971,359
October 1, 2016	\$6,786,445
October 1, 2017	\$7,939,933
October 1, 2018	\$8,862,675
October 1, 2019	\$9,712,907
October 1, 2020	\$10,785,528
October 1, 2021	\$13,211,218



Investment Return

Table II-C



**Annual Investment Returns**

Plan Year	Market Value Return	Actuarial Value Return	Assumed Return
2011/12	16.13%	N/A	7.50%
2012/13	11.61%	N/A	7.50%
2013/14	8.26%	N/A	7.50%
2014/15	-0.18%	N/A	7.50%
2015/16	8.00%	22.43%	7.50%
2016/17	10.85%	8.20%	7.50%
2017/18	7.37%	8.02%	7.50%
2018/19	5.39%	7.39%	7.25%
2019/20	6.60%	7.23%	7.25%
2020/21	19.45%	9.65%	7.00%
10yr. Avg.	9.22%	10.36%	7.40%



## Asset Reconciliation

## Table II-D

	<u>Market Value</u>	<u>Actuarial Value</u>
<b>As of October 1, 2020</b>	<b>\$10,785,528</b>	<b>\$10,780,960</b>
<b><i>Increases Due To:</i></b>		
Employer Contributions	\$191,316	\$191,316
Chapter 175/185 Contributions	\$148,494	\$148,494
Employee Contributions	\$100,855	\$100,855
Service Purchase Contributions	\$0	\$0
Total Contributions	<u>\$440,665</u>	<u>\$440,665</u>
Interest and Dividends	\$0	
Realized Gains (Losses)	\$0	
Unrealized Gains (Losses)	\$2,126,541	
Total Investment Income	<u>\$2,126,541</u>	\$1,055,229
Other Income	\$0	
<b>Total Income</b>	<b><u>\$2,567,206</u></b>	<b><u>\$1,495,894</u></b>
<b><i>Decreases Due To:</i></b>		
Monthly Benefit Payments	(\$25,736)	(\$25,736)
Refund of Employee Contributions	(\$53,095)	(\$53,095)
DROP Credits		(\$15,964)
Total Benefit Payments	<u>(\$78,831)</u>	<u>(\$94,795)</u>
Share Plan Deposit	\$0	
Administrative Expenses	(\$62,685)	(\$62,685)
Advance Employer Contribution		\$22,450
Excess Chapter 175/185 Contribution		\$0
<b>Total Expenses</b>	<b><u>(\$141,516)</u></b>	<b><u>(\$135,030)</u></b>
<b>As of October 1, 2021</b>	<b><u>\$13,211,218</u></b>	<b><u>\$12,141,824</u></b>



## Historical Trust Fund Detail

## Table II-E

Income

Plan Year	Employer Contribs.	Chapter Contribs.	Employee Contribs.	Service Purchase Contribs.	Interest / Dividends	Realized Gains / Losses	Unrealized Gains / Losses	Other Income
2011/12	\$235,664	\$193,154	\$57,363	\$0	\$0	\$0	\$529,568	\$0
2012/13	\$104,345	\$220,400	\$63,093	\$0	\$0	\$0	\$490,534	\$0
2013/14	\$72,352	\$237,046	\$65,447	\$0	\$0	\$0	\$417,331	\$0
2014/15	\$143,206	\$176,093	\$74,043	\$0	\$0	\$0	-\$10,345	\$0
2015/16	\$153,658	\$163,986	\$81,554	\$0	\$0	\$0	\$490,849	\$0
2016/17	\$232,241	\$143,011	\$90,947	\$0	\$0	\$0	\$923,538	\$0
2017/18	\$159,399	\$135,578	\$93,200	\$0	\$0	\$0	\$608,666	\$0
2018/19	\$183,820	\$154,786	\$96,101	\$0	\$0	\$0	\$497,133	\$0
2019/20	\$266,084	\$158,031	\$90,890	\$0	\$0	\$0	\$666,725	\$0
2020/21	\$191,316	\$148,494	\$100,855	\$0	\$0	\$0	\$2,126,541	\$0

Expenses

Plan Year	Monthly Benefit Payments	Contrib. Refunds	Admin. Expenses	Share Plan Deposit	<u>Other Actuarial Adjustments</u>		
					DROP Credits	Advance Employer Contribs.	Excess Chapter Contribs.
2011/12	\$0	\$0	\$13,625	\$0	\$0	\$0	\$0
2012/13	\$0	\$17,959	\$16,869	\$0	\$0	\$0	\$26,885
2013/14	\$0	\$17,052	\$35,373	\$0	\$0	\$0	\$43,531
2014/15	\$0	\$16,003	\$27,473	\$0	\$0	\$0	\$0
2015/16	\$0	\$50,293	\$24,668	\$0	\$0	\$0	\$0
2016/17	\$0	\$38,480	\$31,860	\$165,909	\$0	\$0	-\$165,909
2017/18	\$23,597	\$4,527	\$34,576	\$11,401	\$0	\$0	\$0
2018/19	\$23,951	\$0	\$48,082	\$9,575	\$0	\$0	\$0
2019/20	\$24,311	\$20,997	\$51,932	\$11,869	\$0	\$59,035	\$0
2020/21	\$25,736	\$53,095	\$62,685	\$0	\$15,964	-\$22,450	\$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, 2020	\$59,035
Additional Employer Contribution	\$339,810
Minimum Required Contribution	<u>(\$362,260)</u>
Net Increase in Advance Employer Contribution	(\$22,450)
Advance Employer Contribution as of October 1, 2021	<u><u>\$36,585</u></u>

**Excess Chapter 175/185 Contribution**

Excess Chapter 175/185 Contribution as of October 1, 2020	\$0
Additional Chapter 175/185 Contribution	\$148,494
Allowable Chapter 175/185 Contribution	<u>(\$148,494)</u>
Net Increase in Excess Chapter 175/185 Contribution	\$0
Excess Chapter 175/185 Contribution as of October 1, 2021	<u><u>\$0</u></u>

**DROP Account Reconciliation**

DROP Balance as of October 1, 2020	\$0
DROP Benefits Paid	\$15,528
DROP Investment Return	\$436
DROP Expense Charge	<u>\$0</u>
Net DROP Credit	\$15,964
DROP Balance as of October 1, 2021	<u><u>\$15,964</u></u>



## Historical Chapter 175/185 Contributions

Table II-G

**Total Accumulated Excess Chapter 175/185 Contribution** \$0

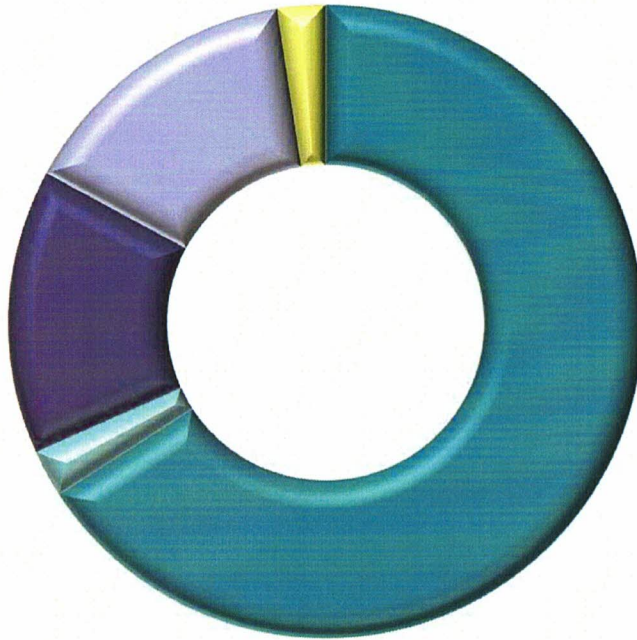
	Chapter 175 Regular <u>Distribution</u>	Chapter 175 Supplemental <u>Distribution</u>	Chapter 185 <u>Distribution</u>	Allowable <u>Amount</u>
2005 Distribution	\$88,437	\$53,069	\$0	(\$141,506)
2006 Distribution	\$143,904	\$122,560	\$0	(\$193,515)
2007 Distribution	\$0	\$216,059	\$0	(\$193,515)
2008 Distribution	\$75,366	\$17,292	\$0	(\$92,658)
2009 Distribution	\$93,454	\$46,042	\$0	(\$139,496)
2010 Distribution	\$110,323	\$52,795	\$0	(\$163,118)
2011 Distribution	\$125,182	\$67,972	\$0	(\$193,154)
2012 Distribution	\$143,027	\$77,373	\$0	(\$193,515)
2013 Distribution	\$152,634	\$84,412	\$0	(\$193,515)
2014 Distribution	\$122,651	\$53,442	\$0	(\$176,093)
2015 Distribution	\$130,990	\$32,996	\$0	(\$163,986)
2016 Distribution	\$135,631	\$7,380	\$0	(\$143,011)
2017 Distribution	\$135,578	\$0	\$0	(\$135,578)
2018 Distribution	\$150,076	\$4,710	\$0	(\$154,786)
2019 Distribution	\$158,031	\$0	\$0	(\$158,031)
2020 Distribution	\$148,494	\$0	\$0	(\$148,494)
Transfer to Share Plan				(\$165,909)



Summary of Participant Data

Table III-A

As of October 1, 2021

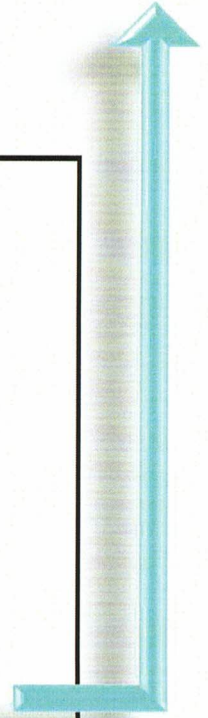


*Participant Distribution by Status*

<u>Actively Employed Participants</u>		
◆	Active Participants	27
◆	DROP Participants	1
<u>Inactive Participants</u>		
◆	Deferred Vested Participants	6
◆	Due a Refund of Contributions	6
◆	Deferred Beneficiaries	0
<u>Participants Receiving a Benefit</u>		
◆	Service Retirements	1
◆	Disability Retirements	0
◆	Beneficiaries Receiving	0
<b>Total Participants</b>		<b>41</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, 2012	N/A	N/A	N/A	N/A	N/A
October 1, 2013	N/A	N/A	N/A	N/A	N/A
October 1, 2014	N/A	N/A	N/A	N/A	N/A
October 1, 2015	25	0	6	0	31
October 1, 2016	25	0	10	0	35
October 1, 2017	27	0	6	1	34
October 1, 2018	27	0	6	1	34
October 1, 2019	26	0	13	1	40
October 1, 2020	24	0	13	1	38
October 1, 2021	27	1	12	1	41



## 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, 2020</u>	24	0	7	6	0	1	0	0	38
<u>Change in Status</u>									
Re-employed									
Terminated	(2)			2					
Retired									
<u>Participation Ended</u>									
Transferred Out	(1)	1							
Cashed Out			(1)	(2)					(3)
Died									
<u>Participation Began</u>									
Newly Hired	6								6
Transferred In									
New Beneficiary									
<u>Other Adjustment</u>									
<u>October 1, 2021</u>	27	1	6	6	0	1	0	0	41

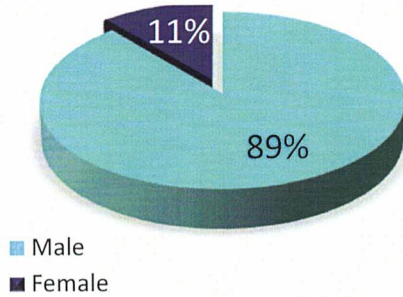


Active Participant Data

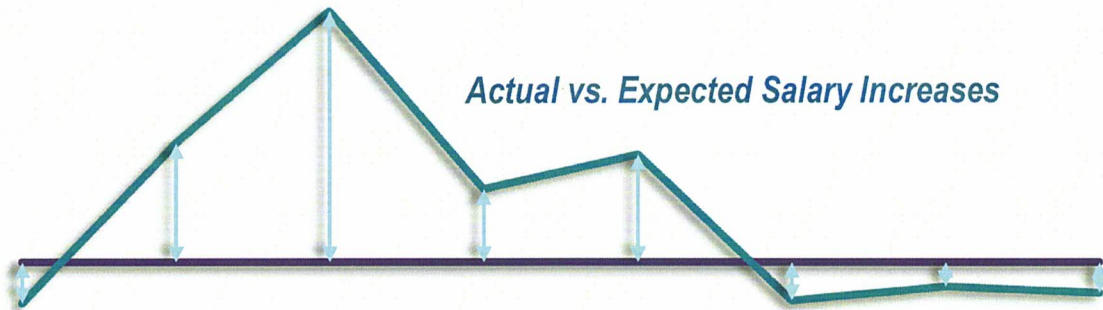
Table III-C

As of October 1, 2021

**Gender Mix**



Average Age	38.2 years
Average Service	7.1 years
Total Annualized Compensation for the Prior Year	\$1,976,487
Total Expected Compensation for the Current Year	\$1,957,500
Average Increase in Compensation for the Prior Year	1.72%
Expected Increase in Compensation for the Current Year	4.00%



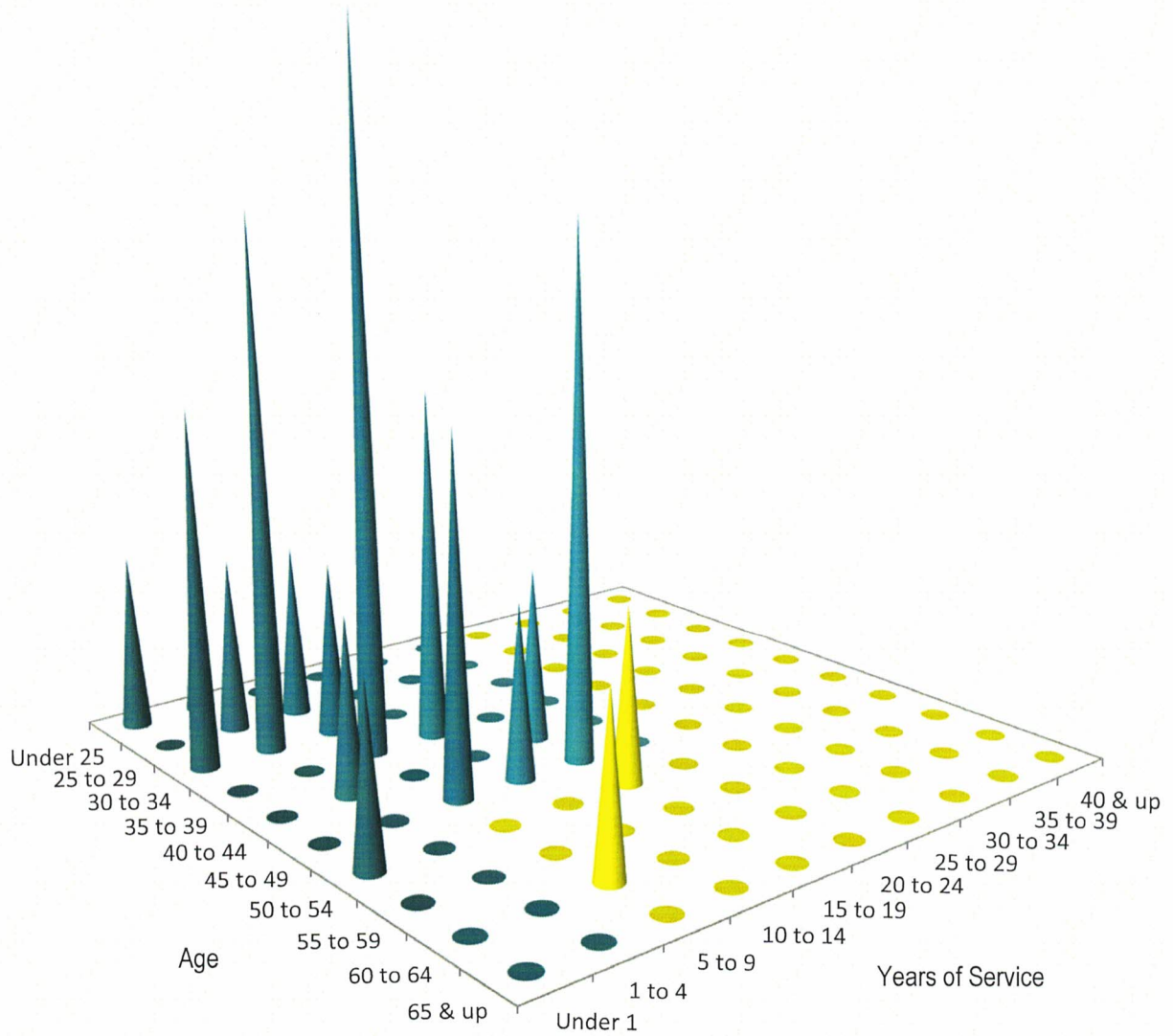
**Active Participant Statistics From Prior Valuations**

	Average Age	Average Service	Average Salary	Average Expected Salary Increase	Average Actual Salary Increase
October 1, 2012	N/A	N/A	N/A	5.00%	-7.00%
October 1, 2013	N/A	N/A	N/A	4.00%	7.30%
October 1, 2014	N/A	N/A	N/A	4.00%	0.88%
October 1, 2015	N/A	N/A	N/A	4.00%	13.04%
October 1, 2016	N/A	N/A	N/A	4.00%	22.94%
October 1, 2017	N/A	N/A	N/A	4.00%	9.52%
October 1, 2018	37.3	6.7	\$72,960	4.00%	12.13%
October 1, 2019	38.0	7.4	\$71,931	4.00%	1.13%
October 1, 2020	39.6	7.7	\$72,966	4.00%	2.18%
October 1, 2021	38.2	7.1	\$73,203	4.00%	1.72%



# Active Age-Service Distribution

Table III-D



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



## Active Age-Service-Salary Table

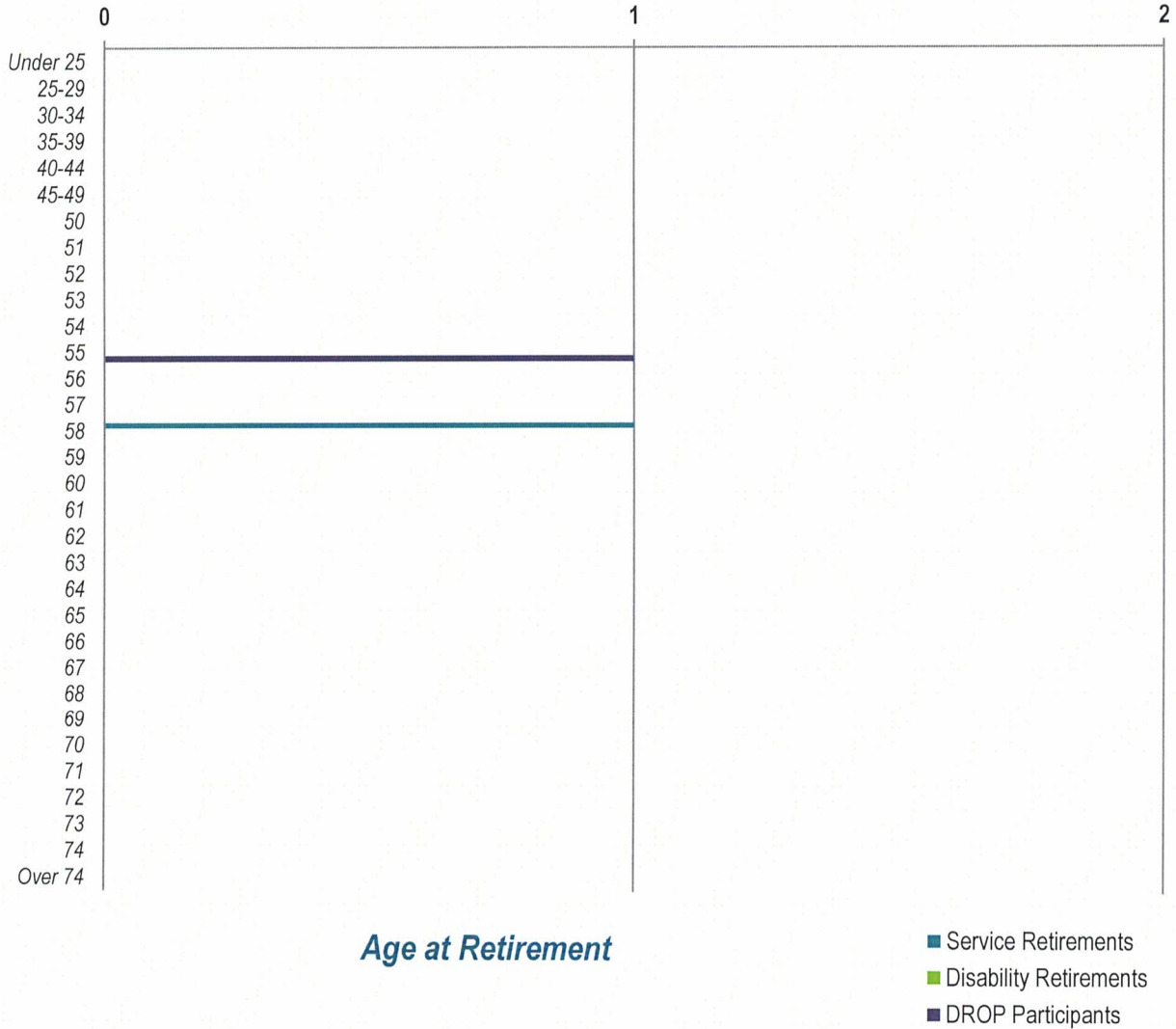
Table III-E

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	
<b>Under 25</b>	1	1	0	0	0	0	0	0	0	0	2
Avg.Pay	49,667	51,592	0	0	0	0	0	0	0	0	50,630
<b>25 to 29</b>	0	1	1	0	0	0	0	0	0	0	2
Avg.Pay	0	55,375	58,069	0	0	0	0	0	0	0	56,722
<b>30 to 34</b>	2	3	1	0	0	0	0	0	0	0	6
Avg.Pay	47,696	53,878	69,388	0	0	0	0	0	0	0	54,402
<b>35 to 39</b>	0	0	4	2	0	0	0	0	0	0	6
Avg.Pay	0	0	68,955	89,060	0	0	0	0	0	0	75,656
<b>40 to 44</b>	0	1	0	0	1	0	0	0	0	0	2
Avg.Pay	0	66,204	0	0	81,276	0	0	0	0	0	73,740
<b>45 to 49</b>	0	0	2	1	3	0	0	0	0	0	6
Avg.Pay	0	0	74,619	87,754	110,703	0	0	0	0	0	94,850
<b>50 to 54</b>	1	0	0	0	1	0	0	0	0	0	2
Avg.Pay	92,615	0	0	0	94,277	0	0	0	0	0	93,446
<b>55 to 59</b>	0	0	0	0	0	0	0	0	0	0	0
Avg.Pay	0	0	0	0	0	0	0	0	0	0	0
<b>60 to 64</b>	0	0	1	0	0	0	0	0	0	0	1
Avg.Pay	0	0	77,963	0	0	0	0	0	0	0	77,963
<b>65 &amp; up</b>	0	0	0	0	0	0	0	0	0	0	0
Avg.Pay	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	4	6	9	3	5	0	0	0	0	0	27
Avg.Pay	59,419	55,801	70,053	88,624	101,532	0	0	0	0	0	73,203



Inactive Participant Data

Table III-F



**Age at Retirement**

- Service Retirements
- Disability Retirements
- DROP Participants

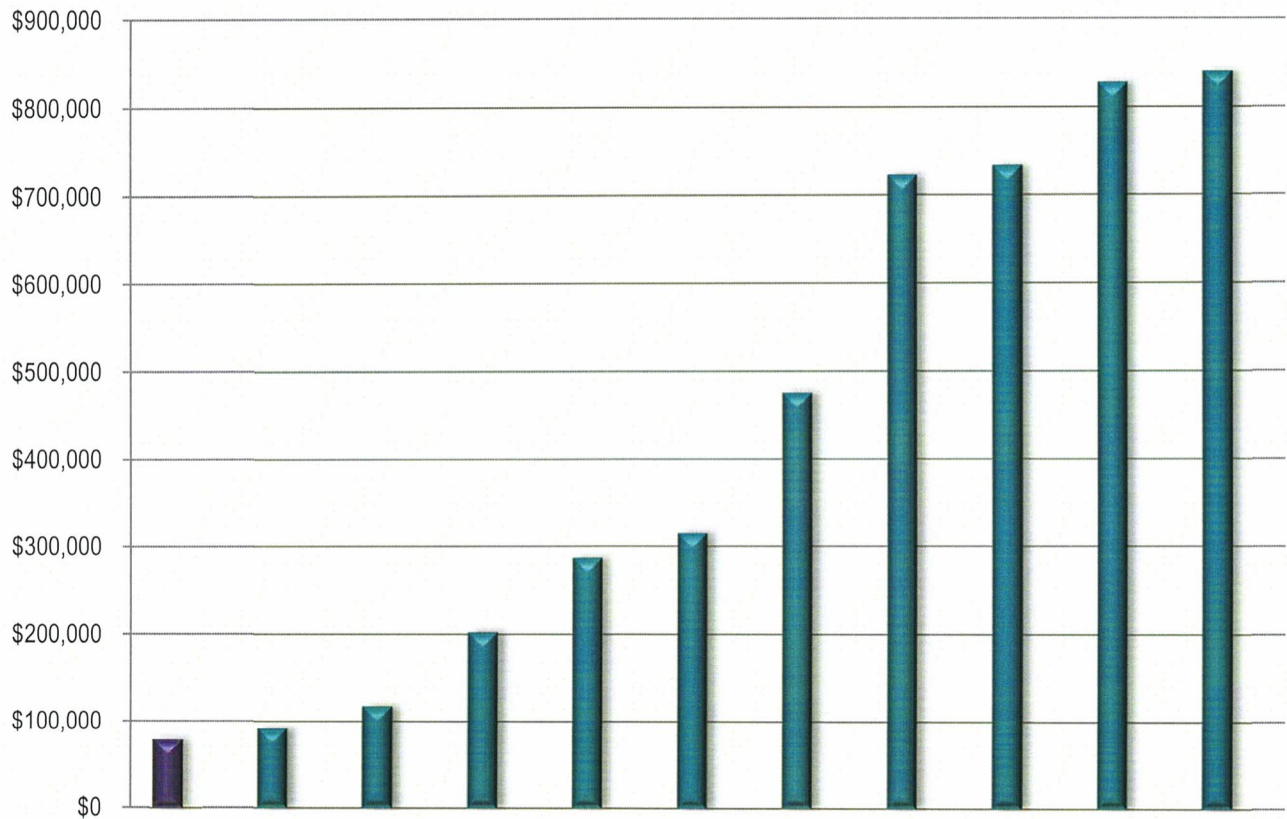
Average Monthly Benefit

Service Retirements	\$2,106.23
Disability Retirements	Not applicable
Beneficiaries Receiving	Not applicable
DROP Participants	\$1,432.82
Deferred Vested Participants	\$2,079.35
Deferred Beneficiaries	Not applicable



## Projected Benefit Payments

Table III-G

Actual

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

\$78,831

Projected

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

\$91,587

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

\$118,110

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

\$202,537

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

\$287,519

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

\$315,564

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

\$475,756

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

\$723,013

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

\$733,790

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

\$828,031

For the period October 1, 2030 through September 30, 2031

\$840,347



## 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, adjusted to reflect a five-year phase-in of the unexpected investment earnings.

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

6.75% 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: None is assumed.
- Post-retirement mortality: For non-disabled retirees, sex-distinct rates set forth in the PUB-2010 Headcount-Weighted Healthy Retiree Mortality Table for public safety employees (Below Median table for males), with full generational improvements in mortality using Scale MP-2018 and with ages set forward one year; for disabled retirees, sex-distinct rates set forth in the PUB-2010 Headcount-Weighted Disabled Retiree Mortality Table (80% general employee rates plus 20% public safety employee rates), with full generational improvements in mortality using Scale MP-2018



## Summary of Actuarial Methods and Assumptions

## Table IV-A

(continued)

**5. Decrements (continued)**

- Disability: None is assumed.
- Termination: None is assumed.
- Retirement: Retirement is assumed to occur at normal retirement age.

**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 2.00% 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.



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## Changes in Actuarial Methods and Assumptions

## Table IV-B

Since the completion of the previous valuation, the assumed interest (or discount) rate was decreased from 7.00% per annum to 6.75% per annum.

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

- (1) Effective October 1, 2020, the assumed interest (or discount) rate was decreased from 7.25% per annum to 7.00% per annum.*
- (2) Effective October 1, 2019, the mortality basis was changed from selected RP-2000 Mortality Tables with generational improvements in mortality using Scale BB to selected PUB-2010 Mortality Tables with generational improvements in mortality using Scale MP-2018.*
- (3) Effective October 1, 2018, the interest (or discount) rate was decreased from 7.50% per annum to 7.25% per annum.*



## Summary of Plan Provisions

## Table V-A

**1. Benefit Formula**

3.50% of Average Monthly Earnings multiplied by Credited Service

**2. Service Retirement**

Normal retirement: Age 55 with at least six years of credited service; or

Any age with at least 20 years of credited service

Early retirement: Age 50 with at least six years of credited service

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

**3. Disability Retirement**

Service-based disability: Participant must be disabled during the course of his employment with the City.

Non-service disability: Participant must have earned at least eight years of credited service.

The disability benefit is a monthly 10-year certain and life annuity equal to the monthly accrued benefit, but not less than 65% of average monthly earnings (in the case of a service-based disability) or 25% of average monthly earnings (otherwise) and offset as necessary to preclude the total of the participant's worker's compensation, disability benefit, and other City-financed disability or salary continuation benefit from exceeding his average monthly earnings. The participant may convert his disability benefit into any of the optional forms of payment that are otherwise available under the plan.

*(A participant is disabled if he is found to have a mental or physical condition resulting from bodily injury, disease, or a mental disorder that renders him incapable of employment as a firefighter.)*

**4. Deferred Vested Retirement**

A vested participant who terminates employment before becoming eligible for retirement receives a deferred vested retirement benefit payable at the participant's early or normal retirement age. If the benefit is payable prior to normal retirement age, then the benefit is reduced by 3% for each year by which the participant's early retirement age precedes his normal retirement age.

A non-vested participant who terminates employment receives his accumulated contributions.



## Summary of Plan Provisions

## Table V-A

(continued)

**5. Vesting**

An employee becomes 100% vested upon the attainment of six years of credited service.

**6. Pre-Retirement Death Benefit**

If a participant dies in the line of duty prior to retirement, the participant's beneficiary will receive an immediate monthly life annuity equal to 100% of the participant's plan compensation at the time of his death (or the participant's vested accrued pension benefit payable at the participant's early or normal retirement age and reduced for payment prior to the participant's normal retirement age at the rate of 3% per year, if applicable).

If a vested participant dies prior to retirement, the participant's beneficiary receives a 10-year certain annuity commencing at the participant's normal or early retirement age and reduced for payment prior to the participant's normal retirement age at the rate of 3% per year, if applicable.

If a non-vested participant dies prior to retirement, the participant's beneficiary receives the participant's accumulated contributions.

**7. Form of Payment**

Actuarially increased single life annuity (*optional*);

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

Actuarially reduced 50% joint and contingent annuity (*optional*);

Actuarially reduced 66 $\frac{2}{3}$ % joint and contingent annuity (*optional*);

Actuarially reduced 75% joint and contingent annuity (*optional*);

Actuarially reduced 100% joint and contingent annuity (*optional*); or

Actuarially equivalent single lump sum distribution (*automatic if the single sum value of the participant's benefit is less than or equal to \$1,000*)

(*Note: All forms of payment guarantee at least the return of the participant's accumulated contributions. Furthermore, a participant may change his joint annuitant up to two times after retirement subject to an actuarially equivalent adjustment.*)



## Summary of Plan Provisions

## Table V-A

(continued)

**8. Automatic Cost-of-Living Adjustment**

Participants receive an automatic annual 1.50% cost-of-living adjustment beginning on the October 1 immediately following retirement.

**9. Average Monthly Earnings**

Average monthly earnings during the highest five years of compensation or career average earnings, if greater. Earnings include only fixed monthly compensation and cannot exceed the maximum amount allowed under Internal Revenue Code (IRC) section 401(a)(17).

**10. Credited Service**

The elapsed time from the participant's date of hire until his date of termination, retirement, or death.

**11. Employee Contribution**

Employees are required to contribute 5.00% of basic salary. Employee contributions are accumulated without interest.

**12. City Contribution**

The City is required to make periodic contributions at least on a quarterly basis as determined under Chapter 112, Florida Statutes.

**13. Participant Requirement**

All firefighters of the City of Safety Harbor automatically become participants in the plan on their date of hire; a new employee who is hired as a fire chief may irrevocably opt out of participation in the plan.

**14. Actuarial Equivalence**

Based on 7.00% interest per annum and the mortality table promulgated by the Internal Revenue Service (IRS) for purposes of determining minimum lump sum distributions pursuant to Internal Revenue Code (IRC) section 417(e)(3).



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## Summary of Plan Provisions

## Table V-A

(continued)

**15. Plan Effective Date**

The plan was originally effective on October 1, 2005.

**16. 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 84 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 amendments were adopted since the completion of the previous valuation.

