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**CITY OF POMPANO BEACH
GENERAL EMPLOYEES' RETIREMENT SYSTEM**

**Actuarial Valuation Report
as of
October 1, 2018**



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January 31, 2019

Board of Trustees

City of Pompano Beach General Employees' Retirement System

555 South Andrews Avenue, Suite 106

Pompano Beach, Florida 33069

Dear Members of the Board:

This report presents the results of the actuarial valuation of the City of Pompano Beach General Employees' Retirement System ("Plan") for the plan year. The purpose of this report is to provide a summary of the funded status of the plan as of October 1, 2018 and to determine the minimum required contribution amount for the 2019/2020 fiscal year. In addition, this report provides a record of any plan amendments or other plan changes affecting the financial status of the fund. Our calculations were prepared based on member data and financial information provided by the Retirement System.

Summary of Valuation Results

The Retirement System receives contributions from the City of Pompano Beach, Broward Sheriff's Office (BSO) and from active members. Members hired prior to June 8, 2011 contribute 10.0% of compensation, while members hired on or after June 8, 2011 contribute 7.0% of compensation. In addition, the City contributes the required member contributions on behalf of the elected/appointed members who participate in the System. These contributions are considered member contributions and are not reflected in the required minimum City contribution. In determining the City's and the County's contribution requirement we have included two alternatives. The first includes interest to reflect that the City will make quarterly contributions throughout the fiscal year. The second reflects that the City will contribute a single lump sum payment on December 31, 2019. Both contribution alternatives anticipate that the BSO will make bi-weekly contributions throughout the fiscal year.

Quarterly Contributions

The total required annual contribution for the 2019/2020 fiscal year from all sources payable based on a quarterly payment schedule beginning October 1, 2018 is \$13,061,820. The amount of the City/BSO contributions varies from year to year. Member contributions are equal to 8.87% employees' projected payroll. After taking into account expected member contributions of \$2,831,902, the total required contribution from the City/BSO is \$10,229,918 or 32.04% of projected payroll. Of this amount the City is expected to contribute \$10,026,634 and BSO is expected to contribute \$203,284. In comparison, the required City/BSO contribution for the 2018/2019 fiscal year was \$9,425,226, or 31.19% of projected payroll.

3550 Busbee Pkwy, Suite 250, Kennesaw, GA 30144

Phone (678) 388-1700 • Fax (678) 388-1730

www.CavMacConsulting.com

Offices in Kennesaw, GA • Bellevue, NE



Single Lump Sum Payment

The total required annual contribution for the 2019/2020 fiscal year from all sources payable as a single lump sum payment on December 31, 2019 is \$12,944,764. The amount of the City/BSO contributions varies from year to year. Member contributions are equal to 8.87% of employees' projected payroll. After taking into account expected member contributions of \$2,831,902, the total required contribution from the City/BSO is \$10,112,862 or 31.68% of projected payroll. Of this amount the City is expected to contribute \$9,910,087 and the BSO is expected to contribute \$202,775.

For members hired before June 8, 2011, the plan provides a 2% COLA each year and an additional 1% COLA if certain conditions are met. They are: if there is a cumulative net experience gain for the year, and the City's cost for the year is \$0 after payment of the additional COLA. In addition, the present value of the additional COLA cannot be more than the cumulative gains that occurred since inception of the COLA. Since there was a cumulative net experience loss for the year and a required City contribution is due, no variable COLA will be paid to these members this year.

For members hired on or after June 8, 2011, a member is eligible for a COLA on their fifth anniversary of retirement. No increase is given for eligible retirees under 55 on October 1st. A 1% increase is given for eligible retirees between 55 and 64. A 2% increase is given for eligible retirees 65 or older. A variable increase (of not more than one percent) will be granted when the plan is sufficiently funded. Since there is no cumulative actuarial gain, no variable increase will be paid to these members this year.

Actuarial gains and losses result when the actual experience of the plan (such as asset return, pay increases, turnover, deaths, etc.) is different from that expected by the actuarial assumptions. The plan's unfunded liability was projected to be \$75,588,455 as of October 1, 2018, taking into account contributions from the City and the County of \$8,301,969. The actual unfunded liability is \$83,231,944. The increase of \$7,643,489 is due to an experience loss for the 2017/2018 plan year and reducing the assumed investment return from 7.90% to 7.65%. This assumption change accounted for \$7,032,129 of the increase. A detailed analysis of the gain and loss is presented in Table II. The total increase in City/County contribution to amortize the unfunded liability is \$398,951 per year. A summary of the amortization payments is presented in Table Va. The unfunded liability is amortized over a level percentage of payroll assuming a payroll growth assumption of 2.40% for amortization bases established prior to October 1, 2017. Amortization bases established on or after October 1, 2017 are amortized on a level dollar basis.

The valuation is based on a series of actuarial assumptions, including an interest rate of 7.65% per year and an annual payroll growth assumption of 2.40%. Total payroll for the ten year period ending with the valuation date averaged 2.70% which is greater than the current payroll growth assumption of 2.40%. Table XI outlines the mortality assumptions used in the report.



A summary of the results of the valuation and the contribution requirements is presented in Table I. The disclosure information required by Chapter 112, Florida Statutes, is presented in Table V. Tables VII and X provide information about the fund's assets and historical contributions. Table VIb provides an asset reconciliation between October 1, 2017 and October 1, 2018. Table VI provides a breakdown of the fund assets by investment type and the calculation of the actuarial value of assets. Tables VII, VIIa, VIII provide a historical record of the growth, expenses, revenues, annual returns and contributions of the fund. Tables IX and IXa through IXd provide a variety of useful information concerning the participant population. The assumptions used in the valuation are outlined in Table XI. Provisions of the plan are set forth in Table XII.

This actuarial valuation was prepared and completed by us or 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 results may differ significantly from the current results 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. Since the potential impact of such factors is outside the scope of a normal annual actuarial valuation, an analysis of the range of results is not presented herein.

Respectfully submitted,

A handwritten signature in cursive script, reading 'Todd B. Green'.

Todd B. Green, ASA, FCA, MAAA
Principal and Consulting Actuary

A handwritten signature in cursive script, reading 'Micki R. Taylor'.

Micki R. Taylor, ASA, EA, FCA, MAAA
Senior Actuary
Enrolled Actuary No. 17-5975

TBG:cc

**SUMMARY OF VALUATION RESULTS****TABLE I**

	As of October 1, 2017	As of October 1, 2018
1. Number of Participants		
a. Active Participants		
i. City and BSO Employees	453	462
ii. Elected and Appointed Officials	8	9
iii. Senior Management	16	17
iv. Sub-total	<u>477</u>	<u>488</u>
b. Deferred Vested Participants	<u>27</u>	<u>28</u>
c. Retired Participants:		
i. Participants in DROP	51	51
ii. Non-disabled	313	330
iii. Disabled	18	17
iv. Beneficiaries	48	43
v. Sub-total	<u>430</u>	<u>441</u>
d. Total Participants	<u>934</u>	<u>957</u>
2. Total Annual Payroll		
a. Elected Officers	\$677,710	\$879,419
b. Non-elected members (Plan 1)	\$19,487,116	\$18,575,666
c. Non-elected members (Plan 2)	\$9,341,725	\$11,723,374
d. Total	<u>\$29,506,551</u>	<u>\$31,178,459</u>
3. Total Projected Payroll	<u>\$30,214,708</u>	<u>\$31,926,742</u>
4. Total Retired Member Benefits	<u>\$13,447,617</u>	<u>\$14,241,123</u>
5. Derivation of Unfunded Accrued Liability (UAL)		
a. Present Value of Future Benefits	\$283,686,213	\$306,181,217
b. Present Value of Future Normal Cost	(\$34,264,405)	(\$37,815,135)
<i>City Portion</i>	(\$16,365,422)	(\$19,058,835)
<i>Member Portion</i>	(\$17,898,983)	(\$18,756,300)
c. Actuarial Accrued Liability (AAL)	\$249,421,808	\$268,366,082
d. Actuarial Value of Assets	(\$173,854,154)	(\$185,134,138)
e. Unfunded Accrued Liability (c. + d.)	<u>\$75,567,654</u>	<u>\$83,231,944</u>

**SUMMARY OF VALUATION RESULTS****TABLE I**

	Fiscal Year 2019	Fiscal Year 2020
6. Annual Cost (Payable Quarterly 1st Payment 10/1)		
a. Normal Cost	\$4,718,048	\$5,162,674
b. Payment to Amortize Unfunded Liability	\$5,736,061	\$6,135,012
c. Administrative Expenses	\$500,955	\$507,602
d. Interest Adjustment	\$1,204,593	\$1,256,532
e. Total (a. + b.+ c.+ d.)	\$12,159,657	\$13,061,820
f. Expected Member Contributions	\$2,734,431	\$2,831,902
g. Expected City/County Contribution	\$9,425,226	\$10,229,918
h. Total (f. + g.)	\$12,159,657	\$13,061,820
7. Annual Cost (Payable as a Single Lump Sum on 12/31)		
a. Normal Cost	\$4,718,048	\$5,162,674
b. Payment to Amortize Unfunded Liability	\$5,736,061	\$6,135,012
c. Administrative Expenses	\$500,955	\$507,602
d. Interest Adjustment	\$1,092,291	\$1,139,476
e. Total (a. + b.+ c.+ d.)	\$12,047,355	\$12,944,764
f. Expected Member Contributions	\$2,734,431	\$2,831,902
g. Expected City/County Contribution	\$9,312,924	\$10,112,862
h. Total (f. + g.)	\$12,047,355	\$12,944,764
8. Annual Cost (as a % of projected payroll)		
a. Quarterly Basis		
i. Total Required Contribution	40.24%	40.91%
ii. Expected Member Contributions *	9.05%	8.87%
iii. Expected City/County Contribution	31.19%	32.04%
b. Single Lump Sum Basis		
i. Total Required Contribution	39.87%	40.55%
ii. Expected Member Contributions *	9.05%	8.87%
iii. Expected City/County Contribution	30.82%	31.68%

*Non-Elected members in Plan 1 contribute 10.0% of payroll, and 7.0% of payroll if in Plan 2. The City contributes 10.0% of payroll on behalf of elected/appointed members.

**GAIN AND LOSS ANALYSIS****TABLE II****A. UNFUNDED ACCRUED ACTUARIAL LIABILITY (GAIN) / LOSS ANALYSIS**

1. Actual Unfunded Accrued Actuarial Liability as of October 1, 2017	\$75,567,654
2. Plan Sponsor Normal Cost for this Plan Year (including expenses)	\$2,484,572
3. Interest on items 1 and 2 $[(1+2) \times 7.9\%]$	\$6,166,126
4. Plan Sponsor Contribution for this Plan Year:	(\$8,301,969)
5. Interest on item 4 $[4 \times 7.9\% \times .5]$	(\$327,928)
6. Changes due to:	
a. Assumption changes	\$7,032,130
b. Plan amendments	\$0
c. Funding Method	\$0
d. Actuarial (Gain) / Loss	\$611,359
7. Actual Unfunded Accrued Liability as of October 1, 2018: (1. + 2. + 3. + 4. + 5. + 6.)	\$83,231,944
8. Items Affecting Calculation of Unfunded Accrued Actuarial Liability:	
a. Plan provisions reflected in the unfunded accrued liability (see Table XII)	
b. Plan amendments reflected in item 4.c. above (see Table XIIa)	
c. Actuarial assumptions and methods used to determine actuarial accrued liability (see Table XI)	

B. ASSET (GAIN) / LOSS ANALYSIS

1. Actuarial Value of Assets as of October 1, 2017	\$173,854,154
2. Interest on item [1a. $\times 7.9\%$]	\$13,734,478
3. Contributions for the 2017/2018 Plan Year	\$10,965,265
4. Interest on item [1c. $\times 7.9\% \times .5]$	\$433,128
5. Benefit Payments for 2017/2018 Plan Year (Including Expenses)	(\$14,106,611)
6. Interest on item [1e. $\times 7.9\% \times .5]$	(\$557,211)
7. Expected Actuarial Value of Assets as of October 1, 2018	\$184,323,203
8. Actuarial Value of Assets as of October 1, 2018	\$185,134,138
9. (Gain) / Loss	(\$810,935)



GAIN AND LOSS ANALYSIS

TABLE II

1. Unfunded Accrued Liability Contribution as of October 1, 2017:		\$5,736,061
2. Net Actuarial (Gains)/Losses During the 2017/2018 Plan Year:		
a. Due to Salary	\$18,459	
b. Due to Investment Performance	(\$64,717)	
c. Due to Turnover/Mortality	\$72,799	
d. Due to New Retirements	\$15,107	
e. Due to Difference and Timing in Contributions	\$99,084	
f. Due to Data/Service Adjustments/Benefit Payments	(\$192,659)	
g. Due to New Members	\$9,581	
h. Total		(\$42,346)
3. Change in Unfunded Accrued Liability Contribution During the 2017/2018 Plan Year:		
a. Assumption changes	\$561,204	
b. Method changes	\$0	
c. Plan changes	\$0	
d. Total change		\$561,204
4. Other Effects		(\$119,907)
5. Unfunded Accrued Liability Contribution as of October 1, 2018		\$6,135,012
6. Comments on Change in Unfunded Accrued Liability Contribution:		

Salary/Service: Actual average salary increase of 6.3% compared to expected increases of 5.8%.

Investment Performance: 8.4% actual vs. 7.9% expected return on the actuarial value of assets.

Turnover: 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 of differences in expected vs. actual numbers of, and benefits for, new retirements and refund of employee contributions.

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.

Data/Service Adjustments: Effect of service adjustments for service purchases.

Assumption Changes: Assumed investment return reduced from 7.9% to 7.65%.

Method Changes: None.

Plan Changes: None.

Other Effects: Assumed growth in the unfunded actuarial accrued liability contribution.



ADDITIONAL DISCLOSURES

TABLE III

A. Schedule of Funding Progress

(\$'s in thousands)

Actuarial Valuation Date	Actuarial Value of Assets (1)	Actuarial Accrued Liability (AAL) (2)	Unfunded AAL (UAAL) (2) - (1)	Funded Ratio (1)/(2)	Covered Payroll (3)	UAAL as % of Covered Payroll [(2) - (1)]/(3)
10/1/2011	\$125,170	\$179,688	\$54,518	69.7%	\$26,238	207.8%
10/1/2012	\$123,425	\$185,014	\$61,589	66.7%	\$25,833	238.4%
10/1/2013	\$132,248	\$191,554	\$59,306	69.0%	\$25,923	228.8%
10/1/2014	\$144,640	\$200,747	\$56,107	72.1%	\$26,048	215.4%
10/1/2015	\$153,292	\$209,453	\$56,162	73.2%	\$27,016	207.9%
10/1/2016	\$163,312	\$231,707	\$68,395	70.5%	\$27,957	244.6%
10/1/2017	\$173,854	\$249,422	\$75,568	69.7%	\$29,507	256.1%
10/1/2018	\$185,134	\$268,366	\$83,232	69.0%	\$31,178	267.0%

Additional Information

Valuation date :	October 1, 2017	October 1, 2018
Actuarial cost method:	Entry Age Normal	Entry Age Normal
Amortization method:	Bases prior to 2017 Level Percent Closed	Bases prior to 2017 Level Percent Closed
	Bases on or after 2017 Level Dollar Closed	Bases on or after 2017 Level Dollar Closed
Remaining amortization period:	1 to 30 years	1 to 30 years
Asset valuation method:	5 - Year Smoothed Market	5 - Year Smoothed Market
Actuarial assumptions:		
Investment rate of return	7.90%	7.65%
Projected salary increases	4.25 to 7.50%	4.25 to 7.50%
Includes inflation at	3.50%	3.50%
Cost of living adjustments	2.00%	2.00%

**PRESENT VALUE OF ACCRUED BENEFITS****TABLE IV**

Shown below is the development of the Total Present Value of Accrued Benefit for the Plan. The calculations were performed using the Plan's discount rate of 7.65%.

1. Actuarial Present Value of Accrued Benefits

	<u>As of October 1, 2017</u>	<u>As of October 1, 2018</u>
a. Vested Accrued Benefits:		
i. Inactive members and beneficiaries	\$160,236,984	\$173,361,527
ii. Active members	\$63,398,778	\$67,905,039
iii. Sub-total	<u>\$223,635,762</u>	<u>\$241,266,566</u>
b. Non-vested Accrued Benefits	<u>\$447,139</u>	<u>\$293,956</u>
c. Total Benefits	<u>\$224,082,901</u>	<u>\$241,560,522</u>
d. Market Value of Assets	\$177,325,805	\$191,219,657
c. Percentage Funded	79.1%	79.2%

2. Statement of Changes in Total Actuarial Present Value of All Accrued Benefits

a. Actuarial Present Value as of October 1, 2017:	\$224,082,901
b. Increase (Decrease) During 2017/2018 Plan Year Attributable to:	
i. Interest	\$17,166,649
ii. Benefits accumulated/experience	\$7,723,347
iii. Benefits paid	(\$13,567,082)
iv. Plan amendments	\$0
v. Changes in actuarial assumptions or methods	\$6,154,707
vi. Net increase (decrease)	<u>\$17,477,621</u>
c. Actuarial Present Value as of October 1, 2018:	<u>\$241,560,522</u>

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

- a. Plan provisions reflected in the accrued benefits (see Table XII on page 34)
- b. Plan amendments reflected in item 2.b.iv. above
- c. Actuarial assumptions and methods used to determine present values (see Table XI on page 30)
- d. Changes in actuarial assumptions and methods reflected in item 2.b.v. above

**INFORMATION REQUIRED BY FLORIDA STATUTE (CHAP. 112)****TABLE V**

	Actuarial valuation prepared as of:		
	Prior to Assumption Changes		
	October 1, 2017	October 1, 2018	October 1, 2018
1. Participant Data:			
a. Active members:			
i. Number	477	488	488
ii. Total annual payroll	\$29,506,551	\$31,178,459	\$31,178,459
iii. Projected annual payroll	\$30,214,708	\$31,926,742	\$31,926,742
b. Retirees and beneficiaries:			
i. Number	361	373	373
ii. Total annualized benefit	\$11,052,854	\$11,813,789	\$11,813,789
c. Disabled members receiving benefits:			
i. Number	18	17	17
ii. Total annualized benefit	\$434,803	\$435,062	\$435,062
d. Members in DROP:			
i. Number	51	51	51
ii. Total annualized benefit	\$1,959,960	\$1,992,273	\$1,992,273
e. Terminated vested members:			
i. Number	27	28	28
ii. Total annualized benefit	\$529,667	\$510,741	\$510,741
2. Assets:			
a. Actuarial value of assets	\$173,854,154	\$185,134,138	\$185,134,138
b. Market value of assets	\$177,325,805	\$191,219,657	\$191,219,657
3. Liabilities:			
a. Present value of all future expected benefit payments:			
i. Active members:			
Retirement benefits	\$114,846,829	\$118,248,922	\$123,629,963
Vesting benefits	\$3,035,591	\$3,042,327	\$3,242,855
Disability benefits	\$3,332,491	\$3,449,416	\$3,575,818
Death benefits	\$1,756,317	\$1,785,462	\$1,834,360
Return of member contributions	\$478,000	\$533,819	\$536,696
Sub-total	\$123,449,228	\$127,059,946	\$132,819,692
ii. Terminated vested members	\$4,655,960	\$4,807,303	\$4,988,170
iii. Retired members and beneficiaries:			
Retirees, members in DROP, and beneficiaries	\$151,183,872	\$160,569,229	\$163,995,571
Disabled members	\$4,397,153	\$4,290,966	\$4,377,786
Sub-total	\$155,581,025	\$164,860,195	\$168,373,357
iv. Total present value of all future expected ben. pmts.	\$283,686,213	\$296,727,444	\$306,181,219



INFORMATION REQUIRED BY FLORIDA STATUTE (CHAP. 112)

TABLE V

	Actuarial valuation prepared as of:		
	Prior to Assumption Changes		
	<u>October 1, 2017</u>	<u>October 1, 2018</u>	<u>October 1, 2018</u>
b. Liabilities due and unpaid	\$0	\$0	\$0
c. Active actuarial accrued liability	\$89,184,823	\$91,666,454	\$95,004,557
d. Inactive actuarial accrued liability	\$160,236,985	\$169,667,497	\$173,361,525
e. Total actuarial accrued liability	\$249,421,808	\$261,333,951	\$268,366,082
f. Unfunded actuarial accrued liability (please reference Table Va for details concerning the unfunded liability bases and amortization periods)	\$75,567,654	\$76,199,813	\$83,231,944
4. Actuarial Present Value of Accrued Benefits: (please reference Table IV for details concerning the present value of accrued benefits)	\$233,769,266	\$235,405,815	\$241,560,522
5. Pension Cost (as a % of annual payroll):			
a. Normal cost plus projected administrative expenses	17.27%	16.95%	17.76%
Dollar amount	\$5,219,003	\$5,411,492	\$5,670,276
b. Payment to amortize unfunded liability	18.98%	17.81%	19.22%
Dollar amount	\$5,736,061	\$5,685,591	\$6,135,012
c. Interest adjustment	3.99%	3.77%	3.93%
Dollar amount	\$1,204,593	\$1,204,583	\$1,256,532
d. Amount to be contributed by members	9.05%	8.87%	8.87%
Dollar amount	\$2,734,431	\$2,831,902	\$2,831,902
e. City Minimum Contribution	31.19%	29.66%	32.04%
Dollar amount	\$9,425,226	\$9,469,764	\$10,229,918

**INFORMATION REQUIRED BY FLORIDA STATUTE (CHAP. 112)****TABLE V**

	Fiscal Year 2016/2017	Fiscal Year 2017/2018	Fiscal Year 2017/2018
6. Past Contributions:			
a. Required City & County contribution	\$6,755,068	\$8,301,969	\$8,301,969
b. Actual contribution made by:			
i. City	\$6,417,918	\$7,953,196	\$7,953,196
ii. County	\$337,150	\$348,773	\$348,773
iii. Members	\$2,617,652	\$2,663,296	\$2,663,296
Actuarial valuation prepared as of:			
		Prior to Assumption Changes	
	October 1, 2017	October 1, 2018	October 1, 2018
7. Net actuarial (gain) / loss:	3,502,220	611,359	611,359
8. Other disclosures:			
a. Present value of active members':			
i. Future salaries:			
at attained age	\$204,447,241	\$216,593,507	\$219,746,237
at entry age	N/A	N/A	N/A
ii. Future contributions:			
at attained age	\$17,898,983	\$18,497,101	\$18,756,300
at entry age	N/A	N/A	N/A
b. Present value of future normal contributions from City	\$16,365,422	\$16,896,392	\$19,058,835
c. Present value of future expected benefit payments for active members at entry age	N/A	N/A	N/A
d. Amount of active members' accumulated contributions	\$26,776,216	\$27,245,015	\$27,245,015



UNFUNDED LIABILITY BASES

TABLE Va

Description	Original Amount	Outstanding Balance as of October 1, 2017	BOY		Outstanding Balance as of October 1, 2018	BOY		Years Remaining October 1, 2018
			2017/2018 Amortization Payment	2018/2019 Amortization Payment		2017/2018 Amortization Payment	2018/2019 Amortization Payment	
1988 Experience (Gain)/Loss	(\$3,460,275)	\$190,376	\$190,376	\$0	\$0	\$190,376	\$0	0 years
1989 Experience (Gain)/Loss	\$1,662,787	(\$39,590)	(\$20,313)	(\$20,800)	(\$20,800)	(\$20,313)	(\$20,800)	1 years
1990 Experience (Gain)/Loss	(\$180,749)	(\$123,924)	(\$43,487)	(\$86,792)	(\$86,792)	(\$43,487)	(\$44,481)	2 years
1991 Experience (Gain)/Loss	(\$376,257)	\$78,844	\$21,284	\$62,107	\$62,107	\$21,284	\$21,746	3 years
1992 Experience (Gain)/Loss	\$180,600	(\$132,515)	(\$29,346)	(\$111,319)	(\$111,319)	(\$29,346)	(\$29,950)	4 years
1993 Experience (Gain)/Loss	(\$248,979)	(\$190,123)	(\$35,971)	(\$166,330)	(\$166,330)	(\$35,971)	(\$36,673)	5 years
1994 Experience (Gain)/Loss	(\$304,735)	\$210,797	\$35,039	\$189,643	\$189,643	\$35,039	\$35,685	6 years
1995 Experience (Gain)/Loss	\$290,132	(\$928,032)	(\$138,319)	(\$852,100)	(\$852,100)	(\$138,319)	(\$140,723)	7 years
1996 Experience (Gain)/Loss	(\$1,175,801)	(\$1,216,149)	(\$165,073)	(\$1,134,111)	(\$1,134,111)	(\$165,073)	(\$167,772)	8 years
1997 Experience (Gain)/Loss	(\$1,384,333)	(\$5,025,993)	(\$628,892)	(\$4,744,472)	(\$4,744,472)	(\$628,892)	(\$638,541)	9 years
1998 Experience (Gain)/Loss	(\$4,825,881)	(\$3,465,783)	(\$403,728)	(\$3,303,957)	(\$3,303,957)	(\$403,728)	(\$409,523)	10 years
1999 Experience (Gain)/Loss	(\$3,450,637)	(\$4,841,311)	(\$529,286)	(\$4,652,675)	(\$4,652,675)	(\$529,286)	(\$536,372)	11 years
2000 Experience (Gain)/Loss	(\$4,863,161)	(\$1,467,000)	(\$151,540)	(\$1,419,381)	(\$1,419,381)	(\$151,540)	(\$153,425)	12 years
2001 Experience (Gain)/Loss	(\$1,480,206)	\$7,928,654	\$778,297	\$7,715,235	\$7,715,235	\$778,297	\$787,258	13 years
2002 Experience (Gain)/Loss	\$7,815,513	\$10,320,309	\$967,417	\$10,091,770	\$10,091,770	\$967,417	\$977,678	14 years
2003 Experience (Gain)/Loss	\$9,987,004	\$4,694,823	\$422,040	\$4,610,333	\$4,610,333	\$422,040	\$426,142	15 years
2004 Experience (Gain)/Loss	\$4,483,179	\$5,251,464	\$454,393	\$5,176,040	\$5,176,040	\$454,393	\$458,415	16 years
2005 Experience (Gain)/Loss	\$4,956,483	\$6,944,400	\$580,248	\$6,866,920	\$6,866,920	\$580,248	\$584,892	17 years
2006 Experience (Gain)/Loss	\$6,499,426	(\$3,833,139)	(\$310,176)	(\$3,801,277)	(\$3,801,277)	(\$310,176)	(\$312,401)	18 years
2007 Experience (Gain)/Loss	(\$3,577,856)	\$367,988	\$28,912	\$365,863	\$365,863	\$28,912	\$29,096	19 years
2008 Experience (Gain)/Loss	\$343,924	\$2,393,282	\$182,983	\$2,384,913	\$2,384,913	\$182,983	\$184,003	20 years
2009 Experience (Gain)/Loss	\$2,246,447	\$15,570,454	\$1,160,887	\$15,547,923	\$15,547,923	\$1,160,887	\$1,166,460	21 years
2010 Experience (Gain)/Loss	\$14,709,552	\$1,592,601	\$116,004	\$1,593,248	\$1,593,248	\$116,004	\$116,473	22 years
2011 Experience (Gain)/Loss	\$1,517,167	\$10,831,936	\$772,107	\$10,854,555	\$10,854,555	\$772,107	\$774,663	23 years
2012 Experience (Gain)/Loss	\$10,387,585	\$6,734,237	\$470,466	\$6,758,609	\$6,758,609	\$470,466	\$471,686	24 years
2013 Experience (Gain)/Loss	\$6,483,132	(\$3,109,260)	(\$213,192)	(\$3,124,857)	(\$3,124,857)	(\$213,192)	(\$213,595)	25 years
2014 Experience (Gain)/Loss	(\$3,009,142)	(\$3,844,653)	(\$259,058)	(\$3,868,857)	(\$3,868,857)	(\$259,058)	(\$259,370)	26 years
2015 Experience (Gain)/Loss	(\$3,745,256)	(\$414,905)	(\$27,506)	(\$418,004)	(\$418,004)	(\$27,506)	(\$27,520)	27 years
2016 Experience (Gain)/Loss	(\$407,300)	(\$3,851,367)	(\$251,468)	(\$3,884,291)	(\$3,884,291)	(\$251,468)	(\$251,441)	28 years
2017 Experience (Gain)/Loss	(\$3,814,042)	\$4,344,887	\$354,318	\$4,305,824	\$4,305,824	\$354,318	\$346,894	29 years
2018 Experience (Gain)/Loss	\$851,524			\$851,524			\$67,956	30 years



UNFUNDED LIABILITY BASES

TABLE Va

Description	Original Amount	Outstanding Balance as of October 1, 2017	BOY		Outstanding Balance as of October 1, 2018	BOY		Years Remaining October 1, 2018
			2017/2018 Amortization Payment	2018/2019 Amortization Payment		2017/2018 Amortization Payment	2018/2019 Amortization Payment	
1988 Plan Amendment 10 Year Cliff Vesting	\$417,435	\$47,792	\$47,792	\$0	\$0	\$0	\$0	0 years
1990 Plan Amendment 10 Year Svc for Non-Svc Disability	\$62,149	\$20,474	\$7,185	\$14,339	\$14,339	\$7,349	\$7,349	2 years
1992 Plan Amendment Tax Compliance/Pick-Up Plan	(\$132,092)	(\$70,303)	(\$15,569)	(\$59,058)	(\$59,058)	(\$15,890)	(\$15,890)	4 years
1994 Plan Amendment Change Pre-Retirement Death Benefits	\$91,138	\$66,217	\$11,007	\$59,572	\$59,572	\$11,210	\$11,210	6 years
2000 Plan Amendment COLA	\$13,628,631	\$13,453,268	\$1,389,710	\$13,016,579	\$13,016,579	\$1,406,999	\$1,406,999	12 years
2004 Plan Amendment DROP	\$2,820,380	\$2,988,233	\$258,563	\$2,945,314	\$2,945,314	\$260,851	\$260,851	16 years
2004 Plan Amendment Elected Officials/Appointees	\$1,220,245	\$1,292,868	\$111,868	\$1,274,299	\$1,274,299	\$112,858	\$112,858	16 years
2006 Plan Amendment 2.75% Multiplier	\$6,510,457	\$6,974,983	\$564,413	\$6,917,005	\$6,917,005	\$568,462	\$568,462	18 years
2008 Plan Amendment Senior Managers	\$383,377	\$408,434	\$31,228	\$407,005	\$407,005	\$31,402	\$31,402	20 years
2009 Plan Amendment Senior Managers	\$134,409	\$141,215	\$10,529	\$141,010	\$141,010	\$10,579	\$10,579	21 years
2015 Plan Amendment 7 Year Vesting	\$50,515	\$51,458	\$3,411	\$51,843	\$51,843	\$3,413	\$3,413	27 years
1992 Assumption Change	(\$806,413)	(\$429,196)	(\$95,047)	(\$360,547)	(\$360,547)	(\$97,005)	(\$97,005)	4 years
1994 Assumption Change	\$1,260,489	\$915,794	\$152,226	\$823,890	\$823,890	\$155,032	\$155,032	6 years
1995 Assumption Change	\$697,180	\$550,262	\$82,014	\$505,240	\$505,240	\$83,440	\$83,440	7 years
1996 Assumption Change	\$365,331	\$320,943	\$43,563	\$299,293	\$299,293	\$44,275	\$44,275	8 years
1997 Assumption Change	\$73,638	\$76,692	\$9,596	\$72,397	\$72,397	\$9,744	\$9,744	9 years
2000 Assumption Change	(\$10,001,095)	(\$9,872,407)	(\$1,019,810)	(\$9,551,952)	(\$9,551,952)	(\$1,032,497)	(\$1,032,497)	12 years
2002 Assumption Change	\$1,136,132	\$1,174,046	\$110,054	\$1,148,047	\$1,148,047	\$111,221	\$111,221	14 years
2008 Assumption Change	(\$117,474)	(\$125,154)	(\$9,569)	(\$124,716)	(\$124,716)	(\$9,622)	(\$9,622)	20 years
2016 Assumption Change	\$15,767,946	\$15,922,255	\$1,039,615	\$16,038,369	\$16,038,369	\$1,039,502	\$1,039,502	28 years
2017 Assumption Change	\$2,649,056	\$2,649,056	\$216,026	\$2,625,239	\$2,625,239	\$211,499	\$211,499	29 years
2018 Assumption Change	\$7,032,129			\$7,032,129	\$7,032,129	\$561,204	\$561,204	30 years



UNFUNDED LIABILITY BASES

TABLE Va

Description	Original Amount	Outstanding Balance as of	BOY	Outstanding Balance as of	BOY	Years Remaining October 1, 2018
		October 1, 2017	2017/2018 Amortization Payment	October 1, 2018	2018/2019 Amortization Payment	
2002 Method Change	(\$5,539,505)	(\$5,724,376)	(\$536,598)	(\$5,597,612)	(\$542,289)	14 years
2010 Method Change	(\$696,223)	(\$730,838)	(\$53,234)	(\$731,135)	(\$53,449)	22 years
2000 Variable Benefit	\$226,471	\$217,577	\$22,476	\$210,514	\$22,755	12 years
2001 Variable Benefit	\$280,869	\$277,053	\$27,196	\$269,596	\$27,509	13 years
Total		\$75,567,654	\$5,736,061	\$83,231,944	\$6,135,012	

Date	Projected Unfunded Liability
October 1, 2018	\$83,231,944
October 1, 2019	\$82,994,847
October 1, 2020	\$82,588,864
October 1, 2021	\$81,978,469
October 1, 2049	\$0

* The total experience loss/(gain) for the 2017/2018 plan year of \$611,359 is adjusted by contribution timing differences adjusted with interest equal to \$240,165.

**DEVELOPMENT OF MARKET ASSET (GAIN)/LOSS****TABLE VIa**

	As of October 1, 2017	As of October 1, 2018
1. Market Value of Assets		
a. Cash and cash equivalents (2.15%)	\$6,110,152	\$4,109,578
b. U.S. government bonds (6.21%)	\$10,874,090	\$11,865,270
c. Equity securities* (64.46%)	\$111,566,893	\$123,267,287
d. Corporate bonds and notes (6.1%)	\$12,321,623	\$11,665,257
e. Private equity funds (7.6%)	\$14,738,384	\$14,531,768
f. Real estate (13.44%)	\$21,527,766	\$25,692,099
g. Net receivables and other (0.14%)	\$328,787	\$258,728
h. Accrued expenses payable (-0.09%)	(\$141,890)	(\$170,330)
i. Payable for securities purchased (0%)	\$0	\$0
j. Market value of assets (100%)	\$177,325,805	\$191,219,657
*In prior years, "Equity securities" were divided in to "Common stock" and "Equity Funds."		
2. Actuarial Value of Assets		
a. Market Value of Assets	\$177,325,805	\$191,219,657
b. 5-year phase-in of gain/(losses) on Actuarial Value of Assets:		
i. 2013/2014	\$1,064,565	x 20% = \$212,913
ii. 2014/2015	(\$12,427,208)	x 40% = (\$4,970,883) x 20% = (\$2,485,442)
iii. 2015/2016	\$2,433,768	x 60% = \$1,460,261 x 40% = \$973,507
iv. 2016/2017	\$8,461,700	x 80% = \$6,769,360 x 60% = \$5,077,020
v. 2017/2018	\$3,150,542	x 80% = \$2,520,434
vi. Total unrecognized (losses)/gains	\$3,471,651	\$6,085,519
c. Preliminary Actuarial Value of Assets (Item a. minus item e.vi.)	\$173,854,154	\$185,134,138
d. Corridor around Actuarial Value of Assets		
i. 80% of Market Value (item a.)	\$141,860,644	\$152,975,726
ii. 120% of Market Value (item a.)	\$212,790,966	\$229,463,588
e. Actuarial Value of Assets (Item c., but within items d.i. and d.ii.)	\$173,854,154	\$185,134,138

**DEVELOPMENT OF MARKET ASSET (GAIN)/LOSS****TABLE VIa**

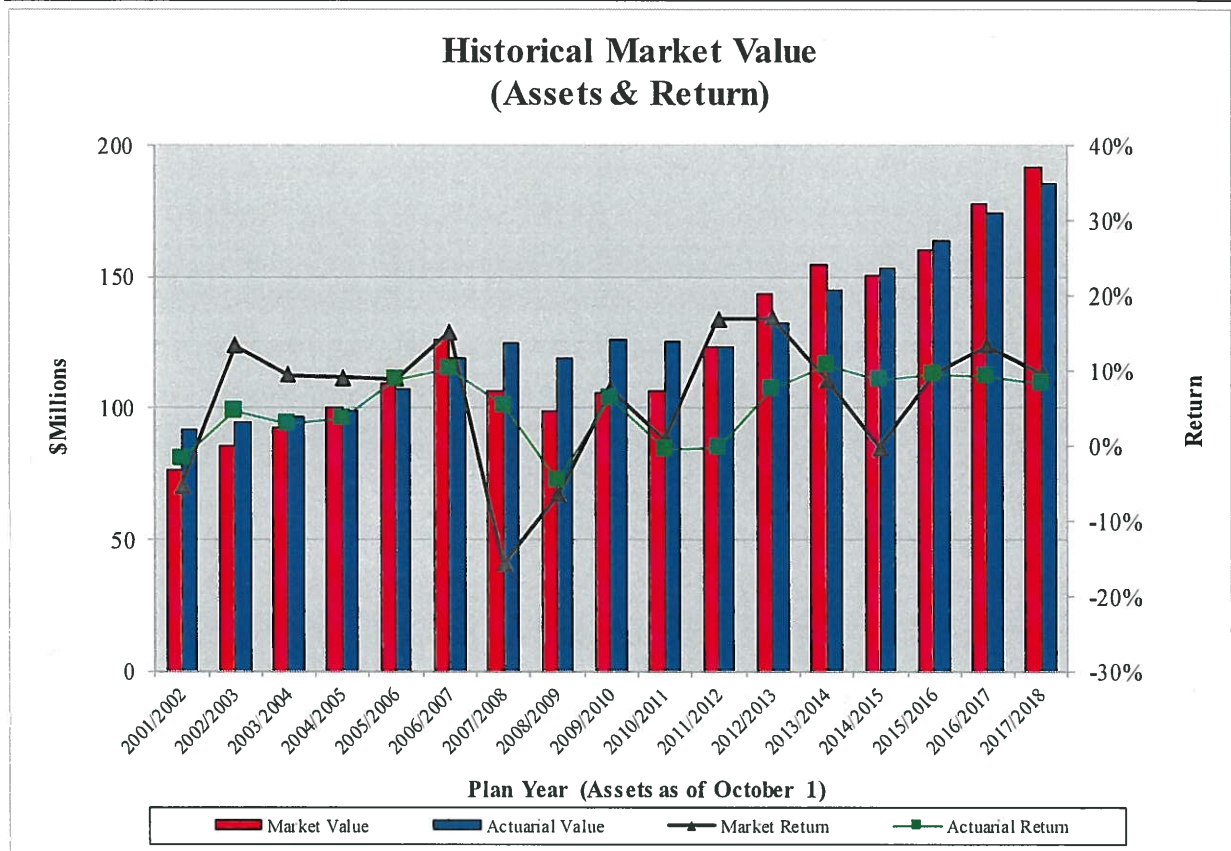
	As of October 1, 2017	As of October 1, 2018
1. Beginning of Year Market Value	\$160,422,298	\$177,325,805
2. Expected Interest on Assets	\$12,833,784	\$14,008,739
3. Contributions	\$9,372,720	\$10,965,265
4. Benefit Payments	(\$13,120,101)	(\$13,567,082)
5. Administrative Expenses	(\$475,674)	(\$539,529)
6. Interest on 3, 4, and 5	<u>(\$168,922)</u>	<u>(\$124,083)</u>
7. Expected End of Year Market Value	\$168,864,105	\$188,069,115
8. Actual End of Year Market Value	\$177,325,805	\$191,219,657
9. Gain/(Loss) for Plan Year	\$8,461,700	\$3,150,542

**MARKET ASSET RECONCILIATION****TABLE VIb**

	As of October 1, 2017	As of October 1, 2018
1. Beginning of Year Market Value:	\$160,422,298	\$177,325,805
2. Increases Due to:		
a. Contributions:		
i. City	\$6,417,918	\$7,953,196
ii. County	\$337,150	\$348,773
iii. Employee	\$2,617,652	\$2,663,296
iv. Total	<u>\$9,372,720</u>	<u>\$10,965,265</u>
b. Investment income	\$21,126,562	\$17,035,198
c. Total increases	<u>\$30,499,282</u>	<u>\$28,000,463</u>
3. Decreases Due to:		
a. Benefit payments	\$12,997,314	\$13,342,113
b. Refund of member contributions	\$122,787	\$224,969
c. Administrative expenses	\$475,674	\$539,529
d. Miscellaneous	\$0	\$0
e. Total decreases	<u>\$13,595,775</u>	<u>\$14,106,611</u>
4. End of Year Market Value:	\$177,325,805	\$191,219,657

HISTORICAL ASSET INFORMATION

TABLE VII



Plan Year	Market Value as of October 1	Actuarial Value as of October 1	Benefit Payments	Administrative Expenses	City, County, and Member Contributions	Market Value Return	Actuarial Value Return
2001/2002	\$76,424,845	\$91,709,814	\$3,254,038	\$250,351	\$2,140,762	(5.30)%	(1.80)%
2002/2003	\$85,458,520	\$94,741,607	\$3,556,707	\$282,053	\$2,803,247	13.30%	4.50%
2003/2004	\$92,735,898	\$96,735,577	\$3,895,060	\$330,446	\$3,481,462	9.40%	2.90%
2004/2005	\$99,890,915	\$98,980,085	\$4,967,607	\$387,998	\$4,039,559	9.10%	3.70%
2005/2006	\$109,249,514	\$107,334,005	\$4,862,124	\$425,926	\$4,905,164	8.90%	8.80%
2006/2007	\$126,184,449	\$118,772,822	\$5,376,897	\$482,702	\$6,246,138	15.10%	10.30%
2007/2008	\$106,187,212	\$124,869,067	\$6,521,687	\$531,899	\$6,506,416	(15.70)%	5.30%
2008/2009	\$99,128,822	\$118,954,587	\$6,309,625	\$517,272	\$6,584,631	(6.40)%	(4.60)%
2009/2010	\$106,118,339	\$126,102,821	\$7,081,623	\$541,663	\$7,207,441	7.49%	6.37%
2010/2011	\$106,693,934	\$125,170,479	\$7,858,299	\$483,843	\$8,032,038	0.84%	(0.49)%
2011/2012	\$123,122,925	\$123,424,957	\$9,328,455	\$490,142	\$8,374,155	16.87%	(0.24)%
2012/2013	\$143,522,730	\$132,247,827	\$8,781,030	\$479,816	\$8,857,264	16.92%	7.49%
2013/2014	\$154,313,634	\$144,640,159	\$10,409,529	\$491,959	\$9,213,527	8.75%	10.72%
2014/2015	\$150,255,553	\$153,291,563	\$12,524,827	\$530,248	\$9,232,033	(0.15)%	8.74%
2015/2016	\$160,422,298	\$163,311,844	\$12,735,090	\$526,236	\$9,138,762	9.64%	9.35%
2016/2017	\$177,325,805	\$173,854,154	\$13,120,101	\$475,674	\$9,372,720	13.34%	9.16%
2017/2018	\$191,219,657	\$185,134,138	\$13,567,082	\$539,529	\$10,965,265	9.69%	8.37%

**REVENUES BY SOURCE AND EXPENSES BY TYPE****TABLE VIIa**

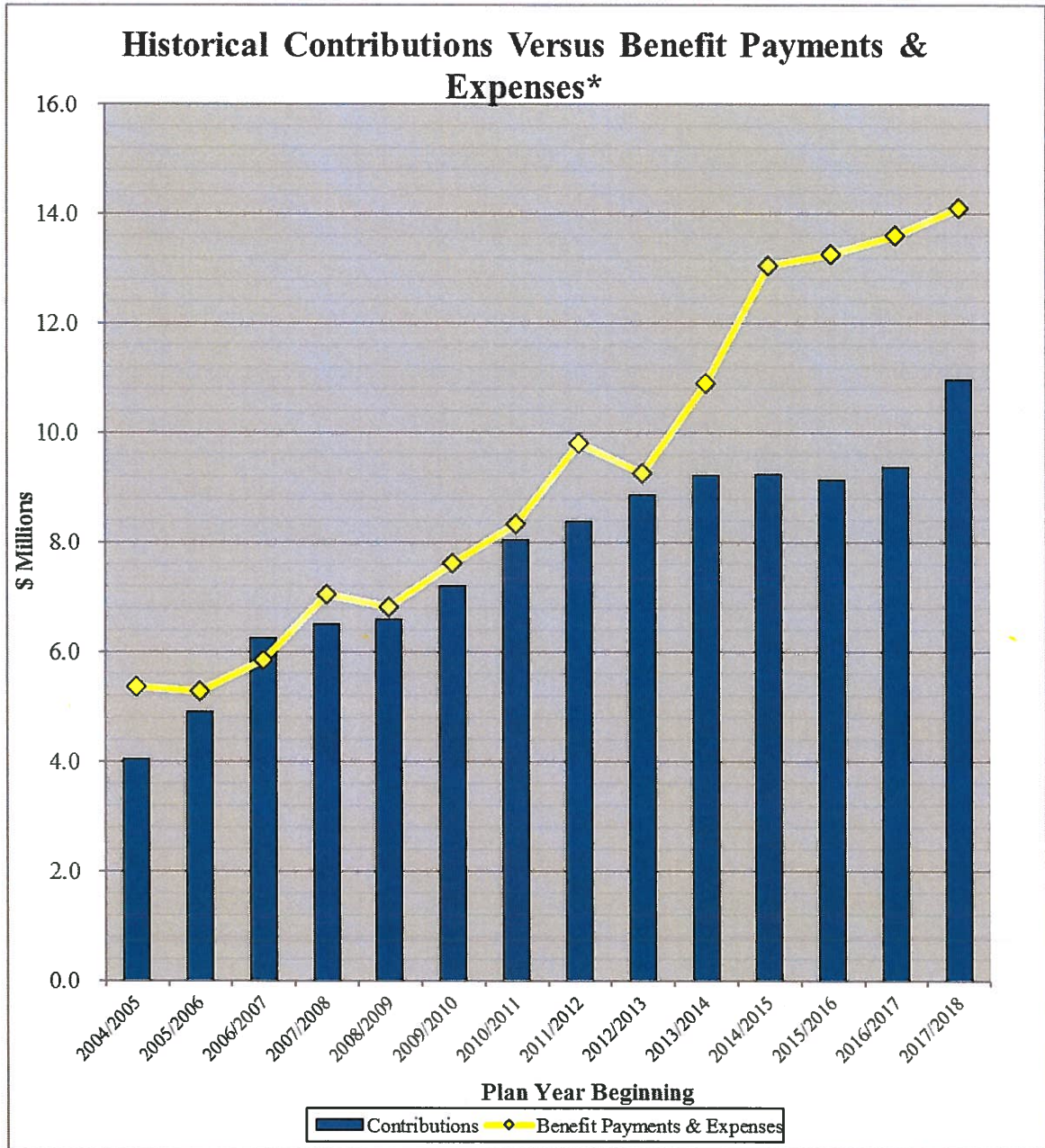
REVENUES					
Fiscal Year	City and County Contributions	Member Contributions	Sub-Total	Net Investment Income	Total
2002/2003	\$1,228,956	\$1,574,291	\$2,803,247	\$10,069,188	\$12,872,435
2003/2004	\$1,849,695	\$1,631,767	\$3,481,462	\$8,021,422	\$11,502,884
2004/2005	\$2,341,224	\$1,698,335	\$4,039,559	\$8,471,063	\$12,510,622
2005/2006	\$3,144,061	\$1,761,103	\$4,905,164	\$9,741,485	\$14,646,649
2006/2007	\$4,064,240	\$2,181,898	\$6,246,138	\$16,548,396	\$22,794,534
2007/2008	\$3,416,488	\$3,089,928	\$6,506,416	(\$19,450,067)	(\$12,943,651)
2008/2009	\$3,706,870	\$2,877,761	\$6,584,631	(\$6,816,124)	(\$231,493)
2009/2010	\$4,338,870	\$2,868,571	\$7,207,441	\$7,405,362	\$14,612,803
2010/2011	\$5,351,521	\$2,680,517	\$8,032,038	\$885,699	\$8,917,737
2011/2012	\$5,801,971	\$2,572,184	\$8,374,155	\$17,873,433	\$26,247,588
2012/2013	\$6,332,731	\$2,524,533	\$8,857,264	\$20,803,387	\$29,660,651
2013/2014	\$6,697,862	\$2,515,665	\$9,213,527	\$12,478,865	\$21,692,392
2014/2015	\$6,669,132	\$2,562,901	\$9,232,033	(\$235,039)	\$8,996,994
2015/2016	\$6,545,407	\$2,593,355	\$9,138,762	\$14,289,309	\$23,428,071
2016/2017	\$6,755,068	\$2,617,652	\$9,372,720	\$21,126,562	\$30,499,282
2017/2018	\$8,301,969	\$2,663,296	\$10,965,265	\$17,035,198	\$28,000,463

EXPENSES				
Fiscal Year	Benefits Paid	Member Refunds	Administrative Expenses*	Total
2002/2003	\$3,365,295	\$191,412	\$282,053	\$3,838,760
2003/2004	\$3,712,048	\$183,012	\$330,446	\$4,225,506
2004/2005	\$4,695,826	\$271,781	\$387,998	\$5,355,605
2005/2006	\$4,641,050	\$221,074	\$425,926	\$5,288,050
2006/2007	\$5,009,768	\$367,129	\$482,702	\$5,859,599
2007/2008	\$6,333,970	\$187,717	\$531,899	\$7,053,586
2008/2009	\$6,010,437	\$299,188	\$517,272	\$6,826,897
2009/2010	\$6,991,324	\$90,299	\$541,663	\$7,623,286
2010/2011	\$7,580,413	\$277,886	\$483,843	\$8,342,142
2011/2012	\$9,122,607	\$205,848	\$490,142	\$9,818,597
2012/2013	\$8,621,962	\$159,068	\$479,816	\$9,260,846
2013/2014	\$10,047,279	\$362,250	\$491,959	\$10,901,488
2014/2015	\$12,286,072	\$238,755	\$530,248	\$13,055,075
2015/2016	\$12,536,330	\$198,760	\$526,236	\$13,261,326
2016/2017	\$12,997,314	\$122,787	\$475,674	\$13,595,775
2017/2018	\$13,342,113	\$224,969	\$539,529	\$14,106,611

* Does not include investment expenses

CONTRIBUTIONS VS. FUND PAYOUTS

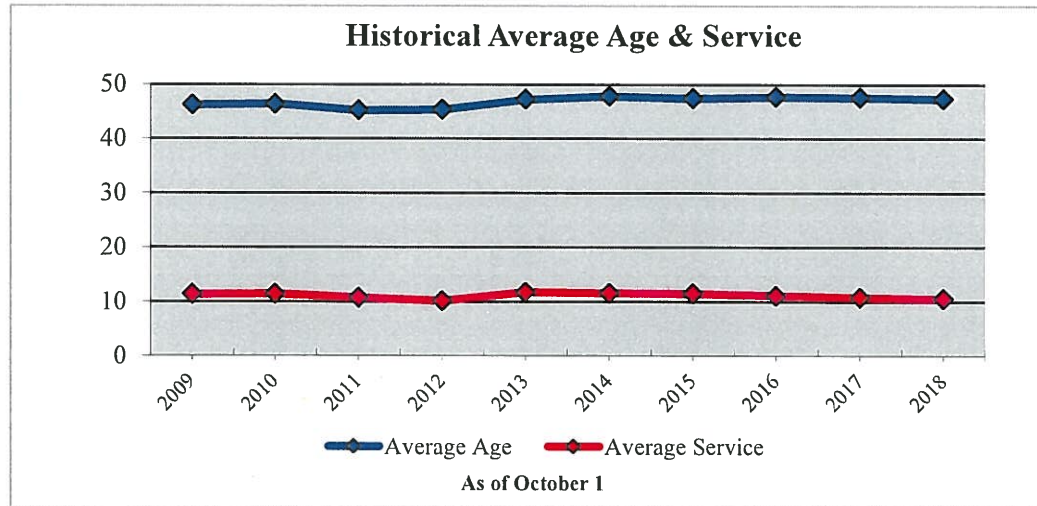
TABLE VIII



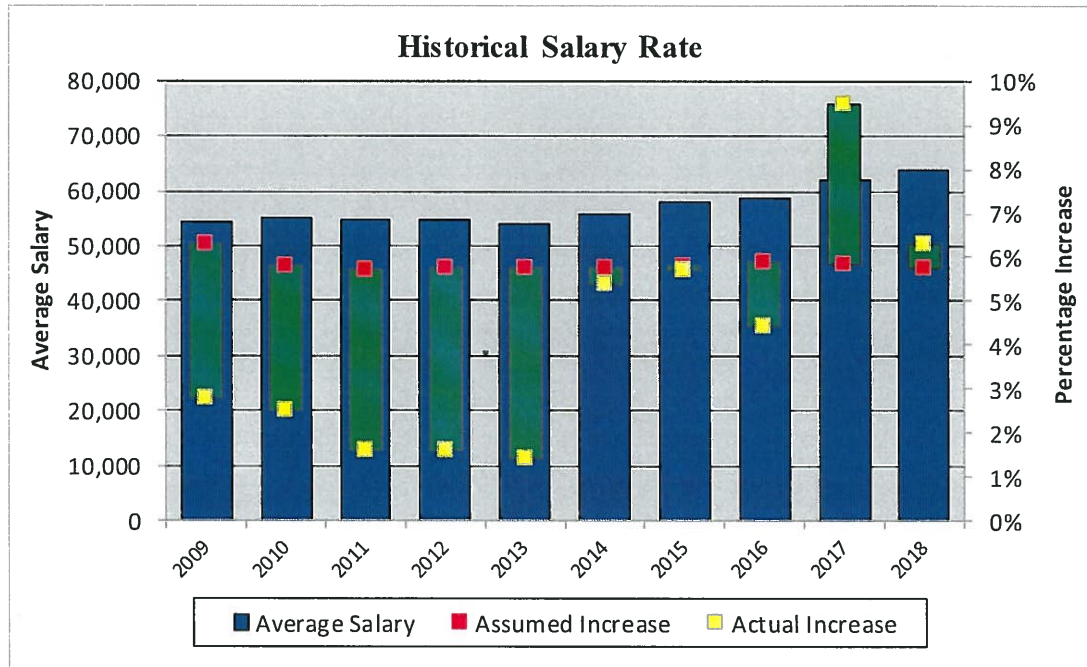
* Please reference Table VIIa on page 21 for the historical benefit payments, expenses, and contributions.

**SUMMARY OF MEMBER DATA****TABLE IX**

	As of October 1, 2017	As of October 1, 2018
1. Active Members		
a. Vested	290	280
b. Non-vested	187	208
c. Sub-total	<u>477</u>	<u>488</u>
2. Non-active, Non-retired Members		
a. Fully or partially vested	27	28
3. Retired Members		
a. Members in DROP	51	51
b. Retirees	313	330
c. Disabled	18	17
d. Beneficiaries	48	43
e. Sub-total	<u>430</u>	<u>441</u>
4. Total Members	<u>934</u>	<u>957</u>



Date	Average Service Earned	Average Attained Age
October 1, 2009	11.3	46.2
October 1, 2010	11.4	46.4
October 1, 2011	10.7	45.2
October 1, 2012	10.1	45.3
October 1, 2013	11.7	47.2
October 1, 2014	11.5	47.8
October 1, 2015	11.4	47.4
October 1, 2016	11.0	47.7
October 1, 2017	10.7	47.6
October 1, 2018	10.5	47.3



Date	Average Salary	Actual Salary Increase	Assumed Salary Increase
October 1, 2009	54,245	2.80%	6.30%
October 1, 2010	54,952	2.50%	5.80%
October 1, 2011	54,777	1.62%	5.72%
October 1, 2012	54,732	1.59%	5.75%
October 1, 2013	54,118	1.44%	5.75%
October 1, 2014	55,659	5.38%	5.75%
October 1, 2015	57,849	5.72%	5.78%
October 1, 2016	58,611	4.45%	5.89%
October 1, 2017	61,859	9.47%	5.82%
October 1, 2018	63,890	6.30%	5.75%

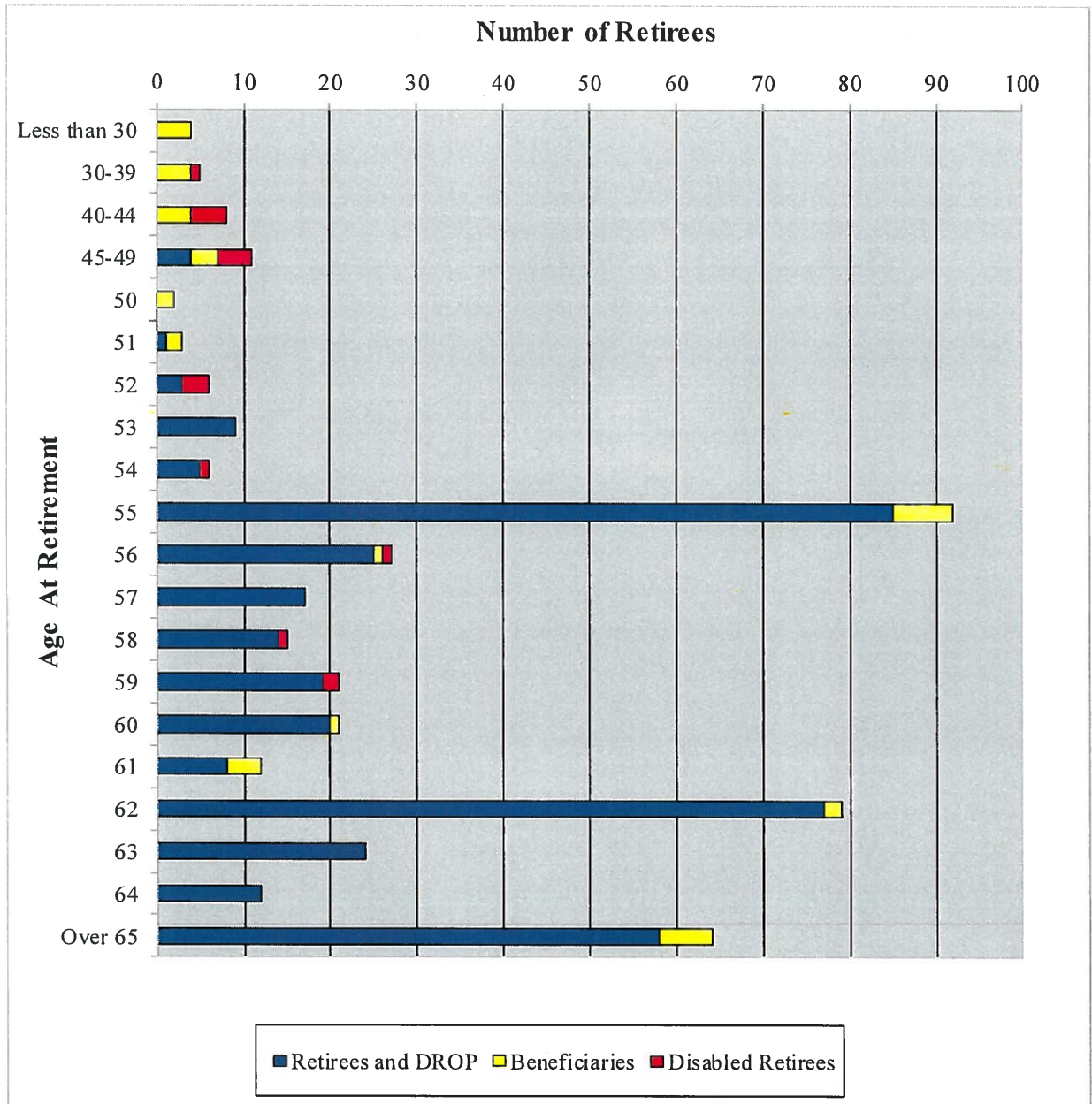
**ACTIVE DATA****TABLE IXa**

The definition of compensation for benefit determination purposes includes base pay and regular longevity wages, and excludes overtime, bonuses and any other non-regular payments. The table on the following page illustrates the ten year pay history for the System which includes all compensation received by the members of the plan. Total compensation has increased by 2.70% per year for the ten year period ending October 1, 2018.

Valuation Date	Total Payroll	Average Annual Increase Ending October 1,
October 1, 2018	\$36,485,736	2.7%
October 1, 2017	33,853,007	2.2%
October 1, 2016	32,096,866	1.7%
October 1, 2015	30,552,268	1.3%
October 1, 2014	29,419,890	0.9%
October 1, 2013	29,406,608	1.0%
October 1, 2012	29,235,231	1.1%
October 1, 2011	28,312,236	0.4%
October 1, 2010	30,401,074	4.3%
October 1, 2009	28,205,419	0.9%
October 1, 2008	27,945,524	

RETIREE DATA

TABLE IXb



Average benefit being paid to non-disabled retirees is \$2,796.0 per month.

Average benefit being paid to disabled retirees is \$2,132.66 per month.

Average benefit being paid to beneficiaries is \$1,437.24 per month.

**DATA RECONCILIATION****TABLE IXc**

	<u>Active</u>	<u>Non-Active, Non-Retired</u>	<u>Retired</u>	<u>Total</u>
1. Number of members as of October 1, 2017	477	27	430	934
2. Change in Status during the plan year:				
a. Actives who became inactive	(3)	3		
b. Actives who retired	(20)		20	
c. Inactives who became active	1	(1)		
d. Inactives who retired		(2)	2	
e. Retirees who became active				
3. No longer members due to:				
a. Death	(1)		(10)	(11)
b. Permanent break-in-service	(15)			(15)
c. Forfeiture of benefits				
d. Expiration of certain period			(4)	(4)
e. Included in error last year				
4. New members due to:				
a. Initial membership	49			49
b. Death of another member			3	3
c. Omitted in error last year				
d. Correction		1*		1*
5. Number of members as of October 1, 2018	488	28	441	957

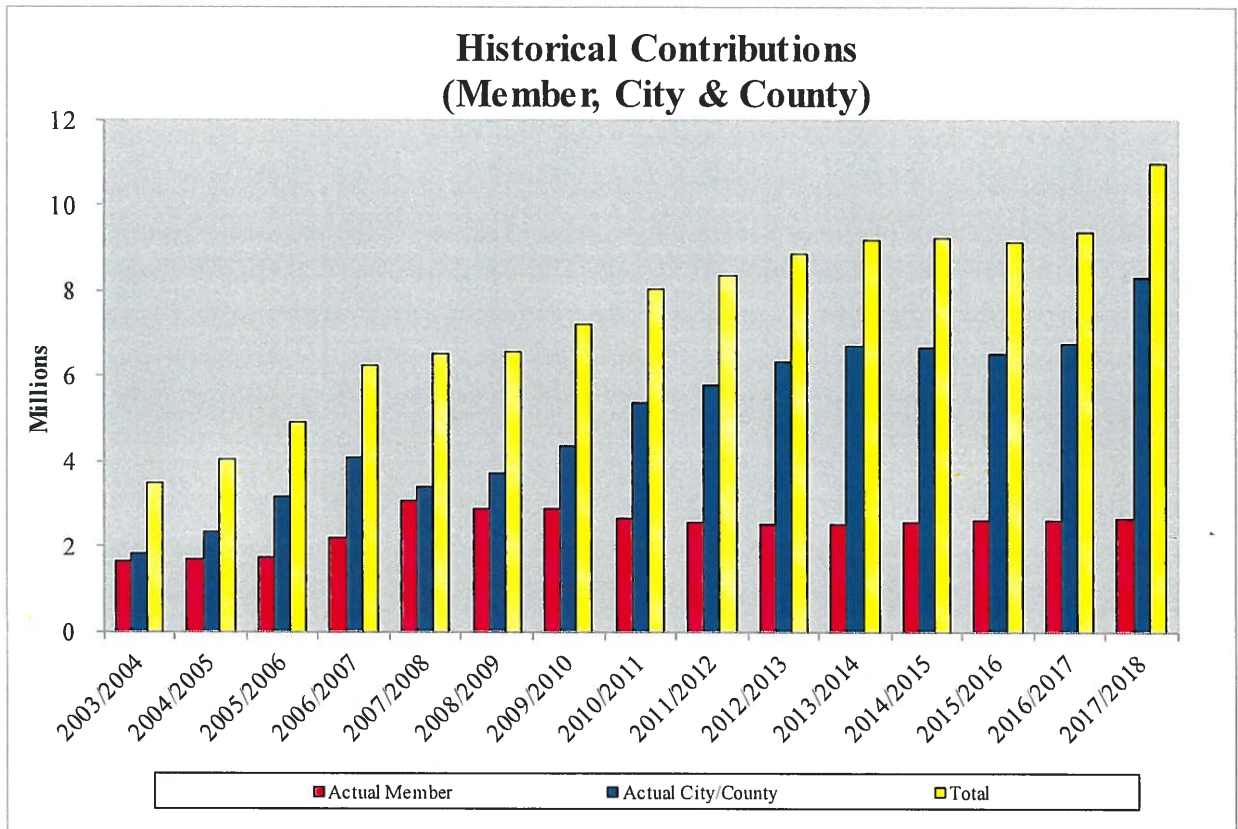
*- Additional records for members who vested benefits under Plan 1 and have returned to service as Plan 2 members. In the previous valuation, each member had only 1 record that reflected all service.



AGE-SERVICE SALARY TABLE

TABLE IXd

Attained Age	Completed Years of Service										Total
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & Up	
Under 25	2	4	0	0	0	0	0	0	0	0	6
Avg. Pay	36,825	37,687	0	0	0	0	0	0	0	0	37,400
25 to 29	9	22	2	0	0	0	0	0	0	0	33
Avg. Pay	40,998	45,487	45,592	0	0	0	0	0	0	0	44,269
30 to 34	2	23	14	4	0	0	0	0	0	0	43
Avg. Pay	36,825	46,774	50,719	52,963	0	0	0	0	0	0	48,171
35 to 39	1	14	5	24	6	0	0	0	0	0	50
Avg. Pay	82,400	52,957	60,255	59,856	67,314	0	0	0	0	0	59,310
40 to 44	0	12	9	17	17	3	1	0	0	0	59
Avg. Pay	0	57,403	70,090	62,274	65,546	68,376	65,866	0	0	0	63,790
45 to 49	3	19	12	14	20	12	4	1	0	0	85
Avg. Pay	38,760	57,779	68,850	64,658	73,665	74,127	84,943	54,407	0	0	67,088
50 to 54	4	16	7	19	11	9	8	8	0	0	82
Avg. Pay	76,614	68,464	59,169	69,293	69,127	72,389	78,423	68,856	0	0	69,790
55 to 59	4	16	10	20	17	5	6	5	0	0	83
Avg. Pay	57,753	56,540	77,111	60,731	70,375	111,444	79,016	102,072	0	0	70,596
60 to 64	2	9	6	6	5	2	1	0	0	0	31
Avg. Pay	82,516	63,073	58,453	58,596	106,630	97,611	56,407	0	0	0	71,605
65 to 79	0	4	2	3	0	1	0	0	0	0	10
Avg. Pay	0	63,925	73,505	76,154	0	61,579	0	0	0	0	69,275
70 & Up	0	1	1	3	1	0	0	0	0	0	6
Avg. Pay	0	247,110	49,249	49,107	51,816	0	0	0	0	0	82,583
Total	27	140	68	110	77	32	20	14	0	0	488
Avg. Pay	52,498	55,899	63,115	62,462	71,860	80,005	78,176	79,687	0	0	63,890

**HISTORICAL CONTRIBUTIONS****TABLE X**

Plan Year	Actual Member	City/County	Total
2003/2004	\$1,631,767	\$1,849,695	\$3,481,462
2004/2005	\$1,698,335	\$2,341,224	\$4,039,559
2005/2006	\$1,761,103	\$3,144,061	\$4,905,164
2006/2007	\$2,181,898	\$4,064,240	\$6,246,138
2007/2008	\$3,089,928	\$3,416,488	\$6,506,416
2008/2009	\$2,877,761	\$3,706,870	\$6,584,631
2009/2010	\$2,868,571	\$4,338,870	\$7,207,441
2010/2011	\$2,680,517	\$5,351,521	\$8,032,038
2011/2012	\$2,572,184	\$5,801,971	\$8,374,155
2012/2013	\$2,524,533	\$6,332,731	\$8,857,264
2013/2014	\$2,515,665	\$6,697,862	\$9,213,527
2014/2015	\$2,562,901	\$6,669,132	\$9,232,033
2015/2016	\$2,593,355	\$6,545,407	\$9,138,762
2016/2017	\$2,617,652	\$6,755,068	\$9,372,720
2017/2018	\$2,663,296	\$8,301,969	\$10,965,265



PLAN ASSUMPTIONS AND METHODS

TABLE XI

1. Actuarial Cost Method

- Entry Age Normal Cost Method. Total normal cost is determined as a level percentage of pay which would be required annually from entry age to retirement age to fund the expected retirement benefits assuming the Plan had always been in effect. The Actuarial Accrued Liability is the amount of the Present Value of Benefits that have been accrued under the Entry Age Normal Method to date.

2. Decrements

- **Pre-Retirement Healthy Mortality**

Female: RP2000 Generational, 100% Combined Healthy White Collar, Scale BB

Male: RP2000 Generational, 50% Combined Healthy White Collar / 50% Combined Healthy Blue Collar, Scale BB

- **Post-Retirement Healthy Mortality**

Female: RP2000 Generational, 100% Annuitant White Collar, Scale BB

Male: RP2000 Generational, 50% Annuitant White Collar / 50% Annuitant Blue Collar, Scale BB

- **Post-Retirement Disabled Mortality**

Female: RP2000, 100% Disabled Female set forward two years, no projection scale

Male: RP2000, 100% Disabled Male setback four years, no projection scale

- **Disability**

Representative values of the assumed annual rates of disability among members in active service are as follows:

Age	Ordinary Disability Rate	Service Disability Rate	Age	Ordinary Disability Rate	Service Disability Rate
20	.000232	.000058	40	.000484	.000121
25	.000232	.000058	45	.000868	.000217
30	.000232	.000058	50	.001716	.000429
35	.000260	.000065	55	.003564	.000891



PLAN ASSUMPTIONS AND METHODS

TABLE XI

- **Retirement**

Representative values of the assumed annual rates of retirement among members in active service are as follows:

Age	Rate
≤54	.0700
55	.5000
56-60	.3000
61-65	.5000
66-69	.3000
≥70	1.000

- **Withdrawal from Active Status**

Representative values of the assumed annual rates of withdrawal among members in active service are as follows:

Age	Years of Service				
	0 – 1	1 – 2	2 – 3	3 – 4	4+
20	.1800	.1200	.1000	.0700	.1071
25	.1800	.1200	.1000	.0700	.0756
30	.1800	.1200	.1000	.0700	.0536
35	.1800	.1200	.1000	.0700	.0416
40	.1800	.1200	.1000	.0700	.0321
45	.1800	.1200	.1000	.0700	.0227
50	.1800	.1200	.1000	.0700	.0132
55	.1800	.1200	.1000	.0700	.0038

3. Interest Rates

- Used for calculating all liabilities

➤ 7.65% per annum



PLAN ASSUMPTIONS AND METHODS

TABLE XI

4. Salary Increase

• Individual Compensation:

Service	Rate
0-10	7.50%
>10	4.25%

• Aggregate Compensation

2.40% per year for unfunded liability bases established prior to October 1, 2017.
0.00% for bases established thereafter.

5. Marriage Assumptions

• Percent Married: 100% of active members assumed married at retirement.

1. **Age Differences between Spouses:** Male spouses are assumed to be three years older than female spouses.

6. Expenses:

Expenses paid out of the fund, other than investment-related expenses, are assumed to be equal to the average of actual expenses over the previous two years.

7. DROP

2. **Entry:** Of those assumed to retire using the Service Retirement rates, the proportion entering DROP is as shown in the following table.

Age at Retirement	Proportion Entering DROP
Under 55	0%
55-62	70%
Over 62	10%

3. **Period:** DROP participants are assumed to remain in the DROP for a total of five years.

8. Assets

The market value of assets is adjusted to recognize, over a five-year period, investment earnings greater (or less than) the assumed investment return. The resulting Actuarial Value of Assets is limited to no more than 120% of the market value of assets and no less than 80% of the market value of assets. Details are shown in the Asset Information Section of the report.



9. Amortization Period

New Unfunded Actuarial Accrued Liability resulting from plan amendments, changes in assumptions or methods, or actuarial gains and loss are amortized over 30 years based on the plan's assumed rate of investment return. Bases established prior to October 1, 2017 are amortized as a level percentage of expected payroll, and bases established thereafter are amortized as a level dollar payment.

10. BSO Required Contribution

The required contribution for the Broward Sheriff's Office (BSO) is determined by multiplying the total required contribution rate as a percentage of payroll by the payroll for BSO employees, projected to the following year.

11. Data Sources

Asset Data:

The asset information is taken from audited statements furnished by the Retirement Office, and adjusted to include DROP Accounts as liabilities of the Plan. The DROP Account balances are added to net asset amount shown in the audited statement. The valuation entry for benefits paid during the last years reflects benefit amounts explicitly paid from the Plan (including the payout of DROP Accounts) and does not reflect those paid into members' DROP accounts.

Member Data:

The member data is supplied by the Retirement Office. It is reviewed for reasonableness and consistency, but no audit was performed. Cavanaugh Macdonald is not aware of any errors or omissions in the data that would have a significant effect on the results of our calculations.



PLAN PROVISIONS

TABLE XII

Effective Date:

Plan 1: December 8, 1972

Plan 2: June 8, 2011

Eligibility:

Regular full-time employment with the City (at least 26 hours per week and 5 months per year), including Elected Officials, Appointees, and Senior Managers.

Earnings:

Basic compensation and regular longevity pay, increased for temporary upgrade pay. Lump sum payment at termination for unused sick leave and vacation time is not included.

Average Monthly Earnings (AME):

Plan 1: Monthly average for the highest completed 78 bi-weekly pay periods during employment times 1.0048.

Plan 2: Monthly average for the highest completed 130 bi-weekly pay periods during employment times 1.0048.

Credited Service:

Total years and completed months of service from the last date of hire to the date of termination, retirement, death, or disability.

Normal Retirement

Eligibility (Normal Retirement Date):

The earlier of attainment of age 55 with 20 years of Continuous Service, or age 62 with 3 years of Credited Service as a "regular employee" with the City.

Benefit:

Plan 1: 2.75% of AME times years of service.

Plan 2: 2.00% of AME times years of service.

Maximum Benefit:

\$90,000 per year (indexed) at age 62, or 100% of AME (such earnings to exclude picked-up employee contributions per Sec. 414(h)(2), deferred compensation per Sec 457, and amounts deferred under Sec 125).



PLAN PROVISIONS

TABLE XII

Normal Form of Benefit:

Life annuity to the member.

COLA:

- Plan 1:** Paid annually, on October 1 for retired members (or their beneficiaries) who have been retired for at least one year. Increase is 2%. An additional 1% will be payable if either there is a net experience gain for the year, or the City cost for the year is zero after payment of the variable COLA.
- Plan 2:** Paid annually, on October 1 for retired members (or their beneficiaries) who have been retired at least five years. No increase is given for eligible retirees under 55 on October 1. A 1% increase is given for eligible retirees between 55 and 64. A 2% increase is given for eligible retirees 65 or older. A “variable” increase (of not more than one percent) will be granted when the plan is sufficiently funded.

Early Retirement

Eligibility:

The attainment of 20 years of Credited Service.

Benefit:

- Plan 1:** 2.75% of AME times years of service.
- Plan 2:** 2.00% of AME times years of service.

Normal Form of Benefit:

Life annuity to the member.

COLA:

- Plan 1:** Paid annually, on October 1 for retired members (or their beneficiaries) who have been retired for at least one year. Increase is 2%. An additional 1% will be payable if either there is a net experience gain for the year, or the City cost for the year is zero after payment of the variable COLA.
- Plan 2:** Paid annually, on October 1 for retired members (or their beneficiaries) who have been retired at least five years. No increase is given for eligible retirees under 55 on October 1. A 1% increase is given for eligible retirees between 55 and 64. A 2% increase is given for eligible retirees 65 or older. A “variable” increase (of not more than one percent) will be granted when the plan is sufficiently funded.



PLAN PROVISIONS

TABLE XII

Delayed Retirement

Benefit:

Plan 1: 2.75% of AME times years of service.

Plan 2: 2.00% of AME times years of service.

Normal Form of Benefit:

Life annuity to the member.

COLA:

Plan 1: Paid annually, on October 1 for retired members (or their beneficiaries) who have been retired for at least one year. Increase is 2%. An additional 1% will be payable if either there is a net experience gain for the year, or the City cost for the year is zero after payment of the variable COLA.

Plan 2: Paid annually, on October 1 for retired members (or their beneficiaries) who have been retired at least five years. No increase is given for eligible retirees under 55 on October 1. A 1% increase is given for eligible retirees between 55 and 64. A 2% increase is given for eligible retirees 65 or older. A "variable" increase (of not more than one percent) will be granted when the plan is sufficiently funded.

Drop Retirement

Eligibility:

The earlier of attainment of age 55 with 20 years of Continuous Service, or age 62 with 3 years of Credited Service as a "regular employee" with the City.

Benefit:

Plan 1: 2.75% of AME times years of service.

Plan 2: 2.00% of AME times years of service.

Normal Form of Benefit:

Life annuity to the member.



PLAN PROVISIONS

TABLE XII

COLA:

Same as Normal Retirement, except that the COLA is first credited and paid on the October 1 the member is eligible to receive a COLA after leaving employment (exits DROP)

DROP Period:

The Member may remain in the DROP for any period up to five years.

Contributions:

Member contributions cease when Member enters DROP.

DROP Interest:

DROP account balances are credited at the beginning of each month with interest at 1/12th of the rate assumed in the actuarial valuation for that year.

Disability Retirement – Service Incurred

Eligibility:

Members are immediately eligible for a Disability Retirement Benefit where the Disability results from an act occurring in the performance of service with the City of Pompano Beach.

Disability Retirement eligibility is forfeited upon entry into the DROP.

Disability Definition:

Total and permanent disablement and unable to earn at least 75% of regular earnings. A member who is eligible for full primary Social Security old age benefits is not eligible.

Benefit:

60% of Earnings.

Normal Form of Benefit:

Life annuity to the member.



COLA:

- Plan 1:** Paid annually, on October 1 for retired members (or their beneficiaries) who have been retired for at least one year. Increase is 2%. An additional 1% will be payable if either there is a net experience gain for the year, or the City cost for the year is zero after payment of the variable COLA.
- Plan 2:** Paid annually, on October 1 for retired members (or their beneficiaries) who have been retired at least five years. No increase is given for eligible retirees under 55 on October 1. A 1% increase is given for eligible retirees between 55 and 64. A 2% increase is given for eligible retirees 65 or older. A “variable” increase (of not more than one percent) will be granted when the plan is sufficiently funded.

Disability Retirement – Non-Service Incurred

Eligibility:

Total and permanent disablement, 7 years of service, and unable to be gainfully employed. A member who is eligible for full primary Social Security old age benefits is not eligible.

Disability Retirement eligibility is forfeited upon entry into the DROP.

Benefit:

Accrued pension, subject to a minimum of 25% of Earnings.

COLA:

- Plan 1:** Paid annually, on October 1 for retired members (or their beneficiaries) who have been retired for at least one year. Increase is 2%. An additional 1% will be payable if either there is a net experience gain for the year, or the City cost for the year is zero after payment of the variable COLA.
- Plan 2:** Paid annually, on October 1 for retired members (or their beneficiaries) who have been retired at least five years. No increase is given for eligible retirees under 55 on October 1. A 1% increase is given for eligible retirees between 55 and 64. A 2% increase is given for eligible retirees 65 or older. A “variable” increase (of not more than one percent) will be granted when the plan is sufficiently funded.

**Pre-Retirement Death Benefit – Basic****Benefit:**

1 times annual earnings (payable in monthly installments over four years) plus a refund of contributions with interest. Alternatively, for members eligible for Early or Normal Retirement, or who have a vested benefit whether still actively employed by the City or not, the pension is payable to the beneficiary for 10 years as though retirement occurred on the date of death under Option 2, Ten Year Certain and Life (no reduction for early retirement if death occurs prior to normal retirement).

COLA:

Plan 1: Paid annually, on October 1 for retired members (or their beneficiaries) who have been retired for at least one year. Increase is 2%. An additional 1% will be payable if either there is a net experience gain for the year, or the City cost for the year is zero after payment of the variable COLA.

Plan 2: Paid annually, on October 1 for retired members (or their beneficiaries) who have been retired at least five years. No increase is given for eligible retirees under 55 on October 1. A 1% increase is given for eligible retirees between 55 and 64. A 2% increase is given for eligible retirees 65 or older. A “variable” increase (of not more than one percent) will be granted when the plan is sufficiently funded.

Withdrawal – Non Vested**Eligibility:**

First day of work, up to the earlier of 7 years of City service or 5 years of Senior Management Service for regular employees only.

Benefit:

Accumulated contributions with 3% interest.

Form of Benefit:

Lump sum.



PLAN PROVISIONS

TABLE XII

Withdrawal – Vested

Eligibility:

Regular employees – at least 7 years of service.

Senior Managers – earlier of 7 years of City service and 5 years of Senior Management Service.

Elected Officials and Appointees – at least 5 years of service.

Benefit:

A vested benefit deferred to regular normal retirement date. Alternatively, a regular employee or Senior Management participant may withdraw the accumulated contributions and forfeit the deferred vested benefit.

Member Contributions

Contributions:

Elected Officials and Appointees

No member contributions. However, the City will make contributions at the same rate that applies to Regular Employees on behalf of these participants. These contributions are not eligible for refund upon termination.

Regular Employees and Senior Managers

Plan 1: 10.0% of earnings.

Plan 2: 7.0% of earnings.

Interest Crediting Rate:

3% per year.

Optional Forms of Payment

Option 1:

Joint and last survivor option.

Option 2:

Ten-Year Certain and Life option.



Additional Provisions

Reentry Provision:

Credit for prior service is granted in full upon repayment of all monies refunded to the member with interest at the assumed interest rate for actuarial purposes.

Second Retirement Provision:

Members may retire and return to work as a regular employee. Prior pension payments are continued during the period of reemployment. A second benefit is earned based solely on the second period of employment, provided the employee worked at least three years during the second period of employment.



PLAN AMENDMENTS

TABLE XIIa

The following Plan Amendments have been adopted within the past few years. Amendment changes that have first been reflected in this valuation are shown in bold print:

1. Effective June 8, 2011

- a) For members hired on or after June 8, 2011, average monthly earnings is the average of the highest 130 bi-weekly pay periods times 1.0048.
- b) For members hired on or after June 8, 2011, the monthly retirement benefit is 2.0% times average monthly earnings.
- c) For members hired on or after June 8, 2011, the contribution rate is 7.0% of earnings.
- d) For members hired on or after June 8, 2011, a member is eligible for a COLA on their fifth anniversary of retirement. No increase is given for eligible retirees under 55 on October 1. A 1% increase is given for eligible retirees between 55 and 64. A 2% increase is given for eligible retirees 65 or older. A “variable” increase (of not more than one percent) will be granted when the plan is sufficiently funded.

2. Effective January 13, 2015

- a. Members are 100% vested upon completion of 7 years of continuous service with the City.