

# CITY PENSION FUND FOR FIREFIGHTERS AND POLICE OFFICERS IN THE CITY OF MIAMI BEACH

## CHAPTER 112.664, F.S. COMPLIANCE REPORT

In Connection with the October 1, 2017 Funding Actuarial Valuation Report and the Fund's Financial Reporting for the Year Ended September 30, 2017





May 21, 2018

Ms. Donna Brito  
Executive Director  
City Pension Fund for Firefighters and Police Officers  
in the City of Miami Beach  
1691 Michigan Avenue, Suite 355  
Miami Beach, Florida 33139

**Re: October 1, 2017 Chapter 112.664 Compliance Report**

Dear Donna:

Gabriel, Roeder, Smith & Company (GRS) has been engaged by the Board of Trustees (Board) of the City Pension Fund for Firefighters and Police Officers in the City of Miami Beach (Fund) to prepare a disclosure report to satisfy the requirements set forth in Chapter 112.664, F.S. and as further required pursuant to Chapter 60T-1.0035, F.A.C.

This report was prepared at the request of the Board and is intended for use by the Board and those designated or approved by the Board. This report may be provided to parties other than the Board only in its entirety and only with the permission of the Board.

The purpose of the report is to provide the required information specified in Chapter 112.664, F.S. and to supplement this information with additional exhibits. This report should not be relied on for any purpose other than the purpose described above.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: Fund 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 Fund's funded status); and changes in Fund provisions or applicable law. The scope of this engagement does not include an analysis of the potential range of such measurements.

This report was based upon information furnished by the City and the Board concerning Fund benefits, Fund provisions and Fund members as used in the corresponding Actuarial Valuation Reports for the Valuation Dates indicated. Financial information was provided by the City and Board as of September 30, 2017. We reviewed the information provided for internal and year-to-year consistency, but did not audit the data. The Board is responsible for the accuracy of the data.

Except where specific assumptions are required by Chapter 112.664, F.S, this report was prepared using actuarial assumptions adopted by the Board as described in Section C. The Board's demographic assumptions are based on the results of an actuarial experience study for the period October 1, 2009 through September 30, 2014. The Board's investment return assumption is based upon input from the Investment Consultant and based upon a Capital Market Assumption Study completed in 2014. The mortality assumptions are prescribed by statute. The Board's assumptions represent an estimate of future Fund experience.

The investment return assumption of 2% higher than the investment return assumption utilized in the Actuarial Valuation Report does not represent an estimate of future Fund experience nor observation of the estimates inherent in market data. This assumption is provided as a counterpart to the Chapter 112.664, F.S. requirement to utilize an investment return assumption of 2% lower than the investment return assumption utilized in the Actuarial Valuation Report. The inclusion of the additional 2% higher assumption shows a more complete assessment of the range of potential results as opposed to the *one-sided* range required by statute.

If all actuarial assumptions are met and if all current and future minimum required contributions are paid Fund assets will be sufficient to pay all Fund benefits, future contributions are expected to remain relatively stable as a percent of payroll and the funded status is expect to improve. Fund minimum required contributions are determined in compliance with the requirements of the Florida Protection of Public Employee Retirement Benefits Act and for Fire and Police Retirement Chapters 175 and 185 with normal cost determined as a level percent of covered payroll and a level percent of pay amortization payment using a maximum amortization period of 30 years.

The Fund's funded ratio as of October 1, 2017 is 73.2% defined as the ratio of the market value of Fund assets to the actuarial accrued liability.

The Fund's funded ratio and the GASB Net Pension Liability may not be appropriate for assessing the sufficiency of Fund assets to meet the estimated cost of settling benefit obligations but may be appropriate for assessing the need for or the amount of future contributions.

The undersigned are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. The signing actuaries are independent of the Fund sponsor.

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 presents the actuarial position of the Fund as of the valuation date as required by statute. 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.

With respect to the reporting standards for defined benefit retirement plans or systems contained in Section 112.664(1), F.S., the actuarial disclosures required under this section were 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, and in my opinion, meet the requirements of Section 112.664(1), F.S., and Section 60T-1.0035, F.A.C.

Respectfully submitted,

GABRIEL, ROEDER, SMITH AND COMPANY

By *L. F. Wilson*  
Lawrence F. Wilson, M.A.A.A  
Enrolled Actuary No. 17-02802  
Senior Consultant & Actuary

By *Jennifer Borregard*  
Jennifer M. Borregard, M.A.A.A  
Enrolled Actuary No. 17-07624  
Consultant & Actuary

Date: May 21, 2018

## TABLE OF CONTENTS

<u>Section</u>	<u>Title</u>	<u>Page</u>
A	Chapter 112.664, F.S. Results	
	Net Pension Liability	
	1. Using financial reporting assumptions per GASB Statement No. 67 and No. 68	1
	2. Using assumptions required under Section 112.664(1)(a), F.S.	2
	3. Using assumptions required under Section 112.664(1)(b), F.S.	3
	4. Using assumptions required under Section 112.664(1)(a), F.S. plus 2%	4
	Asset and Benefit Payments Projection	
	1. Using financial reporting assumptions per GASB Statement No. 67 and No. 68 and using assumptions required under Section 112.664(1)(a), F.S.	5
	2. Using assumptions required under Section 112.664(1)(b), F.S.	6
	3. Using assumptions required under Section 112.664(1)(a), F.S. plus 2%	7
	Actuarially Determined Contribution	8
	Unfunded Actuarial Accrued Liabilities Bases and Amortization Payments	9
B	Summary of Fund Provisions	10
C	Actuarial Assumptions and Cost Methods Used for Funding	17
D	Glossary	27

## **SECTION A**

---

### **CHAPTER 112.664, F.S. RESULTS**

**Net Pension Liability**

**Using Financial Reporting Assumptions per GASB Statements No. 67 and No. 68**

Measurement Date	<u>September 30, 2017</u>
<b>A. <u>Total Pension Liability (TPL)</u></b>	
Service Cost	\$ 17,530,982
Interest	87,422,136
Benefit Changes	(9,688,441)
Difference Between Actual and Expected Experience	141,740
Assumption Changes	34,969,254
Benefit Payments	(58,509,958)
Contribution Refunds	(64,979)
Other	0
<b>Net Change in Total Pension Liability</b>	<b>\$ 71,800,734</b>
<b>Total Pension Liability (TPL) - (beginning of year)</b>	<b>1,104,054,031</b>
<b>Total Pension Liability (TPL) - (end of year)</b>	<b><u>\$ 1,175,854,765</u></b>
<b>B. <u>Fund Fiduciary Net Position</u></b>	
Contributions - City	\$ 35,247,317
Contributions - State	120,549
Contributions - Member	6,198,244
Net Investment Income	85,791,174
Benefit Payments	(58,509,958)
Contribution Refunds	(64,979)
Administrative Expenses	(769,079)
Other	0
<b>Net Change in Fund Fiduciary Net Position</b>	<b>\$ 68,013,268</b>
<b>Fund Fiduciary Net Position - (beginning of year)</b>	<b>806,424,132</b>
<b>Fund Fiduciary Net Position - (end of year)</b>	<b><u>\$ 874,437,400</u></b>
<b>C. <u>Net Pension Liability (NPL) - (end of year): (A) - (B)</u></b>	<b>\$ 301,417,365</b>

Valuation Date October 1, 2016

**Certain Key Assumptions**

Investment Return Assumption 7.85%

**Mortality Table:**

For healthy participants during employment, RP 2000 Combined Healthy Participant Mortality Tables, separate rates for males and females, with 90% Blue Collar Adjustment / 10% White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For healthy participants post employment, RP 2000 Annuitant Mortality Tables, separate rates for males and females, with 90% Blue Collar Adjustment / 10% White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For disabled male participants, 60% RP 2000 Disabled Male Mortality Table setback four years / 40% RP 2000 Annuitant Male Mortality Table with White Collar Adjustment with no setback, without projected mortality improvements. For disabled female participants, 60% RP 2000 Disabled Female Mortality Table set forward two years / 40% RP 2000 Annuitant Female Mortality Table with White Collar Adjustment with no setback, without projected mortality improvements.

**Net Pension Liability**  
**Using Assumptions Required Under 112.664(1)(a), F.S.**

Measurement Date	<u>September 30, 2017</u>
<b>A. <u>Total Pension Liability (TPL)</u></b>	
Service Cost	\$ 17,530,982
Interest	87,422,136
Benefit Changes	(10,051,395)
Difference Between Actual and Expected Experience	(5,216,899)
Assumption Changes	4,473,820
Benefit Payments	(58,509,958)
Contribution Refunds	(64,979)
Other	0
<b>Net Change in Total Pension Liability</b>	<b>\$ 35,583,707</b>
<b>Total Pension Liability (TPL) - (beginning of year)</b>	<b><u>1,140,271,058</u></b>
<b>Total Pension Liability (TPL) - (end of year)</b>	<b><u>\$ 1,175,854,765</u></b>
<b>B. <u>Fund Fiduciary Net Position</u></b>	
Contributions - City	\$ 35,247,317
Contributions - State	120,549
Contributions - Member	6,198,244
Net Investment Income	85,791,174
Benefit Payments	(58,509,958)
Contribution Refunds	(64,979)
Administrative Expenses	(769,079)
Other	0
<b>Net Change in Fund Fiduciary Net Position</b>	<b>\$ 68,013,268</b>
<b>Fund Fiduciary Net Position - (beginning of year)</b>	<b><u>806,424,132</u></b>
<b>Fund Fiduciary Net Position - (end of year)</b>	<b><u>\$ 874,437,400</u></b>
<b>C. <u>Net Pension Liability (NPL) - (end of year): (A) - (B)</u></b>	<b>\$ 301,417,365</b>

Valuation Date October 1, 2016

**Certain Key Assumptions**

Investment Return Assumption 7.85%

**Mortality Table:**

For healthy participants during employment, RP 2000 Combined Healthy Participant Mortality Tables, separate rates for males and females, with 90% Blue Collar Adjustment / 10% White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For healthy participants post employment, RP 2000 Annuitant Mortality Tables, separate rates for males and females, with 90% Blue Collar Adjustment / 10% White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For disabled male participants, 60% RP 2000 Disabled Male Mortality Table setback four years / 40% RP 2000 Annuitant Male Mortality Table with White Collar Adjustment with no setback, without projected mortality improvements. For disabled female participants, 60% RP 2000 Disabled Female Mortality Table set forward two years / 40% RP 2000 Annuitant Female Mortality Table with White Collar Adjustment with no setback, without projected mortality improvements.



**Net Pension Liability**  
Using Assumptions Required Under 112.664(1)(b), F.S.

Measurement Date	<u>September 30, 2017</u>
<b>A. <u>Total Pension Liability (TPL)</u></b>	
Service Cost	\$ 28,456,647
Interest	85,590,583
Benefit Changes	(14,942,054)
Difference Between Actual and Expected Experience	(7,248,937)
Assumption Changes	14,951,162
Benefit Payments	(58,509,958)
Contribution Refunds	(64,979)
Other	0
<b>Net Change in Total Pension Liability</b>	<b>\$ 48,232,464</b>
<b>Total Pension Liability (TPL) - (beginning of year)</b>	<b><u>1,468,766,466</u></b>
<b>Total Pension Liability (TPL) - (end of year)</b>	<b><u>\$ 1,516,998,930</u></b>
 <b>B. <u>Fund Fiduciary Net Position</u></b>	
Contributions - City	\$ 35,247,317
Contributions - State	120,549
Contributions - Member	6,198,244
Net Investment Income	85,791,174
Benefit Payments	(58,509,958)
Contribution Refunds	(64,979)
Administrative Expenses	(769,079)
Other	0
<b>Net Change in Fund Fiduciary Net Position</b>	<b>\$ 68,013,268</b>
<b>Fund Fiduciary Net Position - (beginning of year)</b>	<b><u>806,424,132</u></b>
<b>Fund Fiduciary Net Position - (end of year)</b>	<b><u>\$ 874,437,400</u></b>
 <b>C. <u>Net Pension Liability (NPL) - (end of year): (A) - (B)</u></b>	
	<b>\$ 642,561,530</b>

Valuation Date October 1, 2016

**Certain Key Assumptions**

Investment Return Assumption 5.85%

**Mortality Table:**

For healthy participants during employment, RP 2000 Combined Healthy Participant Mortality Tables, separate rates for males and females, with 90% Blue Collar Adjustment / 10% White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For healthy participants post employment, RP 2000 Annuitant Mortality Tables, separate rates for males and females, with 90% Blue Collar Adjustment / 10% White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For disabled male participants, 60% RP 2000 Disabled Male Mortality Table setback four years / 40% RP 2000 Annuitant Male Mortality Table with White Collar Adjustment with no setback, without projected mortality improvements. For disabled female participants, 60% RP 2000 Disabled Female Mortality Table set forward two years / 40% RP 2000 Annuitant Female Mortality Table with White Collar Adjustment with no setback, without projected mortality improvements.

**Net Pension Liability**

**Using Assumptions Required Under 112.664(1)(a), F.S. Plus 2% on Investment Return Assumption**

Measurement Date	<u>September 30, 2017</u>
<b>A. <u>Total Pension Liability (TPL)</u></b>	
Service Cost	\$ 11,348,808
Interest	87,082,274
Benefit Changes	(7,054,888)
Difference Between Actual and Expected Experience	(3,869,401)
Assumption Changes	177,354
Benefit Payments	(58,509,958)
Contribution Refunds	(64,979)
Other	0
<b>Net Change in Total Pension Liability</b>	<b>\$ 29,109,210</b>
<b>Total Pension Liability (TPL) - (beginning of year)</b>	<b>920,664,632</b>
<b>Total Pension Liability (TPL) - (end of year)</b>	<b><u>\$ 949,773,842</u></b>
<b>B. <u>Fund Fiduciary Net Position</u></b>	
Contributions - City	\$ 35,247,317
Contributions - State	120,549
Contributions - Member	6,198,244
Net Investment Income	85,791,174
Benefit Payments	(58,509,958)
Contribution Refunds	(64,979)
Administrative Expenses	(769,079)
Other	0
<b>Net Change in Fund Fiduciary Net Position</b>	<b>\$ 68,013,268</b>
<b>Fund Fiduciary Net Position - (beginning of year)</b>	<b>806,424,132</b>
<b>Fund Fiduciary Net Position - (end of year)</b>	<b><u>\$ 874,437,400</u></b>
<b>C. <u>Net Pension Liability (NPL) - (end of year): (A) - (B)</u></b>	<b>\$ 75,336,442</b>

Valuation Date October 1, 2016

**Certain Key Assumptions**

Investment Return Assumption 9.85%

**Mortality Table:**

For healthy participants during employment, RP 2000 Combined Healthy Participant Mortality Tables, separate rates for males and females, with 90% Blue Collar Adjustment / 10% White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For healthy participants post employment, RP 2000 Annuitant Mortality Tables, separate rates for males and females, with 90% Blue Collar Adjustment / 10% White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For disabled male participants, 60% RP 2000 Disabled Male Mortality Table setback four years / 40% RP 2000 Annuitant Male Mortality Table with White Collar Adjustment with no setback, without projected mortality improvements. For disabled female participants, 60% RP 2000 Disabled Female Mortality Table set forward two years / 40% RP 2000 Annuitant Female Mortality Table with White Collar Adjustment with no setback, without projected mortality improvements.

**Asset and Benefit Payment Projection**  
**Not Reflecting Any Future Contributions**  
Using Financial Reporting Assumptions per GASB Statements No. 67 and No. 68  
and Using Assumptions Required Under 112.664(1)(a), F.S.

FYE	Market Value of Assets (BOY)	Expected Investment Return	Projected Benefit Payments	Market Value of Assets (EOY)
2018	\$ 846,705,045	\$ 63,196,334	\$ 68,158,589	\$ 841,742,790
2019	841,742,790	62,734,670	69,944,942	834,532,518
2020	834,532,518	62,078,660	72,186,260	824,424,918
2021	824,424,918	61,193,322	74,507,466	811,110,774
2022	811,110,774	60,055,588	76,883,372	794,282,990
2023	794,282,990	58,654,517	79,002,458	773,935,049
2024	773,935,049	56,976,224	81,184,981	749,726,292
2025	749,726,292	55,002,478	83,231,242	721,497,528
2026	721,497,528	52,713,080	85,327,602	688,883,006
2027	688,883,006	50,088,843	87,250,351	651,721,498
2028	651,721,498	47,115,443	89,041,366	609,795,575
2029	609,795,575	43,770,273	90,835,880	562,729,968
2030	562,729,968	40,022,287	92,676,374	510,075,881
2031	510,075,881	35,847,334	94,302,950	451,620,265
2032	451,620,265	31,226,721	95,765,279	387,081,707
2033	387,081,707	26,134,918	97,149,109	316,067,516
2034	316,067,516	20,547,539	98,304,883	238,310,172
2035	238,310,172	14,439,476	99,334,217	153,415,431
2036	153,415,431	7,783,442	100,154,134	61,044,739
2037	61,044,739	1,240,627	100,661,762	-
2038	-	-	101,169,546	-
2039	-	-	101,501,080	-
2040	-	-	101,653,634	-
2041	-	-	101,610,088	-
2042	-	-	101,399,873	-
2043	-	-	101,018,971	-
2044	-	-	100,471,184	-
2045	-	-	99,753,125	-
2046	-	-	98,856,435	-
2047	-	-	97,740,484	-
2048	-	-	96,467,739	-
2049	-	-	94,998,726	-

Number of years for which current market value of assets are adequate to sustain the payment of expected retirement benefits reflecting no contributions from the City, Members or State: 19.58

**Certain Key Assumptions**

Investment return assumption 7.80%

**Mortality Table:**

For healthy participants during employment, RP 2000 Combined Healthy Participant Mortality Tables, separate rates for males and females, with 90% Blue Collar Adjustment / 10% White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For healthy participants post employment, RP 2000 Annuitant Mortality Tables, separate rates for males and females, with 90% Blue Collar Adjustment / 10% White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For disabled male participants, 60% RP 2000 Disabled Male Mortality Table setback four years / 40% RP 2000 Annuitant Male Mortality Table with White Collar Adjustment with no setback, without projected mortality improvements. For disabled female participants, 60% RP 2000 Disabled Female Mortality Table set forward two years / 40% RP 2000 Annuitant Female Mortality Table with White Collar Adjustment with no setback, without projected mortality improvements.

**Note:** As required in Section 112.664(c) of the Florida Statutes, the projection of Fund assets does not include future contributions from the City, Members or State. For this reason, this projection should not be viewed as representative of the amount of time the Fund can sustain benefit payments. Under the Government Accounting Standards Board standards which include City, Member and State contributions, the Fund is expected to be able to pay all future benefit payments.

**Asset and Benefit Payment Projection**  
**Not Reflecting Any Future Contributions**  
Using Assumptions Required Under 112.664(1)(b), F.S.

FYE	Market Value of Assets (BOY)	Expected Investment Return	Projected Benefit Payments	Market Value of Assets (EOY)
2018	\$ 846,705,045	\$ 46,986,021	\$ 68,158,589	\$ 825,532,477
2019	825,532,477	45,702,374	69,944,942	801,289,909
2020	801,289,909	44,226,497	72,186,260	773,330,146
2021	773,330,146	42,532,534	74,507,466	741,355,214
2022	741,355,214	40,603,988	76,883,372	705,075,830
2023	705,075,830	38,433,782	79,002,458	664,507,154
2024	664,507,154	36,012,822	81,184,981	619,334,995
2025	619,334,995	33,329,104	83,231,242	569,432,857
2026	569,432,857	30,369,486	85,327,602	514,474,741
2027	514,474,741	27,122,030	87,250,351	454,346,420
2028	454,346,420	23,578,804	89,041,366	388,883,858
2029	388,883,858	19,726,083	90,835,880	317,774,061
2030	317,774,061	15,544,391	92,676,374	240,642,078
2031	240,642,078	11,020,074	94,302,950	157,359,202
2032	157,359,202	6,144,122	95,765,279	67,738,045
2033	67,738,045	1,206,781	97,149,109	-
2034	-	-	98,304,883	-
2035	-	-	99,334,217	-
2036	-	-	100,154,134	-
2037	-	-	100,661,762	-
2038	-	-	101,169,546	-
2039	-	-	101,501,080	-
2040	-	-	101,653,634	-
2041	-	-	101,610,088	-
2042	-	-	101,399,873	-
2043	-	-	101,018,971	-
2044	-	-	100,471,184	-
2045	-	-	99,753,125	-
2046	-	-	98,856,435	-
2047	-	-	97,740,484	-
2048	-	-	96,467,739	-
2049	-	-	94,998,726	-

Number of years for which current market value of assets are adequate to sustain the payment of expected retirement benefits reflecting no contributions from the City, Members or State: 15.67

**Certain Key Assumptions**

Investment return assumption 5.80%

**Mortality Table:**

For healthy participants during employment, RP 2000 Combined Healthy Participant Mortality Tables, separate rates for males and females, with 90% Blue Collar Adjustment / 10% White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For healthy participants post employment, RP 2000 Annuitant Mortality Tables, separate rates for males and females, with 90% Blue Collar Adjustment / 10% White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For disabled male participants, 60% RP 2000 Disabled Male Mortality Table setback four years / 40% RP 2000 Annuitant Male Mortality Table with White Collar Adjustment with no setback, without projected mortality improvements. For disabled female participants, 60% RP 2000 Disabled Female Mortality Table set forward two years / 40% RP 2000 Annuitant Female Mortality Table with White Collar Adjustment with no setback, without projected mortality improvements.

**Note: As required in Section 112.664(c) of the Florida Statutes, the projection of Fund assets does not include future contributions from the City, Members or State. For this reason, this projection should not be viewed as representative of the amount of time the Fund can sustain benefit payments. Under the Government Accounting Standards Board standards which include City, Member and State contributions, the Fund is expected to be able to pay all future benefit payments.**

**Asset and Benefit Payment Projection**  
**Not Reflecting Any Future Contributions**  
Using Assumptions Required Under 112.664(1)(a), F.S. Plus 2% on Investment Return Assumption

FYE	Market Value of Assets (BOY)	Expected Investment Return	Projected Benefit Payments	Market Value of Assets (EOY)
2018	\$ 846,705,045	\$ 79,410,680	\$ 68,158,589	\$ 857,957,136
2019	857,957,136	80,419,913	69,944,942	868,432,107
2020	868,432,107	81,329,183	72,186,260	877,575,030
2021	877,575,030	82,103,732	74,507,466	885,171,296
2022	885,171,296	82,723,846	76,883,372	891,011,770
2023	891,011,770	83,185,331	79,002,458	895,194,643
2024	895,194,643	83,481,051	81,184,981	897,490,713
2025	897,490,713	83,598,995	83,231,242	897,858,466
2026	897,858,466	83,525,342	85,327,602	896,056,206
2027	896,056,206	83,248,112	87,250,351	892,053,967
2028	892,053,967	82,762,178	89,041,366	885,774,779
2029	885,774,779	82,052,919	90,835,880	876,991,818
2030	876,991,818	81,095,884	92,676,374	865,411,328
2031	865,411,328	79,875,885	94,302,950	850,984,263
2032	850,984,263	78,385,516	95,765,279	833,604,500
2033	833,604,500	76,609,890	97,149,109	813,065,281
2034	813,065,281	74,536,571	98,304,883	789,296,969
2035	789,296,969	72,153,416	99,334,217	762,116,168
2036	762,116,168	69,446,795	100,154,134	731,408,829
2037	731,408,829	66,410,914	100,661,762	697,157,981
2038	697,157,981	63,027,761	101,169,546	659,016,196
2039	659,016,196	59,272,519	101,501,080	616,787,635
2040	616,787,635	55,126,137	101,653,634	570,260,138
2041	570,260,138	50,568,721	101,610,088	519,218,771
2042	519,218,771	45,577,667	101,399,873	463,396,565
2043	463,396,565	40,127,021	101,018,971	402,504,615
2044	402,504,615	34,188,273	100,471,184	336,221,704
2045	336,221,704	27,730,121	99,753,125	264,198,700
2046	264,198,700	20,718,786	98,856,435	186,061,051
2047	186,061,051	13,119,689	97,740,484	101,440,256
2048	101,440,256	4,893,447	96,467,739	9,865,964
2049	9,865,964	15,247	94,998,726	-

Number of years for which current market value of assets are adequate to sustain the payment of expected retirement benefits reflecting no contributions from the City, Members or State: 31.08

**Certain Key Assumptions**

Investment return assumption 9.80%

**Mortality Table:**

For healthy participants during employment, RP 2000 Combined Healthy Participant Mortality Tables, separate rates for males and females, with 90% Blue Collar Adjustment / 10% White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For healthy participants post employment, RP 2000 Annuitant Mortality Tables, separate rates for males and females, with 90% Blue Collar Adjustment / 10% White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For disabled male participants, 60% RP 2000 Disabled Male Mortality Table setback four years / 40% RP 2000 Annuitant Male Mortality Table with White Collar Adjustment with no setback, without projected mortality improvements. For disabled female participants, 60% RP 2000 Disabled Female Mortality Table set forward two years / 40% RP 2000 Annuitant Female Mortality Table with White Collar Adjustment with no setback, without projected mortality improvements.

**Note:** As required in Section 112.664(c) of the Florida Statutes, the projection of Fund assets does not include future contributions from the City, Members or State. For this reason, this projection should not be viewed as representative of the amount of time the Fund can sustain benefit payments. Under the Government Accounting Standards Board standards which include City, Member and State contributions, the Fund is expected to be able to pay all future benefit payments.

ACTUARIALLY DETERMINED CONTRIBUTION			
	Valuation Assumptions and 112.664(1)(a), F.S. Assumptions	112.664(1)(b), F.S. Assumptions	112.664(1)(a), F.S. Assumptions Plus 2% on Investment Return Assumption
A. Valuation Date	October 1, 2017	October 1, 2017	October 1, 2017
B. Actuarial Determined Contribution to Be Paid During Fiscal Year Ending	September 30, 2019	September 30, 2019	September 30, 2019
C. Annual Payroll of Active Employees	\$ 63,495,417	\$ 63,495,417	\$ 63,495,417
D. Total Minimum Funding Requirement			
1. Total Normal Cost	\$ 19,232,040	\$ 30,749,149	\$ 12,721,895
2. Annual Payment to Amortize Unfunded Actuarial Liability	25,521,155	39,677,375	11,724,479
3. Interest Adjustment	237,455	179,907	292,907
4. Expected Service Buyback	190,486	190,486	190,486
5. Total Minimum Funding Requirement	\$ 45,181,136	\$ 70,796,917	\$ 24,929,767
E. Expected Payroll of Active Employees for Following Plan Year (\$ / % of pay)	\$ 65,082,802 102.50%	\$ 65,082,802 102.50%	\$ 65,082,802 102.50%
F. Expected Contribution Sources (\$ / % of pay)			
1. City	\$ 39,626,600 60.89%	\$ 65,882,775 101.23%	\$ 18,868,947 28.99%
2. Member	6,563,515 10.08%	6,563,515 10.08%	6,563,515 10.08%
3. State (Share Plan)	120,549 0.19%	120,549 0.19%	120,549 0.19%
4. Total	\$ 46,310,664 71.16%	\$ 72,566,839 111.50%	\$ 25,553,011 39.26%

**Unfunded Actuarial Accrued Liabilities Bases and Amortization Payments**

Amortization Base	Current Unfunded Liabilities	Amortization Payment			Remaining Funding Period
		112.664(1)(a), F.S. Assumptions	112.664(1)(b), F.S. Assumptions	112.664(1)(a), F.S. Assumptions Plus 2%	
10/01/2001 Initial Unfunded Liability	\$ 11,407,479	\$ 1,107,763	\$ 993,061	\$ 1,226,586	14 years
10/01/2002 Method Update	13,079,714	1,212,042	1,078,393	1,350,950	15 years
10/01/2003 Fund Amendment	1,136,996	100,968	89,172	113,267	16 years
10/01/2003 Actuarial (Gain) / Loss	34,232,515	3,039,944	2,684,781	3,410,234	16 years
10/01/2004 Actuarial (Gain) / Loss	36,972,646	3,158,096	2,768,890	3,565,075	17 years
10/01/2005 Method Update	(32,983,059)	(2,718,756)	(2,366,686)	(3,087,928)	18 years
10/01/2005 Assumption Update	6,634,223	546,852	476,036	621,107	18 years
10/01/2005 Actuarial (Gain) / Loss	24,636,255	2,030,739	1,767,765	2,306,486	18 years
10/01/2006 Method Update	(4,982,713)	(397,497)	(343,595)	(454,165)	19 years
10/01/2006 Actuarial (Gain) / Loss	21,569,165	1,720,686	1,487,354	1,965,989	19 years
10/01/2007 Actuarial (Gain) / Loss	25,245,124	1,954,120	1,677,486	2,245,660	20 years
10/01/2008 Assumption Update	6,033,981	454,237	387,291	524,952	21 years
10/01/2008 Actuarial (Gain) / Loss	33,304,216	2,507,138	2,137,630	2,897,445	21 years
10/01/2009 Assumption Update	23,758,801	1,743,041	1,476,250	2,025,449	22 years
10/01/2009 Actuarial (Gain) / Loss	68,378,726	5,016,537	4,248,704	5,829,317	22 years
10/01/2010 Assumption Update	4,610,817	330,276	277,893	385,834	23 years
10/01/2010 Actuarial (Gain) / Loss	17,424,104	1,248,099	1,050,149	1,458,051	23 years
10/01/2011 Fund Amendment	(3,134,748)	(219,610)	(183,592)	(257,882)	24 years
10/01/2011 Assumption Update	17,311,705	1,212,802	1,013,892	1,424,156	24 years
10/01/2011 Actuarial (Gain) / Loss	30,794,298	2,157,349	1,803,524	2,533,309	24 years
10/01/2012 Assumption Update	7,911,970	542,944	451,032	640,770	25 years
10/01/2012 Actuarial (Gain) / Loss	26,638,607	1,828,024	1,518,567	2,157,393	25 years
10/01/2012 Fund Amendment	(20,359,800)	(1,397,153)	(1,160,635)	(1,648,888)	25 years
10/01/2013 Actuarial (Gain) / Loss	1,580,331	106,377	87,822	126,157	26 years
10/01/2013 Method Update	(65,560,199)	(4,413,075)	(3,643,287)	(5,233,650)	26 years
10/01/2014 Actuarial (Gain) / Loss	(6,056,860)	(400,440)	(328,579)	(477,150)	27 years
10/01/2014 Assumption Update	5,854,754	387,078	317,615	461,228	27 years
10/01/2015 Actuarial (Gain) / Loss	8,825,136	573,737	467,964	686,787	28 years
10/01/2015 Assumption Update	2,498,886	162,457	132,507	194,467	28 years
10/01/2015 Fund Amendment	(8,503,140)	(552,803)	(450,890)	(661,728)	28 years
10/01/2016 Actuarial (Gain) / Loss	(11,422,917)	(731,038)	(592,772)	(878,985)	29 years
10/01/2016 Assumption Update	35,425,930	2,267,171	1,838,365	2,725,999	29 years
10/01/2017 Actuarial (Gain) / Loss	8,002,730	504,669	406,864	609,427	30 years
10/01/2017 Assumption Update	6,951,571	438,381	353,423	529,378	30 years
10/01/2017 Assumption Change - 112.664(1)(b), F.S. Assumptions	349,227,764	N/A	17,754,981	N/A	30 years
10/01/2017 Assumption Change - 112.664(1)(a), F.S. Assumptions Plus 2%	(230,992,459)	N/A	N/A	(17,590,618)	30 years

## **SECTION B**

---

### **SUMMARY OF FUND PROVISIONS**



**Outline of Principal Provisions of the Retirement Fund**  
**(as of October 1, 2017)**

**A. Relevant Provisions:**

The Fund was created under Chapter 23414, Laws of Florida, Special Act of 1945, as amended by Ordinance No. 2016-4035 adopted September 27, 2016.

**B. Eligibility Requirements:**

Any full-time employee of the City who is certified as a Firefighter or Police Officer as a condition of employment.

**C. Membership Tiers:**

Tier 1 - Members hired prior to July 14, 2010

Tier 2 - Members hired on or after July 14, 2010 but prior to September 30, 2013

Tier 3 - Members hired on or after September 30, 2013 but prior to June 8, 2016 for the Fire Department and July 20, 2016 for the Police Department

Tier 4 - Members hired on or after June 8, 2016 for the Fire Department and July 20, 2016 for the Police Department

**D. Credited Service:**

All periods of employment as an Employee for which contributions have been made to the Fund together with all service in the uniformed services of the United States required to be included.

**E. Pre-Employment Service:**

Effective September 30, 2013 members with at least 5 years of service but not more than 10 years may contribute an additional amount of 10.0% for those hired prior to September 30, 2013 and 10.5% for those hired on or after September 30, 2013 to receive credit for pre-employment military service. A member may purchase up to 2 total years of additional service credit at the 3% accrual rate for time spent on active military duty. The total of all combinations of pre-employment benefit purchased cannot exceed a 12% increase in accrual.

Pre-employment benefit service must be purchased within 36 months for Police Officers and 24 months for Firefighters following the date the member completes 5 years of creditable pension service under the pension fund.

Effective September 30, 2013, members will no longer be able to purchase an increase in benefit multiplier or pre-employee public safety service credit as a Police Officer or Firefighter.

**Outline of Principal Provisions of the Retirement Fund**  
**(as of October 1, 2017)**

**F. Pensionable Pay:**

Salary is defined as base pay, longevity pay, overtime, shift differential and extra compensation allowance such as uniform allowance and any pays which are negotiated as pensionable. Effective July 14, 2010, off-duty pay is pensionable for any member who is eligible for overtime and receives off-duty compensation through the City. Effective September 30, 2013, overtime is limited to 300 hours per calendar year.

**1. Overtime and Off-Duty pay included in pension computation for Police Officers:**

- Off-Duty and overtime pay not exceeding 300 hours per calendar year is limited in each year to an amount that is equal to 11% of highest annualized pay rate for the same salary rank that the member is in at time of retirement.
- The 11% limitation shall not apply to any member who holds the rank of sergeant or lieutenant on September 30, 2013, or any Police Officer promoted to the rank of sergeant prior to the date the 2013 Certified Police Sergeant Promotional Register expired in 2015. For these members, the inclusion of overtime and / or off duty in the member's salary shall be limited in each year to an amount which is equal to 70% of the difference between the member's annualized pay rate at retirement and the highest annualized pay rate for the next higher salary rank. For any of these members who self-demote they will become subject to the eleven percent (11%) limitation on overtime and off-duty compensation.

**2. Overtime and Off-Duty pay included in pension computation for Firefighters:**

- Pensionable overtime pay not exceeding 300 hours per calendar year and off duty is limited in each year to an amount that is equal to 11% of highest annualized pay rate for the same salary rank that the member is in at time of retirement.

**G. Final Average Monthly Earnings (FAME):**

Tier 1 and eligible to retire prior to September 30, 2015 - the greater of the average of the 2 highest paid years prior to date of retirement or the 2 last paid years after taking into consideration the overtime limit.

Tier 1 and eligible to retire on or after September 30, 2015 - the greater of the average of the 3 highest paid years prior to date of retirement or the 3 last paid years after taking into consideration the overtime limit.

Tier 2 - the greater of the average of the 3 highest paid years prior to date of retirement or the 3 last paid years after taking into consideration the overtime limit.

**Outline of Principal Provisions of the Retirement Fund**  
**(as of October 1, 2017)**

Tier 3 - the greater of the average of the 5 highest paid years prior to date of retirement or the 5 last paid years after taking into consideration the overtime limit.

Tier 4 - the average of the 5 highest paid years prior to date of retirement taking into consideration the overtime limit.

**H. Normal Retirement:**

**1. Eligibility:**

Tier 1 and eligible to retire prior to September 30, 2013 - the earlier of attainment of age 50 or Rule of 70

Tier 1 and eligible to retire on or after September 30, 2013 - the earlier of attainment of age 50 or Rule of 70 (must attain age 47)

Tier 2 and Tier 3 - the earlier of attainment of age 50 with 5 years of creditables service or Rule of 70 (must attain age 48)

Tier 4 - the earlier of attainment of age 52 with 5 years of creditables service or Rule of 70 (must attain age 48)

**2. Benefit:**

Tier 1 and eligible to retire prior to September 30, 2013:

3% x FAME x Credited Service up to 15 years plus 4% x Credited Service after 15 years  
Benefit shall not exceed 90% of FAME.

Tier 1 and eligible to retire on or after September 30, 2013 but prior to September 30, 2015:

3% x FAME x Credited Service up to 20 years plus 4% x Credited Service after 20 years  
Benefit shall not exceed 85% of FAME (exception if exceeded 85% as of September 30, 2013).

Tier 1 and eligible to retire on or after September 30, 2015, Tier 2, Tier 3 and Tier 4:

3% x FAME x Credited Service up to 20 years plus 4% x Credited Service after 20 years  
Benefit shall not exceed 85% of FAME.

A member's benefit multiplier for credited service earned before October 1, 2013 shall not be reduced.

**I. Deferred Retirement:**

**1. Eligibility:**

Any first day of the month past Normal Retirement Date.

**2. Benefit:**

Benefit calculated as for Normal Retirement based upon service and pay to Deferred Retirement Date.

**Outline of Principal Provisions of the Retirement Fund**  
**(as of October 1, 2017)**

**J. Disability Retirement:**

**1. Eligibility:**

Totally and permanently disabled meaning incapacity to perform regular duty as Firefighter or Police Officer (and completion of at least 5 years of Credited Service for non-service incurred disability).

**2. Benefit:**

Accrued benefit (minimum of 85% of current salary at time of disability for service incurred disability).

**K. Death Benefit:**

**1. Service Incurred:**

Greater of accrued benefit or 85% of compensation payable as a monthly benefit to the widow until death or remarriage, to a Domestic Partner until death, marriage or entry into another Domestic Partnership, to unmarried children in equal shares until age 18 (until age 22 if a full-time student or until recovery from handicap if handicapped), or to dependent parents in equal shares.

**2. Non-Service Incurred:**

For members with at least 5 years of service, accrued benefit is payable for the first 12 months after death and 75% of the accrued benefit is payable thereafter (with a minimum benefit of 25% of average monthly salary); Benefits are payable to the widow until death or remarriage, to a Domestic Partner until death, marriage or entry into another Domestic Partnership, to unmarried children in equal shares until age 18 (until age 22 if a full-time student or until recovery from handicap or until marriage if handicapped), or to dependent parents in equal shares. However, if the member has been married for less than 10 years, benefits are payable to the spouse only for the life expectancy of the deceased member at time of death.

**L. Vested Benefit:**

**1. Eligibility:**

Any age prior to 50 with at least 5 years of service for members who terminate employment on or after September 30, 2013.

**2. Benefit:**

Return of employee contributions or accrued benefit upon attainment of age 50. If a member withdraws with less than 10 years of service and passes away prior to the normal retirement date the return of employee contributions is the only benefit.

**Outline of Principal Provisions of the Retirement Fund**  
**(as of October 1, 2017)**

**M. Employee Contributions:**

10.0% of salary per year (on a pre-tax basis) for members hired prior to September 30, 2013 and 10.5% of salary per year (on a pre-tax basis) for members hired on or after September 30, 2013; If contributions are refunded to the member or to his beneficiaries, then interest is credited at the rate of 3% per annum.

**N. Normal Form of Payment of Retirement Income:**

Benefit is payable to the member for his or her life. Upon death of member, except those retiring prior to November 5, 2003, the standard benefit is a 75% joint and survivor annuity with a specified beneficiary as provided under the plan. The specified beneficiary will receive a survivor annuity equal to 100% of the total benefit for one year following the death of the member and thereafter 75% of the total benefit until death or remarriage. However, upon death, if the member has been married for less than 10 years, the survivor annuity is payable only for the life expectancy of the deceased member at time of death.

In lieu of the standard benefit, the members may also elect the actuarial equivalent of the 10 year certain and life annuity, with a designated beneficiary, any of the following optional forms of payment:

- 75% joint and contingent survivor annuity with a designated beneficiary
- 66 ⅔% joint and contingent annuity with a designated beneficiary
- 50% joint and contingent annuity with a designated beneficiary
- 25% joint and contingent annuity with a designated beneficiary
- 10 year certain and life annuity with a designated beneficiary
- Life of member only

Members who retired prior to November 5, 2003 were subject to different normal and optional forms of payment.

**O. Deferred Retirement Option Program (DROP):**

Police Officers and Firefighters are eligible to participate in a Deferred Retirement Option Program (DROP) upon meeting eligibility for a normal service retirement.

**Operations of the DROP:**

1. Member contributions to the Pension Plan will cease upon entering the DROP.
2. The member's monthly retirement benefit, based on final average earnings and service, will be calculated as of the date prior to them entering the DROP.
3. The member will cease to accrue additional pension benefits (with the exception of the COLA under the pension plan).
4. The member will no longer be eligible for Disability or Service Connected Death benefits from the Pension Plan.
5. The member's monthly pension will be deposited into the selected investment vehicles.

**Outline of Principal Provisions of the Retirement Fund**  
**(as of October 1, 2017)**

6. Members who enter the DROP on or after June 8, 2016 for Fire Department members and July 20, 2016 for Police Department members may participate in DROP for a period not to exceed ninety-six (96) months.

Notwithstanding the above, participation may not continue beyond the date when the member's combined years of creditable service and time in the DROP equals 456 months for members who enter the DROP on or after September 1, 2012.

Members who enter the DROP on or before September 30, 2015 may extend their DROP participation period by 12 months for a total maximum DROP participation period not to exceed seventy-two (72) months.

Members who enter the DROP on or after October 1, 2015 but prior to June 8, 2016 for Fire Department members and July 20, 2016 for Police Department members may extend their DROP participation period by up to 36 months for a total maximum DROP participation period not to exceed ninety-six (96) months.

7. The member will not have access or be able to borrow against any of the funds accumulated in their DROP account.
8. The member may sever employment with the City at any time during the DROP period. Such separation will terminate their participation in the DROP.
9. No payment will be made from the DROP account until the member severs employment with the City.
10. Following severance of employment, the funds in the DROP will be paid under the *DROP Account Payment Options* the member selected. The member will also start receiving their monthly pension which was previously being deposited in the DROP.
11. A 2.5% COLA (1.5% per year for participants hired on or after July 14, 2010) is paid annually on the anniversary date of the member's retirement.

Members hired before June 8, 2016 for Fire Department members and July 20, 2016 for Police Department members who elect to extend or enter the DROP and participate for more than 5 years will have no COLA adjustment applied for years six (6), seven (7), and eight (8) while participating in the DROP. Members hired on or after June 8, 2016 for Fire Department members and July 20, 2016 for Police Department members will receive a zero percent (0%) COLA for the first (1st), second (2nd), third (3rd) and fourth (4th) annual adjustment dates while participating in the DROP.

**Outline of Principal Provisions of the Retirement Fund**  
**(as of October 1, 2017)**

**P. Cost-of-Living Adjustment:**

Effective October 1, 2010, after 1 year of retirement, benefits are increased by 2.5% per year (1.5% per year for participants hired on or after July 14, 2010), compounded annually, on the anniversary date of each member's retirement. Members whose grandfathered Base Plan benefit is greater than the benefit otherwise provided by this plan will receive the applicable cost-of-living adjustment on that basis (2% a year beginning the October three years after retirement) until such time as the benefit from this plan with 2.5% cost-of-living exceeds that comparable grandfathered Base Plan benefit.

For members retired prior to October 1, 2010, benefit increases occur on the first of October each year.

**Q. Changes Since Previous Actuarial Valuation**

None.

## **SECTION C**

---

### **ACTUARIAL ASSUMPTIONS AND COST METHODS USED FOR FUNDING**



**Actuarial Assumptions and Actuarial Cost Methods Used in the Valuation**  
**(as of October 1, 2017)**

**A. Mortality**

For healthy participants during employment, RP-2000 Combined Healthy Participant Mortality Tables, separate rates for males and females, with 90% Blue Collar Adjustment / 10% White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB.

For healthy participants post employment, RP-2000 Annuitant Mortality Tables, separate rates for males and females, with 90% Blue Collar Adjustment / 10% White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB.

For disabled male participants, 60% RP 2000 Disabled Male Mortality Table setback four years / 40% RP 2000 Annuitant Male Mortality Table with White Collar Adjustment with no setback, without projected mortality improvements. For disabled female participants, 60% RP 2000 Disabled Female Mortality Table set forward two years / 40% RP 2000 Annuitant Female Mortality Table with White Collar Adjustment with no setback, without projected mortality improvements.

Sample Ages (2017)	Pre-retirement Future Life Expectancy (Years)		Post-retirement Future Life Expectancy (Years)	
	Male	Female	Male	Female
	45	40.05	42.82	38.61
50	34.84	37.63	33.86	37.44
55	29.73	32.50	29.21	32.30
60	24.84	27.46	24.64	27.31
62	22.97	25.50	22.85	25.39

Sample Ages (2037)	Pre-retirement Future Life Expectancy (Years)		Post-retirement Future Life Expectancy (Years)	
	Male	Female	Male	Female
	45	42.20	44.70	40.78
50	37.03	39.54	36.06	39.38
55	31.96	34.44	31.46	34.27
60	27.11	29.40	26.92	29.27
62	25.23	27.41	25.12	27.33

**Actuarial Assumptions and Actuarial Cost Methods Used in the Valuation**  
**(as of October 1, 2017)**

**B. Investment Return**

7.80%, compounded annually, net of investment expenses includes inflation at 3.0%.

**C. Expenses**

Prior year's actual administrative expenses.

**D. Employee Withdrawal Rates**

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

<u>Age</u>	<u>Withdrawal Rate</u>	<u>Age</u>	<u>Withdrawal Rate</u>
20	2.00%	35	1.25%
25	1.75%	40	1.00%
30	1.50%	45	0.75%

**E. Disability Rates**

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

<u>Age</u>	<u>Disability Rates</u>	<u>Age</u>	<u>Disability Rate</u>
20	0.07%	45	0.58%
25	0.11%	50	0.99%
30	0.16%	55	1.42%
35	0.22%	60	2.00%
40	0.32%	64	2.69%

35% of disabilities are assumed to be non-service incurred - 65% service incurred.

**Actuarial Assumptions and Actuarial Cost Methods Used in the Valuation  
(as of October 1, 2017)**

**F. Salary Increase Factors**

Representative values of the assumed annual rates of future salary increase are as follows:

<u>Age</u>	<u>Merit Salary Increase</u>	<u>Age</u>	<u>Merit Salary Increase</u>
20	3.7%	45	2.7%
25	7.7%	50	2.7%
30	6.7%	55	2.7%
35	3.7%	60	1.7%
40	2.7%	64	0.7%

In addition to the average assumed salary increase rates shown above the expected cost of living increases are as follows:

<u>FYE</u>	<u>COLA Salary Increase</u>	<u>Weighted Average Increase*</u>
2018	3.00%	7.05%
2019	2.79%	6.64%
2020 and thereafter	2.18%	5.83%

The cost of living increases shown above are based on a 3% increase as of April 1, 2017, 3% increase as of July 1, 2018 contained in the collective bargaining agreement and long term expected increases of 2.18% annually each July.

\* The weighted average increase shown is based on aging of the current active census demographics.

**G. Payroll Growth Assumption**

The aggregate compensation used to compute the accrued liability contribution rate is assumed to increase at a rate of 3.5% per year - not greater than historical 10-year average (2.5% as of October 1, 2017).

**Actuarial Assumptions and Actuarial Cost Methods Used in the Valuation  
(as of October 1, 2017)**

**H. Retirement**

All members are assumed to retire at age 50 with 26.25 years of service, but not later than age 65. Retirement is assumed to occur in accordance with the following rates:

Service	Rate of Retirement	
	Meeting Rule of 70	Not Meeting Rule of 70
Less than 20	20%	4%
20	25%	5%
21	30%	10%
22	35%	10%
23	40%	20%
24	50%	60%
25	70%	60%
26	100%	100%
More than 26	100%	100%

**I. DROP Assumption**

80% of all active participants will participate in the DROP.

Leave DROP	Enter DROP on or before September 30, 2015	Enter the DROP on or after October 1, 2015
Prior to 5 years	0%	0%
After 5 years	5%	5%
After 6 years	N/A	5%
After 7 years	N/A	10%
After 8 years	N/A	100%

The recent extension of the DROP may alter the retirement experience of the Fund.

DROP assumptions will need to be monitored in light of future DROP experience.

**Actuarial Assumptions and Actuarial Cost Methods Used in the Valuation**  
**(as of October 1, 2017)**

**J. Overtime and Off-duty Pay Limitation**

No members excluded from the eleven percent (11%) limitation on overtime and off-duty compensation are assumed to self-demote.

**K. Loadings for Contingencies**

**Pre-Employment Service:** A City contribution of 0.275% of annual pensionable payroll is assumed sufficient to provide for the purchase (or *buyback*) of pre-employment military service and any probationary service by the membership.

**Transfers into Fund from other City pension systems:** A City contribution of 0.025% of annual pensionable payroll is added to provide for the transfer of service under another City pension system.

**L. Marital Assumptions**

1. 77% of members are assumed married or entitled to benefits for dependents, including registered domestic partners.
2. Male spouses are assumed to be three years older than female spouses.

**M. Smoothed Asset Valuation Method**

The method used for determining the smoothed actuarial value of assets phases in the deviation between the expected and actual return on assets at the rate of 20% per year. The smoothed actuarial value of assets will be further adjusted to the extent necessary to fall within the corridor whose lower limit is 80% of the fair market value of fund assets and whose upper limit is 120% of the fair market value of fund assets.

**N. Actuarial Cost Method**

**Normal Retirement, Termination, Disability, and Death Benefits: Entry-Age-Actuarial Cost Method.**

Under this method the normal cost for each active employee is the amount which is calculated to be a level percentage of pay that would be required annually from his age at hire to his assumed retirement age to fund his estimated benefits, assuming the Fund had always been in effect. The normal cost for the Fund is the sum of such amounts for all employees. The actuarial accrued liability as of any valuation date for each active employee or inactive employee who is eligible to receive benefits under the Fund is the excess of the actuarial present value of estimated future benefits over the actuarial present value of current and future normal costs. The unfunded actuarial accrued liability as of any valuation date is the excess of the actuarial accrued liability over the smoothed actuarial value of assets of the Fund.

**Actuarial Assumptions and Actuarial Cost Methods Used in the Valuation**  
**(as of October 1, 2017)**

O. **Changes Since Previous Actuarial Impact Statement**

**Investment Return was:**

7.85%, compounded annually, net of investment expenses.

**Assumption Change History**  
**(as of October 1, 2017)**

**A. Effective October 1, 2002:**

The actuarial cost method was changed from frozen initial liability to entry age.

The amortization of the unfunded accrued liability was changed from level dollar to level percentage of pay, with aggregate payroll assumed to increase at 3.50% per year.

**B. Effective October 1, 2005:**

The *fresh start* method was applied to the actuarial value of assets to begin a new five-year phase-in of realized and unrealized gains and losses.

The retirement rates were increased to reflect retirement experience for participants meeting the age 50 and *Rule of 70* eligibility criteria.

The loadings for contingencies and pre-employment service were increased from 5.00% to 7.00% and from 4.50% to 5.50% respectively.

**C. Effective October 1, 2006:**

The actuarial valuation system used by Buck Consultants was upgraded effective October 1, 2006. The gain resulting from this upgrade was amortized over 30 years.

**D. Effective October 1, 2008:**

The interest rate used to calculate all liabilities was reduced to 8.40% from 8.50%.

The salary scale used to project future pay increases was reduced by 50 basis points at each age to reflect the current and projected economic climate.

The loadings for contingencies were increased by 100 basis points (50 basis points for salary rates and 50 basis points for buybacks).

The retirement assumption was updated to reflect an increase in the level of retirements starting at age 45.

**E. Effective October 1, 2009:**

The interest rate used to calculate all liabilities was reduced from 8.40% to 8.30%.

The mortality rates were changed from the 1983 Group Annuity Mortality Table to the RP-2000 Combined Mortality Table with a blue collar adjustment for healthy lives and the RP-2000 Disabled Mortality Table for disabled participants.

A load of 20% was added to the projected base payroll to estimate the projected pensionable payroll used to determine the expected member contributions.

**Assumption Change History**  
**(as of October 1, 2017)**

**E. Effective October 1, 2009 (cont'd):**

An experience study was performed on the fund over the 5 year period October 1, 2003 through October 1, 2008 and the following assumptions were changed to more accurately reflect fund experience:

- **Retirement Rates:** The retirement assumption was changed to reflect the results of the experience study.
- **Withdrawal Rates:** The withdrawal assumption was changed to reflect the results of the experience study.
- **Salary Increase Rates:** The salary increase assumption was changed to an average increase of 3.83% for fund year 2009 to reflect the freeze on COLA for the fund year and to an average increase of 6.00% for all subsequent fund years.
- **Load for Overtime and Other Pays:** The load for overtime and other pays was changed from 7.50% to 16.00% to reflect the results of the experience study.

**F. Effective October 1, 2010:**

The interest rate used to calculate all liabilities was reduced from 8.30% to 8.20%.

The freeze on the cost of living increase component of the salary scale was extended to March 31, 2012.

**G. Effective October 1, 2011:**

The interest rate used to calculate all liabilities was reduced from 8.20% to 8.10%.

The mortality tables for healthy pre and post retirement participants was projected 15 and 7 years respectively from the valuation date to reflect mortality improvements.

The contingency compensation load for overtime and other pays was increased from 16% to 18% to account for the expected increase in pensionable pay due to the inclusion of off duty pay in the computation of pensionable pay.

**H. Effective October 1, 2012:**

The interest rate used to calculate all liabilities was reduced from 8.10% to 8.00%.

The expected salary increases for FYE 2014 and 2015 were reduced by 2.17% to reflect a freeze in the cost of living increases and increased by 3.00% to reflect a 3.00% cost of living increase in FYE 2016.



**Assumption Change History**  
**(as of October 1, 2017)**

H. **Effective October 1, 2012 (cont'd):**

The contingency compensation load for overtime and other pays was decreased from 18% to 16% to account for the expected decrease in pensionable pay due to the cap on overtime hours in the computation of pensionable pay.

The contingency pre-employment service load was decreased from 6.000% to 0.275% to account for the elimination of certain buybacks.

The expected salary increases were adjusted to account for the extension of ranges for Firefighter I, Police Officer, Sergeant of Police and Police Lieutenant effective April 1, 2015.

I. **Effective October 1, 2013:**

The asset valuation method was updated to phase in the deviation between the expected and actual return on assets at the rate of 20% per year - further adjusted to the extent necessary to fall within the corridor whose lower limit is 80% of the fair market value of plan assets and whose upper limit is 120% of the fair market value of plan assets.

The load for projected pensionable payroll was decreased from 20% to 16% to account for the expected decrease in pensionable pay due to the cap on overtime hours in the computation of pensionable pay.

J. **Effective October 1, 2014:**

The interest rate used to calculate all liabilities was reduced from 8.00% to 7.95%.

Payroll growth assumption is limited to 10-year average.

K. **Effective October 1, 2015:**

The interest rate used to calculate all liabilities was decreased from 7.95% to 7.90%.

An experience study was performed on the fund over the 5 year period October 1, 2009 through September 30, 2014 and the following assumptions were changed to more accurately reflect fund experience:

- **Withdrawal Rates:** The withdrawal assumption was updated to reflect the results of the experience study.
- **Disability Incidence:** The disability incidence assumption was changed to 65% service incurred / 35% non-service incurred.
- **The load for compensation and projected pensionable payroll** was replaced with actual pensionable pay.
- **Retirement Rates:** The retirement assumption was updated to reflect the results of the experience study.

Updated DROP assumptions to reflect updated DROP provisions.

A City contribution of 0.025% of annual pensionable payroll is added to provide for the transfer of service under another City pension system.

The salary increase assumptions were updated to better reflect anticipated merit and COLA increases.

**Assumption Change History**  
**(as of October 1, 2017)**

L. **Effective October 1, 2016:**

The interest rate used to calculate all liabilities was reduced from 7.90% to 7.85%.

The mortality assumption was updated to use the mortality assumptions used by the Florida Retirement System (FRS) as required under F.S., Chapter 2015-157 based upon the July 1, 2016 FRS Actuarial Valuation.

M. **Effective October 1, 2017:**

The interest rate used to calculate all liabilities was reduced from 7.85% to 7.80%.

**SECTION D**



**GLOSSARY**

## GLOSSARY

<b><i>Actuarial Accrued Liability</i></b>	The difference between the Actuarial Present Value of Future Benefits, and the Actuarial Present Value of Future Normal Costs.
<b><i>Actuarial Assumptions</i></b>	Assumptions about future fund 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.
<b><i>Actuarial Cost Method</i></b>	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.
<b><i>Actuarial Equivalent</i></b>	Of equal Actuarial Present Value, determined as of a given date and based on a given set of Actuarial Assumptions.
<b><i>Actuarial Present Value</i></b>	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.
<b><i>Actuarial Present Value of Future Benefits</i></b>	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, non-retired 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.
<b><i>Actuarial Valuation</i></b>	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 fund. An Actuarial Valuation for a governmental retirement system typically also includes calculations of items needed for compliance with GASB No. 67.
<b><i>Actuarial Value of Assets</i></b>	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 fund 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 required contribution.

<b><i>Amortization Method</i></b>	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.
<b><i>Amortization Payment</i></b>	That portion of the fund contribution which is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability.
<b><i>Amortization Period</i></b>	The period used in calculating the Amortization Payment.
<b><i>Annual Required Contribution</i></b>	The employer's periodic required contributions, expressed as a dollar amount or a percentage of covered fund compensation. The annual required contribution consists of the Employer Normal Cost and Amortization Payment plus interest adjustment.
<b><i>Closed Amortization Period</i></b>	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.
<b><i>Employer Normal Cost</i></b>	The portion of the Normal Cost to be paid by the employer. This is equal to the Normal Cost less expected member contributions.
<b><i>Equivalent Single Amortization Period</i></b>	For funds that do not establish separate amortization bases (separate components of the UAAL), this is the same as the Amortization Period. For funds 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.
<b><i>Experience Gain/Loss</i></b>	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. Losses are the result of unfavorable experience, i.e., actual results that produce Unfunded Actuarial Accrued Liabilities which are larger than projected.
<b><i>Funded Ratio</i></b>	The ratio of the Actuarial Value of Assets to the Actuarial Accrued Liability.

<b>GASB</b>	Governmental Accounting Standards Board.
<b><i>GASB No. 67 and GASB No. 68</i></b>	These are the governmental accounting standards that set the accounting rules for public retirement funds and the employers that sponsor or contribute to them. Statement No. 67 sets the accounting rules for the funds themselves, while Statement No. 68 sets the accounting rules for the employers that sponsor or contribute to public retirement funds.
<b><i>Normal Cost</i></b>	The annual cost assigned, under the Actuarial Cost Method, to the current fund year.
<b><i>Open Amortization Period</i></b>	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.
<b><i>Unfunded Actuarial Accrued Liability</i></b>	The difference between the Actuarial Accrued Liability and Actuarial Value of Assets.
<b><i>Valuation Date</i></b>	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.

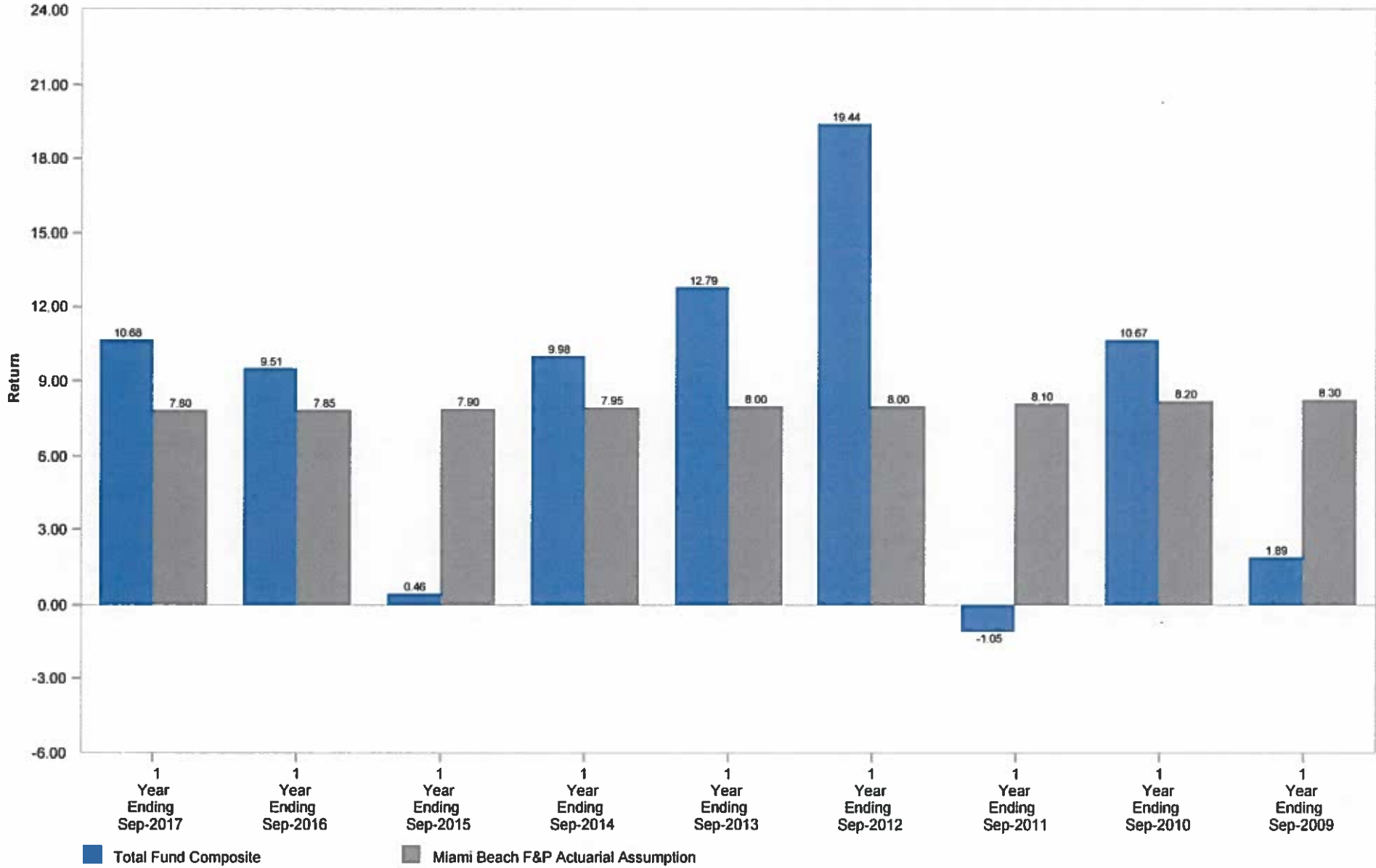
## Miami Beach Fire and Police

### 60t DISCLOSURE

Valuation Date	Fiscal Year	Plan Return (net)	Assumed Rate	Plan Allocation			
				Equity	Fixed	Alternatives	Cash
10/01/2017	9/30/2017	10.68%	7.80%	59.70%	34.10%	5.20%	1.00%
10/01/2016	9/30/2016	9.51%	7.85%	56.90%	36.60%	5.40%	1.10%
10/01/2015	9/30/2015	0.45%	7.90%	54.10%	38.80%	5.40%	1.70%
10/01/2014	9/30/2014	9.98%	7.95%	55.50%	36.50%	4.90%	3.10%
10/01/2013	9/30/2013	12.80%	8.00%	61.00%	33.00%	3.40%	2.60%
10/01/2012	9/30/2012	19.45%	8.00%	56.90%	36.60%	3.30%	3.20%
10/01/2011	9/30/2011	-1.04%	8.10%	56.90%	36.80%	3.50%	2.80%
10/01/2010	9/30/2010	10.66%	8.20%	56.40%	39.80%	2.90%	0.90%
10/01/2009	9/30/2009	1.89%	8.30%	52.10%	43.90%	3.00%	1.00%



Comparative Performance Net of Fees





**Putting clients first.**



CHICAGO | CLEVELAND | DALLAS | DETROIT | ORLANDO | PITTSBURGH | RENO | TULSA

**AndCo Consulting** | (844) 44-ANDCO | [AndCoConsulting.com](http://AndCoConsulting.com)

