

Retirement Plan for the Firefighters  
And Police Officers of the City of Valparaiso

Actuarial Valuation  
As of October 1, 2020

Determines the Contribution  
For the 2020/21 Fiscal Year



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April 12, 2021

## Introduction

This report presents the results of the October 1, 2020 actuarial valuation for the Retirement Plan for the Firefighters and Police Officers of the City of Valparaiso. The report is based on the participant data and asset information provided by the pension plan administrator and, except for a cursory review for reasonableness including a comparison to the data provided for the previous valuation, we have not attempted to verify the accuracy of this information.

The primary purpose of this report is to provide a summary of the funded status of the plan as of October 1, 2020 and to determine the minimum required contribution under Chapter 112, Florida Statutes, for the 2020/21 plan year. In addition, this report provides a projection of the long-term funding requirements of the plan, statistical information concerning the assets held in the trust, statistical information concerning the participant population, and a summary of any recent plan changes.

The liabilities and cost presented in this report are based on numerous assumptions concerning the cost of benefits to be provided in the future, long-term investment returns, and the future demographic experience of the current participants. Anyone referring to this report should remember that the cost developed herein is only an *estimate* of the true cost of providing post-employment pension benefits. No one can predict with certainty whether the true cost will be higher or lower than the cost presented in this report. The calculated cost is entirely dependent upon the assumptions that are described in Table IV-A. If any of the assumptions is changed, then the cost shown in this report will change accordingly. Likewise, if any of the assumptions is not completely realized, then the cost shown in this report will change in the future.

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

## Minimum Required Contribution

Table I-A shows the development of the minimum required contribution for the 2020/21 plan year. The minimum required contribution rate is 16.16% of covered payroll, which represents an increase of 0.29% of payroll from the prior valuation.

The normal cost rate is 15.58%, which is 0.28% of payroll higher than the normal cost rate that was developed in the prior valuation. Table I-C provides a breakdown of the sources of change in the normal cost rate. Significantly, the rate increased by 0.06% of payroll due to investment shortfalls, increased by another 2.20% of payroll due to demographic experience, and decreased by 1.98% of payroll due to the assumption change that is described below. The market value of assets only earned 6.50% during the 2019/20 plan year, whereas a 7.00% annual investment return was required to maintain a stable contribution rate.



Chapter 112, Florida Statutes, sets forth the rules concerning the minimum required contribution for public pension plans within the state. Essentially, the City must contribute an amount equal to the annual normal cost of the plan plus an adjustment as necessary to reflect interest on any delayed payment of the contribution beyond the valuation date. On this basis, the City's 2020/21 minimum required contribution will be equal to 16.16% 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 \$3,987,163. As illustrated in Table I-A, current assets are sufficient to cover \$3,104,039 of this amount, the employer's 2020/21 expected contribution will cover \$69,403 of this amount, and future employee contributions are expected to cover \$100,468 of this amount, leaving \$713,253 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 City has made contributions to the plan in excess of the minimum amount that was required to be contributed pursuant to Chapter 112. In this report, the excess contributions are referred to as an "advance employer contribution." As of October 1, 2020, the advance employer contribution is \$186,715, which reflects the advance employer contribution of \$162,397 as of October 1, 2019 plus \$24,318 of actual employer contributions in excess of the minimum required contribution for the 2019/20 plan year as shown in Table II-F.

The City may apply all or any portion of the advance employer contribution towards the minimum required contribution for the 2020/21 plan year or for any later plan year. The minimum required contribution for that plan year will be reduced dollar-for-dollar by the amount of the advance employer contribution that is applied in this manner.

Alternatively, at any time, the City may apply all or any portion of the advance employer contribution as an *extra* contribution in excess of the minimum required contribution. In this case, the immediate application of the entire balance of the advance employer contribution as of October 1, 2020 would reduce the normal cost rate to 11.86% of payroll and would reduce the minimum required contribution for the 2020/21 plan year to 12.30% of payroll.

#### Excess Chapter 175/185 Contributions

As of October 1, 2020, the plan has no accumulated excess Chapter 175/185 contributions, as shown in Table II-F. The accumulated excess Chapter 175/185 contribution as of October 1, 2020 is equal to the accumulated excess Chapter 175/185 contribution balance of zero as of October 1, 2019 plus the total distribution received during the 2019/20 plan year minus the portion of the distribution that is allowed to be used to offset the City's minimum required contribution. The total Chapter 175/185 distribution received during the 2019/20 plan year was \$73,269, which consisted of \$17,224 of Chapter 175 distributions and \$56,045 of Chapter 185 distributions. All of the 2019/20 distribution was allowed to be





applied as an offset to the City's minimum required contribution for that period. Table II-G provides a history of the Chapter 175/185 contributions and the portion that is allowed to be recognized.

### Actuarial Assumption Change

Since the completion of the previous valuation, the mortality basis was changed from the RP-2000 Blue Collar Mortality Table with generational improvements in mortality using Scale BB to selected PUB-2010 Mortality Tables with generational improvements in mortality using Scale MP-2018. The impact of this assumption change was to decrease the normal cost rate by 1.98% of payroll.

### Identification and Assessment of Risk

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

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

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



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

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

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

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

### Contents of the Report

Tables I-D through I-G provide a detailed breakdown of various liability amounts by type of benefit and by participant group. Tables II-A through II-F provide information concerning the assets of the trust fund. Tables III-A through III-G provide statistical information concerning the plan's participant population. In particular, Table III-G gives a 10-year projection of the cash that is expected to be required from the trust fund in order to pay benefits to the current group of participants. Finally, Tables IV-A through V-B provide a summary of the actuarial assumptions and methods that are used to value the plan's benefits and of the relevant plan provisions as of October 1, 2020, as well as a summary of the changes that have occurred since the previous valuation report was prepared.

### Certification

This actuarial valuation was prepared by me or under my direct supervision and I acknowledge responsibility for the results. To the best of my knowledge, the results are complete and accurate and, in my opinion, other than the required changes in actuarial assumptions discussed above, 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.

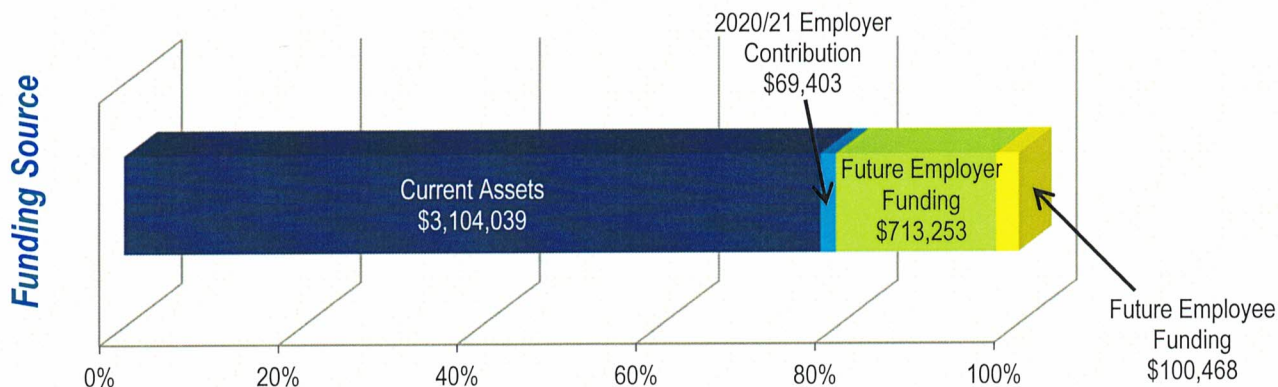
Enrolled Actuary No. 20-04927

*The individual above is a member of the American Academy of Actuaries and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.*



Minimum Required Contribution

Table I-A



**For the 2020/21 Plan Year**

Present Value of Future Benefits	\$3,874,137
Present Value of Future Administrative Expenses	\$113,026
Actuarial Value of Assets	(\$3,104,039)
Present Value of Future Employee Contributions	(\$100,468)
Present Value of Future Normal Costs	\$782,656
Present Value of Future Payroll	÷ \$5,023,361
Normal Cost Rate	= 15.5803%
Expected Payroll	x \$429,503
Normal Cost	\$66,918
Adjustment to Reflect Monthly Employer Contributions	\$2,485
Preliminary Employer Contribution for the 2020/21 Plan Year	\$69,403
Expected Payroll for the 2020/21 Plan Year	÷ \$429,503

**Minimum Required Contribution Rate** **16.16%**

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



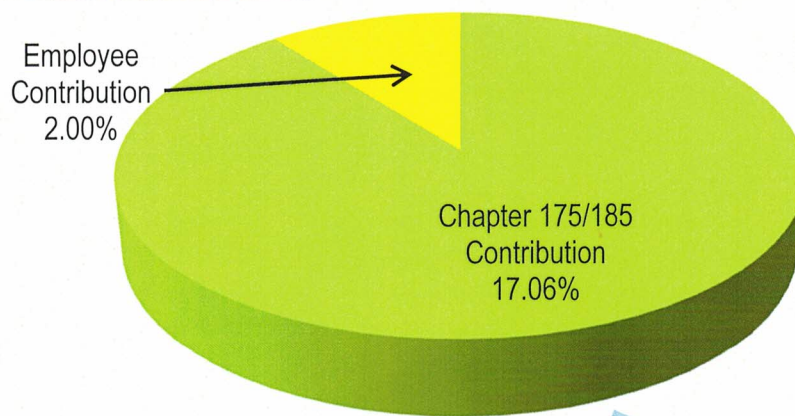


# Minimum Required Contribution

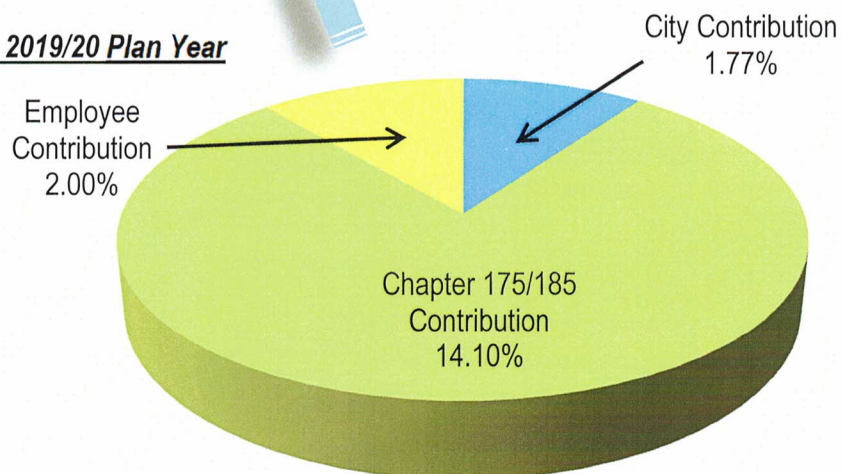
Table I-A  
(continued)

The minimum required contribution rate of 16.16% includes both the City contribution and the allowable Chapter 175/185 contribution. In addition, employees are required to contribute 2.00% of pensionable earnings. The actual City contribution rate is expected to be approximately 0.00% based on the allowable Chapter 175/185 contribution for the previous year. The chart below shows the expected contribution rate by source for the 2020/21 plan year based on the expected payroll. A comparative chart shows the contribution rate by source for the previous plan year.

## For the 2020/21 Plan Year

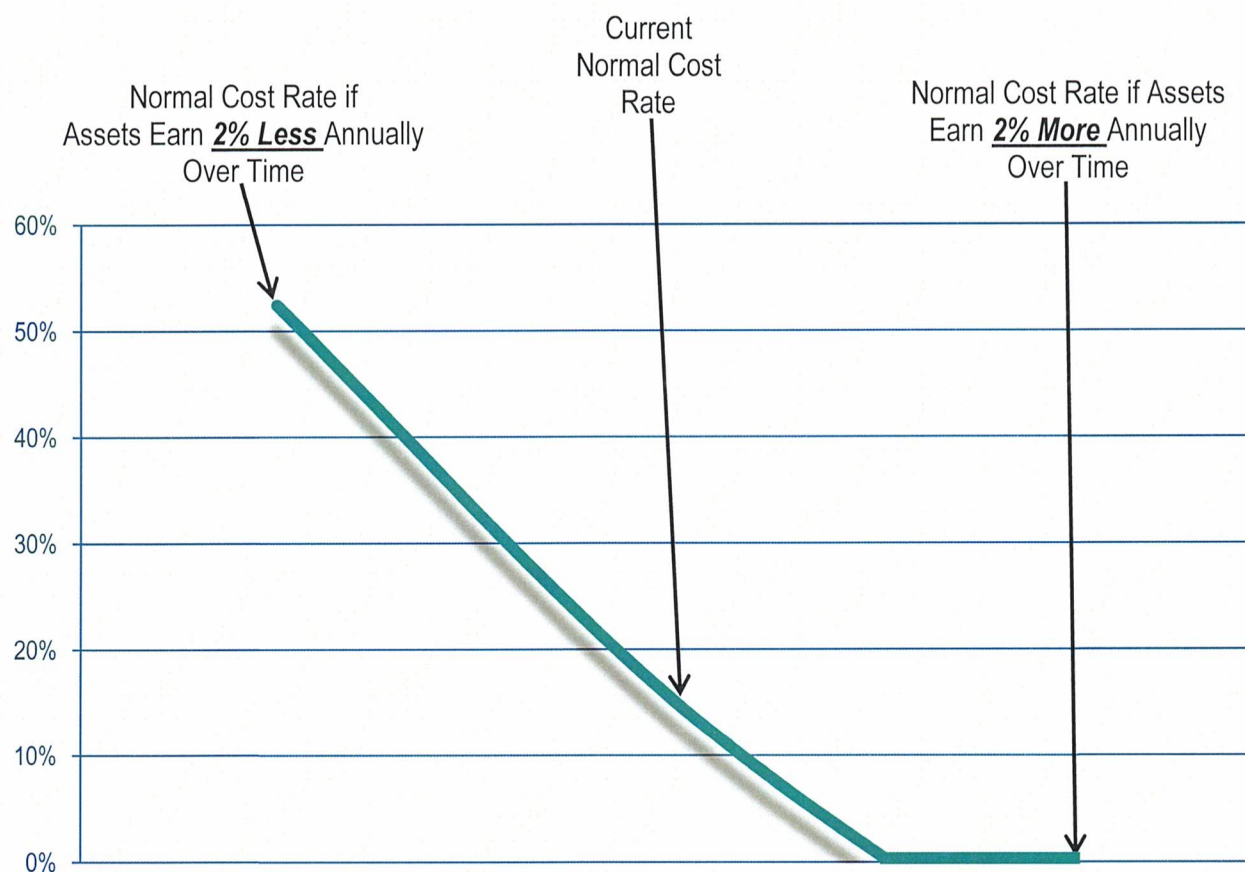


## For the 2019/20 Plan Year



## Sensitivity Analysis

Table I-B



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





## Gain and Loss Analysis

Table I-C

Previous normal cost rate	15.30%
Increase (decrease) due to investment gains and losses	0.06%
Increase (decrease) due to demographic experience	2.20%
Increase (decrease) due to plan amendments	0.00%
Increase (decrease) due to actuarial assumption changes	-1.98%
Increase (decrease) due to actuarial method changes	0.00%
Current normal cost rate	<u>15.58%</u>

**Reconciliation of the Present Value of Accrued Benefits**

Present Value of Accrued Benefits as of October 1, 2019	\$1,721,174
Increase (Decrease) During the Plan Year Due to:	
Interest	\$120,482
Benefits accumulated	-\$1,754
Benefits paid	\$52,468
Plan amendments	\$0
Changes in actuarial assumptions or methods	<u>-\$59,515</u>
Net increase (decrease)	\$111,681
Present Value of Accrued Benefits as of October 1, 2020	\$1,832,855



## Present Value of Future Benefits

Table I-D

	Old Assumptions <u>w/o Amendment</u>	Old Assumptions <u>w/ Amendment</u>	New Assumptions <u>w/ Amendment</u>
<u>Actively Employed Participants</u>			
Retirement benefits	\$3,184,227	\$3,184,227	\$3,121,628
Termination benefits	\$0	\$0	\$0
Disability benefits	\$0	\$0	\$0
Death benefits	\$0	\$0	\$0
Refund of employee contributions	\$0	\$0	\$0
Sub-total	<b>\$3,184,227</b>	<b>\$3,184,227</b>	<b>\$3,121,628</b>
<u>Deferred Vested Participants</u>			
Retirement benefits	\$94,008	\$94,008	\$91,431
Termination benefits	\$0	\$0	\$0
Disability benefits	\$0	\$0	\$0
Death benefits	\$0	\$0	\$0
Refund of employee contributions	\$0	\$0	\$0
Sub-total	<b>\$94,008</b>	<b>\$94,008</b>	<b>\$91,431</b>
<u>Due a Refund of Contributions</u>	<b>\$5,358</b>	<b>\$5,358</b>	<b>\$5,358</b>
<u>Deferred Beneficiaries</u>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<u>Retired Participants</u>			
Service retirements	\$589,005	\$589,005	\$569,931
Disability retirements	\$99,004	\$99,004	\$85,789
Beneficiaries receiving	\$0	\$0	\$0
DROP participants	\$0	\$0	\$0
Sub-total	<b>\$688,009</b>	<b>\$688,009</b>	<b>\$655,720</b>
<u>Grand Total</u>	<b><u>\$3,971,602</u></b>	<b><u>\$3,971,602</u></b>	<b><u>\$3,874,137</u></b>
Present Value of Future Payroll	\$5,023,361	\$5,023,361	\$5,023,361
Present Value of Future Employee Contribs.	\$100,468	\$100,468	\$100,468
Present Value of Future Employer Contribs.	\$842,445	\$842,445	\$782,656





## 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	\$1,104,995	\$1,104,995	\$1,080,346
Termination benefits	\$0	\$0	\$0
Disability benefits	\$0	\$0	\$0
Death benefits	\$0	\$0	\$0
Refund of employee contributions	\$0	\$0	\$0
Sub-total	<b>\$1,104,995</b>	<b>\$1,104,995</b>	<b>\$1,080,346</b>
<u>Deferred Vested Participants</u>			
Retirement benefits	\$94,008	\$94,008	\$91,431
Termination benefits	\$0	\$0	\$0
Disability benefits	\$0	\$0	\$0
Death benefits	\$0	\$0	\$0
Refund of employee contributions	\$0	\$0	\$0
Sub-total	<b>\$94,008</b>	<b>\$94,008</b>	<b>\$91,431</b>
<u>Due a Refund of Contributions</u>	<b>\$5,358</b>	<b>\$5,358</b>	<b>\$5,358</b>
<u>Deferred Beneficiaries</u>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<u>Retired Participants</u>			
Service retirements	\$589,005	\$589,005	\$569,931
Disability retirements	\$99,004	\$99,004	\$85,789
Beneficiaries receiving	\$0	\$0	\$0
DROP participants	\$0	\$0	\$0
Sub-total	<b>\$688,009</b>	<b>\$688,009</b>	<b>\$655,720</b>
<u>Grand Total</u>	<b><u>\$1,892,370</u></b>	<b><u>\$1,892,370</u></b>	<b><u>\$1,832,855</u></b>
<u>Funded Percentage</u>	173.90%	173.90%	179.54%

(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
<u>Actively Employed Participants</u>			
Retirement benefits	\$1,008,979	\$1,008,979	\$985,904
Termination benefits	\$0	\$0	\$0
Disability benefits	\$0	\$0	\$0
Death benefits	\$0	\$0	\$0
Refund of employee contributions	\$0	\$0	\$0
Sub-total	<b>\$1,008,979</b>	<b>\$1,008,979</b>	<b>\$985,904</b>
<u>Deferred Vested Participants</u>			
Retirement benefits	\$94,008	\$94,008	\$91,431
Termination benefits	\$0	\$0	\$0
Disability benefits	\$0	\$0	\$0
Death benefits	\$0	\$0	\$0
Refund of employee contributions	\$0	\$0	\$0
Sub-total	<b>\$94,008</b>	<b>\$94,008</b>	<b>\$91,431</b>
<u>Due a Refund of Contributions</u>	<b>\$5,358</b>	<b>\$5,358</b>	<b>\$5,358</b>
<u>Deferred Beneficiaries</u>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<u>Retired Participants</u>			
Service retirements	\$589,005	\$589,005	\$569,931
Disability retirements	\$99,004	\$99,004	\$85,789
Beneficiaries receiving	\$0	\$0	\$0
DROP participants	\$0	\$0	\$0
Sub-total	<b>\$688,009</b>	<b>\$688,009</b>	<b>\$655,720</b>
<u>Grand Total</u>	<b><u>\$1,796,354</u></b>	<b><u>\$1,796,354</u></b>	<b><u>\$1,738,413</u></b>



## Entry Age Normal Accrued Liability

Table I-G

	Old Assumptions <u>w/o Amendment</u>	Old Assumptions <u>w/ Amendment</u>	New Assumptions <u>w/ Amendment</u>
<i><u>Actively Employed Participants</u></i>			
Retirement benefits	\$1,567,926	\$1,567,926	\$1,535,284
Termination benefits	\$0	\$0	\$0
Disability benefits	\$0	\$0	\$0
Death benefits	\$0	\$0	\$0
Refund of employee contributions	\$0	\$0	\$0
Sub-total	<b>\$1,567,926</b>	<b>\$1,567,926</b>	<b>\$1,535,284</b>
<i><u>Deferred Vested Participants</u></i>			
Retirement benefits	\$94,008	\$94,008	\$91,431
Termination benefits	\$0	\$0	\$0
Disability benefits	\$0	\$0	\$0
Death benefits	\$0	\$0	\$0
Refund of employee contributions	\$0	\$0	\$0
Sub-total	<b>\$94,008</b>	<b>\$94,008</b>	<b>\$91,431</b>
<i><u>Due a Refund of Contributions</u></i>	<b>\$5,358</b>	<b>\$5,358</b>	<b>\$5,358</b>
<i><u>Deferred Beneficiaries</u></i>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<i><u>Retired Participants</u></i>			
Service retirements	\$589,005	\$589,005	\$569,931
Disability retirements	\$99,004	\$99,004	\$85,789
Beneficiaries receiving	\$0	\$0	\$0
DROP participants	\$0	\$0	\$0
Sub-total	<b>\$688,009</b>	<b>\$688,009</b>	<b>\$655,720</b>
<i><u>Grand Total</u></i>	<b><u>\$2,355,301</u></b>	<b><u>\$2,355,301</u></b>	<b><u>\$2,287,793</u></b>





## Actuarial Value of Assets

Table II-A

Market Value of Assets as of October 1, 2020	\$3,290,754
Minus DROP account balances	\$0
Minus advance employer contributions	(\$186,715)
Minus excess Chapter 175/185 contributions	\$0
<b>Actuarial Value of Assets as of October 1, 2020</b>	<b><u>\$3,104,039</u></b>

**Historical Actuarial Value of Assets**

October 1, 2011	\$850,835
October 1, 2012	\$1,124,489
October 1, 2013	\$1,462,799
October 1, 2014	\$1,796,393
October 1, 2015	\$1,829,567
October 1, 2016	\$2,054,730
October 1, 2017	\$2,426,217
October 1, 2018	\$2,701,404
October 1, 2019	\$2,875,664
October 1, 2020	\$3,104,039

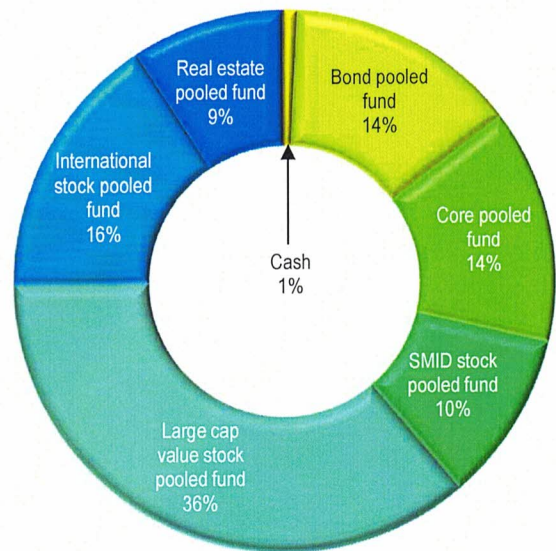


## Market Value of Assets

Table II-B

As of October 1, 2020

<b>Market Value of Assets</b>	<b><u>\$3,290,754</u></b>
Cash	\$26,298
Bond pooled fund	\$456,933
Core pooled fund	\$460,221
SMID stock pooled fund	\$335,304
Large cap value stock pooled fund	\$1,186,711
International stock pooled fund	\$522,679
Real estate pooled fund	\$299,143
Employer contribution receivable	\$2,650
Employee contribution receivable	\$815

Historical Market Value of Assets

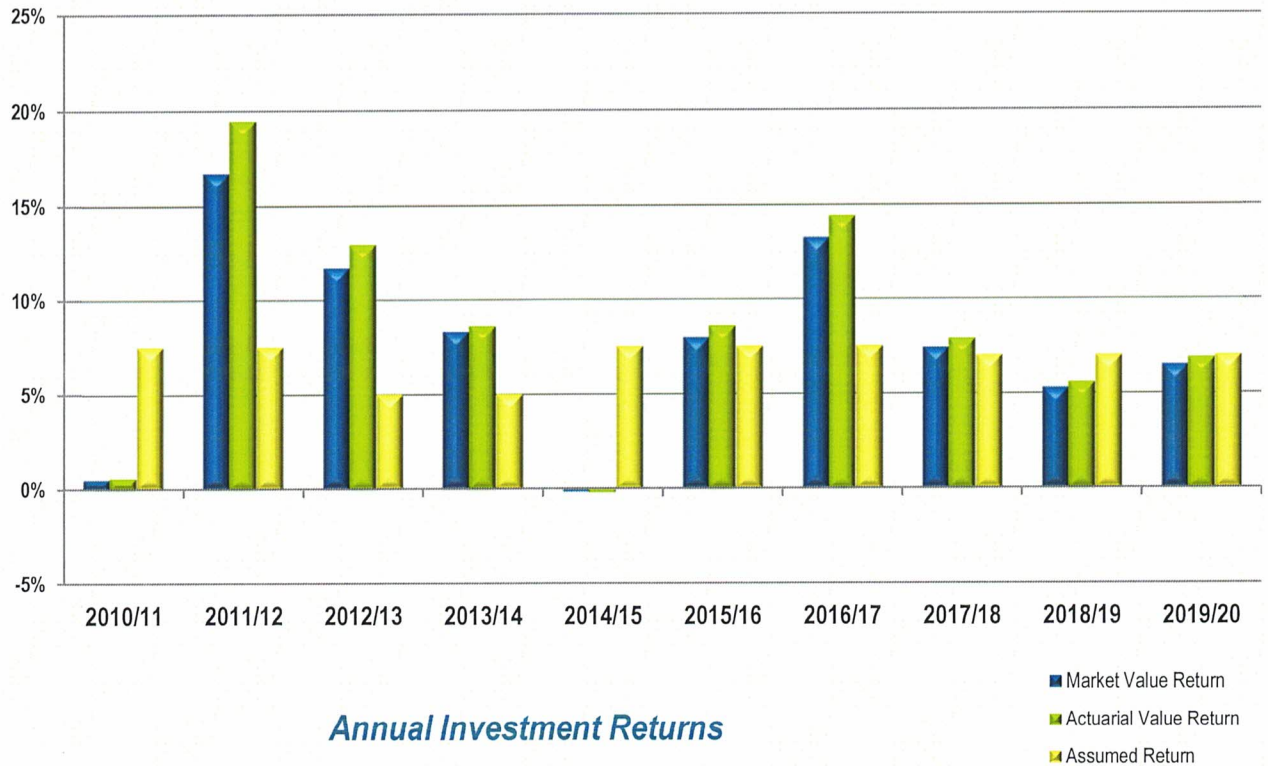
October 1, 2011	\$989,370
October 1, 2012	\$1,280,770
October 1, 2013	\$1,559,076
October 1, 2014	\$1,812,495
October 1, 2015	\$1,934,195
October 1, 2016	\$2,231,926
October 1, 2017	\$2,602,756
October 1, 2018	\$2,852,643
October 1, 2019	\$3,038,061
October 1, 2020	\$3,290,754





## Investment Return

Table II-C



Plan	Market Value	Actuarial Value	Assumed
<u>Year</u>	<u>Return</u>	<u>Return</u>	<u>Return</u>
2010/11	0.53%	0.63%	7.50%
2011/12	16.71%	19.44%	7.50%
2012/13	11.71%	12.93%	5.00%
2013/14	8.32%	8.62%	5.00%
2014/15	-0.14%	-0.15%	7.50%
2015/16	7.99%	8.60%	7.50%
2016/17	13.28%	14.41%	7.50%
2017/18	7.42%	7.91%	7.00%
2018/19	5.30%	5.60%	7.00%
2019/20	6.50%	6.89%	7.00%
10yr. Avg.	7.65%	8.34%	6.85%



## Asset Reconciliation

Table II-D

	<u>Market Value</u>	<u>Actuarial Value</u>
As of October 1, 2019	\$3,038,061	\$2,875,664
<i><b>Increases Due To:</b></i>		
Employer Contributions	\$33,504	\$33,504
Chapter 175/185 Contributions	\$73,269	\$73,269
Employee Contributions	\$10,392	\$10,392
Service Purchase Contributions	\$0	\$0
Total Contributions	<u>\$117,165</u>	<u>\$117,165</u>
Interest and Dividends	\$0	
Realized Gains (Losses)	\$0	
Unrealized Gains (Losses)	\$199,174	
Total Investment Income	<u>\$199,174</u>	\$199,174
Other Income	\$0	
<b>Total Income</b>	<u><b>\$316,339</b></u>	<u><b>\$316,339</b></u>
<i><b>Decreases Due To:</b></i>		
Monthly Benefit Payments	(\$52,468)	(\$52,468)
Refund of Employee Contributions	\$0	\$0
DROP Credits		\$0
Total Benefit Payments	<u>(\$52,468)</u>	<u>(\$52,468)</u>
Investment Expenses	\$0	
Administrative Expenses	(\$11,178)	(\$11,178)
Advance Employer Contribution		(\$24,318)
Excess Chapter 175/185 Contribution		\$0
<b>Total Expenses</b>	<u><b>(\$63,646)</b></u>	<u><b>(\$87,964)</b></u>
As of October 1, 2020	<u><u><b>\$3,290,754</b></u></u>	<u><u><b>\$3,104,039</b></u></u>



## Historical Trust Fund Detail

Table II-E

Income

Plan	Employer	Chapter	Employee	Service		Realized	Unrealized	Other
<u>Year</u>	<u>Contribs.</u>	<u>Contribs.</u>	<u>Contribs.</u>	<u>Contribs.</u>	<u>Dividends</u>	<u>Gains / Losses</u>	<u>Gains / Losses</u>	<u>Income</u>
2010/11	\$58,088	\$62,996	\$7,256	\$0	\$0	\$0	\$4,920	\$0
2011/12	\$59,824	\$63,127	\$7,477	\$0	\$0	\$0	\$175,024	\$0
2012/13	\$65,880	\$65,803	\$8,088	\$0	\$0	\$0	\$157,135	\$0
2013/14	\$76,499	\$69,967	\$9,563	\$0	\$0	\$0	\$134,621	\$0
2014/15	\$82,834	\$70,759	\$10,255	\$0	\$0	\$0	-\$2,633	\$0
2015/16	\$83,738	\$83,011	\$10,430	\$0	\$0	\$0	\$160,112	\$0
2016/17	\$31,928	\$67,934	\$10,283	\$0	\$0	\$0	\$301,095	\$0
2017/18	\$17,120	\$67,801	\$11,218	\$0	\$0	\$0	\$195,052	\$0
2018/19	\$24,851	\$72,936	\$9,980	\$0	\$0	\$0	\$152,009	\$0
2019/20	\$33,504	\$73,269	\$10,392	\$0	\$0	\$0	\$199,174	\$0

Expenses

Plan	Monthly						
<u>Year</u>	<u>Benefit Payments</u>	<u>Contrib. Refunds</u>	<u>Admin. Expenses</u>	<u>Invest. Expenses</u>	<u>DROP Credits</u>	<u>Advance Employer Contribs.</u>	<u>Excess Chapter Contribs.</u>
2010/11	\$7,487	\$2,163	\$2,894	\$0	\$0	-\$18,674	\$0
2011/12	\$7,487	\$0	\$6,565	\$0	\$0	\$17,746	\$0
2012/13	\$7,487	\$4,743	\$6,370	\$0	\$0	-\$60,004	\$0
2013/14	\$21,923	\$10,074	\$5,234	\$0	\$0	-\$80,175	\$0
2014/15	\$29,141	\$0	\$10,374	\$0	\$0	\$88,526	\$0
2015/16	\$29,574	\$465	\$9,521	\$0	\$0	\$72,568	\$0
2016/17	\$30,016	\$0	\$10,394	\$0	\$0	-\$657	\$0
2017/18	\$30,466	\$0	\$10,838	\$0	\$0	-\$25,300	\$0
2018/19	\$51,586	\$11,305	\$11,467	\$0	\$0	\$11,158	\$0
2019/20	\$52,468	\$0	\$11,178	\$0	\$0	\$24,318	\$0

Other Actuarial Adjustments

Note: Information was not available to separate the investment expenses from the investment income nor was information available to separate the investment income by source.





## Other Reconciliations

Table II-F

**Advance Employer Contribution**

Advance Employer Contribution as of October 1, 2019	\$162,397
Additional Employer Contribution	\$106,773
Minimum Required Contribution	(\$82,455)
Net Increase in Advance Employer Contribution	\$24,318
Advance Employer Contribution as of October 1, 2020	<u>\$186,715</u>

**Excess Chapter 175/185 Contribution**

Excess Chapter 175/185 Contribution as of October 1, 2019	\$0
Additional Chapter 175/185 Contribution	\$73,269
Allowable Chapter 175/185 Contribution	(\$73,269)
Net Increase in Excess Chapter 175/185 Contribution	\$0
Excess Chapter 175/185 Contribution as of October 1, 2020	<u>\$0</u>

**DROP Account Reconciliation**

DROP Balance as of October 1, 2019	\$0
DROP Benefits Paid	\$0
DROP Investment Return	\$0
DROP Expense Charge	\$0
Net DROP Credit	\$0
DROP Balance as of October 1, 2020	<u>\$0</u>



## Historical Chapter 175/185 Contributions

Table II-G

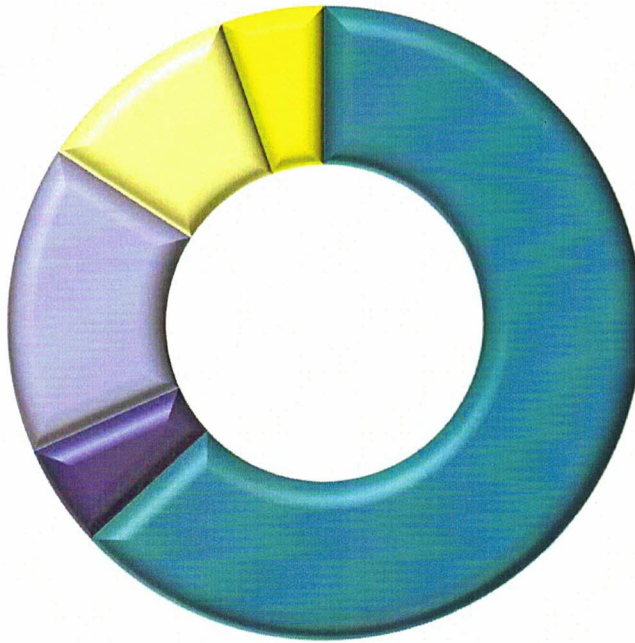
*Total Accumulated Excess Chapter 175/185 Contribution* \$0

	Chapter 175 Regular <u>Distribution</u>	Chapter 175 Supplemental <u>Distribution</u>	Chapter 185 <u>Distribution</u>	Allowable <u>Amount</u>
1998 Distribution	\$5,447	\$0	\$13,711	(\$17,629)
1999 Distribution	\$6,013	\$2,974	\$0	(\$5,674)
2000 Distribution	\$6,058	\$3,431	\$0	(\$5,674)
2001 Distribution	\$8,267	\$3,183	\$815	(\$6,489)
2002 Distribution	\$8,557	\$4,583	\$19,460	(\$25,134)
2003 Distribution	\$0	\$4,768	\$24,314	(\$26,070)
2004 Distribution	\$9,715	\$0	\$24,800	(\$28,718)
2005 Distribution	\$12,696	\$5,611	\$27,345	(\$33,019)
2006 Distribution	\$0	\$7,619	\$0	(\$54,871)
2007 Distribution	\$34,339	\$13,606	\$60,940	(\$108,885)
2008 Distribution	\$15,908	\$14,414	\$36,614	(\$66,936)
2009 Distribution	\$16,123	\$8,473	\$35,542	(\$60,138)
2010 Distribution	\$17,016	\$7,943	\$38,037	(\$62,996)
2011 Distribution	\$17,689	\$8,143	\$37,295	(\$63,127)
2012 Distribution	\$18,687	\$9,605	\$37,511	(\$65,803)
2013 Distribution	\$19,433	\$10,109	\$40,425	(\$69,967)
2014 Distribution	\$18,631	\$10,747	\$41,381	(\$70,759)
2015 Distribution	\$24,212	\$8,118	\$50,681	(\$83,011)
2016 Distribution	\$16,865	\$6,099	\$44,970	(\$67,934)
2017 Distribution	\$17,424	\$918	\$49,459	(\$67,801)
2018 Distribution	\$16,494	\$719	\$55,723	(\$72,936)
2019 Distribution	\$17,224	\$0	\$56,045	(\$73,269)
Interest Adjustment				\$3,911



## Summary of Participant Data

Table III-A

As of October 1, 2020Actively Employed Participants

Active Participants	12
DROP Participants	0

Inactive Participants

Deferred Vested Participants	1
Due a Refund of Contributions	3
Deferred Beneficiaries	0

Participants Receiving a Benefit

Service Retirements	2
Disability Retirements	1
Beneficiaries Receiving	0

**Total Participants 19**Number of Participants Included in Prior Valuations

	<i>Active</i>	<i>DROP</i>	<i>Inactive</i>	<i>Retired</i>	<i>Total</i>
October 1, 2011	10	0	2	1	13
October 1, 2012	10	0	2	1	13
October 1, 2013	N/A	N/A	N/A	N/A	N/A
October 1, 2014	11	0	1	2	14
October 1, 2015	12	0	2	2	16
October 1, 2016	12	0	2	2	16
October 1, 2017	13	0	3	2	18
October 1, 2018	11	0	5	3	19
October 1, 2019	11	0	3	3	17
October 1, 2020	12	0	4	3	19





## Data Reconciliation

Table III-B

	<u>Active</u>	<u>DROP</u>	<u>Deferred Vested</u>	<u>Due a Refund</u>	<u>Def. Benef.</u>	<u>Service Retiree</u>	<u>Disabled Retiree</u>	<u>Benef. Rec'v.</u>	<u>Total</u>
<u>October 1, 2019</u>	11	0	1	2	0	2	1	0	17
<u>Change in Status</u>									
Re-employed									
Terminated	(1)			1					
Retired									
<u>Participation Ended</u>									
Transferred Out									
Cashed Out									
Died									
<u>Participation Began</u>									
Newly Hired	2								2
Transferred In									
New Beneficiary									
<u>Other Adjustment</u>									
<u>October 1, 2020</u>	12	0	1	3	0	2	1	0	19

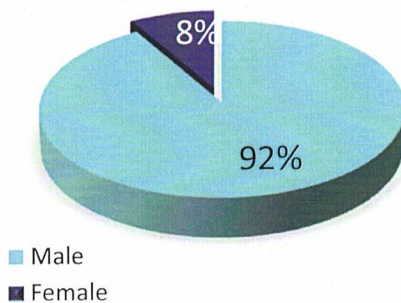


## Active Participant Data

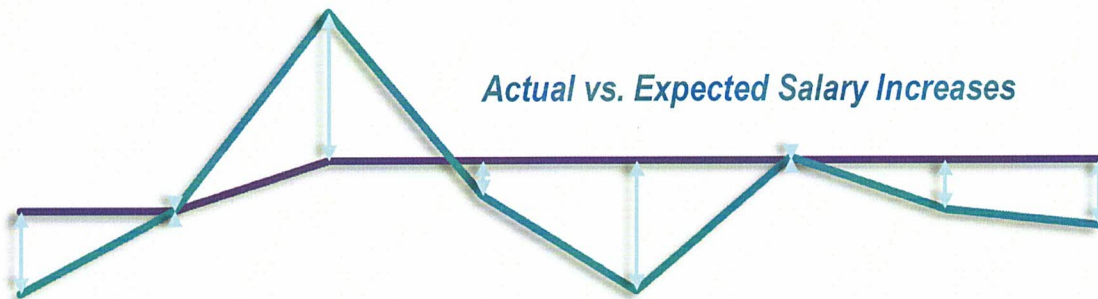
Table III-C

As of October 1, 2020

## Gender Mix



Average Age	42.6 years
Average Service	6.7 years
Total Annualized Compensation for the Prior Year	\$530,068
Total Expected Compensation for the Current Year	\$429,503
Average Increase in Compensation for the Prior Year	2.54%
Expected Increase in Compensation for the Current Year	4.50%



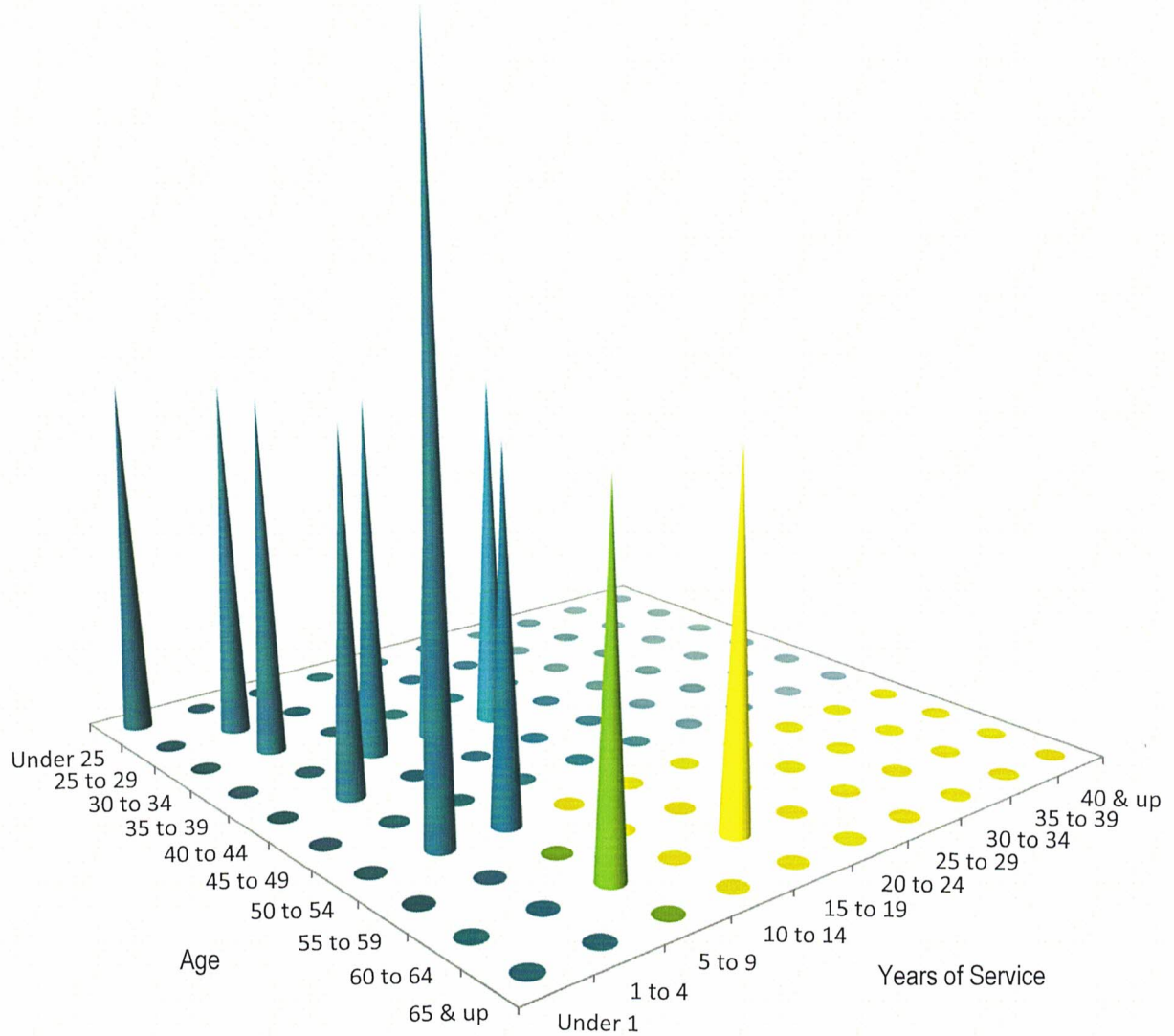
## Active Participant Statistics From Prior Valuations

	Average Age	Average Service	Average Salary	Average Expected Salary Increase	Average Actual Salary Increase
October 1, 2011	37.6	4.6	\$32,525	5.75%	1.19%
October 1, 2012	38.6	5.6	\$37,390	5.75%	1.41%
October 1, 2013	N/A	N/A	N/A	3.00%	0.52%
October 1, 2014	39.4	4.8	\$38,257	3.00%	3.01%
October 1, 2015	41.1	5.4	\$40,791	4.50%	8.95%
October 1, 2016	42.1	6.1	\$41,838	4.50%	3.44%
October 1, 2017	44.2	5.7	\$39,609	4.50%	0.60%
October 1, 2018	43.5	6.2	\$42,197	4.50%	4.59%
October 1, 2019	43.6	6.3	\$43,261	4.50%	3.02%
October 1, 2020	42.6	6.7	\$44,172	4.50%	2.54%



# Active Age-Service Distribution

Table III-D



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





Active Age-Service-Salary Table

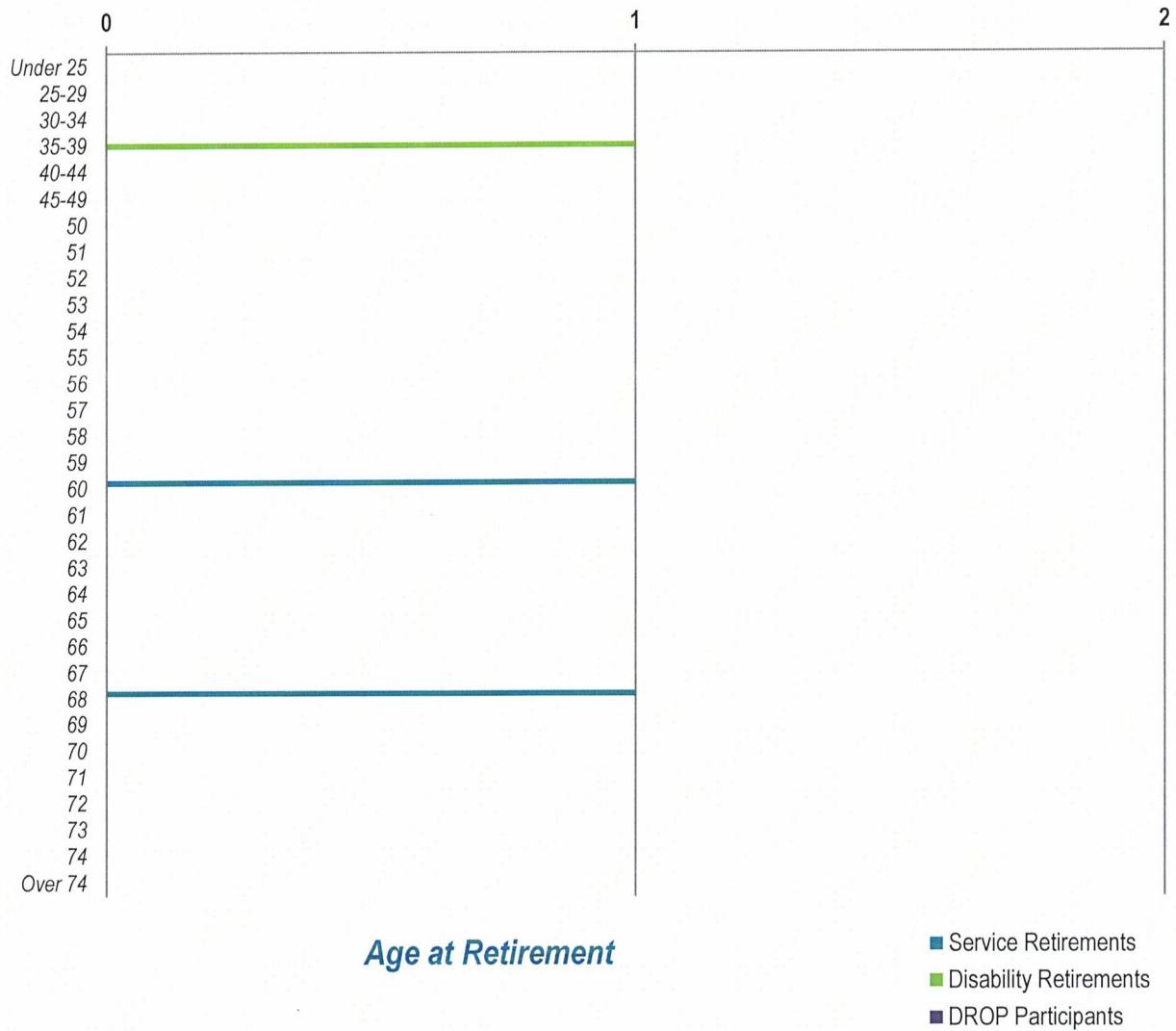
Table III-E

Attained Age	Completed Years of Service										Total
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up	
<b>Under 25</b>	1	0	0	0	0	0	0	0	0	0	1
Avg.Pay	38,115	0	0	0	0	0	0	0	0	0	38,115
<b>25 to 29</b>	0	1	0	0	0	0	0	0	0	0	1
Avg.Pay	0	39,472	0	0	0	0	0	0	0	0	39,472
<b>30 to 34</b>	0	1	0	0	0	0	0	0	0	0	1
Avg.Pay	0	37,620	0	0	0	0	0	0	0	0	37,620
<b>35 to 39</b>	0	0	1	1	1	0	0	0	0	0	3
Avg.Pay	0	0	39,894	43,017	54,746	0	0	0	0	0	45,886
<b>40 to 44</b>	0	1	0	0	0	0	0	0	0	0	1
Avg.Pay	0	37,368	0	0	0	0	0	0	0	0	37,368
<b>45 to 49</b>	0	0	0	0	0	0	0	0	0	0	0
Avg.Pay	0	0	0	0	0	0	0	0	0	0	0
<b>50 to 54</b>	0	2	1	0	0	0	0	0	0	0	3
Avg.Pay	0	39,039	42,699	0	0	0	0	0	0	0	40,259
<b>55 to 59</b>	0	0	0	0	0	0	0	0	0	0	0
Avg.Pay	0	0	0	0	0	0	0	0	0	0	0
<b>60 to 64</b>	0	0	1	0	1	0	0	0	0	0	2
Avg.Pay	0	0	66,652	0	52,407	0	0	0	0	0	59,530
<b>65 &amp; up</b>	0	0	0	0	0	0	0	0	0	0	0
Avg.Pay	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	1	5	3	1	2	0	0	0	0	0	12
Avg.Pay	38,115	38,508	49,748	43,017	53,577	0	0	0	0	0	44,172



## Inactive Participant Data

Table III-F

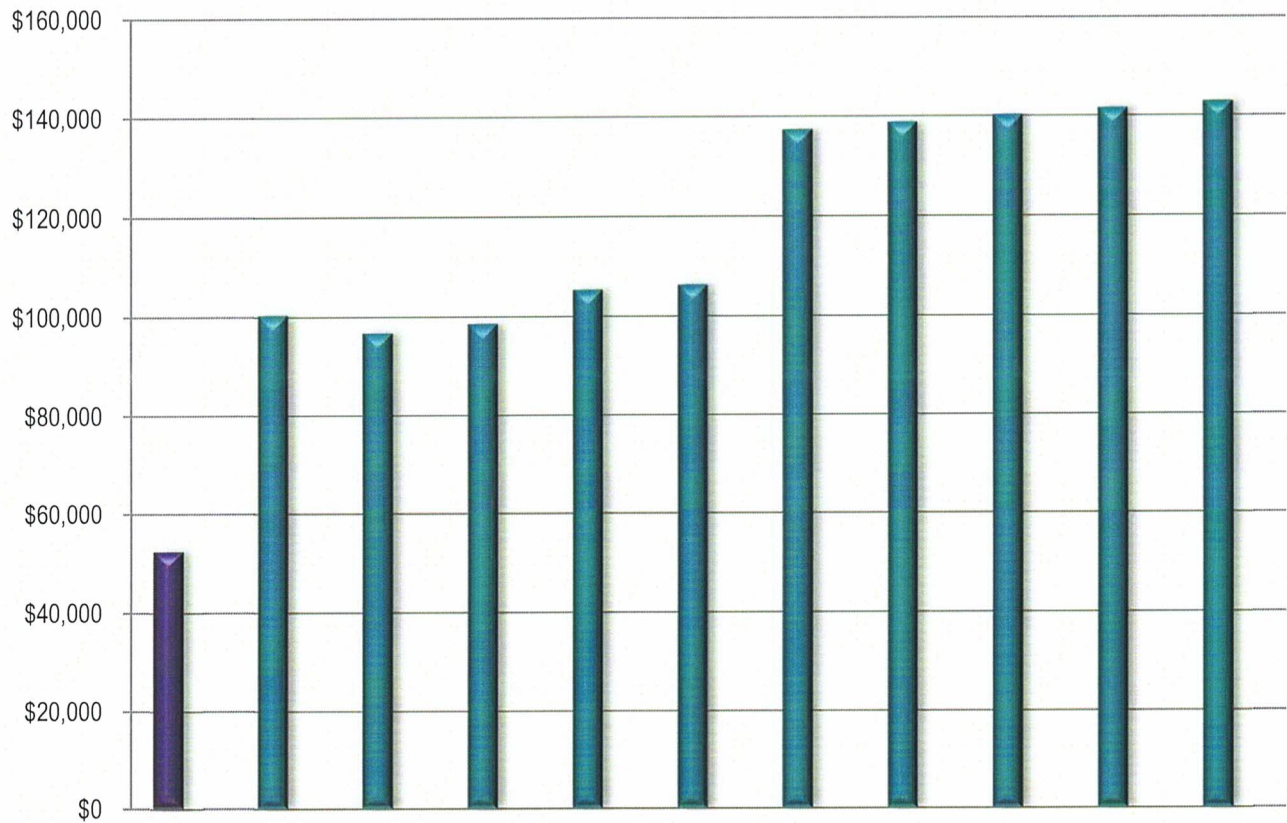
Average Monthly Benefit

Service Retirements	\$1,911.68
Disability Retirements	\$623.94
Beneficiaries Receiving	Not applicable
DROP Participants	Not applicable
Deferred Vested Participants	\$1,143.52
Deferred Beneficiaries	Not applicable



## Projected Benefit Payments

Table III-G

Actual

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

\$52,468

Projected

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

\$100,292

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

\$96,691

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

\$98,484

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

\$105,259

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

\$106,273

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

\$137,374

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

\$138,857

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

\$140,279

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

\$141,638

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

\$142,938





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



## Summary of Actuarial Methods and Assumptions

## Table IV-A

(continued)

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

**6. Form of Payment**

Future retirees have been assumed to select the 10-year certain and life annuity.

**7. Expenses**

Administrative expenses are assumed to be equal to 2.25% of covered payroll. In addition, the interest rate set forth in item 3. above is assumed to be net of investment expenses and commissions.



## Changes in Actuarial Methods and Assumptions

## Table IV-B

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

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

- (1) Effective October 1, 2017, the assumed interest (or discount) rate was decreased from 7.50% per annum to 7.00% per annum.*
- (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 Blue Collar Mortality Table as required by State law.*
- (3) Effective October 1, 2014, the assumed interest (or discount) rate was increased from 5.00% per annum to 7.50% per annum.*
- (4) Effective October 1, 2014, the assumed increase in future salaries was increased from 3.00% per annum with an additional 3.00% load on average final compensation to 4.50% per annum with no load on average final compensation.*
- (5) Effective October 1, 2014, the mortality basis was changed from the 1994 Group Annuity Reserving Table, projected to 2002 by Scale AA, to the RP-2000 Mortality Table for annuitants, projected to 2015 by Scale AA.*
- (6) Effective October 1, 2014, the expense assumption was increased from 1.50% of projected benefit liability to 2.25% of projected benefit liability.*
- (7) Effective October 1, 2012, the assumed interest (or discount) rate was decreased from 7.50% per annum to 5.00% per annum.*
- (8) Effective October 1, 2012, the assumed increase in future salaries was decreased to 3.00% per year and the assumed increase in average final compensation for police officers to account for anticipated additional lump-sum compensation upon termination of employment was decreased from 5.00% to 3.00%.*





## Summary of Plan Provisions

## Table V-A

**1. Monthly Accrued Benefit**

3% of Average Final Compensation multiplied by Credited Service

**2. Normal Retirement Age and Benefit**

- **Age**

Age 55 with at least six 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 66 $\frac{2}{3}$ % joint and contingent annuity (optional);  
Actuarially reduced 75% joint and contingent annuity (optional);  
Actuarially reduced 100% joint and contingent annuity (optional);  
Any other actuarially equivalent form of payment approved by the Board; or  
Actuarially equivalent lump sum distribution (automatic if the single sum value of the participant's benefit is less than or equal to \$5,000 or the monthly annuity is less than \$100)

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

**3. Early Retirement Age and Benefit**

- **Age**

Age 50 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



## Summary of Plan Provisions

## 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 City.

- **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 police officer.

- **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 City-provided disability compensation from exceeding his Average Monthly Earnings:

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

**5. 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 City.

- **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 City-provided disability compensation from exceeding his Average Monthly Earnings:

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

**6. Delayed Retirement Age and Benefit**

- **Age**

After Normal Retirement Age

- **Amount**

Monthly Accrued Benefit

- **Form of Payment**

Same as for Normal Retirement



## Summary of Plan Provisions

## Table V-A

(continued)

**7. Deferred Vested Benefit**

- **Age**  
Any age with at least six 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

**8. 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

**10. Compensation**

For firefighters, fixed monthly compensation (or actual compensation for a volunteer firefighter); for police officers, total cash remuneration; annual compensation in excess of \$200,000 (as indexed) is excluded in accordance with Internal Revenue Code (IRC) §401(a)(17).

**11. Credited Service**

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

**12. Participation Requirement**

All police officers and firefighters of the City of Valparaiso, Florida automatically become a participant in the plan on their date of hire.





## Summary of Plan Provisions

## Table V-A

(continued)

**13. Accumulated Contributions**

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

**14. Participant Contribution**

2.00% of earnings (pre-tax basis)

**15. Definition of Actuarially Equivalent**

- **Interest Rate**

7.00% per annum

- **Mortality Table**

The unisex mortality table promulgated by the Internal Revenue Service (IRS) for purposes of Internal Revenue Code (IRC) section 417(e)(3)

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

All monthly benefits include an automatic cost-of-living adjustment equal to 2% compounded annually.

**17. Plan Effective Date**

January 1, 1996

**18. Deferred Retirement Option Plan (DROP)**

Those participants who have attained Normal Retirement Age may elect to participate in the DROP for a period of up to five years following their Normal Retirement Age. Interest accrues on the DROP accounts at the rate of 6.50% per annum.



## Summary of Plan Amendments

## Table V-B

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

