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City of Vero Beach

Police Officers' Retirement Fund

Actuarial Valuation as of October 1, 2018

February 22, 2019 (Revised from January 28, 2019)

REPORT TO DETERMINE MINIMUM FUNDING REQUIREMENTS
FOR THE PLAN AND FISCAL YEAR
ENDING SEPTEMBER 30, 2020

FREIMAN LITTLE ACTUARIES

February 22, 2019

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

RE: Actuarial Valuation as of October 1, 2018

Dear Board Members:

We are pleased to present the actuarial valuation as of October 1, 2018 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, 2020 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,

Chad M. Little, ASA, EA
Partner, Consulting Actuary
Enrollment Number 17-6619

Paula C. Freiman, ASA, EA
Partner, Consulting Actuary
Enrollment Number 17-5796

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Section 1 Board Summary

This report presents the results of the October 1, 2018 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, 2018 are compared with the results of the last two valuations below.

Minimum Funding Requirements

Fiscal Year Ending September 30,	2018	2019	2020
Minimum Required City Contribution*	$779,802	$827,878	$798,906
Expected State Contribution	252,594	241,345	258,540
Employer Minimum Funding Required (City plus State)	$1,032,396	$1,069,223	$1,057,446
Minimum Required City Contribution*	29.31%	27.62%	28.63%
Expected State Contribution	9.49%	8.05%	9.27%
Employer Minimum Funding Required (City plus State)	38.80%	35.67%	37.90%

Funded Status

Valuation Date October 1,	2016	2017	2018
Accrued Liability (AL)	$42,621,612	$44,533,618	$46,846,951
Actuarial Value of Assets	37,831,183	40,081,886	42,393,706
Unfunded Accrued Liability (UAL)	$4,790,429	$4,451,732	$4,453,245
Funded Percentage	88.76%	90.00%	90.49%

Key Assumptions

Valuation Date October 1,	2016	2017	2018
Assumed Rate of Investment Return	7.75%	7.75%	7.65%
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 48 to 46 with 3 members entering the DROP, 5 members terminated non-vested, and there were 6 new hires. Historical pay information follows.

Year Ended 9/30	Average Annual Salary Increase for Continuing Active Members: Actual	Average Annual Salary Increase for Continuing Active Members: Expected	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
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%
2017	10.4%	4.8%	3,261,894	2.9%	2017	3,330,246	9.7%
2018	0.6%	4.8%	3,259,812	(0.1%)	2018	3,118,977	(6.3%)
Average:	2.5%	5.5%		(1.2%)			(2.1%)

Overall, there was a small demographic gain. 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 10.3%. 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, an 8.3% 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.

	Net Investment Return	
Year Ending September 30,	Market Value	Actuarial Value
2018	10.3%	8.3%
2017	11.8%	8.6%
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%
10-Year Average:	8.0%	5.9%

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

Plan Provisions

Ordinance No. 2018-02 adopted effective January 16, 2018 created the Share Plan. It will not be activated, funded, or otherwise utilized unless and until a portion of Chapter 185 premium tax revenues have been assigned to fund the Share Plan. The current CBAs cover the period from October 1, 2015 through September 30, 2018. Section 25.06 of the International Union of Police Associations, Vero Beach Police Officers' Association, Local 6019 CBA and section 25.07 of the Coastal Florida Police Benevolent Association Lieutenant's CBA state "The City and the Union agree that all premium tax revenues received from the date of this Agreement into the future shall be used to fund current benefit levels and offset the City's contributions toward the retirement plan." Our impact statement dated June 15, 2017 indicates that in years when the Share Plan is funded, premium tax revenues that would have been used toward offsetting the City's portion of the actuarially determined minimum required contribution would be used toward funding benefits under the Share Plan. The increase in cost to the City would be equal to the contributions made to the Share Plan. As mutual consent calls for all premium tax revenues received on and after October 1, 2015 to be used to fund the actuarially determined contribution, there is no impact for the ordinance at this time.

Ordinance No. 2018-10 adopted effective August 21, 2018 allows members participating in the DROP to serve as employee elected trustees. Our impact statement dated May 24, 2018 indicated there is no impact for this change in Plan provisions as the total amount of benefits payable under the Plan is unchanged.

Ordinance No. 2018-14 adopted effective September 18, 2018 extended the period for members to elect to purchase service to 90 days following the date the member attains 10 years of service and eliminated the option for members to purchase cost over a period of five years. Our impact statement dated February 21, 2018 indicated there is no impact for this change in Plan provisions as the total amount of benefits payable under the Plan is unchanged.

Methods

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

Assumptions

The net assumed rate of investment return was revised from 7.75% used in the October 1, 2017 actuarial valuation to 7.65% for this October 1, 2018 actuarial valuation of the Plan as directed by the Board of Trustees. The 7.65% assumed return is a prescribed assumption as defined by Actuarial Standard of Practice No. 27 (ASOP 27), as it is set by the Board. The prescribed assumption significantly conflicts with our judgment regarding what would constitute a reasonable assumption for the purpose of the measurement as discussed in ASOP 27. As discussed with the Board we recommend lowering the net assumed return further.

State Contributions

The "Minimum Required City Contribution" shown on page 1 assumes that the premium tax money received from the State will be in the same amount recognized in the prior year. Should the amount received be less than expected the City must contribute the difference.

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, 2017		October 1, 2018	
Short term investments	$764,294	2%	$783,731	2%
Equity	26,925,049	67%	26,751,369	61%
Fixed income	8,635,133	21%	11,879,123	27%
Real estate	4,169,433	10%	4,285,081	10%
Net receivables/payables	45,749	0%	(17,166)	0%
Net market value of assets	$40,539,658	100%	$43,682,138	100%

Reconciliation of Market Value of Assets

Year Ending September 30,		2017	2018
1.	**Market Value of Assets Beginning of Year**	$37,176,637	$40,539,658
2.	Contributions		
	a. City	$756,381	$773,856
	b. State	241,345	258,540
	c. Plan Members	208,521	213,729
	d. Total Contributions	$1,206,247	$1,246,125
3.	Investment earnings		
	a. Realized gains and (losses)	$(52,339)	$(166,010)
	b. Unrealized gains and (losses)	3,846,849	3,655,108
	c. Interest and dividends	821,960	958,392
	d. Investment expense	(279,562)	(328,010)
	e. Net investment income	$4,336,908	$4,119,480
4.	Deductions		
	a. Regular pension benefits	$(2,007,242)	$(2,030,824)
	b. Contribution refunds	(55,911)	(56,694)
	c. DROP distributions	0	0
	d. Administrative expenses	(116,981)	(135,607)
	e. Total Deductions	$(2,180,134)	$(2,223,125)
5.	**Market Value of Assets End of Year**	$40,539,658	$43,682,138

Development of Historical Gain or Loss on Market Value of Assets

Year Ending September 30,		2018	2017
1.	Market Value of Assets - Beginning of Year	$40,539,658	$37,176,637
2.	Contributions	1,246,125	1,206,247
3.	Benefit Payments + Administrative Expenses	(2,223,125)	(2,180,134)
4.	Expected Return on Assets	3,123,933	2,863,409
5.	Expected Value of Assets at End of Year	$42,686,591	$39,066,159
6.	Market Value of Assets - End of Year	$43,682,138	$40,539,658
7.	Gain (Loss) for Plan Year	$995,547	$1,473,499

		2016	2015
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	2,715,341	2,746,731
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)

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, 2018			$43,682,138
2.	Phase-In Gains (Losses) Over Five Year Period			
		Original Gain (Loss)	Percent Unrecognized	Unrecognized Gain (Loss)
	a. Year Ending 9/30/2018	$995,547	80%	$796,438
	b. Year Ending 9/30/2017	1,473,499	60%	884,099
	c. Year Ending 9/30/2016	200,305	40%	80,122
	d. Year Ending 9/30/2015	(2,361,133)	20%	(472,227)
	e. Year Ending 9/30/2014	516,216	0%	0
	f. Total			$1,288,432
3.	Preliminary Actuarial Value of Assets as of October 1, 2018			$42,393,706
4.	Corridor Around Market Value			
	a. Minimum = 80% of Market Value of Assets			$34,945,710
	b. Maximum = 120% of Market Value of Assets			$52,418,566
	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, 2018			$42,393,706

Present Value of Benefits

Valuation as of October 1,	2017	2018
1. **Active Members**		
a. Retirement Benefits	$18,317,011	$16,494,104
b. Deferred Benefits	640,306	638,175
c. Survivor Benefits	211,141	200,596
d. Disability Retirement	861,601	807,042
e. Total for Active Members	$20,030,059	$18,139,917
2. **Members in Payment Status**		
a. Retirement Benefits	$26,923,834	$31,268,557
b. Terminated Vested	396,454	209,214
c. Beneficiaries	1,145,058	1,134,532
d. Disability Retirement	208,472	206,215
e. Total for Members in Payment Status	$28,673,818	$32,818,518
3. **Present Value of Benefits**	$48,703,877	$50,958,435

Accrued Liability

Valuation as of October 1,		2017	2018
1.	**Active Members**		
a.	Retirement Benefits	$15,129,043	$13,326,490
b.	Deferred Benefits	158,828	165,873
c.	Survivor Benefits	114,272	108,221
d.	Disability Retirement	457,657	427,849
e.	Total for Active Members	$15,859,800	$14,028,433
2.	**Members in Payment Status**		
a.	Retirement Benefits	$26,923,834	$31,268,557
b.	Terminated Vested	396,454	209,214
c.	Beneficiaries	1,145,058	1,134,532
d.	Disability Retirement	208,472	206,215
e.	Total for Members in Payment Status	$28,673,818	$32,818,518
3.	**Accrued Liability**	$44,533,618	$46,846,951

Normal Cost – Entry Age Normal

Valuation as of October 1,		2017	2018
1.	**Preliminary Normal Cost**		
a.	Retirement Benefits	$486,207	$465,571
b.	Deferred Benefits	73,155	67,140
c.	Survivor Benefits	15,436	13,927
d.	Disability Retirement	62,490	56,523
e.	Total	$637,288	$603,161
2.	**Total Normal Cost**		
a.	Preliminary Normal Cost	$637,288	$603,161
b.	Estimated Administrative Expense	112,026	126,294
c.	Total Normal Cost	$749,314	$729,455
d.	Total Normal Cost (% of Pay)	22.5%	23.4%
3.	**Actual Employer Normal Cost**		
a.	Total Normal Cost	$637,288	
b.	Actual Administrative Expense	135,607	
c.	Actual Employee Contributions	(213,729)	
d.	Actual Employer Normal Cost	$559,166	
4.	**Valuation Payroll**		
a.	Hires After 10/1/2012	$781,354	$1,003,067
b.	Hires Prior to 10/1/2012	2,548,892	2,115,910
c.	Total	$3,330,246	$3,118,977

Unfunded Accrued Liability

Valuation as of October 1,	2018
Unfunded Actuarial Liability	
1. Accrued Liability	$46,846,951
2. Actuarial Value of Assets	42,393,706
3. Unfunded Accrued Liability	$4,453,245
Determination of Expected Unfunded Accrued Liability	
1. Unfunded Accrued Liability as of Prior Year	$4,451,732
2. Normal Cost (Net of Employee Contributions)	559,166
3. Interest on UAL and NC	388,345
4. Contributions	
a. City	$773,856
b. State of Florida	258,540
c. Total	$1,032,396
5. Interest on Contribution for Time on Deposit	59,974
6. Change in Plan, Methods or Assumptions	495,820
7. Expected UAL as of Current Year	$4,802,693
Calculation of (Gain) or Loss	
1. Actual Unfunded Accrued Liability	$4,453,245
2. Expected UAL	4,802,693
3. Total (Gain) or Loss	$(349,448)
4. Breakdown of (Gain) or Loss	
a. Investment Experience	$(200,364)
b. Demographic Experience	(149,084)
c. Total (Gain) or Loss	$(349,448)
Calculation of Actuarial Asset Gain or (Loss)	
1. Actuarial Value of Assets - Beginning of Year	$40,081,886
2. Expected Interest on Assets	3,106,346
3. Contributions	1,246,125
4. Benefit Payments + Administrative Expenses	(2,223,125)
5. Interest on items (3) and (4)	(17,890)
6. Expected Value of Assets at End of Year	$42,193,342
7. Actuarial Value of Assets - End of Year	42,393,706
8. Gain (Loss) for Plan Year = (7) - (6)	$200,364
9. Actual Investment Income	$3,288,820
10. Actual % Return	8.31%

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 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.

Amortization Bases

Date 10/1	Source	Original Balance	Remaining Balance Before Adjustment	Remaining Balance	Years Remain	Amortization Payment
2015	Fresh Start	$4,963,557	$4,434,336	$4,364,423	22	$386,509
2016	(Gain)/Loss	(590,556)	(562,327)	(553,461)	23	(48,171)
2016	Assumption Change	710,848	676,868	666,196	23	57,983
2017	(Gain)/Loss	(176,777)	(174,269)	(171,521)	24	(14,694)
2017	Assumption Change	1,274	1,256	1,236	24	106
2018	(Gain)/Loss	(349,448)	(349,448)	(349,448)	25	(29,506)
2018	Assumption Change	495,820	495,820	495,820	25	41,864
Total			$4,522,236	$4,453,245		$394,091

Projected Unfunded Accrued Liability and Amortization Payments

Valuation as of October 1,	Unfunded Accrued Liability	Amortization Payment
2018	$4,453,245	$394,091
2019	4,369,679	394,092
2020	4,279,720	394,092
2021	4,182,878	394,092
2022	4,078,628	394,092
2023	3,966,403	394,092
2024	3,845,593	394,092
2025	3,715,541	394,092
2026	3,575,540	394,092
2027	3,424,829	394,092
2028	3,262,588	394,092
2029	3,087,936	394,092
2030	2,899,923	394,092
2031	2,697,527	394,093
2032	2,479,647	394,092
2033	2,245,100	394,093
2034	1,992,609	394,092
2035	1,720,803	394,093
2036	1,428,204	394,092
2037	1,113,221	394,093
2038	774,142	394,093
2039	409,122	394,095
2040	16,177	7,583
2041	9,251	(2,229)
2042	12,359	12,359

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,	2017 2019	2018 2020
As a Dollar Amount		
1. Total Normal Cost	$749,314	$729,455
2. Amortization of Unfunded Accrued Liability	390,605	394,091
3. Minimum Required Contribution at Valuation Date	$1,139,919	$1,123,546
4. Interest Adjustment	$112,283	$110,603
5. Expected Employee Contributions	$182,979	$176,703
6. Expected State Contribution	241,345	258,540
7. Remaining City Minimum Required Contribution	827,878	798,906
8. Total Minimum Required Contribution for Funding Year	$1,252,202	$1,234,149
9. City Plus State Minimum Required Contribution Projected to **Beginning** of Funding Year	$1,069,223	$1,057,446
As a Percent of Payroll		
10. Expected Employee Contributions	6.10%	6.33%
11. Expected State Contribution	8.05%	9.27%
12. Remaining City Minimum Required Contribution	27.62%	28.63%
13. Total Minimum Required Contribution for Funding Year	41.78%	44.23%
14. City Plus State Minimum Required Contribution Projected to **Beginning** of Funding Year	35.67%	37.90%
15. Valuation Payroll		
a. Hires After 10/1/2012	$781,354	$1,003,067
b. Hires Prior to 10/1/2012	2,548,892	2,115,910
c. Total	$3,330,246	$3,118,977
16. Projected Valuation Payroll		
a. Hires After 10/1/2012	$724,772	$929,501
b. Hires Prior to 10/1/2012	2,272,675	1,860,790
c. Total	$2,997,447	$2,790,291

Reconciliation of Unfunded Accrued Liability

	Unfunded Accrued Liability	Funded Percent	Change in Unfunded Accrued Liability	Change in Funded Percent
As of Prior Valuation	$4,451,732	90.00%		
Changes in Contribution Rate due to:				
Normal Operation of Plan	4,306,873	90.74%	$(144,859)	0.74%
Investment Experience	4,106,509	91.17%	(200,364)	0.43%
Demographic Experience	3,957,425	91.46%	(149,084)	0.29%
Net Assumed Return 7.65%	4,453,245	90.49%	495,820	(0.97%)
Total Changes			$1,513	0.49%
As of Current Valuation	$4,453,245	90.49%		

Reconciliation of City Minimum Required Contribution

	Dollar Amount	Percent of Pay
As of Prior Valuation	$827,878	27.62 %
Changes in Contribution due to:		
Normal Operation of Plan	$0	0.00 %
Change in Expected State Contribution	(15,958)	(0.53)%
Investment Experience	(18,370)	(0.62)%
Demographic Experience	(50,421)	0.16 %
Net Assumed Return 7.65%	55,777	2.00 %
Total Changes	$(28,972)	1.01 %
As of Current Valuation	$798,906	28.63 %

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,	**2017**	**2018**
1. Actuarial present value of accumulated plan benefits		
a. Participants currently receiving benefits	$28,277,364	$32,609,304
b. Terminated members due deferred benefit	396,454	209,214
c. Other participants	12,577,871	10,992,562
d. Total vested plan benefits	$41,251,689	$43,811,080
e. Total non-vested plan benefits	230,149	250,591
f. Total accumulated plan benefits	$41,481,838	$44,061,671
2. Change in present value of accumulated plan benefits		
a. Accumulated plan benefits beginning of year		$41,481,838
b. Increase (decrease) during year due to:		
i. Plan change		$0
ii. Change in assumptions or methods		460,957
iii. Increase for interest and probability of payment due to decrease in discount period and benefits accrued		4,206,394
iv. Benefits paid		(2,087,518)
v. Other changes		0
vi. Net increase (decrease)		$2,579,833
c. Accumulated plan benefits end of year		$44,061,671

Other Disclosures Required by the State of Florida

Valuation as of October 1,	**2017**	**2018**
Present value of active member:		
Future salaries:	$22,286,455	$21,388,735
Future contributions:	1,406,088	1,414,334
Active member accumulated contributions:	1,405,123	1,334,270

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 mortality as used in the July 1, 2016, 2017, and 2018 actuarial valuation for special risk members of FRS.

(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 (5.65%)	Current Discount Rate (7.65%)	2% Increase (9.65%)
Total pension liability	$59,064,287	$46,846,951	$38,433,341
Plan fiduciary net position	(43,682,138)	(43,682,138)	(43,682,138)
Net pension liability	$15,382,149	$3,164,813	$(5,248,797)
Plan fiduciary net position as a percentage of the total pension liability	73.96%	93.24%	113.66%
Years of benefit payments:			
Expected for current members:	100	100	100
Paid for with current assets:	17.63	24.34	100.00
City Plus State Contribution Requirement, Plus Expected Employee Contributions			
Dollar Amount	$2,466,773	$1,234,149	$595,147
Percent of Payroll	88.41%	44.23%	21.33%

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.

Year Ending September 30,	**2018**	**2017**	**2016**	**2015**	**2014**
Assumed rate of return	7.75%	7.75%	7.75%	7.75%	7.75%
Actual rate of return	10.16%	11.45%	7.99%	0.87%	9.08%
Percentages of assets in:					
Cash	2%	2%	3%	4%	2%
Equity	61%	67%	62%	54%	64%
Bond	27%	21%	24%	31%	25%
Alternative	10%	10%	11%	11%	9%
Total	100%	100%	100%	100%	100%

Section 4 Supplementary Information

Summary of Participant Data

Member Statistics

Year Beginning October 1,	2017	2018
Active Participants		
Number	48	46
Average Age	38.7	38.0
Average Credited Service	11.8	11.3
Percent Male	91.7	95.7
Average Valuation Salary	$ 69,380	$ 67,804
Total Valuation Salary	$ 3,330,246	$ 3,118,977
Payroll Covered in Valuation	$ 3,330,246	$ 3,118,977
Annual Report	$ 3,261,894	$ 3,259,812
Terminated With Rights to Deferred Benefits		
Number	3	2
Average Age	44.6	43.2
Percent Male	100.0	100.0
Average Annual Benefit	$ 22,066	$ 19,818
Retired and DROP Participants		
Number	42	46
Average Age	63.9	63.7
Percent Male	95.2	95.7
Average Annual Benefit	$ 50,431	$ 52,217
DROP Balance	$ 516,671	$ 850,680
Beneficiaries		
Number	5	5
Average Age	66.9	67.9
Percent Male	0.0	0.0
Average Annual Benefit	$ 25,033	$ 25,283
Disability Retirements		
Number	2	2
Average Age	71.5	72.5
Percent Male	100.0	100.0
Average Annual Benefit	$ 13,593	$ 13,729

Number of Active Members by Age and Service as of October 1, 2018

	Service							
Age	< 1	< 5	< 10	< 15	< 20	< 25	25+	Total
< 21	1							1
< 25	2	4						6
< 30	2	3	1					6
< 35		4	1	2				7
< 40			1	1	1			3
< 45	1			3	3	3		10
< 50		1		2	3	1	1	8
< 55					1		3	4
55+							1	1
Total	6	12	3	8	8	4	5	46

Active Valuation Pay by Age and Service as of October 1, 2018

	Service							
Age	< 1	< 5	< 10	< 15	< 20	< 25	25+	Total
< 21	46,256							46,256
< 25	43,409	51,437						48,761
< 30	42,866	49,958	53,171					48,130
< 35		54,365	61,986	64,316				58,297
< 40			54,367	75,798	65,009			65,058
< 45	52,071			69,852	77,206	98,566		78,894
< 50		51,571		65,750	79,712	64,310	102,430	73,618
< 55					92,325		108,528	104,477
55+							92,326	92,326
Total	45,146	52,054	56,508	68,186	78,511	90,002	104,068	67,804

Reconciliation of Plan Participants

	Active	Term. Vested	DROP	Retired	Disabled	Survivor	Total
October 1, 2017	**48**	**3**	**3**	**39**	**2**	**5**	**100**
DROP	(3)		3				0
Retired		(1)		1			
Vested Termination							0
Nonvested Termination	(5)						(5)
New Hires	6						6
October 1, 2018	**46**	**2**	**6**	**40**	**2**	**5**	**101**

Reconciliation of DROP Account Balances

Fiscal Year Ending September 30,	2017	2018
Beginning Balance	$254,140	$516,671
Additions	216,733	263,057
Investment Income	45,798	70,952
Disbursements	0	0
Ending Balance	$516,671	$850,680

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.

Ord. No.	Adopted	Ord. No.	Adopted	Ord. No.	Adopted
2010-11	02/02/2010	2013-02	01/08/2013	2018-10	08/21/2018
2010-21	08/17/2010	2014-06	03/04/2014	2018-14	09/18/2018
2011-07	07/19/2011	2014-09	04/15/2014		
2011-08	07/19/2011	2018-02	01/16/2018		

Plan Administrator: The Board of Trustees

Board Composition: The trustees consist of five members:

(a) Two members who are legal residents of the city appointed by city council,

(b) Two are police officer members (either one or both of whom may be DROP participants as stated in Ordinance No. 2018-10 adopted effective August 21, 2018) 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. Unused annual and medical leave will be used in the calculation of benefits as reported to the Board by the City per City policy. Additional Credited Service may be purchased. Ordinance No. 2018-14 adopted effective September 18, 2018 extended the period for members to elect to purchase service to 90 days following the date the member attains 10 years of service and eliminated the option for members to purchase cost over a period of five years.

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% x Average Monthly Salary x Credited Service, plus $5 x Credited Service.

Cost-of-Living-Adjustment: 1% annually on October 1st.

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 x 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.

Share Plan: Ordinance No. 2018-02 adopted effective January 16, 2018 created the Share Plan. It will not be activated, funded, or otherwise utilized unless and until a portion of Chapter 185 premium tax revenues have been assigned to fund the Share Plan. The current CBAs cover the period from October 1, 2015 through September 30, 2018. Section 25.06 of the International Union of Police Associations, Vero Beach Police Officers' Association, Local 6019 CBA and section 25.07 of the Coastal Florida Police Benevolent Association Lieutenant's CBA state "The City and the Union agree that all premium tax revenues received from the date of this Agreement into the future shall be used to fund current benefit levels and offset the City's contributions toward the retirement plan."

Description of Assumptions and Methods

Assumed Rate of Investment Return: 7.65% per year net of investment expenses, revised from 7.75% used in the prior valuation

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:

Service	Rate	Service	Rate	Service	Rate
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: The mortality table is that used for special risk employees in the valuation of the Florida Retirement System (FRS) as of July 1, 2016, 2017, and 2018, as required by state statute. The mortality rates are as follows:

Healthy mortality (Pre-retirement):
Males: 10% RP-00 Combined Healthy White Collar +
90% RP-00 Combined Healthy Blue Collar
Females: 100% RP-00 Combined Healthy White Collar
Both male and female rates fully generational using Scale BB

Healthy mortality (Post-retirement):
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:

Service	Rate
<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:

Age	Rate	Age	Rate	Age	Rate	Age	Rate
<=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:

Service	Factor	Service	Factor	Service	Factor	Service	Factor
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.

Freiman Little Actuaries, LLC
4105 Savannahs Trail
Merritt Island, FL 32953

Phone: (321) 453-6542
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City of Vero Beach

Police Officers' Retirement Fund

GASB 67/68 Supplement
As of September 30, 2018

REPORT TO PROVIDE DISCLOSURES UNDER GASB STATEMENT NO. 67 AND 68
FOR THE PLAN AND FISCAL YEARS ENDING
SEPTEMBER 30, 2018

FLA

FREIMAN LITTLE ACTUARIES

February 22, 2019 (revised from January 28, 2019)

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

RE: GASB 67/68 Supplement as of September 30, 2018

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, 2018 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:

GASB 67		GASB 68	
Valuation Date	10/01/2018	Valuation Date	10/01/2018
Measurement Date	09/30/2018	Measurement Date	09/30/2018
Reporting Date	09/30/2018	Reporting Date	09/30/2018

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

Sincerely,

Chad M. Little, ASA, EA
Partner, Consulting Actuary
Enrollment Number 17-6619

Paula C. Freiman, ASA, EA
Partner, Consulting Actuary
Enrollment Number 17-5796

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Statement of Fiduciary Net Position

As of September 30,	2018	2017
Assets		
Cash and cash equivalents	$623	$0
Receivables:		
Accrued interest and dividends	79,016	44,373
Distributions receivable	25,614	25,143
Total receivables	104,630	69,516
Investments, at fair value:		
Short Term Investments	783,108	764,294
US Bonds and Bills	5,988,002	4,295,804
Federal Agency Guaranteed Securities	679,741	1,501,315
Corporate Bonds	5,211,380	2,838,014
Stocks	26,751,369	26,925,049
Real Estate	4,285,081	4,169,433
Total investments	43,698,681	40,493,909
Total assets	43,803,934	40,563,425
Liabilities		
Accounts payable and accrued expenses	115,850	10,561
Prepaid contribution	5,946	13,206
Payable for securities purchased	0	0
Total liabilities	121,796	23,767
Net position restricted for pensions	$43,682,138	$40,539,658

Statement of Changes in Fiduciary Net Position

As of September 30,	2018	2017
Additions		
Contributions:		
Employer	$773,856	$756,381
State of Florida	258,540	241,345
Employees	213,729	208,521
Total contributions	1,246,125	1,206,247
Investment income (loss):		
Net appreciation in fair value of investments	3,489,098	3,794,510
Interest and dividends	958,392	821,960
Total investment income	4,447,490	4,616,470
Less investment expenses:		
Investment expense	328,010	279,562
Net investment income	4,119,480	4,336,908
Total additions	5,365,605	5,543,155
Deductions		
Benefit payments	2,030,824	2,007,242
Refunds of contributions	56,694	55,911
Administrative expenses	135,607	116,981
Total deductions	2,223,125	2,180,134
Net increase in net position	3,142,480	3,363,021
Net position restricted for pensions		
Beginning of year	40,539,658	37,176,637
End of year	$43,682,138	$40,539,658

Net Pension Liability

The total pension liability under GASB 67 and 68 is based on the October 1, 2018 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	7.65% net of investment expense, including inflation
Mortality:	From the July 1, 2016, 2017 and 2018 FRS special risk valuation.
Healthy Pre-Retirement:	Males: 10% RP-00 Combined Healthy White Collar + 90% RP-00 Combined Healthy Blue Collar Females: 100% RP-00 Combined Healthy White Collar Both male and female rates fully generational using Scale BB
Healthy Post-Retirement:	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.

Assumptions are based on the results of an actuarial experience study for the period October 1, 2006 to September 30, 2011. The net assumed investment return is 7.65% revised from 7.75% used in the prior valuation.

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:

Asset Class	Target Allocation %	Expected Long-Term Real Return	Weighted Average Expected Long-Term Real Return
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%.

Note, however, that long-term expected net rates of return for actuarial valuations should be compared to geometric returns.

The discount rate used to measure the total pension liability was 7.65%. 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-term expected rate of return on pension plan investments is applied to all periods of projected benefit payments to determine the total pension liability. For purposes of this determination we understand the board of trustees finds the 7.65% assumption to be reasonable and that they expect pension plan assets to be invested using a strategy to achieve the net discount rate.

Note: See "Actuarial Assumptions and Methods" for a full description of the assumptions used in the determination of the total pension liability.

The components of the net pension liability at September 30, 2018 were as follows:

Total pension liability	$46,846,951
Plan fiduciary net position	(43,682,138)
Net pension liability	$3,164,813
Plan fiduciary net position as a percentage of the total pension liability	93.24%

Sensitivity of the net pension liability to changes in the discount rate follows.

	1% Decrease (6.65%)	Current Discount Rate (7.65%)	1% Increase (8.65%)
Net pension liability	$8,673,954	$3,164,813	$(1,410,175)

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,	**2018**	**2017**	**2016**	**2015**	**2014**
Total pension liability					
Service cost	$637,288	$575,896	$543,187	$550,357	$478,211
Interest	3,416,827	3,264,313	3,086,536	3,009,258	2,881,001
Changes of benefit terms	0	0	0	0	118,425
Differences between expected and actual experience	(149,084)	133,676	26,221	(642,610)	96,146
Changes of assumptions	495,820	1,274	710,848	44,151	41,761
Benefit payments	(2,030,824)	(2,007,242)	(2,121,199)	(1,792,149)	(2,240,182)
Refunds of member contributions	(56,694)	(55,911)	(19,926)	(1,269)	(8,102)
Net change in total pension liability	2,313,333	1,912,006	2,225,667	1,167,738	1,367,260
Total pension liability - beginning	44,533,618	42,621,612	40,395,945	39,228,207	37,860,947
Total pension liability - ending (a)	$46,846,951	$44,533,618	$42,621,612	$40,395,945	$39,228,207
Plan fiduciary net position					
Contributions - employer	$773,856	$756,381	$853,491	$852,721	$869,837
Contributions - State of Florida	258,540	241,345	252,594	228,139	233,451
Contributions - employee	213,729	208,521	191,664	191,782	167,975
Net investment income	4,119,480	4,336,908	2,915,646	385,598	3,088,757
Benefit payments	(2,030,824)	(2,007,242)	(2,121,199)	(1,792,149)	(2,240,182)
Refunds of member contributions	(56,694)	(55,911)	(19,926)	(1,269)	(8,102)
Administrative expense	(135,607)	(116,981)	(107,071)	(86,344)	(86,354)
Other	0	0	0	0	0
Net change in plan fiduciary net position	3,142,480	3,363,021	1,965,199	(221,522)	2,025,382
Plan fiduciary net position - beginning	40,539,658	37,176,637	35,211,438	35,432,960	33,407,578
Plan fiduciary net position - ending (b)	$43,682,138	$40,539,658	$37,176,637	$35,211,438	$35,432,960
Net pension liability - ending (a) - (b)	$3,164,813	$3,993,960	$5,444,975	$5,184,507	$3,795,247
Plan fiduciary net position as a percentage of the total pension liability	93.24 %	91.03 %	87.22 %	87.17 %	90.33 %
Covered employee payroll	$3,259,812	$3,261,894	$3,169,645	$2,938,951	$2,899,869
Net pension liability as a percentage of covered employee payroll	97.09 %	122.44 %	171.78 %	176.41 %	130.88 %

Notes to Schedule:
The net assumed return was revised at October 1, 2018 to 7.65%. It was 7.75% in the prior year. At October 1, 2017 and October 1, 2016, the mortality table was that used for special risk employees in the valuation of the Florida Retirement System (FRS) as of July 1, 2016 and July 1, 2015, respectively, 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)
Balances at 9/30/2017	$44,533,618	$40,539,658	$3,993,960
Changes for the year:			
Service cost	637,288		637,288
Interest	3,416,827		3,416,827
Changes of benefit terms	0		0
Differences between expected and actual experience	(149,084)		(149,084)
Changes of assumptions	495,820		495,820
Contributions—employer		773,856	(773,856)
Contributions—State of Florida		258,540	(258,540)
Contributions—employee		213,729	(213,729)
Net investment income		4,119,480	(4,119,480)
Benefit payments, including refunds of employee contributions	(2,087,518)	(2,087,518)	0
Administrative expense		(135,607)	135,607
Other changes		0	0
Net changes	2,313,333	3,142,480	(829,147)
Balances at 9/30/2018	$46,846,951	$43,682,138	$3,164,813

Pension Expense and Deferred Outflows and Inflows of Resources

Pension expense for the year ended September 30, 2018 is as shown below.

Description	Amount
Service cost	$637,288
Interest on the total pension liability	3,416,827
Changes of benefit terms	0
Differences between expected and actual experience	(159,053)
Changes of assumptions	319,555
Employee contributions	(213,729)
Projected earnings on pension plan investments	(3,123,933)
Differences between projected and actual earnings on plan investments	(61,643)
Pension plan administrative expense	135,607
Other changes in fiduciary net position	0
Total pension expense	$950,919

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

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$71,680	$109,851
Changes of assumptions	543,673	0
Net difference between projected and actual earnings	472,225	1,760,659
Total	$1,087,578	$1,870,510

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

Year ended September 30:	
2019	$248,472
2020	(411,483)
2021	(420,810)
2022	(199,111)
2023	0

Recognition of Deferred Outflows and Inflows of Resources

			Measurement Year Recognition				
Year	Original Amount	Recognition Period	2018	2019	2020	2021	2022
			Differences between Expected and Actual Experience				
2015	(642,610)	4.0	(160,651)	0	0	0	0
2016	26,221	4.0	6,555	6,556	0	0	0
2017	133,676	3.9	34,276	34,276	30,848	0	0
2018	(149,084)	3.8	(39,233)	(39,233)	(39,233)	(31,385)	0
			Changes in Assumptions				
2015	44,151	4.0	11,037	0	0	0	0
2016	710,848	4.0	177,712	177,712	0	0	0
2017	1,274	3.9	327	327	293	0	0
2018	495,820	3.8	130,479	130,479	130,479	104,383	0
			Differences between Projected and Actual Earnings on Pension Plan Investments				
2015	2,361,133	5.0	472,227	472,225	0	0	0
2016	(200,305)	5.0	(40,061)	(40,061)	(40,061)	0	0
2017	(1,473,499)	5.0	(294,700)	(294,700)	(294,700)	(294,699)	0
2018	(995,547)	5.0	(199,109)	(199,109)	(199,109)	(199,109)	(199,111)

Schedule of Contributions

Year Ending September 30,	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Actuarially determined contribution	$1,032,396	$997,726	$1,106,085	$1,080,860	$1,103,288	$1,124,361	$1,069,836	$1,003,043	$808,241	$614,497
Contributions in relation to the actuarially determined contribution	1,032,396	997,726	1,106,085	1,080,860	1,103,288	1,124,361	1,069,836	1,003,043	808,241	614,497
Contribution deficiency (excess)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Covered employee payroll	$3,259,812	$3,261,894	$3,169,645	$2,938,951	$2,899,869	$2,947,305	$3,013,887	$3,297,317	$3,577,177	$3,733,644
Contributions as a percentage of covered-employee payroll	31.67 %	30.59 %	34.90 %	36.78 %	38.05 %	38.15 %	35.50 %	30.42 %	22.59 %	16.46 %

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 for the year ending September 30, 2018:

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 (revised to 7.65% for the October 1, 2018 valuation)
Retirement age	See "Description of Assumptions and Methods" for the assumed retirement age assumption
Mortality	See "Description of Assumptions and Methods" for the mortality assumption

Schedule of Investment Returns

Year Ending September 30,	Annual money-weighted rate of return net of investment expense
2018	10.16%
2017	11.45%
2016	7.99%
2015	0.87%
2014	9.08%
2013	14.17%
2012	19.27%
2011	(1.69%)
2010	9.89%
2009	(1.41%)

Plan Membership Statistics

Valuation for Year Beginning October 1,	2018	2017
Inactive members or beneficiaries currently receiving benefits	53	49
Inactive members entitled to but not yet receiving benefits	2	3
Active members	46	48
Total	101	100

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.

Ord. No.	Adopted	Ord. No.	Adopted	Ord. No.	Adopted
2010-11	02/02/2010	2013-02	01/08/2013	2018-10	08/21/2018
2010-21	08/17/2010	2014-06	03/04/2014	2018-14	09/18/2018
2011-07	07/19/2011	2014-09	04/15/2014		
2011-08	07/19/2011	2018-02	01/16/2018		

Plan Administrator: The Board of Trustees

Board Composition: The trustees consist of five members:

(a) Two members who are legal residents of the city appointed by city council,

(b) Two are police officer members (either one or both of whom may be DROP participants as stated in Ordinance No. 2018-10 adopted effective August 21, 2018) 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. Unused annual and medical leave will be used in the calculation of benefits as reported to the Board by the City per City policy. Additional Credited Service may be purchased. Ordinance No. 2018-14 adopted effective September 18, 2018 extended the period for members to elect to purchase service to 90 days following the date the member attains 10 years of service and eliminated the option for members to purchase cost over a period of five years.

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% x Average Monthly Salary x Credited Service, plus $5 x Credited Service.

Cost-of-Living-Adjustment: 1% annually on October 1st.

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 x 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.

Share Plan: Ordinance No. 2018-02 adopted effective January 16, 2018 created the Share Plan. It will not be activated, funded, or otherwise utilized unless and until a portion of Chapter 185 premium tax revenues have been assigned to fund the Share Plan. The current CBAs cover the period from October 1, 2015 through September 30, 2018. Section 25.06 of the International Union of Police Associations, Vero Beach Police Officers' Association, Local 6019 CBA and section 25.07 of the Coastal Florida Police Benevolent Association Lieutenant's CBA state "The City and the Union agree that all premium tax revenues received from the date of this Agreement into the future shall be used to fund current benefit levels and offset the City's contributions toward the retirement plan."

Actuarial Assumptions and Methods

Assumed Rate of Investment Return: 7.65% per year net of investment expenses, revised from 7.75% used in the prior valuation

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:

Service	Rate	Service	Rate	Service	Rate
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: The mortality table is that used for special risk employees in the valuation of the Florida Retirement System (FRS) as of July 1, 2016, 2017, and 2018, as required by state statute. The mortality rates are as follows:

Healthy mortality (Pre-retirement):

Males: 10% RP-00 Combined Healthy White Collar +
90% RP-00 Combined Healthy Blue Collar

Females: 100% RP-00 Combined Healthy White Collar

Both male and female rates fully generational using Scale BB

Healthy mortality (Post-retirement):

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:

Service	Rate
<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:

Age	Rate	Age	Rate	Age	Rate	Age	Rate
<=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:

Service	Factor	Service	Factor	Service	Factor	Service	Factor
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)