

RETIREMENT PLAN FOR THE FIREFIGHTERS OF
SAN CARLOS PARK
FIRE PROTECTION & RESCUE SERVICE DISTRICT

ACTUARIAL VALUATION
AS OF OCTOBER 1, 2019

DETERMINES THE CONTRIBUTION
FOR THE 2020/21 FISCAL YEAR



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March 17, 2020

Introduction

This report presents the results of the October 1, 2019 actuarial valuation of the Retirement Plan for the Firefighters of San Carlos Park Fire Protection & Rescue Service District. The report is based on the participant data and asset information provided by the pension plan administrator and, except for a cursory review for reasonableness including a comparison to the data provided for the previous valuation, we have not attempted to verify the accuracy of this information.

The primary purpose of this report is to provide a summary of the funded status of the plan as of October 1, 2019 and to determine the minimum required contribution under Chapter 112, Florida Statutes, for the 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 28.51% of covered payroll, which represents an increase of 2.30% of payroll from the prior valuation.

The normal cost rate is 28.50% of payroll, which is 1.94% of payroll greater than the normal cost rate that was developed in the prior valuation. Table I-C provides a breakdown of the sources of change in the normal cost rate. Significantly, the rate increased by 1.07% of payroll due to investment gains, decreased by 0.34% of payroll due to



demographic experience, and increased by another 1.21% of payroll due to the plan amendment that is described below. The market value of assets only earned 5.50% during the 2018/19 plan year, whereas a 7.00% annual investment return was required to maintain a stable contribution rate.

Chapter 112, Florida Statutes, sets forth the rules concerning the minimum required contribution for public pension plans within the state. Essentially, the District must contribute an amount equal to the annual normal cost of the plan plus an adjustment as necessary to reflect interest on any delayed payment of the contribution beyond the valuation date. On this basis, the District's 2020/21 minimum required contribution will be equal to 28.51% multiplied by the total pensionable earnings for the 2020/21 fiscal 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 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 \$30,169,182. As illustrated in Table I-A, current assets are sufficient to cover \$21,930,112 of this amount, the employer's 2019/20 expected contribution will cover \$901,932 of this amount, the employer's 2020/21 expected contribution will cover \$1,025,227 of this amount, and future employee contributions are expected to cover \$405,318 of this amount, leaving \$5,906,593 to be covered by future employer funding beyond the 2020/21 fiscal year. Again, demographic and investment experience that differs from that assumed will either increase or decrease the future employer funding requirement.

Advance Employer Contribution

The District has made contributions to the plan in excess of the minimum amount that was required to be contributed pursuant to Chapter 112. In this report, the excess contributions are referred to as an "advance employer contribution." As of October 1, 2019, the advance employer contribution is \$326,836, which reflects the advance employer contribution of \$41,981 as of October 1, 2018 plus \$284,855 of actual employer contributions in excess of the minimum required contribution for the 2018/19 plan year as shown in Table II-F.

The District may apply all or any portion of the advance employer contribution towards the minimum required contribution for the 2019/20 plan year or for any later plan year. The minimum required contribution for that plan year will be reduced dollar-for-dollar by the amount of the advance employer contribution that is applied in this manner.

Alternatively, at any time, the District may apply all or any portion of the advance employer contribution as an *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, 2019 would reduce the normal cost rate to 27.31% of payroll and would reduce the minimum required contribution for the 2020/21 plan year to 27.25% 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. 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.

Plan Amendment

Since the completion of the previous valuation, the plan was amended in accordance with changes in State law to provide a line-of-duty disability or death benefit to participants who become disabled or die prior to retirement due to cancer. This plan change added \$331,038 of projected liability and increased the normal cost rate by 1.21% of payroll.

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.

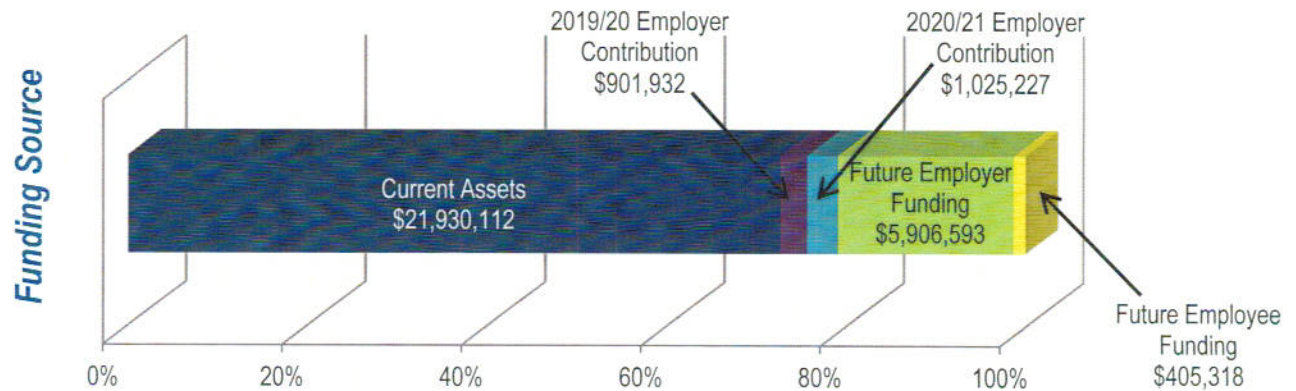
Enrolled Actuary No. 17-04927

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	\$30,019,087
Present Value of Future Administrative Expenses	\$150,095
Actuarial Value of Assets	(\$21,930,112)
Present Value of Future Employee Contributions	(\$405,318)
Present Value of Future Normal Costs	\$7,833,752
Present Value of Future Payroll	÷ \$27,486,577
Normal Cost Rate	= 28.5003%
Expected Payroll	x \$3,441,174
Normal Cost	\$980,744
Adjustment to Reflect Monthly Employer Contributions	\$36,417
Expected Employer Contribution for the 2019/20 Plan Year	(\$901,932)
Remaining Contribution Due/(Credit) for the 2019/20 Plan Year	\$115,229
	x 0.07
One Year's Interest Charge/(Credit) on the Remaining Contribution	\$8,066
Preliminary Employer Contribution for the 2020/21 Plan Year	\$1,025,227
Expected Payroll for the 2020/21 Plan Year	÷ \$3,596,027

Minimum Required Contribution Rate **28.51%**

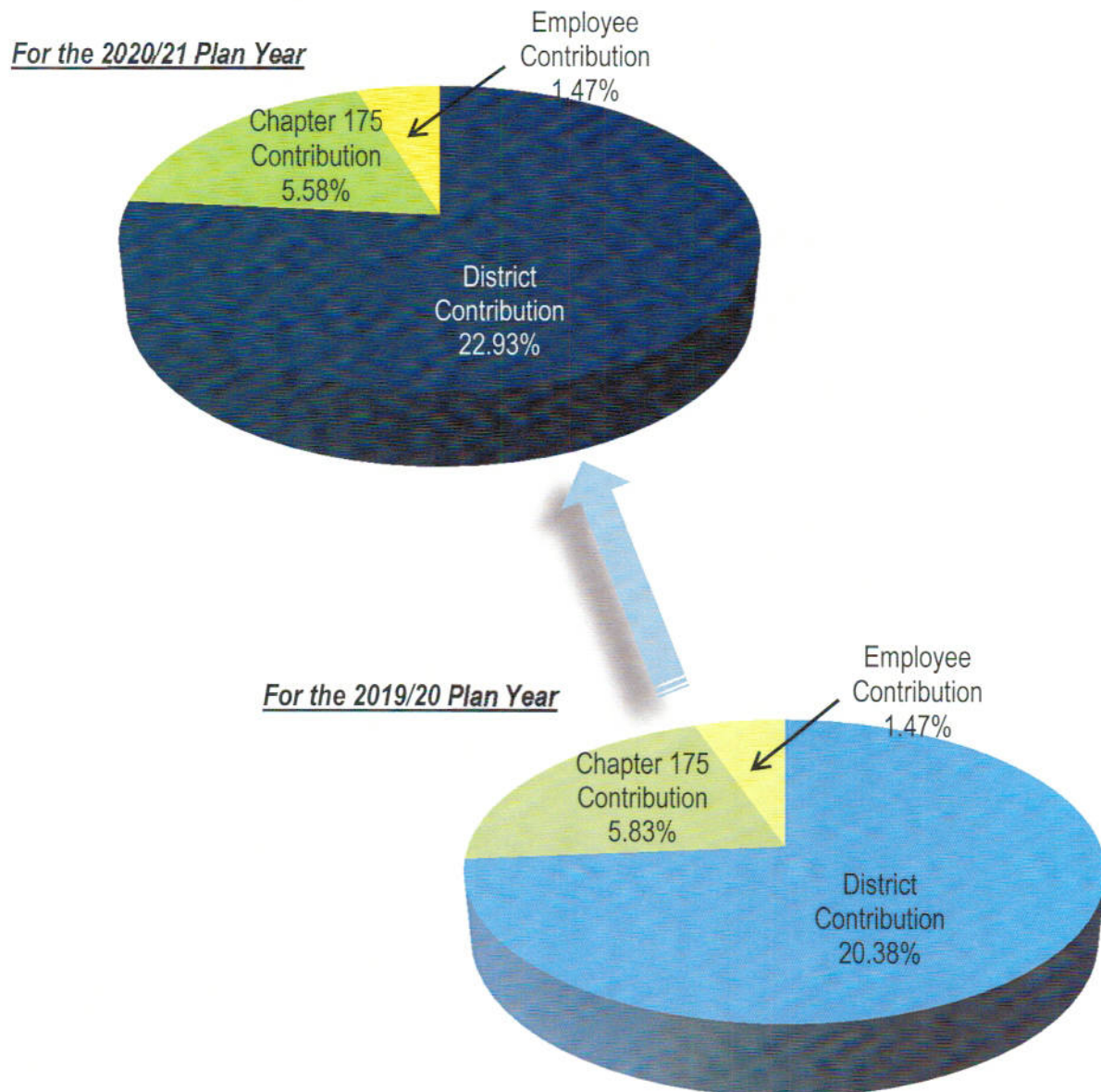
(The actual contribution should be based on the minimum required contribution rate multiplied by the actual payroll for the year.)



Minimum Required Contribution

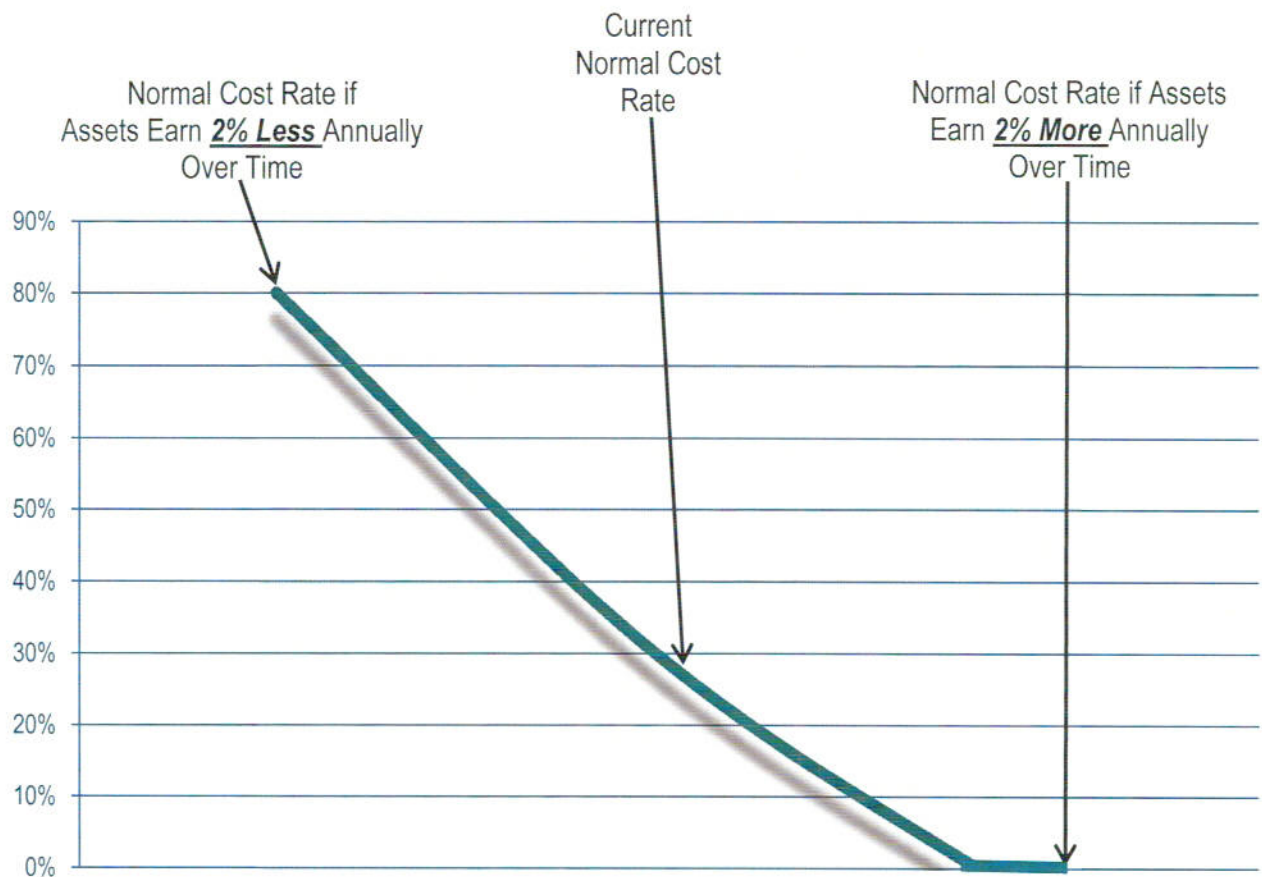
Table I-A
(continued)

The minimum required contribution rate of 28.51% includes both the District contribution and the allowable Chapter 175 contribution. In addition, employees are expected to contribute 1.47% of pensionable earnings. The actual City contribution rate is expected to be approximately 22.93% 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.



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	26.56%
Increase (decrease) due to investment gains and losses	1.07%
Increase (decrease) due to demographic experience	-0.34%
Increase (decrease) due to plan amendments	1.21%
Increase (decrease) due to actuarial assumption changes	0.00%
Increase (decrease) due to actuarial method changes	0.00%
Current normal cost rate	<u>28.50%</u>



Present Value of Future Benefits

Table I-D

	Old Assumptions w/o Amendment	Old Assumptions w/ Amendment	New Assumptions w/ Amendment
<u>Actively Employed Participants</u>			
Retirement benefits	\$22,860,353	\$22,860,353	\$22,860,353
Termination benefits	\$1,955,137	\$1,955,137	\$1,955,137
Disability benefits	\$1,435,719	\$1,435,719	\$1,435,719
Death benefits	\$146,141	\$477,179	\$477,179
Refund of employee contributions	\$47,716	\$47,716	\$47,716
Sub-total	\$26,445,066	\$26,776,104	\$26,776,104
<u>Deferred Vested Participants</u>			
Retirement benefits	\$292,414	\$292,414	\$292,414
Termination benefits	\$0	\$0	\$0
Disability benefits	\$0	\$0	\$0
Death benefits	\$0	\$0	\$0
Refund of employee contributions	\$0	\$0	\$0
Sub-total	\$292,414	\$292,414	\$292,414
<u>Due a Refund of Contributions</u>	\$3,262	\$3,262	\$3,262
<u>Deferred Beneficiaries</u>	\$0	\$0	\$0
<u>Retired Participants</u>			
Service retirements	\$2,947,307	\$2,947,307	\$2,947,307
Disability retirements	\$0	\$0	\$0
Beneficiaries receiving	\$0	\$0	\$0
DROP participants	\$0	\$0	\$0
Sub-total	\$2,947,307	\$2,947,307	\$2,947,307
<u>Grand Total</u>	<u>\$29,688,049</u>	<u>\$30,019,087</u>	<u>\$30,019,087</u>
Present Value of Future Payroll	\$27,486,577	\$27,486,577	\$27,486,577
Present Value of Future Employee Contribs.	\$405,318	\$405,318	\$405,318
Present Value of Future Employer Contribs.	\$7,501,059	\$7,833,752	\$7,833,752



Present Value of Accrued Benefits

Table I-E

	Old Assumptions w/o Amendment	Old Assumptions w/ Amendment	New Assumptions w/ Amendment
<u>Actively Employed Participants</u>			
Retirement benefits	\$10,363,194	\$10,363,194	\$10,363,194
Termination benefits	\$1,032,183	\$1,032,183	\$1,032,183
Disability benefits	\$1,059,989	\$1,059,989	\$1,059,989
Death benefits	\$74,689	\$374,351	\$374,351
Refund of employee contributions	\$22,597	\$22,597	\$22,597
Sub-total	\$12,552,652	\$12,852,314	\$12,852,314
<u>Deferred Vested Participants</u>			
Retirement benefits	\$292,414	\$292,414	\$292,414
Termination benefits	\$0	\$0	\$0
Disability benefits	\$0	\$0	\$0
Death benefits	\$0	\$0	\$0
Refund of employee contributions	\$0	\$0	\$0
Sub-total	\$292,414	\$292,414	\$292,414
<u>Due a Refund of Contributions</u>	\$3,262	\$3,262	\$3,262
<u>Deferred Beneficiaries</u>	\$0	\$0	\$0
<u>Retired Participants</u>			
Service retirements	\$2,947,307	\$2,947,307	\$2,947,307
Disability retirements	\$0	\$0	\$0
Beneficiaries receiving	\$0	\$0	\$0
DROP participants	\$0	\$0	\$0
Sub-total	\$2,947,307	\$2,947,307	\$2,947,307
<u>Grand Total</u>	<u>\$15,795,635</u>	<u>\$16,095,297</u>	<u>\$16,095,297</u>
<u>Funded Percentage</u>	140.91%	138.28%	138.28%

(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>
<u>Actively Employed Participants</u>			
Retirement benefits	\$9,698,606	\$9,698,606	\$9,698,606
Termination benefits	\$959,080	\$959,080	\$959,080
Disability benefits	\$1,059,989	\$1,059,989	\$1,059,989
Death benefits	\$71,687	\$374,351	\$374,351
Refund of employee contributions	\$29,015	\$29,015	\$29,015
Sub-total	\$11,818,377	\$12,121,041	\$12,121,041
<u>Deferred Vested Participants</u>			
Retirement benefits	\$292,414	\$292,414	\$292,414
Termination benefits	\$0	\$0	\$0
Disability benefits	\$0	\$0	\$0
Death benefits	\$0	\$0	\$0
Refund of employee contributions	\$0	\$0	\$0
Sub-total	\$292,414	\$292,414	\$292,414
<u>Due a Refund of Contributions</u>	\$3,262	\$3,262	\$3,262
<u>Deferred Beneficiaries</u>	\$0	\$0	\$0
<u>Retired Participants</u>			
Service retirements	\$2,947,307	\$2,947,307	\$2,947,307
Disability retirements	\$0	\$0	\$0
Beneficiaries receiving	\$0	\$0	\$0
DROP participants	\$0	\$0	\$0
Sub-total	\$2,947,307	\$2,947,307	\$2,947,307
<u>Grand Total</u>	<u>\$15,061,360</u>	<u>\$15,364,024</u>	<u>\$15,364,024</u>



Entry Age Normal Accrued Liability

Table I-G

	Old Assumptions w/o Amendment	Old Assumptions w/ Amendment	New Assumptions w/ Amendment
<u>Actively Employed Participants</u>			
Retirement benefits	\$16,456,947	\$16,456,947	\$16,456,947
Termination benefits	\$1,278,944	\$1,278,944	\$1,278,944
Disability benefits	\$1,057,103	\$1,057,103	\$1,057,103
Death benefits	\$103,311	\$357,847	\$357,847
Refund of employee contributions	\$26,099	\$26,099	\$26,099
Sub-total	\$18,922,404	\$19,176,940	\$19,176,940
<u>Deferred Vested Participants</u>			
Retirement benefits	\$292,414	\$292,414	\$292,414
Termination benefits	\$0	\$0	\$0
Disability benefits	\$0	\$0	\$0
Death benefits	\$0	\$0	\$0
Refund of employee contributions	\$0	\$0	\$0
Sub-total	\$292,414	\$292,414	\$292,414
<u>Due a Refund of Contributions</u>	\$3,262	\$3,262	\$3,262
<u>Deferred Beneficiaries</u>	\$0	\$0	\$0
<u>Retired Participants</u>			
Service retirements	\$2,947,307	\$2,947,307	\$2,947,307
Disability retirements	\$0	\$0	\$0
Beneficiaries receiving	\$0	\$0	\$0
DROP participants	\$0	\$0	\$0
Sub-total	\$2,947,307	\$2,947,307	\$2,947,307
<u>Grand Total</u>	<u>\$22,165,387</u>	<u>\$22,419,923</u>	<u>\$22,419,923</u>



Actuarial Value of Assets

Table II-A

Market Value of Assets as of October 1, 2019	\$22,256,948
Minus DROP account balances	\$0
Minus advance employer contributions	(\$326,836)
Minus excess Chapter 175/185 contributions	\$0
Actuarial Value of Assets as of October 1, 2019	<u>\$21,930,112</u>

Historical Actuarial Value of Assets

October 1, 2010	\$3,893,615
October 1, 2011	\$4,916,770
October 1, 2012	\$6,957,333
October 1, 2013	\$8,980,254
October 1, 2014	\$11,058,321
October 1, 2015	\$12,051,837
October 1, 2016	\$14,016,972
October 1, 2017	\$17,167,221
October 1, 2018	\$19,852,500
October 1, 2019	\$21,930,112

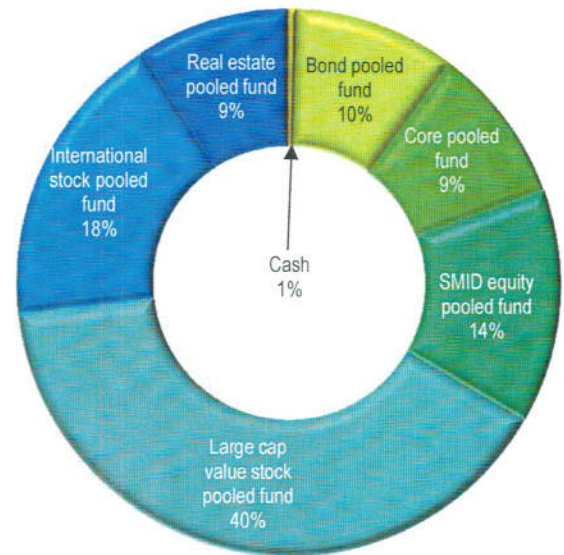


Market Value of Assets

Table II-B

As of October 1, 2019

Market Value of Assets	<u>\$22,256,948</u>
Cash	\$111,285
Bond pooled fund	\$2,136,667
Core pooled fund	\$2,092,153
SMID equity pooled fund	\$3,071,459
Large cap value stock pooled fund	\$8,880,522
International stock pooled fund	\$3,939,480
Real estate pooled fund	\$2,025,382

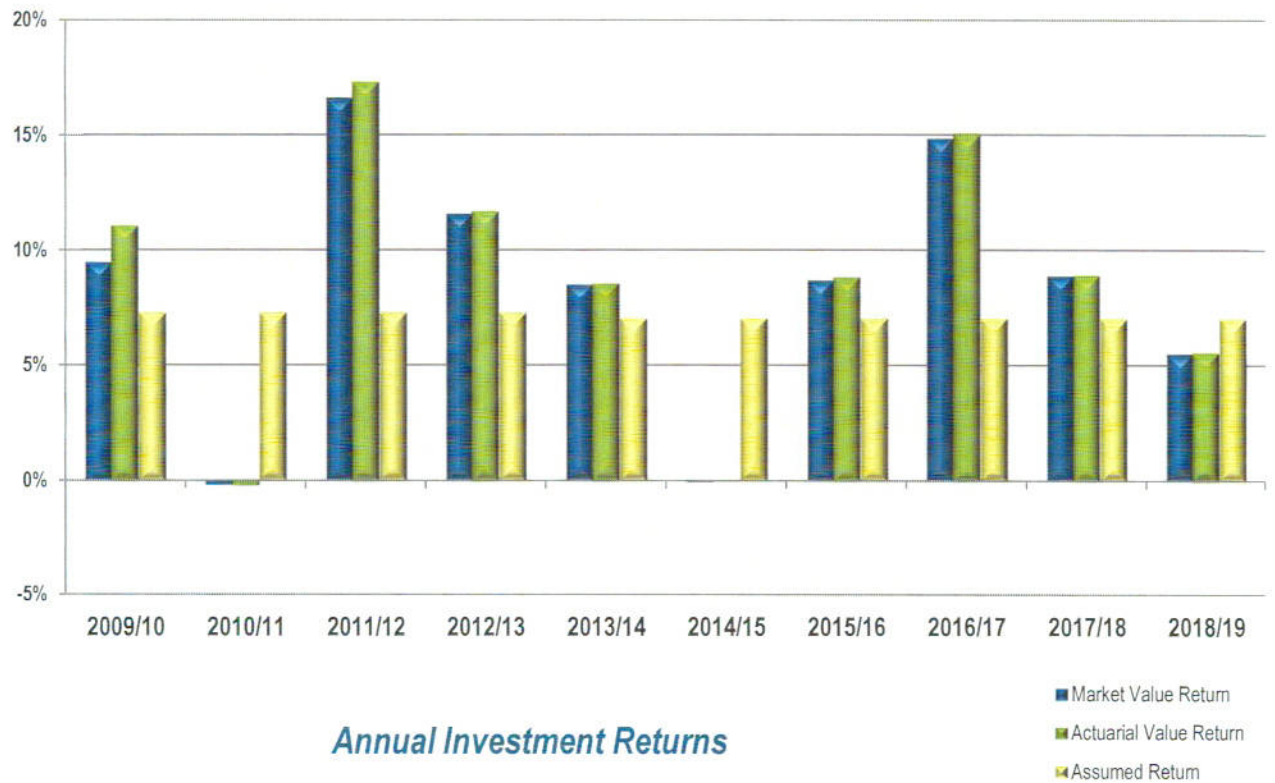
**Historical Market Value of Assets**

October 1, 2010	\$4,349,018
October 1, 2011	\$5,372,173
October 1, 2012	\$6,957,333
October 1, 2013	\$9,094,753
October 1, 2014	\$11,058,321
October 1, 2015	\$12,240,204
October 1, 2016	\$14,210,548
October 1, 2017	\$17,279,328
October 1, 2018	\$19,894,481
October 1, 2019	\$22,256,948



Investment Return

Table II-C

*Annual Investment Returns*

Plan Year	Market Value Return	Actuarial Value Return	Assumed Return
2009/10	9.46%	11.06%	7.25%
2010/11	-0.17%	-0.19%	7.25%
2011/12	16.59%	17.28%	7.25%
2012/13	11.60%	11.69%	7.25%
2013/14	8.48%	8.53%	7.00%
2014/15	-0.02%	-0.02%	7.00%
2015/16	8.67%	8.80%	7.00%
2016/17	14.87%	15.03%	7.00%
2017/18	8.87%	8.90%	7.00%
2018/19	5.50%	5.55%	7.00%
10yr. Avg.	8.26%	8.53%	7.10%



Asset Reconciliation

Table II-D

	<u>Market Value</u>	<u>Actuarial Value</u>
As of October 1, 2018	\$19,894,481	\$19,852,500
<i>Increases Due To:</i>		
Employer Contributions	\$1,150,808	\$1,150,808
Chapter 175/185 Contributions	\$200,545	\$200,545
Employee Contributions	\$43,431	\$43,431
Service Purchase Contributions	\$0	\$0
Total Contributions	<u>\$1,394,784</u>	<u>\$1,394,784</u>
Interest and Dividends	\$0	
Realized Gains (Losses)	\$0	
Unrealized Gains (Losses)	\$1,127,242	
Total Investment Income	<u>\$1,127,242</u>	\$1,127,242
Other Income	\$0	
Total Income	<u>\$2,522,026</u>	<u>\$2,522,026</u>
<i>Decreases Due To:</i>		
Monthly Benefit Payments	(\$116,774)	(\$116,774)
Refund of Employee Contributions	(\$5,741)	(\$5,741)
DROP Credits		\$0
Total Benefit Payments	<u>(\$122,515)</u>	<u>(\$122,515)</u>
Investment Expenses	\$0	
Administrative Expenses	(\$37,044)	(\$37,044)
Advance Employer Contribution		(\$284,855)
Excess Chapter 175/185 Contribution		\$0
Total Expenses	<u>(\$159,559)</u>	<u>(\$444,414)</u>
As of October 1, 2019	<u>\$22,256,948</u>	<u>\$21,930,112</u>



Historical Trust Fund Detail

Table II-E

Income

Plan	Employer	Chapter	Employee	Service		Realized	Unrealized	
<u>Year</u>	<u>Contribs.</u>	<u>Contribs.</u>	<u>Contribs.</u>	<u>Purchase</u>	<u>Interest /</u>	<u>Gains /</u>	<u>Gains /</u>	<u>Other</u>
				<u>Contribs.</u>	<u>Dividends</u>	<u>Losses</u>	<u>Losses</u>	<u>Income</u>
2009/10	\$693,926	\$206,389	\$12,454	\$0	\$0	\$0	\$336,605	\$0
2010/11	\$819,662	\$221,933	\$13,354	\$0	\$0	\$0	-\$8,368	\$0
2011/12	\$443,083	\$210,750	\$13,068	\$0	\$0	\$0	\$944,160	\$0
2012/13	\$1,052,227	\$220,751	\$13,153	\$0	\$0	\$0	\$879,926	\$0
2013/14	\$930,508	\$232,034	\$14,063	\$0	\$0	\$0	\$819,768	\$0
2014/15	\$989,772	\$246,695	\$18,025	\$0	\$0	\$0	-\$2,201	\$0
2015/16	\$690,617	\$235,709	\$19,813	\$0	\$0	\$0	\$1,099,192	\$0
2016/17	\$785,390	\$198,246	\$29,799	\$0	\$0	\$0	\$2,179,283	\$0
2017/18	\$959,943	\$191,704	\$31,516	\$0	\$0	\$0	\$1,577,905	\$0
2018/19	\$1,150,808	\$200,545	\$43,431	\$0	\$0	\$0	\$1,127,242	\$0

Expenses

Plan	Monthly				<u>Other Actuarial Adjustments</u>		
<u>Year</u>	<u>Benefit</u>	<u>Contrib.</u>	<u>Admin.</u>	<u>Invest.</u>	<u>DROP</u>	<u>Advance</u>	<u>Excess</u>
	<u>Payments</u>	<u>Refunds</u>	<u>Expenses</u>	<u>Expenses</u>	<u>Credits</u>	<u>Employer</u>	<u>Chapter</u>
2009/10	\$0	\$0	\$7,953	\$0	\$0	-\$122,915	\$0
2010/11	\$12,637	\$0	\$10,789	\$0	\$0	\$0	\$0
2011/12	\$13,016	\$0	\$12,885	\$0	\$0	\$0	-\$455,403
2012/13	\$13,407	\$0	\$15,230	\$0	\$0	\$114,499	\$0
2013/14	\$13,809	\$0	\$18,996	\$0	\$0	-\$114,499	\$0
2014/15	\$48,563	\$0	\$21,845	\$0	\$0	\$188,367	\$0
2015/16	\$49,594	\$0	\$25,393	\$0	\$0	\$5,209	\$0
2016/17	\$96,371	\$0	\$27,567	\$0	\$0	-\$81,469	\$0
2017/18	\$114,377	\$0	\$31,538	\$0	\$0	-\$70,126	\$0
2018/19	\$116,774	\$5,741	\$37,044	\$0	\$0	\$284,855	\$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

DROP Account Reconciliation

DROP Balance as of October 1, 2018	\$0
DROP Benefit Credits	\$0
DROP Investment Credits	\$0
DROP Benefits Paid Out	\$0
Net DROP Credit	\$0
DROP Balance as of October 1, 2019	\$0

Advance Employer Contribution

Advance Employer Contribution as of October 1, 2018	\$41,981
Additional Employer Contribution	\$1,351,353
Minimum Required Contribution	(\$1,066,498)
Net Increase in Advance Employer Contribution	\$284,855
Advance Employer Contribution as of October 1, 2019	\$326,836

Excess Chapter 175/185 Contribution

Excess Chapter 175/185 Contribution as of October 1, 2018	\$0
Additional Chapter 175/185 Contribution	\$200,545
Allowable Chapter 175/185 Contribution	(\$200,545)
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

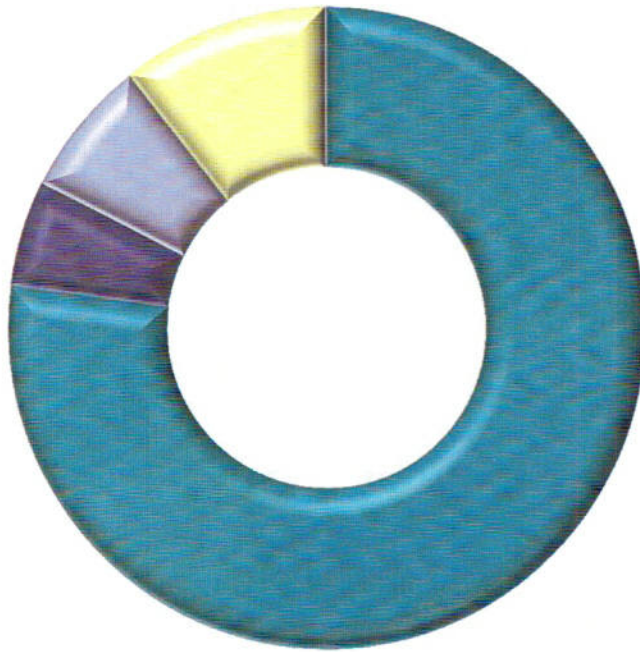
	Chapter 175 Regular <u>Distribution</u>	Chapter 175 Supplemental <u>Distribution</u>	Chapter 185 <u>Distribution</u>	Allowable <u>Amount</u>
1998 Distribution	\$25,687	\$0	\$0	(\$22,928)
1999 Distribution	\$15,763	\$0	\$0	(\$15,763)
2000 Distribution	\$21,826	\$8,994	\$0	(\$21,826)
2001 Distribution	\$25,674	\$11,469	\$0	(\$22,928)
2002 Distribution	\$36,677	\$14,232	\$0	(\$22,928)
2003 Distribution	\$51,059	\$20,436	\$0	(\$71,495)
2004 Distribution	\$56,850	\$30,664	\$0	(\$72,684)
2005 Distribution	\$68,846	\$32,834	\$0	(\$72,684)
2006 Distribution	\$92,743	\$41,313	\$0	(\$72,684)
2007 Distribution	\$117,675	\$78,987	\$0	(\$72,684)
2008 Distribution	\$143,295	\$92,365	\$0	(\$72,684)
2009 Distribution	\$130,064	\$76,325	\$0	(\$206,389)
2010 Distribution	\$157,855	\$64,078	\$0	(\$221,933)
2011 Distribution	\$155,194	\$55,556	\$0	(\$666,153)
2012 Distribution	\$157,107	\$63,644	\$0	(\$220,751)
2013 Distribution	\$158,487	\$73,547	\$0	(\$232,034)
2014 Distribution	\$159,046	\$87,649	\$0	(\$246,695)
2015 Distribution	\$169,259	\$66,450	\$0	(\$235,709)
2016 Distribution	\$168,262	\$29,984	\$0	(\$198,246)
2017 Distribution	\$186,281	\$5,423	\$0	(\$191,704)
2018 Distribution	\$196,570	\$3,975	\$0	(\$200,545)
Interest Adjustment				\$9,302



Summary of Participant Data

Table III-A

As of October 1, 2019

Actively Employed Participants

Active Participants	44
DROP Participants	0

Inactive Participants

Deferred Vested Participants	3
Due a Refund of Contributions	4
Deferred Beneficiaries	0

Participants Receiving a Benefit

Service Retirements	6
Disability Retirements	0
Beneficiaries Receiving	0

Total Participants 57Number of Participants Included in Prior Valuations

	Active	DROP	Inactive	Retired	Total
October 1, 2010	34	0	1	1	36
October 1, 2011	34	0	1	1	36
October 1, 2012	34	0	1	1	36
October 1, 2013	33	0	2	1	36
October 1, 2014	35	0	2	2	39
October 1, 2015	35	0	3	2	40
October 1, 2016	35	0	6	3	44
October 1, 2017	39	0	7	5	51
October 1, 2018	45	0	8	5	58
October 1, 2019	44	0	7	6	57



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, 2018</u>	45	0	3	5	0	5	0	0	58
<u>Change in Status</u>									
Re-employed									
Terminated									
Retired	(1)					1			
<u>Participation Ended</u>									
Transferred Out									
Cashed Out				(1)					(1)
Died									
<u>Participation Began</u>									
Newly Hired									
Transferred In									
New Beneficiary									
<u>Other Adjustment</u>									
<u>October 1, 2019</u>	44	0	3	4	0	6	0	0	57

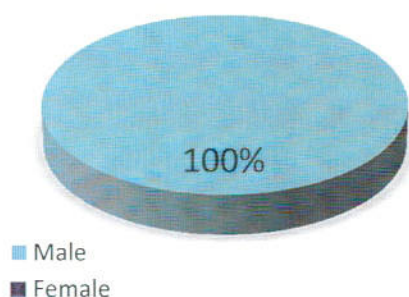


Active Participant Data

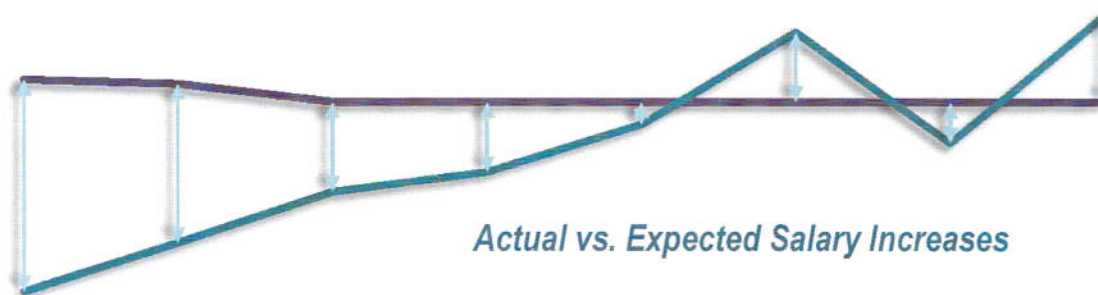
Table III-C

As of October 1, 2019

Gender Mix



Average Age	36.8 years
Average Service	9.6 years
Total Annualized Compensation for the Prior Year	\$3,505,937
Total Expected Compensation for the Current Year	\$3,441,174
Average Increase in Compensation for the Prior Year	7.04%
Expected Increase in Compensation for the Current Year	4.50%
Accumulated Contributions for Active Employees	\$220,270



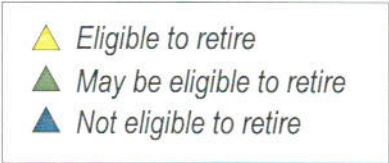
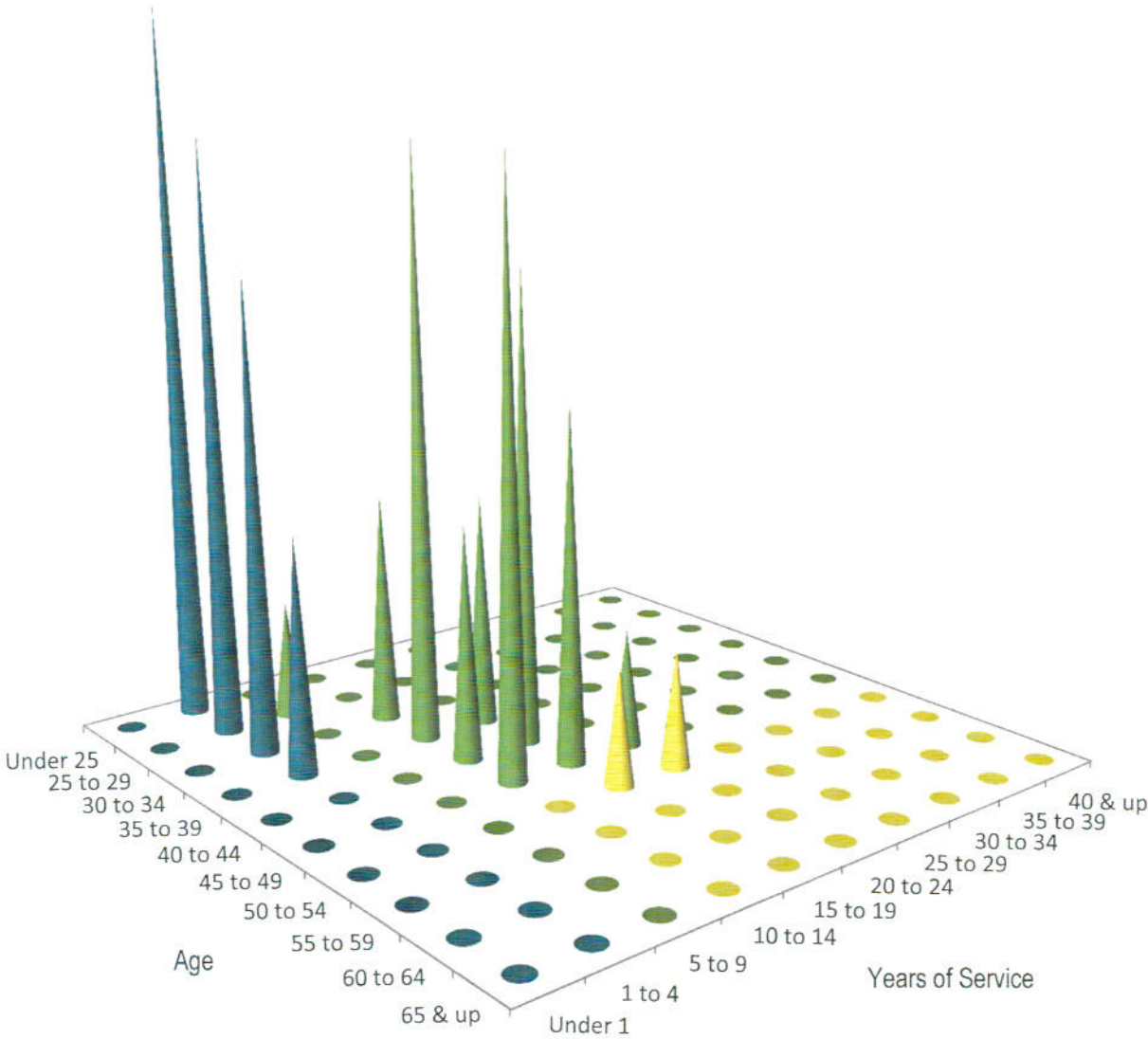
Active Participant Statistics From Prior Valuations

	Average Age	Average Service	Average Salary	Average Expected Salary Increase	Average Actual Salary Increase
October 1, 2010	34.3	5.9	\$72,650	5.51%	5.47%
October 1, 2011	35.3	6.9	\$78,550	5.32%	8.26%
October 1, 2012	36.3	7.9	\$77,546	5.15%	-1.17%
October 1, 2013	37.5	9.0	\$77,829	5.03%	0.26%
October 1, 2014	37.3	9.0	\$75,756	4.50%	1.80%
October 1, 2015	38.0	9.8	\$76,865	4.50%	2.40%
October 1, 2016	37.7	9.9	\$76,323	4.50%	3.82%
October 1, 2017	36.9	9.3	\$76,332	4.50%	6.54%
October 1, 2018	36.0	8.9	\$70,127	4.50%	3.27%
October 1, 2019	36.8	9.6	\$79,680	4.50%	7.04%



Active Age-Service Distribution

Table III-D



Active Age-Service-Salary Table

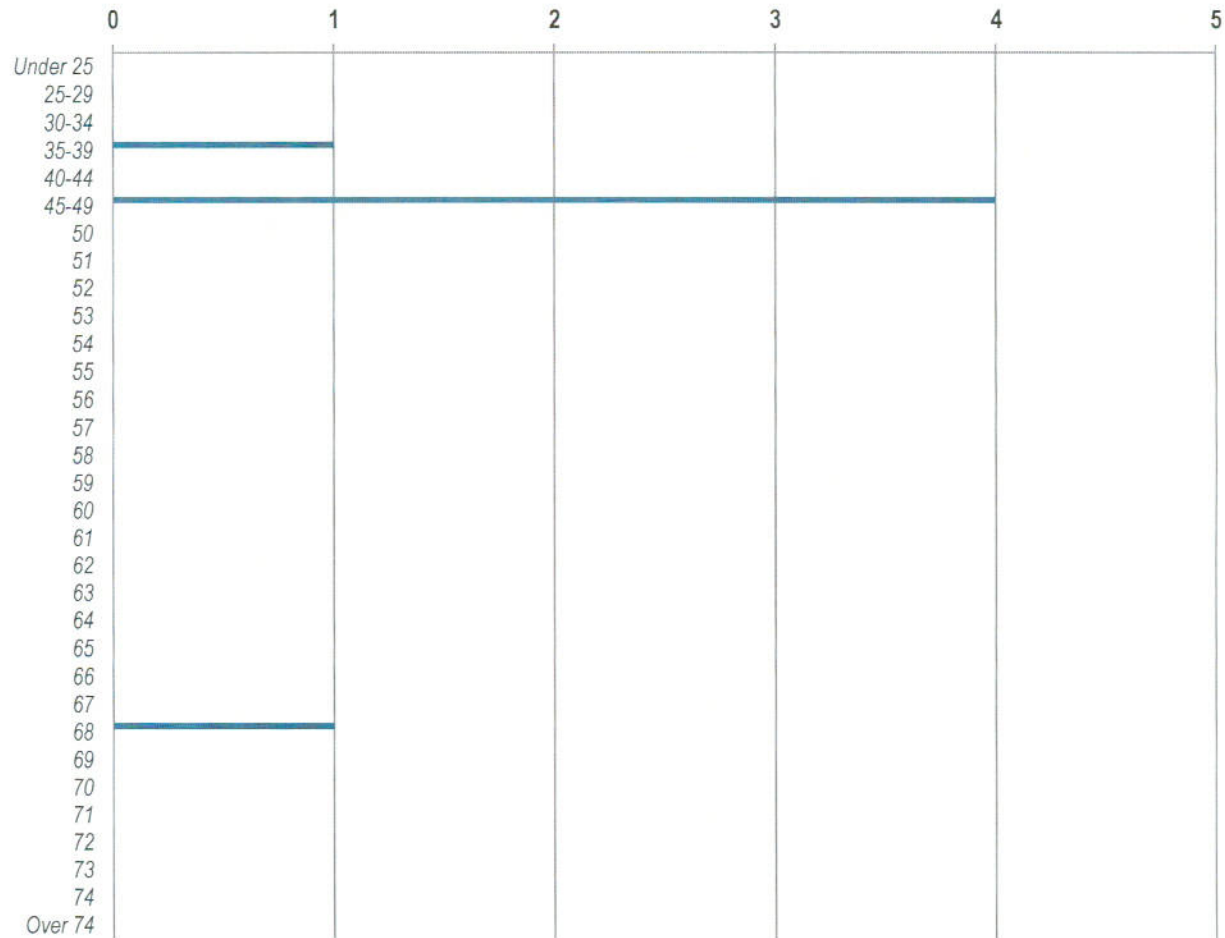
Table III-E

Attained Age	Completed Years of Service										Total
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up	
Under 25	0	6	0	0	0	0	0	0	0	0	6
Avg. Pay	0	52,707	0	0	0	0	0	0	0	0	52,707
25 to 29	0	5	1	0	0	0	0	0	0	0	6
Avg. Pay	0	56,544	71,973	0	0	0	0	0	0	0	59,116
30 to 34	0	4	0	2	0	0	0	0	0	0	6
Avg. Pay	0	54,660	0	85,316	0	0	0	0	0	0	64,879
35 to 39	0	2	0	5	2	0	0	0	0	0	9
Avg. Pay	0	65,554	0	93,385	108,833	0	0	0	0	0	90,633
40 to 44	0	0	0	2	4	0	0	0	0	0	6
Avg. Pay	0	0	0	92,454	96,746	0	0	0	0	0	95,316
45 to 49	0	0	0	5	3	1	0	0	0	0	9
Avg. Pay	0	0	0	90,609	93,082	132,360	0	0	0	0	96,073
50 to 54	0	0	0	0	1	1	0	0	0	0	2
Avg. Pay	0	0	0	0	96,675	96,813	0	0	0	0	96,744
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	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	17	1	14	10	2	0	0	0	0	44
Avg. Pay	0	55,806	71,973	91,108	98,057	114,587	0	0	0	0	79,680



Inactive Participant Data

Table III-F

*Age at Retirement*

- Service Retirements
- Disability Retirements
- DROP Participants

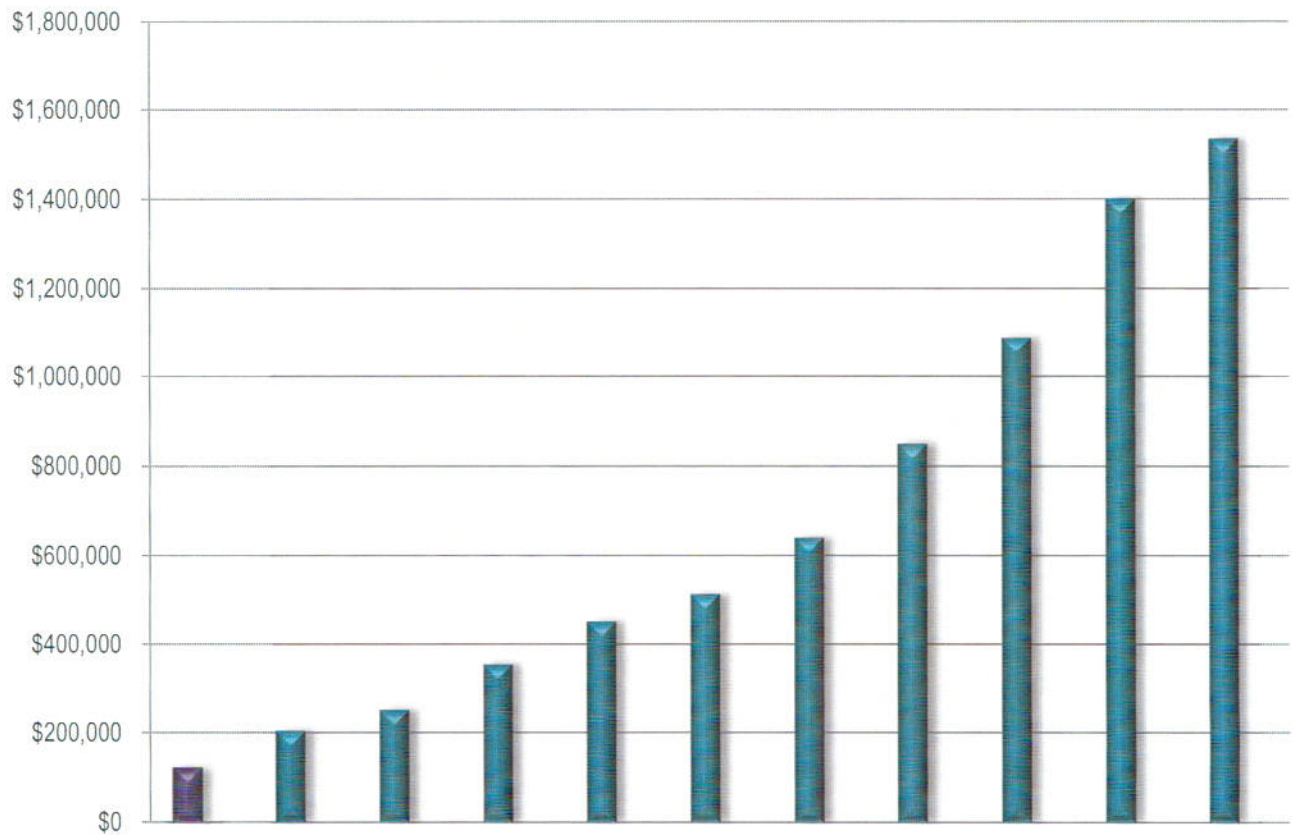
Average Monthly Benefit

Service Retirements	\$2,328.96
Disability Retirements	Not applicable
Beneficiaries Receiving	Not applicable
DROP Participants	Not applicable
Deferred Vested Participants	\$1,235.87
Deferred Beneficiaries	Not applicable



Projected Benefit Payments

Table III-G

Actual

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

\$122,515

Projected

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

\$205,099

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

\$252,647

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

\$354,853

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

\$452,906

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

\$514,530

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

\$642,035

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

\$850,462

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

\$1,088,850

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

\$1,402,058

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

\$1,534,962



Summary of Actuarial Methods and Assumptions

Table IV-A

NOTE: The following assumptions and methods have been selected and approved by the Board of Trustees based in part on the advice of the plan's enrolled actuary in accordance with the authority granted to the Board under the pension ordinances and State law.

1. **Actuarial Cost Method**

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

2. **Asset Method**

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

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

7.00% per annum

4. **Salary Increases**

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

5. **Decrements**

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



Summary of Actuarial Methods and Assumptions

Table IV-A

(continued)

- Termination: With respect to participants with less than 10 years of service, the termination rates are both gender- and service-based, ranging from 15.00% for males and 10.01% for females with less than two years of service to 4.30% for males and 4.75% for females with between eight and 10 years of service; with respect to participants with at least 10 years of service, the termination rates are both gender- and age-based, ranging from 4.28% for males and 5.41% for females at age 25 to 0.00% for both genders at age 55.
- Retirement: For those participants who have earned at least 10 years of service, retirement is assumed to occur at the rate of 10% per year at ages 50, 51, and 53, and 100% at age 55; alternatively, 70% of participants who reach their normal retirement age are assumed to retire immediately, with 10% assumed to retire at each of ages one year and three years after the attainment of normal retirement age and 100% assumed to retire five years after the attainment of 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 0.50% to account for anticipated administrative expenses. In addition, the interest rate set forth in item 3. above is assumed to be net of investment expenses and commissions.



Changes in Actuarial Methods and Assumptions

Table IV-B

No assumptions have been changed since the completion of the previous valuation.

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

- (1) *Effective October 1, 2017, the mortality basis was changed from the RP-2000 Combined Mortality Table to the RP-2000 Blue Collar Mortality Table, both with full generational improvements in mortality using Scale BB.*
- (2) *Effective October 1, 2016, the mortality basis was changed from a 2015 projection of the RP-2000 Mortality Table for annuitants to a full generational projection using Scale BB of the RP-2000 Combined Mortality Table as required by State law.*
- (3) *Effective October 1, 2013, the interest (or discount) rate was decreased from 7.25% per annum to 7.00% per annum.*
- (4) *Effective October 1, 2013, the assumed increase in future salaries was changed from a range of rates based on service (8.00% for employees with less than one year of service, 7.00% for employees with at least one but less than two years of service, 6.00% for employees with at least two but less than three years of service, 5.50% for employees with at least three but less than four years of service, and 5.20% for all other employees) to a flat 4.50% per year.*
- (5) *Effective October 1, 2013, the mortality basis was changed from the RP-2000 Mortality Table, projected to 2007 by Scale AA, to the RP-2000 Mortality Table, projected to 2015 by Scale AA, both as published by the Internal Revenue Service (IRS) for purposes of Internal Revenue Code (IRC) section 430.*
- (6) *Effective October 1, 2009, the administrative expense assumption was changed from a flat \$7,500 per year to a 0.50% loading of the total projected benefit liability.*



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 (if hired prior to 2014); or
 Any age with at least 25 years of credited service (if hired prior to 2014); or
 Age 55 with at least 10 years of credited service (if hired after 2013); or
 Age 52 with at least 25 years of credited service (if hired after 2013)

Early retirement: Any age with at least six years of credited service (if hired prior to 2014); or
 Age 50 with at least 10 years of credited service (if hired after 2013)

(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 65% 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 District-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.)



Summary of Plan Provisions

Table V-A

(continued)

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.

5. Vesting

An employee becomes 100% vested upon the attainment of six years of credited service (if hired prior to 2014) or 10 years of credited service (if hired after 2013).

6. Pre-Retirement Death Benefit

If a participant dies in the line of duty prior to retirement, his beneficiary receives 50% of the participant's monthly salary at the time of his death payable for the remainder of the beneficiary's lifetime or, if the participant was vested, a 10-year certain annuity equal to the participant's monthly accrued benefit payable beginning at the participant's early or normal retirement age, if greater.

If a vested participant dies other than in the line of duty prior to retirement, his 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.

In either event, 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.



Summary of Plan Provisions

Table V-A

(continued)

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*);

Any other actuarially equivalent form of payment that is approved by the Trustees (*optional*); or

Actuarially equivalent single lump sum distribution (*automatic and only available if the single sum value of the participant's benefit is less than or equal to \$5,000 or the monthly annuity is less than \$100*)

(Note: 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, but only if hired prior to 2014.

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, if greater. Earnings include only fixed monthly remuneration and cannot exceed the maximum amount allowed under Internal Revenue Code (IRC) section 401(a)(17).



Summary of Plan Provisions

Table V-A

(continued)

10. Credited Service

The elapsed time from the participant's date of hire until his date of termination, retirement, or death. In addition, participants may purchase up to four years of prior military service and up to four years of prior employment as a firefighter with another governmental employer under the conditions set forth in the legal plan document, provided that such purchased additional service credit is not counted towards meeting the vesting requirement under the plan or towards meeting the eligibility requirement for a non-service connected disability benefit.

11. Employee Contribution

Employees must contribute 0.50% of basic salary (if hired prior to 2014) or 3.00% of basic salary (if hired after 2013). Employee contributions are accumulated without interest.

12. District Contribution

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

13. Deferred Retirement Option Plan (DROP)

A DROP is available to those participants who have attained their normal retirement age (but not prior to age 55 if hired after 2013), whereby the participant's monthly retirement benefit is accumulated on his behalf in a DROP account while he continues in active employment with the District. Individuals may participate in the DROP for a period of up to 60 months and neither earn additional benefits nor make the required employee contribution during the period of their DROP participation. DROP participants are considered to be retired for all other purposes under the plan and are not eligible for disability or pre-retirement death benefits. DROP accounts earn interest at the rate of 6.50% per annum compounded monthly (if hired prior to 2014) or 1.30% per annum compounded monthly (if hired after 2013).

14. Participant Requirement

All full-time firefighters of the San Carlos Park Fire Protection and Rescue Service District automatically become participants in the plan on their date of hire.

15. Actuarial Equivalence

Based on 7.00% 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)



Summary of Plan Provisions

Table V-A

(continued)

16. Plan Effective Date

The plan was originally effective on January 1, 1996.



Summary of Plan Amendments

Table V-B

Since the completion of the previous valuation, the plan was amended in accordance with changes in State law to provide a line-of-duty disability or death benefit to participants who become disabled or die prior to retirement due to cancer.

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

- (1) A share plan was added pursuant to Chapter 2015-39, Florida Statutes. (Resolution 2015-03)*
- (2) The normal retirement age was changed to the earlier of age 55 with 10 years of service or age 52 with 25 years of service with respect to participants who are hired after 2013. (Resolution 2014-03)*
- (3) The early retirement age was changed to age 50 with 10 years of service with respect to participants who are hired after 2013. (Resolution 2014-03)*
- (4) The vesting requirement was increased from six years of service to 10 years of service with respect to participants who are hired after 2013. (Resolution 2014-03)*
- (5) The employee contribution rate was increased from 0.50% of pensionable earnings to 3.00% of pensionable earnings with respect to participants who are hired after 2013. (Resolution 2014-03)*
- (6) The automatic cost-of-living adjustment was eliminated with respect to participants who are hired after 2013. (Resolution 2014-03)*
- (7) The Deferred Retirement Option Plan (DROP) entry age was increased to age 55 with respect to participants who are hired after 2013. (Resolution 2014-03)*
- (8) The interest rate credited to the individual DROP account was reduced from 6.50% per year to 1.30% per year with respect to participants who are hired after 2013. (Resolution 2014-03)*
- (9) The employee contribution rate was increased to 18.06% of pensionable earnings for the 2011/12 plan year and then immediately restored to the 0.50% employee contribution rate. This change allowed the District to use all of the \$455,403 of accumulated excess Chapter 175 contributions as an offset to the minimum required contribution for the 2011/12 plan year. (Resolution 2012-01)*
- (10) Benefits were provided pursuant to the Uniformed Services Employment and Reemployment Rights Act (USERRA) and the Heroes Earnings Assistance and Relief Tax Act (HEART) and participants were allowed to purchase certain military and prior firefighter service on an actuarial equivalent basis. (Resolution 2011-005)*



Summary of Plan Amendments

Table V-B

(continued)

- (11) *A "stop/start" approach was adopted whereby benefits were reduced to the Chapter 175 minimum benefit level and then immediately restored to the current level. The change served only to increase the allowable portion of the Chapter 175/185 contributions each year. (Resolutions 2010-02 and 2010-03)*

