Retirement Plan for the Firefighters
Of the City of Greenacres

Actuarial Valuation
As of October 1, 2019

Determines the Contribution
For the 2020/21 Fiscal Year

Southern Actuarial Services

March 3, 2020

Introduction

This report presents the results of the October 1, 2019 actuarial valuation of the Retirement Plan for the Firefighters of the City of Greenacres. 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 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 minimum required contribution 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 29.06% of covered payroll, which represents an increase of 0.01% of payroll from the prior valuation.

The normal cost rate is 29.33% of payroll, which is 0.06% 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 0.83% of payroll due to investment shortfalls and decreased by 0.77% of payroll due to demographic experience. The market value of assets only earned 5.65% during the 2018/19 plan year, whereas a 7.25% 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 2020/21 minimum required contribution will be equal to 29.06% multiplied by the total pensionable earnings for the 2020/21 plan year for the active employees who are covered by the plan and reduced by the portion of the Chapter 175 contribution that is allowed to be recognized during the 2020/21 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 $28,693,431. As illustrated in Table I-A, current assets are sufficient to cover $18,140,965 of this amount, the employer's 2019/20 expected contribution will cover $1,106,435 of this amount, the employer's 2020/21 expected contribution will cover $1,162,243 of this amount, and future employee contributions are expected to cover $1,266,294 of this amount, leaving $7,017,494 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.

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 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. Specifically, Table II-A shows the development of the actuarial value of assets, which is based on the market value of assets. 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 five participants who are due a refund of their contributions. We have estimated the accumulated amount of their refunds to be $16,148 as of October 1, 2019. The average amount owed to these individuals is $3,230. If possible, we recommend that the accumulated contributions be distributed to these individuals in order to simplify the administration of the plan and to reduce future administrative costs.

Certification

This actuarial valuation was prepared by me or under my direct supervision and I acknowledge responsibility for the results. To the best of my knowledge, the results are complete and accurate and, in my opinion, the techniques and assumptions used are reasonable and meet the requirements and intent of Chapter 112, Florida Statutes. There is no benefit or expense to be provided by the plan and/or paid from the plan's assets for which liabilities or current costs have not been established or otherwise taken into account in the valuation. All known events or trends which may require a material change in plan costs or required contribution rates have been taken into account in the valuation.

For the firm,

Charles T. Carr

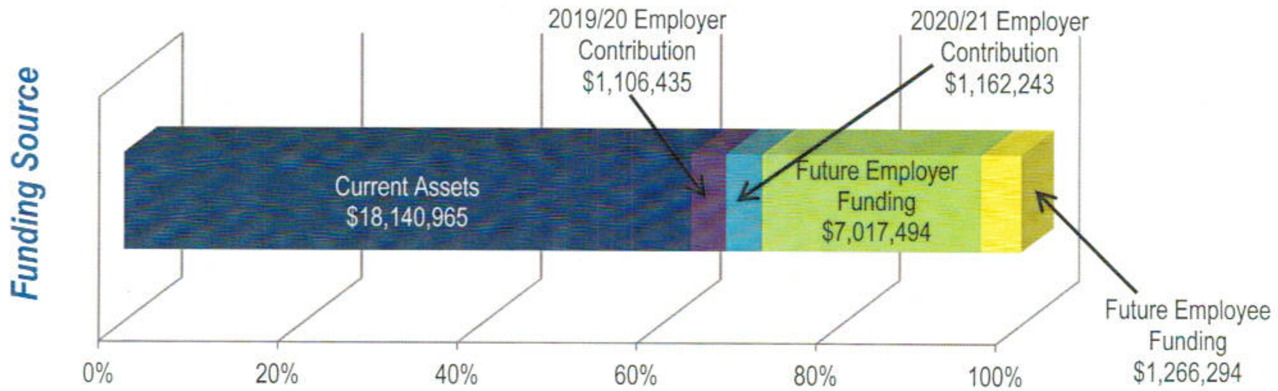
Charles T. Carr
Consulting Actuary
Southern Actuarial Services Company, Inc.

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 2020/21 Plan Year
Present Value of Future Benefits	$28,409,338
Present Value of Future Administrative Expenses	$284,093
Actuarial Value of Assets	($18,140,965)
Present Value of Future Employee Contributions	($1,266,294)
Present Value of Future Normal Costs	$9,286,172
Present Value of Future Payroll	*÷ $31,657,388*
Normal Cost Rate	*= 29.3333%*
Expected Payroll	*x $3,808,728*
Normal Cost	$1,117,227
Adjustment to Reflect Semi-Monthly Employer Contributions	$41,243
Expected Employer Contribution for the 2019/20 Plan Year	($1,106,435)
Remaining Contribution Due/(Credit) for the 2019/20 Plan Year	$52,035
	x 0.0725
One Year's Interest Charge/(Credit) on the Remaining Contribution	$3,773
Preliminary Employer Contribution for the 2020/21 Plan Year	$1,162,243
Expected Payroll for the 2020/21 Plan Year	*÷ $3,999,164*
Minimum Required Contribution Rate	**29.06%**

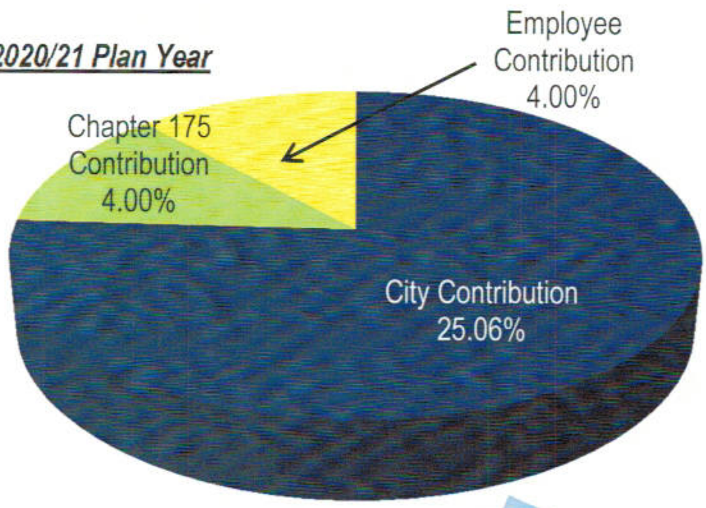
(The actual contribution should be based on the minimum required contribution rate multiplied by the actual payroll for the year.)

Minimum Required Contribution

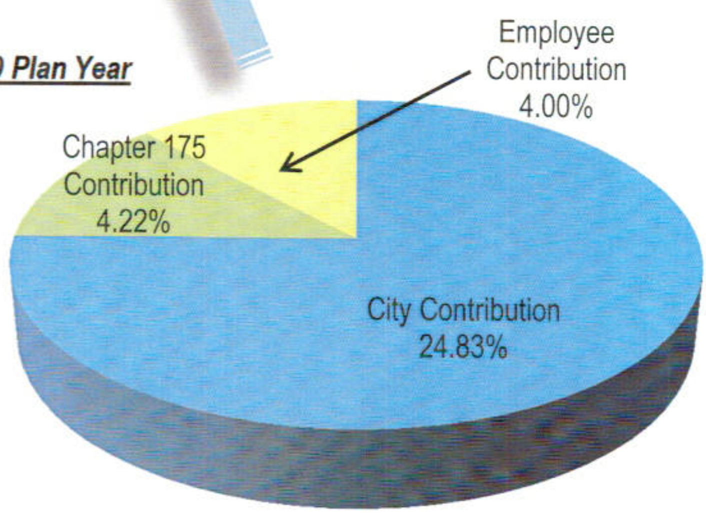
Table I-A
(continued)

The minimum required contribution rate of 29.06% includes both the City contribution and the allowable Chapter 175 contribution. In addition, employees are required to contribute 4.00% of pensionable earnings. The actual City contribution rate is expected to be approximately 25.06% based on the allowable Chapter 175 contribution for the previous year. The chart below shows the expected contribution rate by source for the 2020/21 plan year based on the expected payroll. A comparative chart shows the contribution rate by source for the previous plan year.

For the 2020/21 Plan Year

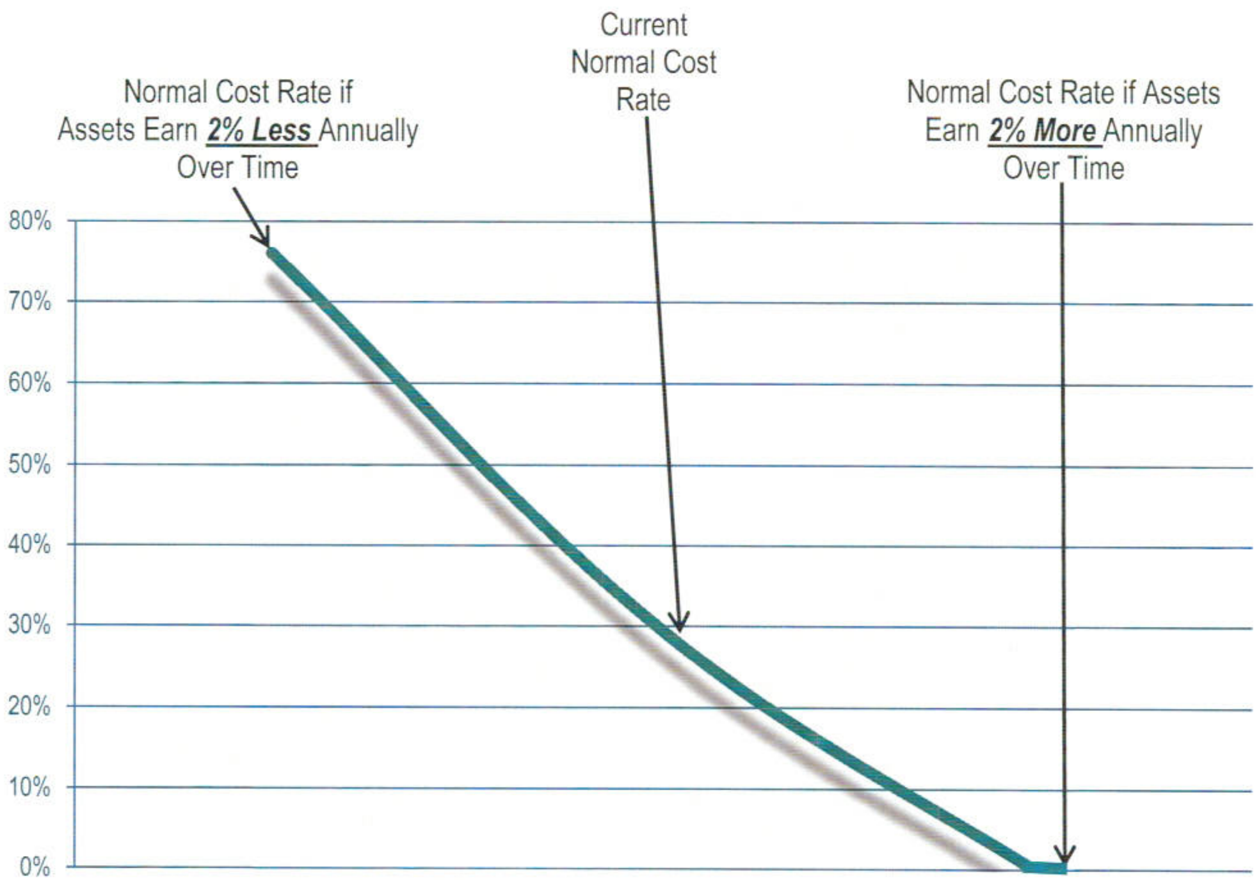


For the 2019/20 Plan Year



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	29.27%
Increase (decrease) due to investment gains and losses	0.83%
Increase (decrease) due to demographic experience	-0.77%
Increase (decrease) due to plan amendments	0.00%
Increase (decrease) due to actuarial assumption changes	0.00%
Increase (decrease) due to actuarial method changes	0.00%
Current normal cost rate	29.33%

Present Value of Future Benefits

Table I-D

	Old Assumptions w/o Amendment	Old Assumptions w/ Amendment	New Assumptions w/ Amendment
Actively Employed Participants			
Retirement benefits	$21,921,089	$21,921,089	$21,921,089
Termination benefits	$1,986,673	$1,986,673	$1,986,673
Disability benefits	$1,476,288	$1,476,288	$1,476,288
Death benefits	$158,854	$158,854	$158,854
Refund of employee contributions	$164,075	$164,075	$164,075
Sub-total	**$25,706,979**	**$25,706,979**	**$25,706,979**
Deferred Vested Participants			
Retirement benefits	$1,482,559	$1,482,559	$1,482,559
Termination benefits	$0	$0	$0
Disability benefits	$0	$0	$0
Death benefits	$0	$0	$0
Refund of employee contributions	$0	$0	$0
Sub-total	**$1,482,559**	**$1,482,559**	**$1,482,559**
Due a Refund of Contributions	**$16,148**	**$16,148**	**$16,148**
Deferred Beneficiaries	**$0**	**$0**	**$0**
Retired Participants			
Service retirements	$1,203,652	$1,203,652	$1,203,652
Disability retirements	$0	$0	$0
Beneficiaries receiving	$0	$0	$0
DROP participants	$0	$0	$0
Sub-total	**$1,203,652**	**$1,203,652**	**$1,203,652**
Grand Total	**$28,409,338**	**$28,409,338**	**$28,409,338**
Present Value of Future Payroll	$31,657,388	$31,657,388	$31,657,388
Present Value of Future Employee Contribs.	$1,266,294	$1,266,294	$1,266,294
Present Value of Future Employer Contribs.	$9,286,172	$9,286,172	$9,286,172

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	$8,473,805	$8,473,805	$8,473,805
Termination benefits	$990,827	$990,827	$990,827
Disability benefits	$858,521	$858,521	$858,521
Death benefits	$78,560	$78,560	$78,560
Refund of employee contributions	$87,979	$87,979	$87,979
Sub-total	**$10,489,692**	**$10,489,692**	**$10,489,692**
Deferred Vested Participants			
Retirement benefits	$1,482,559	$1,482,559	$1,482,559
Termination benefits	$0	$0	$0
Disability benefits	$0	$0	$0
Death benefits	$0	$0	$0
Refund of employee contributions	$0	$0	$0
Sub-total	**$1,482,559**	**$1,482,559**	**$1,482,559**
Due a Refund of Contributions	**$16,148**	**$16,148**	**$16,148**
Deferred Beneficiaries	**$0**	**$0**	**$0**
Retired Participants			
Service retirements	$1,203,652	$1,203,652	$1,203,652
Disability retirements	$0	$0	$0
Beneficiaries receiving	$0	$0	$0
DROP participants	$0	$0	$0
Sub-total	**$1,203,652**	**$1,203,652**	**$1,203,652**
Grand Total	**$13,192,051**	**$13,192,051**	**$13,192,051**
Funded Percentage	137.64%	137.64%	137.64%

(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	$8,303,710	$8,303,710	$8,303,710
Termination benefits	$463,721	$463,721	$463,721
Disability benefits	$858,521	$858,521	$858,521
Death benefits	$75,268	$75,268	$75,268
Refund of employee contributions	$138,174	$138,174	$138,174
Sub-total	**$9,839,394**	**$9,839,394**	**$9,839,394**
Deferred Vested Participants			
Retirement benefits	$1,482,559	$1,482,559	$1,482,559
Termination benefits	$0	$0	$0
Disability benefits	$0	$0	$0
Death benefits	$0	$0	$0
Refund of employee contributions	$0	$0	$0
Sub-total	**$1,482,559**	**$1,482,559**	**$1,482,559**
Due a Refund of Contributions	**$16,148**	**$16,148**	**$16,148**
Deferred Beneficiaries	**$0**	**$0**	**$0**
Retired Participants			
Service retirements	$1,203,652	$1,203,652	$1,203,652
Disability retirements	$0	$0	$0
Beneficiaries receiving	$0	$0	$0
DROP participants	$0	$0	$0
Sub-total	**$1,203,652**	**$1,203,652**	**$1,203,652**
Grand Total	**$12,541,753**	**$12,541,753**	**$12,541,753**

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	$14,425,100	$14,425,100	$14,425,100
Termination benefits	$1,340,805	$1,340,805	$1,340,805
Disability benefits	$995,268	$995,268	$995,268
Death benefits	$111,127	$111,127	$111,127
Refund of employee contributions	$100,202	$100,202	$100,202
Sub-total	**$16,972,502**	**$16,972,502**	**$16,972,502**
Deferred Vested Participants			
Retirement benefits	$1,482,559	$1,482,559	$1,482,559
Termination benefits	$0	$0	$0
Disability benefits	$0	$0	$0
Death benefits	$0	$0	$0
Refund of employee contributions	$0	$0	$0
Sub-total	**$1,482,559**	**$1,482,559**	**$1,482,559**
Due a Refund of Contributions	**$16,148**	**$16,148**	**$16,148**
Deferred Beneficiaries	**$0**	**$0**	**$0**
Retired Participants			
Service retirements	$1,203,652	$1,203,652	$1,203,652
Disability retirements	$0	$0	$0
Beneficiaries receiving	$0	$0	$0
DROP participants	$0	$0	$0
Sub-total	**$1,203,652**	**$1,203,652**	**$1,203,652**
Grand Total	**$19,674,861**	**$19,674,861**	**$19,674,861**

Actuarial Value of Assets

Table II-A

Market Value of Assets as of October 1, 2019	$18,157,232
Minus advance employer contributions	($16,267)
Minus excess Chapter 175/185 contributions	$0
Actuarial Value of Assets as of October 1, 2019	**$18,140,965**

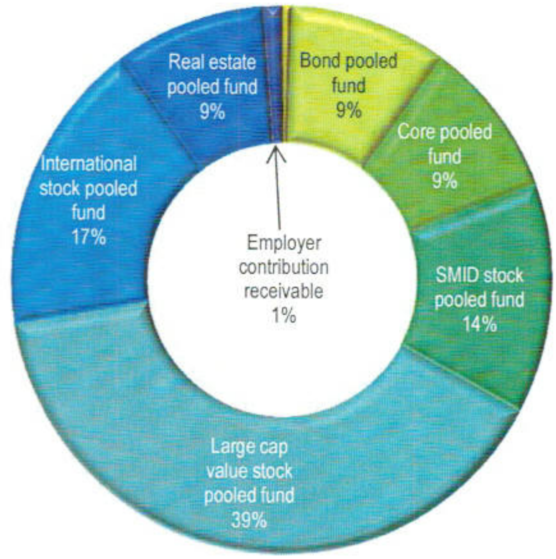
Historical Actuarial Value of Assets

October 1, 2010	$8,879,484
October 1, 2011	$10,564,789
October 1, 2012	$14,004,298
October 1, 2013	$17,308,555
October 1, 2014	$20,145,669
October 1, 2015	$9,292,323
October 1, 2016	$10,816,320
October 1, 2017	$13,518,355
October 1, 2018	$16,027,007
October 1, 2019	$18,140,965

Market Value of Assets

Table II-B

	As of October 1, 2019
Market Value of Assets	**$18,157,232**
Cash	$89,717
Bond pooled fund	$1,722,556
Core pooled fund	$1,686,669
SMID stock pooled fund	$2,476,174
Large cap value stock pooled fund	$7,159,373
International stock pooled fund	$3,175,962
Real estate pooled fund	$1,632,839
Employer contribution receivable	$207,510
Employee contribution receivable	$6,432

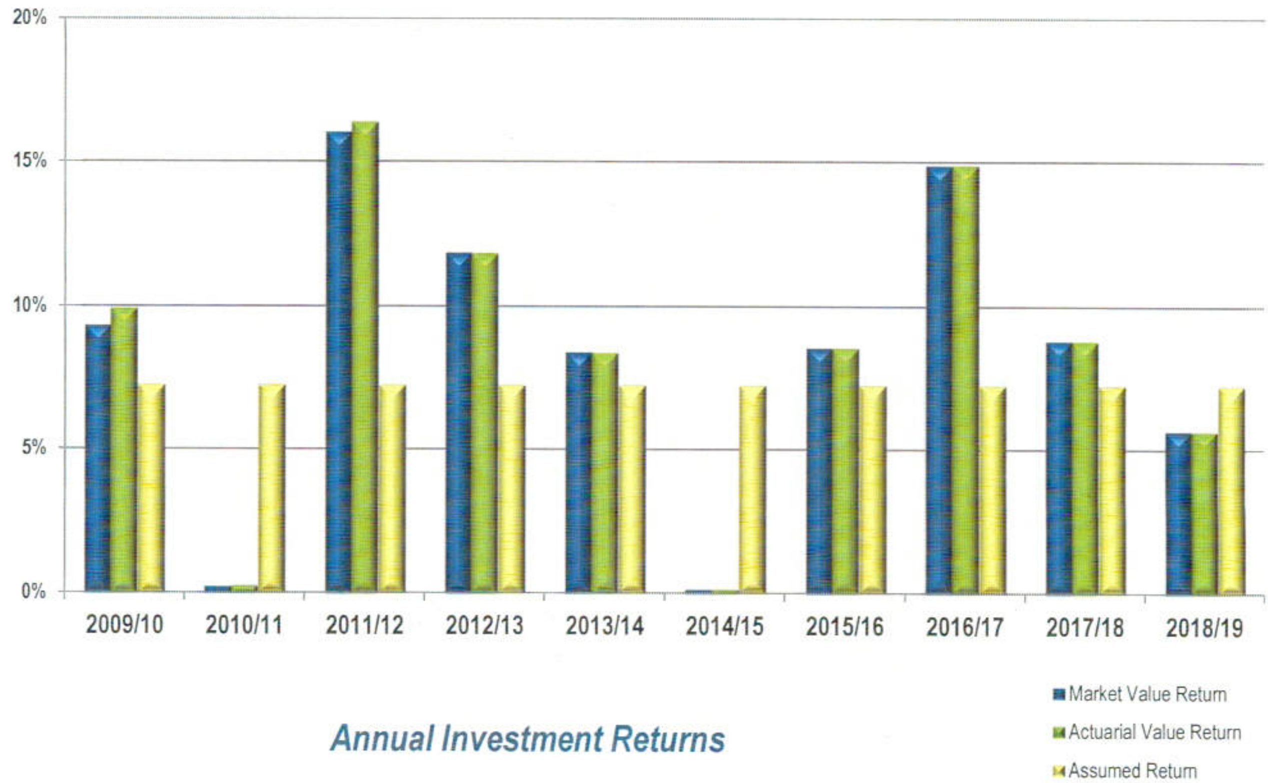


Historical Market Value of Assets

October 1, 2010	$9,367,420
October 1, 2011	$11,059,940
October 1, 2012	$14,004,298
October 1, 2013	$17,308,555
October 1, 2014	$20,145,669
October 1, 2015	$9,292,323
October 1, 2016	$10,816,320
October 1, 2017	$13,533,668
October 1, 2018	$16,042,320
October 1, 2019	$18,157,232

Investment Return

Table II-C



Annual Investment Returns

Plan Year	Market Value Return	Actuarial Value Return	Assumed Return
2009/10	9.34%	9.94%	7.25%
2010/11	0.24%	0.26%	7.25%
2011/12	16.03%	16.37%	7.25%
2012/13	11.84%	11.84%	7.25%
2013/14	8.42%	8.42%	7.25%
2014/15	0.13%	0.13%	7.25%
2015/16	8.58%	8.58%	7.25%
2016/17	14.87%	14.88%	7.25%
2017/18	8.83%	8.84%	7.25%
2018/19	5.65%	5.66%	7.25%
10yr. Avg.	8.27%	8.37%	7.25%

Asset Reconciliation

Table II-D

	Market Value	Actuarial Value
As of October 1, 2018	**$16,042,320**	**$16,027,007**
Increases Due To:		
Employer Contributions	$973,405	$973,405
Chapter 175/185 Contributions	$160,796	$160,796
Employee Contributions	$160,516	$160,516
Service Purchase Contributions	$0	$0
Total Contributions	$1,294,717	$1,294,717
Interest and Dividends	$0	
Realized Gains (Losses)	$0	
Unrealized Gains (Losses)	$939,539	
Total Investment Income	$939,539	$939,539
Other Income	$0	
Total Income	**$2,234,256**	**$2,234,256**
Decreases Due To:		
Monthly Benefit Payments	($70,671)	($70,671)
Refund of Employee Contributions	($8,028)	($8,028)
Total Benefit Payments	($78,699)	($78,699)
Investment Expenses	$0	
Administrative Expenses	($40,645)	($40,645)
Advance Employer Contribution		($954)
Excess Chapter 175/185 Contribution		$0
Total Expenses	**($119,344)**	**($120,298)**
As of October 1, 2019	**$18,157,232**	**$18,140,965**

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
2009/10	$905,084	$432,430	$195,062	$0	$0	$0	$737,314	$0
2010/11	$1,158,781	$391,454	$197,738	$0	$0	$0	$24,954	$0
2011/12	$1,051,443	$413,040	$205,990	$0	$0	$0	$1,902,338	-$571,775
2012/13	$1,081,399	$439,902	$203,198	$0	$0	$0	$1,756,314	-$103,486
2013/14	$891,618	$464,704	$201,235	$0	$0	$0	$1,518,010	-$128,288
2014/15	$918,747	$482,735	$241,030	$0	$0	$0	$27,889	-$12,372,826
2015/16	$476,766	$160,796	$129,257	$0	$0	$0	$826,904	$0
2016/17	$811,403	$160,796	$130,901	$0	$0	$0	$1,684,899	$0
2017/18	$1,056,057	$160,796	$154,374	$0	$0	$0	$1,250,861	$0
2018/19	$973,405	$160,796	$160,516	$0	$0	$0	$939,539	$0

Expenses

Plan Year	Monthly Benefit Payments	Contrib. Refunds	Admin. Expenses	Invest. Expenses
2009/10	$17,672	$6,105	$31,537	$0
2010/11	$18,202	$15,020	$47,185	$0
2011/12	$18,748	$9,945	$27,985	$0
2012/13	$19,311	$4,019	$49,740	$0
2013/14	$45,925	$1,367	$62,873	$0
2014/15	$77,918	$7,974	$65,029	$0
2015/16	$30,486	$0	$39,240	$0
2016/17	$31,401	$1,643	$37,607	$0
2017/18	$59,745	$7,059	$46,632	$0
2018/19	$70,671	$8,028	$40,645	$0

Other Actuarial Adjustments

Plan Year	Advance Employer Contribs.	Excess Chapter Contribs.
2009/10	-$67,361	$96,014
2010/11	-$47,823	$55,038
2011/12	$0	-$495,151
2012/13	$0	$0
2013/14	$0	$0
2014/15	$0	$0
2015/16	$0	$0
2016/17	$15,313	$0
2017/18	$0	$0
2018/19	$954	$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	$15,313
Additional Employer Contribution	$1,134,201
Minimum Required Contribution	($1,133,247)
Net Increase in Advance Employer Contribution	$954
Advance Employer Contribution as of October 1, 2019	$16,267

Excess Chapter 175/185 Contribution

Excess Chapter 175/185 Contribution as of October 1, 2018	$0
Additional Chapter 175/185 Contribution	$160,796
Allowable Chapter 175/185 Contribution	($160,796)
Net Increase in Excess Chapter 175/185 Contribution	$0
Excess Chapter 175/185 Contribution as of October 1, 2019	$0

Historical Chapter 175/185 Contributions

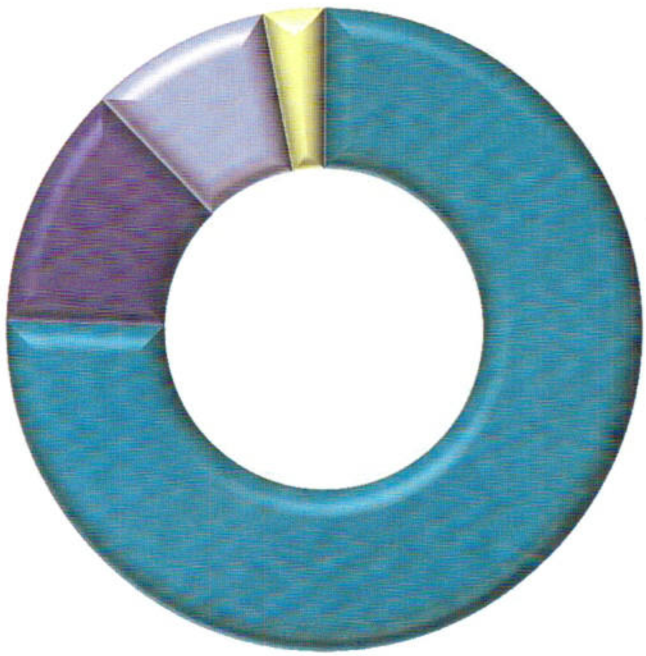
Table II-G

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

	Chapter 175 Regular Distribution	Chapter 175 Supplemental Distribution	Chapter 185 Distribution	Allowable Amount
1998 Distribution	$0	$0	$61,736	($15,282)
1999 Distribution	$0	$0	$116,890	($15,282)
2000 Distribution	$25,888	$0	$123,453	($15,282)
2001 Distribution	$32,116	$7,377	$140,464	($15,282)
2002 Distribution	$50,540	$11,252	$176,353	($15,282)
2003 Distribution	$74,296	$22,556	$108,910	($15,282)
2004 Distribution	$90,294	$22,676	$127,930	($1,101,039)
2005 Distribution	$96,599	$20,955	$141,462	($259,016)
2006 Distribution	$147,230	$39,411	$173,192	($336,416)
2007 Distribution	$164,946	$125,392	$179,037	($336,416)
2008 Distribution	$162,702	$129,469	$231,968	($336,416)
2009 Distribution	$146,876	$86,661	$198,893	($336,416)
2010 Distribution	$146,985	$63,181	$181,288	($336,416)
2011 Distribution	$147,633	$70,340	$195,067	($336,416)
2012 Distribution	$154,864	$80,164	$204,874	($336,416)
2013 Distribution	$165,614	$78,675	$220,415	($336,416)
2014 Distribution	$159,512	$91,591	$231,632	($336,416)
2015 Distribution	$160,796	$0	$0	($160,796)
2016 Distribution	$160,796	$0	$0	($160,796)
2017 Distribution	$160,796	$0	$0	($160,796)
2018 Distribution	$160,796	$0	$0	($160,796)
Transfer to Share Plan				($949,868)

Summary of Participant Data

Table III-A



Participant Distribution by Status

As of October 1, 2019

Actively Employed Participants	
Active Participants	49
DROP Participants	0
Inactive Participants	
Deferred Vested Participants	8
Due a Refund of Contributions	6
Deferred Beneficiaries	0
Participants Receiving a Benefit	
Service Retirements	2
Disability Retirements	0
Beneficiaries Receiving	0
Total Participants	**65**

Number of Participants Included in Prior Valuations

	Active	*DROP*	*Inactive*	*Retired*	*Total*
October 1, 2010	72	0	14	1	87
October 1, 2011	73	0	14	1	88
October 1, 2012	74	0	20	1	95
October 1, 2013	75	0	21	1	97
October 1, 2014	73	0	32	3	108
October 1, 2015	37	0	11	1	49
October 1, 2016	41	0	11	1	53
October 1, 2017	47	0	12	1	60
October 1, 2018	47	0	13	2	62
October 1, 2019	49	0	14	2	65

** Note: Valuations prior to 10/1/2015 include police officers.*

Data Reconciliation

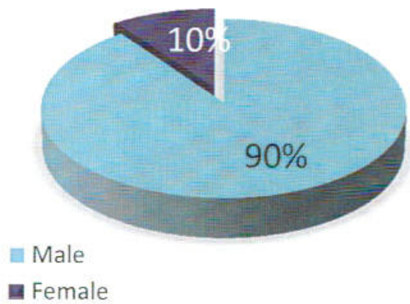
Table III-B

	Active	DROP	Deferred Vested	Due a Refund	Def. Benef.	Service Retiree	Disabled Retiree	Benef. Rec'v.	Total
October 1, 2018	47	0	7	6	0	2	0	0	**62**
Change in Status									
Re-employed									
Terminated	(2)		1	1					
Retired									
Participation Ended									
Transferred Out									
Cashed Out				(1)					**(1)**
Died									
Participation Began									
Newly Hired	4								**4**
Transferred In									
New Beneficiary									
Other Adjustment									
October 1, 2019	49	0	8	6	0	2	0	0	**65**

Active Participant Data

Table III-C

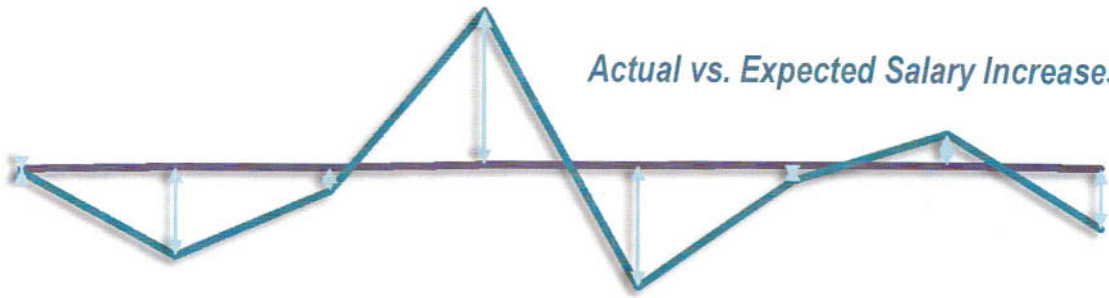
Gender Mix



As of October 1, 2019

Average Age	37.8 years
Average Service	8.3 years
Total Annualized Compensation for the Prior Year	$3,916,188
Total Expected Compensation for the Current Year	$3,808,728
Average Increase in Compensation for the Prior Year	1.00%
Expected Increase in Compensation for the Current Year	5.49%

Actual vs. Expected Salary Increases



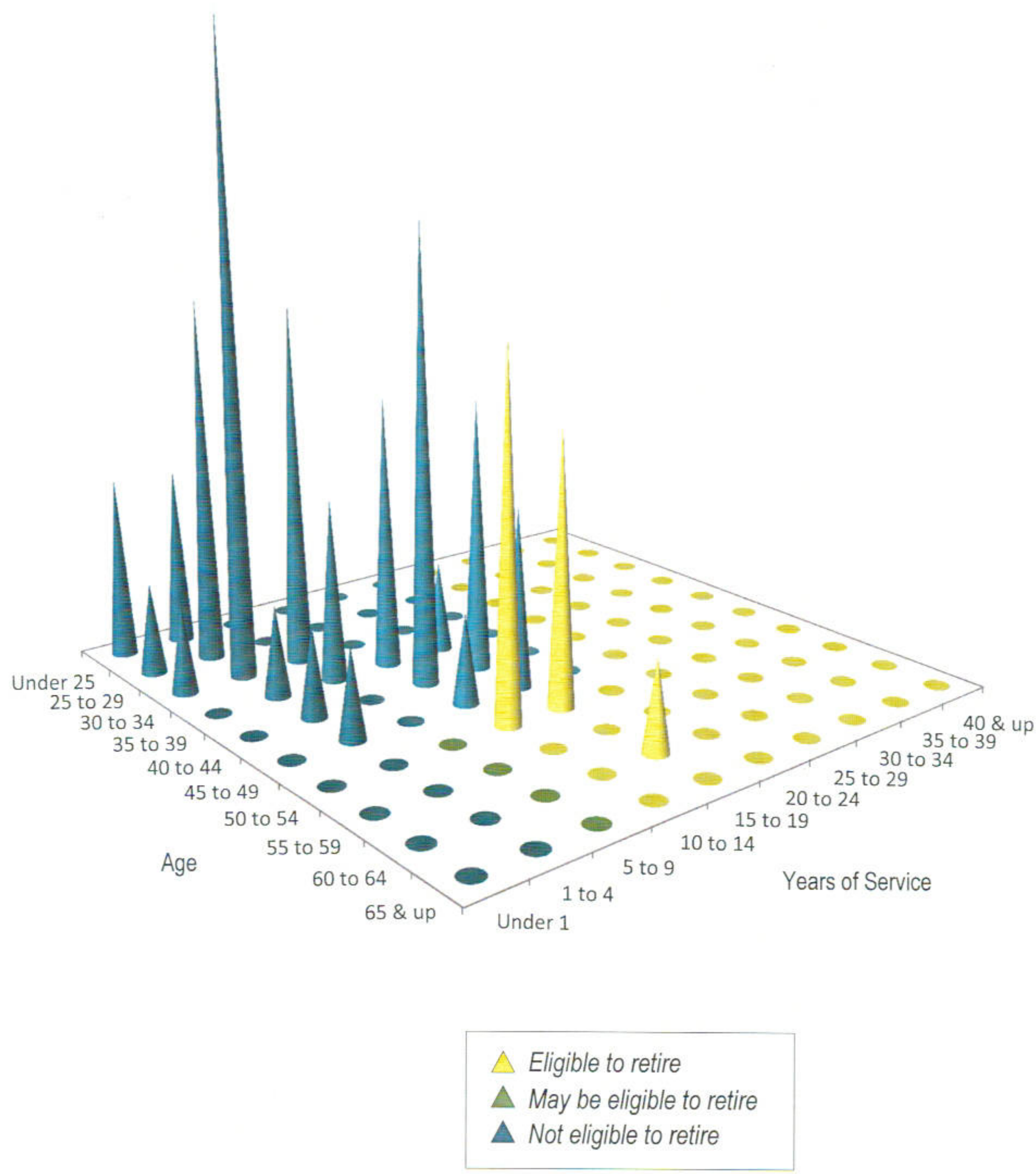
Active Participant Statistics From Prior Valuations

	Average Age	*Average Service*	*Average Salary*	*Average Expected Salary Increase*	*Average Actual Salary Increase*
October 1, 2010	36.2	5.3	$67,626	5.32%	-2.42%
October 1, 2011	36.8	6.2	$68,127	5.19%	3.71%
October 1, 2012	37.2	6.5	$69,548	5.16%	4.89%
October 1, 2013	38.0	7.1	$68,324	5.36%	-1.30%
October 1, 2014	36.9	6.9	$68,518	5.35%	3.57%
October 1, 2015	38.0	7.4	$80,447	5.60%	16.99%
October 1, 2016	37.9	7.6	$75,990	5.64%	-3.45%
October 1, 2017	37.8	7.5	$74,993	5.66%	4.50%
October 1, 2018	38.1	8.0	$81,892	5.69%	8.07%
October 1, 2019	37.8	8.3	$79,922	5.54%	1.00%

* *Note: Valuations prior to 10/1/2015 include police officers.*

Active Age-Service Distribution

Table III-D



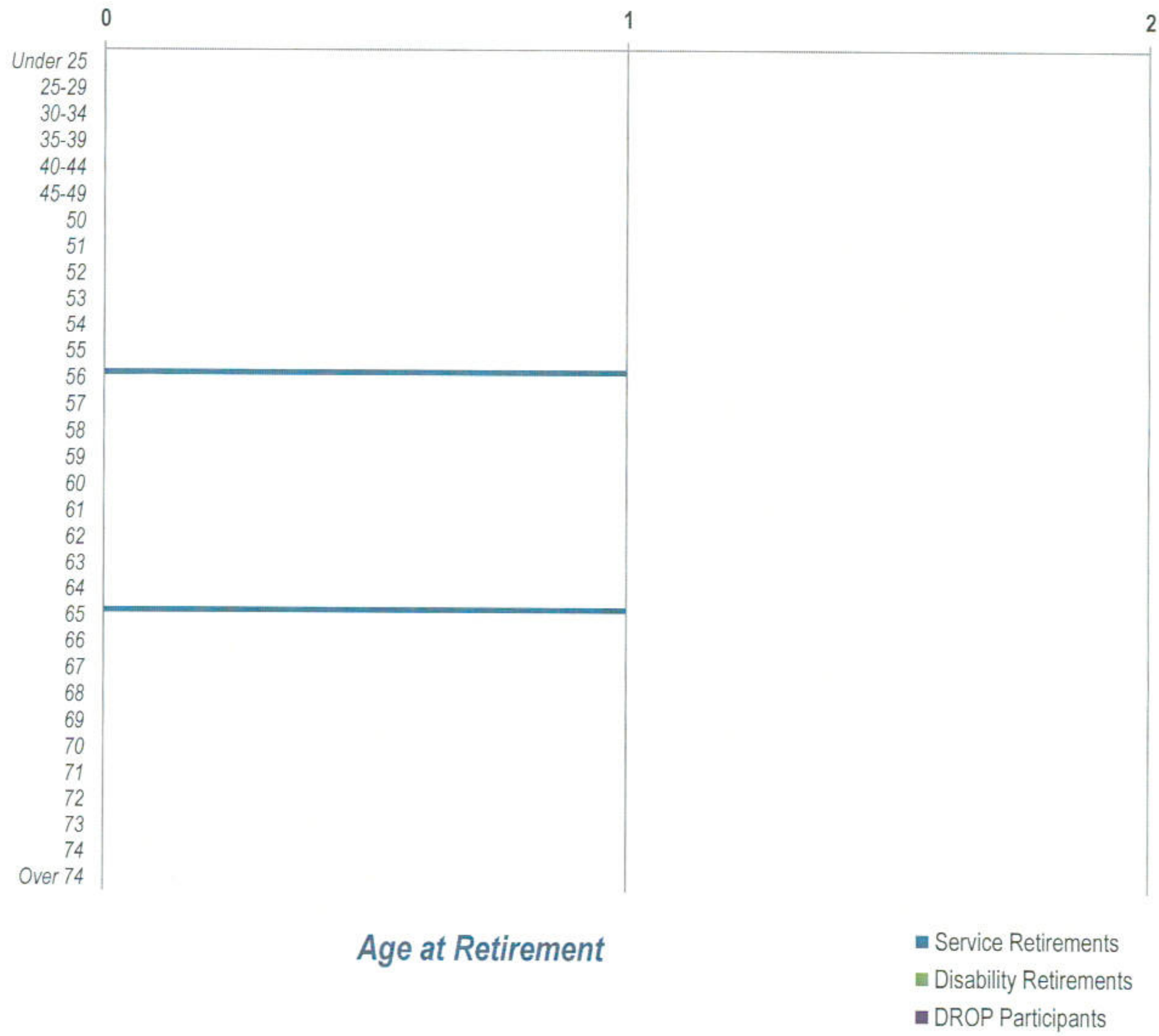
Active Age-Service-Salary Table

Table III-E

Attained Age	Completed Years of Service: 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	2	2	0	0	0	0	0	0	0	0	4
Avg.Pay	48,820	54,929	0	0	0	0	0	0	0	0	51,875
25 to 29	1	4	0	0	0	0	0	0	0	0	5
Avg.Pay	47,885	58,042	0	0	0	0	0	0	0	0	56,010
30 to 34	1	7	4	0	0	0	0	0	0	0	12
Avg.Pay	44,925	59,025	68,804	0	0	0	0	0	0	0	61,110
35 to 39	0	1	2	3	1	0	0	0	0	0	7
Avg.Pay	0	64,634	69,904	88,326	84,569	0	0	0	0	0	79,141
40 to 44	0	1	0	5	3	0	0	0	0	0	9
Avg.Pay	0	69,095	0	108,339	88,382	0	0	0	0	0	97,326
45 to 49	0	1	0	1	2	0	0	0	0	0	4
Avg.Pay	0	106,911	0	93,449	114,609	0	0	0	0	0	107,394
50 to 54	0	0	0	4	3	0	0	0	0	0	7
Avg.Pay	0	0	0	95,673	121,153	0	0	0	0	0	106,593
55 to 59	0	0	0	0	0	0	0	0	0	0	0
Avg.Pay	0	0	0	0	0	0	0	0	0	0	0
60 to 64	0	0	0	0	1	0	0	0	0	0	1
Avg.Pay	0	0	0	0	89,667	0	0	0	0	0	89,667
65 & up	0	0	0	0	0	0	0	0	0	0	0
Avg.Pay	0	0	0	0	0	0	0	0	0	0	0
Total	4	16	6	13	10	0	0	0	0	0	49
Avg.Pay	47,613	62,240	69,171	98,678	103,206	0	0	0	0	0	79,922

Inactive Participant Data

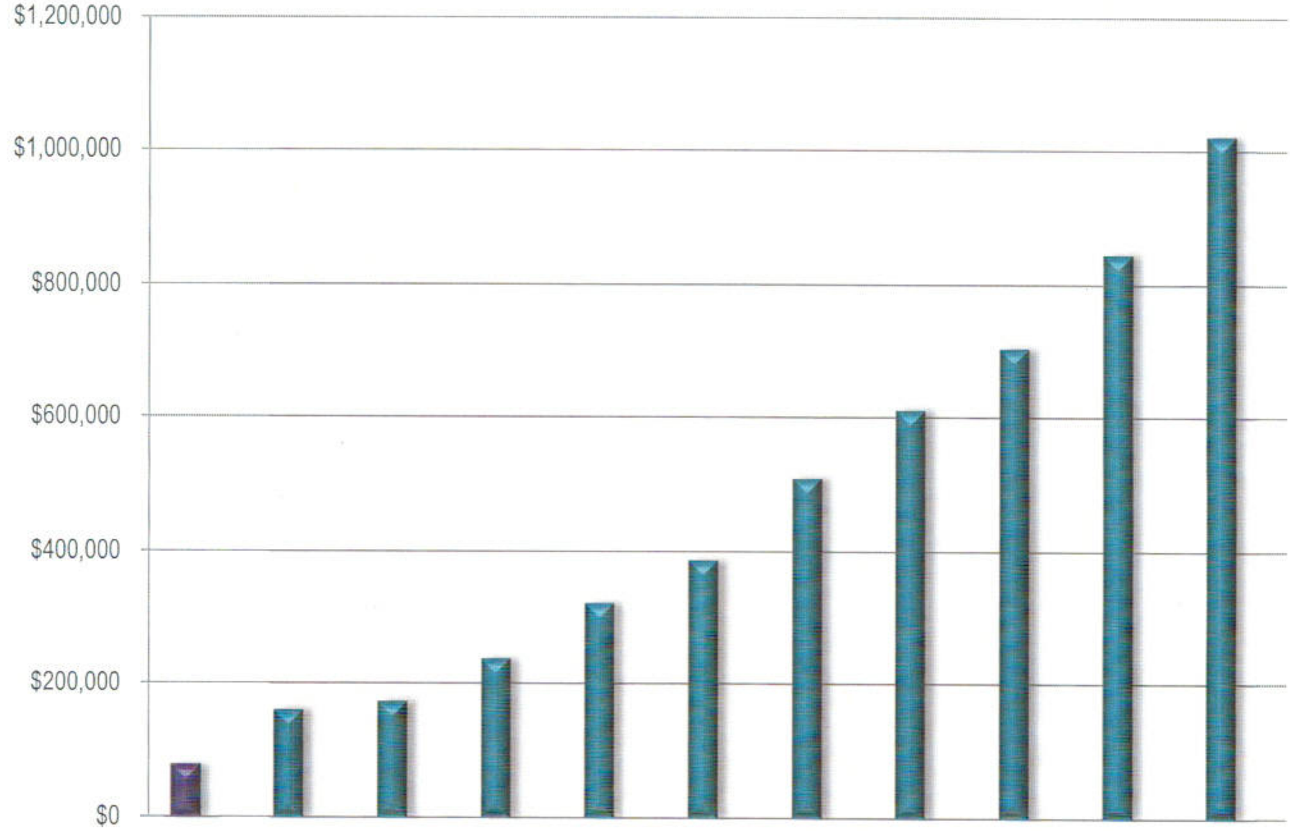
Table III-F



	Average Monthly Benefit
Service Retirements	*$2,976.57*
Disability Retirements	*Not applicable*
Beneficiaries Receiving	*Not applicable*
DROP Participants	*Not applicable*
Deferred Vested Participants	*$1,637.18*
Deferred Beneficiaries	*Not applicable*

Projected Benefit Payments

Table III-G



Actual	
For the period October 1, 2018 through September 30, 2019	$78,699 *
Projected	
For the period October 1, 2019 through September 30, 2020	$160,268
For the period October 1, 2020 through September 30, 2021	$173,157
For the period October 1, 2021 through September 30, 2022	$238,928
For the period October 1, 2022 through September 30, 2023	$322,860
For the period October 1, 2023 through September 30, 2024	$388,246
For the period October 1, 2024 through September 30, 2025	$509,921
For the period October 1, 2025 through September 30, 2026	$611,078
For the period October 1, 2026 through September 30, 2027	$705,305
For the period October 1, 2027 through September 30, 2028	$845,886
For the period October 1, 2028 through September 30, 2029	$1,020,752

** includes police officers*

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**

   7.25% per annum

4. **Salary Increases**

   Plan compensation is generally assumed to increase at the rate of 5.00% per annum, unless actual plan compensation is known for a prior plan year. However, with respect to participants who have earned less than four years of service, compensation is assumed to increase at a higher rate. Specifically, compensation for participants with less than one year of service is assumed to increase 8.00% per annum, compensation for participants with at least one year of service, but less than two years of service, is assumed to increase 7.00% per annum, compensation for participants with at least two years of service, but less than three years of service, is assumed to increase 6.00% per annum, and compensation for participants with at least three years of service, but less than four years of service, is assumed to increase 5.50% per annum.

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
   - 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

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; 75% of disabilities are assumed to be service-related.

- 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 15% 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 retirements are assumed to occur prior to age 45.

6. Form of Payment

Future retirees have been assumed to select the 10-year certain and life annuity, except that participants who terminate their service with less than 15 years of service or prior to age 40 are assumed to receive a refund of their accumulated employee contributions.

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 have been changed since the completion of the previous valuation.

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

(1) Effective October 1, 2016, the mortality basis was changed from a 2007 projection of the RP-2000 Mortality Table for annuitants to a full generational projection using Scale BB of the RP-2000 Blue Collar Mortality Table as required by State law.

Summary of Plan Provisions

Table V-A

1. **Benefit Formula**

   3.00% 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 25 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**

The disability benefit is a monthly 10-year certain and life annuity equal to the larger of the monthly accrued benefit or either 42% of average monthly earnings (for service-based disability) or 25% of average monthly earnings (for non-service disability), but offset as necessary to preclude the total of the participant's worker's compensation, disability benefit, and other City-financed disability or salary continuation benefit (excluding social security benefits) from exceeding his average monthly earnings. The participant must have earned at least 10 years of credited service in order to be eligible for a non-service disability. 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. However, a participant will not be eligible for a disability benefit if his disability is caused by excessive and habitual use of drugs, intoxicants, or narcotics; by injury or disease sustained while serving in the armed forces; by injury or disease sustained while willfully and illegally participating in fights, riots, or civil insurrections, or while committing a crime; by injury or disease sustained after termination of employment; or by an injury or disease sustained while working for another employer and arising from such employment.)

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 vested participant dies prior to retirement, the participant's beneficiary receives a 10-year certain annuity equal to the participant's monthly accrued benefit payable beginning at the participant's early or normal retirement age. The pre-retirement death benefit guarantees at least the return of the participant's accumulated contributions.

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 66⅔% 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 $5,000 or if the monthly benefit is less than $100)*

(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.)

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

Employees receive an automatic annual 3% cost-of-living adjustment.

Summary of Plan Provisions

Table V-A

(continued)

9. **Average Monthly Earnings**

Average monthly earnings during the highest five years of compensation out of the 10 years immediately preceding the determination date or career average earnings, if greater. Earnings include fixed monthly compensation plus up to 300 hours of overtime and cannot exceed the maximum amount allowed under 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 must contribute 4.00% of earnings. 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 Greenacres automatically become participants in the plan on their date of hire.

14. **Actuarial Equivalence**

Based on 7.25% interest per annum and the unisex mortality table promulgated by the Internal Revenue Service (IRS) for purposes of Internal Revenue Code (IRC) section 417(e)(3)

15. **Plan Effective Date**

The plan was originally effective on January 1, 1996.

Summary of Plan Amendments

Table V-B

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

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

(1) Effective February 1, 2016, the firefighters and public safety officers were divided into two separate plans. (Ordinance 2016-08)

Retirement Plan for the Public Safety Officers Of the City of Greenacres

Actuarial Valuation As of October 1, 2019

Determines the Contribution For the 2020/21 Fiscal Year

Southern Actuarial Services

March 3, 2020

Introduction

This report presents the results of the October 1, 2019 actuarial valuation of the Retirement Plan for the Public Safety Officers of the City of Greenacres. 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 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 minimum required contribution 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 30.98% of covered payroll, which represents an increase of 8.46% of payroll from the prior valuation.

The normal cost rate is 30.71% of payroll, which is 8.29% 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 1.65% of payroll due to investment shortfalls and increased by another 6.64% of payroll due to demographic experience. The market value of assets ony earned 5.47% during the 2018/19 plan year, whereas a 7.25% 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 2020/21 minimum required contribution will be equal to 30.98% multiplied by the total pensionable earnings for the 2020/21 plan year for the active employees who are covered by the plan and reduced by the portion of the Chapter 185 contribution that is allowed to be recognized during the 2020/21 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 $25,555,458. As illustrated in Table I-A, current assets are sufficient to cover $19,576,183 of this amount, the employer's 2019/20 expected contribution will cover $532,758 of this amount, the employer's 2020/21 expected contribution will cover $769,451 of this amount, and future employee contributions are expected to cover $688,956 of this amount, leaving $3,988,110 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.

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 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. Specifically, Table II-A shows the development of the actuarial value of assets, which is based on the market value of assets. 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 seven participants who are due a refund of their contributions. We have estimated the accumulated amount of their refunds to be $6,221 as of October 1, 2019. The average amount owed to these individuals is $1,244. If possible, we recommend that the accumulated contributions be distributed to these individuals in order to simplify the administration of the plan and to reduce future administrative costs.

Certification

This actuarial valuation was prepared by me or under my direct supervision and I acknowledge responsibility for the results. To the best of my knowledge, the results are complete and accurate and, in my opinion, the techniques and assumptions used are reasonable and meet the requirements and intent of Chapter 112, Florida Statutes. There is no benefit or expense to be provided by the plan and/or paid from the plan's assets for which liabilities or current costs have not been established or otherwise taken into account in the valuation. All known events or trends which may require a material change in plan costs or required contribution rates have been taken into account in the valuation.

For the firm,

Charles T. Carr/gp

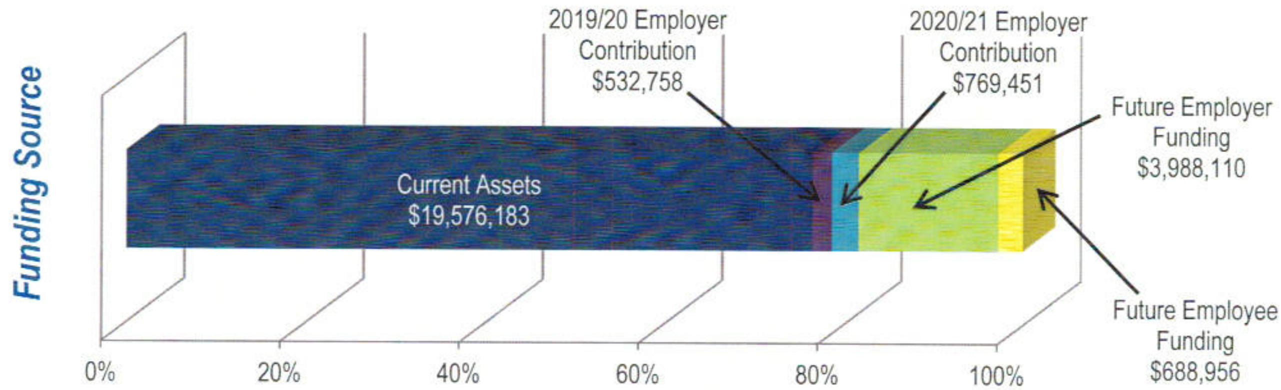
Charles T. Carr
Consulting Actuary
Southern Actuarial Services Company, Inc.

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 2020/21 Plan Year
Present Value of Future Benefits	$25,302,434
Present Value of Future Administrative Expenses	$253,024
Actuarial Value of Assets	($19,576,183)
Present Value of Future Employee Contributions	($688,956)
Present Value of Future Normal Costs	$5,290,319
Present Value of Future Payroll	*÷ $17,223,913*
Normal Cost Rate	*= 30.715%*
Expected Payroll	*x $2,365,710*
Normal Cost	$726,627
Adjustment to Reflect Semi-Monthly Employer Contributions	$26,824
Expected Employer Contribution for the 2019/20 Plan Year	($532,758)
Remaining Contribution Due/(Credit) for the 2019/20 Plan Year	$220,693
	x 0.0725
One Year's Interest Charge/(Credit) on the Remaining Contribution	$16,000
Preliminary Employer Contribution for the 2020/21 Plan Year	$769,451
Expected Payroll for the 2020/21 Plan Year	*÷ $2,483,996*
Minimum Required Contribution Rate	**30.98%**

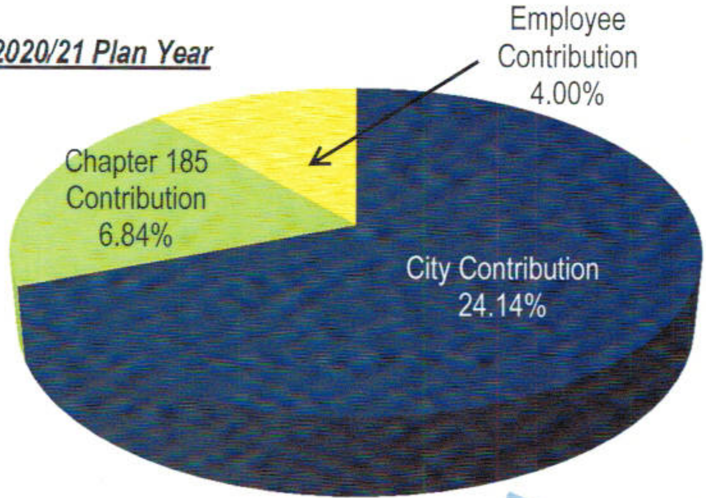
(The actual contribution should be based on the minimum required contribution rate multiplied by the actual payroll for the year.)

Minimum Required Contribution

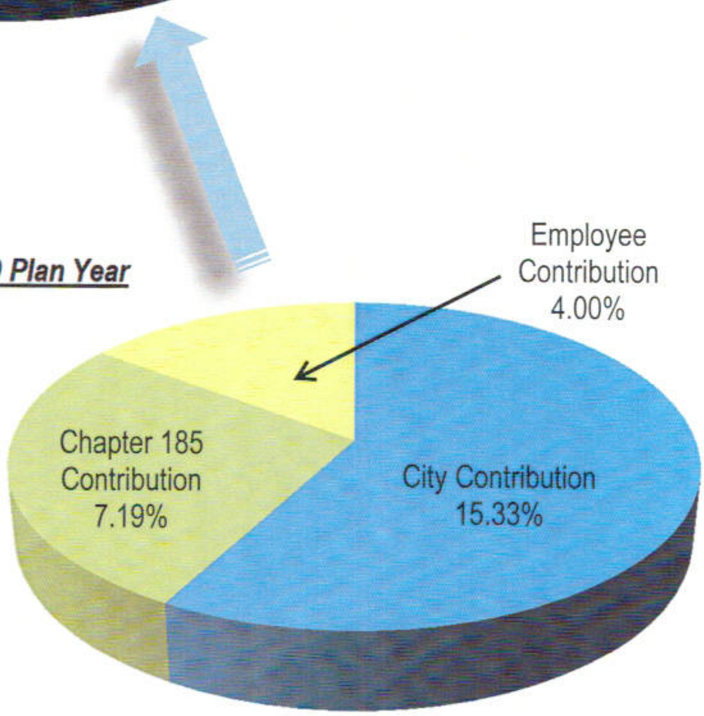
Table I-A
(continued)

The minimum required contribution rate of 30.98% includes both the City contribution and the allowable Chapter 185 contribution. In addition, employees are required to contribute 4.00% of pensionable earnings. The actual City contribution rate is expected to be approximately 24.14% based on the allowable Chapter 185 contribution for the previous year. The chart below shows the expected contribution rate by source for the 2020/21 plan year based on the expected payroll. A comparative chart shows the contribution rate by source for the previous plan year.

For the 2020/21 Plan Year

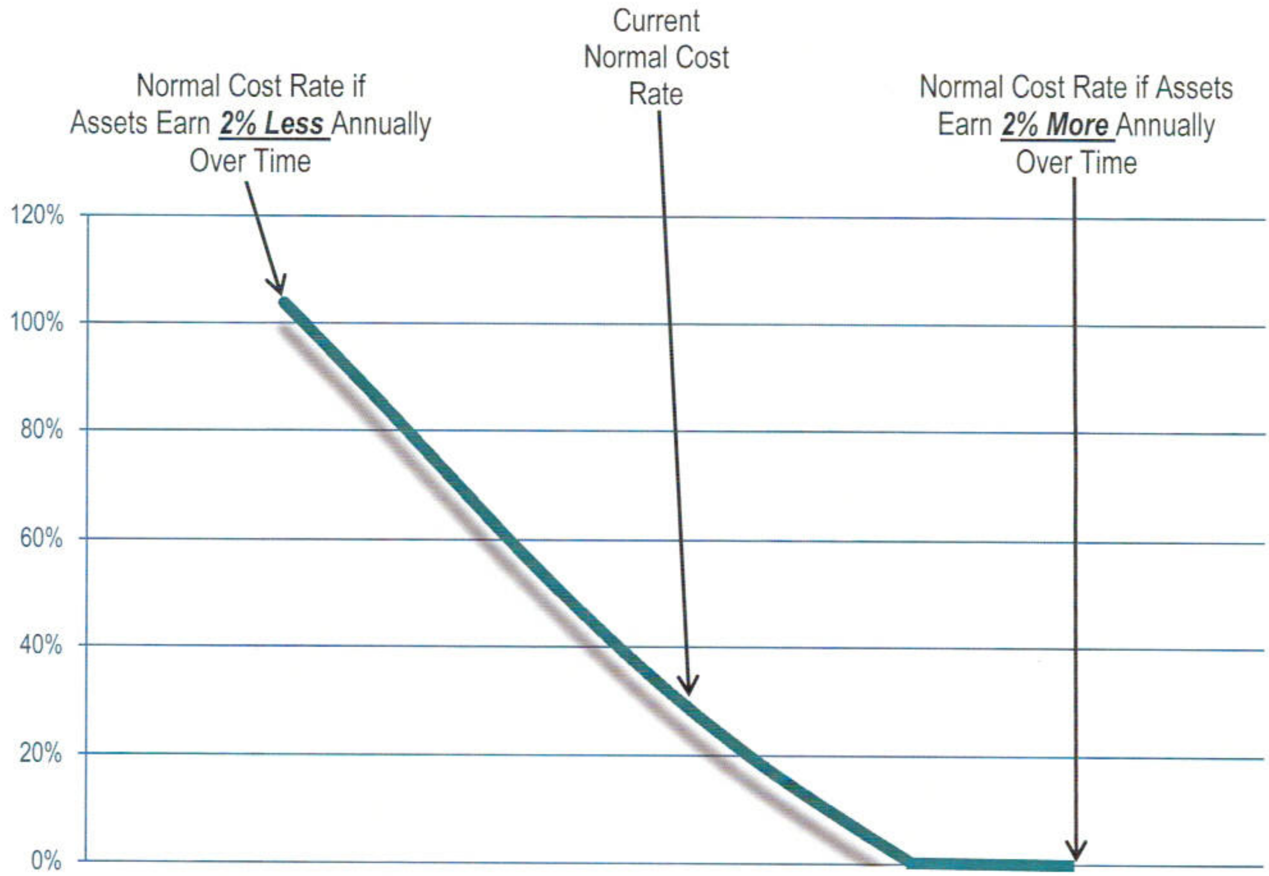


For the 2019/20 Plan Year



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	22.42%
Increase (decrease) due to investment gains and losses	1.65%
Increase (decrease) due to demographic experience	6.64%
Increase (decrease) due to plan amendments	0.00%
Increase (decrease) due to actuarial assumption changes	0.00%
Increase (decrease) due to actuarial method changes	0.00%
Current normal cost rate	30.71%

Present Value of Future Benefits

Table I-D

	Old Assumptions w/o Amendment	Old Assumptions w/ Amendment	New Assumptions w/ Amendment
Actively Employed Participants			
Retirement benefits	$17,565,451	$17,565,451	$17,565,451
Termination benefits	$1,369,452	$1,369,452	$1,369,452
Disability benefits	$986,701	$986,701	$986,701
Death benefits	$115,341	$115,341	$115,341
Refund of employee contributions	$51,733	$51,733	$51,733
Sub-total	**$20,088,678**	**$20,088,678**	**$20,088,678**
Deferred Vested Participants			
Retirement benefits	$2,873,090	$2,873,090	$2,873,090
Termination benefits	$0	$0	$0
Disability benefits	$0	$0	$0
Death benefits	$0	$0	$0
Refund of employee contributions	$0	$0	$0
Sub-total	**$2,873,090**	**$2,873,090**	**$2,873,090**
Due a Refund of Contributions	**$6,221**	**$6,221**	**$6,221**
Deferred Beneficiaries	**$0**	**$0**	**$0**
Retired Participants			
Service retirements	$2,334,445	$2,334,445	$2,334,445
Disability retirements	$0	$0	$0
Beneficiaries receiving	$0	$0	$0
DROP participants	$0	$0	$0
Sub-total	**$2,334,445**	**$2,334,445**	**$2,334,445**
Grand Total	**$25,302,434**	**$25,302,434**	**$25,302,434**
Present Value of Future Payroll	$17,223,913	$17,223,913	$17,223,913
Present Value of Future Employee Contribs.	$688,956	$688,956	$688,956
Present Value of Future Employer Contribs.	$5,290,319	$5,290,319	$5,290,319

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	$7,796,240	$7,796,240	$7,796,240
Termination benefits	$670,299	$670,299	$670,299
Disability benefits	$560,684	$560,684	$560,684
Death benefits	$62,192	$62,192	$62,192
Refund of employee contributions	$44,192	$44,192	$44,192
Sub-total	**$9,133,607**	**$9,133,607**	**$9,133,607**
Deferred Vested Participants			
Retirement benefits	$2,873,090	$2,873,090	$2,873,090
Termination benefits	$0	$0	$0
Disability benefits	$0	$0	$0
Death benefits	$0	$0	$0
Refund of employee contributions	$0	$0	$0
Sub-total	**$2,873,090**	**$2,873,090**	**$2,873,090**
Due a Refund of Contributions	**$6,221**	**$6,221**	**$6,221**
Deferred Beneficiaries	**$0**	**$0**	**$0**
Retired Participants			
Service retirements	$2,334,445	$2,334,445	$2,334,445
Disability retirements	$0	$0	$0
Beneficiaries receiving	$0	$0	$0
DROP participants	$0	$0	$0
Sub-total	**$2,334,445**	**$2,334,445**	**$2,334,445**
Grand Total	**$14,347,363**	**$14,347,363**	**$14,347,363**
Funded Percentage	143.07%	143.07%	143.07%

(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	$7,584,935	$7,584,935	$7,584,935
Termination benefits	$216,203	$216,203	$216,203
Disability benefits	$560,684	$560,684	$560,684
Death benefits	$62,192	$62,192	$62,192
Refund of employee contributions	$84,750	$84,750	$84,750
Sub-total	**$8,508,764**	**$8,508,764**	**$8,508,764**
Deferred Vested Participants			
Retirement benefits	$2,873,090	$2,873,090	$2,873,090
Termination benefits	$0	$0	$0
Disability benefits	$0	$0	$0
Death benefits	$0	$0	$0
Refund of employee contributions	$0	$0	$0
Sub-total	**$2,873,090**	**$2,873,090**	**$2,873,090**
Due a Refund of Contributions	**$6,221**	**$6,221**	**$6,221**
Deferred Beneficiaries	**$0**	**$0**	**$0**
Retired Participants			
Service retirements	$2,334,445	$2,334,445	$2,334,445
Disability retirements	$0	$0	$0
Beneficiaries receiving	$0	$0	$0
DROP participants	$0	$0	$0
Sub-total	**$2,334,445**	**$2,334,445**	**$2,334,445**
Grand Total	**$13,722,520**	**$13,722,520**	**$13,722,520**

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	$12,783,069	$12,783,069	$12,783,069
Termination benefits	$994,071	$994,071	$994,071
Disability benefits	$753,110	$753,110	$753,110
Death benefits	$88,463	$88,463	$88,463
Refund of employee contributions	$46,799	$46,799	$46,799
Sub-total	**$14,665,512**	**$14,665,512**	**$14,665,512**
Deferred Vested Participants			
Retirement benefits	$2,873,090	$2,873,090	$2,873,090
Termination benefits	$0	$0	$0
Disability benefits	$0	$0	$0
Death benefits	$0	$0	$0
Refund of employee contributions	$0	$0	$0
Sub-total	**$2,873,090**	**$2,873,090**	**$2,873,090**
Due a Refund of Contributions	**$6,221**	**$6,221**	**$6,221**
Deferred Beneficiaries	**$0**	**$0**	**$0**
Retired Participants			
Service retirements	$2,334,445	$2,334,445	$2,334,445
Disability retirements	$0	$0	$0
Beneficiaries receiving	$0	$0	$0
DROP participants	$0	$0	$0
Sub-total	**$2,334,445**	**$2,334,445**	**$2,334,445**
Grand Total	**$19,879,268**	**$19,879,268**	**$19,879,268**

Actuarial Value of Assets

Table II-A

Market Value of Assets as of October 1, 2019	$20,527,351
Minus advance employer contributions	($508,346)
Minus Contribution Reserve Account	($442,822)
Actuarial Value of Assets as of October 1, 2019	**$19,576,183**

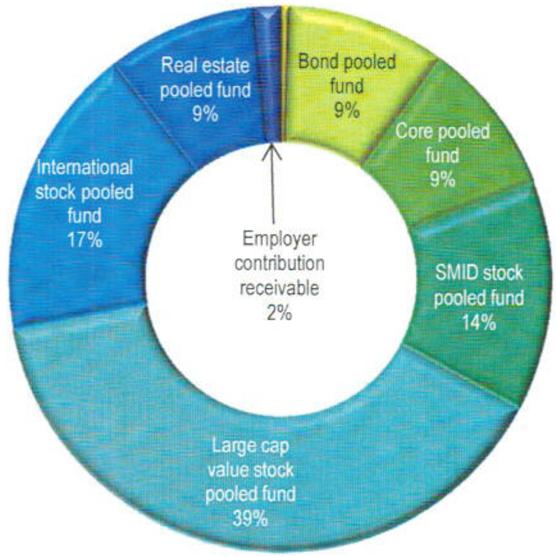
Historical Actuarial Value of Assets

October 1, 2010	$8,879,484
October 1, 2011	$10,564,789
October 1, 2012	$14,004,298
October 1, 2013	$17,308,555
October 1, 2014	$20,145,669
October 1, 2015	$12,226,506
October 1, 2016	$13,695,174
October 1, 2017	$16,222,190
October 1, 2018	$18,174,281
October 1, 2019	$19,576,183

Market Value of Assets

Table II-B

	As of October 1, 2019
Market Value of Assets	**$20,527,351**
Cash	$100,950
Bond pooled fund	$1,938,246
Core pooled fund	$1,897,866
SMID stock pooled fund	$2,786,228
Large cap value stock pooled fund	$8,055,833
International stock pooled fund	$3,573,640
Real estate pooled fund	$1,837,295
Employer contribution receivable	$333,147
Employee contribution receivable	$4,146

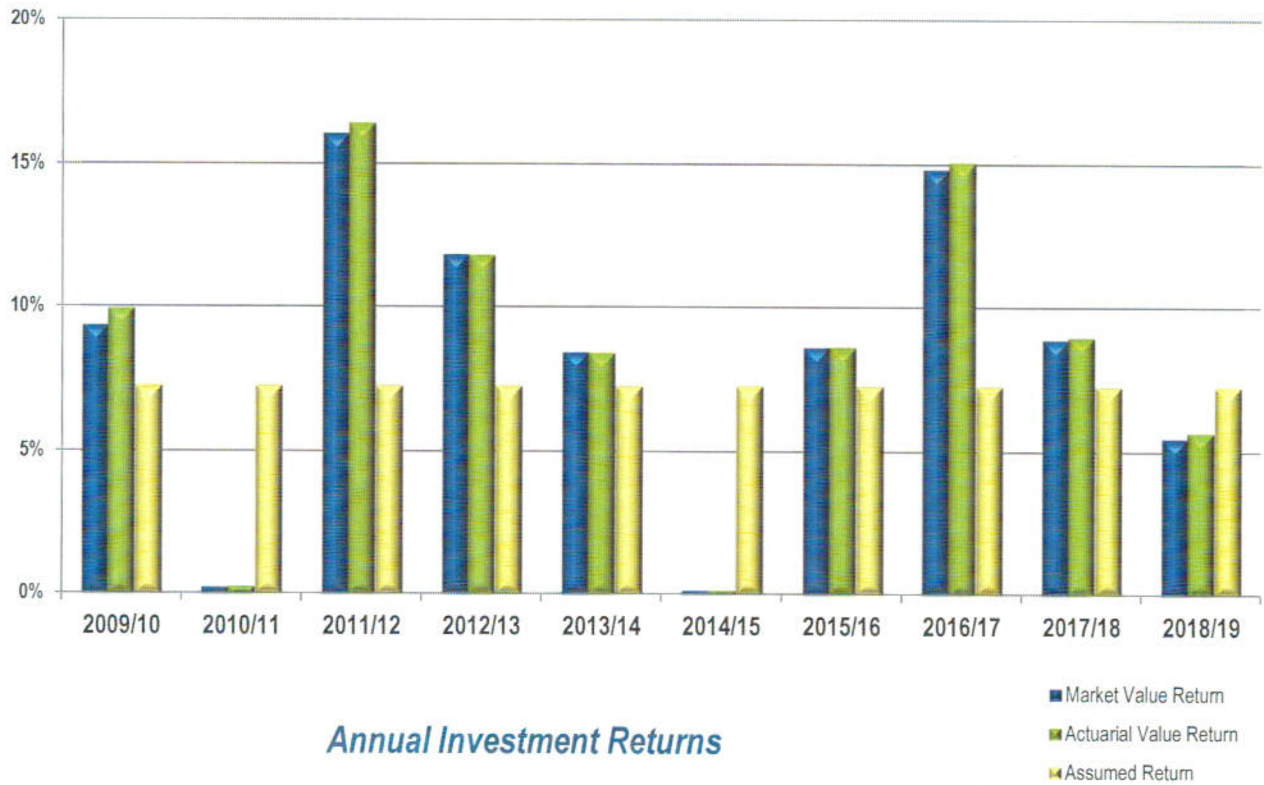


Historical Market Value of Assets

October 1, 2010	$9,367,420
October 1, 2011	$11,059,940
October 1, 2012	$14,004,298
October 1, 2013	$17,308,555
October 1, 2014	$20,145,669
October 1, 2015	$12,226,506
October 1, 2016	$13,773,612
October 1, 2017	$16,595,337
October 1, 2018	$18,789,925
October 1, 2019	$20,527,351

Investment Return

Table II-C



Annual Investment Returns

Plan Year	Market Value Return	Actuarial Value Return	Assumed Return
2009/10	9.34%	9.94%	7.25%
2010/11	0.24%	0.26%	7.25%
2011/12	16.03%	16.37%	7.25%
2012/13	11.84%	11.84%	7.25%
2013/14	8.42%	8.42%	7.25%
2014/15	0.13%	0.13%	7.25%
2015/16	8.59%	8.61%	7.25%
2016/17	14.84%	15.08%	7.25%
2017/18	8.86%	8.97%	7.25%
2018/19	5.47%	5.70%	7.25%
10yr. Avg.	8.26%	8.41%	7.25%

Asset Reconciliation

Table II-D

	Market Value	Actuarial Value
As of October 1, 2018	**$18,789,925**	**$18,174,281**
Increases Due To:		
Employer Contributions	$422,374	$422,374
Chapter 175/185 Contributions	$319,072	$319,072
Employee Contributions	$95,841	$95,841
Service Purchase Contributions	$0	$0
Total Contributions	$837,287	$837,287
Interest and Dividends	$0	
Realized Gains (Losses)	$0	
Unrealized Gains (Losses)	$1,046,573	
Total Investment Income	$1,046,573	$1,046,573
Other Income	$0	
Total Income	**$1,883,860**	**$1,883,860**
Decreases Due To:		
Monthly Benefit Payments	($96,909)	($96,909)
Refund of Employee Contributions	($6,650)	($6,650)
Total Benefit Payments	($103,559)	($103,559)
Investment Expenses	$0	
Administrative Expenses	($42,875)	($42,875)
Advance Employer Contribution		($169,957)
Contribution Reserve Account		($165,567)
Total Expenses	**($146,434)**	**($481,958)**
As of October 1, 2019	**$20,527,351**	**$19,576,183**

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
2009/10	$905,084	$432,430	$195,062	$0	$0	$0	$737,314	$0
2010/11	$1,158,781	$391,454	$197,738	$0	$0	$0	$24,954	$0
2011/12	$1,051,443	$413,040	$205,990	$0	$0	$0	$1,902,338	-$571,775
2012/13	$1,081,399	$439,902	$203,198	$0	$0	$0	$1,756,314	-$103,486
2013/14	$891,618	$464,704	$201,235	$0	$0	$0	$1,518,010	-$128,288
2014/15	$918,747	$482,735	$241,030	$0	$0	$0	$27,889	-$9,438,643
2015/16	$295,082	$243,529	$93,294	$0	$0	$0	$1,070,248	$0
2016/17	$466,733	$300,955	$80,200	$0	$0	$0	$2,097,217	$0
2017/18	$499,721	$276,476	$87,701	$0	$0	$0	$1,501,574	$0
2018/19	$422,374	$319,072	$95,841	$0	$0	$0	$1,046,573	$0

Expenses

Plan Year	Monthly Benefit Payments	Contrib. Refunds	Admin. Expenses	Invest. Expenses
2009/10	$17,672	$6,105	$31,537	$0
2010/11	$18,202	$15,020	$47,185	$0
2011/12	$18,748	$9,945	$27,985	$0
2012/13	$19,311	$4,019	$49,740	$0
2013/14	$45,925	$1,367	$62,873	$0
2014/15	$77,918	$7,974	$65,029	$0
2015/16	$49,769	$65,138	$40,140	$0
2016/17	$81,873	$0	$41,507	$0
2017/18	$90,451	$29,939	$50,494	$0
2018/19	$96,909	$6,650	$42,875	$0

Other Actuarial Adjustments

Plan Year	Advance Employer Contribs.	Contrib. Reserve Account
2009/10	-$67,361	$96,014
2010/11	-$47,823	$55,038
2011/12	$0	-$495,151
2012/13	$0	$0
2013/14	$0	$0
2014/15	$0	$0
2015/16	$78,438	$0
2016/17	$163,754	$130,955
2017/18	$96,197	$121,769
2018/19	$169,957	$165,567

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	$338,389
Additional Employer Contribution	$422,374
Allowable Chapter 175/185 Contribution	$170,000
Minimum Required Contribution	($422,417)
Net Increase in Advance Employer Contribution	$169,957
Advance Employer Contribution as of October 1, 2019	$508,346

Contribution Reserve Account

Contribution Reserve Account as of October 1, 2018	$277,255
Additional Chapter 175/185 Contribution	$323,272
Allowable Chapter 175/185 Contribution	($170,000)
Transfer to the Share Plan	($4,200)
Investment Earnings Credit	$16,495 *
Net Increase in Contribution Reserve Account	$165,567
Contribution Reserve Account as of October 1, 2019	$442,822

** Based on the market value return for the prior year, with a full year's investment return applied to the beginning balance and one-sixth of a year's investment return applied to the additional deposit.*

Historical Chapter 175/185 Contributions

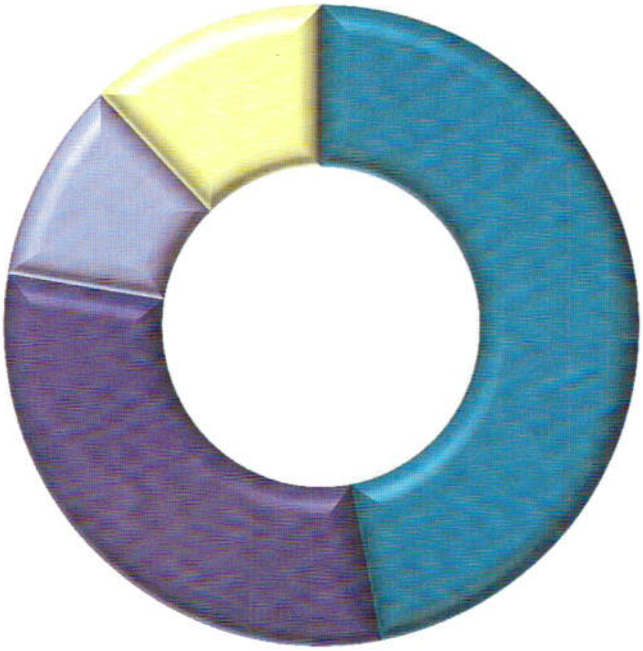
Table II-G

Total Accumulated Excess Chapter 175/185 Contribution	**$778,235**

	Chapter 175 Regular Distribution	Chapter 175 Supplemental Distribution	Chapter 185 Distribution	Allowable Amount
1998 Distribution	$0	$0	$61,736	($15,282)
1999 Distribution	$0	$0	$116,890	($15,282)
2000 Distribution	$25,888	$0	$123,453	($15,282)
2001 Distribution	$32,116	$7,377	$140,464	($15,282)
2002 Distribution	$50,540	$11,252	$176,353	($15,282)
2003 Distribution	$74,296	$22,556	$108,910	($15,282)
2004 Distribution	$90,294	$22,676	$127,930	($1,101,039)
2005 Distribution	$96,599	$20,955	$141,462	($259,016)
2006 Distribution	$147,230	$39,411	$173,192	($336,416)
2007 Distribution	$164,946	$125,392	$179,037	($336,416)
2008 Distribution	$162,702	$129,469	$231,968	($336,416)
2009 Distribution	$146,876	$86,661	$198,893	($336,416)
2010 Distribution	$146,985	$63,181	$181,288	($336,416)
2011 Distribution	$147,633	$70,340	$195,067	($336,416)
2012 Distribution	$154,864	$80,164	$204,874	($336,416)
2013 Distribution	$165,614	$78,675	$220,415	($336,416)
2014 Distribution	$159,512	$91,591	$231,632	($336,416)
2015 Distribution	$0	$0	$247,729	($170,000)
2016 Distribution	$0	$0	$256,157	($170,000)
2017 Distribution	$0	$0	$280,676	($170,000)
2018 Distribution	$0	$0	$323,272	($170,000)
Transfer to Share Plan				($261,962)
Transfer to Reserve				($337,505)

Summary of Participant Data

Table III-A



Participant Distribution by Status

As of October 1, 2019

Actively Employed Participants	
Active Participants	23
DROP Participants	0
Inactive Participants	
Deferred Vested Participants	15
Due a Refund of Contributions	5
Deferred Beneficiaries	0
Participants Receiving a Benefit	
Service Retirements	6
Disability Retirements	0
Beneficiaries Receiving	0
Total Participants	**49**

Number of Participants Included in Prior Valuations

	Active	*DROP*	*Inactive*	*Retired*	*Total*
October 1, 2010	72	0	14	1	87
October 1, 2011	73	0	14	1	88
October 1, 2012	74	0	20	1	95
October 1, 2013	75	0	21	1	97
October 1, 2014	73	0	32	3	108
October 1, 2015	42	0	25	2	69
October 1, 2016	25	0	27	2	54
October 1, 2017	24	0	27	3	54
October 1, 2018	23	0	25	3	51
October 1, 2019	23	0	20	6	49

** Note: Valuations prior to 10/1/2015 include firefighters.*

Data Reconciliation

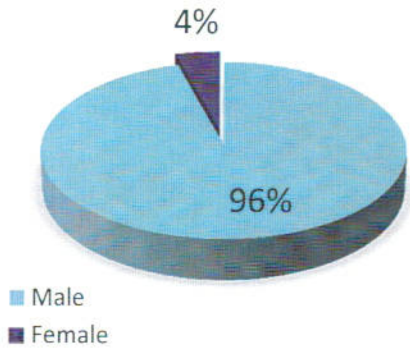
Table III-B

	Active	DROP	Deferred Vested	Due a Refund	Def. Benef.	Service Retiree	Disabled Retiree	Benef. Rec'v.	Total
October 1, 2018	23	0	18	7	0	3	0	0	**51**
Change in Status									
Re-employed									
Terminated									
Retired			(3)			3			
Participation Ended									
Transferred Out									
Cashed Out				(2)					**(2)**
Died									
Participation Began									
Newly Hired									
Transferred In									
New Beneficiary									
Other Adjustment									
October 1, 2019	23	0	15	5	0	6	0	0	**49**

Active Participant Data

Table III-C

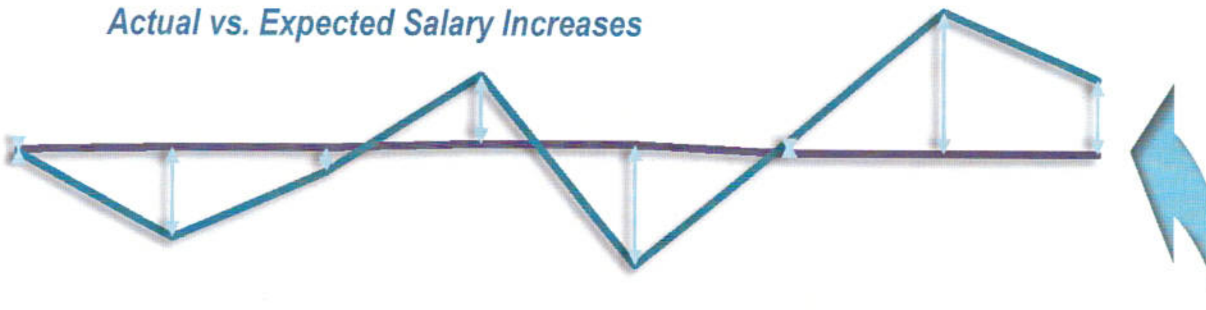
Gender Mix



As of October 1, 2019

Average Age	43.4 years
Average Service	14.2 years
Total Annualized Compensation for the Prior Year	$2,396,012
Total Expected Compensation for the Current Year	$2,365,710
Average Increase in Compensation for the Prior Year	10.52%
Expected Increase in Compensation for the Current Year	5.00%

Actual vs. Expected Salary Increases



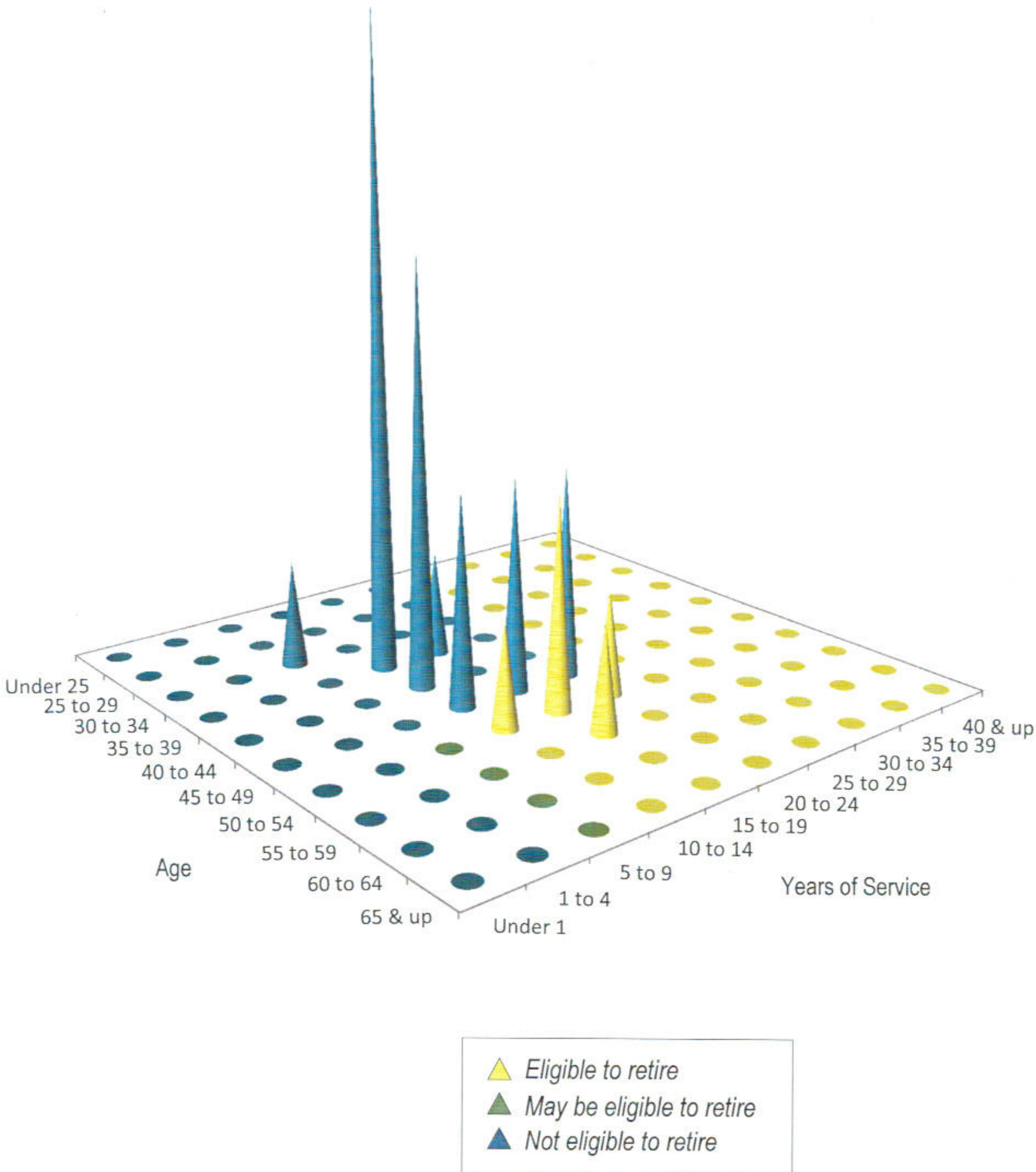
Active Participant Statistics From Prior Valuations

	Average Age	*Average Service*	*Average Salary*	*Average Expected Salary Increase*	*Average Actual Salary Increase*
October 1, 2010	36.2	5.3	$67,626	5.32%	-2.42%
October 1, 2011	36.8	6.2	$68,127	5.19%	3.71%
October 1, 2012	37.2	6.5	$69,548	5.16%	4.89%
October 1, 2013	38.0	7.1	$68,324	5.36%	-1.30%
October 1, 2014	36.9	6.9	$68,518	5.35%	3.57%
October 1, 2015	36.9	7.2	$71,942	5.64%	10.75%
October 1, 2016	41.6	11.1	$78,092	5.58%	-3.32%
October 1, 2017	42.0	11.9	$82,869	5.00%	5.95%
October 1, 2018	42.4	13.2	$94,575	5.00%	15.60%
October 1, 2019	43.4	14.2	$104,174	5.00%	10.52%

** Note: Valuations prior to 10/1/2015 include firefighters.*

Active Age-Service Distribution

Table III-D



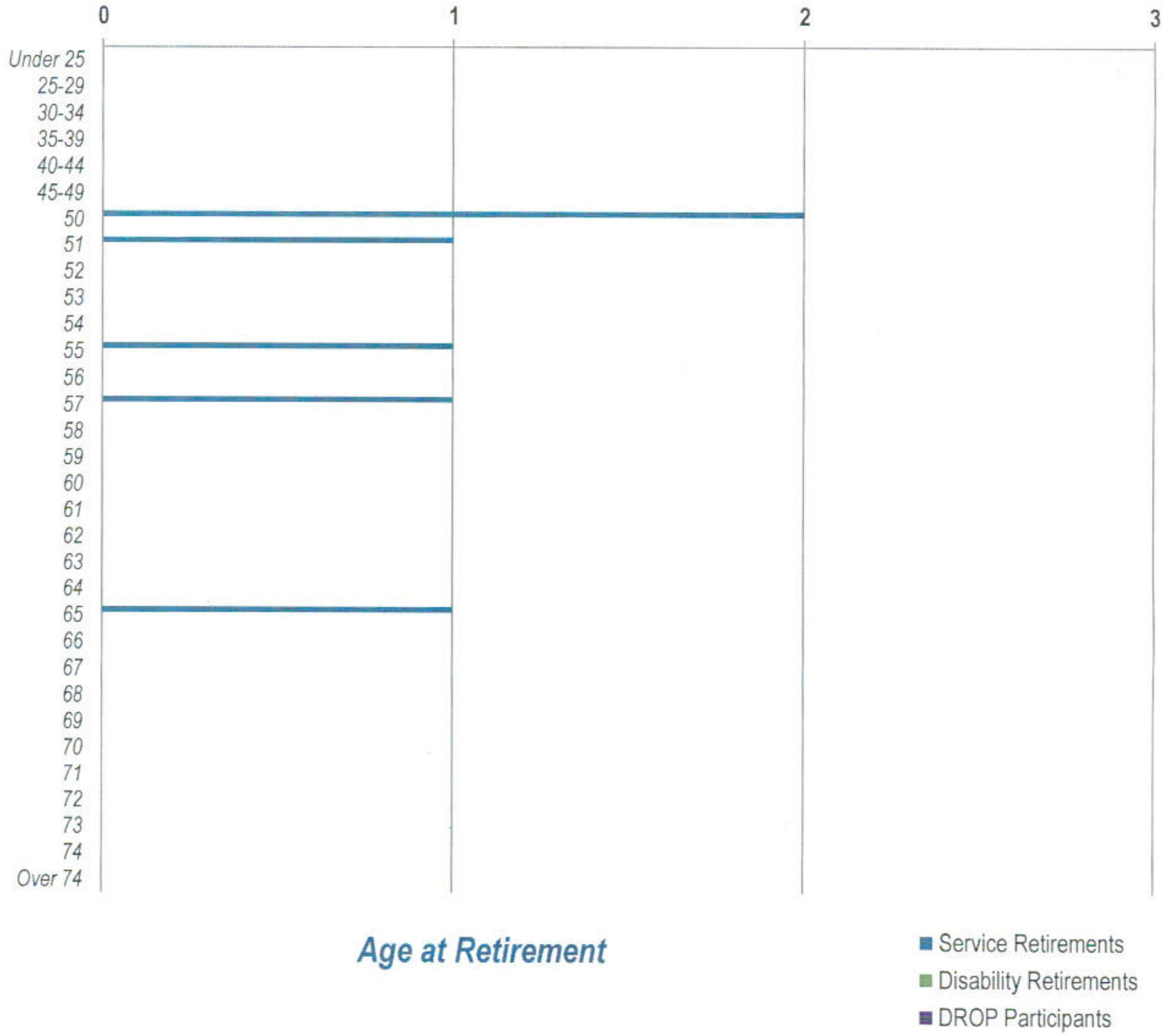
Active Age-Service-Salary Table

Table III-E

Attained Age	Completed Years of Service										
	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	0	0	0	0	0	0	0	0	0	0
Avg.Pay	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
Avg.Pay	0	0	0	0	0	0	0	0	0	0	0
30 to 34	0	0	1	0	0	0	0	0	0	0	1
Avg.Pay	0	0	72,544	0	0	0	0	0	0	0	72,544
35 to 39	0	0	0	6	1	0	0	0	0	0	7
Avg.Pay	0	0	0	100,931	107,769	0	0	0	0	0	101,908
40 to 44	0	0	0	4	0	0	0	0	0	0	4
Avg.Pay	0	0	0	108,059	0	0	0	0	0	0	108,059
45 to 49	0	0	0	2	2	2	0	0	0	0	6
Avg.Pay	0	0	0	97,383	133,274	96,132	0	0	0	0	108,930
50 to 54	0	0	0	1	2	1	0	0	0	0	4
Avg.Pay	0	0	0	96,782	112,866	92,897	0	0	0	0	103,853
55 to 59	0	0	0	0	1	0	0	0	0	0	1
Avg.Pay	0	0	0	0	108,886	0	0	0	0	0	108,886
60 to 64	0	0	0	0	0	0	0	0	0	0	0
Avg.Pay	0	0	0	0	0	0	0	0	0	0	0
65 & up	0	0	0	0	0	0	0	0	0	0	0
Avg.Pay	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	1	13	6	3	0	0	0	0	23
Avg.Pay	0	0	72,544	102,259	118,156	95,054	0	0	0	0	104,174

Inactive Participant Data

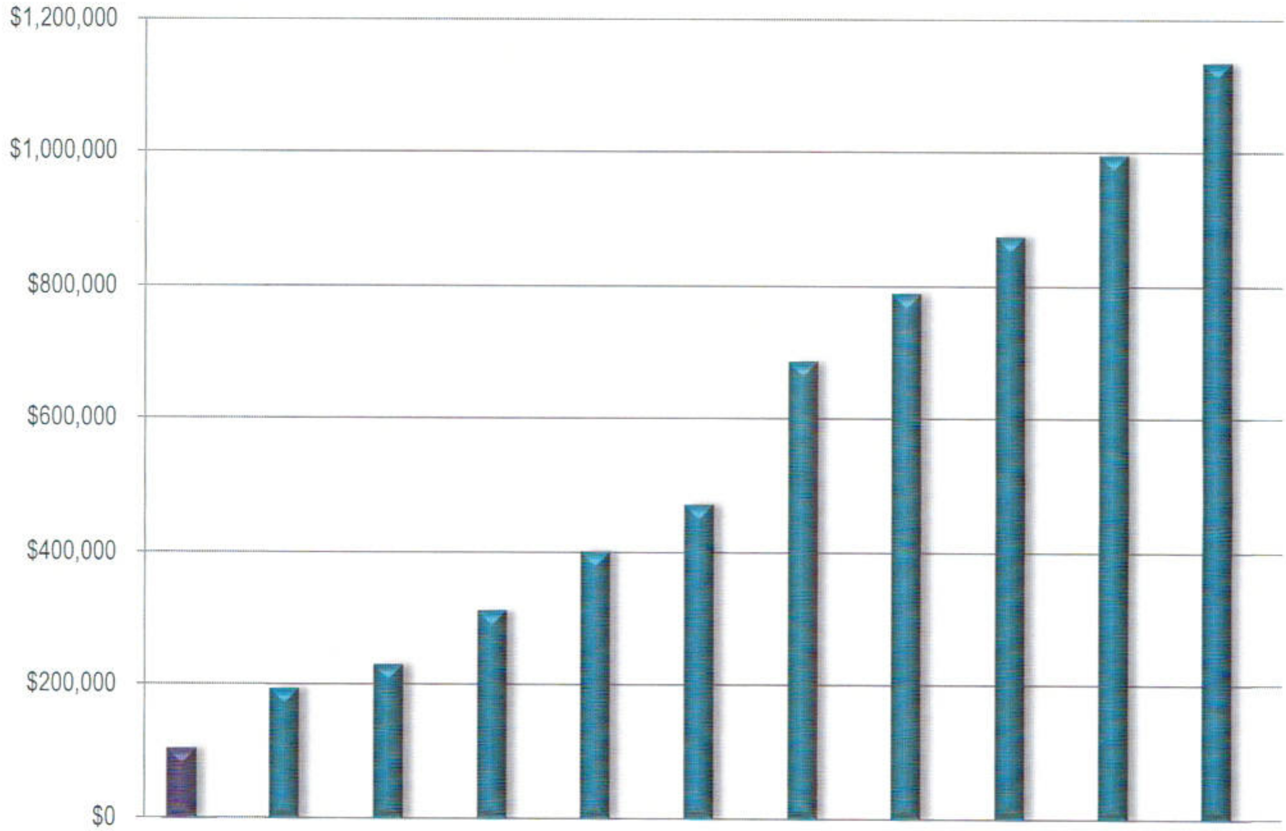
Table III-F



	Average Monthly Benefit
Service Retirements	*$1,840.07*
Disability Retirements	*Not applicable*
Beneficiaries Receiving	*Not applicable*
DROP Participants	*Not applicable*
Deferred Vested Participants	*$1,544.74*
Deferred Beneficiaries	*Not applicable*

Projected Benefit Payments

Table III-G



Actual	
For the period October 1, 2018 through September 30, 2019	$103,559 *
Projected	
For the period October 1, 2019 through September 30, 2020	$194,615
For the period October 1, 2020 through September 30, 2021	$230,790
For the period October 1, 2021 through September 30, 2022	$312,983
For the period October 1, 2022 through September 30, 2023	$401,870
For the period October 1, 2023 through September 30, 2024	$471,997
For the period October 1, 2024 through September 30, 2025	$686,751
For the period October 1, 2025 through September 30, 2026	$790,124
For the period October 1, 2026 through September 30, 2027	$874,964
For the period October 1, 2027 through September 30, 2028	$996,467
For the period October 1, 2028 through September 30, 2029	$1,135,438

** includes firefighters*

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**

   7.25% per annum

4. **Salary Increases**

   Plan compensation is generally assumed to increase at the rate of 5.00% per annum, unless actual plan compensation is known for a prior plan year. However, with respect to participants who have earned less than four years of service, compensation is assumed to increase at a higher rate. Specifically, compensation for participants with less than one year of service is assumed to increase 8.00% per annum, compensation for participants with at least one year of service, but less than two years of service, is assumed to increase 7.00% per annum, compensation for participants with at least two years of service, but less than three years of service, is assumed to increase 6.00% per annum, and compensation for participants with at least three years of service, but less than four years of service, is assumed to increase 5.50% per annum.

   In addition, average final compensation for police officers has been increased to account for accumulated sick and annual leave for terminations prior to October 1, 2031. The percentage increase is equal to prior to October 1, 2021, 2.00% for terminations during the period October 1, 2021 through September 30, 2026, and 1.00% for terminations during the period October 1, 2026 through September 30, 2031.

Summary of Actuarial Methods and Assumptions — Table IV-A

(continued)

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
• 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; 75% of disabilities are assumed to be service-related.
• 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 15% 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 retirements are assumed to occur prior to age 45.

6. **Form of Payment**

Future retirees have been assumed to select the 10-year certain and life annuity, except that participants who terminate their service with less than 15 years of service or prior to age 40 are assumed to receive a refund of their accumulated employee contributions.

Summary of Actuarial Methods and Assumptions

Table IV-A

(continued)

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 methods or assumptions have been changed since the completion of the previous valuation.

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

(1) *Effective October 1, 2016, the mortality basis was changed from a 2007 projection of the RP-2000 Mortality Table for annuitants to a full generational projection using Scale BB of the RP-2000 Blue Collar Mortality Table as required by State law.*

Summary of Plan Provisions

Table V-A

1. **Benefit Formula**

   3.00% 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 25 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**

   The disability benefit is a monthly 10-year certain and life annuity equal to the larger of the monthly accrued benefit or either 42% of average monthly earnings (for service-based disability) or 25% of average monthly earnings (for non-service disability), but offset as necessary to preclude the total of the participant's worker's compensation, disability benefit, and other City-financed disability or salary continuation benefit (excluding social security benefits) from exceeding his average monthly earnings. The participant must have earned at least 10 years of credited service in order to be eligible for a non-service disability. 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. However, a participant will not be eligible for a disability benefit if his disability is caused by excessive and habitual use of drugs, intoxicants, or narcotics; by injury or disease sustained while serving in the armed forces; by injury or disease sustained while willfully and illegally participating in fights, riots, or civil insurrections, or while committing a crime; by injury or disease sustained after termination of employment; or by an injury or disease sustained while working for another employer and arising from such employment.)

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 vested participant dies prior to retirement, the participant's beneficiary receives a 10-year certain annuity equal to the participant's monthly accrued benefit payable beginning at the participant's early or normal retirement age. The pre-retirement death benefit guarantees at least the return of the participant's accumulated contributions.

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 66⅔% 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 $5,000 or if the monthly benefit is less than $100)*

(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.)

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

Employees receive an automatic annual 3% cost-of-living adjustment.

Summary of Plan Provisions

Table V-A

(continued)

9. **Average Monthly Earnings**

Average monthly earnings during the highest five years of compensation out of the 10 years immediately preceding the determination date or career average earnings, if greater. Earnings include total cash remuneration, but exclude overtime in excess of 300 hours per year after October 2, 2011, lump sum payments for unused sick and annual leave accrued after October 2, 2011, and compensation for extra duty and special detail work performed on behalf of a second-party employer. Earnings cannot exceed the maximum amount allowed under 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 must contribute 4.00% of earnings. 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 police officers of the City of Greenacres who were hired prior to February 1, 2016 automatically become participants in the plan on their date of hire.

14. **Actuarial Equivalence**

Based on 7.25% interest per annum and the unisex mortality table promulgated by the Internal Revenue Service (IRS) for purposes of Internal Revenue Code (IRC) section 417(e)(3)

15. **Plan Effective Date**

The plan was originally effective on January 1, 1996.

Summary of Plan Amendments

Table V-B

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