City of Delray Beach General Employees' Retirement Plan

ACTUARIAL VALUATION REPORT
AS OF OCTOBER 1, 2018

ANNUAL EMPLOYER CONTRIBUTION FOR THE FISCAL YEAR
ENDING SEPTEMBER 30, 2020

GRS Retirement Consulting

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July 17, 2019

Board of Trustees
City of Delray Beach General
Employees' Retirement Plan
Delray Beach, Florida

Re: Actuarial Valuation as of October 1, 2018

Dear Board Members:

The results of the October 1, 2018 Annual Actuarial Valuation of the City of Delray Beach General Employees' Retirement 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.

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, to determine the employer contribution rate for the fiscal year ending September 30, 2020, and to determine the actuarial information for GASB Statement No. 67 and No. 68 for the fiscal year ending September 30, 2018. This report also includes estimated GASB Statement 67 information for the fiscal year ending September 30, 2019. 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 contribution rate in this report is determined using the actuarial assumptions and methods disclosed in Section B of this report. This report includes risk metrics in Section A but does not include a more robust assessment of the risks of future experience not meeting the actuarial assumptions. Additional assessment of risks was outside the scope of this assignment.

The findings in this report are based on data or other information through September 30, 2018. 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.

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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 Plan Administrator and 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 audit the data. We are not responsible for the accuracy or completeness of the information provided by the Plan Administrator and City.

This report was prepared using certain assumptions approved by the Board as authorized under Florida Statutes and prescribed by the Florida Statutes as described in the section of this report entitled Actuarial Assumptions and Methods. The investment return assumption was prescribed by the Board and the assumed mortality rates detailed in the Actuarial Assumptions and Methods section were prescribed by the Florida Statutes in accordance with Chapter 112.63, Florida Statutes. All actuarial assumptions used in this report are reasonable for purposes of this valuation.

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.

Jeffrey Amrose 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

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SECTION A

DISCUSSION OF VALUATION RESULTS

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 9/30/2020 Based on 10/1/2018 Valuation	For FYE 9/30/2019 Based on 10/1/2017 Valuation	Increase (Decrease)
Required Employer Contribution			
If Paid on October 1			
Date of Payment	10/1/2019	10/1/2018	
Dollar Amount	$ 2,866,796	$ 2,360,582	$ 506,214
As % of Covered Payroll	14.32 %	13.07 %	1.25 %
If Paid on December 31			
Date of Payment	12/31/2019	12/31/2018	
Dollar Amount	$ 2,913,994	$ 2,402,252	$ 511,742
As % of Covered Payroll	14.55 %	13.30 %	1.25 %

This Report reflects an employer contribution of $2,360,582 paid in October, 2018 for the fiscal year ending September 30, 2019. The required contribution was $2,360,582 as determined in the October 1, 2017 Actuarial Valuation Report.

Revisions in Benefits

There were no revisions in benefits since the previous valuation.

Revisions in Actuarial Assumptions or Methods

The investment return assumption was lowered from 7.25% to 6.75% effective October 1, 2018. Assumed rates of salary increase, retirement, withdrawal, and disability have also been revised based on an 8- year experience study performed for the Plan since the prior valuation. Please see the Actuarial Assumptions and Cost Method subsection of this report as well as the Experience Investigation for the Eight Years Ended September 30, 2018, dated June 12, 2019 for additional information on the revised assumptions. The new assumptions were adopted by the Pension Board for initial use in this October 1, 2018 Actuarial Valuation Report.

These changes increased the required contribution by $566,378 or 2.83% of pay.

Actuarial Experience

There has been a net actuarial gain of $1,080,810 for the year, which means that actual experience was more favorable than expected. The net gain caused the required employer contribution to decrease by approximately $94,000 or 0.47% of covered payroll. The gain is primarily due to a recognized return on the actuarial value of assets of 9.2% compared to the assumed rate of 7.25% in the previous valuation.

The investment return was 10.7% based on the market value of assets. This gain was partially offset by mortality losses for retirees and losses due to 60 new members joining the Plan with between one and two years of service.

Funded Ratio

The funded ratio, one measure of the Plan's financial health, is equal to the actuarial value of assets divided by the actuarial accrued (past service) liability. The funded ratio this year is 93.1% compared to 97.3% last year. The funded ratio was 98.3% before the changes in assumptions this year. The change to the mandated mortality assumption, the non-investment losses for FYE 2017 (primarily salary losses) and 2018 and the ERIP from 2015 are adding over $5.0 million to the unfunded accrued liability as of October 1, 2018. Without reflecting these items, the Plan would be 96.7% funded.

Analysis of Change in Employer Contribution

The increase in the normal cost caused the required employer contribution to increase by nearly $200,000 before reflecting the assumption changes. The increase in the normal cost is primarily due to an 11% increase in the total covered payroll from October 1, 2017 to October 1, 2018. This increase in total covered payroll is due to the following two factors:

- Average annual salary increases of 5.5% for the 318 continuing active members.
    - These actual average salary increases of 5.5% were favorable to the Plan since the expected increase averaged 5.9%.
    - The 5.5% average salary increases translated into $874,000 of pay increases as compared to the $939,000 of expected pay increases from an average increase of 5.9%.
    - There were 282 continuing active members in last year's report which compares unfavorably to 318 continuing active members in this year's report (i.e., contributed to higher payroll in 2018 compared to 2017).

- There were 21 more active members (60 new members and 39 who terminated or retired) as of October 1, 2018 as compared to October 1, 2017.

The components of change in the required contribution as a percent of payroll are as follows:

Contribution rate last year*	13.30 %
Changes in Assumptions	2.83
Experience gain/loss	(0.48)
Change in Normal Cost rate	(0.09)
Amortization payment on UAAL	(0.94)
Change in administrative expense	(0.07)
Contribution rate this year*	14.55

* Assuming the contribution is paid on December 31.

Components of Required City Contribution

The required City contribution for the fiscal year ending September 30, 2020 is $2,866,796 assuming the full payment is made on October 1, 2019. Below is a breakdown of this required contribution amount from last year and this year reflecting an October 1 payment date.

	For FYE 9/30/2020 Based on 10/1/2018 Valuation	For FYE 9/30/2019 Based on 10/1/2017 Valuation	Increase (Decrease)
Employer Normal Cost	2,238,987	2,081,631	157,356
Amortization Payments on UAAL due to:			
Prior experience gains and losses	(207,528)	(123,103)	(84,425)
Changes in assumptions	806,906	211,909	594,997
Change in Salary increase assumption	(171,760)	(178,071)	6,311
Change in Funding Method	450,846	466,033	(15,187)
Creating of Tiered benefit structure	(386,827)	(388,640)	1,813
Plan Amendment - Prior ERIP's	135,270	289,886	(154,616)
Plan Amendment - 0% Ee Contributions at 30 YOS	902	937	(35)
Total Required Contribution	**2,866,796**	**2,360,582**	**506,214**

The Employer Normal Cost remained relatively level as a percentage of covered payroll from the October 1, 2017 valuation to the October 1, 2018 valuation, but covered payroll increased by about 11% which caused the Employer Normal Cost to increase as a dollar amount. The Amortization Payments on the UAAL due to prior experience gains and losses decreased because an experience gain base was established as of October 1, 2018. Additionally, the Amortization Payments on the UAAL increased due to the changes in actuarial assumptions. Finally, the Amortization Payments on the UAAL due to prior ERIP amendments decreased due to the expiration of the ERIP plan amendment base that was established on October 1, 2013.

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 Market Value of Assets exceeds the Actuarial Value of Assets by $9,253,049 as of the valuation date (see Section C). This difference will be gradually recognized and, in the absence of offsetting losses, the computed contribution rate will gradually decrease by approximately 3.2% of covered payroll.

Additionally, an amortization charge or credit base will be fully paid off in the next two valuations. As this occurs the total amortization payments will increase or decrease absent any other gain or loss or assumption change. Next year, one amortization credit base will expire which will cause the required employer contribution for the fiscal year ending September 30, 2021 to increase by approximately $390,000 absent any other changes. In two years, an amortization charge base will expire which will cause the required employer contribution for the fiscal year ending September 30, 2022 to decrease by approximately $135,000.

Estimated Required City Contribution for FYE 2021

The estimated required employer contribution for FYE 2021 is compared to the required employer contribution for FYE 2020 reflecting a December 31 payment date:

	Estimated Required Employer Contribution for FYE 9/30/2021	For FYE 9/30/2020 Based on 10/1/2018 Valuation	Increase (Decrease)
Required Employer Contribution			
Date of Payment	12/31/2020	12/31/2019	
Dollar Amount	$ 3,200,000 [1, 2]	$ 2,913,994	$ 286,006
As % of Covered Payroll	15.50 % [1, 2]	14.55 %	0.95 %

[1] Estimated Required Employer Contribution for FYE 2021 assuming no gains, losses, or assumption changes and a 3% increase in total covered payroll for FYE 2019.

[2] For each new hire and vacancy that is added after the valuation date, the Required Employer Contribution will increase by approximately 10.5% of their covered payroll.

Relationship to Market Value

If Market Value had been the basis for the valuation, the City contribution rate would have been 11.36% (assuming a contribution payment date of December 31, 2019) and the funded ratio would have been 99.9%. <u>In the absence of other gains and losses, the City contribution rate should decrease to that level over the next several years.</u>

Conclusion

The remainder of this Report includes detailed actuarial valuation results, information relating to the pension fund, financial accounting information, employee data and a summary of plan provisions.

RISKS ASSOCIATED WITH MEASURING THE ACCRUED LIABILITY AND ACTUARIALLY DETERMINED CONTRIBUTION

The determination of the accrued liability and the actuarially determined contribution requires the use of assumptions regarding future economic and demographic experience. Risk measures, as illustrated in this report, are intended to aid in the understanding of the effects of future experience differing from the assumptions used in the course of the actuarial valuation. Risk measures may also help with illustrating the potential volatility in the accrued liability and the actuarially determined contribution that result from the differences between actual experience and the actuarial assumptions.

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 due to changing conditions; 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 future measurements.

Examples of risk that may reasonably be anticipated to significantly affect the plan's future financial condition include:

1. Investment risk – actual investment returns may differ from the expected returns;
2. Contribution risk – actual contributions may differ from expected future contributions. For example, actual contributions may not be made in accordance with the plan's funding policy or material changes may occur in the anticipated number of covered employees, covered payroll, or other relevant contribution base;
3. Salary and Payroll risk – actual salaries and total payroll may differ from expected, resulting in actual future accrued liability and contributions differing from expected;
4. Longevity risk – members may live longer or shorter than expected and receive pensions for a period of time other than assumed;
5. Other demographic risks – members may terminate, retire or become disabled at times or with benefits other than assumed resulting in actual future accrued liability and contributions differing from expected.

The effects of certain trends in experience can generally be anticipated. For example if the investment return since the most recent actuarial valuation is less (or more) than the assumed rate, the cost of the plan can be expected to increase (or decrease). Likewise if longevity is improving (or worsening), increases (or decreases) in cost can be anticipated.

The computed contribution rate shown on page 1 may be considered as a minimum contribution rate that complies with the Board's funding policy. The timely receipt of the actuarially determined contributions is critical to support the financial health of the plan. Users of this report should be aware that contributions made at the actuarially determined rate do not necessarily guarantee benefit security.

PLAN MATURITY MEASURES

Risks facing a pension plan evolve over time. A young plan with virtually no investments and paying few benefits may experience little investment risk. An older plan with a large number of members in pay status and a significant trust may be much more exposed to investment risk. Generally accepted plan maturity measures include the following:

	2018	2017
Ratio of the market value of assets to total payroll	6.80	7.04
Ratio of actuarial accrued liability to payroll	6.80	6.84
Ratio of actives to retirees and beneficiaries	1.08	1.07
Ratio of net cash flow to market value of assets	(3.2) %	(3.5) %

RATIO OF MARKET VALUE OF ASSETS TO PAYROLL

The relationship between assets and payroll is a useful indicator of the potential volatility of contributions. For example, if the market value of assets is 2.0 times the payroll, a return on assets 5% different than assumed would equal 10% of payroll. A higher (lower) or increasing (decreasing) level of this maturity measure generally indicates a higher (lower) or increasing (decreasing) volatility in plan sponsor contributions as a percentage of payroll.

RATIO OF ACTUARIAL ACCRUED LIABILITY TO PAYROLL

The relationship between actuarial accrued liability and payroll is a useful indicator of the potential volatility of contributions for a fully funded plan. A funding policy that targets a funded ratio of 100% is expected to result in the ratio of assets to payroll and the ratio of liability to payroll converging over time.

The ratio of liability to payroll may also be used as a measure of sensitivity of the liability itself. For example, if the actuarial accrued liability is 2.5 times the payroll, a change in liability 2% other than assumed would equal 5% of payroll. A higher (lower) or increasing (decreasing) level of this maturity measure generally indicates a higher (lower) or increasing (decreasing) volatility in liability (and also plan sponsor contributions) as a percentage of payroll.

RATIO OF ACTIVES TO RETIREES AND BENEFICIARIES

A young plan with many active members and few retirees will have a high ratio of active to retirees. A mature open plan may have close to the same number of actives to retirees resulting in a ratio near 1.0. A super-mature or closed plan may have significantly more retirees than actives resulting in a ratio below 1.0.

RATIO OF NET CASH FLOW TO MARKET VALUE OF ASSETS

A positive net cash flow means contributions exceed benefits and expenses. A negative cash flow means existing funds are being used to make payments. A certain amount of negative net cash flow is generally expected to occur when benefits are prefunded through a qualified trust. Large negative net cash flows as a percent of assets may indicate a super-mature plan or a need for additional contributions.

ADDITIONAL RISK ASSESSMENT

Additional risk assessment is outside the scope of the annual actuarial valuation. Additional assessment may include scenario tests, sensitivity tests, stochastic modeling, stress tests, and a comparison of the present value of accrued benefits at low-risk discount rates with the actuarial accrued liability.

Section B

Valuation Results

PARTICIPANT DATA

	October 1, 2018 *After Changes*	October 1, 2018 *Before Changes*	October 1, 2017
ACTIVE MEMBERS			
Number	378	378	357
Covered Annual Payroll	$ 20,025,730	$ 20,025,730	$ 18,060,007
Average Annual Payroll	$ 52,978	$ 52,978	$ 50,588
Average Age	47.5	47.5	47.9
Average Past Service	9.3	9.3	9.9
Average Age at Hire	38.2	38.2	38.0
RETIREES, BENEFICIARIES & DROP			
Number	347	347	332
Annual Benefits	$ 7,359,542	$ 7,359,542	$ 6,888,357
Average Annual Benefit	$ 21,209	$ 21,209	$ 20,748
Average Age	69.4	69.4	69.2
DISABILITY RETIREES			
Number	3	3	3
Annual Benefits	$ 46,412	$ 46,412	$ 46,412
Average Annual Benefit	$ 15,471	$ 15,471	$ 15,471
Average Age	60.4	60.4	59.4
TERMINATED VESTED MEMBERS			
Number	78	78	79
Annual Benefits	$ 1,288,700	$ 1,288,700	$ 1,240,966
Average Annual Benefit	$ 16,522	$ 16,522	$ 15,708
Average Age	50.5	50.5	50.3

ACTUARIALLY DETERMINED EMPLOYER CONTRIBUTION (ADEC)

	October 1, 2018 *After Changes*	October 1, 2018 *Before Changes*	October 1, 2017
A. Valuation Date			
B. ADEC to Be Paid During Fiscal Year Ending	9/30/2020	9/30/2020	9/30/2019
C. Assumed Date of Employer Contrib.	12/31/2019	12/31/2019	12/31/2018
D. Annual Payment to Amortize Unfunded Actuarial Liability	$ 588,110	$ 28,378	$ 260,094
E. Employer Normal Cost	2,097,413	2,122,572	1,940,915
F. ADEC if Paid on the Valuation Date: D + E	2,685,523	2,150,950	2,201,009
G. ADEC if Paid on the First Day of the Next Fiscal Year	2,866,796	2,306,894	2,360,582
H. ADEC if Paid on December 31	2,913,994	2,347,616	2,402,252
I. ADEC as % of Covered Payroll*	14.55 %	11.72 %	13.30 %
J. Assumed Rate of Increase in Covered Payroll to Contribution Year	0.00 %	0.00 %	0.00 %
K. Covered Payroll for Contribution Year	20,025,730	20,025,730	18,060,007
L. ADEC for Contribution Year*	2,913,994	2,347,616	2,402,252
M. ADEC as % of Covered Payroll in Contribution Year: L ÷ K*	14.55 %	11.72 %	13.30 %

*Assuming the contribution is paid on the date in Item C.

ACTUARIAL VALUE OF BENEFITS AND ASSETS

	October 1, 2018 *After Changes*	October 1, 2018 *Before Changes*	October 1, 2017
A. Valuation Date			
B. Actuarial Present Value of All Projected Benefits for			
1. Active Members			
a. Service Retirement Benefits	$ 58,319,878	$ 58,397,302	$ 55,996,552
b. Vesting Benefits	3,605,331	2,024,023	1,914,340
c. Disability Benefits	1,135,535	1,851,342	1,695,563
d. Preretirement Death Benefits	2,400,133	2,721,010	2,413,048
e. Return of Member Contributions	156,961	148,775	113,634
f. Total	65,617,838	65,142,452	62,133,137
2. Inactive Members			
a. Service Retirees & Beneficiaries	81,990,594	78,539,101	73,749,701
b. Disability Retirees	462,629	444,328	449,640
c. Terminated Vested Members	8,364,319	7,709,926	7,475,931
d. Total	90,817,542	86,693,355	81,675,272
3. Total for All Members	156,435,380	151,835,807	143,808,409
C. Actuarial Accrued (Past Service) Liability (Entry Age Normal)	136,185,423	128,986,996	123,572,640
D. Actuarial Value of Accumulated Plan Benefits per FASB No. 35	122,883,899	116,030,258	110,937,038
E. Plan Assets			
1. Market Value	136,078,674	136,078,674	127,065,505
2. Actuarial Value	126,825,625	126,825,625	120,289,534
F. Unfunded Actuarial Accrued Liability	9,359,798	2,161,371	3,283,106
G. Actuarial Present Value of Projected Covered Payroll	156,870,145	174,190,020	153,036,614
H. Actuarial Present Value of Projected Member Contributions	5,156,526	5,655,858	5,011,297

CALCULATION OF EMPLOYER NORMAL COST

	October 1, 2018 *After Changes*	October 1, 2018 *Before Changes*	October 1, 2017
A. Valuation Date	October 1, 2018 *After Changes*	October 1, 2018 *Before Changes*	October 1, 2017
B. Normal Cost for			
1. Service Retirement Benefits	$ 2,080,421	$ 2,194,385	$ 1,990,084
2. Vesting Benefits	343,656	196,588	190,748
3. Disability Benefits	68,737	123,350	112,029
4. Preretirement Death Benefits	165,632	177,964	155,658
5. Return of Member Contributions	57,807	49,125	44,706
6. Total for Future Benefits	2,716,253	2,741,412	2,493,225
7. Assumed Amount for Administrative Expenses	75,401	75,401	79,944
8. Total Normal Cost	2,791,654	2,816,813	2,573,169
C. Expected Member Contribution	694,241	694,241	632,254
D. Employer Normal Cost: B8-C	2,097,413	2,122,572	1,940,915
E. Employer Normal Cost as a % of Covered Payroll	10.47%	10.60%	10.75%

LIQUIDATION OF THE UNFUNDED ACTUARIAL ACCRUED LIABILITY

UAAL Amortization Period and Payments									
Original UAAL				Current UAAL					
Years	Source	Amort. Period (Years)	Amount	Years	Amount	10/1/2018 Payment	Estimated 10/1/2019 Payment	Estimated 10/1/2020 Payment	
10/1/2009	Method Change - Aggregate to Entry Age Normal	25	$ 5,602,731	16	$ 4,330,444	$ 422,338	$ 422,338	$ 422,338	
10/1/2009	Plan Amendment - Tiered Benefit Structure	10	(2,846,704)	1	(362,368)	(362,368)	-	-	
10/1/2010	Experience Loss	25	394,904	17	315,223	29,724	29,724	29,724	
10/1/2011	Experience Loss	25	1,799,033	18	1,496,604	136,869	136,869	136,869	
10/1/2011	Assumption Change - Salary Scale	25	(2,114,885)	18	(1,759,358)	(160,899)	(160,899)	(160,899)	
10/1/2012	Experience Loss	25	539,648	19	466,389	41,482	41,482	41,482	
10/1/2012	Plan Amendment - 0% Ee Contributions at 30 YOS	25	11,000	19	9,506	845	845	845	
10/1/2013	Experience Gain	25	(1,043,610)	20	(333,720)	(28,938)	(28,938)	(28,938)	
10/1/2014	Experience Gain	25	(769,762)	21	(709,767)	(60,134)	(60,134)	(60,134)	
10/1/2015	Experience Gain	25	(1,180,685)	22	(1,122,649)	(93,114)	(93,114)	(93,114)	
10/1/2015	Plan Amendment - ERIP	5	554,774	2	245,421	126,717	126,717	-	
10/1/2016	Experience Gain	25	(1,268,865)	23	(1,228,756)	(99,945)	(99,945)	(99,945)	
10/1/2016	Mandated Mortality Assumption Change	25	2,414,868	23	2,338,535	190,213	190,213	190,213	
10/1/2017	Experience Gain	25	(450,190)	24	(443,323)	(35,418)	(35,418)	(35,418)	
10/1/2018	Experience Gain	25	(1,080,810)	25	(1,080,810)	(84,933)	(84,933)	(84,933)	
10/1/2018	Experience Study Assumption Changes	25	7,198,427	25	7,198,427	565,671	565,671	565,671	
			$ 7,759,874		$ 9,359,798	$ 588,110	$ 950,478	$ 823,761	

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:

Amortization Schedule					
Year	Expected UAAL	UAAL Payment	Year	Expected UAAL	UAAL Payment
2018	$ 9,359,798	$ 588,110	2031	$ 4,726,846	$ 823,761
2019	9,363,776	950,478	2032	4,166,543	823,761
2020	8,981,196	823,761	2033	3,568,420	823,761
2021	8,708,061	823,761	2034	2,929,924	401,423
2022	8,416,491	823,761	2035	2,699,174	371,699
2023	8,105,239	823,761	2036	2,484,580	395,729
2024	7,772,978	823,761	2037	2,229,849	353,402
2025	7,418,289	823,761	2038	2,003,107	382,340
2026	7,039,658	823,761	2039	1,730,168	442,474
2027	6,635,470	823,761	2040	1,374,614	535,588
2028	6,204,000	823,761	2041	895,660	445,320
2029	5,743,405	823,761	2042	480,738	480,738
2030	5,251,720	823,761	2043	-	-

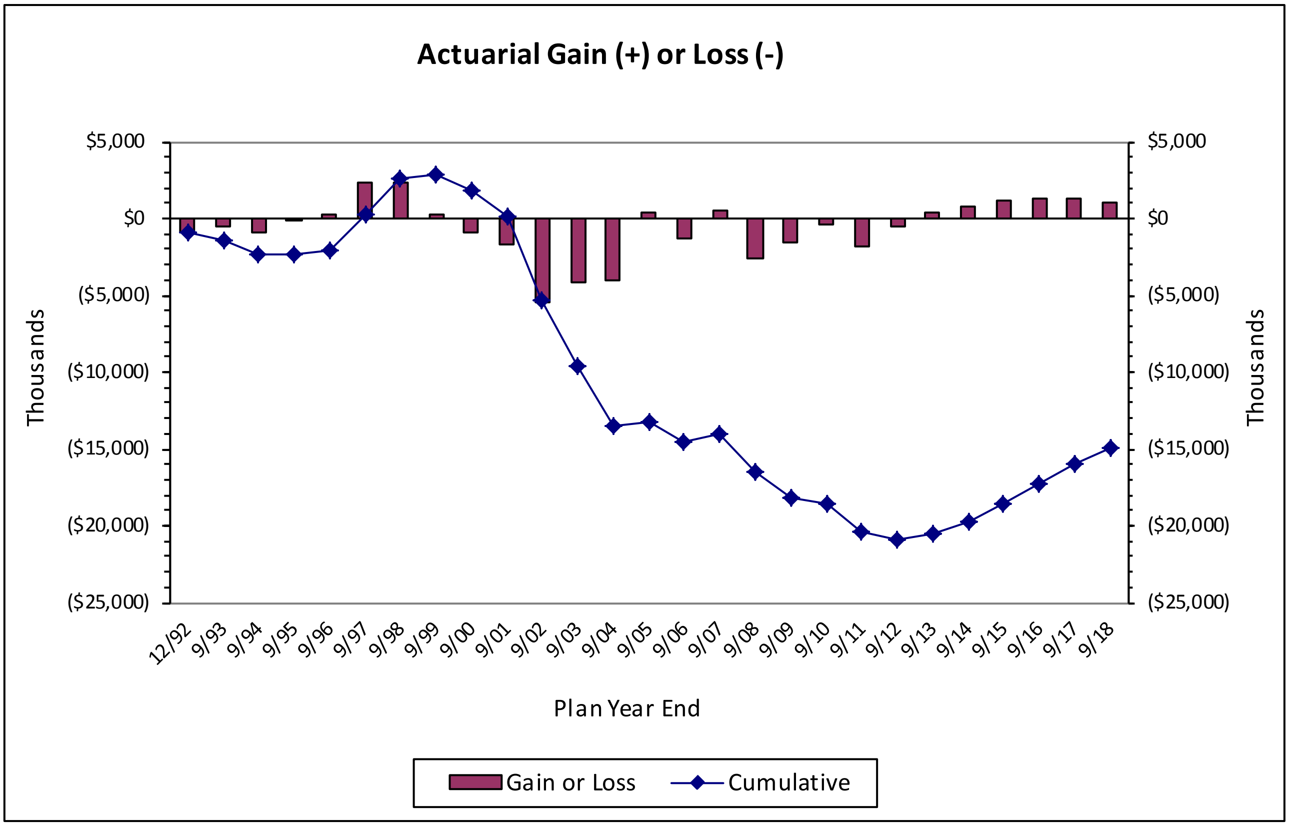
ACTUARIAL GAINS AND LOSSES

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:

1. Last Year's UAAL	$ 3,283,106
2. Last Year's Employer Normal Cost	1,940,915
3. Last Year's Contributions	2,360,582
4. Interest at the Assumed Rate on:	
a. 1 and 2 for one year	378,742
b. 3 from dates paid	0
c. a - b	378,742
5. This Year's Expected UAAL Prior to Revision: 1 + 2 - 3 + 4c	3,242,181
6. Change in UAAL Due to Plan Amendments and/or Changes in Actuarial Assumptions	7,198,427
7. This Year's Expected UAAL (after changes): 5 + 6	10,440,608
8. This Year's Actual UAAL (after changes)	9,359,798
9. Net Actuarial Gain/(Loss): 7 - 8	1,080,810
10. Gain/(Loss) Due to Investment	2,313,262
11. Gain/(Loss) Due to Other Sources	(1,232,452)

Net actuarial gains in previous years have been as follows:

Year Ended	Gain (Loss)
12/31/92	$ (939,614)
9/30/93	(492,398)
9/30/94	(937,094)
9/30/95	(32,368)
9/30/96	260,299
9/30/97	2,354,556
9/30/98	2,333,750
9/30/99	246,466
9/30/00	(955,923)
9/30/01	(1,750,230)
9/30/02	(5,428,126)
9/30/03	(4,212,406)
9/30/04	(3,989,929)
9/30/05	351,084
9/30/06	(1,334,136)
9/30/07	563,904
9/30/08	(2,574,633)
9/30/09	(1,599,294)
9/30/10	(394,904)
9/30/11	(1,799,033)
9/30/12	(539,648)
9/30/13	373,386
9/30/14	769,762
9/30/15	1,180,685
9/30/16	1,268,865
9/30/17	450,190
9/30/18	1,080,810

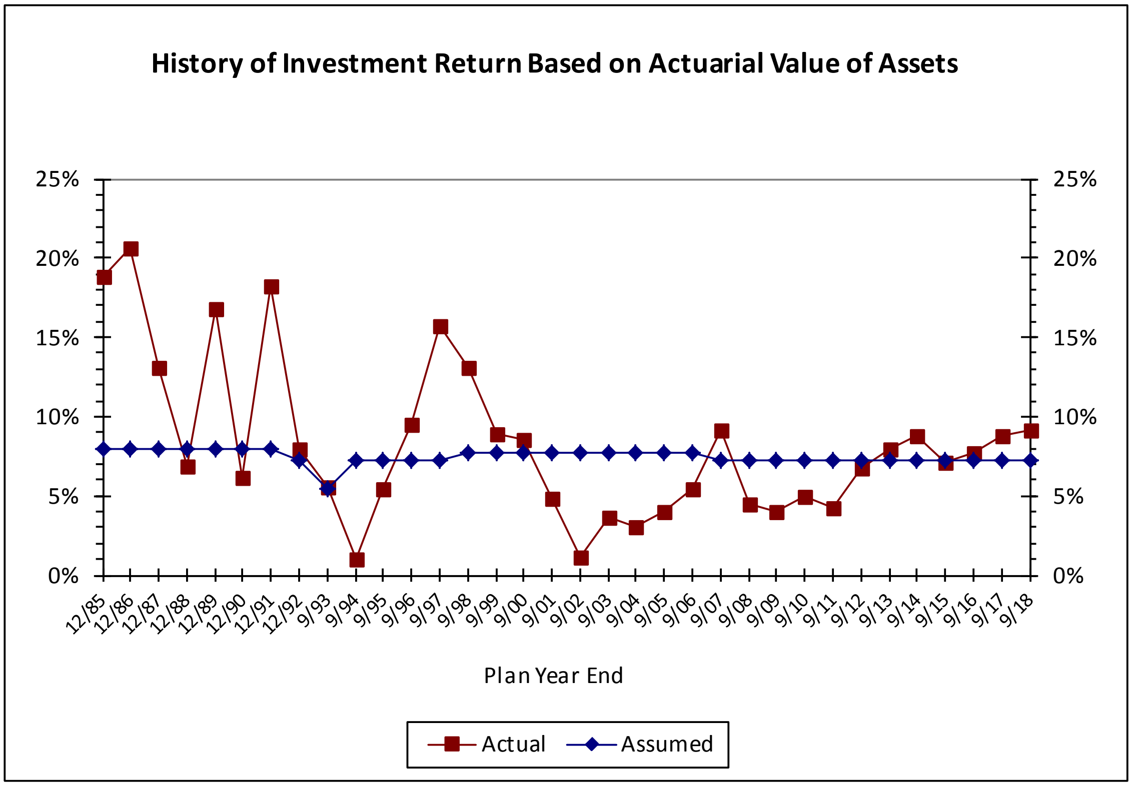

Actuarial Gain (+) or Loss (-)
$5,000
$0
($5,000)
($10,000)
($15,000)
($20,000)
($25,000)
Thousands
12/92
9/93
9/94
9/95
9/96
9/97
9/98
9/99
9/00
9/01
9/02
9/03
9/04
9/05
9/06
9/07
9/08
9/09
9/10
9/11
9/12
9/13
9/14
9/15
9/16
9/17
9/18
Plan Year End
Gain or Loss
Cumulative

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.

Year Ending	Investment Return		Salary Increases	
	Actual	Assumed	Actual	Assumed
12/31/1985	18.8 %	8.0 %	5.6 %	7.0 %
12/31/1986	20.6	8.0	9.7	7.0
12/31/1987	13.1	8.0	11.4	7.0
12/31/1988	6.9	8.0	4.6	7.0
12/31/1989	16.8	8.0	9.0	7.0
12/31/1990	6.2	8.0	9.7	7.0
12/31/1991	18.2	8.0	4.6	7.0
12/31/1992	7.9	7.25	5.9	5.0
9/30/1993 (9 mos.)	5.6	5.4	3.8	3.8
9/30/1994	1.0	7.25	3.3	5.0
9/30/1995	5.5	7.25	3.3	5.0
9/30/1996	9.5	7.25	3.5	5.0
9/30/1997	15.7	7.25	4.7	5.0
9/30/1998	13.1	7.75	3.0	5.0
9/30/1999	8.9	7.75	4.5	5.0
9/30/2000	8.6	7.75	5.2	5.0
9/30/2001	4.9	7.75	5.3	5.0
9/30/2002	1.1	7.75	5.9	5.0
9/30/2003	3.6	7.75	7.6	5.0
9/30/2004	3.1	7.75	4.5	5.0
9/30/2005	4.0	7.75	5.6	5.0
9/30/2006	5.5	7.75	5.3	5.0
9/30/2007	9.1	7.25	6.9	5.6
9/30/2008	4.5	7.25	4.8	5.8
9/30/2009	4.0	7.25	1.5	5.8
9/30/2010	5.0	7.25	0.9	5.7
9/30/2011	4.3	7.25	1.1	5.7
9/30/2012	6.7	7.25	0.5	2.0
9/30/2013	8.0	7.25	2.3	2.0
9/30/2014	8.8	7.25	4.0	2.0
9/30/2015	7.1	7.25	3.4	5.7
9/30/2016	7.7	7.25	6.3	5.6
9/30/2017	8.8	7.25	8.4	5.7
9/30/2018	9.2	7.25	5.5	5.9
Averages	8.2 %	---	5.1 %	---

Note: Figures prior to 1990 were determined by the Wyatt Company.

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
25%
20%
15%
10%
5%
0%
12/85
12/86
12/87
12/88
12/89
12/90
12/91
12/92
9/93
9/94
9/95
9/96
9/97
9/98
9/99
9/00
9/01
9/02
9/03
9/04
9/05
9/06
9/07
9/08
9/09
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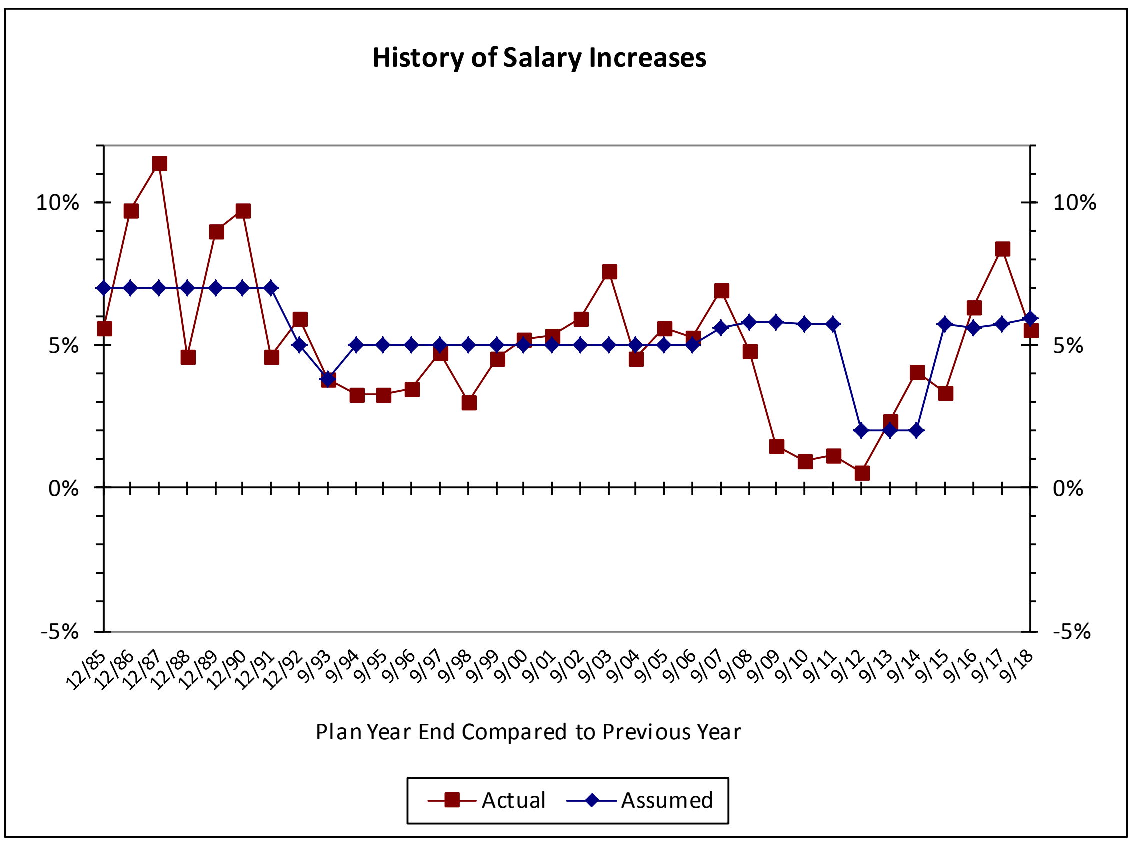
9/11
9/12
9/13
9/14
9/15
9/16
9/17
9/18
Plan Year End
Actual
Assumed


History of Salary Increases
10%
5%
0%
-5%
12/85
12/86
12/87
12/88
12/89
12/90
12/91
12/92
9/93
9/94
9/95
9/96
9/97
9/98
9/99
9/00
9/01
9/02
9/03
9/04
9/05
9/06
9/07
9/08
9/09
9/10
9/11
9/12
9/13
9/14
9/15
9/16
9/17
9/18
Plan Year End Compared to Previous Year
Actual
Assumed

Actual (A) Compared to Expected (E) Decrements Among Active Employees

Year Ended	Number Added During Year A	Number Added During Year E	Service & DROP Retirement A	Service & DROP Retirement E	Disability Retirement A	Disability Retirement E	Death A	Death E	Terminations Vested A	Terminations Other A	Terminations Totals A	Terminations Totals E	Active Members End of Year
9/30/2002	46	20	8	15	0	1	0	1	6	6	12	15	**379**
9/30/2003	34	29	9	15	1	1	0	1	10	9	19	16	**384**
9/30/2004	41	28	9	13	2	1	0	1	8	9	17	15	**397**
9/30/2005	30	38	8	13	1	1	1	1	13	15	28	15	**389**
9/30/2006	44	40	13	15	0	1	1	1	13	13	26	15	**393**
9/30/2007	45	36	20 *	13	0	1	1	1	6	9	15	21	**402**
9/30/2008	40	27	13	11	0	1	0	1	8	6	14	22	**415**
9/30/2009	24	15	7	11	0	1	0	1	3	5	8	23	**424**
9/30/2010	21	28	11	13	1	1	0	1	4	12	16	22	**417**
9/30/2011	13	41	26	14	0	1	1	1	10	4	14	20	**389**
9/30/2012	17	34	17	13	0	1	2	1	10	5	15	17	**372**
9/30/2013	26	39	16 *	12	0	1	2	1	7	14	21	16	**359**
9/30/2014	17	34	15	12	0	1	0	1	9	10	19	16	**342**
9/30/2015	35	48	20 *	12	0	1	1	1	19	8	27	14	**329**
9/30/2016	37	45	16	13	0	1	1	1	16	12	28	16	**321**
9/30/2017	75	39	13	11	0	1	1	1	13	12	25	16	**357**
9/30/2018	60	39	13	13	0	1	1	1	6	19	25	22	**378**
9/30/2019				14		1		1				25	
17 Yr Totals **	605	580	234	219	5	17	12	17	161	168	329	301	

* Reflects Early Retirement Incentive Program during the Plan Year.

** Totals are through current Plan Year only.

RECENT HISTORY OF VALUATION RESULTS

Valuation Date	Number of Active Members	Number of Inactive Members	Covered Annual Payroll	Actuarial Value of Assets	UAAL	Employer Normal Cost Amount	Employer Normal Cost % of Payroll
1/1/90	283	88	$ 7,217,876	$ 18,735,866	$ (935,024)	$ 742,838	10.3 %
1/1/91	309	90	8,119,144	19,989,234	(4,673,532)	1,136,638	14.0
1/1/92	324	101	8,653,137	23,834,584	0	425,248	4.9
1/1/93	337	101	9,402,160	25,545,873	0	590,537	6.3
10/1/93	350	103	9,976,616	29,169,341	0	698,784	7.0
10/1/94	350	108	10,140,270	29,541,506	0	703,611	6.9
10/1/95	343	112	10,123,923	31,138,947	0	707,347	7.0
10/1/96	352	121	10,483,367	33,939,706	0	705,909	6.7
10/1/97	354	132	10,838,339	39,004,018	0	0	---
10/1/98	350	137	10,830,498	47,654,038	0	0	---
10/1/99	351	145	11,221,039	51,167,747	0	0	---
10/1/00	352	158	11,683,131	54,085,492	0	76,657	0.7
10/1/01	353	167	12,166,399	55,160,299	0	299,443	2.5
10/1/02	379	173	13,369,199	54,452,798	0	638,906	4.8
10/1/03	384	183	14,807,342	56,610,019	0	1,313,414	8.9
10/1/04	397	197	15,844,035	58,552,571	0	1,832,201	11.6
10/1/05	389	215	16,203,652	61,455,670	0	1,829,172	11.3
10/1/06	393	232	16,839,131	70,326,850	0	2,088,750	12.4
10/1/07	399	252	17,817,350	77,436,230	0	2,293,259	12.9
10/1/08	415	261	18,990,051	80,987,834	0	2,745,258	14.5
10/1/09	424	267	19,359,146	84,476,640	2,756,027	2,073,422	10.7
10/1/10	417	272	18,988,947	87,826,931	3,269,096	2,059,007	10.8
10/1/11	389	292	17,817,131	90,513,860	3,032,918	1,869,059	10.5
10/1/12	372	311	16,937,526	94,643,819	3,679,352	1,792,979	10.6
10/1/13	359	326	16,527,919	99,910,051	4,040,481	1,746,728	10.6
10/1/14	342	346	15,895,095	106,280,221	3,268,828	1,700,725	10.7
10/1/15	329	373	15,371,826	110,517,353	2,657,108	1,632,887	10.6
10/1/16	321	394	15,449,062	114,758,424	3,777,860	1,674,276	10.8
10/1/17	357	414	18,060,007	120,289,534	3,283,106	1,940,915	10.7
10/1/18	378	428	20,025,730	126,825,625	9,359,798	2,097,413	10.5

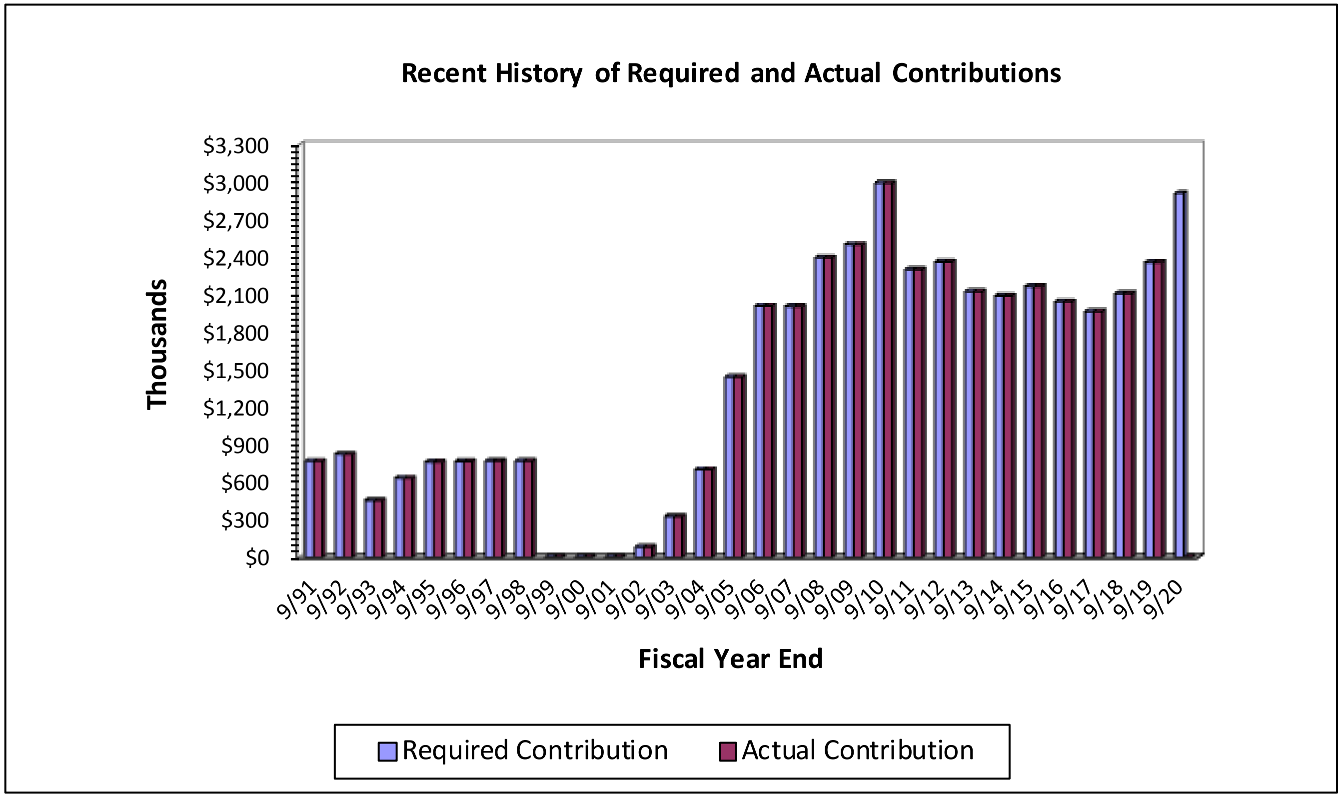
RECENT HISTORY OF UAAL AND FUNDED RATIO

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) - Entry Age (b)	Unfunded AAL (UAAL) - Entry Age (b) - (a)	Funded Ratio (a) / (b)	Covered Payroll (c)	UAAL As % of Covered Payroll (b - a) / c
10/1/1996	33,939,706	27,354,746	(6,584,960)	124.1	10,483,367	(62.8)
10/1/1997	39,004,018	27,946,800	(11,057,218)	139.6	10,838,339	(102.0)
10/1/1998	43,376,078	30,159,065	(13,217,013)	143.8	10,830,498	(122.0)
10/1/1999	51,167,747	36,138,126	(15,029,621)	141.6	11,221,039	(133.9)
10/1/2000	54,085,492	41,859,407	(12,226,085)	129.2	11,683,131	(104.6)
10/1/2001	55,160,299	44,423,811	(10,736,488)	124.2	12,166,399	(88.2)
10/1/2002	54,452,798	48,000,804	(6,451,994)	113.4	13,369,199	(48.3)
10/1/2003	56,610,019	53,583,420	(3,026,599)	105.6	14,807,342	(20.4)
10/1/2004	58,552,571	59,247,630	695,059	98.8	15,844,035	4.4
10/1/2005	61,455,670	62,126,597	670,927	98.9	16,203,652	4.1
10/1/2006	70,326,850	71,373,310	1,046,460	98.5	16,839,131	6.2
10/1/2007	77,436,230	78,839,518	1,403,288	98.2	17,817,350	7.9
10/1/2008	80,987,834	84,913,592	3,925,758	95.4	18,990,051	20.7
10/1/2009	84,476,640	87,232,667	2,756,027	96.8	19,359,146	14.2
10/1/2010	87,826,931	91,096,027	3,269,096	96.4	18,988,947	17.2
10/1/2011	90,513,860	93,546,778	3,032,918	96.8	17,817,131	17.0
10/1/2012	94,643,819	98,323,171	3,679,352	96.3	16,937,526	21.7
10/1/2013	99,910,051	103,950,532	4,040,481	96.1	16,527,919	24.4
10/1/2014	106,280,221	109,549,049	3,268,828	97.0	15,895,095	20.6
10/1/2015	110,517,353	113,174,461	2,657,108	97.7	15,371,826	17.3
10/1/2016	114,758,424	118,536,284	3,777,860	96.8	15,449,062	24.5
10/1/2017	120,289,534	123,572,640	3,283,106	97.3	18,060,007	18.2
10/1/2018	126,825,625	136,185,423	9,359,798	93.1	20,025,730	46.7

RECENT HISTORY OF REQUIRED AND ACTUAL CONTRIBUTIONS

Valuation		End of Year To Which Valuation Applies	Required Contributions		Actual Contributions
			Amount	% of Payroll	
1/1/90		9/30/91	$ 769,008	10.65 %	$ 769,008
1/1/91		9/30/92	824,612	10.16	824,612
1/1/92		9/30/93	456,078	5.27	456,078
1/1/93		9/30/94	633,351	6.74	633,351
10/1/93		9/30/95	762,329	7.64	762,329
10/1/94		9/30/96	767,595	7.57	767,595
10/1/95		9/30/97	771,671	7.62	771,671
10/1/96		9/30/98	770,101	7.35	770,101
10/1/97		9/30/99	0	---	0
10/1/98		9/30/00	0	---	0
10/1/99		9/30/01	0	---	0
10/1/00		9/30/02	84,122	0.72	84,122
10/1/01		9/30/03	328,603	2.70	328,603
10/1/02		9/30/04	701,388	5.25	701,388
10/1/03		9/30/05	1,441,861	9.74	1,441,861
10/1/04		9/30/06	2,011,383	12.69	2,011,383
10/1/05		9/30/07	2,008,058	12.39	2,008,058
10/1/06	*	9/30/08	2,398,379	14.35	2,398,379
10/1/07		9/30/09	2,502,936	14.05	2,502,936
10/1/08		9/30/10	2,996,262	15.78	2,996,262
10/1/09	**	9/30/11	2,305,392	11.91	2,305,392
10/1/10		9/30/12	2,365,620	12.46	2,365,620
10/1/11		9/30/13	2,128,666	11.95	2,128,666
10/1/12	***	9/30/14	2,093,769	12.36	2,093,769
10/1/13		9/30/15	2,168,192	13.12	2,168,192
10/1/14		9/30/16	2,046,827	12.88	2,046,827
10/1/15	****	9/30/17	1,969,163	12.81	1,969,163
10/1/16		9/30/18	2,114,120	13.68	2,114,120
10/1/17		9/30/19	2,360,582	13.07	2,360,582
10/1/18		9/30/20	2,913,994	14.55	---

* From October 19, 2007 Actuarial Impact Statement.
** From October 4, 2010 Actuarial Impact Statement.
*** From September 13, 2013 Actuarial Impact Statement.
**** From May 6, 2016 Actuarial Impact Statement.


Recent History of Required and Actual Contributions
$3,300
$3,000
$2,700
$2,400
$2,100
$1,800
$1,500
$1,200
$900
$600
$300
$0
Thousands
9/91
9/92
9/93
9/94
9/95
9/96
9/97
9/98
9/99
9/00
9/01
9/02
9/03
9/04
9/05
9/06
9/07
9/08
9/09
9/10
9/11
9/12
9/13
9/14
9/15
9/16
9/17
9/18
9/19
9/20
Fiscal Year End
Required Contribution
Actual Contribution

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 contributions over a reasonable period of future years.

Actuarial Value of Assets - The Actuarial Value of Assets phase in the difference between the expected actuarial value and actual 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.

Economic Assumptions

The investment return rate assumed in the valuations is 6.75% per year, compounded annually (net after investment expense).

The **Inflation Rate** assumed in this valuation was 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 6.75% investment return rate translates to an assumed real rate of return over inflation of 4.25%.

Pay increase assumptions for individual active members are shown below. Part of the assumption for each age is for merit and/or seniority increase, and the other 2.50% recognizes wage inflation, including price inflation, productivity increases, and other macroeconomic forces.

The rates of salary increase used for individual members are in accordance with the following table. This assumption is used to project a member's current salary to the salaries upon which benefits will be based.

	% Increase in Salary		
Years of Service	**Merit and Seniority**	**Base (Economic)**	**Total Increase**
1	4.25%	2.50%	6.75%
2	4.25%	2.50%	6.75%
3	3.25%	2.50%	5.75%
4	3.25%	2.50%	5.75%
5 - 14	2.50%	2.50%	5.00%
15 - 19	2.00%	2.50%	4.50%
20 and higher	1.25%	2.50%	3.75%

Demographic Assumptions

The mortality table for healthy lives is the RP-2000 Combined Healthy Participant Mortality Table (for pre-retirement mortality) and the RP-2000 Mortality Table for Annuitants (for post-retirement mortality), with mortality improvements projected to all future years after 2000 using Scale BB. For males, the base mortality rates include a 50% blue collar adjustment and a 50% white collar adjustment. For females, the base mortality rates include a 100% white collar adjustment. These are the same rates currently in use for Regular Class members of the Florida Retirement System (FRS), as mandated by Florida Statutes Chapter 112.63.

FRS Healthy Post-Retirement Mortality for Regular Class Members

Sample Attained Ages (in 2018)	Probability of Dying Next Year		Future Life Expectancy (years)	
	Men	Women	Men	Women
50	0.55 %	0.23 %	34.77	38.40
55	0.60	0.32	30.14	33.39
60	0.76	0.47	25.48	28.48
65	1.13	0.73	20.95	23.74
70	1.75	1.22	16.69	19.27
75	2.92	2.07	12.82	15.19
80	4.95	3.47	9.47	11.56

FRS Healthy Pre-Retirement Mortality for Regular Class Members*

Sample Attained Ages (in 2018)	Probability of Dying Next Year		Future Life Expectancy (years)	
	Men	Women	Men	Women
50	0.21 %	0.15 %	35.69	38.75
55	0.36	0.24	30.57	33.61
60	0.61	0.39	25.64	28.59
65	1.07	0.70	20.99	23.76
70	1.75	1.22	16.69	19.27
75	2.92	2.07	12.82	15.19
80	4.95	3.47	9.47	11.56

*10% of pre-retirement deaths are assumed to be service-connected.

For disabled lives, the RP-2000 Mortality Table for Disabled Annuitants was used, with a two year set-forward for females and a four year set-back for males, with no provision being made for future mortality improvements. These are the same rates currently in use for Regular Class members of the Florida Retirement System (FRS), as mandated by Florida Statutes Chapter 112.63.

FRS Healthy Disabled Mortality for Regular Class Members

Sample Attained Ages	Probability of Dying Next Year		Future Life 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 during the next year were as follows:

Early Retirement		
Age	**Service**	**Rates**
0 - 54	20 +	4.0%
55 - 59	All	7.5%

Normal Retirement for Members Within Ten Years of Age 60 or 30 Years of Service as of October 5, 2010		
Age	**Years of Service**	**Rates**
0 - 59	30	80.0%
0 - 59	31+	25.0%
60	All	70.0%
61 - 62	All	25.0%
63 - 64	All	45.0%
65	All	85.0%
66 - 69	All	55.0%
70+	All	100.0%

Normal Retirement for Other Members Hired Before October 5, 2010		
Age	**Years of Service**	**Rates**
0 - 61	30	80.0%
0 - 61	31+	25.0%
62	All	70.0%
63 - 64	All	25.0%
65 - 66	All	45.0%
67	All	85.0%
68 - 69	All	55.0%
70 +	All	100.0%

Normal Retirement for Other Members Hired After October 5, 2010	
Age	**Rates**
65	70.0%
66 - 67	25.0%
68 - 69	45.0%
70+	100.0%

Rates of disability among active members (20% of future disability retirements are assumed to be service-connected):

Sample Ages	% Becoming Disabled within Next Year
0 - 24	0.20 %
25 - 29	0.18
30 - 34	0.18
35 - 39	0.20
40 - 44	0.24
45 - 49	0.27
50 - 54	0.33
55 - 59	0.45

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.

Sample Ages	Years of Service	% of Active Members Separating Within Next Year
ALL	0	15.0 %
	1	15.0
	2	14.5
	3	10.5
	4	9.0
20	5 and over	9.0
25		9.0
30		9.0
35		9.0
40		5.5
45		4.8
50		4.0
55		4.0
60		3.5

Changes Since Prior Valuation

The investment return assumption was lowered from 7.25% to 6.75%. Assumed rates of salary increase, retirement, withdrawal, and disability have also been revised based on an 8-year experience study. Please see the Experience Investigation for the Eight Years Ended September 30, 2018, dated June 12, 2019, for additional information on the revised assumptions.

Miscellaneous and Technical Assumptions

Administrative & Investment Expenses	The investment return assumption is intended to be the return before considering investment expenses. Annual administrative and investment expenses are assumed to be equal to the average of the expenses over the previous 2 years. Assumed administrative and investment expenses are added to the Normal Cost.
Benefit Service	Exact fractional service is used to determine the amount of benefit payable.
Decrement Operation	Disability and mortality decrements operate during retirement eligibility.
Decrement Timing	Decrements of all types are assumed to occur at the beginning of the year.
Eligibility Testing	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.
Forfeitures	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.
Incidence of Contributions	Employer contributions are assumed to be made in one payment at the end of December. 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.
Marriage Assumption	100% of males and 100% of females are assumed to be married for purposes of death-in-service benefits. Male spouses are assumed to be three years older than female spouses for active member valuation purposes.
Normal Form of Benefit	Life Annuity. For married participants within ten years of attaining age 60 or 30 years of service as of October 5, 2010, a monthly income payable for life of member; upon death of member, 100% of member's benefit payable to spouse for one year and 60% thereafter until death or remarriage of spouse. Other optional forms are also available.
Pay Increase Timing	End of fiscal year. This is equivalent to assuming that reported pays represent the rate of pay on the valuation date.
Service Credit Accruals	It is assumed that members accrue one year of service credit per year.

GLOSSARY

Actuarial Accrued Liability (AAL)	The difference between the Actuarial Present Value of Future Benefits, and the Actuarial Present Value of Future Normal Costs.
Actuarial Assumptions	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.
Actuarial Cost Method	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.
Actuarially Determined Employer Contribution (ADEC)	The employer's periodic required contributions, expressed as a dollar amount or a percentage of covered plan compensation. The ADEC consists of the Employer Normal Cost and Amortization Payment.
Actuarial Equivalent	Of equal Actuarial Present Value, determined as of a given date and based on a given set of Actuarial Assumptions.
Actuarial Present Value (APV)	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.
Actuarial Present Value of Future Benefits (APVFB)	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.
Actuarial Valuation	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 items needed for compliance with GASB No. 67.

Actuarial Value of Assets	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 employer contribution (ADEC).
Amortization Method	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.
Amortization Payment	That portion of the plan contribution or ADEC which is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability.
Amortization Period	The period used in calculating the Amortization Payment.
Closed Amortization Period	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.
Employer Normal Cost	The portion of the Normal Cost to be paid by the employer. This is equal to the Normal Cost less expected member contributions.
Equivalent Single Amortization Period	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.
Experience Gain/Loss	A measure of the difference between actual experience and that expected based upon a set of Actuarial Assumptions, during the period between two actuarial valuations. To the extent that actual experience differs from that assumed, Unfunded Actuarial Accrued Liabilities emerge which may be larger or smaller than projected. Gains are due to favorable experience, e.g., the assets earn more than projected, salaries do not increase as fast as assumed, members retire later than assumed, etc. Favorable experience means actual results produce actuarial liabilities not as large as projected by the actuarial assumptions. On the other hand, losses are the result of unfavorable

	experience, i.e., actual results that produce Unfunded Actuarial Accrued Liabilities which are larger than projected.
Funded Ratio	The ratio of the Actuarial Value of Assets to the Actuarial Accrued Liability.
GASB	Governmental Accounting Standards Board.
GASB No. 67 and GASB No. 68	These are the governmental accounting standards that set the accounting rules for public retirement systems and the employers that sponsor or contribute to them. Statement No. 68 sets the accounting rules for the employers that sponsor or contribute to public retirement systems, while Statement No. 67 sets the rules for the systems themselves.
Normal Cost	The annual cost assigned, under the Actuarial Cost Method, to the current plan year.
Open Amortization Period	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 Liability	The difference between the Actuarial Accrued Liability and Actuarial Value of Assets.
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.

SECTION C

PENSION FUND INFORMATION

Statement of Plan Assets at Market Value

Item	September 30 2018	September 30 2017
A. Cash and Cash Equivalents (Operating Cash)	$ 1,423,509	$ 1,449,759
B. Receivables		
1. Member Contributions	$ -	$ -
2. Employer Contributions	2,360,582	2,114,120
3. Investment Income and Other Receivables	1,045,946	9,571,367
4. Total Receivables	$ 3,406,528	$ 11,685,487
C. Investments		
1. Short Term Investments	$ -	$ -
2. Domestic Equities	94,623,512	76,834,405
3. International Equities	5,928,136	4,275,550
4. Domestic and International Fixed Income	31,670,349	32,974,048
5. Real Estate	-	-
6. DROP Accounts (ICMA)	7,033,390	6,498,758
7. Total Investments	$ 139,255,387	$ 120,582,761
D. Liabilities		
1. Benefits Payable	$ -	$ -
2. Accrued Expenses and Other Payables	(973,360)	(153,744)
3. Total Liabilities	$ (973,360)	$ (153,744)
E. Total Market Value of Assets Available for Benefits	$ 143,112,064	$ 133,564,263
F. DROP Accounts	$ (7,033,390)	$ (6,498,758)
G. Market Value Net of Reserves	$ 136,078,674	$ 127,065,505
H. Allocation of Investments*		
1. Short Term Investments	0.0%	0.0%
2. Domestic Equities	67.9%	63.7%
3. International Equities	4.3%	3.6%
4. Domestic and International Fixed Income	22.7%	27.3%
5. Real Estate	0.0%	0.0%
6. DROP Accounts (ICMA)	5.1%	5.4%
7. Total Investments	100.0%	100.0%

Reconciliation of Plan Assets

Item	September 30 2018	September 30 2017
A. Market Value of Assets at Beginning of Year	$ 127,065,505	$ 116,809,013
B. Revenues and Expenditures		
1. Contributions		
a. Employee Contributions*	$ 799,106	$ 717,598
b. Employer Contributions	2,360,582	2,114,120
c. Total	$ 3,159,688	$ 2,831,718
2. Investment Income		
a. Interest, Dividends, and Other Income	$ 3,870,239	$ 2,531,298
b. Net Realized/Unrealized Gains/(Losses)**	9,636,994	12,194,065
c. Investment Expenses	(272,812)	(251,220)
d. Net Investment Income	$ 13,234,421	$ 14,474,143
3. Benefits and Refunds		
a. Regular Monthly Benefits	$ (7,181,239)	$ (6,903,465)
b. Refunds	(126,451)	(68,352)
c. Lump Sum Benefits Paid	-	-
d. Total	$ (7,307,690)	$ (6,971,817)
4. Administrative and Miscellaneous Expenses	$ (73,250)	$ (77,552)
5. Transfers	$ -	$ -
C. Market Value of Assets at End of Year	$ 136,078,674	$ 127,065,505

* Includes buyback payments.

** The breakdown of this amount between realized gains/(losses) and unrealized gains/(losses) was not provided.

Actuarial Value of Assets

The Actuarial Value of Assets is determined by recognizing 20% of the difference between market value of assets and expected actuarial asset value.

Item	September 30 2018	September 30 2017
A. Beginning of Year Assets		
1. Market Value	$ 127,065,505	$ 116,809,013
2. Actuarial Value	120,289,534	114,758,424
B. End of Year Market Value of Assets	136,078,674	127,065,505
C. Net of Contributions Less Disbursements*	(4,221,252)	(4,217,651)
D. Actual Net Investment Earnings*	13,234,421	14,474,143
E. Expected Investment Earnings*	8,444,081	8,054,768
F. Expected Actuarial Value End of Year: A2 + C + E	124,512,363	118,595,541
G. End of Year Market Value Less Expected Actuarial Value: B - F	11,566,311	8,469,964
H. 20% of Difference	2,313,262	1,693,993
I. End of Year Assets		
1. Actuarial Value: F + H	126,825,625	120,289,534
2. Final Actuarial Value Within 80% to 120% of Market Value	126,825,625	120,289,534
J. Recognized Investment Earnings	10,757,343	9,748,761
K. Recognized Rate of Return	9.2%	8.8%

* Net of investment expenses.

	Investment Rate of Return		
Year Ended	Market Value Basis*	Actuarial Value Basis	Investment Return Assumption
12/31/85	24.0 %	18.8 %	8.0 %
12/31/86	21.1	20.6	8.0
12/31/87	5.8	13.1	8.0
12/31/88	8.6	6.9	8.0
12/31/89	24.2	16.8	8.0
12/31/90	3.3	6.2	8.0
12/31/91	28.3	18.2	8.0
12/31/92	6.3	7.9	7.25
9/30/93 (9 months)	4.3	5.6	5.40
9/30/94	(2.9)	1.0	7.25
9/30/95	21.1	5.5	7.25
9/30/96	14.8	9.5	7.25
9/30/97	23.3	15.7	7.25
9/30/98	5.6	13.1	7.75
9/30/99	12.2	8.9	7.75
9/30/00	8.7	8.6	7.75
9/30/01	(1.0)	4.9	7.75
9/30/02	(5.1)	1.1	7.75
9/30/03	13.8	3.6	7.75
9/30/04	6.4	3.1	7.75
9/30/05	8.1	4.0	7.75
9/30/06	6.2	5.5	7.75
9/30/07	11.3	9.1	7.25
9/30/08	(12.4)	4.5	7.25
9/30/09	1.9	4.0	7.25
9/30/10	9.6	5.0	7.25
9/30/11	1.2	4.3	7.25
9/30/12	18.1	6.7	7.25
9/30/13	13.0	8.0	7.25
9/30/14	12.0	8.8	7.25
9/30/15	0.4	7.1	7.25
9/30/16	10.4	7.7	7.25
9/30/17	12.8	8.8	7.25
9/30/18	10.7	9.2	7.25
Average Returns:			
Last 5 Years	9.2 %	8.3 %	7.25 %
Last 10 Years	8.9 %	6.9 %	7.25 %
All Years	9.3 %	8.2 %	7.5 %

* Net of investment expenses after 2005.

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.

DROP Account Reconciliation

Year Ending 9/30	Beginning Balance	Credits	Investment Earnings (net of fees)	Distributions	Ending Balance
2007	$1,188,609	$ 435,466	$ 92,530	$ 264,147	$1,452,458
2008	1,452,458	507,624	(33,856)	163,223	1,763,003
2009	1,763,003	558,740	98,242	249,723	2,170,262
2010	2,170,262	674,648	105,540	901,876	2,048,574
2011	2,048,574	778,292	51,293	524,993	2,353,166
2012	2,353,166	945,467	169,156	331,627	3,136,162
2013	3,136,162	1,199,170	148,168	282,268	4,201,232
2014	4,201,232	1,259,921	154,600	879,338	4,736,415
2015	4,736,415	1,445,136	66,143	909,785	5,337,909
2016	5,337,909	1,204,795	176,791	1,053,317	5,666,178
2017	5,666,178	1,307,136	254,780	729,336	6,498,758
2018	6,498,758	1,142,565	284,457	892,390	7,033,390

SECTION D

FINANCIAL ACCOUNTING INFORMATION

FASB NO. 35 INFORMATION

A. Valuation Date	October 1, 2018	October 1, 2017
B. Actuarial Present Value of Accumulated Plan Benefits		
1. Vested Benefits		
a. Members Currently Receiving Payments	$ 82,453,223	$ 74,199,341
b. Terminated Vested Members	8,364,319	7,475,931
c. Other Members	30,346,634	27,918,521
d. Total	121,164,176	109,593,793
2. Non-Vested Benefits	1,719,723	1,343,245
3. Total Actuarial Present Value of Accumulated Plan Benefits: 1d + 2	122,883,899	110,937,038
4. Accumulated Contributions of Active Members	4,741,414	4,560,941
C. Changes in the Actuarial Present Value of Accumulated Plan Benefits		
1. Total Value at Beginning of Year	110,937,038	106,797,102
2. Increase (Decrease) During the Period Attributable to:		
a. Plan Amendment	0	0
b. Change in Actuarial Assumptions	6,853,641	0
c. Latest Member Data, Benefits Accumulated and Decrease in the Discount Period	12,400,910	11,111,753
d. Benefits Paid	(7,307,690)	(6,971,817)
e. Net Increase	11,946,861	4,139,936
3. Total Value at End of Period	122,883,899	110,937,038
D. Market Value of Assets	136,078,674	127,065,505
E. Actuarial Assumptions - See page entitled Actuarial Assumptions and Methods		

SCHEDULE OF CHANGES IN THE EMPLOYER'S NET PENSION LIABILITY AND RELATED RATIOS
GASB Statement No. 67

Fiscal year ending September 30,	2019*	2018	2017	2016	2015	2014
Total Pension Liability						
Service Cost	$ 2,741,412	$ 2,493,225	$ 2,119,345	$ 2,192,881	$ 2,203,313	$ 2,249,595
Interest	9,162,257	8,777,037	8,375,249	8,161,233	7,791,771	7,502,443
Benefit Changes	-	-	-	522,720	-	-
Difference between actual & expected experience	1,452,112	1,447,271	(821,344)	(1,097,920)	1,375,784	-
Assumption Changes	6,998,822	-	2,634,532	-	-	-
Benefit Payments	(7,929,367)	(7,181,239)	(6,903,465)	(6,468,203)	(5,882,586)	(5,355,711)
Refunds	(67,630)	(126,451)	(68,352)	(66,862)	(111,160)	(80,592)
Net Change in Total Pension Liability	12,357,606	5,409,843	5,335,965	3,243,849	5,377,122	4,315,735
Total Pension Liability - Beginning	127,633,046	122,223,203	116,887,238	113,643,389	108,266,267	103,950,532
Total Pension Liability - Ending (a)	$ 139,990,651	$ 127,633,046	$ 122,223,203	$ 116,887,238	$ 113,643,389	$ 108,266,267
Plan Fiduciary Net Position						
Contributions - Employer	$ 2,360,582	$ 2,151,438	$ 1,969,163	$ 2,046,827	$ 2,168,946	$ 2,093,769
Contributions - Member	694,241	799,106	717,598	618,705	948,466	1,126,054
Net Investment Income	8,936,298	13,197,103	14,474,143	11,005,137	445,258	12,196,449
Benefit Payments	(7,929,367)	(7,181,239)	(6,903,465)	(6,468,203)	(5,882,586)	(5,355,711)
Refunds	(67,630)	(126,451)	(68,352)	(66,862)	(111,160)	(80,592)
Administrative Expense	(75,401)	(73,250)	(77,552)	(82,336)	(73,706)	(79,025)
Other	-	-	-	-	-	-
Net Change in Plan Fiduciary Net Position	3,918,723	8,766,707	10,111,535	7,053,268	(2,504,782)	9,900,944
Plan Fiduciary Net Position - Beginning	133,718,092	124,951,385	114,839,850	107,786,582	110,291,364	100,390,420
Plan Fiduciary Net Position - Ending (b)	$ 137,636,815	$ 133,718,092	$ 124,951,385	$ 114,839,850	$ 107,786,582	$ 110,291,364
Net Pension Liability - Ending (a) - (b)	2,353,836	(6,085,046)	(2,728,182)	2,047,388	5,856,807	(2,025,097)
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	98.32 %	104.77 %	102.23 %	98.25 %	94.85 %	101.87 %
Covered Payroll	$ 20,025,730	$ 18,060,007	$ 15,449,062	$ 15,371,826	$ 15,895,095	$ 16,527,919
Net Pension Liability as a Percentage of Covered Payroll	11.75 %	(33.69)%	(17.66)%	13.32 %	36.85 %	(12.25)%

*** These figures are estimates only. Actual figures will be provided after the end of the fiscal year.**

SCHEDULE OF THE EMPLOYER'S NET PENSION LIABILITY
GASB Statement No. 67

FY Ending September 30,	Total Pension Liability	Plan Net Position	Net Pension Liability	Plan Net Position as a % of Total Pension Liability	Covered Payroll	Net Pension Liability as a % of Covered Payroll
2014	$ 108,266,267	$ 110,291,364	$ (2,025,097)	101.87%	$ 16,527,919	(12.25)%
2015	113,643,389	107,786,582	5,856,807	94.85%	15,895,095	36.85%
2016	116,887,238	114,839,850	2,047,388	98.25%	15,371,826	13.32%
2017	122,223,203	124,951,385	(2,728,182)	102.23%	15,449,062	(17.66)%
2018	127,633,046	133,718,092	(6,085,046)	104.77%	18,060,007	(33.69)%
2019*	139,990,651	137,636,815	2,353,836	98.32%	20,025,730	11.75%

***These figures are estimates only. Actual figures will be provided after the end of the fiscal year.**

NOTES TO SCHEDULE OF THE EMPLOYER'S NET PENSION LIABILITY
GASB Statement No. 67

Valuation Date:	October 1, 2018
Measurement Date:	September 30, 2019

Methods and Assumptions Used to Determine Net Pension Liability:

Actuarial Cost Method	Entry Age Normal
Inflation	2.5%
Salary Increases	3.75% - 6.75% based on service, including inflation
Investment Rate of Return	6.75%
Retirement Age	Experience-based table of rates
Mortality	RP-2000 Combined Healthy Participant Mortality Table (for pre-retirement mortality) and the RP-2000 Mortality Table for Annuitants (for postretirement mortality), with mortality improvements projected to all future years after 2000 using Scale BB. For males, the base mortality rates include a 50% blue collar adjustment and a 50% white collar adjustment. For females, the base mortality rates include a 100% white collar adjustment. These are the same rates currently in use for Regular Class members of the Florida Retirement System (FRS), as mandated by Chapter 112.63, Florida Statutes.
Other Information:	
Notes	See Discussion of Valuation Results from the October 1, 2018 Actuarial Valuation Report.

SCHEDULE OF CONTRIBUTIONS
GASB Statement No. 67

FY Ending September 30,	Actuarially Determined Contribution	Actual Contribution	Contribution Deficiency (Excess)	Covered Payroll	Actual Contribution as a % of Covered Payroll
2014	$ 2,093,769	$ 2,093,769	$ -	$ 16,527,919	12.67%
2015	2,168,946	2,168,946	-	15,895,095	13.65%
2016	2,046,827	2,046,827	-	15,371,826	13.32%
2017	1,969,163	1,969,163	-	15,449,062	12.75%
2018	2,151,438	2,151,438	-	18,060,007	11.91%
2019*	2,360,582	2,360,582	-	20,025,730	11.79%

*** These figures are estimates only. Actual figures will be provided after the end of the fiscal year.**

NOTES TO SCHEDULE OF CONTRIBUTIONS
GASB Statement No. 67

Valuation Date:	October 1, 2017
Notes	Actuarially determined contributions are calculated as of October 1, which is two years prior to the end of the fiscal year in which contributions are reported.

Methods and Assumptions Used to Determine Contribution Rates:

Actuarial Cost Method	Entry Age Normal
Amortization Method	Level Dollar, Closed
Remaining Amortization Period	25 years
Asset Valuation Method	5-year smoothed market
Inflation	3.0%
Salary Increases	4.4% - 7.2% based on service, including inflation
Investment Rate of Return	7.25%
Retirement Age	Experience-based table of rates
Mortality	RP-2000 Combined Healthy Participant Mortality Table (for pre-retirement mortality) and the RP-2000 Mortality Table for Annuitants (for postretirement mortality), with mortality improvements projected to all future years after 2000 using Scale BB. For males, the base mortality rates include a 50% blue collar adjustment and a 50% white collar adjustment. For females, the base mortality rates include a 100% white collar adjustment. These are the same rates currently in use for Regular Class members of the Florida Retirement System (FRS), as mandated by Chapter 112.63, Florida Statutes.

Other Information:

Notes	See Discussion of Valuation Results from the October 1, 2017 Actuarial Valuation Report.

SINGLE DISCOUNT RATE
GASB Statement No. 67

A single discount rate of 7.25% was used to measure the total pension liability. This single discount rate was based on the expected rate of return on pension plan investments of 7.25%. The projection of cash flows used to determine this single discount rate assumed that plan member contributions will be made at the current contribution rate and that employer contributions will be made at rates equal to the difference between the total actuarially determined contribution rates and the member rate. Based on these assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments (7.25%) was applied to all periods of projected benefit payments to determine the total pension liability.

Regarding the sensitivity of the net pension liability to changes in the single discount rate, the following presents the plan's net pension liability, calculated using a single discount rate of 7.25%, as well as what the plan's net pension liability would be if it were calculated using a single discount rate that is 1-percentage-point lower or 1-percentage-point higher:

Sensitivity of the Net Pension Liability to the Single Discount Rate Assumption for September 30, 2018 Reporting Date

1% Decrease 6.25%	Current Single Discount Rate Assumption 7.25%	1% Increase 8.25%
$ 8,621,308	$ (6,085,046)	$ (18,467,452)

Sensitivity of the Net Pension Liability to the Single Discount Rate Assumption for September 30, 2019 Reporting Date*

1% Decrease 5.75%	Current Single Discount Rate Assumption 6.75%	1% Increase 7.75%
$ 19,058,700	$ 2,353,836	$ (11,596,353)

* **These figures are estimates only. Actual figures will be provided after the end of the fiscal year.**

SECTION E

MISCELLANEOUS INFORMATION

RECONCILIATION OF MEMBERSHIP DATA		
	From 10/01/17 To 10/01/18	From 10/01/16 To 10/01/17
A. Active Members		
1. Number Included in Last Valuation	357	321
2. New Members Included in Current Valuation	60	75
3. Non-Vested Employment Terminations	(19)	(12)
4. Vested Employment Terminations	(6)	(13)
5. Service Retirements	(1)	(4)
6. Disability Retirements	0	0
7. Deaths	(1)	(1)
8. Transfer to Police & Fire	0	0
9. DROP Retirements	(12)	(7)
10. ERIP and Early Retirements	0	(2)
11. Number Included in This Valuation	378	357
B. Terminated Vested Members		
1. Number Included in Last Valuation	79	73
2. Additions from Active Members*	7	13
3. Lump Sum Payments/Refund of Contributions	(1)	(3)
4. Payments Commenced	(7)	(4)
5. Deaths	0	0
6. Other - Data Correction	0	0
7. Number Included in This Valuation	78	79
C. DROP Plan Members		
1. Number Included in Last Valuation	39	46
2. Additions from Active Members	12	7
3. Retirements	(9)	(14)
4. Deaths Resulting in No Further Payments	0	0
5. Other	0	0
6. Number Included in This Valuation	42	39
D. Service Retirees, Disability Retirees and Beneficiaries		
1. Number Included in Last Valuation	296	275
2. Additions from Active Members	1	6
3. Additions from Terminated Vested Members	7	4
4. Additions from DROP Plan	9	14
5. Deaths Resulting in No Further Payments	(5)	(5)
6. Deaths Resulting in New Survivor Benefits	(3)	(6)
7. End of Certain Period - No Further Payments	0	0
8. Other-Beneficiaries of active and inactive deaths	3	8
9. Number Included in This Valuation	308	296

*Includes deferred death benefit.

ACTIVE PARTICIPANT SCATTER

	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 & Up	**Totals**
20-24 NO.	0	5	3	0	1	0	0	0	0	0	0	9
TOT PAY	0	168,025	102,212	0	28,808	0	0	0	0	0	0	299,045
AVG PAY	0	33,605	34,071	0	28,808	0	0	0	0	0	0	33,227
25-29 NO.	1	6	5	4	3	0	0	0	0	0	0	19
TOT PAY	38,750	213,130	220,978	153,399	115,711	0	0	0	0	0	0	741,968
AVG PAY	38,750	35,522	44,196	38,350	38,570	0	0	0	0	0	0	39,051
30-34 NO.	1	6	6	2	2	4	4	0	0	0	0	25
TOT PAY	44,285	257,030	225,680	74,880	71,991	201,448	230,922	0	0	0	0	1,106,236
AVG PAY	44,285	42,838	37,613	37,440	35,996	50,362	57,730	0	0	0	0	44,249
35-39 NO.	0	8	10	3	4	11	8	1	0	0	0	45
TOT PAY	0	383,513	537,160	96,549	184,850	502,432	409,116	32,325	0	0	0	2,145,945
AVG PAY	0	47,939	53,716	32,183	46,212	45,676	51,140	32,325	0	0	0	47,688
40-44 NO.	0	9	6	3	3	4	10	8	0	0	0	43
TOT PAY	0	444,553	339,830	132,017	117,335	203,154	562,431	393,815	0	0	0	2,193,135
AVG PAY	0	49,395	56,638	44,006	39,112	50,788	56,243	49,227	0	0	0	51,003
45-49 NO.	0	4	5	2	2	6	13	7	7	2	0	48
TOT PAY	0	226,717	278,367	130,749	88,176	303,951	648,931	457,165	406,021	153,628	0	2,693,705
AVG PAY	0	56,679	55,673	65,374	44,088	50,658	49,918	65,309	58,003	76,814	0	56,119
50-54 NO.	0	6	10	7	4	7	11	14	8	7	1	75
TOT PAY	0	394,155	448,412	637,999	298,702	287,848	577,803	724,256	446,642	413,881	64,730	4,294,428
AVG PAY	0	65,692	44,841	91,143	74,676	41,121	52,528	51,733	55,830	59,126	64,730	57,259
55-59 NO.	0	13	6	1	1	9	13	13	8	4	2	70
TOT PAY	0	945,408	251,043	46,613	33,613	480,426	689,743	645,526	531,300	299,966	143,416	4,067,054
AVG PAY	0	72,724	41,840	46,613	33,613	53,381	53,057	49,656	66,412	74,992	71,708	58,101
60-64 NO.	0	4	9	3	0	5	7	0	3	1	0	32
TOT PAY	0	264,312	463,445	108,910	0	376,064	399,214	0	153,150	51,979	0	1,817,074
AVG PAY	0	66,078	51,494	36,303	0	75,213	57,031	0	51,050	51,979	0	56,784
65 & Up NO.	0	0	2	1	0	5	1	2	0	0	1	12
TOT PAY	0	0	99,404	64,501	0	268,944	44,221	106,267	0	0	83,803	667,140
AVG PAY	0	0	49,702	64,501	0	53,789	44,221	53,134	0	0	83,803	55,595
TOT NO.	2	61	62	26	20	51	67	45	26	14	4	378
TOT AMT	83,035	3,296,843	2,966,531	1,445,617	939,186	2,624,267	3,562,381	2,359,354	1,537,113	919,454	291,949	20,025,730
AVG AMT	41,518	54,047	47,847	55,601	46,959	51,456	53,170	52,430	59,120	65,675	72,987	52,978

INACTIVE PARTICIPANT DISTRIBUTION

Age	Terminated Vested Number	Terminated Vested Benefits	Disabled Number	Disabled Benefits	Retired Number	Retired Benefits	Beneficiary Number	Beneficiary Benefits	Total Number	Total Benefits
Under 20	0	0	0	0	0	0	1	2,952	1	2,952
20 - 24	0	0	0	0	0	0	1	7,894	1	7,894
25 - 29	0	0	0	0	0	0	1	12,648	1	12,648
30 - 34	2	23,688	0	0	0	0	1	3,000	3	26,688
35 - 39	5	33,121	0	0	0	0	2	12,409	7	45,530
40 - 44	11	115,100	0	0	0	0	2	2,511	13	117,611
45 - 49	15	293,935	0	0	1	43,309	4	13,282	20	350,526
50 - 54	24	503,565	0	0	4	180,506	1	12,534	29	696,605
55 - 59	20	314,727	2	34,011	16	713,640	3	53,971	41	1,116,349
60 - 64	1	4,564	0	0	72	2,013,997	4	47,516	77	2,066,077
65 - 69	0	0	1	12,401	76	1,806,620	5	72,986	82	1,892,007
70 - 74	0	0	0	0	54	1,144,480	6	41,022	60	1,185,502
75 - 79	0	0	0	0	29	544,739	9	76,731	38	621,470
80 - 84	0	0	0	0	22	213,432	3	23,901	25	237,333
85 - 89	0	0	0	0	12	154,829	4	25,520	16	180,349
90 - 94	0	0	0	0	7	80,985	4	23,654	11	104,639
95 - 99	0	0	0	0	1	11,183	1	11,697	2	22,880
100 & Over	0	0	0	0	1	7,594	0	0	1	7,594
Total	**78**	**1,288,700**	**3**	**46,412**	**295**	**6,915,314**	**52**	**444,228**	**428**	**8,694,654**
Average Age		**50**		**60**		**70**		**66**		**66**

SECTION F

SUMMARY OF PLAN PROVISIONS

City of Delray Beach
General Employees' Retirement Plan
SUMMARY OF PLAN PROVISIONS

A. Ordinances

The Plan was established under the Code of Ordinances for the City of Delray Beach, Florida, Title 3, Chapter 35, Sections 35.085-35.110 and was most recently amended under Ordinance No. 30-15 passed and adopted on its second reading on November 17, 2015. 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

January 1, 1965; restated April 22, 1974

C. Plan Year

October 1 through September 30

D. Type of Plan

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

E. Eligibility Requirements

Full-time employees who are not police officers or firefighters are eligible upon completion of one year of service. City commissioners may not be included.

F. Credited Service

Service is measured as the period of continuous employment, expressed in years and tenths of a year, as a general employee from the employee's most recent date of hire to the date of termination. Credited service includes all periods of paid leave and all periods of unpaid leave up to a maximum of 30 days except as required by the Uniformed Services Employment and Reemployment Rights Act of 1994.

In the event that a member of this plan also has credited service with the City as a police officer or firefighter subsequent to membership in this plan, then such other credited service shall be used in determining vesting and eligibility for normal retirement. Such other credited service will not be considered in determining benefits under this system.

G. Compensation

Basic compensation paid to a participant for services rendered to the City excluding overtime, commissions, bonuses, expenses allowances and any other extraordinary compensation.

H. Final Monthly Compensation (FMC)

For members hired on or before October 5, 2010, the average of the highest 36 consecutive months of Compensation out of the last 120 months of Credited Service immediately preceding retirement or termination; the FMC will not be less than the 24-month average of Compensation as of October 5, 2010. For members hired after October 5, 2010, the average of the highest 60 consecutive months of Compensation out of the last 120 months of Credited Service immediately preceding retirement or termination. Payments for unused leave are not included.

I. Normal Retirement

Eligibility: Members within ten years of attaining age 60 or 30 years of service as of October 5, 2010 may retire on the first day of the month coincident with or next following the earlier of:

(1) age 60 with 10 years of Credited Service, or
(2) 30 years of Credited Service regardless of age.

Other members hired on or before October 5, 2010 may retire on the first day of the month coincident with or next following the earlier of:

(1) age 62 with 10 years of Credited Service, or
(2) 30 years of Credited Service regardless of age.

Members hired after October 5, 2010 may retire on the first day of the month coincident with or next following attainment of age 65 with 10 years of Credited Service.

Benefit: 2.50% of FMC multiplied by Credited Service with a maximum benefit of 75% of FMC. For members with 10 or more years of Credited Service, the minimum monthly benefit is $500.

Members may elect to receive a 3% multiplier for future service (and a maximum benefit of 90% of Average Monthly Earnings) by contributing an additional 3.45% of pay. These members may also choose to purchase the 3% multiplier for past service by contributing the full actuarial cost.

Normal Form of Benefit: Life annuity. For married participants within ten years of attaining age 60 or 30 years of service as of October 5, 2010, a monthly income payable for life of member; upon death of member, 100% of member's benefit payable to spouse for one year and 60% thereafter until death or remarriage of spouse. Other optional forms are also available.

COLA: None

J. Early Retirement

Eligibility: A member may elect to retire earlier than the Normal Retirement Eligibility upon attainment of:

(1) age 55 with 15 years of Credited Service, or
(2) 20 years of Credited Service regardless of age.

Benefit: The Normal Retirement Benefit is actuarially reduced by 5% for each year by which the Early Retirement date precedes the Normal Retirement date.

Normal Form of Benefit: Life annuity. For married participants within ten years of attaining age 60 or 30 years of service as of October 5, 2010, a monthly income payable for life of member; upon death of member, 100% of member's benefit payable to spouse for one year and 60% thereafter until death or remarriage of spouse. Other optional forms are also available.

COLA: None

K. Delayed Retirement

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

L. Service Connected Disability

Eligibility: Any member who incurs a total and permanent disability arising out of and in the course of city employment is immediately eligible for a disability benefit.

Benefit: 60% of FMC in effect at date of disability, reduced by amounts payable from Social Security, and in certain cases, by compensation earned from other sources.

Benefit begins 5 months after the date of disability and is payable until the earlier of:

(a) death
(b) recovery from disability
(c) age 65 for those who became disabled prior to age 60 or 5 years after the date of disability for those who became disabled after age 60.

Normal Form: Life annuity

COLA: None

M. Non-Service Connected Disability

Eligibility: Any member who becomes totally and permanently disabled after completing 10 years of Credited Service is immediately eligible for a disability benefit.

Benefit: 2.0% of FMC in effect at date of disability multiplied by Credited Service with a maximum benefit of 50% of FMC. Benefits will be reduced by amounts payable from Social Security, and in certain cases, by compensation earned from other sources.

Benefit begins 5 months after the date of disability and is payable until the earlier of:

(a) death
(b) recovery from disability
(c) age 65 for those who became disabled prior to age 60 or 5 years after the date of disability for those who became disabled after age 60.

Normal Form: Life annuity

COLA: None

N. Death in the Line of Duty

Eligibility: Any member whose death arises out of and in the course of city employment is immediately eligible for a survivor benefit.

Benefit: $10,000 lump sum, plus a monthly income of 60% of FMC on the date of death payable to the spouse until death or remarriage, or in the case of a non-spouse beneficiary, the actuarial equivalent of the member's lifetime benefit of 60% of FMC payable for life, plus a monthly income of 7 1/2% of the FMC payable to each unmarried child under age 18 (age 22 if full-time student), subject to an overall limitation of 90% of FMC.

Normal Form of Benefit: Lump sum in addition to monthly benefits payable until death or the remarriage of a spouse. Children's benefits are payable until death, marriage or the attainment of age 18 (age 22 if a full-time student).

COLA: None

O. Other Pre-Retirement Death

Eligibility: Members are eligible for survivor benefits after the completion of 1 or more years of Credited Service.

Benefit: For those with less than 5 years of Credited Service, a $5,000 lump sum is payable to the spouse or designated beneficiary.

For those with 5 or more years of Credited Service, a $10,000 lump sum, plus a monthly income paid to the spouse until death or remarriage equal to 65% of the member's Normal Retirement Benefit accrued on the date of death with a minimum equal to 20% of the member's FMC, or in the case of a non-spouse beneficiary, the actuarial equivalent of the member's lifetime benefit of 65% of the member's Normal Retirement Benefit paid for life, plus a monthly income of 7 1/2% of the FMC payable to each unmarried child under age 18 (age 22 if full-time student), subject to an overall limitation of 50% of FMC.

Normal Form of Benefit: Lump sum in addition to monthly benefits payable until death or the remarriage of a spouse. Children's benefits are payable until death, marriage or the attainment of age 18 (age 22 if a full-time student).

COLA: None

P. Post Retirement Death

Benefit determined by the form of benefit elected upon retirement.

Q. Optional Forms

In lieu of electing the Normal Form of benefit, the optional forms of benefits available to retirees are the 10 Year Certain and Life option or the 50%, 66 2/3%, 75% or 100% Joint and Survivor options. Lump sums may be paid when the monthly benefit is less than $50.

R. Vested Termination

Eligibility: A member has earned a non-forfeitable right to Plan benefits after the completion of 5 years of Credited Service (See vesting table below).

Benefit: The benefit is the member's accrued Normal Retirement Benefit as of the date of termination. Benefit begins at the Normal Retirement Date.

Normal Form of Benefit: Life annuity. For married participants within ten years of attaining age 60 or 30 years of service as of October 5, 2010, a monthly income payable for life of member; upon death of member, 100% of member's benefit payable to spouse for one year and 60% thereafter until death or remarriage of spouse. Other optional forms are also available.

COLA: None

Vesting is determined in accordance with the following table.

YEARS OF CREDITED SERVICE	% OF NORMAL RETIREMENT BENEFITS
Less Than 5	None
5	50%
6	60
7	70
8	80
9	90
10 or more	100

S. Non-vested Termination

Eligibility: All members terminating employment with less than 5 years of Credited Service are eligible.

Benefit: Refund of the member's contributions.

T. Member Contributions

3.05%. Those members who elect to receive the 3% multiplier must contribute an additional 3.45%, for a total of 6.50%. Contributions cease upon attainment of 30 years of Credited Service.

U. Employer Contributions

The amount determined by the actuary needed to fund the plan properly according to State laws.

V. Cost of Living Increases

Not Applicable

W. 13th Check

Not Applicable

X. Deferred Retirement Option Plan

Eligibility: Members within ten years of attaining age 60 or 30 years of service as of October 5, 2010 who have met one of the following criteria are eligible for the DROP:

(1) age 60 with 10 years of Credited Service, or
(2) 30 years of Credited Service regardless of age.

Other members hired on or before October 5, 2010 who have met one of the following criteria are eligible for the DROP:

(1) age 62 with 10 years of Credited Service, or
(2) 30 years of Credited Service regardless of age.

Members hired after October 5, 2010 are eligible for the DROP upon attaining age 65 with 10 years of Credited Service.

Members who meet eligibility must submit a written election to participate in the DROP.

Benefit: The member's Credited Service and FMC are frozen upon entry into the DROP. The monthly retirement benefit as described under Normal Retirement is calculated based upon the frozen Credited Service and FMC.

Maximum DROP Period: 60 months

Interest Credited: The member's DROP account is credited at an interest rate equal to the actual investment return earned by the pension plan or by the member's self directed investments.

Normal Form of Benefit: Lump Sum, or equal quarterly or annual installments spread over a period of time designated by the retiree.

Y. Other Ancillary Benefits

There are no ancillary benefits-retirement type benefits not required by statutes but which might be deemed a City of Delray Beach General Employees' Retirement Plan liability if continued beyond the availability of funding by the current funding source.

Z. Changes from Previous Valuation

See Section A of the report under the Revisions in Benefits section.