Estero Fire Rescue Firefighters' Retirement Plan

ACTUARIAL VALUATION AS OF OCTOBER 1, 2019

DETERMINES THE CONTRIBUTION FOR THE 2020/21 FISCAL YEAR



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January 26, 2020

Introduction

This report presents the results of the October 1, 2019 actuarial valuation of the Estero Fire Rescue Firefighters' Retirement Plan. 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 <u>estimate</u> of the true cost of providing post-employment pension benefits. No one can predict with certainty whether the true cost will be higher or lower than the cost presented in this report. The calculated cost is entirely dependent upon the assumptions that are described in Table IV-A. If any of the assumptions is changed, then the cost shown in this report will change accordingly. Likewise, if any of the assumptions is not completely realized, then the cost shown in this report will change in the future.

Certain assumptions play a bigger role than others in determining the cost of the post-employment pension benefits. In some cases, relatively small changes in a particular assumption can have a dramatic impact on the anticipated cost of benefits. Although a thorough analysis of the impact of such changes is beyond the scope of this report, Table I-B illustrates the impact that alternative long-term investment returns would have on the 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 26.91% of covered payroll, which represents a decrease of 2.63% of payroll from the prior valuation.

The normal cost rate is 27.25%, which is 2.60% lower 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 0.43% of payroll due to investment losses and decreased by 3.03% of payroll due to demographic experience. Although the market value of assets only earned 5.54% during the 2018/19 plan year, the actuarial value



of assets is based on a five-year phase-in of the market value gains and losses. On this basis, the actuarial value of assets earned 6.37% 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 26.91% 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 175/185 contribution that is allowed to be recognized during the 2020/21 plan year. As of the date of this report, the allowable portion of the Chapter 175/185 contribution is \$267,811 per 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 \$35,519,965. As illustrated in Table I-A, current assets are sufficient to cover \$25,329,900 of this amount, the employer's 2019/20 expected contribution will cover \$1,373,188 of this amount, the employer's 2020/21 expected contribution will cover \$1,307,414 of this amount, and future employee contributions are expected to cover \$1,010,622 of this amount, leaving \$6,498,841 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 \$504,642, which reflects the advance employer contribution of \$587,171 as of October 1, 2018 minus \$82,529 which was used to cover the shortfall between the District's cash contribution and 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 <u>extra</u> contribution in excess of the minimum required contribution. In this case, the immediate application of the entire balance of the advance employer contribution as of October 1, 2019 would reduce the normal cost rate to 25.75% of payroll and would reduce the minimum required contribution for the 2020/21 plan year to 25.33% of payroll.

Identification and Assessment of Risk

The liabilities and cost presented in this report are based on numerous assumptions concerning the cost of benefits to be provided in the future, long-term investment returns, and the future demographic experience of the current



participants. Anyone referring to this report should remember that the cost developed herein is only an <u>estimate</u> of the true cost of providing post-employment pension benefits. No one can predict with certainty whether the true cost will be higher or lower than the cost presented in this report. The calculated cost is entirely dependent upon the assumptions that are described in Table IV-A. If any of the assumptions is changed, then the cost shown in this report will change accordingly. Likewise, there is always a risk that, should these assumptions not be realized, the liabilities of the plan, the contributions required to fund the plan, and the funded status of the plan may be significantly different than the amounts shown in this report.

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

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

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

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

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



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

Contents of the Report

Tables I-D through I-G provide a detailed breakdown of various liability amounts by type of benefit and by participant group. Tables II-A through II-F provide information concerning the assets of the trust fund. Specifically, Table II-A shows the development of the actuarial value of assets, which is based on the market value of assets, adjusted to reflect a five-year phase-in of the net investment gains and losses. 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.

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

Consulting Actuary

Southern Actuarial Services Company, Inc.

Enrolled Actuary No. 17-04927

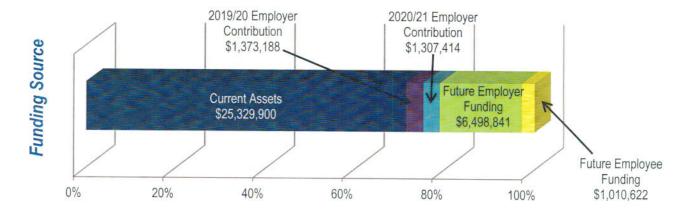
Charles J. Caryon

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	\$34,909,057
Present Value of Future Administrative Expenses	\$610,908
Actuarial Value of Assets	(\$25,329,900)
Present Value of Future Employee Contributions	(\$1,010,622)
Present Value of Future Normal Costs	\$9,179,443
Present Value of Future Payroll	÷ \$33,687,571
Normal Cost Rate	= 27.2488%
Expected Payroll	x \$4,648,570
Normal Cost	\$1,266,677
Adjustment to Reflect Bi-Weekly Employer Contributions	\$45,040
Expected Employer Contribution for the 2019/20 Plan Year	(\$1,373,188)
Remaining Contribution Due/(Credit) for the 2019/20 Plan Year	(\$61,471)
	x 0.07
One Year's Interest Charge/(Credit) on the Remaining Contribution	(\$4,303)
Preliminary Employer Contribution for the 2020/21 Plan Year	\$1,307,414
Expected Payroll for the 2020/21 Plan Year	÷ \$4,857,756
Minimum Required Contribution Rate	26.91%

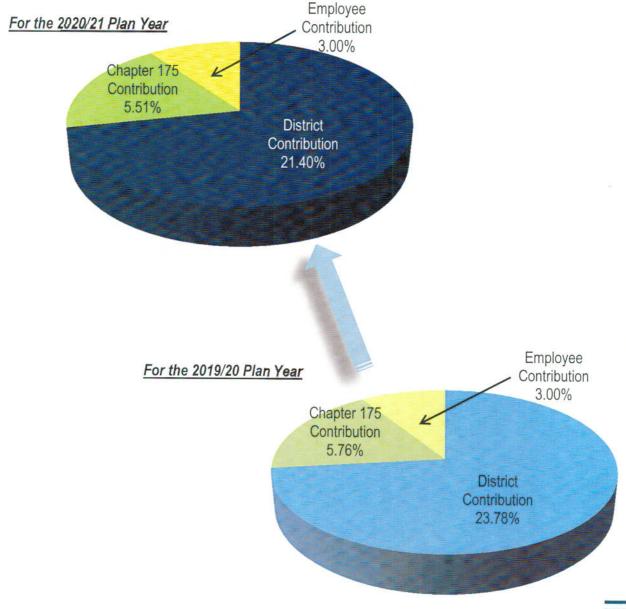
(The actual contribution should be based on the minimum required contribution rate multiplied by the actual payroll for the year.)



Minimum Required Contribution

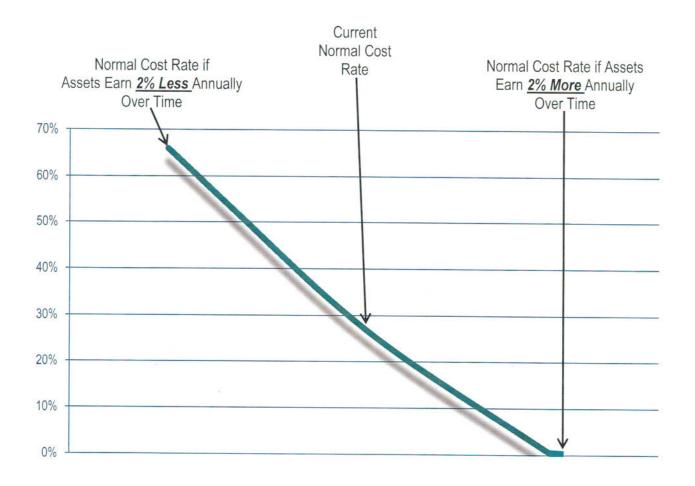
Table I-A (continued)

The minimum required contribution rate of 26.91% includes both the District contribution and the allowable Chapter 175 contribution. In addition, employees are required to contribute 3.00% of pensionable earnings. The actual District contribution rate is expected to be approximately 21.4% 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	29.85%
Increase (decrease) due to investment gains and losses Increase (decrease) due to demographic experience	0.43% -3.03%
Increase (decrease) due to plan amendments Increase (decrease) due to actuarial assumption changes Increase (decrease) due to actuarial method changes	0.00% 0.00% 0.00%
Current normal cost rate	27.25%



Funding Results

Present Value of Future Benefits

Table I-D

	Old Assumptions	Old Assumptions	New Assumptions
	w/o Amendment	w/ Amendment	w/ Amendment
V. J. J. W			
Actively Employed Participants	007 440 000		
Retirement benefits	\$27,146,023	\$27,146,023	\$27,146,023
Termination benefits	\$1,967,127	\$1,967,127	\$1,967,127
Disability benefits	\$1,326,462	\$1,326,462	\$1,326,462
Death benefits	\$141,424	\$141,424	\$141,424
Refund of employee contributions	\$49,360	\$49,360	\$49,360
Sub-total	\$30,630,396	\$30,630,396	\$30,630,396
Deferred Vested Participants			
Retirement benefits	\$361,608	\$361,608	\$361,608
Termination benefits	\$0	\$0	\$0
Disability benefits	\$0	\$0	\$0
Death benefits	\$0	\$0	\$0
Refund of employee contributions	\$0	\$0	\$0
Sub-total	\$361,608	\$361,608	\$361,608
Due a Refund of Contributions	\$11,498	\$11,498	\$11,498
<u>Deferred Beneficiaries</u>	\$0	\$0	\$0
Retired Participants			
Service retirements	\$1,640,369	\$1,640,369	\$1,640,369
Disability retirements	\$1,389,099	\$1,389,099	\$1,389,099
Beneficiaries receiving	\$0	\$0	\$0
DROP participants	\$876,087	\$876,087	\$876,087
Sub-total	\$3,905,555	\$3,905,555	\$3,905,555
Grand Total	\$34,909,057	\$34,909,057	\$34,909,057
Present Value of Future Payroll	\$33,687,571	\$33,687,571	\$33,687,571
Present Value of Future Employee Contribs.	\$1,010,622	\$1,010,622	\$1,010,622
Present Value of Future Employer Contribs.	\$9,179,443	\$9,179,443	\$9,179,443



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	\$15,619,923	\$15,619,923	\$15,619,923
Termination benefits	\$1,256,698	\$1,256,698	\$1,256,698
Disability benefits	\$886,427	\$886,427	\$886,427
Death benefits	\$86,100	\$86,100	\$86,100
Refund of employee contributions	\$30,620	\$30,620	\$30,620
Sub-total	\$17,879,768	\$17,879,768	\$17,879,768
Deferred Vested Participants			
Retirement benefits	\$361,608	\$361,608	\$361,608
Termination benefits	\$0	\$0	\$0
Disability benefits	\$0	\$0	\$0
Death benefits	\$0	\$0	\$0
Refund of employee contributions	\$0	\$0	\$0
Sub-total	\$361,608	\$361,608	\$361,608
Due a Refund of Contributions	\$11,498	\$11,498	\$11,498
Deferred Beneficiaries	\$0	\$0	\$0
Retired Participants			
Service retirements	\$1,640,369	\$1,640,369	\$1,640,369
Disability retirements	\$1,389,099	\$1,389,099	\$1,389,099
Beneficiaries receiving	\$0	\$0	\$0
DROP participants	\$876,087	\$876,087	\$876,087
Sub-total	\$3,905,555	\$3,905,555	\$3,905,555
Grand Total	\$22,158,429	<u>\$22,158,429</u>	\$22,158,429
Funded Percentage	133.00%	133.00%	133.00%

(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	\$15,280,377	\$15,280,377	\$15,280,377
Termination benefits	\$1,195,250	\$1,195,250	\$1,195,250
Disability benefits	\$886,427	\$886,427	\$886,427
Death benefits	\$81,965	\$81,965	\$81,965
Refund of employee contributions	\$41,892	\$41,892	\$41,892
Sub-total	\$17,485,911	\$17,485,911	\$17,485,911
Deferred Vested Participants			
Retirement benefits	\$361,608	\$361,608	\$361,608
Termination benefits	\$0	\$0	\$0
Disability benefits	\$0	\$0	\$0
Death benefits	\$0	\$0	\$0
Refund of employee contributions	\$0	\$0	\$0
Sub-total	\$361,608	\$361,608	\$361,608
Due a Refund of Contributions	\$11,498	\$11,498	\$11,498
<u>Deferred Beneficiaries</u>	\$0	\$0	\$0
Retired Participants			
Service retirements	\$1,640,369	\$1,640,369	\$1,640,369
Disability retirements	\$1,389,099	\$1,389,099	\$1,389,099
Beneficiaries receiving	\$0	\$0	\$0
DROP participants	\$876,087	\$876,087	\$876,087
Sub-total	\$3,905,555	\$3,905,555	\$3,905,555
Grand Total	\$21,764,572	\$21,764,572	\$21,764,572



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	\$21,092,218	\$21,092,218	\$21,092,218
Termination benefits	\$1,540,165	\$1,540,165	\$1,540,165
Disability benefits	\$1,030,180	\$1,030,180	\$1,030,180
Death benefits	\$110,193	\$110,193	\$110,193
Refund of employee contributions	\$34,024	\$34,024	\$34,024
Sub-total	\$23,806,780	\$23,806,780	\$23,806,780
Deferred Vested Participants			
Retirement benefits	\$361,608	\$361,608	\$361,608
Termination benefits	\$0	\$0	\$0
Disability benefits	\$0	\$0	\$0
Death benefits	\$0	\$0	\$0
Refund of employee contributions	\$0	\$0	\$0
Sub-total	\$361,608	\$361,608	\$361,608
Due a Refund of Contributions	\$11,498	\$11,498	\$11,498
<u>Deferred Beneficiaries</u>	\$0	\$0	\$0
Retired Participants			
Service retirements	\$1,640,369	\$1,640,369	\$1,640,369
Disability retirements	\$1,389,099	\$1,389,099	\$1,389,099
Beneficiaries receiving	\$0	\$0	\$0
DROP participants	\$876,087	\$876,087	\$876,087
Sub-total	\$3,905,555	\$3,905,555	\$3,905,555
Grand Total	\$28,085,441	\$28,085,441	\$28,085,441



Actuarial Value of Assets

Table II-A

Net Inves	tment Gain (Loss)	Unreco	gnized Gain (Loss)
For the 2015/16 plan year	\$1,428,448	x 20%	\$285,690
For the 2016/17 plan year	\$2,679,023	x 40%	\$1,071,609
For the 2017/18 plan year	\$1,782,592	x 60%	\$1,069,555
For the 2018/19 plan year	\$1,512,964	x 80%	\$1,210,371
		(2	\$3,637,225

Market Value of Assets as of October 1, 2019	\$29,516,166
Minus DROP account balances Minus advance employer contributions	(\$44,399) (\$504,642)
Minus excess Chapter 175/185 contributions	\$0

Adjustment for unrecognized gain or loss as shown above, but restricted to an amount that keeps the actuarial value of assets within an 80%-120% corridor of the market value (\$3,637,225)

Actuarial Value of Assets as of October 1, 2019 \$25,329,900

Historical Actuarial Value of Assets October 1, 2010 \$4,732,004 October 1, 2011 \$6,873,907

October 1, 2012

October 1, 2013 \$13,182,471
October 1, 2014 \$14,500,351
October 1, 2015 \$15,719,506
October 1, 2016 \$17,235,291
October 1, 2017 \$19,474,289
October 1, 2018 \$22,382,042
October 1, 2019 \$25,329,900

\$8,155,956

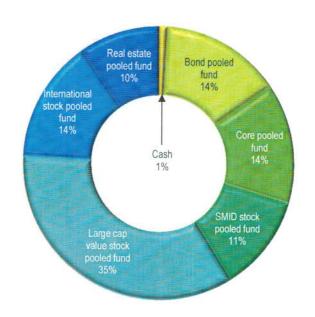


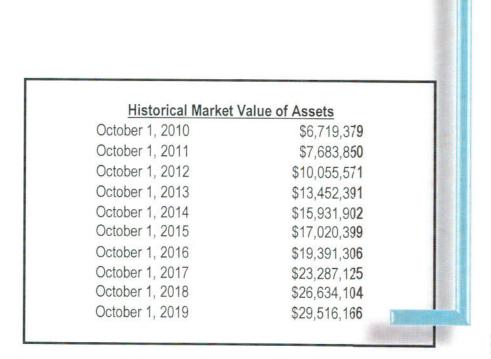
Market Value of Assets

Table II-B

As of October 1, 2019

Market Value of Assets	\$29,516,166
Cash	\$265,618
Bond pooled fund	\$4,249,893
Core pooled fund	\$4,220,380
SMID stock pooled fund	\$3,394,012
Large cap value stock pooled fund	\$10,241,062
International stock pooled fund	\$4,279,407
Real estate pooled fund	\$2,862,775
Employee contribution receivable	\$3,019

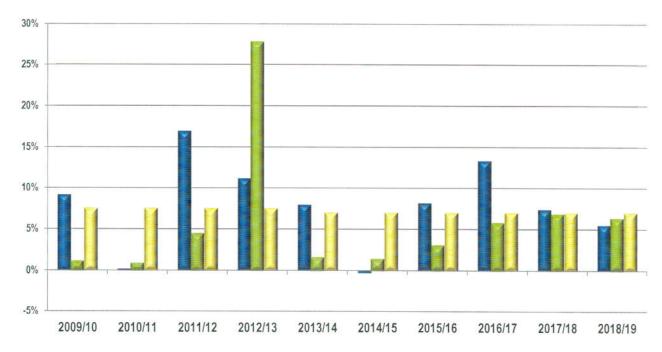






Investment Return

Table II-C



Annual Investment Returns

■ Market Value Return
Actuarial Value Return
Assumed Return Ass

Plan	Market Value	Actuarial Value	Assumed
Year	Return	Return	Return
2009/10	9.20%	1.21%	7.50%
2010/11	0.20%	0.94%	7.50%
2011/12	16.97%	4.51%	7.50%
2012/13	11.18%	27.83%	7.50%
2013/14	7.97%	1.64%	7.00%
2014/15	-0.25%	1.45%	7.00%
2015/16	8.17%	3.10%	7.00%
2016/17	13.40%	5.82%	7.00%
2017/18	7.41%	6.90%	7.00%
2018/19	5.54%	6.37%	7.00%
10yr. Avg.	7.86%	5.73%	7.20%



Asset Reconciliation		Table II-D
	Market Value	Actuarial Value
As of October 1, 2018	\$26,634,104	\$22,382,042
Increases Due To:		
Employer Contributions Chapter 175/185 Contributions Employee Contributions Share Plan Transfer Total Contributions	\$1,313,297 \$306,612 \$157,741 (\$38,801) \$1,738,849	\$1,313,297 \$306,612 \$157,741 (\$38,801) \$1,738,849
Interest and Dividends Realized Gains (Losses) Unrealized Gains (Losses) Total Investment Income	\$0 \$0 \$1,512,964 \$1,512,964	\$1,472,474
Other Income	\$0	
Total Income	\$3,251,813	\$3,211,323
Decreases Due To:		
Monthly Benefit Payments Refund of Employee Contributions DROP Credits Total Benefit Payments	(\$307,120) \$0 (\$307,120)	(\$307,120) \$0 \$23,757 (\$283,363)
Investment Expenses	\$0	(\$250,550)
Administrative Expenses	(\$62,631)	(\$62,631)
Advance Employer Contribution Excess Chapter 175/185 Contribution		\$82,529 \$0
Total Expenses	(\$369,751)	(\$263,465)
As of October 1, 2019	\$29,516,166	\$25,329,900



Historical Trust Fund Detail

Table II-E

				Share		Realized	Unrealized	
Plan	Employer	Chapter	Employee	Plan	Interest /	Gains /	Gains /	Other
Year	Contribs.	Contribs.	Contribs.	Transfer	Dividends	Losses	Losses	Income
2009/10	\$821,645	\$327,823	\$117,544	\$0	\$0	\$0	\$515,402	\$0
2010/11	\$890,424	\$336,261	\$122,143	-\$285,127	\$0	\$0	\$14,624	\$0
2011/12	\$720,076	\$267,811	\$125,340	\$0	\$0	\$0	\$1,387,118	\$0
2012/13	\$2,083,349	\$0	\$205,447	\$0	\$0	\$0	\$1,244,635	\$0
2013/14	\$839,232	\$654,290	\$134,012	-\$118,668	\$0	\$0	\$1,125,520	\$0
2014/15	\$871,489	\$345,330	\$146,502	-\$77,519	\$0	\$0	-\$40,658	\$0
2015/16	\$754,447	\$325,479	\$148,229	-\$57,668	\$0	\$0	\$1,428,448	\$0
2016/17	\$1,032,000	\$304,597	\$156,888	-\$36,786	\$0	\$0	\$2,679,023	\$0
2017/18	\$1,380,648	\$300,072	\$158,408	-\$32,261	\$0	\$0	\$1,782,592	\$0
2018/19	\$1,313,297	\$306,612	\$157,741	-\$38,801	\$0	\$0	\$1,512,964	\$0

Expenses					Other Ac	tuarial Ad	iustments
	Monthly					Advance	Excess
Plan	Benefit	Contrib.	Admin.	Invest.	DROP	Employer	Chapter
Year	Payments	Refunds	Expenses	Expenses	Credits	Contribs.	Contribs.
2009/10	\$18,305	\$13,843	\$28,578	\$0	\$0	\$51,134	\$276,689
2010/11	\$67,160	\$0	\$46,694	\$0	\$0	\$267,811	-\$1,405,798
2011/12	\$93,875	\$0	\$34,749	\$0	\$0	\$34,049	\$0
2012/13	\$93,875	\$0	\$42,736	\$0	\$0	-\$267,668	\$0
2013/14	\$93,875	\$8,546	\$52,454	\$0	\$0	\$261,215	\$0
2014/15	\$93,875	\$0	\$62,772	\$0	\$0	\$126,972	\$0
2015/16	\$148,046	\$15,010	\$64,972	\$0	\$0	-\$70,663	\$0
2016/17	\$159,236	\$28,277	\$52,390	\$0	\$16,534	-\$270	\$0
2017/18	\$165,996	\$0	\$76,484	\$0	\$51,622	-\$3	\$0
2018/19	\$307,120	\$0	\$62,631	\$0	-\$23,757	-\$82,529	\$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

\$68,156	DROP Balance as of October 1, 2018
\$80,444	DROP Benefit Credits
\$4,419	DROP Investment Credits
(\$108,620)	DROP Benefits Paid Out
(\$23,757)	Net DROP Credit
\$44,399	DROP Balance as of October 1, 2019

Advance Employer Contribution

\$587,171	Advance Employer Contribution as of October 1, 2018
\$1,581,108	Additional Employer Contribution
(\$1,663,637)	Minimum Required Contribution
(\$82,529)	Net Increase in Advance Employer Contribution
\$504,642	Advance Employer Contribution as of October 1, 2019

Excess Chapter 175/185 Contribution

Excess Chapter 175/185 Contribution as of October 1, 2018	\$0
Additional Chapter 175/185 Contribution	\$306,612
Share Plan Transfer	(\$38,801)
Allowable Chapter 175/185 Contribution	(\$267,811)
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 Accumulate	d Excess Chapter 175/	185 Contribution	\$0
	Chapter 175	Chapter 175		
	Regular	Supplemental	Chapter 185	Allowable
	Distribution	Distribution	Distribution	<u>Amount</u>
1998 Distribution	\$0	\$0	\$0	\$0
1999 Distribution	\$0	\$0	\$0	\$0
2000 Distribution	\$17,375	\$0	\$0	\$0
2001 Distribution	\$44,684	\$0	\$0	\$0
2002 Distribution	\$82,744	\$0	\$0	(\$113,193)
2003 Distribution	\$104,260	\$0	\$0	(\$53,243)
2004 Distribution	\$140,205	\$0	\$0	(\$51,134)
2005 Distribution	\$185,628	\$0	\$0	(\$51,134)
2006 Distribution	\$269,186	\$0	\$0	(\$51,134)
2007 Distribution	\$288,552	\$42,518	\$0	(\$51,134)
2008 Distribution	\$328,893	\$44,799	\$0	(\$51,134)
2009 Distribution	\$327,823	\$0	\$0	(\$51,134)
2010 Distribution	\$333,647	\$2,614	\$0	(\$267,811)
2011 Distribution	\$338,804	\$0	\$0	(\$267,811)
2013 Distribution	\$654,290	\$0	\$0	(\$535,622)
2014 Distribution	\$345,330	\$0	\$0	(\$267,811)
2015 Distribution	\$325,479	\$0	\$0	(\$267,811)
2016 Distribution	\$304,597	\$0	\$0	(\$267,811)
2017 Distribution	\$300,072	\$0	\$0	(\$267,811)
2017 Distribution	\$306,612	\$0	\$0	(\$267,811)
Interest Adjustment				\$2,371
Transfer to Share Plan				(\$717,823)
One-Time Use				(\$1,189,121)

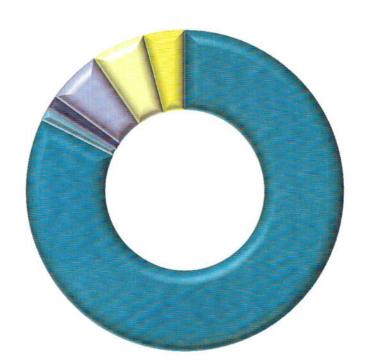


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Summary of Participant Data

Table III-A

As of October 1, 2019



Participant Distribution by Status

Actively Employed Participants Active Participants 60 **DROP** Participants 1 Inactive Participants **Deferred Vested Participants** Due a Refund of Contributions 4 Deferred Beneficiaries 0 Participants Receiving a Benefit Service Retirements 4 Disability Retirements 3 Beneficiaries Receiving 0

Total Participants

	Active	DROP	Inactive	Retired	Tota
October 1, 2010	51	0	3	2	5
October 1, 2011	50	0	3	4	5
October 1, 2012	50	0	4	4	5
October 1, 2013	53	0	6	4	6
October 1, 2014	51	0	7	4	6
October 1, 2015	59	0	7	4	7
October 1, 2016	60	0	5	6	7
October 1, 2017	57	1	5	5	68
October 1, 2018	59	1	5	6	7
October 1, 2019	60	1	5	7	73



Data Reconciliation

Table III-B

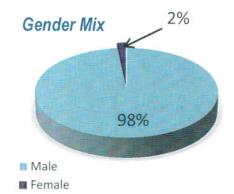
	<u>Active</u>	DROP	Deferred Vested	Due a Refund	Def. Benef.	Service Retiree	Disabled Retiree	Benef. Rec'v.	Total
October 1, 2018	59	1	1	4	0	3	3	0	71
Change in Status Re-employed Terminated Retired		(1)				1			
Participation Ended Transferred Out Cashed Out Died	(1)	1							
Participation Began Newly Hired Transferred In New Beneficiary	2								2
Other Adjustment									
October 1, 2019	60	1	1	4	0	4	3	0	73



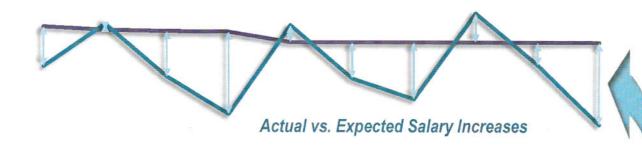
Active Participant Data

Table III-C

As of October 1, 2019



Average Age	41.8 years
Average Service	12.0 years
Total Annualized Compensation for the Prior Year	\$5,230,298
Total Expected Compensation for the Current Year	\$4,648,570
Average Increase in Compensation for the Prior Year	-0.37%
Expected Increase in Compensation for the Current Year	4.50%
Accumulated Contributions for Active Employees	\$1,679,816



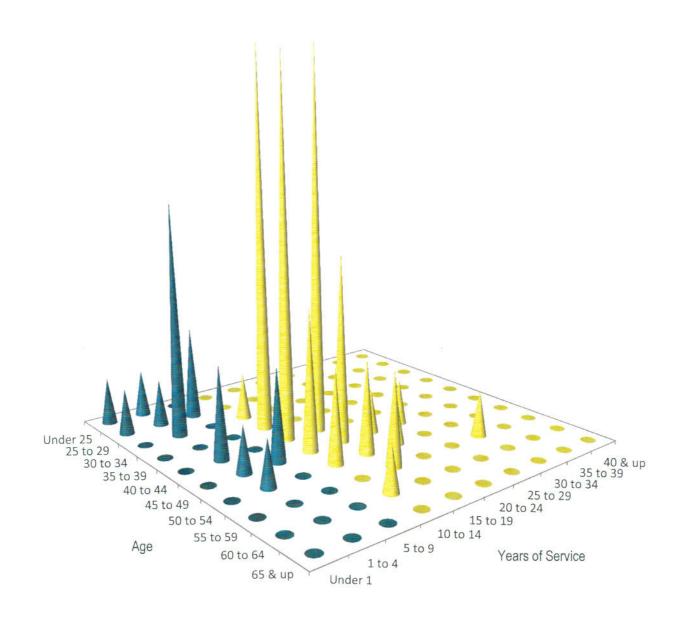
Active Participant Statistics From Prior Valuations

				Average	Average
				Expected	Actual
	Average	Average	Average	Salary	Salary
	Age	Service	Salary	Increase	Increase
October 1, 2010	36.5	7.1	\$76,456	5.41%	3.08%
October 1, 2011	36.8	7.5	\$82,281	5.22%	5.57%
October 1, 2012	37.4	8.2	\$82,097	5.14%	2.47%
October 1, 2013	38.4	8.9	\$81,233	5.11%	0.25%
October 1, 2014	39.1	9.5	\$85,793	4.50%	5.50%
October 1, 2015	38.6	9.4	\$81,492	4.50%	2.37%
October 1, 2016	40.0	10.1	\$82,872	4.50%	1.15%
October 1, 2017	41.1	11.2	\$89,329	4.50%	6.22%
October 1, 2018	41.6	11.5	\$89,582	4.50%	3.17%
October 1, 2019	41.8	12.0	\$87,172	4.50%	-0.37%



Active Age-Service Distribution

Table III-D



Eligible to retire
 May be eligible to retire
 Not eligible to retire



Active Age-Service-Salary Table

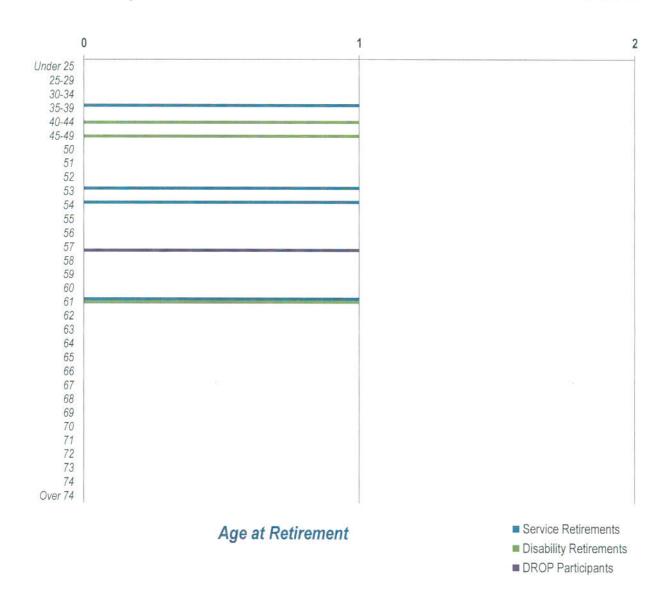
Table III-E

Attained					Complet	ed Years o	f Service				
Age	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up	Total
Under 25	1 1 070	1 10 000	0	0	0	0	0	0	0	0	2
Avg.Pay	41,676	48,206	0	0	0	0	0	0	0	0	44,941
25 to 29	1	1	2	0	0	0	0	0	0	0	4
Avg.Pay	41,676	74,722	80,794	0	0	0	0	0	0	0	69,496
	**				-		2001	8970			2.37.12.2
30 to 34	0	5	0	1	0	0	0	0	0	0	6
Avg.Pay	0	65,470	0	64,996	0	0	0	0	0	0	65,391
35 to 39			0								
Avg.Pay	0	0	0	8 87,280	0 0	0	0 0	0 0	0	0	07.000
Avg.r ay	0 1	0	0	07,200	U	U	U	U	0	0	87,280
40 to 44	0	2	0	8	8	0	0	0	0	0	18
Avg.Pay	0	56,528	0	88,722	94,869	0	0	0	0	0	87,877
45 to 49	0	1	2	3	4	1	1	0	0	0	12
Avg.Pay	0	69,888	76,091	89,835	89,509	139,893	111,204	0	0	0	91,726
50 to 54		,	0			,					
Avg.Pay	0 0	87,360	0 0	2 86,909	2 93,374	1 151,027	0 0	0	0 0	0	99,825
Avg.ray		07,000	U	00,303	33,314	131,021	U	U	U	U	99,823
55 to 59	0	0	0	0	2	0	0	1	0	0	3
Avg.Pay	0	0	0	0	130,611	0	0	111,204	0	0	124,142
60 to 64	0	0	0	1	0	0	0	0	0	0	1
Avg.Pay	0	0	0	117,978	0	0	0	0	0	0	117,978
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
										J	J
Total	2	11	4	23	16	2	1	1	0	0	60
Avg.Pay	41,676	65,507	78,442	88,448	97,810	145,460	111,204	111,204	0	0	87,172



Inactive Participant Data

Table III-F



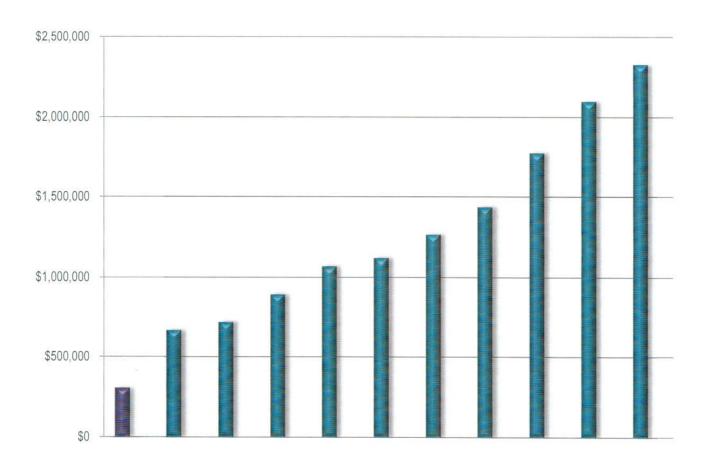
Average Monthly Benefit

Service Retirements	\$2,726.88
Disability Retirements	\$2,902.15
Beneficiaries Receiving	Not applicable
DROP Participants	\$5,447.14
Deferred Vested Participants	\$3,646.34
Deferred Beneficiaries	Not applicable



Projected Benefit Payments

Table III-G



<u>Actual</u>	
For the period October 1, 2018 through September 30, 2019	\$307,120

Projected

Trojecteu	
For the period October 1, 2019 through September 30, 2020	\$669,592
For the period October 1, 2020 through September 30, 2021	\$721,996
For the period October 1, 2021 through September 30, 2022	\$895,713
For the period October 1, 2022 through September 30, 2023	\$1,069,465
For the period October 1, 2023 through September 30, 2024	\$1,121,219
For the period October 1, 2024 through September 30, 2025	\$1,264,974
For the period October 1, 2025 through September 30, 2026	\$1,436,387
For the period October 1, 2026 through September 30, 2027	\$1,777,107
For the period October 1, 2027 through September 30, 2028	\$2,097,047
For the period October 1, 2028 through September 30, 2029	\$2,325,360



Summary of Actuarial Methods and Assumptions

Table IV-A

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

1. Actuarial Cost Method

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

2. Asset Method

The actuarial value of assets is equal to the market value of assets, adjusted to reflect a five-year phase-in of the net investment gains and losses that occur after September 30, 2013.

3. Interest (or Discount) Rate

7.00% per annum

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.

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; all 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 whose normal retirement age is age 53 or earlier, retirement is assumed to occur at the rate of 15% at age 50, 10% at each of ages 51 and 52, and 100% at the earlier of age 53 or normal retirement age. For those participants whose normal retirement age is age 54 or later, retirement is assumed to occur at the rate of 15% at each of ages 50 through 54 and 100% at age 55, except that 40% retirement is assumed to occur at a normal retirement age of 54.

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 10 years of service are assumed to receive a refund of their accumulated employee contributions.

7. Expenses

The total projected benefit liability has been loaded by 1.75% to account for anticipated administrative expenses. In addition, the interest rate set forth in item 3. above is assumed to be net of investment expenses and commissions.



Changes in Actuarial Methods and Assumptions

Table IV-B

No assumptions or methods were changed since the completion of the previous valuation.

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

- (1) Effective October 1, 2018, the mortality basis was changed from the RP-2000 Combined Mortality Table to the RP-2000 Blue Collar Mortality Table, both with full generational improvements 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 method used to determine the actuarial value of assets was changed from the market value, adjusted to reflect a five-year phase-in of the net investment gains or losses, to the market value, adjusted to reflect a five-year phase-in of the net investment gains and losses that occur after September 30, 2013.
- (4) Effective October 1, 2013, the assumed interest rate was decreased from 7.50% per annum to 7.00% per annum.
- (5) Effective October 1, 2013, the assumed increase in future salaries was decreased from a range of rates (8.00% per year graded down to 5.00% per year, depending on service) to a flat 4.50% per year.
- (6) Effective October 1, 2013, the mortality basis was changed from the RP-2000 Mortality Table for annuitants, projected to 2007 by Scale AA, to the RP-2000 Mortality Table for annuitants, projected to 2015 by Scale AA, both as published by the Internal Revenue Service (IRS) for purposes of Internal Revenue Code (IRC) section 430.
- (7) Effective October 1, 2009, the administrative expense assumption was changed from a flat \$22,000 per year to a 1.75% loading of the total projected benefit liability.



Table V-A

Monthly Accrued Benefit

2.00% of Average Final Compensation multiplied by Credited Service earned prior to December 1, 2000 plus 3.70% of Average Final Compensation multiplied by Credited Service earned during the period December 1, 2000 through September 30, 2010 plus 3.00% of Average Final Compensation multiplied by Credited Service earned after September 30, 2010

2. Normal Retirement Age and Benefit

Age

Age 55 with at least 10 years of Credited Service; or Age 52 with at least 25 years of Credited Service

Amount

Monthly Accrued Benefit

Form of Payment

Actuarially increased single life annuity (optional);

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

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

Actuarially reduced 662/3% joint and contingent annuity (optional);

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

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

Social security level income annuity (optional):

Any other actuarially equivalent form of payment approved by the Board; or

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

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

3. Early Retirement Age and Benefit

Age

Any age with at least 10 years of Credited Service

Amount

Monthly Accrued Benefit (payable at Normal Retirement Age); or

Monthly Accrued Benefit reduced by 3% for each year by which the participant's Early Retirement Date precedes his Normal Retirement Date (payable at Early Retirement Age)

Form of Payment

Same as for Normal Retirement



Table V-A

(continued)

4. Service Incurred Disability Eligibility and Benefit

Eligibility

The participant is eligible if his disability was incurred during the course of his employment with the District.

Condition

The Board must find that the participant has a physical or mental condition resulting from bodily injury, disease, or a mental disorder which renders him incapable of employment as a firefighter.

Amount Payable

A monthly 10-year certain and life annuity equal to the larger of (a) or (b), as follows, but offset as necessary to preclude the total of the participant's worker's compensation, disability benefit, and other District-provided disability compensation from exceeding his Average Final Compensation:

- (a) Monthly Accrued Benefit; or
- (b) 42% of Average Final Compensation

Non-Service Incurred Disability Eligibility and Benefit

Eligibility

The participant must have earned at least 10 years of Credited Service if his disability was incurred other than during the course of his employment with the District.

Condition

Same as for a Service Incurred Disability Benefit

Amount Payable

A monthly 10-year certain and life annuity equal to the larger of (a) or (b), as follows, but offset as necessary to preclude the total of the participant's worker's compensation, disability benefit, and other District-provided disability compensation from exceeding his Average Final Compensation:

- (a) Monthly Accrued Benefit; or
- (b) 25% of Average Final Compensation

Delayed Retirement Age and Benefit

Age

After Normal Retirement Age

Amount

Monthly Accrued Benefit

Form of Payment

Same as for Normal Retirement



Table V-A

(continued)

Deferred Vested Benefit

Age

Any age with at least 10 years of Credited Service

Amount

Monthly Accrued Benefit (payable at Normal Retirement Age); or Monthly Accrued Benefit reduced by 3% for each year by which the participant's Early Retirement Date precedes his Normal Retirement Date (payable at Early Retirement Age)

Form of Payment

Same as for Normal Retirement

Pre-Retirement Death Benefit

In the case of the death of a vested participant prior to retirement, his beneficiary will receive the participant's Monthly Accrued Benefit payable for 10 years beginning on the participant's early or normal retirement date. In the case of the death of a non-vested participant prior to retirement, his beneficiary will receive the participant's Accumulated Contributions in lieu of any other benefits payable from the plan.

9. Average Final Compensation

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

10. Compensation

Fixed monthly compensation; annual compensation in excess of \$200,000 (as indexed) is excluded in accordance with Internal Revenue Code (IRC) §401(a)(17).

Credited Service

The elapsed time from the participant's date of hire until his date of termination, retirement, or death, provided that the participant made all required contributions, excluding leave conversions of unused accrued paid time off. Firefighters hired on or before December 1, 2000 who did not opt to participate in the plan until January 1, 2007 do not receive credit for service prior to 2007 unless they make a contribution equal to the full actuarial cost of their prior service. In addition, the participant may purchase up to five additional years of Credited Service for certain military service or other firefighter service by paying into the plan the full actuarial cost thereof, subject to the restrictions on such service purchases as set forth in the legal plan document.



Table V-A

(continued)

12. Participation Requirement

All full-time firefighters of the Estero Fire District who are hired after December 1, 2000 automatically become a participant in the plan on their date of hire. Firefighters hired on or before December 1, 2000 could elect to participate as of that date or were given an additional opportunity to participate effective January 1, 2007. The Fire Chief may irrevocably opt not to participate in the plan.

Accumulated Contributions

The Employee Contributions accumulated with no interest; if the participant terminates his employment with less than 10 years of Credited Service, he receives his Accumulated Contributions in lieu of any other benefits payable from the plan.

14. Participant Contribution

3.00% of earnings

15. Definition of Actuarially Equivalent

Interest Rate

7.00% per annum

Mortality Table

RP-2000 Mortality Table for annuitants, projected to 2015 by Scale AA, as published by the Internal Revenue Service (IRS) for purposes of Internal Revenue Code (IRC) section 430; male rates are used for the primary annuitant and female rates are used for the joint annuitant.

16. Plan Effective Date

December 1, 2000

17. Deferred Retirement Option Plan (DROP)

A participant who reaches his Normal Retirement Age is eligible to participate in the DROP for a period of up to 60 months. The DROP accounts are credited with interest at the rate of 6.50% per annum or based on the actual investment return on plan assets as elected by the participant.



Summary of Plan Amendments

Table V-B

Since the completion of the previous valuation, Resolution 2019-02 was adopted on April 4, 2019. This resolution made several changes to the plan's language to clarify the disability provisions and to preserve compliance with the requirements of the Internal Revenue Code and had no actuarial impact on the plan.

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

- (1) Effective during the 2015/16 plan year, the interest rate and mortality table used for actuarial equivalence was changed to the interest rate used to complete the most recently approved actuarial valuation of the plan and the RP-2000 Mortality Table for annuitants, projected to 2015 by Scale AA. (Resolution 2016-02)
- (2) Effective during the 2015/16 plan year, credited service excludes leave conversions of unused accrued paid time off. (Resolution 2016-02)
- (3) Effective during the 2015/16 plan year, a DROP participant may choose between receiving interest at a flat rate of 6.50% per annum or based on the actual investment return on plan assets and may change his election one time. (Resolution 2016-02)
- (4) Effective during the 2010/11 plan year, the plan was amended by a "stop/start" combination of resolutions. First, Resolution 2011-02 decreased benefits prospectively to the minimum benefits set forth in Chapter 175. Second, Resolution 2011-03 immediately increased benefits back to the previous level.
- (5) The benefit formula multiplier for service earned during the period December 1, 2000 through September 30, 2010 was increased to 3.70%. (Resolution 2011-03)
- (6) During the 2010/11 plan year, a share plan was added to receive excess Chapter 175 contributions. (Resolution 2011-03)

