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# City of Vero Beach

## Police Officers' Retirement Fund

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Actuarial Valuation as of October 1, 2016



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February 8, 2017

REPORT TO DETERMINE MINIMUM FUNDING REQUIREMENTS  
FOR THE PLAN AND FISCAL YEAR  
ENDING SEPTEMBER 30, 2018





February 8, 2017

Board of Trustees  
City of Vero Beach Police Officers' Retirement Fund  
Vero Beach, Florida

**RE: Actuarial Valuation as of October 1, 2016**

Dear Board Members:

We are pleased to present the actuarial valuation as of October 1, 2016 for the City of Vero Beach Police Officers' Retirement Fund (the Plan). This report provides a review of the current funded status of the Plan, establishes the minimum funding requirements for the fiscal year ending September 30, 2017 and provides an analysis of experience since the last valuation. In addition to providing the summary and derivation of actuarial findings, this report describes the data, assumptions, and methods used to create these results.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law.

Statement by Enrolled Actuary:

"This actuarial valuation and/or cost determination was prepared and completed by me or under my direct supervision, and I acknowledge responsibility for the results. To the best of my knowledge, the results are complete and accurate, and in my 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."

We look forward to the presentation of these results to you in person and we are always available to answer any questions you may have.

Sincerely,

A handwritten signature in black ink, appearing to read 'Chad M. Little'.

Chad M. Little, ASA, EA  
Partner, Consulting Actuary  
Enrollment Number 14-6619

A handwritten signature in black ink, appearing to read 'Paula C. Freiman'.

Paula C. Freiman, ASA, EA  
Partner, Consulting Actuary  
Enrollment Number 14-5796



## Table of Contents

<b>Board Summary .....</b>	<b>1</b>
Summary of Principal Valuation Results .....	1
Summary of Significant Events .....	2
<b>Results Derivation .....</b>	<b>5</b>
Financial Information .....	5
Present Value of Benefits .....	9
Accrued Liability .....	10
Normal Cost – Entry Age Normal .....	11
Unfunded Accrued Liability .....	12
Minimum Funding Requirements.....	15
Reconciliation of Unfunded Accrued Liability .....	16
Reconciliation of City Minimum Required Contribution .....	16
<b>Accounting Information.....</b>	<b>17</b>
Information Required by GASB 67/68.....	17
Statement of Accumulated Plan Benefits (FASB 35).....	18
Other Disclosures Required by the State of Florida .....	18
Required Disclosure Under F.S. 112.664(1).....	19
Required Disclosure Under F.S. 112.664(2)(b)2. ....	20
<b>Supplementary Information .....</b>	<b>21</b>
Summary of Participant Data .....	21
Outline of Plan Provisions .....	25
Description of Assumptions and Methods.....	27
Glossary of Actuarial Terms.....	29



## Section

## 1

## Board Summary

This report presents the results of the October 1, 2016 actuarial valuation of the City of Vero Beach Police Officers' Retirement Fund (the Plan).

## Summary of Principal Valuation Results

A summary of the key valuation findings as of October 1, 2016 are compared with the results of the last two valuations below.

## Minimum Funding Requirements

<b>Fiscal Year Ending September 30,</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>
Minimum Required City Contribution*	\$872,634	\$769,587	\$779,802
Expected State Contribution	<u>233,451</u>	<u>228,139</u>	<u>252,594</u>
Employer Minimum Funding Required (City plus State)	\$1,106,085	\$997,726	\$1,032,396
Minimum Required City Contribution*	34.67%	29.17%	29.31%
Expected State Contribution	<u>9.27%</u>	<u>8.65%</u>	<u>9.49%</u>
Employer Minimum Funding Required (City plus State)	43.94%	37.82%	38.80%

## Funded Status

<b>Valuation Date October 1,</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>
Accrued Liability (AL)	\$39,228,207	\$40,395,945	\$42,621,612
Actuarial Value of Assets	<u>33,133,933</u>	<u>35,432,388</u>	<u>37,831,183</u>
Unfunded Accrued Liability (UAL)	\$6,094,274	\$4,963,557	\$4,790,429
Funded Percentage	84.46%	87.71%	88.76%

## Key Assumptions

<b>Valuation Date October 1,</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>
Assumed Rate of Investment Return	7.75%	7.75%	7.75%
Salary Increase Assumption	6.25% - 4.28%	6.25% - 4.28%	6.25% - 4.28%
Funding Method	Entry Age	Entry Age	Entry Age

\*The Minimum Required City Contribution is made at the beginning of the fiscal year.

## Summary of Significant Events

Determination of the funded status of the Plan and minimum funding requirements are based on participant data, asset information, Plan provisions, actuarial methods and assumptions, as well as contributions made to the Plan by the State of Florida. Any significant events associated with these items are discussed in the following.

In preparing our report we relied, without audit, on information (some oral and some written) supplied by the City and the Plan Administrator. This information includes, but is not limited to, statutory provisions, employee census, and financial information. In our examination of these data, we have found them to be reasonably consistent and comparable with data used for other purposes. Since the valuation results are dependent on the integrity of the data supplied, the results can be expected to differ if the underlying data is incomplete or missing. It should be noted that if any data or other information is inaccurate or incomplete, our calculations may need to be revised.

### Participant Data

The number of active members decreased from 50 to 48 where 1 member retired, 1 member entered the DROP, 1 member terminated vested, 3 members terminated non-vested, and there were 4 new hires. Pay increases more than expected is the primary cause of a demographic loss.

Historical pay information follows.

Year Ended 9/30	Average Annual Salary Increase for Continuing Active Members		Payroll From Annual Report	Increase (Decrease) in Annual Report Payroll	Valuation Date 10/1	Payroll Projected for 12 Mo. Pd. Beginning on Val. Date	Increase (Decrease) in Valuation Payroll
	Actual	Expected					
2007		6.5%	3,415,819	2.1%	2007	3,673,793	4.4%
2008		6.5%	3,659,849	7.1%	2008	3,858,411	5.0%
2009		6.5%	3,733,644	2.0%	2009	3,869,093	0.3%
2010	(1.2%)	6.5%	3,577,177	(4.2%)	2010	3,723,032	(3.8%)
2011	3.4%	6.5%	3,297,317	(7.8%)	2011	3,186,869	(14.4%)
2012	(1.2%)	6.5%	3,013,887	(8.6%)	2012	3,043,048	(4.5%)
2013	(2.3%)	4.8%	2,947,305	(2.2%)	2013	2,725,692	(10.4%)
2014	4.3%	4.8%	2,899,869	(1.6%)	2014	2,907,418	6.7%
2015	(0.2%)	4.8%	2,938,951	1.3%	2015	2,856,355	(1.8%)
2016	9.8%	4.9%	3,169,645	7.8%	2016	3,035,350	6.3%
Average:	1.7%	5.8%		(0.6%)			(1.5%)

In general, should a pattern of consistent gains or losses develop, assumptions may require revision.



## Assets

Whereas the assets were assumed to achieve a 7.75% investment return (net of expenses), the return on the market value of assets was 8.4%. Due to the smoothing method used to produce the actuarial value of assets which recognizes market value gains and losses over a five year period, a 9.6% return was achieved on the actuarial value of assets producing an investment related gain.

The following provides a summary of the actual return on investments for the 12 month periods ending on the date specified.

<u>Year Ending September 30,</u>	<u>Net Investment Return</u>	
	<u>Market Value</u>	<u>Actuarial Value</u>
2016	8.4%	9.6%
2015	1.1%	8.9%
2014	9.4%	10.8%
2013	14.5%	7.9%
2012	19.3%	1.9%
2011	( 0.5%)	0.4%
2010	9.4%	2.1%
2009	( 1.7%)	1.5%
2008	(12.6%)	5.6%
2007	14.2%	10.4%
10-Year Average:	5.8%	5.8%

Investment returns less than the assumed rate of return result in increased annual minimum required contributions in the future.

## Plan Provisions

There were no changes in Plan provisions since the prior valuation of the Plan.

## Methods

There were no changes in methods since the prior valuation of the Plan.

## Assumptions

In the prior valuation, the mortality table was the RP-2000 Combined Mortality Table where Scale AA was applied to reflect mortality improvements to the valuation year. The mortality table has been revised to the mortality assumption used for special risk employees in the valuation of the Florida Retirement System (FRS), as required by state statute. The mortality rates are as follows:

Healthy mortality:

- Males: 10% RP-00 Annuitant White Collar +  
90% RP-00 Annuitant Blue Collar
- Females: 100% RP-00 Annuitant White Collar
- Both male and female rates fully generational using Scale BB





## Section 2 Results Derivation

In this section, the assets and liabilities of the Plan are shown in detail. Assets and liabilities are then compared to determine the funded status and minimum funding requirements. Finally, analysis is performed to explain movement in results from the prior valuation.

While asset information is based on the fair market value of assets, along with any techniques used to smooth out market fluctuations, liabilities are determined through a combination of the benefit provisions, participant census data which contains information for the members who will receive those benefits, and the methods and assumptions used with regard to how benefits will be paid to members. A summary of participant data, an outline of the benefit provisions, and a description of the methods and assumptions used in this valuation are described in Section 4.

### Financial Information

Over the life of the Plan, the majority of assets are typically generated from investment return. In this section, we describe how the assets of the Plan are invested, show how the actuarial value of assets is derived, and review the investment results since the prior valuation.

#### Investment Allocation

Valuation Date	October 1, 2015		October 1, 2016	
Short term investments	\$1,254,975	4%	\$1,057,821	3%
Equity	19,264,027	54%	23,115,393	62%
Fixed income	10,770,903	31%	8,856,594	24%
Real estate	3,812,380	11%	4,119,390	11%
Net receivables/payables	<u>109,153</u>	<u>0%</u>	<u>27,439</u>	<u>0%</u>
Net market value of assets	\$35,211,438	100%	\$37,176,637	100%

## Reconciliation of Market Value of Assets

Year Ending September 30,	2015	2016
<b>1. Market Value of Assets Beginning of Year</b>	\$35,432,960	\$35,211,438
<b>2. Contributions</b>		
a. City	\$852,721	\$853,491
b. State	228,139	252,594
c. Plan Members	174,267	191,664
d. Contribution Repayment	<u>17,515</u>	<u>0</u>
e. Total Contributions	\$1,272,642	\$1,297,749
<b>3. Investment earnings</b>		
a. Realized gains and (losses)	\$353,490	\$(38,099)
b. Unrealized gains and (losses)	(644,209)	2,352,549
c. Interest and dividends	924,541	842,106
d. Investment expense	<u>(248,224)</u>	<u>(240,910)</u>
e. Net investment income	\$385,598	\$2,915,646
<b>4. Deductions</b>		
a. Regular pension benefits	\$(1,792,149)	\$(1,916,151)
b. Contribution refunds	(1,269)	(19,926)
c. DROP distributions	0	(205,048)
d. Administrative expenses	<u>(86,344)</u>	<u>(107,071)</u>
e. Total Deductions	\$(1,879,762)	\$(2,248,196)
<b>5. Market Value of Assets End of Year</b>	\$35,211,438	\$37,176,637

## Development of Historical Gain or Loss on Market Value of Assets

<b>Year Ending September 30,</b>	<b>2016</b>	<b>2015</b>
1. Market Value of Assets - Beginning of Year	\$35,211,438	\$35,432,960
2. Contributions	1,297,749	1,272,642
3. Benefit Payments + Administrative Expenses	(2,248,196)	(1,879,762)
4. Expected Return on Assets	<u>2,715,341</u>	<u>2,746,731</u>
5. Expected Value of Assets at End of Year	\$36,976,332	\$37,572,571
6. Market Value of Assets - End of Year	\$37,176,637	\$35,211,438
7. Gain (Loss) for Plan Year	\$200,305	\$(2,361,133)
	<b>2014</b>	<b>2013</b>
1. Market Value of Assets - Beginning of Year	\$33,407,578	\$29,566,638
2. Contributions	1,271,263	1,283,759
3. Benefit Payments + Administrative Expenses	(2,334,638)	(1,686,487)
4. Expected Return on Assets	<u>2,572,541</u>	<u>2,266,649</u>
5. Expected Value of Assets at End of Year	\$34,916,744	\$31,430,559
6. Market Value of Assets - End of Year	\$35,432,960	\$33,407,578
7. Gain (Loss) for Plan Year	\$516,216	\$1,977,019

## Development of Actuarial Value of Assets

The market value of assets is adjusted to recognize gains and losses over a five-year period. However, the Actuarial Value of Assets is limited to no more than 120% or less than 80% of the market value of assets.

1.	Market Value of Assets as of October 1, 2016			\$37,176,637
2.	Phase-In Gains (Losses) Over Five Year Period			
		Original	Percent	Unrecognized
		Gain (Loss)	Unrecognized	Gain (Loss)
a.	Year Ending 9/30/2016	\$200,305	80%	\$160,244
b.	Year Ending 9/30/2015	(2,361,133)	60%	(1,416,680)
c.	Year Ending 9/30/2014	516,216	40%	206,486
d.	Year Ending 9/30/2013	1,977,019	20%	395,404
e.	Year Ending 9/30/2012	2,837,088	0%	<u>0</u>
f.	Total			\$(654,546)
3.	Preliminary Actuarial Value of Assets as of October 1, 2016			\$37,831,183
4.	Corridor Around Market Value			
a.	Minimum = 80% of Market Value of Assets			\$29,741,309
b.	Maximum = 120% of Market Value of Assets			\$44,611,964
c.	Corridor Adjustment to Preliminary Actuarial Value			\$0
5.	Cumulative Balance of State Funding Available for Benefit Improvements			\$0
6.	Actuarial Value of Assets as of September 30, 2016			\$37,831,183

## Present Value of Benefits

Valuation as of October 1,	2015	2016
<b>1. Active Members</b>		
a. Retirement Benefits	\$17,394,901	\$17,085,509
b. Deferred Benefits	607,041	627,965
c. Survivor Benefits	167,807	512,688
d. Disability Retirement	<u>854,485</u>	<u>754,349</u>
e. Total for Active Members	\$19,024,234	\$18,980,511
<b>2. Members in Payment Status</b>		
a. Retirement Benefits	\$24,306,915	\$26,085,374
b. Terminated Vested	178,651	293,483
c. Beneficiaries	413,584	995,994
d. Disability Retirement	<u>248,768</u>	<u>211,704</u>
e. Total for Members in Payment Status	\$25,147,918	\$27,586,555
<b>3. Present Value of Benefits</b>	\$44,172,152	\$46,567,066

## Accrued Liability

Valuation as of October 1,	2015	2016
<b>1. Active Members</b>		
a. Retirement Benefits	\$14,544,702	\$14,177,953
b. Deferred Benefits	173,227	187,355
c. Survivor Benefits	86,999	269,921
d. Disability Retirement	<u>443,099</u>	<u>399,828</u>
e. Total for Active Members	\$15,248,027	\$15,035,057
<b>2. Members in Payment Status</b>		
a. Retirement Benefits	\$24,306,915	\$26,085,374
b. Terminated Vested	178,651	293,483
c. Beneficiaries	413,584	995,994
d. Disability Retirement	<u>248,768</u>	<u>211,704</u>
e. Total for Members in Payment Status	\$25,147,918	\$27,586,555
<b>3. Accrued Liability</b>	\$40,395,945	\$42,621,612

## Normal Cost – Entry Age Normal

Valuation as of October 1,	2015	2016
<b>1. Preliminary Normal Cost</b>		
a. Retirement Benefits	\$410,968	\$425,007
b. Deferred Benefits	61,543	62,848
c. Survivor Benefits	11,677	36,289
d. Disability Retirement	<u>58,999</u>	<u>51,752</u>
e. Total	\$543,187	\$575,896
<b>2. Total Normal Cost</b>		
a. Preliminary Normal Cost	\$543,187	\$575,896
b. Estimated Administrative Expense	<u>86,349</u>	<u>96,708</u>
c. Total Normal Cost	\$629,536	\$672,604
d. Total Normal Cost (% of Pay)	22.0%	22.2%
<b>3. Estimated Employer Normal Cost</b>		
a. Total Normal Cost	\$629,536	\$672,604
b. Expected Employee Contributions	<u>(170,750)</u>	<u>(183,535)</u>
c. Estimated Employer Normal Cost	\$458,786	\$489,069
d. Estimated Employer Normal Cost (% of Pay)	16.1%	16.1%
<b>4. Actual Employer Normal Cost</b>		
a. Total Normal Cost	\$543,187	
b. Actual Administrative Expense	107,071	
c. Actual Employee Contributions	<u>(191,664)</u>	
d. Actual Employer Normal Cost	\$458,594	
<b>5. Valuation Payroll</b>		
a. Hires After 10/1/2012	\$546,025	\$663,625
b. Hires Prior to 10/1/2012	<u>2,310,330</u>	<u>2,371,725</u>
c. Total	\$2,856,355	\$3,035,350

## Unfunded Accrued Liability

Valuation as of October 1,	2016
<b>Unfunded Actuarial Liability</b>	
1. Accrued Liability	\$42,621,612
2. Actuarial Value of Assets	<u>37,831,183</u>
3. Unfunded Accrued Liability	\$4,790,429
<b>Determination of Expected Unfunded Accrued Liability</b>	
1. Unfunded Accrued Liability as of Prior Year	\$4,963,557
2. Normal Cost (Net of Employee Contributions)	458,594
3. Interest on UAL and NC	420,217
4. Contributions	
a. City	\$853,491
b. State of Florida	<u>252,594</u>
c. Total	\$1,106,085
5. Interest on Contribution for Time on Deposit	66,146
6. Change in Plan, Methods or Assumptions	<u>710,848</u>
7. Expected UAL as of Current Year	\$5,380,985
<b>Calculation of (Gain) or Loss</b>	
1. Actual Unfunded Accrued Liability	\$4,790,429
2. Expected UAL	<u>5,380,985</u>
3. Total (Gain) or Loss	\$(590,556)
4. Breakdown of (Gain) or Loss	
a. Investment Experience	\$(616,777)
b. Demographic Experience	<u>26,221</u>
c. Total (Gain) or Loss	\$(590,556)
<b>Calculation of Actuarial Asset Gain or (Loss)</b>	
1. Actuarial Value of Assets - Beginning of Year	\$35,432,388
2. Expected Interest on Assets	2,746,010
3. Contributions	1,297,749
4. Benefit Payments + Administrative Expenses	(2,248,196)
5. Interest on items (3) and (4)	<u>(13,545)</u>
6. Expected Value of Assets at End of Year	\$37,214,406
7. Actuarial Value of Assets - End of Year	<u>37,831,183</u>
8. Gain (Loss) for Plan Year = (7) - (6)	\$616,777
9. Actual Investment Income	\$3,349,242
10. Actual % Return	9.58%

## Amortization of Unfunded Liability

The Unfunded Accrued Liability is being amortized as a level dollar amount based on the assumed net investment return assumption. A fresh start was implemented on the amortization of the Unfunded Accrued Liability over 26 years effective October 1, 2014. Future Unfunded Accrued Liability which arises from changes in Plan provisions, actuarial assumptions, changes in methods and actuarial gains or losses are to be amortized over 25 years.

Since a fresh start was implemented as of October 1, 2014 over 26 years and all new bases are set up over 25 years as of October 1, 2015, we combined all of the outstanding bases into a single base amortized over 25 years as of October 1, 2015.

## Amortization Bases

<b>Date 10/1</b>	<b>Source</b>	<b>Original Balance</b>	<b>Remaining Balance Before Adjustment</b>	<b>Remaining Balance</b>	<b>Years Remain</b>	<b>Amortization Payment</b>
2015	Fresh Start	\$4,963,557	\$4,893,142	\$4,670,137	24	\$403,109
2016	(Gain)/Loss	(590,556)	(590,556)	(590,556)	25	(50,251)
2016	Assumption Chg	710,848	<u>710,848</u>	<u>710,848</u>	25	<u>60,487</u>
Total			\$5,013,434	\$4,790,429		\$413,345

## Projected Unfunded Accrued Liability and Amortization Payments

<b>Valuation as of October 1,</b>	<b>Unfunded Accrued Liability</b>	<b>Amortization Payment</b>
2016	\$4,790,429	\$413,345
2017	4,716,309	413,345
2018	4,636,443	413,344
2019	4,550,389	413,345
2020	4,457,665	413,344
2021	4,357,756	413,346
2022	4,250,102	413,345
2023	4,134,106	413,345
2024	4,009,120	413,344
2025	3,874,448	413,346
2026	3,729,338	413,345
2027	3,572,982	413,344
2028	3,404,510	413,345
2029	3,222,980	413,346
2030	3,027,381	413,344
2031	2,816,625	413,346
2032	2,589,533	413,347
2033	2,344,840	413,345
2034	2,081,186	413,346
2035	1,797,098	413,345
2036	1,490,994	413,344
2037	1,161,168	413,346
2038	805,778	413,345
2039	422,846	413,346
2040	10,237	10,237

## Actions Taken to Reduce Unfunded Actuarial Accrued Liability

The Unfunded Accrued Liability is being amortized as a level dollar amount based on the assumed net investment return assumption. A fresh start was implemented on the amortization of the Unfunded Accrued Liability over 25 years effective October 1, 2015. Future Unfunded Accrued Liability which arises from changes in Plan provisions, actuarial assumptions, changes in methods and actuarial gains or losses are to be amortized over 25 years.



## Minimum Funding Requirements

Actuarial Valuation as of October 1, Required Funding for Year Ending September 30,	2015 2017	2016 2018
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### As a Dollar Amount

1. Total Normal Cost	\$629,536	\$672,604
2. Amortization of Unfunded Accrued Liability	<u>422,358</u>	<u>413,345</u>
3. Minimum Required Contribution at Valuation Date	\$1,051,894	\$1,085,949
4. Interest Adjustment	\$103,605	\$108,144
5. Expected Employee Contributions	\$157,773	\$161,697
6. Expected State Contribution	228,139	252,594
7. Remaining City Minimum Required Contribution	<u>769,587</u>	<u>779,802</u>
8. Total Minimum Required Contribution for Funding Year	\$1,155,499	\$1,194,093
9. City Plus State Minimum Required Contribution Projected to <b>Beginning</b> of Funding Year	\$997,726	\$1,032,396

### As a Percent of Payroll

10. Expected Employee Contributions	5.98%	6.08%
11. Expected State Contribution	8.65%	9.49%
12. Remaining City Minimum Required Contribution	<u>29.17%</u>	<u>29.31%</u>
13. Total Minimum Required Contribution for Funding Year	43.80%	44.88%
14. City Plus State Minimum Required Contribution Projected to <b>Beginning</b> of Funding Year	37.82%	38.80%
15. Valuation Payroll		
a. Hires After 10/1/2012	\$546,025	\$663,625
b. Hires Prior to 10/1/2012	<u>2,310,330</u>	<u>2,371,725</u>
c. Total	\$2,856,355	\$3,035,350
16. Projected Valuation Payroll		
a. Hires After 10/1/2012	\$506,598	\$614,868
b. Hires Prior to 10/1/2012	<u>2,131,719</u>	<u>2,045,592</u>
c. Total	\$2,638,317	\$2,660,460

## Reconciliation of Unfunded Accrued Liability

	Unfunded Accrued <u>Liability</u>	Funded <u>Percent</u>	Change in Unfunded Accrued <u>Liability</u>	Change in Funded <u>Percent</u>
As of Prior Valuation	\$4,963,557	87.71%		
Changes in Contribution Rate due to:				
Normal Operation of Plan	4,670,137	88.85%	\$(293,420)	1.14%
Investment Experience	4,053,360	90.32%	(616,777)	1.47%
Demographic Experience	4,079,581	90.27%	26,221	(0.05%)
Required Mortality Change	4,790,429	88.76%	<u>710,848</u>	<u>(1.51%)</u>
Total Changes			\$(173,128)	1.05%
As of Current Valuation	\$4,790,429	88.76%		

## Reconciliation of City Minimum Required Contribution

	<u>Dollar Amount</u>	<u>Percent of Pay</u>
As of Prior Valuation	\$769,587	29.17 %
Changes in Contribution due to:		
Normal Operation of Plan	\$(33,078)	2.81 %
Change in Expected State Contribution	(22,696)	(0.98)%
Investment Experience	(56,551)	(2.46)%
Demographic Experience	52,977	(1.84)%
Required Mortality Change	<u>69,563</u>	<u>2.61 %</u>
Total Changes	\$10,215	0.14 %
As of Current Valuation	\$779,802	29.31 %



# Section 3 Accounting Information

## Information Required by GASB 67/68

A supplemental report provides information under the Governmental Accounting Standards Board No. 67/68.

## Statement of Accumulated Plan Benefits (FASB 35)

The following table is based on prior accounting standards and is required by the State. The actuarial present value of accumulated plan benefits is an estimate of the liability for all benefits accrued to date.

Valuation as of October 1,	2015	2016
1. Actuarial present value of accumulated plan benefits		
a. Participants currently receiving benefits	\$24,969,267	\$27,293,072
b. Terminated members due deferred benefit	178,651	293,483
c. Other participants	<u>12,594,439</u>	<u>11,858,983</u>
d. Total vested plan benefits	\$37,742,357	\$39,445,538
e. Total non-vested plan benefits	<u>370,554</u>	<u>479,178</u>
f. Total accumulated plan benefits	\$38,112,911	\$39,924,716
2. Change in present value of accumulated plan benefits		
a. Accumulated plan benefits beginning of year		\$38,112,911
b. Increase (decrease) during year due to:		
i. Plan change		\$0
ii. Change in assumptions or methods		725,089
iii. Increase for interest and probability of payment due to decrease in discount period and benefits accrued		3,227,841
iv. Benefits paid		(2,141,125)
v. Other changes		<u>0</u>
vi. Net increase (decrease)		\$1,811,805
c. Accumulated plan benefits end of year		\$39,924,716

## Other Disclosures Required by the State of Florida

Valuation as of October 1,	2015	2016
Present value of active member:		
Future salaries:	\$20,098,058	\$20,968,576
Future contributions:	1,231,269	1,307,663
Active member accumulated contributions:	1,317,453	1,342,506

## Required Disclosure Under F.S. 112.664(1)

As required under F.S. Section 112.664(1) we have produced the following information:

- (a) Total pension liability calculated based on mortality used in one of the last two Florida Retirement System (FRS) valuations. This actuarial valuation assumes healthy mortality as follows: Male: 10% RP-2000 Annuitant White Collar + 90% RP-2000 Annuitant Blue Collar / Female: 100% RP-2000 Annuitant White Collar, where both the male and female rates are fully generational from 2000 using Scale BB. Disabled mortality is as follows: Male: 60% RP-2000 Disabled Retiree Set Back 4 years + 40% RP-2000 Annuitant White Collar / Female: 60% RP-2000 Disabled Retiree Set Forward 2 Years + 40% RP-2000 Annuitant White Collar, where no mortality improvement is assumed for disabled lives.
- (b) Total pension liability calculated using an assumed interest rate that is 200 basis points lower than that assumed in the valuation of the Plan.
- (c) Determination of the number of months or years for which the current market value of assets is adequate to sustain the payment of expected retirement benefits.
- (d) Recommended contribution to the Plan using the most recent valuation and the contributions necessary prepared pursuant to (a) and (b) stated as a dollar amount and % of payroll.

	2% Decrease (5.75%)	Current Discount Rate (7.75%)	2% Increase (9.75%)
Total pension liability	\$53,946,029	\$42,621,612	\$34,830,625
Plan fiduciary net position	<u>(37,176,637)</u>	<u>(37,176,637)</u>	<u>(37,176,637)</u>
Net pension liability	<u>\$16,769,392</u>	<u>\$5,444,975</u>	<u>\$(2,346,012)</u>
 Plan fiduciary net position as a percentage of the total pension liability	 68.91%	 87.22%	 106.74%
 Years of benefit payments:			
Expected for current members:	100	100	100
Paid for with current assets:	16.17	21.14	100.00
 City Plus State Contribution Requirement, Plus Expected Employee Contributions			
Dollar Amount	\$2,344,978	\$1,194,093	\$543,406
Percent of Payroll	88.14%	44.88%	20.43%



## Required Disclosure Under F.S. 112.664(2)(b)2.

F.S. Section 112.664(2)(b)2. - For the previous five years, beginning with 2013, a side-by-side comparison of the plan's assumed rate of return compared to the actual rate of return, as well as the percentages of cash, equity, bond and alternative investments in the plan portfolio. The actual rate of return is as provided by the investment monitor.

<b>Year Ending September 30,</b>	<b>2016</b>	<b>2015</b>	<b>2014</b>	<b>2013</b>	<b>2012</b>	<b>2011</b>
Assumed rate of return	7.75%	7.75%	7.75%	7.75%	8.00%	8.00%
Actual rate of return	7.99%	0.87%	9.08%	14.17%	19.27%	(1.69%)
Percentages of assets in:						
Cash	3%	4%	2%	4%	4%	6%
Equity	62%	54%	64%	65%	61%	56%
Bond	24%	31%	25%	24%	27%	35%
Alternative	11%	11%	9%	7%	8%	3%
Total	100%	100%	100%	100%	100%	100%

# Section 4 Supplementary Information

## Summary of Participant Data

### Member Statistics

Year Beginning October 1,	2015	2016
<u>Active Participants</u>		
Number	50	48
Average Age	38.7	38.6
Average Credited Service	12.1	12.1
Percent Male	94.0	91.7
Average Valuation Salary	\$ 61,099	\$ 65,407
Total Valuation Salary	\$ 3,054,939	\$ 3,139,528
Payroll Covered in Valuation	\$ 2,856,355	\$ 3,035,350
Annual Report	\$ 2,938,951	\$ 3,169,645
<u>Terminated With Rights to Deferred Benefits</u>		
Number	1	2
Average Age	47.2	46.0
Percent Male	100.0	100.0
Average Annual Benefit	\$ 26,563	\$ 22,981
<u>Retired and DROP Participants</u>		
Number	41	42
Average Age	63.1	63.3
Percent Male	95.1	95.2
Average Annual Benefit	\$ 47,758	\$ 48,817
DROP Balance	\$ 271,845	\$ 254,140
<u>Beneficiaries</u>		
Number	3	4
Average Age	61.4	65.9
Percent Male	0.0	0.0
Average Annual Benefit	\$ 13,415	\$ 27,226
<u>Disability Retirements</u>		
Number	2	2
Average Age	69.5	70.5
Percent Male	100.0	100.0
Average Annual Benefit	\$ 13,325	\$ 13,459

## Number of Active Members by Age and Service as of October 1, 2016

Age	Service							Total
	< 1	< 5	< 10	< 15	< 20	< 25	25+	
< 21								
< 25	2	1						3
< 30	1	7	1					9
< 35	1	1	3	1				6
< 40		2		4				6
< 45		1	1	2	4	1		9
< 50			1	2	2		3	8
< 55					1	1	5	7
55+								
Total	4	12	6	9	7	2	8	48

## Active Valuation Pay by Age and Service as of October 1, 2016

Age	Service							Total
	< 1	< 5	< 10	< 15	< 20	< 25	25+	
< 21								
< 25	41,496	47,689						43,560
< 30	42,227	48,993	49,707					48,320
< 35	39,181	52,061	58,960	59,516				54,606
< 40		50,195		60,321				56,946
< 45		49,414	62,359	71,048	74,746	99,114		72,441
< 50			65,462	60,755	74,710		88,749	75,330
< 55					79,244	80,390	98,083	92,864
55+								
Total	41,100	49,375	59,068	62,712	75,378	89,752	94,582	65,407

## Reconciliation of Plan Participants

	Active	Term. Vested	DROP	Retired	Disabled	Survivor	Total
<b>October 1, 2010</b>	<b>54</b>	<b>1</b>	<b>1</b>	<b>31</b>	<b>3</b>	<b>3</b>	<b>93</b>
Retirement	(2)			2			0
DROP	(3)		3				0
Nonvested Termination	(4)						(4)
Vested Termination	(1)	1					0
Death							0
New Hires	4						4
<b>October 1, 2011</b>	<b>48</b>	<b>2</b>	<b>4</b>	<b>33</b>	<b>3</b>	<b>3</b>	<b>93</b>
Retirement	(1)	(1)	(1)	3			0
Nonvested Termination	(3)						(3)
Death						(1)	(1)
New Hires	4						4
<b>October 1, 2012</b>	<b>48</b>	<b>1</b>	<b>3</b>	<b>36</b>	<b>3</b>	<b>2</b>	<b>93</b>
Retirement	(1)		(1)	2			0
Nonvested Termination	(7)						(7)
Death				(1)			(1)
New Hires	6						6
<b>October 1, 2013</b>	<b>46</b>	<b>1</b>	<b>2</b>	<b>37</b>	<b>3</b>	<b>2</b>	<b>91</b>
Retirement	(1)		(2)	3			0
DROP	(2)		2				0
Nonvested Termination	(2)						(2)
Death				(1)	(1)	1	(1)
Rehire	1						1
New Hires	6						6
<b>October 1, 2014</b>	<b>48</b>	<b>1</b>	<b>2</b>	<b>39</b>	<b>2</b>	<b>3</b>	<b>95</b>
Retirement	(1)			1			0
Nonvested Termination	(1)						(1)
Death				(1)			(1)
Rehire	1						1
New Hires	3						3
<b>October 1, 2015</b>	<b>50</b>	<b>1</b>	<b>2</b>	<b>39</b>	<b>2</b>	<b>3</b>	<b>97</b>
Active							0
Retirement	(1)		(1)	2			0
DROP	(1)		1				0
Vested Termination	(1)	1					0
Nonvested Termination	(3)						(3)
Death				(1)		1	0
New Hires	4						4
<b>October 1, 2016</b>	<b>48</b>	<b>2</b>	<b>2</b>	<b>40</b>	<b>2</b>	<b>4</b>	<b>98</b>

## Reconciliation of DROP Account Balances

<b>Fiscal Year Ending September 30,</b>	<b>2015</b>	<b>2016</b>
Beginning Balance	\$119,955	\$271,845
Additions	154,760	165,375
Investment Income	(2,870)	21,968
Disbursements	<u>0</u>	<u>(205,048)</u>
Ending Balance	\$271,845	\$254,140

## Outline of Plan Provisions

Plan Type: Single-employer Defined Benefit Pension Plan

Legal Authority: The Plan was established and is amended by local ordinance.

Effective Date: October 19, 1954. Most recently Plan provisions have been amended with the following ordinances.

<u>Ord. No.</u>	<u>Adopted</u>	<u>Ord. No.</u>	<u>Adopted</u>
2010-11	02/02/2010	2013-02	01/08/2013
2010-21	08/17/2010	2014-06	03/04/2014
2011-07	07/19/2011	2014-09	04/15/2014
2011-08	07/19/2011		

Plan Administrator: The Board of Trustees

Board Composition: The trustees consist of five members which may include participants of any DROP who have at least 18 months remaining in the DROP at the time they take office, none who are elected city officials, and who are selected as follows:

- (a) Two members who are legal residents of the city appointed by city council,
- (b) Two are police officer participants elected by a majority of the active police officer members of this fund, and
- (c) The fifth member is chosen by a majority of the previous four members and will be appointed to the board of trustees by city council, as a ministerial duty.

Funding Requirements: Employer contributions are actuarially determined and subject to State statute. Employee contributions are as described below and may be amended by ordinance.

Plan Year: The 12-month period from October 1st to the following September 30th.

Member: Full-time sworn police officers are eligible immediately upon hire.

Credited Service: Aggregate years and fractional part of years as a contributing Member, including unused medical leave days in excess of 120 days. Effective with Ordinance 2013-21, accrued sick leave under 120 days and accrued vacation under 60 days may be applied to service for Normal Retirement eligibility and benefits only. Credited Service also includes certain military service. Additional Credited Service may be purchased. Unused annual and medical leave will be used in the calculation of benefits as reported to the Board by the City per City policy

Vesting: 100% upon earning ten years of Credited Service.

Compensation: Total cash remuneration including shift differential, state and local incentives, "actual overtime" (but excluding "court overtime") paid by the city to a police officer for services rendered. Payments for accrued unused sick or annual leave are not included. Effective with Ordinance 2013-02, overtime is limited to 300 hours per calendar year. Compensation or salary contributed as employee-elective salary reductions or deferrals to any salary reduction, deferred compensation, or tax-sheltered annuity program authorized under IRC is included. For the purpose of benefit calculation the Board of

Trustees shall use the employee's compensation as reported by the City in accordance with the City's policies.

Employee Contributions: Prior to Ordinance 2013-02, 3.0% of Compensation. Effective with Ordinance 2013-02, Employee Contributions are increased to 5.5% of Compensation for Members hired prior to October 1, 2012 and to 8.0% of Compensation for Members hired after October 1, 2012. A Member who terminates non-vested is entitled to refund of accumulated Employee Contributions without interest.

Average Monthly Salary: One-twelfth the average of Compensation for the five highest years of Credited Service.

Normal Retirement Date: The first day of the month coincident with or next following the earlier of (i) age 55 and ten years of Credited Service, or (ii) 25 years of Credited Service with no age requirement.

Accrued Benefit:  $3\% \times \text{Average Monthly Salary} \times \text{Credited Service}$ , plus  $\$5 \times \text{Credited Service}$ .

Cost-of-Living-Adjustment: 1% annually on October 1<sup>st</sup>.

Late Retirement Benefit: Benefit as determined for Normal Retirement taking into account Compensation and Credited Service through the actual date of retirement.

Early Retirement Date: The first day of the month coincident with or next following the date the Member earns ten years of Credited Service and attains age 50.

Early Retirement Benefit: The Accrued Benefit reduced by 2.5% for each year the Member is younger than the Normal Retirement Date. (Note: the early retirement reduction is only taken on the 3% multiplier benefit and is not taken on the flat  $\$5 \times \text{Credited Service}$  benefit.)

Disability Benefits: Members are eligible for service-connected Disability Benefits immediately upon hire. Members are eligible for a non-service-connected Disability Benefit after earnings at least ten years of Credited Service. The monthly Disability Benefit is the greater of (i) the Accrued Benefit and (ii) 50% of Average Monthly Salary.

Pre-Retirement Survivor Benefits: Members are eligible for service-connected Pre-Retirement Survivor Benefits immediately upon hire. Members are eligible for non-service-connected Pre-Retirement Survivor Benefits after one year of service. The monthly survivor benefit is the greater of (i) the Accrued Benefit and (ii) 25% of Average Monthly Salary.

Optional Forms of Benefit: Pension benefits described above are payable in the form of a 10 year certain and continuous annuity. Members may optionally choose an actuarially equivalent single life annuity, or joint and last survivor annuity (with 50%, 66 2/3, 75%, or 100% continuance), or a joint and survivor annuity (with 50%, 66 2/3, 75%, or 100% continuance).

Actuarial Equivalence: The 1983 Group Annuity Mortality Table (100% male) and an interest rate of 7.0% (with no COLA assumed payable) is defined for use in the determination of Optional Forms of Benefit.

Deferred Retirement Option Plan (DROP): Members are eligible to enter the DROP at the Normal Retirement Date. The Accrued Benefit is frozen and no further Employee Contributions are payable at DROP entry. The Accrued Benefit accumulates at the net investment return earned on Fund assets less an administrative fee. The maximum DROP participation duration is 5 years. DROP participants are not eligible for pre-retirement death or disability benefits.

## Description of Assumptions and Methods

Assumed Rate of Investment Return: 7.75% per year net of investment expenses.

Salary Increase – Total Payroll: Based on individual salary increase assumptions and other decrements assumed in the valuation of Plan liabilities.

Salary Increase – Individual: The following table of annual increases based on service:

<u>Service</u>	<u>Rate</u>	<u>Service</u>	<u>Rate</u>	<u>Service</u>	<u>Rate</u>
0	6.250%				
1	5.850%	11	4.850%	21	4.500%
2	5.600%	12	4.800%	22	4.475%
3	5.500%	13	4.750%	23	4.450%
4	5.350%	14	4.700%	24	4.425%
5	5.250%	15	4.650%	25	4.400%
6	5.150%	16	4.625%	26	4.375%
7	5.100%	17	4.600%	27	4.350%
8	5.000%	18	4.575%	28	4.325%
9	4.950%	19	4.550%	29	4.300%
10	4.900%	20	4.525%	30	4.275%

Mortality: In the prior valuation, the mortality table was the RP-2000 Combined Mortality Table where Scale AA was applied to reflect mortality improvements to the valuation year. The mortality table has been revised to the mortality assumption used for special risk employees in the valuation of the Florida Retirement System (FRS) as of July 1, 2015, as required by state statute. The mortality rates are as follows:

Healthy mortality:	Males:	10% RP-00 Annuitant White Collar + 90% RP-00 Annuitant Blue Collar
	Females:	100% RP-00 Annuitant White Collar
	Both male and female rates fully generational using Scale BB	
Disabled mortality:	Males:	60% RP-00 Disabled Retiree Set Back 4 Years + 40% RP-00 Annuitant White Collar
	Females:	60% RP-00 Disabled Retiree Set Forward 2 Yrs + 40% RP-00 Annuitant White Collar
	No mortality improvement is assumed for disabled lives.	

75% of active deaths are assumed to be service connected.

Retirement: Members are assumed to retire at a rate of 5% per year eligible for early retirement. In the year of the Normal Retirement Date, Members are assumed to retire at a rate of 80%. For each of the four years subsequent to the Normal Retirement Date, Members are assumed to retire at 40%. 100% of Members are assumed to retire in the fifth year subsequent to the Normal Retirement Date.

Termination: Unisex rates, as follows:

<u>Service</u>	<u>Rate</u>
<6	12.00%
6-10	4.00%
11-15	3.00%
16-19	2.00%
20-24	1.00%

Termination rates are not applied when an active member reaches the age and service combinations where non-zero retirement decrements are in force.

Disability: Unisex rates, as follows:

<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
<=15	0.00%	34	0.22%	43	0.39%	52	1.20%
16-21	0.14%	35	0.23%	44	0.44%	53	1.31%
22-25	0.15%	36	0.24%	45	0.51%	54	1.43%
26-27	0.16%	37	0.25%	46	0.59%	55	1.55%
28-29	0.17%	38	0.26%	47	0.70%	56	1.68%
30	0.18%	39	0.28%	48	0.79%	57	1.81%
31	0.19%	40	0.30%	49	0.90%	58	1.95%
32	0.20%	41	0.32%	50	1.00%	59	2.09%
33	0.21%	42	0.35%	51	1.10%	>=60	0.00%

75% of disabilities are assumed to be service connected.

Accrued Leave: Retirement benefits are increased 1% to account for sick leave over 120 days. In addition, Members are assumed to include accrued sick leave under 120 days and accrued vacation under 60 days as 0.6923 in Credited Service for Normal Retirement eligibility and benefits. Normal Retirement benefits are increased by the following table of factors based on Credited Service earned:

<u>Service</u>	<u>Factor</u>	<u>Service</u>	<u>Factor</u>	<u>Service</u>	<u>Factor</u>	<u>Service</u>	<u>Factor</u>
10	1.0692	15	1.0462	20	1.0346	25	1.0277
11	1.0629	16	1.0433	21	1.0330	26	1.0266
12	1.0577	17	1.0407	22	1.0315	27	1.0256
13	1.0533	18	1.0385	23	1.0301	28	1.0247
14	1.0495	19	1.0364	24	1.0288	29	1.0239
						30	1.0231

Plan Expenses: An average of the prior two years of administrative expense is added to the normal cost.

Marital Assumption: 100% are assumed married with husbands assumed to be three years older than wives.

Liability Load: Liabilities are loaded by 0.9% to reflect the exclusion of the COLA in the determination of optional forms of benefit.

Funding Method: Entry Age (level percent of salary)



## Glossary of Actuarial Terms

Present Value of Benefits (PVB): The present value, as of the valuation date, of all benefits that will become payable by the Plan for the current group of members in the census.

Normal Cost (NC): The value of the portion of the total benefit for active members which accrues in the year following the valuation date. Under the Entry Age Normal (Level Percent of Salary) funding method, the NC is a constant fraction of salary from the member's date of entry into the Plan to the member's assumed date of termination, retirement, disability or death.

Accrued Liability (AL): This is the portion of the PVB attributable to the past at the valuation date. For active members, AL is the annual NC accumulated from date of entry to the valuation date for each member. For retired and terminated members, the PVB and the AL are equal. The AL is the estimated liability owed by the pension fund at the valuation date.

Unfunded Accrued Liability (UAL): Any excess of the Accrued Liability over the fund assets. A negative UAL indicates fund assets are greater than the Accrued Liability, otherwise known as a surplus.

Actuarial Value of Assets: The market value of assets is adjusted to recognize gains and losses over a five-year period. The Actuarial Value of Assets shall not be more than 120% or less than 80% of the market value of assets.



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Phone: (321) 453-6542  
Fax: (321) 453-6998

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# City of Vero Beach

## Police Officers' Retirement Fund

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GASB 67/68 Supplement  
As of September 30, 2016







February 8, 2017

Board of Trustees  
City of Vero Beach Police Officers' Retirement Fund  
Vero Beach, Florida

**RE: GASB 67/68 Supplement as of September 30, 2016**

Dear Board Members:

We are pleased to present the Governmental Accounting Standards Board Statement No. 67 (GASB 67) and No. 68 (GASB 68) Supplement as of September 30, 2016 for the City of Vero Beach Police Officers' Retirement Fund (the Plan).

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law.

This report provides information required to be disclosed under GASB 67 and GASB 68 as described in the statement and the implementation guide. The relevant dates are as follows:

<b>GASB 67</b>		<b>GASB 68</b>	
Valuation Date	10/01/2016	Valuation Date	10/01/2016
Measurement Date	09/30/2016	Measurement Date	09/30/2016
Reporting Date	09/30/2016	Reporting Date	09/30/2016

Please let us know if you have any questions or need additional information.

Sincerely,

Chad M. Little, ASA, EA  
Partner, Consulting Actuary  
Enrollment Number 14-6619

Paula C. Freiman, ASA, EA  
Partner, Consulting Actuary  
Enrollment Number 14-5796



## Table of Contents

Statement of Fiduciary Net Position .....	1
Statement of Changes in Fiduciary Net Position .....	2
fNet Pension Liability .....	3
Schedule of Changes in Net Pension Liability and Related Ratios .....	5
Statement of Changes in Net Pension Liability.....	6
Pension Expense and Deferred Outflows and Inflows of Resources .....	7
Recognition of Deferred Outflows and Inflows of Resources.....	8
Schedule of Contributions .....	9
Schedule of Investment Returns.....	10
Plan Membership Statistics.....	11
Plan Description.....	12
Actuarial Assumptions and Methods .....	14



## Statement of Fiduciary Net Position

<b>As of September 30,</b>	<b>2016</b>	<b>2015</b>
<b>Assets</b>		
Cash and cash equivalents	\$0	\$0
Receivables:		
Accrued interest and dividends	41,681	86,437
Distributions receivable	<u>24,827</u>	<u>23,725</u>
Total receivables	<u>66,508</u>	<u>110,162</u>
Investments, at fair value:		
Short Term Investments	1,057,821	1,254,975
US Bonds and Bills	4,695,915	5,866,926
Federal Agency Guaranteed Securities	2,213,851	3,472,047
Corporate Bonds	1,946,828	1,431,930
Stocks	23,115,393	19,264,027
Real Estate	<u>4,119,390</u>	<u>3,812,380</u>
Total investments	<u>37,149,198</u>	<u>35,102,285</u>
Total assets	<u>37,215,706</u>	<u>35,212,447</u>
<b>Liabilities</b>		
Accounts payable and accrued expenses	19,926	1,009
Prepaid contribution	<u>19,143</u>	<u>0</u>
Total liabilities	<u>39,069</u>	<u>1,009</u>
<b>Net position restricted for pensions</b>	<u>\$37,176,637</u>	<u>\$35,211,438</u>

## Statement of Changes in Fiduciary Net Position

<b>As of September 30,</b>	<b>2016</b>	<b>2015</b>
<b>Additions</b>		
Contributions:		
Employer	\$853,491	\$852,721
State of Florida	252,594	228,139
Employees	<u>191,664</u>	<u>191,782</u>
Total contributions	<u>1,297,749</u>	<u>1,272,642</u>
Investment income (loss):		
Net appreciation in fair value of investments	2,314,450	(290,719)
Interest and dividends	<u>842,106</u>	<u>924,541</u>
Total investment income	<u>3,156,556</u>	<u>633,822</u>
Less investment expenses:		
Investment expense	<u>240,910</u>	<u>248,224</u>
Net investment income	<u>2,915,646</u>	<u>385,598</u>
Total additions	<u>4,213,395</u>	<u>1,658,240</u>
<b>Deductions</b>		
Benefit payments	2,121,199	1,792,149
Refunds of contributions	19,926	1,269
Administrative expenses	<u>107,071</u>	<u>86,344</u>
Total deductions	<u>2,248,196</u>	<u>1,879,762</u>
<b>Net increase in net position</b>	1,965,199	(221,522)
<b>Net position restricted for pensions</b>		
Beginning of year	<u>35,211,438</u>	<u>35,432,960</u>
End of year	<u>\$37,176,637</u>	<u>\$35,211,438</u>

## fNet Pension Liability

The total pension liability under GASB 67 and 68 is based on the October 1, 2016 actuarial valuation which used the following actuarial assumptions applied to all periods included in the measurement.

Inflation:	2.5%
Salary increases:	6.25% to 4.28% based on service, including inflation
Investment rate of return:	7.75% net of investment expense, including inflation
Mortality:	Mortality as used in the actuarial valuation of FRS, as follows:
Healthy Mortality:	Male:10% RP-2000 Annuitant White Collar+90% Annuitant Blue Collar Female:100% Annuitant White Collar – both male and female tables fully generational from 2000 using Scale BB
Disabled Mortality:	Male: 60% RP-2000 Disabled Retiree set back 4 years + 40% Annuitant White Collar Female: 60% Disabled Retiree set forward 2 years + 40% Annuitant White Collar - no projection scale applied to either the male or female table

Assumptions are based on the results of an actuarial experience study for the period October 1, 2006 to September 30, 2011. In the prior valuation, the mortality table was the RP-2000 Combined Mortality Table where Scale AA was applied to reflect mortality improvements to the valuation year. As required by state statute, the mortality table has been revised to the mortality assumption used for special risk employees in the valuation of the Florida Retirement System (FRS) as of July 1, 2015, as shown above.

The long-term expected net rate of return on investments was determined using a building-block method. Best-estimate ranges of expected future real rates of return (expected returns net of investment expense and inflation) are developed for each major asset class. The long-term expected net rate of return on investments is the best-estimate ranges weighted by the asset allocation plus expected inflation. Best estimates of arithmetic real rates of return for each major asset class as provided by the investment monitor are shown in the following table:

<b>Asset Class</b>	<b>Target Allocation %</b>	<b>Expected Long-Term Real Return</b>	<b>Weighted Average Expected Long-Term Real Return</b>
Domestic Equity	45.0%	7.5%	3.4%
International Equity	15.0%	8.5%	1.3%
Domestic Bonds	30.0%	2.5%	0.8%
International Bonds	0.0%	3.5%	0.0%
Real Estate	10.0%	4.5%	0.5%
	100.0%		6.0%

Based on the above target allocation and expected long-term real returns for each asset class, the weighted average expected long-term real return net of inflation is 6.0%. The investment monitor also indicated that the inflation estimate was 2.5% producing an expected long-term rate of return net of expenses, including inflation of 8.5%.

The discount rate used to measure the total pension liability was 7.75%. This is the single rate that reflects the long-term expected rate of return on pension plan investments expected to be used to finance the payment of benefits. A projection of cash flows used to determine the discount rate assumed that plan member contributions are made at the current contribution rate and that City contributions will be made equal to the difference between the actuarially determined contribution and the member contributions. Based on those assumptions, the pension plan's fiduciary net position is projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-



## Schedule of Changes in Net Pension Liability and Related Ratios

This schedule will be updated each year until a 10-year history is accumulated.

Year Ending September 30,	2016	2015	2014
<b>Total pension liability</b>			
Service cost	\$543,187	\$550,357	\$478,211
Interest	3,086,536	3,009,258	2,881,001
Changes of benefit terms	0	0	118,425
Differences between expected and actual experience	26,221	(642,610)	96,146
Changes of assumptions	710,848	44,151	41,761
Benefit payments	(2,121,199)	(1,792,149)	(2,240,182)
Refunds of member contributions	<u>(19,926)</u>	<u>(1,269)</u>	<u>(8,102)</u>
<b>Net change in total pension liability</b>	2,225,667	1,167,738	1,367,260
<b>Total pension liability - beginning</b>	<u>40,395,945</u>	<u>39,228,207</u>	<u>37,860,947</u>
<b>Total pension liability - ending (a)</b>	\$42,621,612	\$40,395,945	\$39,228,207
<b>Plan fiduciary net position</b>			
Contributions - employer	\$853,491	\$852,721	\$869,837
Contributions - State of Florida	252,594	228,139	233,451
Contributions - employee	191,664	191,782	167,975
Net investment income	2,915,646	385,598	3,088,757
Benefit payments	(2,121,199)	(1,792,149)	(2,240,182)
Refunds of member contributions	(19,926)	(1,269)	(8,102)
Administrative expense	(107,071)	(86,344)	(86,354)
Other	<u>0</u>	<u>0</u>	<u>0</u>
<b>Net change in plan fiduciary net position</b>	1,965,199	(221,522)	2,025,382
<b>Plan fiduciary net position - beginning</b>	<u>35,211,438</u>	<u>35,432,960</u>	<u>33,407,578</u>
<b>Plan fiduciary net position - ending (b)</b>	\$37,176,637	\$35,211,438	\$35,432,960
<b>Net pension liability - ending (a) - (b)</b>	\$5,444,975	\$5,184,507	\$3,795,247
<b>Plan fiduciary net position as a percentage of the total pension liability</b>	87.22 %	87.17 %	90.33 %
<b>Covered employee payroll</b>	\$3,169,645	\$2,938,951	\$2,899,869
<b>Net pension liability as a percentage of covered employee payroll</b>	171.78 %	176.41 %	130.88 %

**Notes to Schedule:**

Effective with the October 1, 2016 actuarial valuation, the mortality table was revised to the mortality assumption used for special risk employees in the valuation of the Florida Retirement System (FRS), as required by state statute. Prior to this change the RP-2000 Combined Mortality Table using Scale AA projected to the valuation year was used.

## Statement of Changes in Net Pension Liability

	Increase (Decrease)		
	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (a) - (b)
<b>Balances at 9/30/2015</b>	\$40,395,945	\$35,211,438	\$5,184,507
<b>Changes for the year:</b>			
Service cost	543,187		543,187
Interest	3,086,536		3,086,536
Changes of benefit terms	0		0
Differences between expected and actual experience	26,221		26,221
Changes of assumptions	710,848		710,848
Contributions—employer		853,491	(853,491)
Contributions—State of Florida		252,594	(252,594)
Contributions—employee		191,664	(191,664)
Net investment income		2,915,646	(2,915,646)
Benefit payments, including refunds of employee contributions	(2,141,125)	(2,141,125)	0
Administrative expense		(107,071)	107,071
Other changes		0	0
<b>Net changes</b>	<u>2,225,667</u>	<u>1,965,199</u>	<u>260,468</u>
<b>Balances at 9/30/2016</b>	<u>\$42,621,612</u>	<u>\$37,176,637</u>	<u>\$5,444,975</u>

## Pension Expense and Deferred Outflows and Inflows of Resources

Pension expense for the year ended September 30, 2016 is as shown below.

<b>Description</b>	<b>Amount</b>
Service cost	\$543,187
Interest on the total pension liability	3,086,536
Changes of benefit terms	0
Differences between expected and actual experience	(154,098)
Changes of assumptions	188,750
Employee contributions	(191,664)
Projected earnings on pension plan investments	(2,715,341)
Differences between projected and actual earnings on plan investments	432,166
Pension plan administrative expense	107,071
Other changes in fiduciary net position	0
Total pension expense	<u>\$1,296,607</u>

There are deferred outflows and inflows of resources from the following sources:

	<b>Deferred Outflows of Resources</b>	<b>Deferred Inflows of Resources</b>
Differences between expected and actual experience	\$19,666	\$321,304
Changes of assumptions	555,211	0
Net difference between projected and actual earnings	<u>1,416,679</u>	<u>160,244</u>
Total	<u>\$1,991,556</u>	<u>\$481,548</u>

Amounts reported as deferred outflows and inflows of resources related to pensions will be recognized in pension expense as follows:

<b>Year ended September 30:</b>	
2017	\$466,818
2018	466,819
2019	616,432
2020	(40,061)
2021	0

## Recognition of Deferred Outflows and Inflows of Resources

<u>Year</u>	<u>Original Amount</u>	<u>Recognition Period</u>	<u>Measurement Year Recognition</u>				
			<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>
Differences between Expected and Actual Experience							
2015	(642,610)	4.0	(160,653)	(160,653)	(160,651)	0	0
2016	26,221	4.0	6,555	6,555	6,555	6,556	0
Changes in Assumptions							
2015	44,151	4.0	11,038	11,038	11,037	0	0
2016	710,848	4.0	177,712	177,712	177,712	177,712	0
Differences between Projected and Actual Earnings on Pension Plan Investments							
2015	2,361,133	5.0	472,227	472,227	472,227	472,225	0
2016	(200,305)	5.0	(40,061)	(40,061)	(40,061)	(40,061)	(40,061)

## Schedule of Contributions

Year Ending September 30,	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007
Actuarially determined contribution	\$1,106,085	\$1,080,860	\$1,103,288	\$1,124,361	\$1,069,836	\$1,003,043	\$808,241	\$614,497	\$607,358	\$578,539
Contributions in relation to the actuarially determined contribution	<u>1,106,085</u>	<u>1,080,860</u>	<u>1,103,288</u>	<u>1,124,361</u>	<u>1,069,836</u>	<u>1,003,043</u>	<u>808,241</u>	<u>614,497</u>	<u>607,358</u>	<u>578,539</u>
Contribution deficiency (excess)	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>
Covered employee payroll	\$3,169,645	\$2,938,951	\$2,899,869	\$2,947,305	\$3,013,887	\$3,297,317	\$3,577,177	\$3,733,644	\$3,659,849	\$3,415,819
Contributions as a percentage of covered-employee payroll	34.90 %	36.78 %	38.05 %	38.15 %	35.50 %	30.42 %	22.59 %	16.46 %	16.60 %	16.94 %

### Notes to Schedule

Actuarially determined contributions are calculated based on the valuation as of the beginning of the year prior to the fiscal year in which contributions are due.

#### Methods and assumptions used to determine contributions:

Actuarial cost method	Entry age
Amortization method	Level dollar, closed
Remaining amortization period	25 years
Asset valuation method	5-year smoothed market
Inflation	2.5%
Salary increases	Scale of increase rates from 6.25% to 4.28% depending on years of service, including inflation
Investment rate of return	7.75% net of investment expenses, including inflation
Retirement age	See "Description of Assumptions and Methods" for the assumed retirement age assumption
Mortality	Effective with the October 1, 2016 actuarial valuation, the mortality table was been revised to the mortality assumption used for special risk employees in the valuation of the Florida Retirement System (FRS), as required by state statute.

Healthy (Male:10% RP-2000 Annuitant White Collar+90% Annuitant Blue Collar/Female:100% Annuitant White Collar) - Generational from 2000 Scale BB  
 Disabled (Male: 60% RP-2000 Disabled Retiree SB4 + 40% Annuitant White Collar/Female: 60% Disabled Retiree SF2 + 40% Annuitant White Collar) - No Projection  
 Prior to this change the RP-2000 Combined Mortality Table using Scale AA projected to valuation year was used.

## Schedule of Investment Returns

This schedule will be updated each year until a 10-year history is accumulated.

<b>Year Ending September 30,</b>	<b>Annual money-weighted rate of return net of investment expense</b>
2016	7.99%
2015	0.87%
2014	9.08%
2013	14.17%
2012	19.27%
2011	(1.69%)
2010	9.89%
2009	(1.41%)
2008	(12.28%)
2007	14.97%

## Plan Membership Statistics

<b>Valuation for Year Beginning October 1,</b>	<b>2015</b>	<b>2016</b>
Inactive members or beneficiaries currently receiving benefits	46	48
Inactive members entitled to but not yet receiving benefits	1	2
Active members	<u>50</u>	<u>48</u>
Total	<u>97</u>	<u>98</u>

## Plan Description

Plan Type: Single-employer Defined Benefit Pension Plan

Legal Authority: The Plan was established and is amended by local ordinance.

Effective Date: October 19, 1954. Most recently Plan provisions have been amended with the following ordinances.

<u>Ord. No.</u>	<u>Adopted</u>	<u>Ord. No.</u>	<u>Adopted</u>
2010-11	02/02/2010	2013-02	01/08/2013
2010-21	08/17/2010	2014-06	03/04/2014
2011-07	07/19/2011	2014-09	04/15/2014
2011-08	07/19/2011		

Plan Administrator: The Board of Trustees

Board Composition: The trustees consist of five members which may include participants of any DROP who have at least 18 months remaining in the DROP at the time they take office, none who are elected city officials, and who are selected as follows:

- (a) Two members who are legal residents of the city appointed by city council,
- (b) Two are police officer participants elected by a majority of the active police officer members of this fund, and
- (c) The fifth member is chosen by a majority of the previous four members and will be appointed to the board of trustees by city council, as a ministerial duty.

Funding Requirements: Employer contributions are actuarially determined and subject to State statute. Employee contributions are as described below and may be amended by ordinance.

Plan Year: The 12-month period from October 1st to the following September 30th.

Member: Full-time sworn police officers are eligible immediately upon hire.

Credited Service: Aggregate years and fractional part of years as a contributing Member, including unused medical leave days in excess of 120 days. Effective with Ordinance 2013-21, accrued sick leave under 120 days and accrued vacation under 60 days may be applied to service for Normal Retirement eligibility and benefits only. Credited Service also includes certain military service. Additional Credited Service may be purchased. Unused annual and medical leave will be used in the calculation of benefits as reported to the Board by the City per City policy

Vesting: 100% upon earning ten years of Credited Service.

Compensation: Total cash remuneration including shift differential, state and local incentives, "actual overtime" (but excluding "court overtime") paid by the city to a police officer for services rendered. Payments for accrued unused sick or annual leave are not included. Effective with Ordinance 2013-02, overtime is limited to 300 hours per calendar year. Compensation or salary contributed as employee-elective salary reductions or deferrals to any salary reduction, deferred compensation, or tax-sheltered annuity program authorized under IRC is included. For the purpose of benefit calculation the Board of

Trustees shall use the employee's compensation as reported by the City in accordance with the City's policies.

Employee Contributions: Prior to Ordinance 2013-02, 3.0% of Compensation. Effective with Ordinance 2013-02, Employee Contributions are increased to 5.5% of Compensation for Members hired prior to October 1, 2012 and to 8.0% of Compensation for Members hired after October 1, 2012. A Member who terminates non-vested is entitled to refund of accumulated Employee Contributions without interest.

Average Monthly Salary: One-twelfth the average of Compensation for the five highest years of Credited Service.

Normal Retirement Date: The first day of the month coincident with or next following the earlier of (i) age 55 and ten years of Credited Service, or (ii) 25 years of Credited Service with no age requirement.

Accrued Benefit:  $3\% \times \text{Average Monthly Salary} \times \text{Credited Service}$ , plus  $\$5 \times \text{Credited Service}$ .

Cost-of-Living-Adjustment: 1% annually on October 1<sup>st</sup>.

Late Retirement Benefit: Benefit as determined for Normal Retirement taking into account Compensation and Credited Service through the actual date of retirement.

Early Retirement Date: The first day of the month coincident with or next following the date the Member earns ten years of Credited Service and attains age 50.

Early Retirement Benefit: The Accrued Benefit reduced by 2.5% for each year the Member is younger than the Normal Retirement Date. (Note: the early retirement reduction is only taken on the 3% multiplier benefit and is not taken on the flat  $\$5 \times \text{Credited Service}$  benefit.)

Disability Benefits: Members are eligible for service-connected Disability Benefits immediately upon hire. Members are eligible for a non-service-connected Disability Benefit after earnings at least ten years of Credited Service. The monthly Disability Benefit is the greater of (i) the Accrued Benefit and (ii) 50% of Average Monthly Salary.

Pre-Retirement Survivor Benefits: Members are eligible for service-connected Pre-Retirement Survivor Benefits immediately upon hire. Members are eligible for non-service-connected Pre-Retirement Survivor Benefits after one year of service. The monthly survivor benefit is the greater of (i) the Accrued Benefit and (ii) 25% of Average Monthly Salary.

Optional Forms of Benefit: Pension benefits described above are payable in the form of a 10 year certain and continuous annuity. Members may optionally choose an actuarially equivalent single life annuity, or joint and last survivor annuity (with 50%, 66 2/3, 75%, or 100% continuance), or a joint and survivor annuity (with 50%, 66 2/3, 75%, or 100% continuance).

Actuarial Equivalence: The 1983 Group Annuity Mortality Table (100% male) and an interest rate of 7.0% (with no COLA assumed payable) is defined for use in the determination of Optional Forms of Benefit.

Deferred Retirement Option Plan (DROP): Members are eligible to enter the DROP at the Normal Retirement Date. The Accrued Benefit is frozen and no further Employee Contributions are payable at DROP entry. The Accrued Benefit accumulates at the net investment return earned on Fund assets less an administrative fee. The maximum DROP participation duration is 5 years. DROP participants are not eligible for pre-retirement death or disability benefits.

## Actuarial Assumptions and Methods

Assumed Rate of Investment Return: 7.75% per year net of investment expenses.

Salary Increase – Total Payroll: Based on individual salary increase assumptions and other decrements assumed in the valuation of Plan liabilities.

Salary Increase – Individual: The following table of annual increases based on service:

<u>Service</u>	<u>Rate</u>	<u>Service</u>	<u>Rate</u>	<u>Service</u>	<u>Rate</u>
0	6.250%				
1	5.850%	11	4.850%	21	4.500%
2	5.600%	12	4.800%	22	4.475%
3	5.500%	13	4.750%	23	4.450%
4	5.350%	14	4.700%	24	4.425%
5	5.250%	15	4.650%	25	4.400%
6	5.150%	16	4.625%	26	4.375%
7	5.100%	17	4.600%	27	4.350%
8	5.000%	18	4.575%	28	4.325%
9	4.950%	19	4.550%	29	4.300%
10	4.900%	20	4.525%	30	4.275%

Mortality: In the prior valuation, the mortality table was the RP-2000 Combined Mortality Table where Scale AA was applied to reflect mortality improvements to the valuation year. The mortality table has been revised to the mortality assumption used for special risk employees in the valuation of the Florida Retirement System (FRS), as required by state statute. The mortality rates are as follows:

Healthy mortality:	Males:	10% RP-00 Annuitant White Collar + 90% RP-00 Annuitant Blue Collar
	Females:	100% RP-00 Annuitant White Collar
	Both male and female rates fully generational using Scale BB	
Disabled mortality:	Males:	60% RP-00 Disabled Retiree Set Back 4 Years + 40% RP-00 Annuitant White Collar
	Females:	60% RP-00 Disabled Retiree Set Forward 2 Yrs + 40% RP-00 Annuitant White Collar
	No mortality improvement is assumed for disabled lives.	

75% of active deaths are assumed to be service connected.

Retirement: Members are assumed to retire at a rate of 5% per year eligible for early retirement. In the year of the Normal Retirement Date, Members are assumed to retire at a rate of 80%. For each of the four years subsequent to the Normal Retirement Date, Members are assumed to retire at 40%. 100% of Members are assumed to retire in the fifth year subsequent to the Normal Retirement Date.

Termination: Unisex rates, as follows:

<u>Service</u>	<u>Rate</u>
<6	12.00%
6-10	4.00%
11-15	3.00%
16-19	2.00%
20-24	1.00%

Termination rates are not applied when an active member reaches the age and service combinations where non-zero retirement decrements are in force.

Disability: Unisex rates, as follows:

<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
<=15	0.00%	34	0.22%	43	0.39%	52	1.20%
16-21	0.14%	35	0.23%	44	0.44%	53	1.31%
22-25	0.15%	36	0.24%	45	0.51%	54	1.43%
26-27	0.16%	37	0.25%	46	0.59%	55	1.55%
28-29	0.17%	38	0.26%	47	0.70%	56	1.68%
30	0.18%	39	0.28%	48	0.79%	57	1.81%
31	0.19%	40	0.30%	49	0.90%	58	1.95%
32	0.20%	41	0.32%	50	1.00%	59	2.09%
33	0.21%	42	0.35%	51	1.10%	>=60	0.00%

75% of disabilities are assumed to be service connected.

Accrued Leave: Retirement benefits are increased 1% to account for sick leave over 120 days. In addition, Members are assumed to include accrued sick leave under 120 days and accrued vacation under 60 days as 0.6923 in Credited Service for Normal Retirement eligibility and benefits. Normal Retirement benefits are increased by the following table of factors based on Credited Service earned:

<u>Service</u>	<u>Factor</u>	<u>Service</u>	<u>Factor</u>	<u>Service</u>	<u>Factor</u>	<u>Service</u>	<u>Factor</u>
10	1.0692	15	1.0462	20	1.0346	25	1.0277
11	1.0629	16	1.0433	21	1.0330	26	1.0266
12	1.0577	17	1.0407	22	1.0315	27	1.0256
13	1.0533	18	1.0385	23	1.0301	28	1.0247
14	1.0495	19	1.0364	24	1.0288	29	1.0239
						30	1.0231

Plan Expenses: An average of the prior two years of administrative expense is added to the normal cost.

Marital Assumption: 100% are assumed married with husbands assumed to be three years older than wives.

Liability Load: Liabilities are loaded by 0.9% to reflect the exclusion of the COLA in the determination of optional forms of benefit.

Funding Method: Entry Age (level percent of salary)