# QR $\begin{aligned} & \text { Gabriel Roeder Smith \& Company } \\ & \text { Consultants \& Actuaries }\end{aligned}$ 



CITY OF CLEARWATER EMPLOYEES' PENSION PLAN
ACTUARIAL VALUATION REPORT AS OF JANUARY 1, 2017

ANNUAL EMPLOYER CONTRIBUTION FOR THE FISCAL YEAR ENDING SEPTEMBER 30, 2018


GRS

March 24, 2017

Board of Trustees
City of Clearwater Employees’ Pension Plan
Clearwater, Florida
Dear Board Members:


The results of the January 1, 2017 Annual Actuarial Valuation of the City of Clearwater Employees' Pension Plan are presented in this report.

The computed contribution rate shown on page 1 may be considered as a minimum contribution rate that complies with the Board's funding policy. Users of this report should be aware that contributions made at that rate do not guarantee benefit security. Given the importance of benefit security to any retirement system, we suggest that contributions to the System in excess of those presented in this report be considered.

The contribution rate in this report is determined using the actuarial assumptions and methods disclosed in Section B of this report. This report does not include an assessment of the risks of future experience not meeting the actuarial assumptions. Such an assessment of risks was outside the scope of this assignment. We encourage a review and assessment of investment and other significant risks that may have a material effect on the Plan's financial condition.

This report was prepared at the request of the Board and is intended for use by the Retirement System and those designated or approved by the Board. This report may be provided to parties other than the System only in its entirety and only with the permission of the Board. GRS is not responsible for unauthorized use of this report.

The purposes of the valuation are to measure the System's funding progress and to determine the employer contribution rate for the fiscal year ending September 30, 2018. This report should not be relied on for any purpose other than the purposes described herein. Determinations of financial results, associated with the benefits described in this report, for purposes other than those identified above may be significantly different.

The findings in this report are based on data or other information through December 31, 2016. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. The scope of an actuarial valuation does not include an analysis of the potential range of such measurements.

This valuation assumed the continuing ability of the plan sponsor to make the contributions necessary to fund this Plan. A determination regarding whether or not the plan sponsor is actually able to do so is outside our scope of expertise and was not performed.

The valuation was based upon information furnished by the City concerning Retirement System benefits, financial transactions, plan provisions and active members, terminated members, retirees and beneficiaries. We checked for internal and year-to-year consistency, but did not otherwise audit the data. We are not responsible for the accuracy or completeness of the information provided by the City.

In addition, this report was prepared using certain assumptions approved by the Board and prescribed by the Florida Statutes as described in the section of this report entitled Actuarial Assumptions and Methods. The prescribed assumptions are the assumed mortality rates detailed in the Actuarial Assumptions and Methods section in accordance with Florida House Bill 1309 (codified in Chapter 2015-157).

This report has been prepared by actuaries who have substantial experience valuing public employee retirement systems. To the best of our knowledge the information contained in this report is accurate and fairly presents the actuarial position of the Retirement System as of the valuation date. All calculations have been made in conformity with generally accepted actuarial principles and practices, with the Actuarial Standards of Practice issued by the Actuarial Standards Board and with applicable statutes.

Peter N. Strong and Trisha Amrose are members of the American Academy of Actuaries. These actuaries meet the Academy's Qualification Standards to render the actuarial opinions contained herein.

The signing actuaries are independent of the plan sponsor.
This actuarial valuation and/or cost determination was prepared and completed 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. In my opinion, the techniques and assumptions used are reasonable, meet the requirements and intent of Part VII, Chapter 112, Florida Statutes, and are based on generally accepted actuarial principles and practices. 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 increase in plan costs or required contribution rates have been taken into account in the valuation.

Gabriel, Roeder, Smith \& Company will be pleased to review this valuation and Report with the Board of Trustees and to answer any questions pertaining to the valuation.

Respectfully submitted,
GABRIEL, ROEDER, SMITH AND COMPANY

Enrolled Actuary No. 14-6975
Enrolled Actuary No. 14-8010

## TABLE OF CONTENTS

Section Title Page
A

## B

Discussion of Valuation Results
Valuation Results

1. Participant Data5
2. Annual Required Contribution ..... 6
3. Actuarial Value of Benefits and Assets ..... 7
4. Calculation of Employer Normal Cost ..... 8
5. Reconciliation of Credit Balance ..... 9
6. Liquidation of the Unfunded Actuarial Accrued Liability ..... 10
7. Actuarial Gains and Losses ..... 12
8. Recent History of Valuation Results ..... 17
9. Recent History of Contributions ..... 18
10. Actuarial Assumptions and Cóst Method ..... 19
11. Glossary of Terms ..... 28
C Pension Fund Information
12. Statement of Plan Assets at Market Value ..... 31
13. Reconciliation of Plan Assets ..... 32
14. Development of Actuarial Value of Assets ..... 33
15. Investment Rate of Return ..... 34
D Financial Accounting InformationE

16. FASB No. 35 ..... 35
Miscellaneous Information
17. Reconciliation of Membership Data ..... 36
18. Active Participant Distribution ..... 37
19. Inactive Participant Distribution ..... 40
F Summary of Plan Provisions ..... 41


## DISCUSSION OF VALUATION RESULTS

## Comparison of Required Employer Contributions

The required employer contribution developed in this year's valuation is compared below to last year's results:

|  | For FYE 9/30/2018 <br> Based on <br> 1/1/2017 <br> Valuation | For FYE 9/30/2017 <br> Based on <br> 1/1/2016 <br> Valuation | Increase <br> (Decrease) |
| :---: | :---: | :---: | :---: |
| Required Employer/State Contribution As \% of Covered Payroll | $\begin{array}{lr}\$ \quad 8,659,427 \\ & 10.92 \%\end{array}$ | $\begin{array}{r} \$ 8,944,103 \\ 11.15 \% \end{array}$ | $\begin{aligned} & \$ \quad(284,676) \\ & (0.23) \% \end{aligned}$ |
| Estimated State Contribution As \% of Covered Payroll | $\begin{array}{r} 12,000 \\ 0.01 \% \end{array}$ | $\begin{array}{r} 12,000 \\ 0.02 \% \end{array}$ | $\begin{gathered} 0 \\ (0.01) \% \end{gathered}$ |
| Required Employer Contribution | 8,647,427 | 8,932,103 | $(284,676)$ |
| As \% of Covered Payroll | $10.91 \text { \% }$ | 11.13 \% | (0.22) \% |
| Credit Balance | 19,445,883 | 15,570,503 | 3,875,380 |

The contribution has been adjusted for interest on the basis that payments are made uniformly during the first two quarters of the City's fiscal year. The required employer contribution has been computed under the assumption that the amount to be received from the State on behalf of police officers and firefighters in 2017 and 2018 will be $\$ 12,000$. If the actual payment from the State falls below this amount, then the City must increase its contribution by the difference.

The actual Employer and State contributions during the year ending December 31, 2016 were $\$ 11,717,548$ and $\$ 12,000$, respectively, for a total of $\$ 11,729,548$, compared to the required contribution of $\$ 8,944,103$. The excess contribution of $\$ 2,785,445$ was used to increase the credit balance.

The minimum required City contribution is 7\% of covered payroll.

## Revisions in Benefits

There have been no revisions in benefits since the last valuation.

## Revisions in Actuarial Assumptions or Methods

The mortality assumption for active members prior to retirement was revised in accordance with a revision to the active member pre-retirement mortality assumption used by the Florida Retirement System (FRS) in their July 1, 2016 Actuarial Valuation. No revisions were made to mortality rates applicable to retirees. Prior to this revision, pre-retirement mortality rates for active members were the same as the postretirement rates for active members and retirees. This change was made in compliance with Florida House Bill 1309, which requires all public pension plans in Florida to use the same mortality tables used in either of the last two actuarial valuation reports of FRS effective January 1, 2016. A more detailed description can be found in the section of this report titled Actuarial Assumptions and Cost Method. As a result of the change in the pre-retirement mortality assumption, the required contribution increased by $0.11 \%$ of covered payroll, or $\$ 83,845$.

For informational purposes, if this year's valuation had been completed using the mortality rates assumed prior to January 1, 2016 (the RP-2000 Combined Healthy Participant Mortality Table for males and females with mortality improvements projected with Scale BB ) rather than the mortality rates mandated by the Florida Statutes, the required City contribution for FY 2018 would have been $\$ 8,885,377$, or $11.21 \%$ of covered payroll, and the funded ratio (excluding the credit balance) as of January 1, 2017 would have been $102.74 \%$.

## Actuarial Experience

There was a net actuarial experience gain of $\$ 18,096,188$ during the year, which means that actual experience was more favorable than expected. The gain is primarily due to a recognized investment return (on the smoothed actuarial value of assets) above the assumed rate of $7.0 \%$ and lower than expected salary increases. Although the investment return on the market value of assets was $6.70 \%$, the investment return was $8.22 \%$ based on the actuarial value of assets, as previously unrecognized investment gains were phased in. In addition, actual average salary increases were $1.23 \%$, compared to an expected average increase of $4.13 \%$. Salary increases were lower than expected mainly because reported pensionable earnings for the year ending December 31, 2015 included 27 pay periods, whereas 26 pay periods are included in the
reported pensionable earnings for the year ending December 31, 2016. An experience gain also resulted from retirement experience (there were 49 retirements during the year versus 60 expected). Mortality experience was a minor offsetting source of experience loss, as there were fewer retiree deaths during the year than expected ( 20 actual deaths with $\$ 498,746$ in annual pensions versus 25 expected deaths with \$708,907 in annual pensions).

Under Chapter 112.66 of the Florida Statues, the annual payment to amortize the UAL may not reduce the contribution required to fund the Normal Cost. As a result, since the annual payment to amortize the UAL is below $\$ 0$, the actuarial experience gain had no direct effect on the required employer contribution.

## Analysis of Change in Employer Contribution

The components of change in the required City contribution are as follows:

| Contribution Rate Last Year | 11.13 |
| :--- | :---: |
| Change in Benefits | 0.00 |
| Change in Assumptions and Methods | 0.11 |
| Amortization Payment on UAAL | 0.00 |
| Normal Cost | $(0.33)$ |
| Experience Gain/Loss | 0.00 |
| Change in Administrative Expenses | 0.01 |
| Change in State Revenue | $\underline{(0.01)}$ |
| Contribution Rate This Year | 10.91 |

## Funded Ratio

One measure of the Plan's funding progress is the ratio of the actuarial value of assets to the actuarial accrued liability. Including the credit balance in the actuarial value of assets, the funded ratio is $105.38 \%$ this year compared to $102.92 \%$ last year. Not including the credit balance in the actuarial value of assets, the funded ratio is $103.17 \%$ this year compared to $101.10 \%$ last year. This funded ratio (not including the credit balance) was $103.21 \%$ before the change in the mortality assumption.

## Variability of Future Contribution Rates

The Actuarial Cost Method used to determine the contribution rate is intended to produce contribution rates which are generally level as a percent of payroll. Even so, when experience differs from the assumptions, as it often does, the employer's contribution rate can vary significantly from year-
to-year. Over time, if the year-to-year gains and losses offset each other, the contribution rate would be expected to return to the current level, but this does not always happen.

The Actuarial Value of Assets exceeds the Market Value of Assets by $\$ 22,413,724$ as of the valuation date (see Section C). This difference will be phased in over the next few years in the absence of offsetting gains. If there are no experience losses and the return on the market value of assets is $7.0 \%$ in 2017 (net of investment expenses) as assumed, it is projected that the City contribution requirement as of January 1, 2018 for the fiscal year ending September 30, 2019 will remain in the range of approximately 10\%-11\% of covered payroll.

## Relationship to Market Value

If Market Value had been the basis for the valuation, the City contribution rate would have remained at $10.91 \%$ of covered payroll (since the annual payment to amortize the UAL would have remained at $\$ 0$ due to Chapter 112.66 of the Florida Statutes), and the funded ratio (excluding the credit balance) would have been $100.62 \%$. The funded ratio based on the market value of assets (excluding the credit balance) last year was 100.09\%.

## Conclusion

The remainder of this Report includes detailed actuarial valuation results, financial information, miscellaneous information and statistics, and a summary of plan provisions.


| PARTICIPANT DATA |  |  |
| :---: | :---: | :---: |
|  | January 1, 2017 | January 1, 2016 |
| ACTIVE MEMBERS |  |  |
| Number <br> Covered Annual Payroll <br> Average Annual Payroll <br> Average Age <br> Average Past Service <br> Average Age at Hire | $\begin{array}{rr}  & 1,520 \\ \$ & 79,276,100 \\ \$ & 52,155 \\ & 44.3 \\ & 10.9 \\ & 33.4 \end{array}$ |  1,505 <br> $\$$ $80,250,993$ <br> $\$$ 53,323 <br>  44.5 <br>  11.1 <br>  33.4 |
| RETIREES \& BENEFICIARIES |  |  |
| Number <br> Annual Benefits <br> Average Annual Benefit <br> Average Age |  1,078 <br> $\$$ $39,298,148$ <br> $\$$ 36,455 <br>  66.3 |  1,037 <br> $\$$ $36,972,899$ <br> $\$$ 35,654 <br>  65.9 |
| DISABILITY RETIREES |  |  |
| Number <br> Annual Benefits <br> Average Annual Benefit Average Age |  134 <br> $\$$ $3,889,865$ <br> $\$$ 29,029 <br>  63.2 |  137 <br> \$ $3,837,858$ <br> $\$$ 28,014 <br>  63.4 |
| TERMINATED VESTED MEMBERS |  |  |
| Number <br> Annual Benefits <br> Average Annual Benefit <br> Average Age |  66 <br> $\$$ $1,254,568$ <br> $\$$ 19,009 <br>  50.1 | $\begin{array}{lr}  & 63 \\ \$ & 1,230,068 \\ \$ & 19,525 \\ & 50.4 \end{array}$ |

## ACTUARIALLY DETERMINED CONTRIBUTION (ADC)



* The annual payment to amortize the UAL is less than \$0; however, under Chapter 112.66 of the Florida Statutes, the annual payment to amortize the UAL may not reduce the contribution below the amount required to fund the Normal Cost.


## ACTUARIAL VALUE OF BENEFITS AND ASSETS



## CALCULATION OF EMPLOYER NORMAL COST ENTRY AGE NORMAL METHOD

| A. Valuation Date | January 1, 2017 | January 1, 2017 | January 1, 2016 |
| :---: | :---: | :---: | :---: |
|  | After <br> Assumption Change | Before Assumption Change |  |
| B. Normal Cost for |  |  |  |
| 1. Service Retirement Benefits | \$ 10,431,629 | \$ 10,160,752 | \$ 10,488,778 |
| 2. Vesting | 2,024,528 | 1,997,067 | 2,036,821 |
| 3. Disability Benefits | 1,335,018 | 1,330,914 | 1,363,963 |
| 4. Death Benefits | 248,588 | 445,115 | 456,044 |
| 5. Refund of Contributions | 695,405 | 722,961 | 729,238 |
| 6. Total for Future Benefits | 14,735,168 | 14,656,809 | 15,074,844 |
| 7. Assumed Amount for Administrative Expenses | $301,781$ | 301,781 | 302,086 |
| 8. Total Normal Cost | 15,036,949 | 14,958,590 | 15,376,930 |
| C. Expected Member Contributions | 6,944,027 | 6,944,027 | 7,017,955 |
| D. Employer Normal Cost: B8- | 8,092,922 | 8,014,563 | 8,358,975 |
| E. Employer Normal Cost as \% of Covered Payroll | 10.21\% | 10.11\% | 10.42\% |



## GRS



## Amortization Schedule

The UAAL is being liquidated as a level dollar amount over the number of years remaining in the amortization period. The expected amortization schedule is as follows:


## ACTUARIAL GAINS AND LOSSES

The assumptions used to anticipate mortality, employment turnover, investment income, expenses, salary increases, and other factors have been based on long range trends and expectations. Actual experience can vary from these expectations. The variance is measured by the gain and loss for the period involved. If significant long term experience reveals consistent deviation from what has been expected and that deviation is expected to continue, the assumptions should be modified. The net actuarial gain (loss) for the past year is computed as follows:

| A. Derivation of the Current UAAL |  |
| :--- | :---: |
| 1. Last Year's UAAL | $\$(9,421,356)$ |
| 2. Employer Normal Cost for Contribution Year | $8,358,975$ |
| 3. Last Year's Contributions |  |
| 4. Interest at the Assumed Rate on: | $8,944,103 *$ |
| a. 1 and 2 for one year | $(74,367)$ |
| b. 3 from dates paid | 39,498 |
| c. a - b | $(113,865)$ |
| 5. This Year's Expected UAAL: | $(10,120,349)$ |
| 1 + 2 - 3 + 4c |  |
| 6. This Year's Actual UAAL (Before any | $(28,216,537)$ |
| changes in benefits and assumptions) | $18,096,188$ |
| 7. Net Actuarial Gain (Loss): (5) - (6) | $10,817,097$ |
| 8. Gain (Loss) Due to Investments | $7,279,091$ |
| 9. Gain (Loss) Due to other sources |  |

* Excludes the portion of the actual contribution above the required contribution that was used to increase the credit balance.

Gains (losses) in previous years have been as follows:


* Before 2015, Change in Normal Cost Rate.
** Before reflecting Chapter 112.66 of the Florida Statutes. Since the annual payment to amortize the UAL is less than $\$ 0$, the net effect of the 2016 gain on the required employer contribution is $\$ 0$ after reflecting Chapter 112.66 of the Florida Statutes (the requirement to fund at least the normal cost).

The fund earnings and salary increase assumptions have considerable impact on the cost of the Plan so it is important that they are in line with the actual experience. The following table shows the actual fund earnings and salary increase rates compared to the assumed rates for the last few years:


## * Salary for the year ending 12/31/2015 included 27 pay periods rather than 26.

The actual investment return rates shown above are based on the actuarial value of assets. The actual salary increase rates shown above are the increases received by those active members who were included in the actuarial valuations both at the beginning and the end of each year.

History of Investment Return Based on Actuarial Value of Assets


| Actual (A) Compared to Expected (E) Decrements Among Active Employees |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Year <br> Ended | Number <br> Added <br> During <br> Year |  | Service <br> Retirement |  | Disability <br> Retirement |  | Death |  | Vested | Other Totals |  |  | Active Members End of Year |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | A | E | A | E | A | E | A | E | A | A | A | E |  |
| 12/31/2009 | 49 | 110 | 54 | 57 | 0 | 6 | 0 | 2 | 10 | 46 | 56 | 93 | 1,567 |
| 12/31/2010 | 78 | 137 | 68 | 51 | 2 | 6 | 3 | 2 | 15 | 49 | 64 | 85 | 1,508 |
| 12/31/2011 | 84 | 124 | 43 | 49 | 6 | 6 | 0 | 2 | 11 | 64 | 75 | 84 | 1,468 |
| 12/31/2012 | 119 | 113 | 51 | 52 | 3 | 6 | 1 | 2 | 18 | 40 | 58 | 81 | 1,474 |
| 12/31/2013 | 102 | 98 | 27 | 42 | 2 | 3 | 4 | 2 | 11 | 54 | 65 | 79 | 1,478 |
| 12/31/2014 | 135 | 131 | 45 | 51 | 5 | 3 | 2 | 2 | 21 | 58 | 79 | 78 | 1,482 |
| 12/31/2015 | 145 | 122 | 43 | 52 | 7 | 3 | 1 | 2 | 18 | 53 | 71 | 82 | 1,505 |
| 12/31/2016 | 159 | 144 | 49 | 60 | 4 | 3 | 2 | 3 | 18 | 71 | 89 | 89 | 1,520 |
| 12/31/2017 |  |  |  | 59 |  |  |  | 2 |  |  |  | 91 |  |
| 8 Yr Totals * | 871 | 979 | 380 | 414 | 29 | 36 | 13 | 17 | 122 | 435 | 557 | 671 |  |

* Totals are through current Plan Year only.

|  | Actual During Year |  | Expected During Year |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Number | Annual <br> Pensions | Number | Annual <br> Pensions |
| 12/31/2009 | 12 | \$ 142,606 | 16 | \$ 313,189 |
| 12/31/2010 | 12 | 139,508 | 18 | 363,242 |
| 12/31/2011 | 13 | 220,877 | 19 | 416,467 |
| 12/31/2012 | 12 | 232,755 | 20 | 466,010 |
| 12/31/2013 | 20 | 401,192 | 20 | 480,787 |
| 12/31/2014 | 16 | 275,728 | 21 | 510,892 |
| 12/31/2015 | 19 | 385,405 | 22 | 558,603 |
| 12/31/2016 | 20 | 498,746 | 25 | 708,907 |
| 12/31/2017 |  |  | 26 | 753,482 |


| $\begin{gathered} \text { Valuation } \\ \text { Date } \\ \hline \hline \end{gathered}$ | RECENT HISTORY OF VALUATION RESULTS |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number of |  | Covered Annual Payroll | Actuarial Value of Assets | Actuarial Accrued Liability (Entry Age) | Unfunded <br> Actuarial <br> Liability <br> (Entry Age)* | Funded Ratio | Employer Normal Cost* |  |
|  | Active <br> Members | Inactive <br> Members |  |  |  |  |  | Amount | \% of Payroll |
| 1/1/07 | 1,692 | 819 | \$ 79,385,090 | \$ 559,830,590 | N/A | N/A | N/A | \$ 9,192,407 | 11.58 \% |
| 1/1/08 | 1,641 | 878 | 80,371,617 | 610,979,087 | N/A | N/A | N/A | 6,920,400 | 8.61 |
| 1/1/09 | 1,628 | 903 | 82,104,837 | 536,834,473 | N/A | N/A | N/A | 20,005,238 | 24.37 |
| 1/1/10 | 1,567 | 955 | 80,443,199 | 618,444,906 | \$ 647,167,565 | \$ 28,722,659 | 95.6 \% | 15,879,628 | 19.74 |
| 1/1/11 | 1,508 | 1,024 | 76,505,599 | 646,956,800 | 672,786,812 | 25,830,012 | 96.2 | 15,461,725 | 20.21 |
| 1/1/12 | 1,468 | 1,072 | 74,765,020 | 664,087,199 | 702,438,432 | 38,351,233 | 94.5 | 17,064,100 | 22.82 |
| 1/1/13 | 1,474 | 1,127 | 74,422,344 | 688,731,221 | 774,749,811 | 86,018,590 | 88.9 | 12,845,501 | 17.26 |
| 1/1/14 | 1,478 | 1,144 | 74,254,159 | 772,411,068 | 795,927,127 | 23,516,059 | 97.0 | 4,626,039 | 6.23 |
| 1/1/15 | 1,482 | 1,194 | 75,078,542 | 829,486,793 | 824,274,144 | $(5,212,649)$ | 100.6 | 8,194,115 | 10.91 |
| 1/1/16 | 1,505 | 1,237 | 80,250,993 | 866,598,975 | 857,177,619 | $(9,421,356)$ | 101.1 | 8,358,975 | 10.42 |
| 1/1/17 | 1,520 | 1,278 | 79,276,100 | 908,229,246 | 880,316,652 | $(27,912,594)$ | 103.2 | 8,092,922 | 10.21 |

[^0]| $\begin{array}{\|c\|} \hline \text { Valuation } \\ \text { Date } \\ \hline \end{array}$ | RECENT HISTORY OF REQUIRED AND ACTUAL CONTRIBUTIONS |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | End of <br> Year To <br> Which <br> Valuation <br> Applies | Required Contributions |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  | Employer \& State |  | Estimated State |  | Net Employer |  | Actual Contributions |  |  |
|  |  | Amount | $\begin{gathered} \text { \% of } \\ \text { Payroll } \end{gathered}$ | Amount | \% of Payroll | Amount | $\%$ of Payroll | Employer | State | Total |
| 1/1/07 | 9/30/08 | \$ 12,532,399 | 15.79 \% | \$ 12,000 | 0.02 \% | \$ 12,520,399 | 15.77 \% | \$ 12,520,399 | \$ 12,000 | \$ 12,532,399 |
| 1/1/08 | 9/30/09 | 10,086,978 | 12.55 | 12,000 | 0.01 | 10,074,978 | 12.54 | 10,074,978 | 12,000 | 10,086,978 |
| 1/1/09 | 9/30/10 | 23,960,586 | 29.18 | 12,000 | 0.01 | 23,948,586 | 29.17 | 23,948,586 | 12,000 | 23,960,586 |
| 1/1/10 | 9/30/11 | 19,373,992 | 24.08 | 12,000 | 0.01 | 19,361,992 | 24.07 | 19,361,992 | 12,000 | 19,373,992 |
| 1/1/11 | 9/30/12 | 18,898,567 | 24.70 | 12,000 | 0.01 | 18,886,567 | 24.69 | 18,886,567 | 12,000 | 18,898,567 |
| 1/1/12 | 9/30/13 | 20,925,720 | 27.99 | 12,000 | 0.02 | 20,913,720 | 27.97 | 20,913,720 | 12,000 | 20,925,720 |
| 1/1/13 | 9/30/14 | 19,608,078 | 26.35 | 12,000 | 0.02 | 19,596,078 | 26.33 | 19,596,078 | 12,000 | 19,608,078 |
| 1/1/14 | 9/30/15 | 10,803,098 | 14.55 | 12,000 | 0.02 | 10,791,098 | 14.53 | 10,791,098 | 12,000 | 10,803,098 |
| 1/1/15 | 9/30/16 | 8,767,703 | 11.68 | 12,000 | 0.02 | 8,755,703 | 11.66 | 8,755,703 | 12,000 | 8,767,703 |
| 1/1/16 | 9/30/17 | 8,944,103 | 11.15 | 12,000 | 0.02 | 8,932,103 | 11.13 | 8,932,103 | 12,000 | 8,944,103 |
| 1/1/17 | 9/30/18 | 8,659,427 | 10.92 | 12,000 | 0.02 | 8,647,427 | 10.91 | --- | --- | --- |

Results before January 1, 2010 are from the January 1, 2009 Report prepared by PricewaterhouseCoopers.

## ACTUARIAL ASSUMPTIONS AND COST METHOD

## Valuation Methods

Actuarial Cost Method - Normal cost and the allocation of benefit values between service rendered before and after the valuation date were determined using an Individual Entry-Age Actuarial Cost Method having the following characteristics:
(i) the annual normal cost for each individual active member, payable from the date of employment to the date of retirement, is sufficient to accumulate the value of the member's benefit at the time of retirement;
(ii) each annual normal cost is a constant percentage of the member's year by year projected covered pay.

Actuarial gains/(losses), as they occur, reduce (increase) the Unfunded Actuarial Accrued Liability.
Financing of Unfunded Actuarial Accrued Liabilities - Unfunded Actuarial Accrued Liabilities (full funding credit if assets exceed liabilities) were amortized by level (principal \& interest combined) dollar amount contributions over a reasonable period of future years.

Actuarial Value of Assets - The Actuarial Value of Assets phase in the difference between the expected and actual return on market value of assets at the rate of $20 \%$ per year. The Actuarial Value of Assets will be further adjusted to the extent necessary to fall within the corridor whose lower limit is $80 \%$ of the Market Value of plan assets and whose upper limit is $120 \%$ of the Market Value of plan assets. During periods when investment performance exceeds the assumed rate, Actuarial Value of Assets will tend to be less than Market Value. During periods when investment performance is less than assumed rate, Actuarial Value of Assets will tend to be greater than Market Value.

## Valuation Assumptions

The actuarial assumptions used in the valuation are shown in this Section. Both the economic and decrement assumptions were established following the Experience Study Report as of January 1, 2012 covering the five years ending December 31, 2011.

## Economic Assumptions

The investment return rate assumed in the valuations is $7.00 \%$ per year, compounded annually (net rate after investment expenses).

The Inflation Rate assumed in this valuation is $2.50 \%$ per year. The Inflation Rate is defined to be the expected long-term rate of increases in the prices of goods and services.

The assumed real rate of return over inflation is defined to be the portion of total investment return that is more than the assumed inflation rate. Considering other economic assumptions, the $7.00 \%$ investment return rate translates to an assumed real rate of return over inflation of $4.50 \%$.

The rate of salary increase used for individual members can be seen in the tables below. Part of the assumption is for merit and/or seniority increases and productivity increases, and $2.50 \%$ recognizes inflation, including price inflation and other macroeconomic forces. This assumption is used to project a member's current salary to the salaries upon which benefits will be based.

| \% Increase in Salary - Hazardous Duty |  |  |  |
| :---: | :---: | :---: | :---: |
| Years of Service | Merit and Seniority | Base (Inflation) | Total Increase |
| 1 | 5.40\% | 2.50\% | 7.90\% |
| 2 | 5.20\% | 2.50\% | 7.70\% |
| 3 | 4.50\% | 2.50\% | 7.00\% |
| 4 | 2.75\% | 2.50\% | 5.25\% |
| 5-14 | 1.75\% | 2.50\% | 4.25\% |
| 15 and Higher | 1.00\% | 2.50\% | 3.50\% |
| \% Increase in Salary - Non-Hazardous Duty |  |  |  |
| Years of Service | Merit and Seniority | Base (Inflation) | Total Increase |
| 1 | 5.40\% | 2.50\% | 7.90\% |
| 2 | 3.25\% | 2.50\% | 5.75\% |
| 3 | 2.50\% | 2.50\% | 5.00\% |
| 4 | 2.00\% | 2.50\% | 4.50\% |
| 5-9 | 1.50\% | 2.50\% | 4.00\% |
| 10 and Higher | 1.00\% | 2.50\% | 3.50\% |

The mortality table for Hazardous Duty members is the RP-2000 Combined Healthy Participant Mortality Table (for pre-retirement mortality) and the RP-2000 Mortality Table for Annuitants (for postretirement mortality) with future improvements in mortality projected to all future years using Scale BB. For females, the base mortality rates include a $100 \%$ white collar adjustment. For males, the base mortality rates include a $90 \%$ blue collar adjustment and a $10 \%$ white collar adjustment. These are the same rates used for Special Risk Class members of the Florida Retirement System (FRS) in their actuarial valuation as of July 1, 2016.

FRS Healthy Post-Retirement Mortality for Special Risk Class Members

| Sample <br> Attained <br> Ages (in 2017) | Probability of <br> Dying Next Year |  | Future Life <br> Men |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Women | Men |  | Women |
| 50 | $0.54 \%$ | $0.23 \%$ | 33.90 | 38.31 |
| 55 | 0.67 | 0.32 | 29.26 | 33.29 |
| 60 | 0.90 | 0.47 | 24.68 | 28.39 |
| 65 | 1.31 | 0.74 | 20.28 | 23.65 |
| 70 | 2.01 | 1.24 | 16.15 | 19.19 |
| 75 | 3.26 | 2.09 | 12.43 | 15.11 |
| 80 | 5.37 | 3.51 | 9.23 | 11.49 |

This assumption is used to measure the probabilities of each benefit payment being made after retirement.

FRS Healthy Pre-Retirement Mortality for Special Risk Class Members

| Sample <br> Attained <br> Ages (in 2017) | Probability of <br> Dying Next Year |  | Future Life <br> Expectancy (years) |  |
| :---: | :---: | :---: | ---: | :---: |
|  | Women | Men |  | Women |
| 50 | $0.23 \%$ | $0.15 \%$ | 34.89 | 38.66 |
| 55 | 0.39 | 0.24 | 29.77 | 33.51 |
| 60 | 0.71 | 0.39 | 24.89 | 28.49 |
| 65 | 1.23 | 0.70 | 20.33 | 23.67 |
| 70 | 2.01 | 1.24 | 16.15 | 19.19 |
| 75 | 3.26 | 2.09 | 12.43 | 15.11 |
| 80 | 5.37 | 3.51 | 9.23 | 11.49 |

This assumption is used to measure the probabilities of active members dying prior to retirement. All deaths before retirement are assumed to be non-service connected.

For disabled retirees, the mortality table used was $60 \%$ of the RP- 2000 Mortality Table for Disabled Annuitants with ages set back 4 years for males and set forward 2 years for females, and $40 \%$ of the RP2000 Annuitants Mortality Table with a White Collar adjustment with no age set back, both with no provision being made for future mortality improvements. These are the same rates used for Special Risk Class members of the Florida Retirement System (FRS) in their actuarial valuation as of July 1, 2016.

FRS Disabled Mortality for Special Risk Class Members

| Sample <br> Attained <br> Ages | Probability of <br> Dying Next Year |  | Future Life <br> Expectancy (years) |  |
| :---: | :---: | :---: | :---: | ---: |
|  | Women | Men |  | Women |
| 50 | $1.67 \%$ | $0.91 \%$ | 23.74 | 27.06 |
| 55 | 2.03 | 1.26 | 20.77 | 23.37 |
| 60 | 2.47 | 1.67 | 17.91 | 19.90 |
| 65 | 3.07 | 2.24 | 15.15 | 16.62 |
| 70 | 3.90 | 3.18 | 12.52 | 13.58 |
| 75 | 5.30 | 4.60 | 10.02 | 10.86 |
| 80 | 7.59 | 6.66 | 7.80 | 8.48 |

The mortality table for Nonhazardous Duty members is the RP-2000 Combined Healthy Participant Mortality Table (for pre-retirement mortality) and the RP-2000 Mortality Table for Annuitants (for postretirement mortality) with future improvements in mortality projected to all future years using Scale BB. For females, the base mortality rates include a $100 \%$ white collar adjustment. For males, the base mortality rates include a $50 \%$ blue collar adjustment and a $50 \%$ white collar adjustment. These are the same rates currently in use for Non-Special Risk Class members of the Florida Retirement System (FRS) in their actuarial valuation as of July 1, 2016.

## FRS Healthy Post-Retirement Mortality for Non-Special Risk Class Members

| Sample <br> Attained <br> Ages (in 2017) | Probability of <br> Dying Next Year |  | Future Life <br> Expectancy (years) |  |
| :---: | :---: | :---: | :---: | :---: |
| 50 | $0.55 \%$ | Women | Men |  | Women | Men |
| :---: |
| 55 |

This assumption is used to measure the probabilities of each benefit payment being made after retirement.

FRS Healthy Pre-Retirement Mortality for Non-Special Risk Class Members

| Sample <br> Attained <br> Ages (in 2017) | Probability of <br> Dying Next Year |  | Future Life <br> Expectancy (years) |  |
| :---: | :---: | :---: | :---: | :---: |
| Men | Women | Men |  | Women |
| 50 | $0.21 \%$ | $0.15 \%$ | 35.58 | 38.66 |
| 55 | 0.36 | 0.24 | 30.46 | 33.51 |
| 60 | 0.61 | 0.39 | 25.53 | 28.49 |
| 65 | 1.08 | 0.70 | 20.88 | 23.67 |
| 70 | 1.78 | 1.24 | 16.59 | 19.19 |
| 75 | 2.97 | 2.09 | 12.73 | 15.11 |
| 80 | 5.03 | 3.51 | 9.40 | 11.49 |

This assumption is used to measure the probabilities of active members dying prior to retirement. All deaths before retirement are assumed to be non-service connected.

For disabled retirees, the mortality table used was the RP-2000 mortality for disabled annuitants, set-back 4 years for males and set-forward 2 years for females, with no provision being made for future mortality improvements. These are the same rates currently in use for Non-Special Risk Class members of the Florida Retirement System (FRS) in their actuarial valuation as of July 1, 2016.

FRS Disabled Mortality for Non-Special Risk Class Members

| Sample Attained Ages | Probability of Dying Next Year |  | Future Life <br> Expectancy (years) |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Men | Women | Men | Women |
| 50 | 2.38 \% | 1.35 \% | 20.25 | 23.74 |
| 55 | 3.03 | 1.87 | 17.78 | 20.46 |
| 60 | 3.67 | 2.41 | 15.55 | 17.43 |
| 65 | 4.35 | 3.13 | 13.44 | 14.58 |
| 70 | 5.22 | 4.29 | 11.39 | 11.96 |
| 75 | 6.58 | 5.95 | 9.43 | 9.65 |
| 80 | 8.70 | 8.23 | 7.65 | 7.66 |

The rates of retirement used to measure the probability of eligible members retiring under normal and early retirement eligibility during the next year were as follows:


Rates of separation from active membership were as shown below (rates do not apply to members eligible to retire and do not include separation on account of death or disability). This assumption measures the probabilities of members remaining in employment.

| Hazardous Duty Withdrawal - Males and Females |  |  |
| :---: | :---: | :---: |
| Years of <br> Service | Age | \% of Active Members <br> Separating Within Next Year |
| Under 1 | All Ages | $12.8 \%$ |
| 1 | All Ages | 5.7 |
| 2 | All Ages | 4.8 |
|  |  | 4.0 |
| $3 \&$ Over | Under 30 | 1.0 |
|  | $30-49$ | 0.0 |



Rates of disability among active members ( $100 \%$ of disabilities are assumed to be service-connected).


## Miscellaneous and Technical Assumptions

## Administrative \& Investment Expenses

Benefit Service<br>Cost of Living Increases

Decrement Operation

Decrement Timing

Eligibility Testing

Forfeitures


## Incidence of Contributions

The investment return assumption is intended to be the net return after investment expenses. Annual administrative expenses are assumed to be equal to the administrative expenses of the previous year. Assumed administrative expenses are added to the Normal Cost.

Exact fractional service is used to determine the amount of benefit payable.

The adjustment is $1.5 \%$ annually commencing on each April 1 for all retirees and beneficiaries who have received at least 6 monthly benefit payments. There is a five-year delay in the COLA for nongrandfathered non-hazardous duty members for benefits accrued after January 1, 2013. There is no COLA for non-grandfathered hazardous duty members for benefits accrued after January 1, 2013.

Disability and mortality decrements operate during retirement eligibility.

Decrements of all types are assumed to occur at the beginning of the year.

Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.

For vested separations from service, it is assumed that $0 \%$ of members separating will withdraw their contributions and forfeit an employer financed benefit. It was further assumed that the liability at termination is the greater of the vested deferred benefit (if any) or the member's accumulated contributions.

Employer contributions are assumed to be made in equal installments during the first two quarters of the fiscal year. Member contributions are assumed to be received continuously throughout the year based upon the computed percent of payroll shown in this report, and the actual payroll payable at the time contributions are made.
$85 \%$ of males and $85 \%$ of females are assumed to be married for purposes of death-in-service benefits. Male spouses are assumed to be five years older than female spouses for all active members and for members who became inactive after January 1, 2009. For members who became inactive on or before January 1, 2009, spouses ages are based on the assumed beneficiary dates of birth provided by the prior actuary.

## Normal Form of Benefit

Pay Increase Timing

Service Credit Accruals

The normal form of benefit is a life annuity for non-grandfathered non-hazardous duty members. For all other members, the normal form of benefit is a life annuity that includes a survivor benefit where after the participant's death, $100 \%$ is payable to the spouse for five years, after which the benefit is reduced to $50 \%$.

End of fiscal year. This is equivalent to assuming that reported pays represent the annual rate of pay on the valuation date. The pay used for the valuation is equal to the greater of the actual pay for the plan year increased by the salary scale assumption rate (which varies by years of service) and the annual rate of pay on the valuation date.

It is assumed that members accrue one year of service credit per year.


## GLOSSARY

## Actuarial Accrued Liability (AAL)

Actuarial Assumptions

Actuarial Cost Method

Actuarial Equivalent

Actuarial Present Value (APV)

Actuarial Present Value of Future Benefits (APVFB)


## Actuarial Value of Assets

The difference between the Actuarial Present Value of Future Benefits, and the Actuarial Present Value of Future Normal Costs.

Assumptions about future plan experience that affect costs or liabilities, such as: mortality, withdrawal, disablement, and retirement; future increases in salary; future rates of investment earnings; future investment and administrative expenses; characteristics of members not specified in the data, such as marital status; characteristics of future members; future elections made by members; and other items.

A procedure for allocating the Actuarial Present Value of Future Benefits between the Actuarial Present Value of Future Normal Costs and the Actuarial Accrued Liability.

Of equal Actuarial Present Value, determined as of a given date and based on a given set of Actuarial Assumptions.

The amount of funds required to provide a payment or series of payments in the future. It is determined by discounting the future payments with an assumed interest rate and with the assumed probability each payment will be made.

The Actuarial Present Value of amounts which are expected to be paid at various future times to active members, retired members, beneficiaries receiving benefits, and inactive, nonretired members entitled to either a refund or a future retirement benefit. Expressed another way, it is the value that would have to be invested on the valuation date so that the amount invested plus investment earnings would provide sufficient assets to pay all projected benefits and expenses when due.

The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a plan. An Actuarial Valuation for a governmental retirement system typically also includes calculations of the Funded Ratio and the Actuarially Determined Contribution (ADC).

The value of the assets as of a given date, used by the actuary for valuation purposes. This may be the market or fair value of plan assets or a smoothed value in order to reduce the year-to-year volatility of calculated results, such as the funded ratio and the Actuarially Determined Contribution (ADC).

## Actuarially Determined Contribution (ADC)

## Amortization Method

## Amortization Payment

Amortization Period
Closed Amortization Period

Employer Normal Cost

## Equivalent Single Amortization Period



Normal Cost

Open Amortization Period

The employer's periodic required contributions, expressed as a dollar amount or a percentage of covered plan compensation. The ADC consists of the Employer Normal Cost and Amortization Payment.

A method for determining the Amortization Payment. The most common methods used are level dollar and level percentage of payroll. Under the Level Dollar method, the Amortization Payment is one of a stream of payments, all equal, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the Amortization Payment is one of a stream of increasing payments, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the stream of payments increases at the rate at which total covered payroll of all active members is assumed to increase.

That portion of the plan contribution or ADC which is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability.

The period used in calculating the Amortization Payment.
A specific number of years that is reduced by one each year, and declines to zero with the passage of time. For example if the amortization period is initially set at 30 years, it is 29 years at the end of one year, 28 years at the end of two years, etc.

The portion of the Normal Cost to be paid by the employer. This is equal to the Normal Cost less expected member contributions.

For plans that do not establish separate amortization bases (separate components of the UAAL), this is the same as the Amortization Period. For plans that do establish separate amortization bases, this is the period over which the UAAL would be amortized if all amortization bases were combined upon the current UAAL payment.

A measure of the difference between the normal cost rate from last year and the normal cost rate from this year.

The ratio of the Actuarial Value of Assets to the Actuarial Accrued Liability.

The annual cost assigned, under the Actuarial Cost Method, to the current plan year.

An open amortization period is one which is used to determine the Amortization Payment but which does not change over time. In other words, if the initial period is set as 30 years, the same 30 -year period is used in determining the Amortization Period each year. In theory, if an Open Amortization Period is used to amortize the Unfunded Actuarial Accrued Liability, the UAAL will never completely disappear, but will become smaller each year, either as a dollar amount or in relation to covered payroll.

Unfunded Actuarial Accrued The difference between the Actuarial Accrued Liability and Actuarial Liability

Valuation Date
The date as of which the Actuarial Present Value of Future Benefits are determined. The benefits expected to be paid in the future are discounted to this date.



## GRS

## Statement of Plan Assets at Market Value

| Item | December 31 |  |  |
| :---: | :---: | :---: | :---: |
|  | 2016 | 2015 |  |
| A. Cash and Cash Equivalents (Operating Cash) | \$ | \$ | - |
| B. Receivables |  |  |  |
| 1. Member Contributions | \$ |  | - |
| 2. Employer Contributions | 5,462,001 |  | 7,172,984 |
| 3. Investment Income and Other Receivables | - 2,295,576 |  | 2,317,272 |
| 4. Total Receivables | \$ 7,757,577 | \$ | 9,490,256 |
| C. Investments |  |  |  |
| 1. Short-Term Investments | \$ 10,199,335 | \$ | 7,911,301 |
| 2. Domestic Equities | 389,773,760 |  | 432,163,634 |
| 3. International Equities | 159,375,680 |  | 113,230,315 |
| 4. Commodities | - |  | - |
| 5. Domestic Fixed Income | 254,108,019 |  | 245,680,935 |
| 6. International Fixed Income | - |  | - |
| 7. Real Estate | 84,706,678 |  | 66,204,558 |
| 8. Private Equity | - |  | - |
| 9. Total Investments | \$ 898,163,472 | \$ | 865,190,743 |
| D. Liabilities |  |  |  |
| 1. Benefits Payable | \$ | \$ |  |
| 2. Accrued Expenses and Other Payables | $(659,644)$ |  | $(1,175,919)$ |
| 3. Total Liabilities | \$ (659,644) | \$ | $(1,175,919)$ |
| E. Total Market Value of Assets Available for Benefits | \$ 905,261,405 | \$ | 873,505,080 |
| F. Allocation of Investments |  |  |  |
| 1. Short-Term Investments | 1.14\% |  | 0.91\% |
| 2. Domestic Equities | 43.40\% |  | 49.95\% |
| 3. International Equities | 17.74\% |  | 13.09\% |
| 4. Commodities | 0.00\% |  | 0.00\% |
| 5. Domestic Fixed Income | 28.29\% |  | 28.40\% |
| 6. International Fixed Income | 0.00\% |  | 0.00\% |
| 7. Real Estate | 9.43\% |  | 7.65\% |
| 8. Private Equity | 0.00\% |  | 0.00\% |
| 9. Total Investments | 100.00\% |  | 100.00\% |

## Reconciliation of Plan Assets




The Actuarial Value of Assets recognizes assumed investment return (line E3) fully each year. Differences between actual and assumed investment income (Line E4) are phased-in over a closed 5 -year period. During periods when investment performance exceeds the assumed rate, Actuarial Value of Assets will tend to be less than Market Value. During periods when investment performance is less than the assumed rate, Actuarial Value of Assets will tend to be greater than Market Value. If assumed rates are exactly realized for 5 consecutive years, Actuarial Value of Assets will become equal to Market Value.

## Investment Rate of Return


*Before investment expenses prior to 2013.
The above rates are based on the retirement system's financial information reported to the actuary. They may differ from figures that the investment consultant reports, in part because of differences in the handling of administrative and investment expenses, and in part because of differences in the handling of cash flows.

## GRS

## SECTION D

FINANCIAL ACCOUNTING INFORMATION


## FASB NO. 35 INFORMATION

A. Valuation Date
B. Actuarial Present Value of Accumulated Plan Benefits

1. Vested Benefits
a. Members Currently Receiving Payments
b. Terminated Vested Members
c. Other Members
d. Total
2. Non-Vested Benefits
3. Total Actuarial Present Value of Accumulated Plan Benefits: 1d + 2
4. Accumulated Contributions of Active Members
C. Changes in the Actuarial Present Value of Accumulated Plan Benefits
5. Total Value at Beginning of Year
6. Increase (Decrease) During the Period Attributable to:
a. Plan Amendment
b. Change in Actuarial Assumptions
c. Latest Member Data, Benefits Accumulated
and Decrease in the Discount Period
d. Benefits Paid
e. Net Increase
7. Total Value at End of Period
D. Market Value of Assets
E. Actuarial Assumptions - See page entitled Actuarial Assumptions and Methods

## SECTION E

MISCELLANEOUS INFORMATION


| RECONCILIATION OF MEMBERSHIP DATA |  |  |
| :---: | :---: | :---: |
|  | $\begin{array}{\|c} \hline \text { From 1/1/2016 } \\ \text { To 1/1/2017 } \\ \hline \end{array}$ | $\begin{array}{\|c\|} \hline \text { From 1/1/2015 } \\ \text { To 1/1/2016 } \\ \hline \end{array}$ |
| A. Active Members |  |  |
| 1. Number Included in Last Valuation <br> 2. New Members Included in Current Valuation <br> 3. Non-Vested Employment Terminations <br> 4. Vested Employment Terminations <br> 5. Service Retirements <br> 6. Disability Retirements <br> 7. Deaths <br> 8. Pending Disabilities <br> 9. Data Corrections/Rehired Members <br> 10. Number Included in This Valuation | 1,505 158 <br> (71) <br> (18) <br> (49) <br> (4) <br> (2) $\begin{array}{r} 0 \\ 1 \\ \hline 1,520 \end{array}$ | 1,482 <br> 145 <br> (53) <br> (18) <br> (43) <br> (4) <br> (1) <br> (3) $\begin{array}{r} 0 \\ \hline 1,505 \end{array}$ |
| B. Terminated Vested Members |  |  |
| 1. Number Included in Last Valuation <br> 2. Additions from Active Members <br> 3. Lump Sum Payments/Refund of Contributions <br> 4. Payments Commenced <br> 5. Deaths <br> 6. Conversion from Disability/Rehired Members <br> 7. Data Corrections <br> 8. Number Included in This Valuation | 63 <br> 18 <br> $(6)$ <br> $(9)$ <br> 0 <br> $(1)$ <br> 1 <br> 66 | 69 <br> 18 <br> $(7)$ <br> $(17)$ <br> 0 <br> 0 <br> 0 <br> 63 |
| C. Service Retirees, Disability Retirees and Beneficiaries |  |  |
| 1. Number Included in Last Valuation <br> 2. Additions from Active Members <br> 3. Additions from Terminated Vested Members <br> 4. Deaths Resulting in No Further Payments <br> 5. Deaths Resulting in New Survivor Benefits <br> 6. Pending Disabilities <br> 7. End of Certain Period - No Further Payments <br> 8. Data Correction/Waiver of Benefits <br> 9. Number Included in This Valuation | $\begin{array}{r} 1,174 \\ 53 \\ 9 \\ (20) \\ 1 \\ 0 \\ (3) \\ (2) \\ \hline 1,212 \end{array}$ | 1,125 <br> 47 <br> 17 <br> $(19)$ <br> 1 <br> 3 <br> 0 <br> 0 <br> 1,174 |

## GRS

## ACTIVE PARTICIPANT DISTRIBUTION

## ALL ACTIVE MEMBERS

| Years of Service to Valuation Date |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Age Group | 0-1 | 1-2 | 2-3 | 3-4 | 4-5 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | $35+$ | Totals |
| 15-19 NO. | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  | 0 | 0 | 0 | 1 |
| TOT PAY | 27,003 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 27,003 |
| AVG PAY | 27,003 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  | 0 | 0 | 27,003 |
| 20-24 NO. | 27 | 19 | 8 | 3 | 1 | 0 | 0 | 0 | 0 |  | 0 | 0 | 58 |
| TOT PAY | 917,365 | 655,724 | 306,647 | 100,846 | 32,655 | 0 | 0 | 0 | 0 |  | 0 | 0 | 2,013,237 |
| AVG PAY | 33,976 | 34,512 | 38,331 | 33,615 | 32,655 | 0 | 0 |  | 0 |  | 0 | 0 | 34,711 |
| 25-29 NO. | 46 | 40 | 19 | 15 | 6 | 18 | 0 |  | 0 | 0 | 0 | 0 | 144 |
| TOT PAY | 1,597,584 | 1,588,335 | 768,812 | 624,016 | 214,744 | 919,466 |  |  | 0 | 0 | 0 | 0 | 5,712,957 |
| AVG PAY | 34,730 | 39,708 | 40,464 | 41,601 | 35,791 | 51,081 | 0 | 0 | 0 | 0 | 0 | 0 | 39,673 |
| 30-34 NO. | 24 | 19 | 21 | 21 | 16 | 46 | 41 |  | 0 | 0 | 0 | 0 | 188 |
| TOT PAY | 831,116 | 874,928 | 909,855 | 924,175 | 714,446 | 2,573,824 | 2,032,639 |  | 0 | 0 | 0 | 0 | 8,860,983 |
| AVG PAY | 34,630 | 46,049 | 43,326 | 44,008 | 44,653 | 55,953 | 49,577 |  | 0 | 0 | 0 | 0 | 47,133 |
| 35-39 NO. | 17 | 10 | 12 | 9 | 5 | 39 | 52 | 12 | 0 | 0 | 0 | 0 | 156 |
| TOT PAY | 631,448 | 383,302 | 568,742 | 489,029 | 234,339 | 2,107,540 | 3,261,729 | 612,910 | 0 | 0 | 0 | 0 | 8,289,039 |
| AVG PAY | 37,144 | 38,330 | 47,395 | 54,337 | 46,868 | 54,039 | 62,726 | 51,076 | 0 | 0 | 0 | 0 | 53,135 |
| 40-44 NO. | 5 | 8 | 9 | 10 | 7 | 35 | 53 | 62 | 11 | 0 | 0 | 0 | 200 |
| TOT PAY | 149,790 | 335,294 | 327,838 | 424,206 | 292,150 | 1,714,115 | 3,185,559 | 4,439,602 | 698,128 | 0 | 0 | 0 | 11,566,682 |
| AVG PAY | 29,958 | 41,912 | 36,426 | 42,421 | 41,736 | 48,975 | 60,105 | 71,606 | 63,466 | 0 | 0 | 0 | 57,833 |
| 45-49 NO. | 15 | 8 |  |  | 8 | 23 | 51 | 52 | 44 | 8 | 0 | 0 | 223 |
| TOT PAY | 577,930 | 356,342 | 433,600 | 162,639 | 327,522 | 1,242,352 | 3,179,937 | 3,764,707 | 3,391,072 | 535,338 | 0 | 0 | 13,971,439 |
| AVG PAY | 38,529 | 44,543 | 43,360 | 40,660 | 40,940 | 54,015 | 62,352 | 72,398 | 77,070 | 66,917 | 0 | 0 | 62,652 |
| 50-54 NO. | 11 | 7 |  | 2 |  | 26 | 34 | 44 | 40 | 30 | 5 | 0 | 213 |
| TOT PAY | 368,443 | 295,973 | 229,366 | 104,390 | 336,023 | 1,143,765 | 1,734,676 | 2,528,420 | 2,808,765 | 2,087,211 | 451,533 | 0 | 12,088,565 |
| AVG PAY | 33,495 | 42,282 | 38,228 | 52,195 | 42,003 | 43,991 | 51,020 | 57,464 | 70,219 | 69,574 | 90,307 | 0 | 56,754 |
| 55-59 NO. | 9 | , | 8 |  | 5 | 18 | 48 | 34 | 26 | 10 | 11 | 1 | 181 |
| TOT PAY | 338,782 | 232,847 | 404,432 | 162,282 | 203,552 | 781,298 | 2,293,004 | 1,585,221 | 1,411,474 | 546,975 | 688,792 | 44,635 | 8,693,294 |
| AVG PAY | 37,642 | 38,808 | 50,554 | 32,456 | 40,710 | 43,405 | 47,771 | 46,624 | 54,287 | 54,698 | 62,617 | 44,635 | 48,029 |
| 60-64 NO. | - 3 | 4 | 0 | 2 | 4 | 15 | 23 | 30 | 18 | 14 | 3 | 3 | 119 |
| TOT PAY | 115,898 | 132,660 | 0 | 70,954 | 130,660 | 691,194 | 1,159,594 | 1,448,074 | 1,045,575 | 1,055,572 | 206,308 | 232,872 | 6,289,361 |
| AVG PAY | 38,633 | 33,165 | 0 | 35,477 | 32,665 | 46,080 | 50,417 | 48,269 | 58,088 | 75,398 | 68,769 | 77,624 | 52,852 |
| 65+ NO. | 0 |  | 1 | 0 | 1 | 6 | 10 | 3 | 7 | 6 | 1 | 0 | 37 |
| TOT PAY | 0 | 70,193 | 43,519 | 0 | 38,230 | 226,684 | 442,668 | 159,383 | 389,909 | 341,551 | 51,403 | 0 | 1,763,540 |
| AVG PAY | 0 | 35,096 | 43,519 | 0 | 38,230 | 37,781 | 44,267 | 53,128 | 55,701 | 56,925 | 51,403 | 0 | 47,663 |
| TOT NO. | 158 | 123 | 94 | 71 | 61 | 226 | 312 | 237 | 146 | 68 | 20 | 4 | 1,520 |
| TOT AMT | 5,555,359 | 4,925,598 | 3,992,811 | 3,062,537 | 2,524,321 | 11,400,238 | 17,289,806 | 14,538,317 | 9,744,923 | 4,566,647 | 1,398,036 | 277,507 | 79,276,100 |
| AVG AMT | 35,161 | 40,046 | 42,477 | 43,134 | 41,382 | 50,444 | 55,416 | 61,343 | 66,746 | 67,157 | 69,902 | 69,377 | 52,155 |

## ACTIVE PARTICIPANT DISTRIBUTION

HAZARDOUS DUTY MEMBERS

| Years of Service to Valuation Date |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Age Group | 0-1 | 1-2 | 2-3 | 3-4 | 4-5 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35+ | Totals |
| 15-19 NO. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  | 0 | 0 | 0 |
| TOT PAY | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AVG PAY | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20-24 NO. | 11 | 4 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18 |
| TOT PAY | 479,618 | 234,118 | 167,660 | 0 | 0 | 0 | 0 |  | 0 | 0 | 0 | 0 | 881,396 |
| AVG PAY | 43,602 | 58,530 | 55,887 | 0 | 0 | 0 |  |  | 0 | 0 | 0 | 0 | 48,966 |
| 25-29 NO. | 11 | 12 | 6 | 5 | 0 | 7 | 0 |  | 0 | 0 | 0 | 0 | 41 |
| TOT PAY | 514,483 | 701,975 | 342,425 | 301,744 | 0 | 497,016 | 0 |  | 0 | 0 | 0 | 0 | 2,357,643 |
| AVG PAY | 46,771 | 58,498 | 57,071 | 60,349 | 0 | 71,002 | 0 |  | 0 | 0 | 0 | 0 | 57,503 |
| 30-34 NO. | 6 | 7 | 7 | 6 | 5 | 21 | 11 |  | 0 | 0 | 0 | 0 | 63 |
| TOT PAY | 272,040 | 412,506 | 440,729 | 364,635 | 313,814 | 1,623,569 | 846,150 | 0 | 0 | 0 | 0 | 0 | 4,273,443 |
| AVG PAY | 45,340 | 58,929 | 62,961 | 60,773 | 62,763 | 77,313 | 76,923 | 0 | 0 | 0 | 0 | 0 | 67,832 |
| 35-39 NO. | 2 | 1 | 5 | 5 | 2 |  | 27 | 3 | 0 | 0 | 0 | 0 | 62 |
| TOT PAY | 97,003 | 64,075 | 292,400 | 314,975 | 125,939 | 1,186,273 | 2,125,727 | 264,406 | 0 | 0 | 0 | 0 | 4,470,798 |
| AVG PAY | 48,502 | 64,075 | 58,480 | 62,995 | 62,970 | 69,781 | 78,731 | 88,135 | 0 | 0 | 0 | 0 | 72,110 |
| 40-44 NO. | 0 | 2 | 0 | 2 | 0 | 10 | 25 | 39 | 4 | 0 | 0 | 0 | 82 |
| TOT PAY | 0 | 138,328 | 0 | 121,065 | 0 | 725,358 | 1,938,339 | 3,455,899 | 347,822 | 0 | 0 | 0 | 6,726,811 |
| AVG PAY | 0 | 69,164 |  | 60,533 | 0 | 72,536 | 77,534 | 88,613 | 86,956 | 0 | 0 | 0 | 82,034 |
| 45-49 NO. | 2 | 1 |  |  | 0 | 7 | 26 | 31 | 24 | 2 | 0 | 0 | 94 |
| TOT PAY | 123,877 | 69,914 | 62,107 |  | 0 | 487,822 | 2,067,341 | 2,724,859 | 2,288,041 | 189,346 | 0 | 0 | 8,013,307 |
| AVG PAY | 61,939 | 69,914 | 62,107 |  | 0 | 69,689 | 79,513 | 87,899 | 95,335 | 94,673 | 0 | 0 | 85,248 |
| 50-54 NO. | 0 | 1 | 0 |  | 1 | 2 | 8 | 8 | 17 | 10 | 2 | 0 | 49 |
| TOT PAY | 0 | 71,585 | 0 |  | 89,270 | 189,789 | 622,453 | 777,675 | 1,599,917 | 952,116 | 235,449 | 0 | 4,538,254 |
| AVG PAY | 0 | 71,585 | 0 | 0 | 89,270 | 94,895 | 77,807 | 97,209 | 94,113 | 95,212 | 117,725 | 0 | 92,617 |
| 55-59 NO. |  | 0 |  | 0 | 0 | 1 | 4 | 0 | 1 | 0 | 3 | 0 | 11 |
| TOT PAY |  | 0 | 207,478 | 0 | 0 | 117,830 | 377,553 | 0 | 77,164 | 0 | 292,409 | 0 | 1,072,434 |
| AVG PAY |  | 0 | 103,739 | 0 | 0 | 117,830 | 94,388 | 0 | 77,164 | 0 | 97,470 | 0 | 97,494 |
| 60-64 NO. | 1 |  | 0 | 0 | 0 | 0 | 3 | 1 | 0 | 1 | 0 | 1 | 7 |
| TOT PAY | 58,071 |  | 0 | 0 | 0 | 0 | 301,766 | 78,156 | 0 | 99,572 | 0 | 117,191 | 654,756 |
| AVG PAY | 58,071 |  | 0 | 0 | 0 | 0 | 100,589 | 78,156 | 0 | 99,572 | 0 | 117,191 | 93,537 |
| 65+ NO. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOT PAY | 0 | 0 |  |  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AVG PAY | 0 |  |  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOT NO. | 33 | 28 | 24 | 18 | 8 | 65 | 104 | 82 | 46 | 13 | 5 | 1 | 427 |
| TOT AMT | 1,545,092 | 1,692,501 | 1,512,799 | 1,102,419 | 529,023 | 4,827,657 | 8,279,329 | 7,300,995 | 4,312,944 | 1,241,034 | 527,858 | 117,191 | 32,988,842 |
| AVG AMT | 46,821 | 60,446 | 63,033 | 61,246 | 66,128 | 74,272 | 79,609 | 89,037 | 93,760 | 95,464 | 105,572 | 117,191 | 77,257 |

## ACTIVE PARTICIPANT DISTRIBUTION

## NON-HAZARDOUS DUTY MEMBERS

| Years of Service to Valuation Date |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Age Group | 0-1 | 1-2 | 2-3 | 3-4 | 4-5 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35+ | Totals |
| 15-19 NO. | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| TOT PAY | 27,003 | 0 | 0 | 0 | 0 | 0 | 0 |  | 0 |  | 0 | 0 | 27,003 |
| AVG PAY | 27,003 | 0 | 0 | 0 | 0 | 0 | 0 |  | 0 |  | 0 | 0 | 27,003 |
| 20-24 NO. | 16 | 15 | 5 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 40 |
| TOT PAY | 437,747 | 421,606 | 138,987 | 100,846 | 32,655 | 0 | 0 |  | 0 | 0 | 0 | 0 | 1,131,841 |
| AVG PAY | 27,359 | 28,107 | 27,797 | 33,615 | 32,655 | 0 |  |  | 0 | 0 | 0 | 0 | 28,296 |
| 25-29 NO. | 35 | 28 | 13 | 10 | 6 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 103 |
| TOT PAY | 1,083,101 | 886,360 | 426,387 | 322,272 | 214,744 | 422,450 | 0 |  | 0 | 0 | 0 | 0 | 3,355,314 |
| AVG PAY | 30,946 | 31,656 | 32,799 | 32,227 | 35,791 | 38,405 | 0 |  | 0 | 0 | 0 | 0 | 32,576 |
| 30-34 NO. | 18 | 12 | 14 | 15 | 11 | 25 | 30 |  | 0 | 0 | 0 | 0 | 125 |
| TOT PAY | 559,076 | 462,422 | 469,126 | 559,540 | 400,632 | 950,255 | 1,186,489 | 0 | 0 | 0 | 0 | 0 | 4,587,540 |
| AVG PAY | 31,060 | 38,535 | 33,509 | 37,303 | 36,421 | 38,010 | 39,550 | 0 | 0 | 0 | 0 | 0 | 36,700 |
| 35-39 NO. | 15 | 9 | 7 | 4 | 3 |  |  | 9 | 0 | 0 | 0 | 0 | 94 |
| TOT PAY | 534,445 | 319,227 | 276,342 | 174,054 | 108,400 | 921,267 | 1,136,002 | 348,504 | 0 | 0 | 0 | 0 | 3,818,241 |
| AVG PAY | 35,630 | 35,470 | 39,477 | 43,514 | 36,133 | 41,876 | 45,440 | 38,723 | 0 | 0 | 0 | 0 | 40,620 |
| 40-44 NO. | 5 | 6 | 9 | 8 | 7 |  | 28 | 23 | 7 | 0 | 0 | 0 | 118 |
| TOT PAY | 149,790 | 196,966 | 327,838 | 303,141 | 292,150 | 988,757 | 1,247,220 | 983,703 | 350,306 | 0 | 0 | 0 | 4,839,871 |
| AVG PAY | 29,958 | 32,828 | 36,426 | 37,893 | 41,736 | 39,550 | 44,544 | 42,770 | 50,044 | 0 | 0 | 0 | 41,016 |
| 45-49 NO. | 13 | 7 |  | 4 |  | 16 | 25 | 21 | 20 | 6 | 0 | 0 | 129 |
| TOT PAY | 454,053 | 286,428 | 371,493 | 162,639 | 327,522 | 754,530 | 1,112,596 | 1,039,848 | 1,103,031 | 345,992 | 0 | 0 | 5,958,132 |
| AVG PAY | 34,927 | 40,918 | 41,277 | 40,660 | 40,940 | 47,158 | 44,504 | 49,517 | 55,152 | 57,665 | 0 | 0 | 46,187 |
| 50-54 NO. | 11 | 6 | 6 |  | 7 | 24 | 26 | 36 | 23 | 20 | 3 | 0 | 164 |
| TOT PAY | 368,443 | 224,388 | 229,366 | 104,390 | 246,753 | 953,976 | 1,112,223 | 1,750,745 | 1,208,848 | 1,135,095 | 216,084 | 0 | 7,550,311 |
| AVG PAY | 33,495 | 37,398 | 38,228 | 52,195 | 35,250 | 39,749 | 42,778 | 48,632 | 52,559 | 56,755 | 72,028 | 0 | 46,038 |
| 55-59 NO. |  | 6 | 6 | 5 | 5 | 17 | 44 | 34 | 25 | 10 | 8 | 1 | 170 |
| TOT PAY | 338,782 | 232,847 | 196,954 | 162,282 | 203,552 | 663,468 | 1,915,451 | 1,585,221 | 1,334,310 | 546,975 | 396,383 | 44,635 | 7,620,860 |
| AVG PAY | 37,642 | 38,808 | 32,826 | 32,456 | 40,710 | 39,028 | 43,533 | 46,624 | 53,372 | 54,698 | 49,548 | 44,635 | 44,829 |
| 60-64 NO. | 2 |  | 0 | 2 | 4 | 15 | 20 | 29 | 18 | 13 | 3 | 2 | 112 |
| TOT PAY | 57,827 | 132,660 | 0 | 70,954 | 130,660 | 691,194 | 857,828 | 1,369,918 | 1,045,575 | 956,000 | 206,308 | 115,681 | 5,634,605 |
| AVG PAY | 28,914 | 33,165 | 0 | 35,477 | 32,665 | 46,080 | 42,891 | 47,239 | 58,088 | 73,538 | 68,769 | 57,841 | 50,309 |
| 65+ NO. | 0 | 2 | 1 | 0 | 1 | 6 | 10 | 3 | 7 | 6 | 1 | 0 | 37 |
| TOT PAY | 0 | 70,193 | 43,519 | 0 | 38,230 | 226,684 | 442,668 | 159,383 | 389,909 | 341,551 | 51,403 | 0 | 1,763,540 |
| AVG PAY | 0 | 35,097 | 43,519 | 0 | 38,230 | 37,781 | 44,267 | 53,128 | 55,701 | 56,925 | 51,403 | 0 | 47,663 |
| TOT NO. | 125 | 95 | 70 | 53 | 53 | 161 | 208 | 155 | 100 | 55 | 15 | 3 | 1,093 |
| TOT AMT | 4,010,267 | 3,233,097 | 2,480,012 | 1,960,118 | 1,995,298 | 6,572,581 | 9,010,477 | 7,237,322 | 5,431,979 | 3,325,613 | 870,178 | 160,316 | 46,287,258 |
| AVG AMT | 32,082 | 34,033 | 35,429 | 36,983 | 37,647 | 40,823 | 43,320 | 46,692 | 54,320 | 60,466 | 58,012 | 53,439 | 42,349 |

## INACTIVE PARTICIPANT DISTRIBUTION

| Age Group | Terminated Vested |  | Disabled |  | Retired |  | Deceased with Beneficiary |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Total |  | Total |  | Total |  | Total |
|  | Number | Benefits | Number | Benefits | Number | Benefits | Number | Benefits |
| Under 20 | - | - | - | - | - |  | 5 | 59,710 |
| 20-24 | - | - | - | - | - |  | - | - |
| 25-29 | - | - | - | - | - |  |  | - |
| 30-34 | 1 | 17,587 | 2 | 83,502 | - |  | 1 | 33,621 |
| 35-39 | 5 | 94,550 | 1 | 41,162 |  | - | - | - |
| 40-44 | 11 | 209,680 | 4 | 173,596 | 2 | 70,751 | 1 | 50,921 |
| 45-49 | 14 | 301,032 | 10 | 396,078 | 21 | 907,681 | 3 | 49,259 |
| 50-54 | 23 | 484,855 | 8 | 310,690 | 67 | 2,985,300 | 9 | 272,252 |
| 55-59 | 5 | 50,050 | 22 | 669,347 |  | 5,684,695 | 9 | 191,194 |
| 60-64 | 7 | 96,814 | 26 | 693,195 | 225 | 9,693,509 | 19 | 403,633 |
| 65-69 | - | - | 28 | -762,187 | 229 | 8,770,209 | 16 | 399,476 |
| 70-74 | - | - | 14 | 289,834 | 141 | 4,964,867 | 19 | 447,965 |
| 75-79 | - | - | 12 | 298,114 | 62 | 1,985,907 | 26 | 553,334 |
| 80-84 | - | - | 6 | 149,031 | 30 | 881,782 | 22 | 287,913 |
| 85-89 | - |  | 1 | 23,129 | 15 | 336,324 | 9 | 109,464 |
| 90-94 | - |  | - | - | 6 | 70,507 | 7 | 59,751 |
| 95-99 | - |  | - | - | 2 | 25,805 | 1 | 2,318 |
| 100 \& Over | - |  |  | - | - | - | - | - |
| Total | 66 | 1,254,568 | 134 | 3,889,865 | 931 | 36,377,337 | 147 | 2,920,811 |
| Average Age |  | 50 |  | 63 |  | 66 |  | 70 |



GRS

## SUMMARY OF PLAN PROVISIONS

## A. Ordinances

The Plan was established under the Code of Ordinances for the City of Clearwater, Florida, Chapter 2, Article V, Division 3 and was most recently amended under Ordinance No. 8333-12 passed and adopted on July 19, 2012 and enacted by public referendum in November 2012. The Plan is also governed by certain provisions of Part VII, Chapter 112, Florida Statutes (F.S.) and the Internal Revenue Code.

## B. Effective Date

Restated Plan Effective Date: January 1, 2013 (previous restated Plan Effective Date was January 1, 1996).

## C. Plan Year

January 1 through December 31.


Qualified, governmental defined benefit retirement plan; for GASB purposes it is a single employer plan.

## E. Eligibility Requirements

All full-time permanent employees of the City are required to participate and become participants on their date of hire.

## F. Grandfathered Members

Members who are eligible for normal retirement as of January 1, 2013 are grandfathered in the plan provisions in effect before Ordinance No. 8333-12.
G. Credited Service

Credited Service is measured as the total number of years and fractional parts of years from the date of employment to the date of termination or retirement. No service is credited for any periods of employment for which a participant received a refund of their contributions.

## H. Compensation

The total compensation for services rendered to the City reportable on the participant's W-2 form, plus all tax deferred, tax sheltered or tax exempt items of income derived from elective employee payroll deductions or salary reductions, but excluding any lump sum payments of unused vacation and sick leave, pay for off-duty employment, and clothing, car or meal allowances.

Effective January 1, 2013: For non-grandfathered hazardous duty members, the amount of overtime included in Compensation is limited to 300 hours per year; For non-grandfathered non-hazardous duty members, Compensation excludes overtime and additional pay above the base rate of pay.

## I. Average Monthly Compensation (AMC)

One-twelfth of the average of Compensation during the highest 5 years out of the last 10 years preceding termination or retirement.

## J. Normal Retirement

## Eligibility: For Non-Hazardous Duty Employment

A participant hired before January 1, 2013 may retire on the first day of the month coincident with or next following the earliest of:
(1) age 55 with 20 years of Credited Service, or
(2) 30 years of Credited Service regardless of age, or
(3) age 65 with 10 years of Credited Service.

A participant hired on or after January 1, 2013 may retire on the first day of the month coincident with or next following the earliest of:
(1) age 60 with 25 years of Credited Service, or
(2) age 65 with 10 years of Credited Service

## For Hazardous Duty Employment-Police Officers and Firefighters

A participant may retire on the first day of the month coincident with or next following the earlier of:
(1) age 55 with 10 years of Credited Service, or
(2) 20 years of Credited Service regardless of age.

Benefit:

Normal Form of Benefit:
2.75\% of AMC multiplied by years of Credited Service.

For Non-Hazardous Duty participants hired on or after January 1, 2013, 2.00\% of AMC multiplied by years of Credited Service.

## For Non-Hazardous Duty Employment (Non-Grandfathered)

A monthly annuity is paid for the life of the participant.
For Hazardous Duty Employment-Police Officers and Firefighters (and Grandfathered Non-Hazardous Duty Employment)

A monthly annuity is paid for the life of the participant. After the participant's death, $100 \%$ of the Normal Retirement Benefit shall be paid as a survivor annuity to the spouse for 5 years. After 5 years, such survivor annuity is reduced to $50 \%$ of the original amount. The survivor annuity ceases upon death or remarriage of the spouse. 120 monthly payments are guaranteed for police officers and firefighters. Optional forms of benefits are available.

## COLA: For Non-Hazardous Duty Employment

$1.5 \%$ annually commencing on each April 1 for all retirees and beneficiaries who have received at least 6 monthly benefit payments. For non-grandfathered members (not eligible for normal retirement on January 1, 2013), there is a five-year delay (after the retirement date) until this COLA is applied to benefits accrued after January 1, 2013.

## For Hazardous Duty Employment-Police Officers and Firefighters

1.5\% annually commencing on each April 1 for all retirees and beneficiaries who have received at least 6 monthly benefit payments. For non-grandfathered members (not eligible for normal retirement on January 1, 2013), there is no COLA for benefits accrued after January 1, 2013.

## K. Early Retirement

Eligibility: Police Officers and Firefighters may elect to retire earlier than the Normal Retirement Eligibility upon the attainment of age 50 with 10 years of Credited Service.

Benefit: $\quad$ The Normal Retirement Benefit is reduced by $3.0 \%$ for each year by which the Early Retirement date precedes age 55.
Normal Form
of Benefit: A monthly annuity is paid for the life of the participant. After the participant's death, $100 \%$ of the Normal Retirement Benefit shall be paid as a survivor annuity to the spouse for 5 years. After 5 years, such survivor annuity is reduced to $50 \%$ of the original amount. The survivor annuity ceases upon death or remarriage of the spouse. 120 monthly payments are guaranteed for police officers and firefighters. Optional forms of benefits are available.

COLA: $\quad 1.5 \%$ annually commencing on each April 1 for all retirees and beneficiaries who have received at least 6 monthly benefit payments. For non-grandfathered members (not eligible for normal retirement on January 1, 2013), there is no COLA for benefits accrued after January 1, 2013.

## L. Delayed Retirement

Same as Normal Retirement taking into account Compensation earned and service credited until the date of actual retirement.

## M. Service Connected Disability

Eligibility: Any participant who becomes totally and permanently disabled due to an illness or injury contracted in the line of duty and is deemed to be unable to perform useful and efficient service to the City is immediately eligible for a disability benefit.

Benefit: $\quad$ For Non-Hazardous Duty Employment
Participant's accrued Normal Retirement Benefit taking into account Compensation earned and service credited until the date of disability. Benefit is guaranteed to be no
less than $42 \%$ of the participant's AMC (66 2/3\% of the participant's AMC if grandfathered). Disability benefits, when combined with Worker's Compensation benefits, cannot exceed and will be limited to $100 \%$ of the participant's AMC on the date of disability.

## For Hazardous Duty Employment-Police Officers and Firefighters

Participant’s accrued Normal Retirement Benefit taking into account Compensation earned and service credited until the date of disability. Benefit is guaranteed to be no less than 66 2/3\% of the participant's AMC. Disability benefits, when combined with Worker's Compensation benefits, cannot exceed and will be limited to $100 \%$ of the participant's AMC on the date of disability.

Normal Form

COLA: For Non-Hazardous Duty Employment
1.5\% annually commencing on each April 1 for all retirees and beneficiaries who have received at least 6 monthly benefit payments. For non-grandfathered members (not eligible for normal retirement on January 1, 2013), there is a five-year delay (after the retirement date) until this COLA is applied to benefits accrued after January 1, 2013.

For Hazardous Duty Employment-Police Officers and Firefighters
1.5\% annually commencing on each April 1 for all retirees and beneficiaries who have received at least 6 monthly benefit payments. For non-grandfathered members (not eligible for normal retirement on January 1, 2013), there is no COLA for benefits accrued after January 1, 2013.

## N. Non-Service Connected Disability

Eligibility: Any participant who has 10 or more years of Credited Service and becomes totally and permanently disabled and is deemed to be unable to perform useful and efficient service to the City is immediately eligible for a disability benefit.

Benefit: Participant’s accrued Normal Retirement Benefit taking into account Compensation earned and service credited until the date of disability. Disability benefits, when combined with Worker's Compensation benefits, cannot exceed and will be limited to $100 \%$ of the participant's AMC on the date of disability.

Normal Form

## For Non-Hazardous Duty Employment (Non-Grandfathered)

A monthly annuity is paid for the life of the participant.
For Hazardous Duty Employment-Police Officers and Firefighters (and Grandfathered Non-Hazardous Duty Employment)

A monthly annuity is paid for the life of the participant. After the participant's death, $100 \%$ of the Normal Retirement Benefit shall be paid as a survivor annuity to the spouse for 5 years. After 5 years, such survivor annuity is reduced to $50 \%$ of the original amount. The survivor annuity ceases upon death or remarriage of the spouse. 120 monthly payments are guaranteed for police officers and firefighters. Optional forms of benefits are available.

COLA: For Non-Hazardous Duty Employment
$1.5 \%$ annually commencing on each April 1 for all retirees and beneficiaries who have received at least 6 monthly benefit payments. For non-grandfathered members (not eligible for normal retirement on January 1, 2013), there is a five-year delay (after the retirement date) until this COLA is applied to benefits accrued after January 1, 2013.

## For Hazardous Duty Employment-Police Officers and Firefighters

1.5\% annually commencing on each April 1 for all retirees and beneficiaries who have received at least 6 monthly benefit payments. For non-grandfathered members (not eligible for normal retirement on January 1, 2013), there is no COLA for benefits accrued after January 1, 2013.

## O. Death in the Line of Duty

Eligibility: Any participant whose employment is terminated by reason of death in the line of duty is eligible for survivor benefits.

Benefit: Beneficiary will be paid the participant's accrued benefit based upon Credited Service and AMC as of the date of death. Benefit is guaranteed to be no less than $662 / 3 \%$ of the participant's AMC.
Normal Form
of Benefit: $100 \%$ of the participant's accrued benefit shall be paid as a survivor annuity to the spouse for 5 years. After 5 years, such survivor annuity is reduced to $50 \%$ of the original amount. The survivor annuity ceases upon death or remarriage of the spouse. 120 monthly payments are guaranteed for police officers and firefighters.

## COLA: For Non-Hazardous Duty Employment

$1.5 \%$ annually commencing on each April 1 for all retirees and beneficiaries who have received at least 6 monthly benefit payments. For non-grandfathered members (not eligible for normal retirement on January 1, 2013), there is a five-year delay (after the retirement date) until this COLA is applied to benefits accrued after January 1, 2013.

For Hazardous Duty Employment-Police Officers and Firefighters
$1.5 \%$ annually commencing on each April 1 for all retirees and beneficiaries who have received at least 6 monthly benefit payments. For non-grandfathered members (not eligible for normal retirement on January 1, 2013), there is no COLA for benefits accrued after January 1, 2013.

In lieu of the benefits described above, the participant's beneficiary can elect to receive a refund of participant's accumulated contributions with interest.

## P. Other Pre-Retirement Death

Eligibility: Any participant who dies with 10 or more years of Credited Service is eligible for survivor benefits.

Benefit: Beneficiary will be paid the participant's accrued benefit based upon Credited Service and AMC as of the date of death.
Normal Form
of Benefit:
$100 \%$ of the participant's accrued benefit shall be paid as a survivor annuity to the spouse for 5 years. After 5 years, such survivor annuity is reduced to $50 \%$ of the original amount. The survivor annuity ceases upon death or remarriage of the spouse. 120 monthly payments are guaranteed for police officers and firefighters.
COLA: For Non-Hazardous Duty Employment
1.5\% annually commencing on each April 1 for all retirees and beneficiaries who have received at least 6 monthly benefit payments. For non-grandfathered members (not eligible for normal retirement on January 1, 2013), there is a five-year delay (after the retirement date) until this COLA is applied to benefits accrued after January 1, 2013.

## For Hazardous Duty Employment-Police Officers and Firefighters

1.5\% annually commencing on each April 1 for all retirees and beneficiaries who have received at least 6 monthly benefit payments. For non-grandfathered members (not eligible for normal retirement on January 1, 2013), there is no COLA for benefits accrued after January 1, 2013.

In lieu of the benefits described above, a participant's beneficiary can elect to receive a refund of the participant's accumulated contributions with interest. Accumulated contributions, plus interest, will be refunded for all participants with less than 10 years of Credited Service.

## Q. Post Retirement Death

Benefit determined by the form of benefit elected upon retirement.

## R. Optional Forms

In lieu of electing the Normal Form of benefit, the optional forms of benefits available to all retirees are a Single Life Annuity, a 10 Year Certain and Life Annuity, or the 50\%, $662 / 3 \%$ (for police officers and firefighters), $75 \%$ or $100 \%$ Joint and Survivor options. Members may also elect a partial lump sum equal to $10 \%, 20 \%$, or $30 \%$ of the value of the normal retirement benefit with the remaining monthly retirement benefit reduced accordingly.

## S. Vested Termination

Eligibility: A participant has earned a non-forfeitable right to Plan benefits after the completion of 10 years of Credited Service provided employee contributions are not refunded.

Vesting is determined in accordance with the following table.


Benefit: The participant's accrued Normal Retirement Benefit as of the date of termination. Benefit begins on the member's Normal Retirement date. Alternatively, police officers and firefighters may elect to receive an actuarially reduced Early Retirement Benefit any time after age 50 .

Normal Form of Benefit:

## For Non-Hazardous Duty Employment (Non-Grandfathered)

A monthly annuity is paid for the life of the participant.
For Hazardous Duty Employment-Police Officers and Firefighters (and Grandfathered Non-Hazardous Duty Employment)

A monthly annuity is paid for the life of the participant. After the participant's death, $100 \%$ of the Normal Retirement Benefit shall be paid as a survivor annuity to the spouse for 5 years. After 5 years, such survivor annuity is reduced to $50 \%$ of the original amount. The survivor annuity ceases upon death or remarriage of the spouse. 120 monthly payments are guaranteed for police officers and firefighters. Optional forms of benefits are available.

## COLA: For Non-Hazardous Duty Employment

1.5\% annually commencing on each April 1 for all retirees and beneficiaries who have received at least 6 monthly benefit payments. For non-grandfathered members (not eligible for normal retirement on January 1, 2013), there is a five-year delay (after the retirement date) until this COLA is applied to benefits accrued after January 1, 2013.

## For Hazardous Duty Employment-Police Officers and Firefighters

1.5\% annually commencing on each April 1 for all retirees and beneficiaries who have received at least 6 monthly benefit payments. For non-grandfathered members (not eligible for normal retirement on January 1, 2013), there is no COLA for benefits accrued after January 1, 2013.

Plan participants with less than 10 years of Credited Service will receive a refund of their own accumulated contributions with interest.

## T. Refunds

Eligibility: All participants terminating employment with less than 10 years of Credited Service are eligible. Optionally, vested members (those with 10 or more years of credited service) may elect a refund in lieu of the vested benefits otherwise due.

Benefit: $\quad$ Refund of the member's contributions with $5 \%$ simple interest paid in a single lump sum.

## U. Member Contributions

8\% of Compensation for Non-Hazardous Duty participants.
$10 \%$ of Compensation for Hazardous Duty participants ( $8 \%$ of Compensation if grandfathered).

## V. Employer Contributions

Each plan year, the Employer must contribute a minimum of 7\% of the Compensation of all employees participating in the plan, plus any additional amount determined by the actuary needed to fund the plan properly according to State laws.

## W. Cost of Living Increases

## For Non-Hazardous Duty Employment

$1.5 \%$ annually commencing on each April 1 for all retirees and beneficiaries who have received at least 6 monthly benefit payments. For non-grandfathered members (not eligible for normal retirement on January 1, 2013), there is a five-year delay (after the retirement date) until this COLA is applied to benefits accrued after January 1, 2013.

## For Hazardous Duty Employment-Police Officers and Firefighters

$1.5 \%$ annually commencing on each April 1 for all retirees and beneficiaries who have received at least 6 monthly benefit payments. For non-grandfathered members (not eligible for normal retirement on January 1, 2013), there is no COLA for benefits accrued after January 1, 2013.
X. $13^{\text {th }}$ Check

Not Applicable

## Y. Deferred Retirement Option Plan

Not Applicable

## Z. Other Ancillary Benefits

There are no ancillary retirement type benefits not required by statutes but which might be deemed a City of Clearwater Employees’ Pension Plan liability if continued beyond the availability of funding by the current funding source.

## AA. Changes from Previous Valuation

There have been no changes from the previous valuation.


[^0]:    * Starting with the January 1, 2015 valuation, the Employer Normal Cost is calculated under the Entry Age Normal Method and the Credit Balance is excluded from the Actuarial Value of Assets.

    Results before January 1, 2010 are from the January 1, 2009 Report prepared by PricewaterhouseCoopers.

