# City of Gainesville General Employees Pension Plan 

## Actuarial Valuation Report

As of October 1, 2016

## Board of Trustees

City of Gainesville
General Employees Pension Plan
200 East University Avenue
Gainesville, FL 32601
This report presents the results of the actuarial valuation of the City of Gainesville General Employees Pension Plan ("Plan") as of October 1, 2016. The purpose of this report is to provide a summary of the funded status of the Plan as of October 1, 2016, to determine the minimum required contribution amount for the fiscal year ending September 30, 2018, and to satisfy State reporting requirements. In addition, this report provides a record of any plan amendments or other changes affecting the financial status of the Plan. We have relied solely on reports prepared by Actuarial Concepts for information shown in this report for periods before October 1, 2016. We have not verified nor are we certifying to the accuracy of this historical information.

This report is prepared for the Board of Trustees for use in its review of the operation of this plan. It is expected that the Board will use the results of this report for the purpose of determining contributions to be made to the Plan, as well as the funding status of Plan benefits. The report is to be used in the preparation of an audited financial report prepared by the plan accountant, if any. The use of this report by other parties and/or for other purposes is not recommended without advance review of the appropriateness of such application by Conduent. Conduent will not accept any liability for any such statement made without prior review by Conduent.

## Summary of Valuation Results

Currently, the Plan receives contributions from the City of Gainesville and active members. The amount of the City contribution varies from year to year, while the member contributions are equal to a fixed percentage of $5.0 \%$ of payroll. After taking into account expected member contributions, the total required contribution from the City for the 2017/2018 fiscal year is $18.41 \%$ of projected payroll. For comparative purposes, the required City contribution for the 2016/2017 fiscal year was $17.45 \%$ of payroll.

## Discussion of Valuation Results

The contributions received by the Plan are used to pay for the normal cost of the Plan plus provide a payment toward the unfunded actuarial accrued liability. Currently, the Plan has $\$ 526,326,537$ in accrued liability and $\$ 352,075,915$ in assets at actuarial value, resulting in an unfunded accrued liability of $\$ 174,250,622$. The funded percentage increased from $66.47 \%$ as October 1,2015 to $66.89 \%$ as of October 1,2016 primarily due to better than expected investment performance which was offset somewhat by the net impact of assumption changes. The funded percentage is a snapshot measure of the funding of the plan as of the valuation date. It is determined as a ratio of the actuarial value of assets divided by the total actuarial accrued liability on the valuation date. The funded percentage can differ depending on whether the market value of assets is used or the actuarial value of assets. Also, the funded percentages provided in this report do not imply any assessment of the funded position in the event of a settlement.

The City's contribution of $\$ 16,777,348$ is determined as the normal cost (including administrative expenses) of $\$ 9,032,752$ plus the amortization of the unfunded liability of $\$ 10,588,425$, plus the interest adjustment of $\$ 1,713,370$, reduced for expected employee contributions $\$ 4,557,199$. The City's contribution amounts to $18.41 \%$ of projected payroll and is payable during 2017/2018 fiscal year.

## Actuarial Experience

The Plan experienced actuarial gains of $\$ 12,580,602$. The return on the actuarial value of assets was approximately $13.77 \%$, which compares to the assumed return on the actuarial value of assets of $8.20 \%$. The greater than expected asset return resulted in an actuarial gain of approximately $\$ 17.6$ million. There was a $\$ 5.1$ million liability loss primarily due to salary increases higher than expected ( $5.32 \%$ average assumed salary increases vs. actual salary increases of $12.39 \%$ ), greater than expected retirements and other actuarial experience. A reconciliation of the actuarial experience can be found in Table II.

## Changes in Plan Provisions

In preparing the actuarial valuation as of October 1, 2016, we have used the same plan provisions as were used to complete the valuation as of October 1, 2015. A summary of the plan provisions can be found in Table XI.

## Prescribed Assumptions under Chapter 112

The mortality assumption was updated in accordance with the changes that were enacted in the 2015 legislative session to sections 112.63 and 112.664 , Florida Statutes, which require local government pension plans to use the mortality tables used in either of the two most recently published actuarial valuation reports of the Florida Retirement System (FRS), including the projection scale for mortality improvement, and appropriate risk and collar adjustments based on plan demographics. The assumption used in this valuation is the same assumption used in the 2016 FRS valuation as it applies to "other than special risk" participants.

## Changes in Actuarial Assumptions and Methods as of October 1, 2016

The investment rate of return assumption was decreased from $8.20 \%$ to $8.10 \%$ to better reflect expectations on future investment returns. The mortality assumption was updated in accordance with the changes that were enacted in the 2015 legislative session to sections 112.63 and 112.664 , Florida Statutes, which require local government pension plans to use the mortality tables used in either of the two most recently published actuarial valuation reports of the Florida Retirement System (FRS), including the projection scale for mortality improvement, and appropriate risk and collar adjustments based on plan demographics. The assumption used in this valuation is the same assumption used in the 2016 FRS valuation as it applies to "other than special risk" participants. The salary increase assumption was adjusted to reflect the City's future salary increase expectations. The asset valuation method was changed to a 5 -year phase-in of market value investment gains and losses. The method for amortizing unfunded liability bases was changed. Outstanding bases as of October 1, 2015 were re-amortized over their remaining periods without regard to the one-year delay in payment. Those bases were then rolled forward to October 1, 2016. New based established at October 1, 2016 and later will be amortized over a period of 30 years, which is the maximum amortization period allowed by Chapter 112.64, Florida Statutes.

The effect of the assumption changes are summarized as follows:


The payroll growth assumption of $4.5 \%$ per year reflects the City's expectation for future payroll increases. The City of Gainesville intends to keep the payroll growth assumption that was grandfathered under current Florida Statutes of $5.0 \%$ with an adjustment to reflect changes in salary increase assumptions. The payroll growth assumption does not affect the total liability, but changes how the unfunded liability is amortized over time in the City's contribution. A summary of the actuarial methods and assumptions used in the valuation can be found in Tables X.

## Basis for the Actuarial Assumptions

The economic and demographic assumptions used in the valuation were adopted by the City in consultation with Conduent. The salary scale was revised effective with the 2016 valuation to reflect the City's future expectations. Conduent recommends a thorough experience review be performed in conjunction with the 2017 valuation.

In our opinion, the actuarial assumptions used are appropriate for purposes of the valuation and are reasonably related to the experience of the Plan and to reasonable long-term expectations.

## Financial and Member Data

This valuation was performed using employee and financial data supplied by the City of Gainesville. The census data was received as of October 1, 2016. Conduent did not audit this data, although it was reviewed for reasonableness and consistency with the prior year's information. The results of the valuation are dependent on the accuracy of the data. Tables VIII through VIIId provide a summary of the data used in the valuation.

## Estimated Impact of Pension Obligation Bond

As requested, we have estimated the City's contribution rate without reflecting the pension obligation bond contribution. For this purpose we have excluded from the Plan's assets the special contribution of $\$ 38,634,133$ and investment earnings of $\$ 77,925,812$ as reported by the Plan. On this basis, the City's contribution rate would have been $26.35 \%$ of projected payroll for the fiscal year ending 2018. In Table la we present a comparison of the contribution requirements with and without the pension obligation bond contribution.

## Contents of the Report

A summary of the results of the valuation is presented in Table I. Information for the auditors can be found in Table III. The disclosure information required by Chapter 112, Florida Statutes, is presented in Table IV-IVb. Tables V through VII provide information about the Plan's assets. Table VII provides a historical record of the growth, expenditures, and annual returns of the Plan. Tables VIII through VIIId provide information regarding the participant population.

Throughout this report, information for valuation years prior to October 1, 2016 was provided for illustrative purposes and is consistent with the information contained in the actuarial valuation reports produced by Actuarial Concepts. Please refer to the prior valuation reports for further details.

## Certification

This actuarial valuation was prepared under our direct supervision and we acknowledge responsibility for the results. To the best of our knowledge, the results are complete and accurate and, in our opinion, the techniques and assumptions used are reasonable and meet the requirements and intent of Part VII, 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 increase in Plan costs or required contribution rates have been taken into account in the valuation.

Future actuarial measurements may differ significantly from current measurements due to plan experience differing from that anticipated by the economic and demographic assumptions, changes expected as part of the natural operation of the methodology used for these measurements, and changes in plan provisions, applicable law or regulations. An analysis of the potential range of such future differences is beyond the scope of this report.

This valuation was prepared in accordance with the standards of practice prescribed by the Actuarial Standards Board, based on the current provisions of the Plan and on actuarial assumptions that are internally consistent and reasonably based on the actual experience of the Plan. We are members of the American Academy of Actuaries and meet the Academy's qualification standards to issue this Statement of Actuarial opinion. We are available to answer questions regarding any of the content within this report.

Conduent Human Resource Services


Joseph L. Griffin, ASA, EA, MAAA, FCA
Prifcipal, Retirement Consulting
Enrollment No. 17-06938


Timothy G. Bowen, EA, MAAA, FCA
Principal, Retirement Consulting
Enrollment No. 17-07204

## JLG/TGB/jac

GCPF 050817 JLG.TGB_2017 AVR.docx

## Table of Contents

## Liabilities

Table I Summary of Valuation Results ..... 1
Table la Valuation Results With and Without Pension Bond ..... 2
Table II Gain and Loss Analysis ..... 3
Table III Present Value of Accrued Benefits ..... 5
Table IV Information Req. by Florida Statute Chapter 112 ..... 6
Table IVa Projection of Benefit Payments ..... 9
Table IVb Unfunded Liability Bases. ..... 10
Assets
Table V Assets. ..... 11
Table Va Asset Reconciliation ..... 12
Table Vb Reconciliation of DROP Accounts. ..... 13
Table Vc Actuarial Value of Assets ..... 14
Table VI Historical Asset Information ..... 15
Table Vla Revenues by Source and Expenses by Type ..... 16
Table VII Contributions vs. Payments ..... 17
Data
Table VIII Summary of Member Data ..... 18
Table VIIla Active Data ..... 19
Table VIIIb Retiree Data ..... 20
Table VIIIc Data Reconciliation ..... 21
Table VIIId Age-Service-Salary Table ..... 22
Table IX Historical Contribution Rate. ..... 23
Assumptions
Table $X \quad$ Actuarial Assumptions and Methods ..... 24
Table Xa Assumption and Method Changes ..... 28
Plan Provisions
Table XI Plan Provisions ..... 29

## Summary of Valuation Results

## 1. Number of Members

a. Active Members ..... 1,519
b. Deferred Vested Members ..... 428
c. Retired Members:
i. Non-disabled ..... 1,122
ii. Disabled ..... 39
iii. Beneficiaries ..... 105
iv. Sub-total ..... 1,266
d. Total Members ..... 3,213
2. Total Annual Compensation ..... \$ 87,219,116
3. Valuation Payroll \$ ..... 91,143,976
4. Total Retired Member Benefits \$ ..... 31,378,761
5. Annual Cost
a. Present Value of Future Benefits ..... \$ 590,253,827
b. Present Value of Future Normal Cost ..... 63,927,290
City Portion
Member Portion ..... 34,898,48729,028,803
c. Actuarial Accrued Liability (AAL) ..... 526,326,537
d. Actuarial Value of Assets (AVA)
e. Unfunded AAL (UAAL)
f. Funded Percentage (AVA / AAL)\$ 174,250,622
g. Normal Cost ..... \$ ..... 8,361,885
h. Payment to Amortize Unfunded Liability/(Surplus) ..... 10,588,425
i. Administrative Expenses ..... 670,867
j. Interest adjustment

k. Total ..... |  | $1,713,370$ |
| :--- | ---: |
| $\$ \quad 21,334,547$ |  |

I. Expected Member Contributions ..... \$m. Estimated City Contributionsn. Total
\$ 21,334,547
6. Annual Cost (as a \% of Valuation Payroll)
a. Total Required Contributions ..... 23.41\%
b. Expected Member Contributions ..... 5.00\%
c. Estimated City Contributions ..... 18.41\%

## Valuation Results With and Without Pension Bond

Table la

## With Pension Bond October 1, 2016 <br> Without Pension Bond October 1, 2016

1. Number of Members
a. Active Members
b. Deferred Vested Members

1,519
428
1,519
c. Retired Members:
i. Non-disabled

| 1,122 | 1,122 |  |
| ---: | ---: | ---: |
| 39 | 39 |  |
| 105 | 105 |  |
| $\mathbf{1 , 2 6 6}$ |  | $\mathbf{1 , 2 6 6}$ |
| $\mathbf{3 , 2 1 3}$ | $\mathbf{3 , 2 1 3}$ |  |

2. Total Annual Compensation
3. Valuation Payroll
4. Total Retired Member Benefits
5. Annual Cost
a. Present Value of Future Benefits
b. Present Value of Future Normal Cost

## City Portion

Member Portion
c. Actuarial Accrued Liability (AAL)
d. Actuarial Value of Assets (AVA)
e. Unfunded AAL (UAAL)
f. Funded Percentage (AVA / AAL)
g. Normal Cost
h. Payment to Amortize Unfunded Liability/(Surplus)
i. Administrative Expenses
j. Interest adjustment
k. Total
I. Expected Member Contributions
m. Estimated City Contributions
n. Total
\$ 87,219,116
\$ 91,143,976
\$ 31,378,761
\$ 590,253,827
63,927,290
29,028,803
34,898,487
526,326,537

|  | $(352,075,915)$ |
| :--- | :--- |
| $\$ \quad 174,250,622$ |  |

66.89\%

| \$ | $8,361,885$ |
| :--- | ---: |
|  | $10,588,425$ |
|  | 670,867 |
|  | $1,713,370$ |
| $\$$ | $\mathbf{2 1 , 3 3 4 , 5 4 7}$ |


| \$ | $4,557,199$ |
| :--- | ---: |
|  | $16,777,348$ |
| \$ | $\mathbf{2 1 , 3 3 4 , 5 4 7}$ |

\$
87,219,116
\$
91,143,976
\$
31,378,761

| \$ | $590,253,827$ |
| ---: | ---: |
|  | $63,927,290$ |
|  | $29,028,803$ |
|  | $34,898,487$ |
|  | $526,326,537$ |
|  | $(247,413,211)$ |
| $\$$ | $\mathbf{2 7 8 , 9 1 3 , 3 2 6}$ |
|  | $\mathbf{4 7 . 0 1 \%}$ |


| $\$$ | $8,361,885$ |
| :--- | ---: |
|  | $17,248,636$ |
|  | 670,867 |
|  | $2,294,957$ |
| $\$$ | $\mathbf{2 8 , 5 7 6}, \mathbf{3 4 5}$ |


| \$ | $4,557,199$ <br> $24,019,146$ <br> $\mathbf{2 8 , 5 7 6 , 3 4 5}$ |
| :--- | ---: |
| $\$$ |  |

6. Annual Cost (as a \% of Valuation Payroll)
a. Total Required Contributions
23.41\%
31.35\%
b. Expected Member Contributions
c. Estimated City Contributions
5.00\%
5.00\%
18.41\%
26.35\%

## Gain and Loss Analysis

## 2. Expected Change in Unfunded Liability During the

 2015/2016 Plan Year| a. Due to Employer Normal Cost and Administrative Expenses* | \$ | $3,587,449$ |
| :--- | ---: | ---: |
| b. Due to Interest on the Unfunded Liability | $13,441,711$ |  |
| c. City Contributions | $(13,481,032)$ |  |
| d. Due to Interest on City Contributions | $(552,722)$ |  |
| e. Total Expected Change | $\$ 4,995,406$ |  |
| Expected Unfunded Accrued Liability as of October 1, 2016 | $\$$ | $166,918,705$ |
| Change in Unfunded Liability During the |  |  |
| 2015/2016 Plan Year Due to: |  |  |

a. Method Changes
\$ 0
b. Assumption Changes

19,912,519
c. Plan Amendments
d. Experience (Gain)/Loss
e. Total Change
5. Actual Unfunded Accrued Liability as of October 1, 2016
6. Development of Outstanding Amortization Obligations as of October 1, 2016
a. Expected Outstanding Obligations as of October 1, 2016
\$ 166,714,794
b. Assumption Changes

19,912,519
c. Plan Amendments
d. Experience (Gain)/Loss
$(12,580,602)$
e. (Gain)/Loss due to Contribution Timing
f. Total Outstanding Obligations as of October 1, 2016

| 203,911 |
| ---: |
| $\$ \quad 174,250,622$ |

## 7. Items Affecting Calculation of Accrued Liability

a. Plan provisions reflected in the accrued liability (see Table XI on page 29)
b. Plan amendments reflected in item 4.c. above
c. Actuarial assumptions and methods used to determine accrued liability (see Table $X$ on page 24)
d. Changes in actuarial assumptions and methods reflected in items 4.a. and 4.b. above (see Table Xa on page 28)

[^0]
## Gain and Loss Analysis

8. Expected Unfunded Accrued Liability Contribution Rate as of 12.73\% October 1, 2016
9. Net Actuarial (Gains)/Losses During the 2015/2016 Plan Year
a. Due to Salary/Service/Data
0.16\%
b. Due to Investment Performance
c. Due to Turnover/Mortality
d. Due to New Retirements 0.08\%
e. Due to Difference and Timing in Contributions 0.01\%
f. Due to New Members
g. Total
(0.70\%)
10. Change in Unfunded Accrued Liability Rate During the 2015/2016 Plan Year Due to:
a. Method changes $0.00 \%$
b. Assumption changes $1.14 \%$
c. Plan amendments $\quad 0.00 \%$
d. Total Change
1.14\%
11. Other Effects
12. Unfunded Accrued Liability Contribution Rate as of October 1, 2016
11.62\%
13. Comments on Change in Unfunded Accrued Liability Contribution Rate:
[^1]
## Present Value of Accrued Benefits

## 1. Actuarial Present Value of Accrued Benefits

October 1, $2015{ }^{1}$
a. Vested Accrued Benefits:
i. Inactive members and beneficiaries
ii. Active members
iii. Sub-total
b. Non-vested Accrued Benefits
c. Total Benefits
d. Market Value of Assets
e. Percentage Funded
f. Interest Rate

| \$ | $355,798,087$ |
| :--- | ---: |
|  | $91,122,334$ |
| $\$$ | $446,920,421$ |


\$ 334,603,948
74.4\%
8.20\%

October 1, 2016

| $\$$ | $382,997,223$ |
| :--- | ---: |
|  | $83,025,364$ |
| $\$$ | $466,022,587$ |
|  | $20,838,435$ |
| $\$$ | $486,861,022$ |
| $\$$ | $357,298,271$ |
|  | $73.4 \%$ |
|  | $8.10 \%$ |

2. Statement of Changes in Total Actuarial Present Value of All Accrued Benefits
a. Actuarial Present Value as of October 1, 2015¹
b. Increase (Decrease) During 2015/2016 Plan Year Attributable to:
i. Interest
ii. Benefits accumulated
iii. Benefits paid
iv. Plan amendments
v. Changes in actuarial assumptions
vi. Net increase (decrease)
c. Actuarial Present Value as of October 1, 2016
\$
450,025,197
\$ 35,518,432
11,597,723
$(33,747,177)$

|  | $23,466,847$ |
| :--- | :--- |
| $\$ \quad 36,835,825$ |  |

\$
486,861,022

## 3. Items Affecting Calculation of Actuarial Present Value of Accrued Benefits

a. Plan provisions reflected in the accrued benefits (see Table XI page 29)
b. Plan amendments reflected in item 2.b.iv. above
c. Actuarial assumptions and methods used to determine present values (see Table $X$ on page 24)
d. Changes in actuarial assumptions and methods reflected in item 2.b.v. above (see Table Xa on page 28)

1 All results prior to October 1, 2016 were developed by the prior actuary.

## Information Required by Florida Statute (Chap. 112)

## October 1, 20151 October 1, 2016

## 1. Participant Data

a. Active members:
i. Number

|  | 1,465 |  | 1,519 |
| ---: | ---: | ---: | ---: |
| $\$$ | $80,223,575$ | $\$$ | $87,219,116$ |
| $83,833,636$ |  | $91,143,976$ |  |

b. Retired members and beneficiaries:
i. Number

|  | 1,188 |  | 1,227 |
| ---: | ---: | ---: | ---: |
| $\$$ | $29,598,883$ | $\$$ | $31,152,882$ |

c. Disabled members receiving benefits:
i. Number
37
39
ii. Total annualized benefit
\$ 200,935 \$ 225,879
d. Terminated vested members:
i. Number
431
428
ii. Total annualized benefit
\$ 2,463,322 \$ 2,668,659
2. Assets
$\begin{array}{lllll}\text { a. Actuarial Value of Assets } & \$ & 324,954,509 & \$ & 352,075,915 \\ \text { b. Market Value of Assets } & & 334,603,948 & 357,298,271\end{array}$
3. Liabilities
a. Present value of all future expected benefit payments:
i. Active members:

| Retirement benefits | \$ | 176,583,122 | \$ | 190,541,237 |
| :---: | :---: | :---: | :---: | :---: |
| Vesting benefits |  | 6,584,173 |  | 6,524,183 |
| Disability benefits |  | 5,575,296 |  | 6,044,582 |
| Death benefits |  | 1,626,975 |  | 2,890,938 |
| Return of member contributions |  | 1,708,505 |  | 1,255,664 |
| Sub-total | \$ | 192,078,071 | \$ | 207,256,604 |

ii. Terminated vested members
\$ 8,913,374 $\$ \quad 10,670,876$
iii. Retired members and beneficiaries:

Retired (other than disabled) and beneficiaries
Disabled members
Sub-total
iv. Total present value of all prospective benefits

| \$ | 345,457,993 | \$ | 370,489,557 |
| :---: | :---: | :---: | :---: |
|  | 1,426,720 |  | 1,836,790 |
| \$ | 346,884,713 | \$ | 372,326,347 |

\$ $547,876,158 \quad \$ \quad 590,253,827$

1 All results prior to October 1, 2016 were developed by the prior actuary.

## Information Required by Florida Statute (Chap. 112)

## October 1, $2015{ }^{1} \quad$ October 1, 2016

| b. Liabilities due and unpaid | $\$$ | 0 | $\$$ | 0 |
| :--- | :---: | :---: | :---: | :---: |
| c. Actuarial accrued liability | $\$$ | $488,877,808$ | $\$$ | $526,326,537$ |
| d. Unfunded actuarial accrued liability | $\$$ | $163,923,299$ | $\$$ | $174,250,622$ |
| Actuarial Present Value of Accrued Benefits <br> (refer toTable IV for further details) | $\$$ | $450,025,197$ | $\$$ | $486,861,022$ |

5. Pension Cost
a. Normal cost

| Retirement benefits | \$ | 6,370,741 | \$ | 6,767,880 |
| :---: | :---: | :---: | :---: | :---: |
| Vesting benefits |  | 483,840 |  | 623,422 |
| Disability benefits |  | 412,644 |  | 427,749 |
| Death benefits |  | 70,187 |  | 109,445 |
| Return of member contributions |  | 175,014 |  | 433,389 |
| Total normal cost | \$ | 7,512,426 | \$ | 8,361,885 |
| As a \% of valuation payroll |  | 8.96\% |  | 9.17\% |
| Administrative expenses |  | 633,264 |  | 670,867 |
| Total normal cost including admin expenses | \$ | 8,145,690 | \$ | 9,032,752 |
| As a \% of valuation payroll |  | 9.72\% |  | 9.91\% |

b. Payment to amortize unfunded liability

As a \% of valuation payroll
\$

| $10,671,228$ | $\$$ | $10,588,425$ |
| ---: | ---: | ---: |
| $12.73 \%$ |  | $11.62 \%$ |

d. Amount to be contributed by members

As a \% of valuation payroll
e. Expected City Contribution:

As a \% of valuation payroll
6. Prior Fiscal Year Contributions for year ending
a. Required Employer contribution
b. Actual contribution made by:

| i. Employer | $\$$ | $11,746,935$ | $\$$ | $13,481,032$ |
| :--- | :--- | ---: | ---: | ---: |
| iii. Members |  | $4,429,289$ | $4,441,258$ |  |

1 All results prior to October 1, 2016 were developed by the prior actuary.

## Information Required by Florida Statute (Chap. 112)

7. Net actuarial (gain)/loss
8. Other disclosures
a. Present value of active members':
i. Future salaries:
at attained age
at entry age
ii. Future contributions:
at attained age
b. Present value of future contributions from City
c. Present value of future expected benefit payments for active members at entry age
d. Amount of active members' accumulated contributions
\$ 32,863,391 \$ 33,520,452

1 All results prior to October 1, 2016 were developed by the prior actuary.

## Fiscal Year <br> Beginning

Active Members Emerging Retirees
Retired Members
Total Retired

|  | Number of <br> Active <br> Members | Number <br> of <br> Members | Projected <br> Benefits | Number of <br> Members | Projected <br> Benefits | Number of <br> Members | Projected <br> Benefits |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 2016 | 1,519 | 0 | $\$$ | 897,403 | 1,694 | $\$$ | $31,423,577$ |
| 2017 | 1,392 | 81 | $2,064,301$ | 1,668 | $31,454,727$ | 1,694 | $\$ 32,320,980$ |
| 2018 | 1,286 | 165 | $3,393,026$ | 1,651 | $31,610,125$ | 1,816 | $35,519,028$ |
| 2019 | 1,190 | 254 | $4,838,028$ | 1,634 | $31,713,023$ | 1,888 | $36,551,051$ |
| 2020 | 1,105 | 340 | $6,220,209$ | 1,615 | $31,788,890$ | 1,955 | $38,009,099$ |
|  |  |  |  |  |  |  | 2,017 |
| 2021 | 1,031 | 422 | $7,703,364$ | 1,595 | $31,911,235$ | $39,614,599$ |  |
| 2022 | 958 | 505 | $9,474,243$ | 1,574 | $31,992,195$ | 2,079 | $41,466,438$ |
| 2023 | 885 | 586 | $11,312,933$ | 1,552 | $32,106,488$ | 2,138 | $43,419,421$ |
| 2024 | 814 | 661 | $13,068,281$ | 1,529 | $32,196,185$ | 2,190 | $45,264,466$ |
| 2025 | 748 | 728 | $14,934,341$ | 1,504 | $32,294,089$ | 2,232 | $47,228,431$ |
|  |  |  |  |  |  |  | 2,274 |
| 2026 | 680 | 795 | $16,825,852$ | 1,479 | $32,272,354$ | $49,098,206$ |  |
| 2027 | 614 | 857 | $18,736,447$ | 1,452 | $32,313,196$ | 2,310 | $51,049,642$ |
| 2028 | 551 | 914 | $20,500,578$ | 1,424 | $32,266,438$ | 2,338 | $52,767,016$ |
| 2029 | 500 | 957 | $22,062,353$ | 1,395 | $32,118,676$ | 2,352 | $54,181,029$ |
| 2030 | 455 | 992 | $23,569,169$ | 1,364 | $31,916,342$ | 2,356 | $55,485,512$ |


| Description | Original <br> Amount ${ }^{1}$ | Outstanding Balance as of October 1, 2015 | 2015/2016 <br> Amortization Payment | Outstanding <br> Balance as of October 1, 2016 | 2016/2017 <br> Amortization Payment | Years <br> Remaining October 1, 2016 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1. $10 / 1 / 20042004$ Fresh Start |  | \$ 10,135,762 | \$ 716,545 | \$ 10,191,593 | \$ 743,559 | 18 |
| 2. 10/1/2006 Actuarial Losses |  | 7,324,134 | 483,115 | 7,401,983 | 500,964 | 20 |
| 3. 10/1/2007 Actuarial Gains |  | $(2,617,919)$ | $(167,367)$ | $(2,651,497)$ | $(173,488)$ | 21 |
| 4. 10/1/2008 Actuarial Losses |  | 20,019,902 | 1,242,937 | 20,316,676 | 1,287,948 | 22 |
| 5. 10/1/2009 Actuarial Losses |  | 41,684,420 | 2,517,761 | 42,378,325 | 2,608,038 | 23 |
| 6. 10/1/2009 Assumption Change |  | 33,194,593 | 2,004,971 | 33,747,171 | 2,076,861 | 23 |
| 7. 10/1/2010 Actuarial Losses |  | 1,266,236 | 74,528 | 1,289,428 | 77,174 | 24 |
| 8. $10 / 1 / 2010$ Assumption Change |  | $(9,379,854)$ | $(552,081)$ | $(9,551,650)$ | $(571,682)$ | 24 |
| 9. 10/1/2011 Actuarial Losses |  | 39,844,370 | 2,288,722 | 40,635,211 | 2,369,184 | 25 |
| 10. 10/1/2011 Assumption Change |  | $(9,292,336)$ | $(533,766)$ | $(9,476,773)$ | $(552,531)$ | 25 |
| 11. 10/1/2012 Actuarial Losses |  | 24,403,238 | 1,369,915 | 24,922,055 | 1,417,606 | 26 |
| 12. 10/1/2013 Actuarial Gains |  | $(2,153,829)$ | $(118,313)$ | $(2,202,428)$ | $(122,392)$ | 27 |
| 13. 10/1/2013 Assumption Change |  | 4,679,633 | 257,059 | 4,785,225 | 265,921 | 27 |
| 14. 10/1/2014 Actuarial Gains |  | $(12,447,977)$ | $(669,894)$ | $(12,743,886)$ | $(692,767)$ | 28 |
| 15. 10/1/2014 Assumption Change |  | 17,202,254 | 925,748 | 17,611,179 | 957,357 | 28 |
| 16. 10/1/2015 Actuarial Gains | \$ $(4,708,126)$ | $(4,708,126)$ | $(248,495)$ | $(4,825,321)$ | $(256,898)$ | 29 |
| 17. 10/1/2015 Assumption Change | \$ 4,768,798 | 4,768,798 | 251,697 | 4,887,503 | 260,209 | 29 |
| 18. 10/1/2016 Actuarial Gains | \$(12,376,691) |  |  | $(12,376,691)$ | $(646,050)$ | 30 |
| 19. 10/1/2016 Assumption Change | \$ 19,912,519 |  |  | 19,912,519 | 1,039,412 | 30 |
| Total |  | \$163,923,299 | \$ 9,843,082 | \$174,250,622 | \$10,588,425 |  |

Projected Unfunded Liability

| Date |  | Total |
| :---: | :--- | :--- | :--- |
| October 1, 2016 |  | $174,250,622$ |
| October 1,2017 |  | $176,918,836$ |
| October 1, 2018 |  | $179,288,100$ |
| October 1,2019 |  | 0 |

[^2]
## 1. Market Value of Assets*

a. Cash and cash equivalents (2\%)
b. U.S. government bonds \& notes ( $0 \%$ )
c. Corporate bonds (1\%)
d. Equities (84\%)
e. Insurance contracts (0\%)
f. Real Estate (12\%)
g. Mortgages/loans (0\%)
h. Other assets ( $1 \%$ )
i. Accrued income receivable (0\%)
j. Contributions receivable (0\%)
k. Other receivables ( $0 \%$ )

| $\$$ | $5,268,066$ |
| :--- | ---: |
|  | 741,968 |
| $4,044,103$ |  |
|  | $265,454,146$ |
|  | 0 |
|  | $54,938,842$ |
|  | 278,554 |
|  | $4,087,999$ |
|  | 0 |
|  | 0 |
|  | 346,395 |
|  | 0 |
|  | $(556,125)$ |
|  | 0 |
| $\$$ | $334,603,948$ |

\$ $5,845,458$
627,188
4,471,702
299,369,535
0
45,197,689
160,020
2,073,133
203,638
443,476
I. Benefits payable ( $0 \%$ )
m. Other payables ( $0 \%$ )
n. Other adjustments (0\%)
o. Market Value of Assets

* The percentages in parentheses indicate the proportion of assets committed to each type of investment as of October 1, 2016.

1. Market Value of Assets as of the beginning of the year
2. Increases Due to:
a. Contributions:
i. Employer
ii. Members
iii. Total
b. Investment income (interest and dividends)
c. Realized and unrealized gains/(losses)
d. Transfer from the disability plan
e. Total increases
3. Decreases Due to:
a. Benefit payments
b. DROP pension payments
c. Refund of member contributions
d. Administrative expenses
e. Investment expenses
f. Total decreases
4. Market Value of Assets as of the end of the year


|  | $3,890,095$ |
| :---: | :---: |
|  | $(4,455,593)$ |
|  | $2,320,442$ |
| $\$$ | $17,931,168$ |

\$

|  | $(3,371,411)$ |
| ---: | ---: |
|  | $(194,781)$ |
|  | $(580,988)$ |
|  | $(1,920,591)$ |
| $\$ \quad(30,807,786)$ |  |

\$
334,603,948
\$
357,298,271

## Year Ending

1. Market Value of Assets as of the beginning of the year
2. Increases Due to:
a. Contributions to DROP Accounts
b. Investment Return
c. Total increases

| $\$$ | $3,818,727$ |
| :--- | ---: |
|  | 698,778 |
| $\$$ | $4,517,505$ |


| $\$$ | $3,505,811$ |
| :--- | ---: |
|  | 530,078 |
| $\$$ | $4,035,889$ |

3. Decreases Due to:
a. Pension Payments
b. Expense Charges
c. Total decreases

| $\$$ | $(3,371,411)$ |
| :--- | ---: |
|  | 0 |
| $\$$ | $(3,371,411)$ |

\$
$(6,454,788)$
$\$ \quad 11,311,721$
\$
12,457,815
4. Market Value of Assets as of the end of the year

## \$

12,457,815
\$
10,038,916

## Development of Actuarial Value of Assets

## Year Ending

1. Market Value of Assets, beginning of year
a. Market Value including DROP Accounts
\$ 334,603,948
b. DROP Accounts
c. Market Value net of DROP Accounts
\$ 322,146,133
2. Net Cash Flow
(Contributions less Benefit Payments and
Administrative Expenses)
\$
$(14,076,855)$
3. Gain (Loss) on Investments
a. Actual Net Investment Earnings
(Net of investment-related expenses
\$ 39,190,077
b. Expected Investment Earnings
c. Net gain (loss)
\$ 13,339,875
4. Deferral of Gain / (Loss) Recognition in Actuarial Value

| Year Ending | Total Gain / (Loss) | Amount Deferred |  |
| :---: | :---: | :---: | :---: |
| 2012 | \$ 31,769,509 |  |  |
| 2013 | 38,730,860 | \$ | 7,746,172 |
| 2014 | 8,266,792 |  | 3,306,717 |
| 2015 | $(27,504,055)$ |  | $(16,502,433)$ |
| 2016 | 13,339,875 |  | 10,671,900 |
|  |  | \$ | 5,222,356 |

5. End of Year Assets
a. Market Value (net of DROP Accounts)
\$
347,259,355
b. Actuarial Value (prior to the application of the 80\%/120\% corridor)
(5.a. - 4.)
6. Adjustments to Actuarial Value of Assets
a. $80 \%$ of Market Value
b. $120 \%$ of Market Value
c. Actuarial Value of Assets net of DROP Accounts (5.b., not less than 6.a., nor greater than 6.b.) 342,036,999
d. DROP Accounts 10,038,916
e. Final Actuarial Value of Assets (6.c. plus 6.d.)
\$ 352,075,915


| Plan <br> Year Ending ${ }^{1}$ | Market <br> Value as of October 1 | Actuarial Value as of October 1 | Benefit Payments ${ }^{2}$ | Administrative <br> Expenses | City and Member Contributions | Market <br> Value <br> Return | Actuarial <br> Value <br> Return |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2006 | \$ 274,971,260 | \$ 262,621,476 |  |  |  |  |  |
| 2007 | 306,491,809 | 283,130,641 | \$ 18,779,354 | \$ 431,608 | \$ 9,926,883 | 15.27\% | 11.06\% |
| 2008 | 248,617,329 | 293,077,340 | 17,399,727 | 627,426 | 7,210,872 | -15.18\% | 7.41\% |
| 2009 | 228,505,410 | 274,206,492 | 18,405,801 | 636,802 | 7,611,211 | -3.08\% | -2.59\% |
| 2010 | 239,911,906 | 287,894,287 | 20,104,037 | 622,604 | 9,012,253 | 10.95\% | 9.47\% |
| 2011 | 226,630,947 | 271,957,136 | 22,209,084 | 548,007 | 13,704,199 | -1.23\% | -2.43\% |
| 2012 | 265,874,748 | 261,967,520 | 24,120,481 | 566,863 | 13,369,217 | 23.49\% | 0.50\% |
| 2013 | 314,659,802 | 273,171,031 | 26,638,294 | 552,549 | 15,147,104 | 24.12\% | 9.08\% |
| 2014 | 347,480,566 | 306,917,954 | 27,833,871 | 613,886 | 15,779,907 | 11.46\% | 13.16\% |
| 2015 | 334,603,948 | 324,954,509 | 28,306,207 | 580,988 | 16,176,224 | -0.17\% | 9.81\% |
| 2016 | 357,298,271 | 352,075,915 | 33,747,177 | 670,867 | 17,922,290 | 12.01\% | 13.77\% |

[^3]| REVENUES |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Fiscal Year |  | City Contrib. |  | Member <br> Contrib. |  | Total Contrib. |  | Net Invest. Income |  | Other |  | Total |
| 2007 | \$ | 2,648,008 | \$ | 7,278,875 | \$ | 9,926,883 | \$ | 41,246,813 | \$ | $(1,738,665)$ | \$ | 49,435,031 |
| 2008 |  | 3,173,929 |  | 4,036,943 |  | 7,210,872 |  | $(45,584,410)$ |  | 0 |  | $(38,373,538)$ |
| 2009 |  | 3,279,364 |  | 4,331,847 |  | 7,611,211 |  | $(7,463,451)$ |  | 0 |  | 147,760 |
| 2010 |  | 4,431,480 |  | 4,580,773 |  | 9,012,253 |  | 24,324,533 |  | 0 |  | 33,336,786 |
| 2011 |  | 8,837,192 |  | 4,867,007 |  | 13,704,199 |  | $(2,886,470)$ |  | 0 |  | 10,817,729 |
| 2012 |  | 8,684,927 |  | 4,684,290 |  | 13,369,217 |  | 51,765,112 |  | 0 |  | 65,134,329 |
| 2013 |  | 10,206,334 |  | 4,940,770 |  | 15,147,104 |  | 62,481,775 |  | 0 |  | 77,628,879 |
| 2014 |  | 11,521,139 |  | 4,258,768 |  | 15,779,907 |  | 35,873,600 |  | 11,311,721 |  | 62,965,228 |
| 2015 |  | 11,746,935 |  | 4,429,289 |  | 16,176,224 |  | $(565,498)$ |  | 2,320,442 |  | 17,931,168 |
| 2016 |  | 13,481,032 |  | 4,441,258 |  | 17,922,290 |  | 40,919,252 |  | 0 |  | 58,841,542 |


| EXPENSES |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Fiscal Year | Benefits Paid |  | Member <br> Refunds | DROP <br> Payments |  | Administrative Expenses |  | Investment Expenses |  |  | Total |
| 2007 | \$ | 14,358,817 | N/A | \$ | 4,420,537 | \$ | 431,608 | \$ | 1,536,492 | \$ | 20,747,454 |
| 2008 |  | 15,522,180 | N/A |  | 1,877,547 |  | 627,426 |  | 1,473,789 |  | 19,500,942 |
| 2009 |  | 16,265,470 | 181,217 |  | 1,959,114 |  | 636,802 |  | 1,217,076 |  | 20,259,679 |
| 2010 |  | 17,890,641 | 221,221 |  | 1,992,175 |  | 622,604 |  | 1,203,649 |  | 21,930,290 |
| 2011 |  | 19,157,450 | 293,291 |  | 2,758,343 |  | 548,007 |  | 1,341,597 |  | 24,098,688 |
| 2012 |  | 20,342,550 | 290,591 |  | 3,487,340 |  | 566,863 |  | 1,203,184 |  | 25,890,528 |
| 2013 |  | 21,669,654 | 242,428 |  | 4,726,212 |  | 552,549 |  | 1,652,982 |  | 28,843,825 |
| 2014 |  | 23,032,860 | 289,246 |  | 4,511,765 |  | 613,886 |  | 1,696,708 |  | 30,144,465 |
| 2015 |  | 24,740,015 | 194,781 |  | 3,371,411 |  | 580,988 |  | 1,920,591 |  | 30,807,786 |
| 2016 |  | 26,862,768 | 429,621 |  | 6,454,788 |  | 670,867 |  | 1,729,175 |  | 36,147,219 |




## Active Data

| Historical Average Age and Service |  |  |
| :---: | :---: | :---: |
|  | Total |  |
| Date | Average Service | Average Age |
| 10/01/2007 | 9.6 | 43.9 |
| 10/01/2008 | 9.5 | 44.1 |
| 10/01/2009 | 9.6 | 44.8 |
| 10/01/2010 | 9.9 | 45.3 |
| 10/01/2011 | 9.8 | 45.8 |
| 10/01/2012 | 9.5 | 45.9 |
| 10/01/2013 | 9.7 | 46.2 |
| 10/01/2014 | 10.0 | 46.5 |
| 10/01/2015 | 9.9 | 46.6 |
| 10/01/2016 | 9.6 | 46.2 |

Historical Salary Rate
Payroll for
Average

| Date | Payroll for <br> Fiscal Year | Average <br> Salary |
| :---: | ---: | :---: |
| $10 / 01 / 2007$ | $\$ 72,728,508$ | 48,778 |
| $10 / 01 / 2008$ | $76,546,090$ | 49,005 |
| $10 / 01 / 2009$ | $79,691,765$ | 50,502 |
| $10 / 01 / 2010$ | $76,544,772$ | 51,685 |
| $10 / 01 / 2011$ | $75,877,965$ | 50,619 |
| $10 / 01 / 2012$ | $74,750,454$ | 50,816 |
| $10 / 01 / 2013$ | $77,784,273$ | 52,771 |
| $10 / 01 / 2014$ | $76,239,783$ | 52,579 |
| $10 / 01 / 2015$ | $76,530,882$ | 52,240 |
| $10 / 01 / 2016$ | $87,219,116$ | 57,419 |

Historical Salary Increase
Assumed
Actual
Salary
Salary
Date Increase Increase

| $10 / 01 / 2006$ | $5.46 \%$ | $11.83 \%$ |
| :--- | ---: | ---: |
| $10 / 01 / 2007$ | $5.61 \%$ | $7.91 \%$ |
| $10 / 01 / 2008$ | $5.63 \%$ | $6.14 \%$ |
| $10 / 01 / 2009$ | $5.68 \%$ | $4.40 \%$ |
| $10 / 01 / 2010$ | $5.77 \%$ | $3.00 \%$ |
| $10 / 01 / 2011$ | $5.73 \%$ | $3.01 \%$ |
| $10 / 01 / 2012$ | $5.74 \%$ | $3.45 \%$ |
| $10 / 01 / 2013$ | $5.66 \%$ | $2.65 \%$ |
| $10 / 01 / 2014$ | $5.64 \%$ | $2.74 \%$ |
| $10 / 01 / 2015$ | $5.56 \%$ | $2.74 \%$ |
| $10 / 01 / 2016$ | $5.32 \%$ | $12.39 \%$ |



Average
Avg. Monthly
Age Benefit

| Non-Disabled Retirees | 66.5 | \$ | $2,191.48$ |
| :--- | :--- | ---: | ---: |
| Disabled Retirees | 62.9 |  | 482.65 |
| Beneficiaries | 72.4 |  | $1,307.03$ |
|  |  |  |  |
| All Retired Members | 66.8 |  | $2,065.48$ |

1. Number of members as of October 1, 2015
2. Change in status during the plan year:
a. Actives who became inactive
(36)
36
b. Actives who retired
(51)
5
(5)
c. Inactives who became active
d. Inactives who retired
e. Retirees who became active
51
(8)
8

1,465
431
1,225
3,121
3. No longer members due to:
a. Death
(3)
(5)
b. Permanent break-in-service
c. Receipt of lump sum payment
d. Expiration of certain period
e. Included in error last year
(2)
(1)

| Attained | Completed Years of Service |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Age | Under 1 | 1 to 4 | 5 to 9 | 10 to 14 | 15 to 19 | 20 to 24 | 25 to 29 | 30 to 34 | 35 to 39 | 40 \& up | Total |
| Under 25 | 10 | 14 |  |  |  |  |  |  |  |  | 24 |
| Avg. Pay | 26,636 | 37,492 |  |  |  |  |  |  |  |  | 32,969 |
| 25 to 29 | 41 | 43 | 17 |  |  |  |  |  |  |  | 101 |
| Avg. Pay | 33,998 | 42,509 | 48,025 |  |  |  |  |  |  |  | 39,982 |
| 30 to 34 | 31 | 50 | 39 | 23 |  |  |  |  |  |  | 143 |
| Avg. Pay | 35,570 | 46,433 | 58,354 | 62,415 |  |  |  |  |  |  | 49,900 |
| 35 to 39 | 28 | 55 | 50 | 45 | 27 |  |  |  |  |  | 205 |
| Avg. Pay | 35,383 | 51,525 | 62,821 | 63,692 | 64,031 |  |  |  |  |  | 56,393 |
| 40 to 44 | 25 | 53 | 37 | 48 | 32 | 12 |  |  |  |  | 207 |
| Avg. Pay | 38,653 | 53,792 | 54,644 | 70,286 | 67,175 | 72,762 |  |  |  |  | 59,109 |
| 45 to 49 | 17 | 38 | 53 | 49 | 43 | 29 | 8 |  |  |  | 237 |
| Avg. Pay | 53,059 | 52,053 | 59,894 | 66,560 | 64,367 | 79,344 |  |  |  |  | 63,239 |
| 50 to 54 | 21 | 34 | 54 | 53 | 37 | 21 | 14 | 2 |  |  | 236 |
| Avg. Pay | 41,707 | 52,151 | 53,698 | 64,856 | 65,222 | 76,725 | 78,727 |  |  |  | 60,254 |
| 55 to 59 | 16 | 26 | 35 | 45 | 43 | 20 | 12 | 2 |  |  | 199 |
| Avg. Pay | 34,036 | 54,598 | 63,683 | 63,707 | 67,519 | 74,603 | 83,020 |  |  |  | 63,258 |
| 60 to 64 <br> Avg. Pay | 6 | $\begin{array}{r} 17 \\ 51,278 \end{array}$ | 33 58,730 | $\begin{array}{r} 25 \\ 56,459 \end{array}$ | $\begin{array}{r} 31 \\ 64,293 \end{array}$ | 7 | 7 | 1 |  | 1 | $\begin{array}{r} 128 \\ 59,824 \end{array}$ |
| 65 to 69 <br> Avg. Pay | 3 | 4 | 7 | $\begin{array}{r} 10 \\ 61,353 \end{array}$ | 4 | 3 | 1 |  |  | 1 | 33 54,843 |
| 70 \& up <br> Avg. Pay |  |  |  | 5 |  | 1 |  |  |  |  | 6 |
| Total | 198 | 334 | 325 | 303 | 217 | 93 | 42 | 5 |  | 2 | 1,519 |
| Avg. Pay | 38,376 | 49,450 | 57,795 | 64,267 | 65,349 | 74,480 | 79,164 |  |  |  | 57,485 |

Historical Contribution Rate


| Fiscal Year <br> Ending | Member Contribution Percentage | Expected City Contribution Percentage ${ }^{1}$ | Fiscal Year | Member Contribution Percentage | Expected City Contribution Percentage ${ }^{1}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 2009 | 5.00\% | 3.97\% | 2014 | 5.00\% | 14.56\% |
| 2010 | 5.00\% | 5.48\% | 2015 | 5.00\% | 14.92\% |
| 2011 | 5.00\% | 11.14\% | 2016 | 5.00\% | 16.88\% |
| 2012 | 5.00\% | 10.82\% | 2017 | 5.00\% | 17.45\% |
| 2013 | 5.00\% | 13.39\% | 2018 | 5.00\% | 18.41\% |

## Table X: Actuarial Assumptions and Methods

## Basis for Assumptions

The economic and demographic assumptions used in the valuation were adopted by the City in consultation with Conduent. Conduent recommends a thorough experience review be performed in conjunction with the 2017 valuation.

The mortality assumption was updated in accordance with the changes that were enacted in the 2015 legislative session to sections 112.63 and 112.664 , Florida Statutes, which require local government pension plans to use the mortality tables used in either of the two most recently published actuarial valuation reports of the Florida Retirement System (FRS), including the projection scale for mortality improvement, and appropriate risk and collar adjustments based on plan demographics. The assumption used in this valuation is the same assumption used in the 2016 FRS valuation as it applies to "other than special risk" participants.

## Actuarial Cost Method

The method used to determine Normal Cost and Accrued Actuarial Liability is the Entry Age Normal Cost Method.

## Decrements

Healthy Inactive Mortality
Female: RP-2000 Annuitant Table with White Collar Adjustment projected generationally with Mortality Improvement Scale BB.
Male: RP-2000 Annuitant Table with 50\% White Collar and 50\% Blue Collar Adjustment projected generationally with Mortality Improvement Scale BB.

## Healthy Active Mortality

Female: RP-2000 Combined Healthy Table with White Collar Adjustment projected generationally with Mortality Improvement Scale BB.
Male: RP-2000 Combined Healthy Table with 50\% White Collar and 50\% Blue Collar Adjustment projected generationally with Mortality Improvement Scale BB.

## Disabled Mortality

Female: RP-2000 Disabled Female Retiree Table set forward two years.
Male: RP-2000 Disabled Male Retiree Table set back four years.

## Table X: Actuarial Assumptions and Methods (continued)

Retirement
Members with Hire Dates On or Before October 1, 2007

|  | Years of Service |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Age | 10-14 | 15-19 | $\underline{20}$ | 21-24 | 25-26 | $\underline{27+}$ |
| 56 \& Under | 0.0\% | 7.5\% | 20.0\% | 5.0\% | 10.0\% | 25.0\% |
| 57-59 | 0.0 | 7.5 | 30.0 | 7.5 | 10.0 | 25.0 |
| 60-64 | 0.0 | 7.5 | 30.0 | 30.0 | 10.0 | 25.0 |
| 65 \& Over | 33.0 | 33.0 | 50.0 | 30.0 | 20.0 | 100.0 |

Members with Hire Dates On or After October 2, 2007 But On or Before October 1, 2012

|  | Years of Service |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | :--- | :--- |
| Age | $\frac{10-14}{56 ~ \& ~ U n d e r ~}$ | $0.0 \%$ | $\frac{15-19}{5.0 \%}$ | $\underline{20-24}$ | $\underline{25}$ | $\underline{25}$ |
| $57-59$ | 0.0 | 5.0 | 5.0 | 30.0 | $\frac{26-29}{10.0 \%}$ | $\underline{30+}$ |
| $60-64$ | 0.0 | 5.0 | 5.0 | 30.0 | 10.0 | $25.0 \%$ |
| $65 \&$ Over | 33.0 | 33.0 | 33.0 | 50.0 | 20.0 | 100.0 |

Members with Hire Dates On or After October 2, 2012

|  | Years of Service |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | :--- |
| Age <br> $56 ~ \& ~ U n d e r ~$ | $\frac{10-14}{0.0 \%}$ | $\frac{15-19}{5.0 \%}$ | $\underline{20-24}$ | $\underline{25}$ | $\underline{26-29}$ | $\underline{30+}$ |
| $57-59$ | 0.0 | 5.0 | 5.0 | 5.0 | $5.0 \%$ | 5.0 |
| $60-61$ | 0.0 | 5.0 | 5.0 | 5.0 | 5.0 | 25.0 |
| 62 | 0.0 | 7.5 | 15.0 | 15.0 | 15.0 | 50.0 |
| $63-64$ | 0.0 | 5.0 | 5.0 | 5.0 | 5.0 | 50.0 |
| $65 \&$ Over | 33.0 | 33.0 | 33.0 | 33.0 | 33.0 | 100.0 |

Permanent Withdrawal from Active Status

|  | Males |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Years of Service |  |  |  |  |  |
| Age | 0-1 | 1-2 | 2-3 | 3-4 | 4-5 | $\underline{5+}$ |
| Under 30 | 14.0\% | 12.0\% | 8.0\% | 6.0\% | 5.0\% | 4.0\% |
| 30-34 | 14.0 | 12.0 | 8.0 | 6.0 | 5.0 | 3.0 |
| 35-39 | 14.0 | 12.0 | 8.0 | 6.0 | 5.0 | 2.5 |
| 40-64 | 14.0 | 12.0 | 8.0 | 6.0 | 5.0 | 2.0 |
| 65 \& Over | 14.0 | 12.0 | 8.0 | 6.0 | 5.0 | 0.0 |
| Females |  |  |  |  |  |  |
|  | Years of Service |  |  |  |  |  |
| Age | 0-1 | 1-2 | 2-3 | 3-4 | 4-5 | $\underline{5+}$ |
| Under 30 | 22.0\% | 16.0\% | 13.0\% | 11.0\% | 10.0\% | 7.0\% |
| 30-34 | 22.0 | 16.0 | 13.0 | 11.0 | 10.0 | 5.0 |
| 35-39 | 22.0 | 16.0 | 13.0 | 11.0 | 10.0 | 4.0 |
| 40-64 | 22.0 | 16.0 | 13.0 | 11.0 | 10.0 | 3.0 |
| 65 \& Over | 22.0 | 16.0 | 13.0 | 11.0 | 10.0 | 0.0 |

## Table X: Actuarial Assumptions and Methods (continued)

## Disability

Representative values of the assumed annual rates of disability among members in active service are set forth in the following table. Two-thirds of disabilities are assumed to be ordinary and one-third is assumed to be service-related. $30 \%$ of disabilities are assumed to qualify for Social Security benefits.

| Age | Males | Females |
| :---: | :---: | :---: |
| 25 | $0.0300 \%$ | $0.0100 \%$ |
| 30 | $0.0580 \%$ | $0.0250 \%$ |
| 35 | $0.0730 \%$ | $0.0480 \%$ |
| 40 | $0.1020 \%$ | $0.0750 \%$ |
| 45 | $0.1880 \%$ | $0.1650 \%$ |
| 50 | $0.3130 \%$ | $0.2850 \%$ |
| 55 | $0.5230 \%$ | $0.4780 \%$ |
| 60 | $0.6860 \%$ | $0.5990 \%$ |
| 65 | $0.2390 \%$ | $0.1500 \%$ |

## Interest Rates

8.10\% per annum, net of investment expense and commissions

## Marriage Assumption

## Percent Married

$100 \%$ of members are assumed to be married
Age Difference Between Spouses
Male spouses are assumed to be two years older than female spouses.

## Salary Increases

Salaries are assumed to increase at the annual rates set forth in the following table:

| Years of Service | Rate |
| :---: | :---: |
| 6 and Under | $5.00 \%$ |
| $7-11$ | 4.00 |
| Over 11 | 3.00 |

## Expenses

Annual administrative expenses, exclusive of investment expenses and commissions, are assumed to be equal to the actual administrative expenses incurred since the previous valuation.

## Table X: Actuarial Assumptions and Methods (continued)

## Assets

The actuarial value of assets is based on a method which fully recognizes benefit payments, expenses, contributions, interest and dividends for the year, and recognizes gains or losses in the fair market value of assets at the rate of $20 \%$ per year. The result cannot be greater than $120 \%$ of market value or less than $80 \%$ of market value.

## Unfunded Liability Bases and Funding Period (Pursuant to Chapter 112, Florida Statutes)

All unfunded liability bases which were established prior to October 1, 2004, as well as those bases established as of that date, were combined into a single, "fresh-start" base effective October 1, 2004. Prior to the October 1, 2016 valuation, this base and new bases established after October 1, 2004 were amortized over a period of 30 years, with a one-year delay in payment.

Effective with the October 1, 2016 valuation, outstanding bases as of October 1, 2015 were re-amortized over their remaining periods without regard to the one-year delay in payment. Those bases were then rolled forward to October 1, 2016. New based established at October 1, 2016 and later will be amortized over a period of 30 years, which period is within the maximum amortization period allowed by Chapter 112.64, Florida Statutes. In addition, the annual payment towards the unfunded actuarial accrued liability has been determined as a level percentage of payroll. Total payroll has been assumed to increase at the rate of $4.50 \%$ per annum.

## Vacation Payout and Accumulated Sick Leave

Service credits were adjusted by 0.15 year for employees in the paid-time-off (PTO) program and 0.25 year for employees not in the PTO program for benefit determination to recognize any accumulated unused sick leave. Final year of earnings was increased by $10 \%$ if service greater than $24,8 \%$ if service greater than $17,6 \%$ if service greater than $12,4 \%$ if service greater than 7 and $2 \%$ if service 7 or less for benefit determination for non-PTO employees to recognize credits for special pay. No final earnings adjustment was made for PTO employees.

## Table Xa: Assumption and Method Changes

The following assumptions have been changed since the prior valuation:

## Effective October 1, 2016:

a. The investment rate of return assumption was decreased from $8.20 \%$ to $8.10 \%$ to better reflect expectations on future investment returns.
b. The mortality assumption was updated in accordance with the changes that were enacted in the 2015 legislative session to sections 112.63 and 112.664 , Florida Statutes, which require local government pension plans to use the mortality tables used in either of the two most recently published actuarial valuation reports of the Florida Retirement System (FRS), including the projection scale for mortality improvement, and appropriate risk and collar adjustments based on plan demographics. The assumption used in this valuation is the same assumption used in the 2016 FRS valuation as it applies to "other than special risk" participants.
c. The salary increase assumptions were adjusted to reflect the City's future salary increase expectations.
d. The asset valuation method was changed to a 5 -year phase-in of investment gains and losses.
e. The method for amortizing unfunded liability bases was changed. Outstanding bases as of October 1, 2015 were re-amortized over their remaining periods without regard to the one-year delay in payment. Those bases were then rolled forward to October 1, 2016. New based established at October 1, 2016 and later will be amortized over a period of 30 years, which period is within the maximum amortization period allowed by Chapter 112.64, Florida Statutes.

## Table XI: Plan Provisions

## Ordinances

Original Ordinance: Chapter 2, Article VII, Division 5 (Employees Pension Plan). Most Recent Ordinance No. 120218 effective September 10, 2012.

## Member

All full-time, permanent employees of the City of Gainesville (except police officers and firefighters) or the Gainesville Gas Company are eligible for membership in the Plan upon date of hire.

## Member Contributions

## 5\% of Earnings.

## Credited Service

Credited Service means the total number of months of service with the City, expressed in terms of full and fractional years. Credited Service will include unused sick leave credits and personal critical leave bank (PLCB) credits. For service earned on or after October 1, 2012, no service shall be credited for unused sick leave or PLCB credits earned on or after October 1, 2012.

Employees who previously chose to participate in the City's 457 plan or defined contribution plan and elect to transfer to this Plan may purchase Credited Service for periods of employment during which they participated in the previous plan.

## Earnings

Pay received by a Member as compensation for services to the City, including vacation termination pay, overtime pay, longevity pay and certain other specified pay. For Members with hire dates on or before October 1, 2012, no more than 300 hours of overtime pay earned after October 1, 2012 will be included, nor will termination vacation pay. For Members with hire dates on or after October 2, 2012, no more than 150 hours of overtime pay earned after October 1, 2012 will be included, nor will termination vacation pay.

## Final Average Earnings

Final Average Earnings mean average earnings over a consecutive-month period determined by the member's date of hire, according to the following:

For Members with hire dates on or before October 1, 2007
For Members with hire dates on or after October 2, 2007 but on or before October 1, 2012
For Members with hire dates on or after October 2, 2012

36 months
48 months
60 months

## Table XI: Plan Provisions (continued)

## Monthly Accrued Benefit

A monthly benefit payable for life commencing at Normal Retirement Age equal to a percentage of Final Average Earnings multiplied by Credited Service, where the percentage is determined by the member's date of hire, according to the following:

For Members with hire dates on or before October 1, 2012
2.00\%

For Members with hire dates on or after October 2, 2012
1.80\%

For Gainesville Gas Company Employees, a monthly benefit payable for life starting at Normal Retirement Age, equal to:
(i) the accrued benefit earned under the Gainesville Gas Company Employees Pension Plan ("predecessor plan") as of January 10, 1990; plus
(ii) 2\% of Final Average Earnings times Credited Service earned after January 10, 1990; plus
(iii) for each year of service earned after January 10, 1990, an additional $2 \%$ of Final Average Earnings will be credited, not to exceed the service years earned under the accrued benefit formula under the predecessor plan; less
(iv) for each year of predecessor plan service credited under (iii) above, the portion of the accrued benefit determined under (i) above based on such years.

## Normal Retirement Age and Benefit

## Eligibility

For Members with hire dates on or before October 1, 2007, the eligibility date is the earlier of age 65 and 10 years of Credited Service or 20 years of Credited Service at any age.

For Members with hire dates on or after October 2, 2007 and on or before October 1, 2012, the eligibility date is the earlier of age 65 and 10 years of Credited Service or 25 years of Credited Service at any age.

For Members with hire dates on or after October 2, 2012, the eligibility date is the earlier of age 65 and 10 years of Credited Service or 30 years of Credited Service at any age.

## Amount

Monthly Accrued Benefit

## Form of Payment

Life annuity;
Actuarially reduced $66^{2} / 3 \%$ joint and contingent annuity (optional);
Actuarially reduced $66^{2} / 3 \%$ joint and last survivor annuity (optional);
Social Security option (optional)
(Note: All forms of payment guarantee at least the return of the Member Contributions.)

## Table XI: Plan Provisions (continued)

## Early Retirement Age and Benefit

## Eligibility

For Members with hire dates on or before October 1, 2012, the eligibility date is the attainment of age 55 and 15 years of Credited Service.

For Members with hire dates on or after October 2, 2012, the eligibility date is the attainment of age 60 and 20 years of Credited Service.

## Amount

Monthly Accrued Benefit reduced by 5\% per year for each year that age at retirement precedes age 65 .
Form of Payment
Same as for Normal Retirement

## Deferred Retirement Option Program (DROP)

## Eligibility

A member is eligible for participation in the DROP after completing 27 years of Credited Service

## Benefit

Members of the DROP continue as active employees but no longer contribute or accrue benefits. The accrued benefit is calculated at entry into the DROP and is paid into an account within the Plan and is credited with a guaranteed rate of interest, compounded monthly. If the Member is hired on or before October 1,2012 , the guaranteed interest rate is $6 \%$. For Members hired after October 1, 2012, the interest rate is 2.25\%.

The maximum period of participation is the earlier of 60 months or the attainment of 35 years of Credited Service. At termination of employment, participant is paid the balance of the account in a lump sum or rollover distribution.

## Disability Retirement Eligibility and Benefit

## Eligibility

Active members are eligible for a disability benefit provided that they either: (1) become totally and permanently disabled in the line of duty, or (2) have earned at least five consecutive years as a regular employee and become totally and permanently disabled not in the line of duty.

## Amount

A monthly benefit equal to Final Average Earnings multiplied by his basic disability percentage, which is a percentage equal to Credited Service multiplied $2.00 \%$, but not less than $42 \%$ for disabilities incurred in the line of duty, or $25 \%$ for all other disabilities; offset by his disability benefit percentage, up to a maximum of $50 \%$, multiplied by the initial monthly Social Security Primary Insurance Amount (whether or not in payment status) to which a Member is entitled. The benefit is limited to $\$ 3,750$ per month or an amount equal to his maximum benefit percentage with the above reductions, payable beginning the month of disability or the month following the termination of sick leave payments.

## Form of Payment

Monthly benefit payable for life, but in no event will payments be made after the Member's recovery from such disability.

## Table XI: Plan Provisions (continued)

## Termination Benefit

Eligibility

Five years of Credited Service.

## Amount

Monthly Accrued Benefit payable at age 65.

## Form of Payment

Same as for Normal Retirement
(Note: Members with fewer than 5 years of Credited Service who terminate employment will receive a refund of their Member Contributions without interest.)

## Pre-Retirement Death Benefit

In the case of the death of a member prior to retirement, his beneficiary will receive the member's accumulated contributions without interest, or if such member had attained eligibility for normal or early retirement, then his beneficiary will receive the member's benefit accrued as of the date of death and payable in the form chosen by the beneficiary, reduced if paid at the deceased member's Early retirement date and unreduced if paid at the deceased member's normal retirement date.

## Cost-of-Living Adjustments

A retired member on or before October 1, 2000 will receive an annual $2 \%$ adjustment beginning at the later of October 1, 2000 and the October 1 following his $62^{\text {nd }}$ birthday.

For Members with at least 25 years of Credited Service on or before October 1, 2012, a 2\% per year increase for retired Members and their beneficiaries, commencing at the later of October 1, 2000, or the October 1 following the Member's age 60.

For Members with at least 20 years of Credited Service (but less than 25) on or before October 1, 2012, a $2 \%$ per year increase for retired Members and their beneficiaries, commencing at the later of October 1, 2000, or the October 1 following the Member's age 62.

For Members hired on or before October 1, 2012 who do not have 20 years of Credited Service on or before October 1, 2012, the eligibility date is attainment of age 65 and 25 years of Credited Service.

For new members hired after October 1, 2012, the eligibility date is attainment of age 65 and 30 years of Credited Service.

Cost-of-living increases do not apply during the DROP period.

## Actuarial Equivalence

Actuarial equivalence shall mean a benefit of equivalent value to the benefit which otherwise would have been provided to the member, based on the 1994 Group Annuity Mortality Basic Table-Unisex 50/50 and an interest rate of 9.5 percent, unless otherwise specified.


[^0]:    * As requested by the State Actuary, the normal cost represents the employer portion only, net of actual employee contributions and includes actual administrative expenses.

[^1]:    Salary/Service/Data: Average salary increases of $12.39 \%$ compared to expected increases of $5.32 \%$. Also adjustments in the reported data.
    Investment Performance: $13.77 \%$ actual vs. $8.20 \%$ expected return on the actuarial value of assets.
    Turnover/Mortality: Net effect on the valuation liabilities of actual deaths, terminations of
    employment and disabilities different from what was anticipated in the aggregate by the assumptions
    related to those events.
    New retirements: Net effect on the valuation liabilities of retirements (including DROP) and refund of employee contributions.
    New members: Liability created from new members entering the plan.
    Due to Differences and Timing of Contributions: Due to the one year lag of when the required contribution is determined and when it is deposited into the fund.
    Assumption changes: Please refer to Table Xa for a summary of changes.
    Plan amendments: None.
    Other effects: Overall payroll increases and adjustments in the amortization of the unfunded actuarial accrued liability.

[^2]:    1 All bases established prior to October 1, 2016 were developed by the prior actuary. The original amounts of these bases were not available.

[^3]:    ${ }^{1}$ Asset values from plan years 2014 and later reflect the inclusion of DROP account balances.
    ${ }^{2}$ Includes contributions refunded and payments to DROP accounts.

