

# Retirement Plan for the Police Officers Of the City of Green Cove Springs

**Actuarial Valuation**  
As of October 1, 2020

**Determines the Contribution**  
For the 2020/21 Fiscal Year



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March 10, 2021

## Introduction

This report presents the results of the October 1, 2020 actuarial valuation for the Retirement Plan for the Police Officers of the City of Green Cove Springs. 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 20.51% of covered payroll, which represents a decrease of 4.36% of payroll from the prior valuation.

The normal cost rate is 19.77%, which is 4.21% 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 0.07% of payroll due to investment losses, decreased by 3.05% of payroll due to demographic experience, decreased by 1.34% of payroll due to the assumption change that is described below, and increased by 0.11% of payroll due to the method change that is described below. The market value of assets only earned 6.58% during the 2019/20 plan year. However, the actuarial value of assets is based on a five-year phase-in of the unexpected investment gains and losses.



On this basis, the actuarial value of assets earned 6.82% 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 20.51% multiplied by the total pensionable earnings for the 2020/21 fiscal year for the active employees who are covered by the plan and reduced by the portion of the Chapter 175/185 contribution that is allowed to be recognized during the 2020/21 plan year.

Based on the current assets, participant data, and actuarial assumptions and methods that are used to value the plan, the present-day value of the total long-term funding requirement is \$9,182,758. As illustrated in Table I-A, current assets are sufficient to cover \$6,662,471 of this amount, the employer's 2020/21 expected contribution will cover \$255,110 of this amount, and future employee contributions are expected to cover \$121,328 of this amount, leaving \$2,143,849 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 \$50,324, which reflects the \$305 balance as of October 1, 2019 plus \$50,019 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.

#### 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 1.34% of payroll.



### Asset Method Change

Since the completion of the previous valuation, the method used to determine the actuarial value of assets has also been changed. Previously, the actuarial value of assets was based on the market value of assets. Beginning with this valuation, the actuarial value of assets is based on the market value adjusted to reflect a five-year phase-in of the unexpected investment gains and losses. The impact of this method change was to increase the normal cost rate by 0.11% 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, 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 /rcm*

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

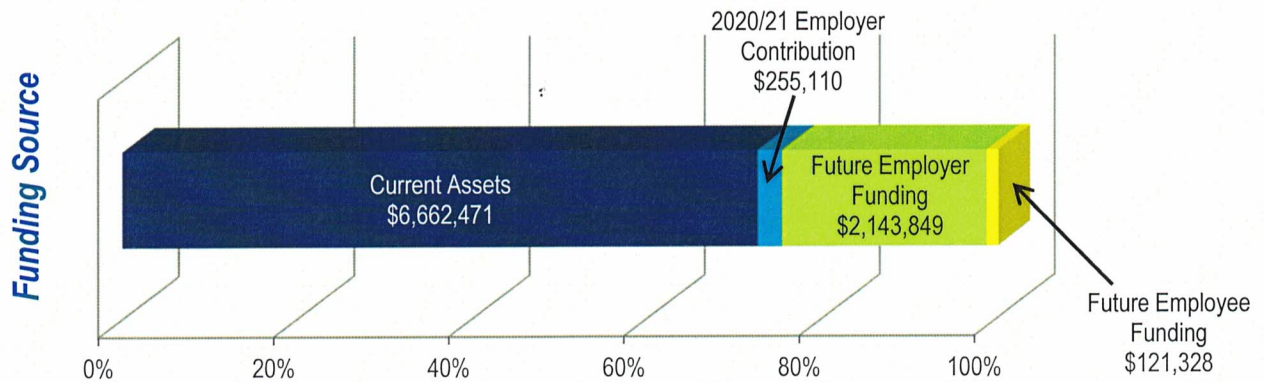
Enrolled Actuary No. 20-04927

*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                            | \$9,061,429    |
| Present Value of Future Administrative Expenses             | \$121,329      |
| Actuarial Value of Assets                                   | (\$6,662,471)  |
| Present Value of Future Employee Contributions              | (\$121,328)    |
| Present Value of Future Normal Costs                        | \$2,398,959    |
| Present Value of Future Payroll                             | ÷ \$12,132,899 |
| Normal Cost Rate                                            | = 19.7723%     |
| Expected Payroll                                            | x \$1,244,041  |
| Normal Cost                                                 | \$245,976      |
| Adjustment to Reflect Monthly Employer Contributions        | \$9,134        |
| Preliminary Employer Contribution for the 2020/21 Plan Year | \$255,110      |
| Expected Payroll for the 2020/21 Plan Year                  | ÷ \$1,244,041  |

**Minimum Required Contribution Rate** **20.51%**

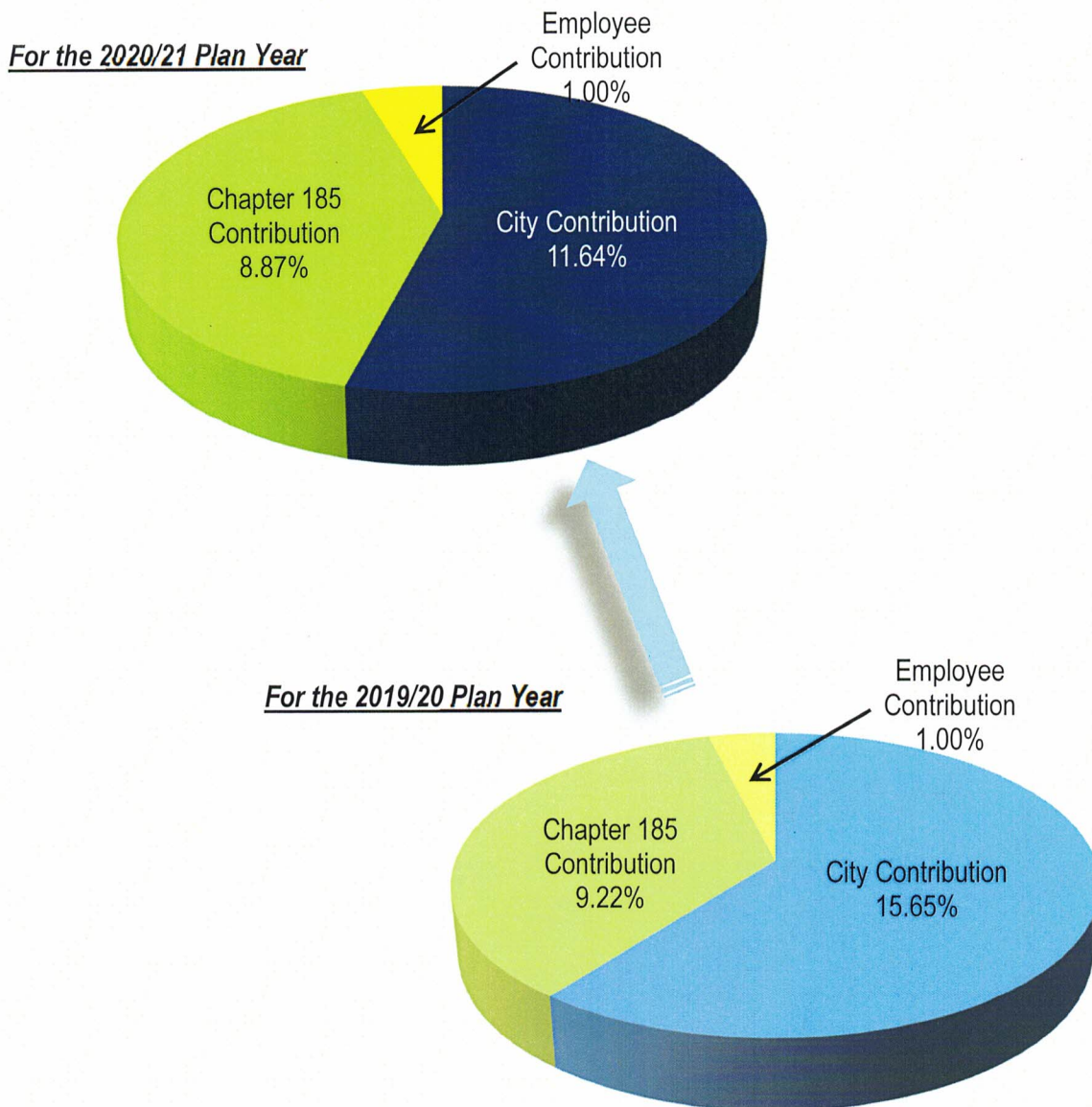
(The actual contribution should be based on the minimum required contribution rate multiplied by the actual payroll for the year.)



## Minimum Required Contribution

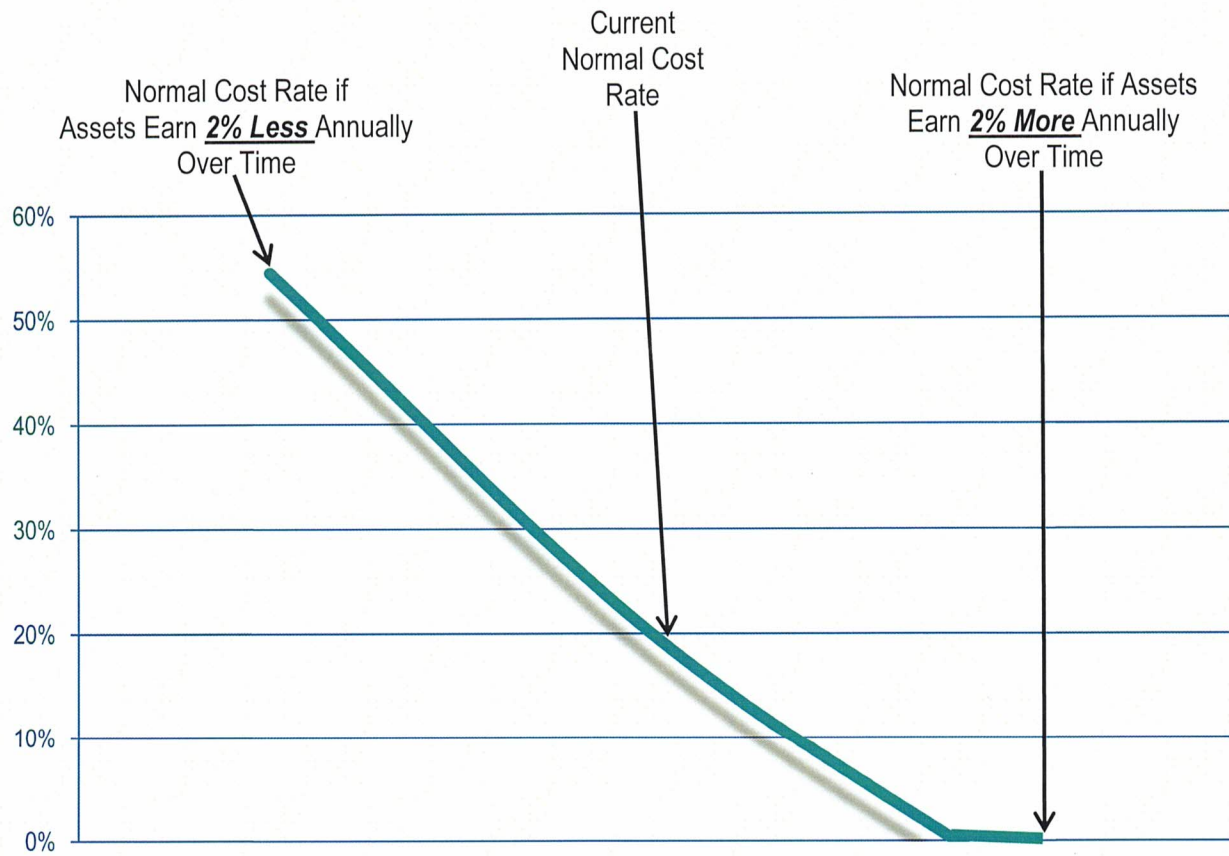
Table I-A  
(continued)

The minimum required contribution rate of 20.51% includes both the City contribution and the allowable Chapter 185 contribution. In addition, employees are required to contribute 1.00% of pensionable earnings. The actual City contribution rate is expected to be approximately 11.64% based on the allowable Chapter 185 contribution for the previous year. The chart below shows the expected contribution rate by source for the 2017/18 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                               | 23.98%        |
| Increase (decrease) due to investment gains and losses  | 0.07%         |
| Increase (decrease) due to demographic experience       | -3.05%        |
| Increase (decrease) due to plan amendments              | 0.00%         |
| Increase (decrease) due to actuarial assumption changes | -1.34%        |
| Increase (decrease) due to actuarial method changes     | 0.11%         |
| Current normal cost rate                                | <u>19.77%</u> |



## Present Value of Future Benefits

Table I-D

|                                            | Old Assumptions<br><u>w/o Amendment</u> | Old Assumptions<br><u>w/ Amendment</u> | New Assumptions<br><u>w/ Amendment</u> |
|--------------------------------------------|-----------------------------------------|----------------------------------------|----------------------------------------|
| <u>Actively Employed Participants</u>      |                                         |                                        |                                        |
| Retirement benefits                        | \$7,736,675                             | \$7,736,675                            | \$7,610,030                            |
| Termination benefits                       | \$0                                     | \$0                                    | \$0                                    |
| Disability benefits                        | \$0                                     | \$0                                    | \$0                                    |
| Death benefits                             | \$0                                     | \$0                                    | \$0                                    |
| Refund of employee contributions           | \$0                                     | \$0                                    | \$0                                    |
| Sub-total                                  | <b>\$7,736,675</b>                      | <b>\$7,736,675</b>                     | <b>\$7,610,030</b>                     |
| <u>Deferred Vested Participants</u>        |                                         |                                        |                                        |
| Retirement benefits                        | \$811,988                               | \$811,988                              | \$790,793                              |
| 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>\$811,988</b>                        | <b>\$811,988</b>                       | <b>\$790,793</b>                       |
| <u>Due a Refund of Contributions</u>       | <b>\$10,364</b>                         | <b>\$10,364</b>                        | <b>\$10,364</b>                        |
| <u>Deferred Beneficiaries</u>              | <b>\$0</b>                              | <b>\$0</b>                             | <b>\$0</b>                             |
| <u>Retired Participants</u>                |                                         |                                        |                                        |
| Service retirements                        | \$663,373                               | \$663,373                              | \$650,242                              |
| Disability retirements                     | \$0                                     | \$0                                    | \$0                                    |
| Beneficiaries receiving                    | \$0                                     | \$0                                    | \$0                                    |
| DROP participants                          | \$0                                     | \$0                                    | \$0                                    |
| Sub-total                                  | <b>\$663,373</b>                        | <b>\$663,373</b>                       | <b>\$650,242</b>                       |
| <u>Grand Total</u>                         | <b><u>\$9,222,400</u></b>               | <b><u>\$9,222,400</u></b>              | <b><u>\$9,061,429</u></b>              |
| Present Value of Future Payroll            | \$12,132,899                            | \$12,132,899                           | \$12,132,899                           |
| Present Value of Future Employee Contribs. | \$121,328                               | \$121,328                              | \$121,328                              |
| Present Value of Future Employer Contribs. | \$2,559,930                             | \$2,559,930                            | \$2,398,959                            |



## Present Value of Accrued Benefits

Table I-E

|                                       | Old Assumptions<br><u>w/o Amendment</u> | Old Assumptions<br><u>w/ Amendment</u> | New Assumptions<br><u>w/ Amendment</u> |
|---------------------------------------|-----------------------------------------|----------------------------------------|----------------------------------------|
| <u>Actively Employed Participants</u> |                                         |                                        |                                        |
| Retirement benefits                   | \$2,917,249                             | \$2,917,249                            | \$2,870,571                            |
| 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>\$2,917,249</b>                      | <b>\$2,917,249</b>                     | <b>\$2,870,571</b>                     |
| <u>Deferred Vested Participants</u>   |                                         |                                        |                                        |
| Retirement benefits                   | \$811,988                               | \$811,988                              | \$790,793                              |
| 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>\$811,988</b>                        | <b>\$811,988</b>                       | <b>\$790,793</b>                       |
| <u>Due a Refund of Contributions</u>  | <b>\$10,364</b>                         | <b>\$10,364</b>                        | <b>\$10,364</b>                        |
| <u>Deferred Beneficiaries</u>         | <b>\$0</b>                              | <b>\$0</b>                             | <b>\$0</b>                             |
| <u>Retired Participants</u>           |                                         |                                        |                                        |
| Service retirements                   | \$663,373                               | \$663,373                              | \$650,242                              |
| Disability retirements                | \$0                                     | \$0                                    | \$0                                    |
| Beneficiaries receiving               | \$0                                     | \$0                                    | \$0                                    |
| DROP participants                     | \$0                                     | \$0                                    | \$0                                    |
| Sub-total                             | <b>\$663,373</b>                        | <b>\$663,373</b>                       | <b>\$650,242</b>                       |
| <u>Grand Total</u>                    | <b><u>\$4,402,974</u></b>               | <b><u>\$4,402,974</u></b>              | <b><u>\$4,321,970</u></b>              |
| <u>Funded Status</u>                  | 152.17%                                 | 152.17%                                | 155.02%                                |

(Note: Funded percentage is equal to the ratio of the usable portion of the market value of assets divided by the present value of accrued benefits.)



## Present Value of Vested Benefits

Table I-F

|                                       | Old Assumptions<br><u>w/o Amendment</u> | Old Assumptions<br><u>w/ Amendment</u> | New Assumptions<br><u>w/ Amendment</u> |
|---------------------------------------|-----------------------------------------|----------------------------------------|----------------------------------------|
| <u>Actively Employed Participants</u> |                                         |                                        |                                        |
| Retirement benefits                   | \$2,735,861                             | \$2,735,861                            | \$2,691,668                            |
| 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>\$2,735,861</b>                      | <b>\$2,735,861</b>                     | <b>\$2,691,668</b>                     |
| <u>Deferred Vested Participants</u>   |                                         |                                        |                                        |
| Retirement benefits                   | \$811,988                               | \$811,988                              | \$790,793                              |
| 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>\$811,988</b>                        | <b>\$811,988</b>                       | <b>\$790,793</b>                       |
| <u>Due a Refund of Contributions</u>  | <b>\$10,364</b>                         | <b>\$10,364</b>                        | <b>\$10,364</b>                        |
| <u>Deferred Beneficiaries</u>         | <b>\$0</b>                              | <b>\$0</b>                             | <b>\$0</b>                             |
| <u>Retired Participants</u>           |                                         |                                        |                                        |
| Service retirements                   | \$663,373                               | \$663,373                              | \$650,242                              |
| Disability retirements                | \$0                                     | \$0                                    | \$0                                    |
| Beneficiaries receiving               | \$0                                     | \$0                                    | \$0                                    |
| DROP participants                     | \$0                                     | \$0                                    | \$0                                    |
| Sub-total                             | <b>\$663,373</b>                        | <b>\$663,373</b>                       | <b>\$650,242</b>                       |
| <u>Grand Total</u>                    | <b><u>\$4,221,586</u></b>               | <b><u>\$4,221,586</u></b>              | <b><u>\$4,143,067</u></b>              |



## Entry Age Normal Accrued Liability

Table I-G

|                                       | Old Assumptions<br><u>w/o Amendment</u> | Old Assumptions<br><u>w/ Amendment</u> | New Assumptions<br><u>w/ Amendment</u> |
|---------------------------------------|-----------------------------------------|----------------------------------------|----------------------------------------|
| <u>Actively Employed Participants</u> |                                         |                                        |                                        |
| Retirement benefits                   | \$3,955,011                             | \$3,955,011                            | \$3,891,593                            |
| 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>\$3,955,011</b>                      | <b>\$3,955,011</b>                     | <b>\$3,891,593</b>                     |
| <u>Deferred Vested Participants</u>   |                                         |                                        |                                        |
| Retirement benefits                   | \$811,988                               | \$811,988                              | \$790,793                              |
| 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>\$811,988</b>                        | <b>\$811,988</b>                       | <b>\$790,793</b>                       |
| <u>Due a Refund of Contributions</u>  | <b>\$10,364</b>                         | <b>\$10,364</b>                        | <b>\$10,364</b>                        |
| <u>Deferred Beneficiaries</u>         | <b>\$0</b>                              | <b>\$0</b>                             | <b>\$0</b>                             |
| <u>Retired Participants</u>           |                                         |                                        |                                        |
| Service retirements                   | \$663,373                               | \$663,373                              | \$650,242                              |
| Disability retirements                | \$0                                     | \$0                                    | \$0                                    |
| Beneficiaries receiving               | \$0                                     | \$0                                    | \$0                                    |
| DROP participants                     | \$0                                     | \$0                                    | \$0                                    |
| Sub-total                             | <b>\$663,373</b>                        | <b>\$663,373</b>                       | <b>\$650,242</b>                       |
| <u>Grand Total</u>                    | <b><u>\$5,440,736</u></b>               | <b><u>\$5,440,736</u></b>              | <b><u>\$5,342,992</u></b>              |



## Actuarial Value of Assets

Table II-A

|                           | <u>Unexpected Investment Gain (Loss)</u> |       | <u>Unrecognized Gain (Loss)</u> |
|---------------------------|------------------------------------------|-------|---------------------------------|
| For the 2016/17 plan year | \$258,118                                | x 20% | \$51,624                        |
| For the 2017/18 plan year | \$19,269                                 | x 40% | \$7,708                         |
| For the 2018/19 plan year | (\$85,796)                               | x 60% | (\$51,478)                      |
| For the 2019/20 plan year | (\$25,840)                               | x 80% | (\$20,672)                      |
|                           |                                          |       | <u>(\$12,818)</u>               |

|                                              |             |
|----------------------------------------------|-------------|
| Market Value of Assets as of October 1, 2020 | \$6,709,588 |
| Minus DROP account balances                  | \$0         |
| Minus advance employer contributions         | (\$50,324)  |
| Minus excess Chapter 175/185 contributions   | (\$9,611)   |

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

\$12,818

**Actuarial Value of Assets as of October 1, 2020** **\$6,662,471**

| <u>Historical Actuarial Value of Assets</u> |             |
|---------------------------------------------|-------------|
| October 1, 2011                             | \$1,863,280 |
| October 1, 2012                             | \$2,401,711 |
| October 1, 2013                             | \$2,916,857 |
| October 1, 2014                             | \$3,317,987 |
| October 1, 2015                             | \$3,489,529 |
| October 1, 2016                             | \$3,973,702 |
| October 1, 2017                             | \$4,770,709 |
| October 1, 2018                             | \$5,394,922 |
| October 1, 2019                             | \$6,009,936 |
| October 1, 2020                             | \$6,662,471 |

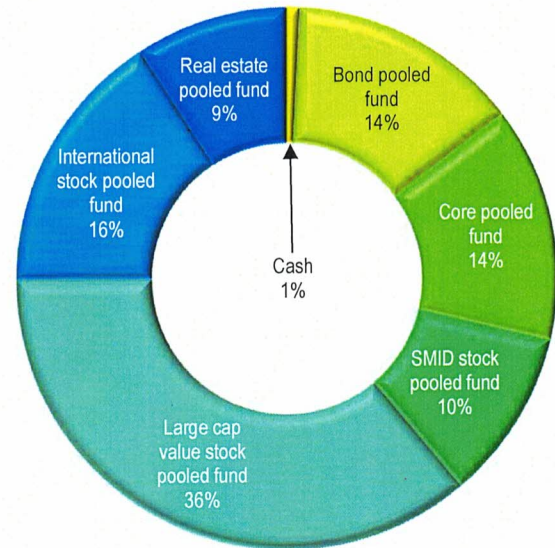


## Market Value of Assets

Table II-B

As of October 1, 2020

|                                   |                           |
|-----------------------------------|---------------------------|
| <b>Market Value of Assets</b>     | <b><u>\$6,709,588</u></b> |
| Cash                              | \$53,677                  |
| Bond pooled fund                  | \$932,633                 |
| Core pooled fund                  | \$939,342                 |
| SMID stock pooled fund            | \$684,378                 |
| Large cap value stock pooled fund | \$2,422,161               |
| International stock pooled fund   | \$1,066,825               |
| Real estate pooled fund           | \$610,572                 |

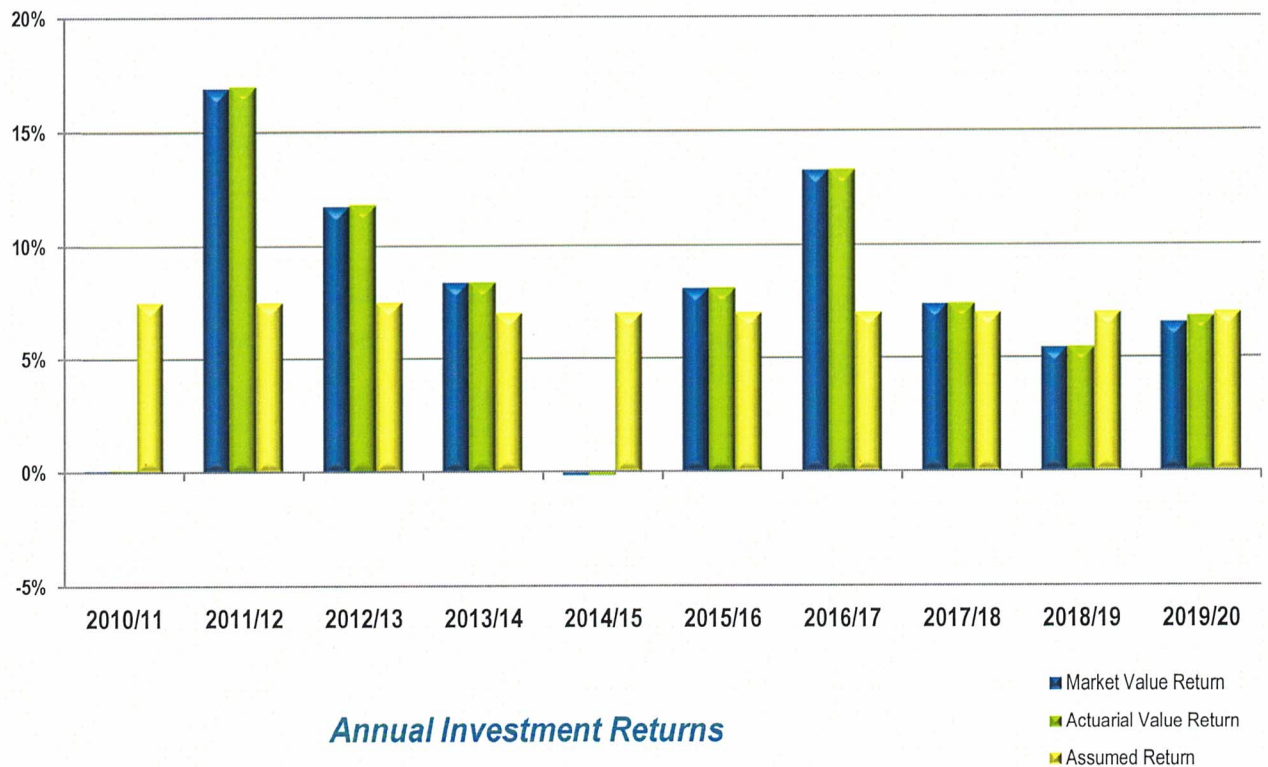
**Historical Market Value of Assets**

|                 |             |
|-----------------|-------------|
| October 1, 2011 | \$1,882,340 |
| October 1, 2012 | \$2,402,876 |
| October 1, 2013 | \$2,916,857 |
| October 1, 2014 | \$3,323,112 |
| October 1, 2015 | \$3,495,232 |
| October 1, 2016 | \$3,975,255 |
| October 1, 2017 | \$4,771,141 |
| October 1, 2018 | \$5,394,922 |
| October 1, 2019 | \$6,010,241 |
| October 1, 2020 | \$6,709,588 |



## Investment Return

Table II-C

*Annual Investment Returns*

| Plan        | Market Value  | Actuarial Value | Assumed       |
|-------------|---------------|-----------------|---------------|
| <u>Year</u> | <u>Return</u> | <u>Return</u>   | <u>Return</u> |
| 2010/11     | 0.10%         | 0.10%           | 7.50%         |
| 2011/12     | 16.90%        | 16.99%          | 7.50%         |
| 2012/13     | 11.75%        | 11.80%          | 7.50%         |
| 2013/14     | 8.38%         | 8.39%           | 7.00%         |
| 2014/15     | -0.14%        | -0.14%          | 7.00%         |
| 2015/16     | 8.11%         | 8.11%           | 7.00%         |
| 2016/17     | 13.29%        | 13.29%          | 7.00%         |
| 2017/18     | 7.39%         | 7.39%           | 7.00%         |
| 2018/19     | 5.45%         | 5.45%           | 7.00%         |
| 2019/20     | 6.58%         | 6.82%           | 7.00%         |
| 10yr. Avg.  | 7.66%         | 7.70%           | 7.15%         |



## Asset Reconciliation

Table II-D

|                                     | <u>Market Value</u>              | <u>Actuarial Value</u>           |
|-------------------------------------|----------------------------------|----------------------------------|
| <b>As of October 1, 2019</b>        | <b>\$6,010,241</b>               | <b>\$6,009,936</b>               |
| <b><i>Increases Due To:</i></b>     |                                  |                                  |
| Employer Contributions              | \$238,718                        | \$238,718                        |
| Chapter 175/185 Contributions       | \$124,361                        | \$124,361                        |
| Employee Contributions              | \$12,201                         | \$12,201                         |
| Service Purchase Contributions      | \$0                              | \$0                              |
| Total Contributions                 | <u>\$375,280</u>                 | <u>\$375,280</u>                 |
| Interest and Dividends              | \$0                              |                                  |
| Realized Gains (Losses)             | \$0                              |                                  |
| Unrealized Gains (Losses)           | \$405,005                        |                                  |
| Total Investment Income             | <u>\$405,005</u>                 | \$417,823                        |
| Other Income                        | \$0                              |                                  |
| <b>Total Income</b>                 | <b><u>\$780,285</u></b>          | <b><u>\$793,103</u></b>          |
| <b><i>Decreases Due To:</i></b>     |                                  |                                  |
| Monthly Benefit Payments            | (\$47,293)                       | (\$47,293)                       |
| Refund of Employee Contributions    | (\$1,751)                        | (\$1,751)                        |
| DROP Credits                        |                                  | \$0                              |
| Total Benefit Payments              | <u>(\$49,044)</u>                | <u>(\$49,044)</u>                |
| Investment Expenses                 | \$0                              |                                  |
| Administrative Expenses             | (\$31,894)                       | (\$31,894)                       |
| Advance Employer Contribution       |                                  | (\$50,019)                       |
| Excess Chapter 175/185 Contribution |                                  | (\$9,611)                        |
| <b>Total Expenses</b>               | <b><u>(\$80,938)</u></b>         | <b><u>(\$140,568)</u></b>        |
| <b>As of October 1, 2020</b>        | <b><u><u>\$6,709,588</u></u></b> | <b><u><u>\$6,662,471</u></u></b> |



## Historical Trust Fund Detail

Table II-E

Income

| Plan        | Employer         | Chapter          | Employee         | Service          | Interest /       | Realized       | Unrealized     | Other         |
|-------------|------------------|------------------|------------------|------------------|------------------|----------------|----------------|---------------|
| <u>Year</u> | <u>Contribs.</u> | <u>Contribs.</u> | <u>Contribs.</u> | <u>Purchase</u>  | <u>Dividends</u> | <u>Gains /</u> | <u>Gains /</u> | <u>Income</u> |
|             |                  |                  |                  | <u>Contribs.</u> |                  | <u>Losses</u>  | <u>Losses</u>  |               |
| 2010/11     | \$165,854        | \$71,899         | \$6,923          | \$0              | \$0              | \$0            | \$1,829        | \$0           |
| 2011/12     | \$130,334        | \$70,453         | \$7,107          | \$0              | \$0              | \$0            | \$333,897      | \$0           |
| 2012/13     | \$164,021        | \$66,408         | \$7,527          | \$0              | \$0              | \$0            | \$295,219      | \$0           |
| 2013/14     | \$120,009        | \$73,366         | \$7,497          | \$0              | \$0              | \$0            | \$251,005      | \$0           |
| 2014/15     | \$130,150        | \$73,815         | \$8,100          | \$0              | \$0              | \$0            | -\$4,721       | \$0           |
| 2015/16     | \$141,437        | \$85,340         | \$8,475          | \$0              | \$0              | \$0            | \$291,007      | \$0           |
| 2016/17     | \$181,998        | \$93,609         | \$10,155         | \$0              | \$0              | \$0            | \$545,018      | \$0           |
| 2017/18     | \$199,572        | \$102,434        | \$10,065         | \$0              | \$0              | \$0            | \$362,248      | \$0           |
| 2018/19     | \$245,801        | \$112,175        | \$11,902         | \$0              | \$0              | \$0            | \$302,608      | \$0           |
| 2019/20     | \$238,718        | \$124,361        | \$12,201         | \$0              | \$0              | \$0            | \$405,005      | \$0           |

Expenses

| Plan        | Monthly         |                |                 |                 | <u>Other Actuarial Adjustments</u> |                  |                  |
|-------------|-----------------|----------------|-----------------|-----------------|------------------------------------|------------------|------------------|
|             | Benefit         | Contrib.       | Admin.          | Invest.         | Advance                            | Excess           |                  |
| <u>Year</u> | <u>Payments</u> | <u>Refunds</u> | <u>Expenses</u> | <u>Expenses</u> | <u>DROP</u>                        | <u>Employer</u>  | <u>Chapter</u>   |
|             |                 |                |                 |                 | <u>Credits</u>                     | <u>Contribs.</u> | <u>Contribs.</u> |
| 2010/11     | \$5,272         | \$230          | \$6,948         | \$0             | \$0                                | \$19,060         | \$0              |
| 2011/12     | \$5,352         | \$0            | \$15,903        | \$0             | \$0                                | -\$17,895        | \$0              |
| 2012/13     | \$7,597         | \$0            | \$11,597        | \$0             | \$0                                | \$0              | \$0              |
| 2013/14     | \$18,503        | \$3,814        | \$23,305        | \$0             | \$0                                | \$5,125          | \$0              |
| 2014/15     | \$18,780        | \$0            | \$16,444        | \$0             | \$0                                | \$578            | \$0              |
| 2015/16     | \$19,062        | \$0            | \$27,174        | \$0             | \$0                                | -\$4,150         | \$0              |
| 2016/17     | \$19,348        | \$0            | \$15,546        | \$0             | \$0                                | -\$1,121         | \$0              |
| 2017/18     | \$19,638        | \$0            | \$30,900        | \$0             | \$0                                | -\$432           | \$0              |
| 2018/19     | \$36,019        | \$0            | \$21,148        | \$0             | \$0                                | \$305            | \$0              |
| 2019/20     | \$47,293        | \$1,751        | \$31,894        | \$0             | \$0                                | \$50,019         | \$9,611          |

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 | \$305                  |
| Additional Employer Contribution                    | \$353,468              |
| Minimum Required Contribution                       | <u>(\$303,449)</u>     |
| Net Increase in Advance Employer Contribution       | \$50,019               |
| Advance Employer Contribution as of October 1, 2020 | <u><u>\$50,324</u></u> |

**Excess Chapter 175/185 Contribution**

|                                                           |                       |
|-----------------------------------------------------------|-----------------------|
| Excess Chapter 175/185 Contribution as of October 1, 2019 | \$0                   |
| Additional Chapter 175/185 Contribution                   | \$124,361             |
| Allowable Chapter 175/185 Contribution                    | <u>(\$114,750)</u>    |
| Net Increase in Excess Chapter 175/185 Contribution       | \$9,611               |
| Excess Chapter 175/185 Contribution as of October 1, 2020 | <u><u>\$9,611</u></u> |



## Historical Chapter 175/185 Contributions

Table II-G

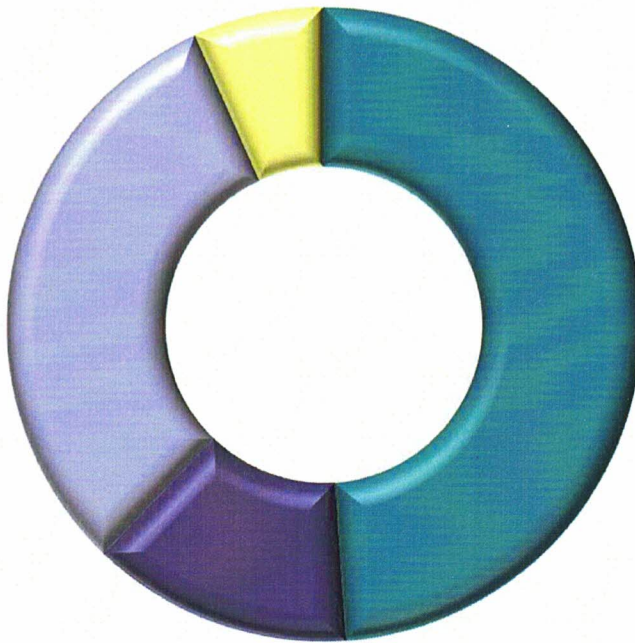
**Total Accumulated Excess Chapter 175/185 Contribution** **\$9,611**

|                     | Chapter 175<br>Regular<br><u>Distribution</u> | Chapter 175<br>Supplemental<br><u>Distribution</u> | Chapter 185<br><u>Distribution</u> | Allowable<br><u>Amount</u> |
|---------------------|-----------------------------------------------|----------------------------------------------------|------------------------------------|----------------------------|
| 1998 Distribution   | \$0                                           | \$0                                                | \$41,503                           | (\$38,402)                 |
| 1999 Distribution   | \$0                                           | \$0                                                | \$41,605                           | (\$41,605)                 |
| 2000 Distribution   | \$0                                           | \$0                                                | \$47,931                           | (\$47,931)                 |
| 2001 Distribution   | \$0                                           | \$0                                                | \$53,832                           | (\$53,832)                 |
| 2002 Distribution   | \$0                                           | \$0                                                | \$71,142                           | (\$57,547)                 |
| 2003 Distribution   | \$0                                           | \$0                                                | \$73,504                           | (\$35,705)                 |
| 2004 Distribution   | \$0                                           | \$0                                                | \$81,317                           | (\$57,547)                 |
| 2005 Distribution   | \$0                                           | \$0                                                | \$81,317                           | (\$57,547)                 |
| 2006 Distribution   | \$0                                           | \$0                                                | \$83,776                           | (\$195,603)                |
| 2007 Distribution   | \$0                                           | \$0                                                | \$81,317                           | (\$81,317)                 |
| 2008 Distribution   | \$0                                           | \$0                                                | \$79,450                           | (\$79,450)                 |
| 2009 Distribution   | \$0                                           | \$0                                                | \$75,381                           | (\$75,381)                 |
| 2010 Distribution   | \$0                                           | \$0                                                | \$71,899                           | (\$71,899)                 |
| 2011 Distribution   | \$0                                           | \$0                                                | \$70,453                           | (\$70,453)                 |
| 2012 Distribution   | \$0                                           | \$0                                                | \$66,408                           | (\$66,408)                 |
| 2013 Distribution   | \$0                                           | \$0                                                | \$73,366                           | (\$73,366)                 |
| 2014 Distribution   | \$0                                           | \$0                                                | \$73,815                           | (\$73,815)                 |
| 2015 Distribution   | \$0                                           | \$0                                                | \$85,340                           | (\$85,340)                 |
| 2016 Distribution   | \$0                                           | \$0                                                | \$93,609                           | (\$93,609)                 |
| 2017 Distribution   | \$0                                           | \$0                                                | \$102,434                          | (\$102,434)                |
| 2018 Distribution   | \$0                                           | \$0                                                | \$112,175                          | (\$112,175)                |
| 2019 Distribution   | \$0                                           | \$0                                                | \$124,361                          | (\$114,750)                |
| Interest Adjustment |                                               |                                                    |                                    | \$9,792                    |



## Summary of Participant Data

Table III-A

As of October 1, 2020Actively Employed Participants

|                     |    |
|---------------------|----|
| Active Participants | 22 |
| DROP Participants   | 0  |

Inactive Participants

|                               |    |
|-------------------------------|----|
| Deferred Vested Participants  | 6  |
| Due a Refund of Contributions | 14 |
| Deferred Beneficiaries        | 0  |

Participants Receiving a Benefit

|                         |   |
|-------------------------|---|
| Service Retirements     | 3 |
| Disability Retirements  | 0 |
| Beneficiaries Receiving | 0 |

**Total Participants 45**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 | 16            | 0           | 4               | 1              | 21           |
| October 1, 2012 | N/A           | N/A         | N/A             | N/A            | N/A          |
| October 1, 2013 | 16            | 0           | 4               | 2              | 22           |
| October 1, 2014 | N/A           | N/A         | N/A             | N/A            | N/A          |
| October 1, 2015 | 17            | 0           | 7               | 2              | 26           |
| October 1, 2016 | N/A           | N/A         | N/A             | N/A            | N/A          |
| October 1, 2017 | 18            | 0           | 8               | 2              | 28           |
| October 1, 2018 | N/A           | N/A         | N/A             | N/A            | N/A          |
| October 1, 2019 | 22            | 0           | 18              | 3              | 43           |
| October 1, 2020 | 22            | 0           | 20              | 3              | 45           |



## Data Reconciliation

Table III-B

|                            | <u>Active</u> | <u>DROP</u> | <u>Deferred<br/>Vested</u> | <u>Due a<br/>Refund</u> | <u>Def.<br/>Benef.</u> | <u>Service<br/>Retiree</u> | <u>Disabled<br/>Retiree</u> | <u>Benef.<br/>Rec'v.</u> | <u>Total</u> |
|----------------------------|---------------|-------------|----------------------------|-------------------------|------------------------|----------------------------|-----------------------------|--------------------------|--------------|
| <u>October 1, 2019</u>     | 22            | 0           | 4                          | 14                      | 0                      | 3                          | 0                           | 0                        | 43           |
| <u>Change in Status</u>    |               |             |                            |                         |                        |                            |                             |                          |              |
| Re-employed                |               |             |                            |                         |                        |                            |                             |                          |              |
| Terminated                 | (3)           |             | 2                          | 1                       |                        |                            |                             |                          |              |
| Retired                    |               |             |                            |                         |                        |                            |                             |                          |              |
| <u>Participation Ended</u> |               |             |                            |                         |                        |                            |                             |                          |              |
| Transferred Out            |               |             |                            |                         |                        |                            |                             |                          |              |
| Cashed Out                 |               |             |                            | (1)                     |                        |                            |                             |                          | (1)          |
| Died                       |               |             |                            |                         |                        |                            |                             |                          |              |
| <u>Participation Began</u> |               |             |                            |                         |                        |                            |                             |                          |              |
| Newly Hired                | 3             |             |                            |                         |                        |                            |                             |                          | 3            |
| Transferred In             |               |             |                            |                         |                        |                            |                             |                          |              |
| New Beneficiary            |               |             |                            |                         |                        |                            |                             |                          |              |
| <u>Other Adjustment</u>    |               |             |                            |                         |                        |                            |                             |                          |              |
| <u>October 1, 2020</u>     | 22            | 0           | 6                          | 14                      | 0                      | 3                          | 0                           | 0                        | 45           |

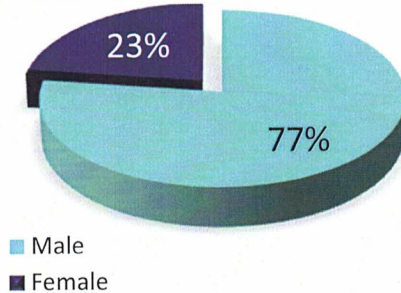


## Active Participant Data

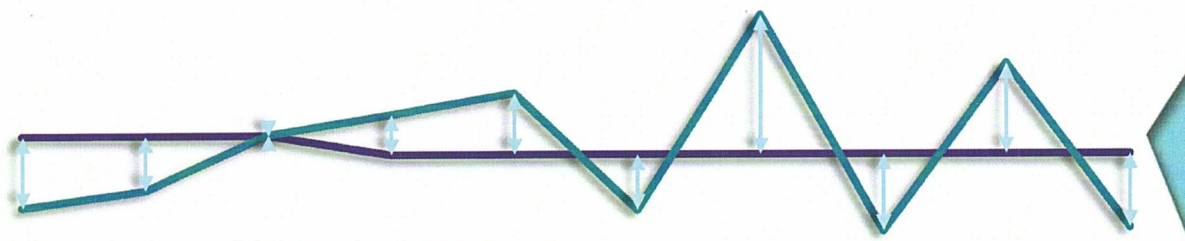
Table III-C

As of October 1, 2020

## Gender Mix



|                                                        |             |
|--------------------------------------------------------|-------------|
| Average Age                                            | 40.0 years  |
| Average Service                                        | 6.6 years   |
| Total Annualized Compensation for the Prior Year       | \$1,196,191 |
| Total Expected Compensation for the Current Year       | \$1,244,041 |
| Average Increase in Compensation for the Prior Year    | -1.48%      |
| Expected Increase in Compensation for the Current Year | 4.00%       |



Actual vs. Expected Salary Increases

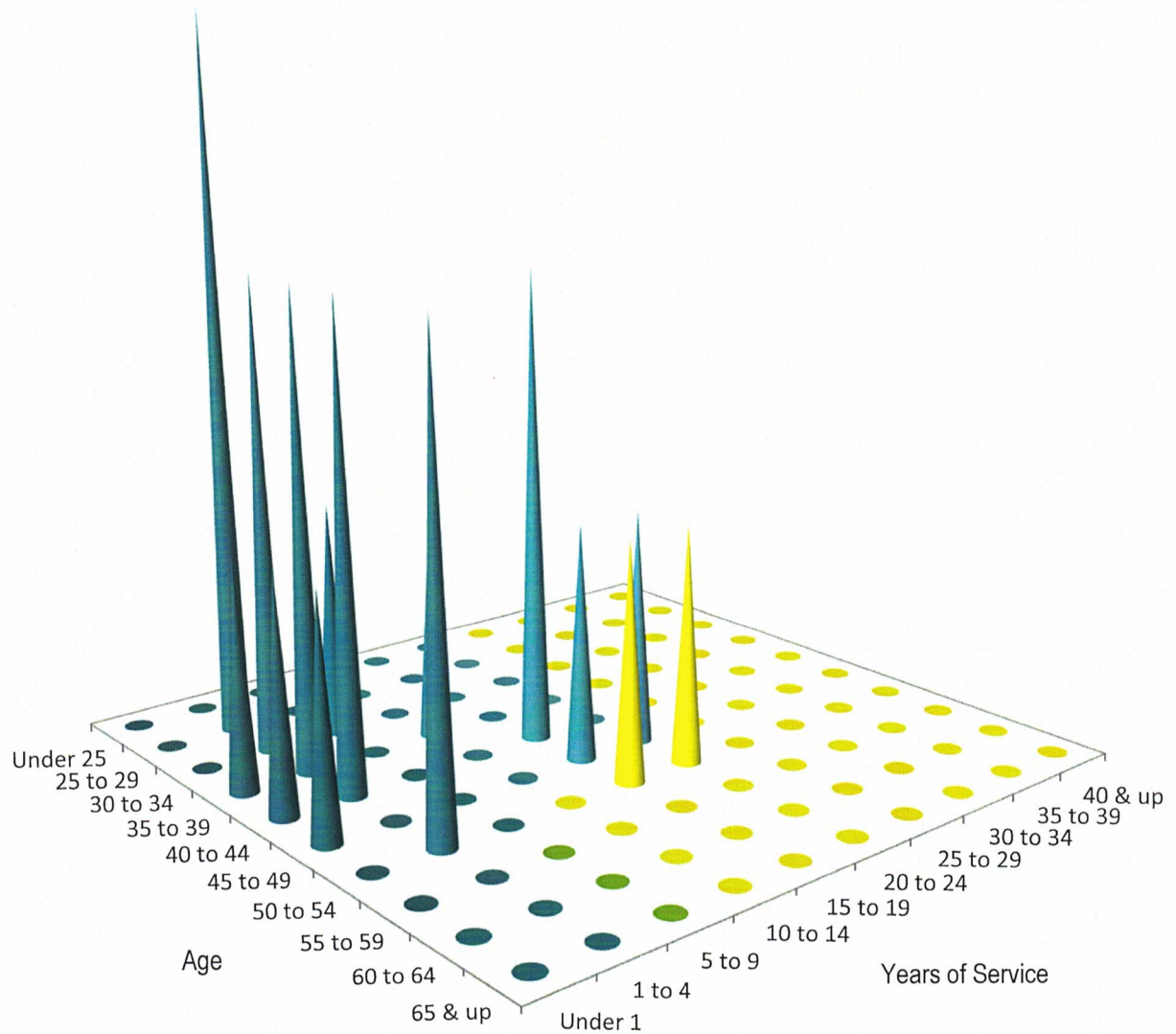
## Active Participant Statistics From Prior Valuations

|                 | Average<br>Age | Average<br>Service | Average<br>Salary | Average<br>Expected<br>Salary<br>Increase | Average<br>Actual<br>Salary<br>Increase |
|-----------------|----------------|--------------------|-------------------|-------------------------------------------|-----------------------------------------|
| October 1, 2011 | 36.9           | 6.3                | \$41,498          | 5.44%                                     | 0.09%                                   |
| October 1, 2012 | N/A            | N/A                | N/A               | 5.46%                                     | 1.38%                                   |
| October 1, 2013 | 37.4           | 8.2                | \$42,158          | 5.46%                                     | 5.53%                                   |
| October 1, 2014 | N/A            | N/A                | N/A               | 4.00%                                     | 6.99%                                   |
| October 1, 2015 | 37.8           | 8.5                | \$47,935          | 4.00%                                     | 8.58%                                   |
| October 1, 2016 | N/A            | N/A                | N/A               | 4.00%                                     | -0.14%                                  |
| October 1, 2017 | 37.2           | 9.7                | \$57,084          | 4.00%                                     | 14.36%                                  |
| October 1, 2018 | N/A            | N/A                | N/A               | 4.00%                                     | -1.73%                                  |
| October 1, 2019 | 38.1           | 6.4                | \$54,944          | 4.00%                                     | 10.73%                                  |
| October 1, 2020 | 40.0           | 6.6                | \$54,372          | 4.00%                                     | -1.48%                                  |



## Active Age-Service Distribution

Table III-D



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



Active Age-Service-Salary Table

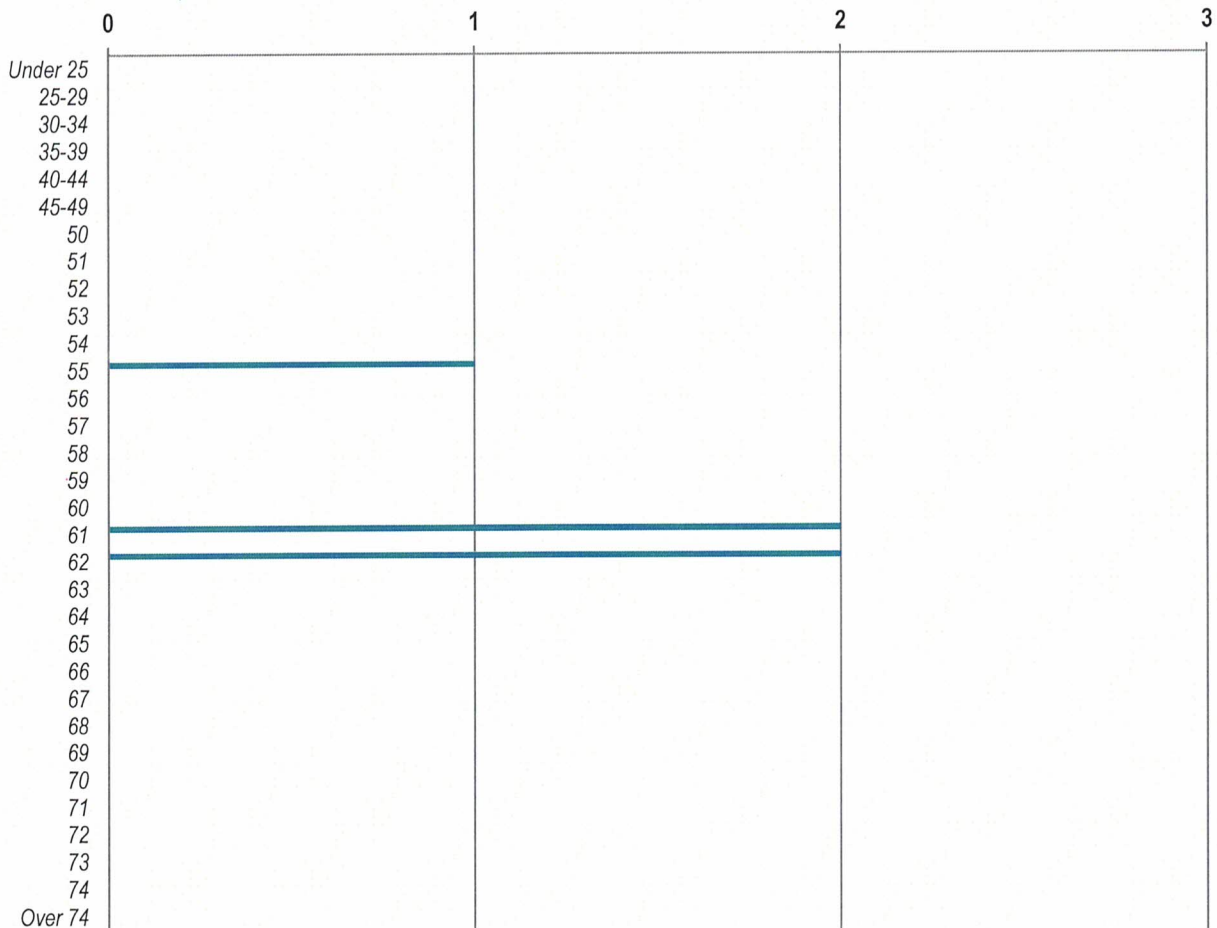
Table III-E

| Attained<br>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>    | 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>25 to 29</b>    | 0                          | 3      | 0      | 0        | 0        | 0        | 0        | 0        | 0        | 0       | 3      |
| Avg. Pay           | 0                          | 49,837 | 0      | 0        | 0        | 0        | 0        | 0        | 0        | 0       | 49,837 |
| <b>30 to 34</b>    | 0                          | 2      | 1      | 0        | 0        | 0        | 0        | 0        | 0        | 0       | 3      |
| Avg. Pay           | 0                          | 47,192 | 53,781 | 0        | 0        | 0        | 0        | 0        | 0        | 0       | 49,388 |
| <b>35 to 39</b>    | 1                          | 2      | 0      | 1        | 0        | 0        | 0        | 0        | 0        | 0       | 4      |
| Avg. Pay           | 39,176                     | 48,139 | 0      | 62,385   | 0        | 0        | 0        | 0        | 0        | 0       | 49,460 |
| <b>40 to 44</b>    | 1                          | 2      | 0      | 0        | 2        | 0        | 0        | 0        | 0        | 0       | 5      |
| Avg. Pay           | 31,332                     | 48,754 | 0      | 0        | 63,565   | 0        | 0        | 0        | 0        | 0       | 51,194 |
| <b>45 to 49</b>    | 1                          | 0      | 0      | 0        | 1        | 1        | 0        | 0        | 0        | 0       | 3      |
| Avg. Pay           | 41,678                     | 0      | 0      | 0        | 103,255  | 62,288   | 0        | 0        | 0        | 0       | 69,074 |
| <b>50 to 54</b>    | 0                          | 2      | 0      | 0        | 1        | 1        | 0        | 0        | 0        | 0       | 4      |
| Avg. Pay           | 0                          | 58,369 | 0      | 0        | 57,121   | 63,629   | 0        | 0        | 0        | 0       | 59,372 |
| <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      | 0      | 0        | 0        | 0        | 0        | 0        | 0        | 0       | 0      |
| Avg. Pay           | 0                          | 0      | 0      | 0        | 0        | 0        | 0        | 0        | 0        | 0       | 0      |
| <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>       | 3                          | 11     | 1      | 1        | 4        | 2        | 0        | 0        | 0        | 0       | 22     |
| Avg. Pay           | 37,395                     | 50,401 | 53,781 | 62,385   | 71,877   | 62,959   | 0        | 0        | 0        | 0       | 54,372 |



## Inactive Participant Data

Table III-F

**Age at Retirement**

- Service Retirements
- Disability Retirements
- DROP Participants

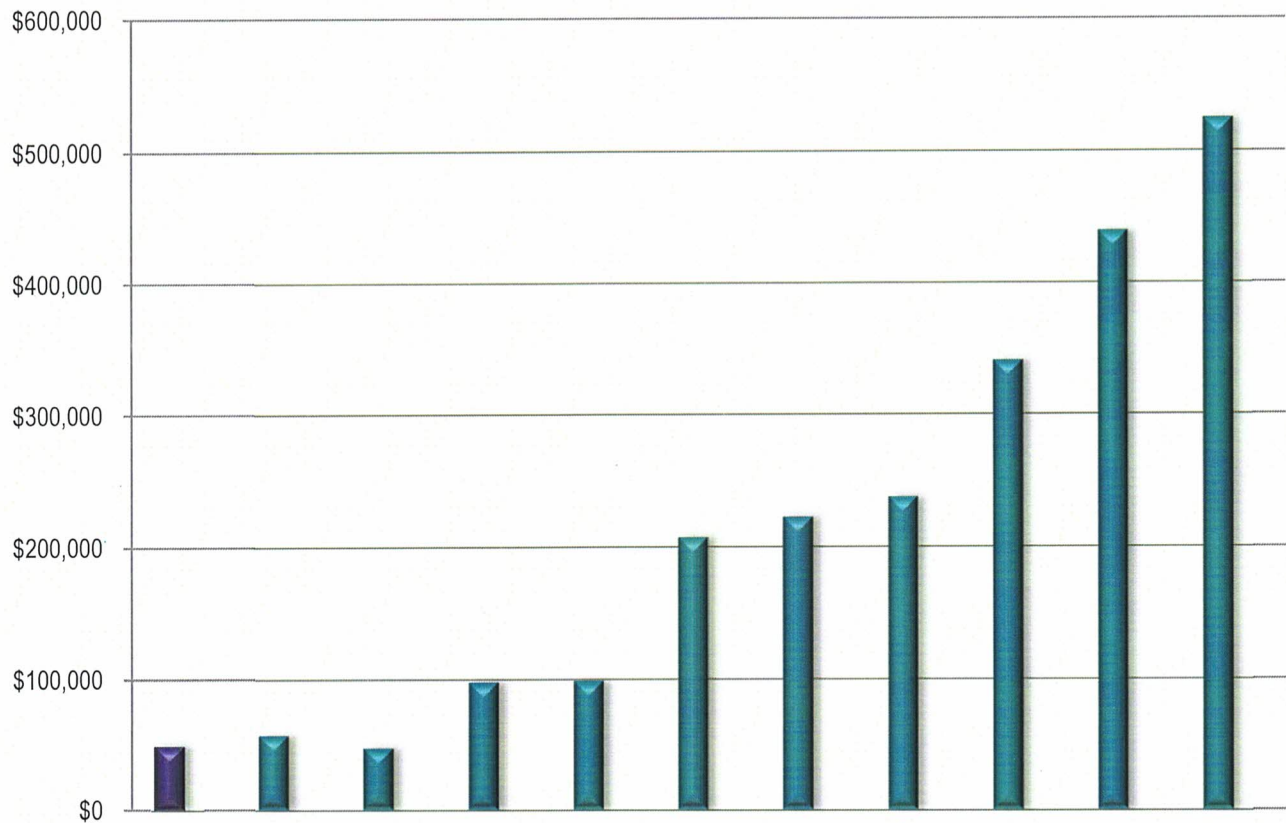
Average Monthly Benefit

|                              |                |
|------------------------------|----------------|
| Service Retirements          | \$1,300.34     |
| Disability Retirements       | Not applicable |
| Beneficiaries Receiving      | Not applicable |
| DROP Participants            | Not applicable |
| Deferred Vested Participants | \$1,665.36     |
| Deferred Beneficiaries       | Not applicable |



## Projected Benefit Payments

Table III-G

Actual

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

\$49,044

Projected

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

\$56,876

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

\$46,875

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

\$98,024

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

\$99,077

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

\$207,449

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

\$222,777

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

\$237,861

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

\$341,070

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

\$439,976

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

\$525,062



## Summary of Actuarial Methods and Assumptions

## Table IV-A

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

**1. Actuarial Cost Method**

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

**2. Asset Method**

The actuarial value of assets is equal to the market value of assets, adjusted to reflect a five-year phase-in of the unexpected investment gains and losses.

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

7.00% per annum

**4. Salary Increases**

Plan compensation is assumed to increase at the rate of 4.00% per annum, unless actual plan compensation is known for a prior plan year.

**5. Decrements**

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



## Summary of Actuarial Methods and Assumptions

## Table IV-A

(continued)

- Disability: None is assumed.
- Termination: None is assumed.
- Retirement: Retirement is assumed to occur at the most valuable retirement age.

**6. Form of Payment**

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

**7. Marriage Assumption**

For purposes of determining the liability attributable to the health insurance supplement, all participants are assumed to be married upon their death after retirement, with husbands assumed to be three years older than wives.

**8. Expenses**

Administrative expenses are assumed to be equal to 1.00% 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 and the actuarial value of assets was changed from the market value of assets to the market value adjusted to reflect a five-year phase-in of the unexpected investment gains and losses.

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

- (1) Effective October 1, 2017, the mortality basis was changed from 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.*
- (2) Effective October 1, 2013, the interest (or discount) rate was decreased from 7.50% per annum to 7.00% per annum.*
- (3) Effective October 1, 2013, the assumed increase in future salaries was changed from a range of rates based on service to 4.00% per year.*
- (4) Effective October 1, 2013, the additional 4.00% increase in compensation during the last year prior to retirement was removed.*
- (5) Effective October 1, 2013, 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, as published by the Internal Revenue Service (IRS) for purposes of Internal Revenue Code (IRC) section 430.*



## 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  
Any age 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) 65% 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 (or career average, if higher).

**10. Compensation**

Compensation means the total cash remuneration; annual compensation in excess of \$200,000 (as indexed) is excluded in accordance with 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 of the City of Green Cove Springs, 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**

1.00% of earnings

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

All monthly benefits include an automatic cost-of-living adjustment (COLA) equal to 1.50% compounded annually. The COLA is effective as of each October 1 after the participant has been retired for at least one year.

**16. Health Insurance Supplement**

All participants who retire with a normal or disability retirement benefit, as well as spouses who are entitled to receive a monthly benefit, receive a monthly health insurance supplement equal to \$8.00 for each year of service, to a maximum of \$200.00 per month. The supplement is payable for the lifetime of the participant or his spouse.

**17. Definition of Actuarially Equivalent**

- **Interest Rate**

7.00% per annum

- **Mortality Table**

Mortality table promulgated by the IRS for purposes of calculating lump sum distributions pursuant to IRC section 417(e)(3)

**18. Plan Effective Date**

January 1, 1996

**19. 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.



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## Summary of Plan Amendments

## Table V-B

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

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

- (1) *During the 2010/11 plan year, the mortality table used for actuarial equivalence was changed.*

