

Actuarial Valuation Report

City of Panama City Beach Police Officers' Pension Plan Funding Results for the Year Ending September 30, 2021 Accounting Results for the Year Ending September 30, 2020





Ms. Holly J. White Finance Director City of Panama City Beach 110 South Arnold Road Panama City Beach, FL 32407

Re: Panama City Beach Police Officers' Pension Plan

Dear Ms. White:

In accordance with your request, we have performed an actuarial valuation for the captioned pension plan as of October 1, 2020. The purposes of this report are to provide the contribution requirements for the Plan Year beginning October 1, 2020, and ending September 30, 2021, including measurements of the funded status of the plan. Disclosures for financial accounting were previously provided in a separate report dated January 22, 2021 and are included in this report for comparison purposes.

This report is intended for the sole use of the City of Panama City Beach and the Pension Board, and is intended only to supply information for the City and Board to comply with the stated purposes of the report and may not be appropriate for other purposes. Reliance on information contained in this report by anyone for other than the intended purposes, puts the relying entity at risk of being misled because of confusion or failure to understand applicable assumptions, methodologies, or limitations of the report's conclusions. Accordingly, no person or entity, including the City of Panama City Beach and the Pension Board, should base any representations or warranties in any agreement on any statements or conclusions contained in this report, without the written consent of Aon.

This report includes a Summary of Major Plan Provisions and a description of the Actuarial Basis used in the valuation. We relied on employee and financial data provided by the City. The Actuarial Cost Method used is considered acceptable under the Rules of the Department of Administration, Division of Retirement, Chapter 60T-1, Local Retirement Systems' Actuarial Reports.

A valuation model was used to develop the liabilities for the October 1, 2020 valuation. The valuation model relies on ProVal software, which was developed by Winklevoss Technologies, LLC. Experts within Aon selected this software and determined it is appropriate for performing valuations. We coded and reviewed the software for the provisions, assumptions, methods, and data of the Panama City Beach Police Officer's Pension Plan. The undersigned relied on experts at Aon for the development of the capital market assumptions models underlying the discount rate and the expected rate of return.

STATEMENT BY ENROLLED ACTUARY

This actuarial valuation and/or cost determination was prepared and completed by the undersigned or under our direct supervision, and I acknowledge responsibility for the results. To the best of our knowledge, the results are complete and accurate, and in our opinion, the techniques and assumptions used are reasonable and meet the requirements and intent of Part VII, Chapter 112, Florida Statutes. There is no benefit or expense to be provided by the plan and/or paid from the plan's assets for which liabilities or current costs have not been established or otherwise provided for 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.

Respectfully submitted,

Stephen Lambert-Oswald, F.S.A., E.A., M.A.A.A. Enrollment No. 20-07225

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Mitzi Silverstein, F.S.A., E.A., M.A.A.

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June 23, 2021

Discussion of Results

October 1, 2020

The results of the actuarial valuation of the Panama City Beach Police Officers' Pension Plan as of October 1, 2020, are contained in this report. The actuarial valuation is based upon census data and trust fund financial statements provided to us by the City. There have been no significant plan changes since the Actuarial Valuation as of October 1, 2019. The discount rate and actuarial cost method to determine the State Minimum Required Contribution were both updated as of October 1, 2020.

The major results of the actuarial valuation are discussed below.

Minimum Required Contribution

The State minimum required contribution to be deposited by the City is developed on pages 3 and 4. The minimum required contribution includes recognition of excess contributions made in prior years.

	Plan Year Ended			
	09/30/20	09/30/21		
State Minimum Required Contribution	\$ 411,507	\$ 230,162		
Percent of Participants' Compensation	10.41%	6.70%		

Under a new state interpretation, the actual required contribution is not the dollar amount shown, which is based on estimated Participants' Compensation Below Normal Retirement Age. Rather it is to be based on the percentage shown here and actual Participants' Compensation Below Normal Retirement Age for the Plan Year.

Actuarial Experience

The approximate time-weighted rate of return on the Actuarial Value of Assets was 8.43% for the plan year ended September 30, 2020. Investment experience compounded over the last 5 years has been approximately 8.60% per year. For the same period, the annual money-weighted rate of return on pension plan investments, net of pension plan investment expense, was 10.6%. According to the Public Plans Data, the average expected rate of return in 2020 was 7.1% and the Florida Retirement System uses a rate of return of 7.0%. The Pension Board has elected to lower the rate of return assumption to 7.00% for the plan year ending September 30, 2021. Salary increase experience was observed to be -2.3%, lower than the assumed salary increase of 5.0%. Salary experience compounded over the last 5 years has been approximately 4.7% per year.

Funded Status

One of the best measures of the Funded Status of a defined benefit plan is considered to be the level of funding of the Accumulated Plan Benefits and Vested Benefits. Accumulated Plan Benefits are those future benefit payments that are attributable to employees' service rendered prior to the valuation date based on employees' actual pay histories (or estimates thereof). This measurement of benefits does not take into account the effect of potential future salary increases. Vested Benefits are those benefits which become nonforfeitable after 10 years of Credited Service or which are attributable to employee contributions.

Based on this measurement of Funded Status, using the Actuarial Value of Assets and the discount rate of 7.00%, the plan appears adequately funded as of October 1, 2020. Funded status is highly dependent on the market value of assets and the discount rate used to measure the liabilities. The higher the discount rate, the lower the liabilities. Use of an above average discount rate or an above-market asset value will result in a higher funded status, but it is not an indication of the security of the pension benefits or the adequacy of funding.

	10/01/19	10/01/20
NET ASSETS AVAILABLE FOR BENEFITS*	\$ 23,012,310	\$ 24,852,816
Discount Rate	7.75%	7.00%
ACTUARIAL PRESENT VALUE OF ACCUMULATED PLAN BENEFITS		
TOTAL VESTED BENEFITS	\$ 20,141,950	\$ 20,475,368
Percent Funded	114%	121%
TOTAL ACTUARIAL PRESENT VALUE OF ACCUMULATED PLAN BENEFITS	\$ 21,370,926	\$ 22,025,797
Percent Funded	108%	113%

Another, more traditional measure of the Funded Status uses the Entry Age Normal Accrued Liability. This accrued liability equals the Present Value of Benefits less the Present Value of Future Entry Age Normal Costs. (See the description of the entry age normal method on the "Actuarial Cost Method" pages herein.) This accrued liability is independent of the actual plan assets and therefore may be a more reasonable "mile post" of how funded the Plan should be. It recognizes future compensation increases and is a measure of where the level of assets should be to date if all participants are proportionately funded over their individual careers as a level percentage of each participant's compensation. The figures below show the funded status disclosed under GASB 67 for the fiscal years ending September 30 of 2019 and 2020, respectively:

	10/01/19	10/01/20
MARKET VALUE OF ASSETS	\$ 22,998,492	\$ 25,163,071
ENTRY AGE NORMAL ACCRUED LIABILITY	\$ 24,547,799	\$ 26,314,378
Funded Ratio	93.69%	95.62%

^{*} Actuarial Value of Assets

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Development of Normal Cost for State Minimum Required Contribution*

	10/1/2019	10/1/2020
1. Number of Participants		
Active Terminated with Vested Benefits Retirees and Beneficiaries Total 2. Participant's Compensation	68 4 25 97	60 5 28 93
a. Below Normal Retirement Ageb. Beyond Normal Retirement Agec. Total	\$ 3,953,278 330,825 \$ 4,284,103	\$ 3,433,661 171,647 \$ 3,605,308
3. Present Value of Benefits		
Active Terminated with Vested Benefits Retirees Excess State Monies Reserve Total	\$ 18,328,375 838,115 10,259,189 34,501 \$ 29,460,180	\$ 16,363,969 1,787,825 12,010,148 84,022 \$ 30,245,964
4. Entry Age Accrued Liability	N/A	\$ 24,810,109
5. Actuarial Value of Assets	\$ 23,012,310	\$ 24,852,816
6. Unfunded Actuarial Accrued Liability	\$ 330,387	\$ -
7. Past Excess Contributions	\$ 170,111	N/A
8. Present Value of Future Employee Contributions	\$ 2,529,928	N/A
9. Present Value of Future City Normal Costs = (3) - (6) - [(5) - (7)] - (8)	\$ 3,757,666	N/A
10. Present Value of Future Compensation	\$ 26,750,083	N/A
11. Normal Cost Rate = (9) ÷ (10)	14.05%	N/A
12. Normal Cost = (2a) x (11)	\$ 555,436	\$ 751,010

 $^{^{\}star}$ The plan updated the funding method on October 1, 2020, see the appendix for details.

State Minimum Required Contribution

October 1, 2020

Plan Year Ended

	9/30/2020	<u>9/</u>	<u>/30/2021</u>
1. Normal Cost	\$ 555,436	\$	751,010
2. Employee Contributions	N/A	\$	(377,703)
3. Amortization of Actuarial Accrued Liability	\$ 96,983	\$	-
4. Interest Adjustment on (1), (2), and (3) for Quarterly Payment	\$ 24,810	\$	12,845
5. Expenses			
Current Year Estimate Equal to Prior Year's Actual Make-up for Shortfall in Prior Year's Estimate Total	\$ 64,615 (18,203) \$ 46,412	\$ 	86,952 22,337 109,289
6. Estimated State Premium Tax Refund (Equal to Prior Year's Actual Refund and Excluding Excess Premium Tax Revenues That Have Not Been Used to Provide Additional Benefits)	\$ 135,554	\$	135,554
7. Past Excess Contributions plus Interest Adjusted for Quarterly Payment	\$ 176,580	\$	129,725
8. Minimum Required Contribution by City for Fiscal Year = $(1) + (2) + (3) + (4) + (5) - (6) - (7)$	\$ 411,507	\$	230,162
 Percent of Participants' Compensation Below Normal Retirement Age* 	10.41%		6.38%

^{*} Under a new state interpretation, the actual required contribution is based on this percentage of actual, not estimated, Participants' Compensation Below Normal Retirement Age.

Unfunded Frozen Initial and Supplemental Liabilities

	Initial Amount to be Amortized	Beginning Amortization Period	Original Amortization Period (Years)	Years Remaining		(BOY) Annual Amortization Amount	Ba a	nortized llance is of 1/2020
Fresh Start	-	10/1/2020	20	20	0	-		-
					-	\$ -		
			1. Unamortized	d Balance as o	of 10/1/2020		\$	-
			2. Past Excess	Contributions	3			124,973
			3. Remaining l	Jnfunded Liab	ilities = (1) - (2)	\$	(124,973)

^{*}Reducing discount rate from 7.75% to 7.00% and updating funding method. The amortization assumes a 7.00% discount rate and an increasing annuity with a 3.00% payroll growth assumption. The Entry Age Accrued liability is over 100% funded at the fresh start date, so there is no amortization.

Schedule Illustrating the Amortization of Unfunded Liabilities Existing This Date

October 1, 2020

October 1	Lia	bility
2020	\$	_
2021		-
2022		-
2023		-
2024		-
2025		-
2026		-

The first figure is the Unfunded Liability as of the current valuation date. For each year thereafter, the preceding year's Unfunded Liability is reduced by the annual amortization amount showin on the prior page and increased with interest at 7.00% per annum.

As of the valuation date, the Entry Age Accrued Liability is over 100% funded

Past Excess Contributions (State Requirements)

October 1, 2020

Plan Year Ended

Charges:	9/30/2019		<u>9</u>	9/30/2020
Deficiency Brought Forward Normal Cost Expenses (Estimated and Make up) Amortization of Frozen Initial and	\$	- N/A N/A	\$	- N/A N/A
Supplemental Liabilities Required City Contribution, per State* State (Estimated) Interest		N/A 677,969 135,554 31,915		N/A 570,747 135,554 27,708
Total Charges	\$	845,438	\$	734,009
Credits:				
Excess Contribution Brought Forward City Contributions State Contributions (Excluding Excess Premium Tax Revenues That Have Not Been	\$	116,938 720,133	\$	170,111 514,218
Used to Provide Additional Benefits) Interest		135,554 42,924		135,554 39,099
Total Credits	\$	1,015,549	\$	858,982
Balance:				
Excess Contribution Carried Forward	\$	170,111	\$	124,973
Deficiency Carried Forward	\$	-	\$	

^{*}Under a new state interpretation, the actual required contribution is based on the required contribution rate times actual Participants' Compensation Below Normal Retirement Age for the Plan Year. See the "State Required Exhibit" for this determination.

Market Value of Assets

	<u>10/1/2019</u>		10/1/2020		
Assets:					
Cash Certificates of Deposit	\$	964,057.17	\$	1,244,148.31	
Government and Corporate Bond		5,910,041.65		6,571,624.79	
Real Estate and Equity Funds		16,118,773.56		17,375,897.67	
Due from City Funds		-		-	
Due from State of Florida		-		-	
Accrued Interest		-		-	
Miscellaneous Receivable		12,404.42		10,696.92	
Total Assets	\$	23,005,276.80	\$	25,202,367.69	
Liabilities and Fund Balance:					
Liabilities: Accounts Payable Refunds or Benefits Payable Due Other Funds	\$	(6,785.17) <u>-</u>	\$	(39,297.13)	
Total Liabilities	\$	(6,785.17)	\$	(39,297.13)	
Pension Fund Balance:	\$	22,998,491.63	\$	25,163,070.56	

Reconciliation of Assets (Market Value)

October 1, 2020

Plan Year Ended

	9/30/2019			9/30/2020		
Revenues:						
City Contributions		720,133.04		514,218.49		
Employee Contributions		459,334.74		422,038.58		
State Contributions		170,054.80		185,074.77		
Repayment of Contributions		43,531.00		-		
Interest & Dividends		503,252.45		456,810.82		
Unrealized/Realized Gains (Losses)		401,263.25		1,963,877.17		
Commissions						
Total Revenues	\$	2,297,569.28	\$	3,542,019.83		
Expenses:						
Pension Payments		882,237.06		943,176.46		
Contribution Refunds		104,787.80		123,976.98		
DROP Payments		-		223,335.47		
Investment Expenses		45,348.63		45,961.24		
Other Expenses		19,266.73		40,990.75		
Total Expenses	\$	1,051,640.22	\$	1,377,440.90		
Net Income:	\$	1,245,929.06	\$	2,164,578.93		
Fund Balance, Beginning of Year:	\$	21,752,562.56	\$	22,998,491.62		
Fund Balance, End of Year:	\$	22,998,491.62	\$	25,163,070.55		

Investment Gain/(Loss)

1. Date of Actuarial Value of Assets:	10/1/2020	10/1/2019	10/1/2018	10/1/2017
Market Value as of Prior Year (including receivable contributions)	\$ 22,998,492	\$ 21,752,563	\$ 20,144,023	\$ 17,843,082
3. Receivable Contribution included above	\$ -	\$ -	\$ -	\$ -
4. Market Value Excluding Receivable (2) - (3)	\$ 22,998,492	\$ 21,752,563	\$ 20,144,023	\$ 17,843,082
5. Employer, Employee & State Contributions (made for the year, i.e., excluding the receivable contribution, item (3), but including contributions made after the end of the year with no expected return thereon)	\$ 1,121,332	\$ 1,393,054	\$ 1,105,911	\$ 1,067,085
6. Benefit Distributions	\$ 1,290,489	\$ 987,025	\$ 1,056,519	\$ 967,438
7. Administrative Expenses	\$ 86,952	\$ 64,615	\$ 82,818	\$ 72,937
8. Expected Return %	7.75%	7.75%	7.75%	8.00%
a. Item (4) for 1 year b. Item (3) for partial & (5) for 1/2 year c. Item (6) for 1/2 year d. Item (7) for 1/2 year (Assumed EOY)	\$ 1,782,383 36,280 (50,006) 0 1,768,657	\$ 1,685,824 45,704 (38,247) 0 1,693,281	\$ 1,561,162 36,843 (40,940) 0 1,557,065	\$ 1,427,447 36,977 (38,698) 0 1,425,726
9. Expected Market Value (2)+(5)-(6)-(7)+(8)	\$ 24,511,040	\$ 23,787,258	\$ 21,667,662	\$ 19,295,518
Actual Market Value this Year (including receivable contributions)	\$ 25,163,071	\$ 22,998,492	\$ 21,752,563	\$ 20,144,023
11. Investment Gain/(Loss) from Experience	\$ 652,031	\$ (788,766)	\$ 84,901	\$ 848,505

Actuarial Value of Assets

5 -YEAR SMO	IN	10/1/2020			
1. Market \	/alue of Assets	S		\$	25,163,071
2. Investme	ent Gains/(Los	ses) for	Four Prior Years		
a. b. c. d.	Oct-19 Oct-18 Oct-17 Oct-16			\$	652,031 (788,766) 84,901 848,505
3. Unrecog	ınized Investm	ent Gair	ns/(Losses)		
a. b. c. d.	Oct-19 Oct-18 Oct-17 Oct-16	80% 60% 40% 20%	of (2)(a) of (2)(b) of (2)(c) of (2)(d)	\$	521,625 (473,260) 33,961 169,701
e. T	otal: (a)+(b)+(c)+(d)		\$	252,027
4. Prelimin	ary Actuarial V	/alue of	Assets = (1) - (3)(e)	\$	24,911,044
5. Adjustm	ent to be within	n 20% o	f market value	\$	-
6. Actuaria	l Value of Asse	ets = (4)	+ (5)	\$	24,911,044

Allocation of Actuarial Value of Assets to the Reserve for Other Retirement Benefits (i.e., Excluding DROP)

	Actuarial Value Allocated in Proportion to Market Value	Market Value
Reserve for DROP Reserve for Other Retirement Benefits	\$ 58,228 24,852,816	\$ 58,817 25,104,254
Total Fund Balances	\$ 24,911,044	\$ 25,163,071

Development of GASB 68 Net Pension Expense

Calculation Details

The following table illustrates the Net Pension Liability under GASB 68, which is effective for September 30, 2016 fiscal year and later.

		Fiscal Year End Fiscal Year End		
		9/30/2019		9/30/2020
(1)	Total Pension Liability	\$ 24,547,798	\$	26,314,378
(2)	Plan Fiduciary Net Position	\$ 22,998,492	\$	25,163,071
(3)	Net Pension Liability	\$ 1,549,306	\$	1,151,308
(4) Pens	Plan Fiduciary Net Position as a Percentage of the Total ion Liability	93.69%		95.62%

The following table illustrates the pension expense under GASB 68.

	Fiscal Year Ending 9/30/2019	Fiscal Year Ending 9/30/2020
(1) Service Cost	\$ 614,104	\$ 557,073
(2) Interest Cost	\$ 1,827,811	\$ 1,895,621
(3) Expected Investment Return	\$ (1,749,644)	\$ (1,768,657)
(4) Employee Contributions	\$ (502,866)	\$ (422,039)
(5) Admin Expense	\$ 64,615	\$ 86,952
(6) Plan Changes	\$ -	\$ -
(7) Amortization of Unrecognized		
(a) Liability (Gain)/Loss	\$ 114,696	\$ 254,205
(b) Asset (Gain)/Loss	\$ 309,228	\$ (156,762)
(c) Assumption Changes	\$ 44,617	\$ 44,617
(8) Total Expense	\$ 722,561	\$ 491,012

Deferred Outflows/Inflows

The following table illustrates the Deferred Inflows and Outflows at the end of the fiscal year under GASB 68.

CAOD OU.	Deferred Outflows	Deferred Inflows
(1) Difference between actual and expected experience	\$789,469	\$18,422
(2) Net Difference Between Expected and Actual Earnings on Pension Plan Investments	\$507,076	\$705,196
(3) Difference in Assumptions	\$ 95,645 \$	-
(4) Total	\$ 1,392,189 \$	723,618

Amortization of Deferred Inflows/Outflows

The table below lists the amortization bases included in the deferred inflows/outflows as of September 30, 2020.

Date		Period		Balanc	е	Annual
Established	Type of Base	Original	Remaining		Remaining	Payment
10/1/2014	Liability (Gain)/Loss	6.04	0.04	(181,955)	(\$1,351)	(30,101)
10/1/2015	Liability (Gain)/Loss	6.04	1.04	317,692	\$54,728	52,593
10/1/2015	5 Asset (Gain)/Loss	5.00	-	(93,722)	\$0	(18,746)
10/1/2016	Liability (Gain)/Loss	5.88	1.88	(\$53,433)	(\$17,072)	(9,090)
10/1/2016	S Asset (Gain)/Loss	5.00	1.00	(\$848,505)	(\$169,701)	(169,701)
10/1/2016	Assumption Change	5.88	1.88	\$174,190	\$55,653	\$29,634
10/1/2017	Liability (Gain)/Loss	5.88	2.88	\$214,479	\$100,719	\$37,920
10/1/2017	7 Asset (Gain)/Loss	5.00	2.00	(\$34,673)	(\$13,869)	(6,935)
10/1/2018	B Liability (Gain)/Loss	4.67	2.67	\$295,905	\$169,155	63,375
10/1/2018	3 Asset (Gain)/Loss	5.00	3.00	\$845,128	\$507,076	169,026
10/1/2018	3 Assumption Change	4.67	2.67	\$69,958	\$39,992	14,983
10/1/2019	Liability (Gain)/Loss	4.33	3.33	\$604,375	\$464,866	139,509
10/1/2019	Asset (Gain)/Loss	5.00	4.00	(\$652,031)	(\$521,625)	(130,406)
					0000 574	
	Total Charges				\$668,571	\$142,062

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

Year Ended September 30:

	2021	189,557
	2022	307,645
	2023	255,437
	2024	(84,066)
	2025	0
hereafter		0

Reconciliation of Net Pension Liability

Shown below are details regarding the Total Pension Liability, Plan Fiduciary Net Position, and Net Pension Liability for the Measurement Period from September 30, 2019 to September 30, 2020:

	Increase (Decrease)				
	Total Pension	Net Pension			
	Liability	Net Position	Liability		
	(a)	(b)	(c) = (a) - (b)		
Balance recognized at 10/1/2019	\$24,547,798	\$22,998,492	\$1,549,306		
Changes recognized for the fiscal year:					
Service Cost	\$557,073	N/A	\$557,073		
Interest on the total pension liability	\$1,895,621	N/A	\$1,895,621		
Changes of benefit terms	\$0	N/A	\$0		
Differences between expected and actual experience	\$604,375	N/A	\$604,375		
Changes of assumptions	\$0	N/A	\$0		
Contributions from the employer	N/A	\$514,218	(\$514,218)		
Contributions from the employee	N/A	\$422,039	(\$422,039)		
Contribution from the state	N/A	\$185,075	(\$185,075)		
Net investment income	N/A	\$2,420,688	(\$2,420,688)		
Benefit payments	(\$1,290,489)	(\$1,290,489)	\$0		
Administrative expense	N/A	(\$86,952)	\$86,952		
Other	<u>N/A</u>	<u>N/A</u>	<u>\$0</u>		
Net Changes	<u>\$1,766,580</u>	\$2,164,579	(\$397,999)		
Balance recognized at 9/30/2020	\$26,314,377	\$25,163,071	\$1,151,307		

GASB 67 Requirements

GASB 67 is effective for fiscal year ending September 30, 2014. The follow exhibit is a 10 year history of change in Net Pension Liability.

Changes in the Net Pension Liability and Related Ratios – RP2000, 7.75% Interest (8.0% prior to 2019)

State Required Disclosure—Changes in the Net Pension Liability and Related Ratios

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Total Pension Liability										
Service Cost	N/A	N/A	N/A	\$479,598	\$520,894	\$546,734	\$609,635	\$621,201	\$614,104	\$557,073
Interest Cost	N/A	N/A	N/A	\$304,873	\$1,525,052	\$1,528,848	\$1,650,452	\$1,760,886	\$1,827,811	\$1,895,621
Changes of Benefit Terms	N/A	N/A	N/A	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Differences Between Expected and Actual Experiences	N/A	N/A	N/A	\$1,536,515	(\$181,955)	\$317,692	\$214,479	(\$516,658)	\$295,905	\$604,375
Changes of Assumptions	N/A	N/A	N/A	\$0	\$0	\$0	(\$93,722)	\$0	\$69,958	\$0
Benefit Payments, Including Refunds of Member Contributions	N/A	N/A	N/A	(\$1,037,204)	(\$926,647)	(\$904,816)	(\$967,438)	(\$1,056,519)	(\$987,025)	(\$1,290,489)
Net Change in Total Pension Liability	N/A	N/A	N/A	\$1,283,782	\$937,344	\$1,488,458	\$1,413,406	\$808,910	\$1,820,753	\$1,766,580
Total Pension Liability (Beginning)	N/A	N/A	N/A	\$16,795,147	\$18,078,928	\$19,016,272	\$20,504,730	\$21,918,136	\$22,727,046	\$24,547,799
Total Pension Liability (Ending)	N/A	N/A	\$16,795,147	\$18,078,928	\$19,016,272	\$20,504,730	\$21,918,136	\$22,727,046	\$24,547,799	\$26,314,378
Plan Fiduciary Net Position										
Contributions—Employer	N/A	N/A	N/A	\$646,023	\$589,810	\$590,606	\$580,095	\$577,269	\$720,133	\$514,218
Contributions—Member	N/A	N/A	N/A	\$307,896	\$325,235	\$338,561	\$344,327	\$373,527	\$502,866	\$422,039
Contributions - State	N/A	N/A	N/A	\$111,257	\$117,870	\$137,097	\$142,663	\$155,114	\$170,055	\$185,075
Net Investment Income	N/A	N/A	N/A	\$1,757,729	(\$232,058)	\$1,402,233	\$2,274,231	\$1,641,966	\$904,516	\$2,420,688
Benefit Payments, Including Refunds of Member Contributions	N/A	N/A	N/A	(\$1,037,204)	(\$926,647)	(\$904,816)	(\$967,438)	(\$1,056,519)	(\$987,025)	(\$1,290,489)
Administrative Expense	N/A	N/A	N/A	(\$52,988)	(\$69,185)	(\$64,805)	(\$72,937)	(\$82,818)	(\$64,615)	(\$86,952)
Other	N/A	N/A	N/A	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Net Change in Plan Fiduciary Net Position	N/A	N/A	N/A	\$1,732,712	(\$194,975)	\$1,498,876	\$2,300,941	\$1,608,539	\$1,245,929	\$2,164,579
Plan Fiduciary Net Position (Beginning)	N/A	N/A	N/A	\$14,806,469	\$16,539,181	\$16,344,206	\$17,843,082	\$20,144,023	\$21,752,563	\$22,998,492
Plan Fiduciary Net Position (Ending)	N/A	N/A	\$14,806,469	\$16,539,181	\$16,344,206	\$17,843,082	\$20,144,023	\$21,752,563	\$22,998,492	\$25,163,071
County's Net Pension Liability (Ending)	N/A	N/A	N/A	\$1,539,747	\$2,672,065	\$2,661,648	\$1,774,113	\$974,483	\$1,549,307	\$1,151,308
Net Position as a % of Pension Liability	N/A	N/A	N/A	91.48%	85.95%	87.02%	91.91%	95.71%	93.69%	95.62%
Covered-Employee Payroll	N/A	N/A	N/A	\$2,732,684	\$2,967,537	\$3,078,788	\$3,130,244	\$3,395,701	\$4,175,768	\$3,895,753
Net Pension Liability as a % of Payroll	N/A	N/A	N/A	56.35%	90.04%	86.45%	56.68%	28.70%	37.10%	29.55%

GASB 67 Requirements

GASB 67 is effective for fiscal year ending September 30, 2014. The follow exhibit is a 10 year history of change in Net Pension Liability.

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Total Pension Liability										
Actuarially Determined Contribution	N/A	N/A	N/A	\$615,147	\$523,418	\$626,841	\$536,211	\$522,598	\$529,487	\$405,548
Contributions made in Relation to the Actuarially Determined Contribution	N/A	N/A	N/A	\$646,023	\$589,810	\$590,606	\$580,095	\$577,269	\$720,133	\$514,218
Contribution Deficiency (excess)	N/A	N/A	N/A	(\$30,876)	(\$66,392)	\$36,235	(\$43,884)	(\$54,671)	(\$190,646)	(\$108,671)
Covered-Employee Payroll	N/A	N/A	N/A	\$2,732,684	\$2,967,537	\$3,078,788	\$3,130,244	\$3,395,701	\$4,175,768	\$3,895,753
Contributions as a % of Payroll	N/A	N/A	N/A	23.64%	19.88%	19.18%	18.53%	17.00%	17.25%	13.20%

Methods and assumptions used to determine contribution rates:

Actuarial Cost Method: Entry age Normal with frozen Initial Liability

Asset Valuation Method: Actuarial Value – 5-year smoothed market value.

IRS Limit Increases: 4.50% Salary Increases: 5.00%

Investment Rate of Return: 7.75%, net of pension plan investment expense, including inflation (8.00% prior to 2019).

Retirement Age: Graded by age and Division – see assumption section for rates.

PUB 2010, adjusted for the safety classification, set forward one year, projected using scale MP 2018

GASB 67 Requirements

Sensitivity

The following table illustrates the impact of interest rate sensitivity on the Net Pension Liability for fiscal year end September 30, 2019:

		1% Decrease	Current Rate	1% Increase
		(6.75%)	(7.75%)	(8.75%)
(1)	Total Pension Liability	\$27,474,770	\$24,547,799	\$22,110,013
(2)	Plan Fiduciary Net Position	\$22,998,492	\$22,998,492	\$22,998,492
(3)	Net Pension Liability	\$4,476,278	\$1,549,307	(\$888,479)

The following table illustrates the impact of interest rate sensitivity on the Net Pension Liability for fiscal year end September 30, 2020:

	1% Decrease	Current Rate	1% Increase
	(6.75%)	(7.75%)	(8.75%)
(1) Total Pension Liability	\$27,449,637	\$26,314,378	\$25,433,452
(2) Plan Fiduciary Net Position	\$25,163,071	\$25,163,071	\$25,163,071
(3) Net Pension Liability	\$2,286,566	\$1,151,307	\$270,381

Funded Status - Accrued Benefits (ASC 960)

October 1, 2020

Generally the best measures of the Funded Status of a defined benefit plan are considered to be the levels of funding of the Actuarial Present Values of Accumulated Plan Benefits and Vested Benefits. Accumulated Plan Benefits are those future benefit payments that are attributable under the plan's provisions to employees' service rendered prior to the valuation date. Accumulated Plan Benefits are based on employees' actual pay histories, or estimates thereof; possible future salary increases or changes in Social Security levels are not recognized. Vested Benefits are those benefits which are nonforfeitable under the plan's vesting provisions.

The Actuarial Present Value of Accumulated Plan Benefits is the amount resulting from the application of actuarial assumptions to the Accumulated Plan Benefits to reflect the time value of money and the probabilities of death, disability, withdrawal and retirement. Underlying these assumptions (described on the Actuarial Basis page) is an assumption of an ongoing plan. Since most Accumulated Plan Benefits are generally synonymous with "Accrued Benefits" as defined in the plan, the Actuarial Present Value of Accumulated Plan Benefits has also been called the Present Value of Accrued Benefits.

	10/1/2019	10/1/2020
NET ASSETS AVAILABLE FOR BENEFITS*	\$ 23,012,310	\$ 24,852,816
ACTUARIAL PRESENT VALUE OF ACCUMULATED PLAN BENEFITS		
Discount Rate	7.75%	7.00%
Vested Benefits Participants Currently Receiving Payments All Other Participants TOTAL VESTED BENEFITS	\$ 10,259,189 9,882,761 20,141,950	\$ 12,010,148 8,465,220 20,475,368
Percent Funded	114%	121%
NONVESTED BENEFITS	1,194,475	1,466,407
EXCESS STATE MONIES RESERVE	34,501	84,022
TOTAL ACTUARIAL PRESENT VALUE OF ACCUMULATED PLAN BENEFITS	\$ 21,370,926	\$ 22,025,797
Percent Funded	108%	113%

^{*} Actuarial Value of Assets

Funded Status – Accrued Benefits (ASC 960) (Continued)

	<u>10/1/2019</u>	10/1/2020
ACTUARIAL PRESENT VALUE OF ACCUMULATED PLAN BENEFITS AS OF PRIOR VALUATION DATE	\$ 20,114,589	\$ 21,370,926
Increase (Decrease) During the Year Attributable to:		
Increase for Interest Due to the Decrease in the Discount Period Benefits Paid Benefits Accumulated, Turnover, Other Experience Change in Actuarial Assumptions Plan Amendment Net Increase (Decrease)	\$ 1,520,633 (987,025) 544,946 177,783 - \$ 1,256,337	\$ 1,614,895 (1,067,153) (1,606,320) 1,713,449 - \$ 654,871
ACTUARIAL PRESENT VALUE OF ACCUMULATED PLAN BENEFITS AS OF CURRENT VALUATION DATE	\$ 21,370,926	\$ 22,025,797

State Required Exhibit

A. Marahan Data		10/1/2019		10/1/2020
A. <u>Member Data</u> 1. Active Members		68		60
Retired Members and beneficiaries receiving benefits (including DROP)		25		28
3. Disabled Members receiving benefits		0		0
4. Terminated vested Members5. Prior year active compensation	\$	4 3,882,496	\$	5 3,191,097
Annual benefits payable to retirees	Ψ	3,002,490	Ψ	5, 191,097
and beneficiaries (including DROP)	\$	948,030	\$	1,032,227
7. Annual benefits payable to disabled retirees8. Annual benefits payable to terminated	\$	-	\$	-
vested Members	\$	101,126	\$	169,165
B. Assets				
Actuarial value	\$	23,012,310	\$	24,852,816
2. Market value		22,791,821		25,104,254
C. <u>Liabilities</u> 1. Actuarial present value of future expected benefit payments for active members				
a. Retirement benefits	\$	16,053,338	\$	13,950,326
b. Termination benefitsc. Death benefits		2,013,242 109,531		2,154,935 105,352
d. Disability benefits		152,264		153,356
e. Total	\$	18,328,375	\$	16,363,969
2. Actuarial present value of future expected benefit				
payments for terminated vested members 3. Actuarial present value of future expected benefit	\$	838,115	\$	1,787,825
payments for members currently receiving benefits				
a. Service retired, beneficiaries and DROPb. Disability retired	\$	10,259,189 -	\$	12,010,148 -
c. Total	\$	10,259,189	\$	12,010,148
Excess State Monies Reserve	\$	34,501	\$	84,022
Total actuarial present value of future expected benefit payments	\$	29,460,180	\$	30,245,964
Entry age normal accrued liability	φ \$	24,547,799	φ \$	26,314,378
7. Unfunded entry age normal accrued liability	\$	1,755,978	\$	1,210,125

State Required Exhibit (Continued)

			<u>10/1/2019</u>	<u>1</u>	0/1/2020
D.	Statement of Accumulated Plan Benefits				
	Actuarial present value of accumulated vested				
	benefits	_			
	 a. Members currently receiving benefits (including DROP) 	\$	10,259,189	\$ 1	2,010,148
	b. Other Members		9,882,761		8,465,220
	c. Total	\$	20,141,950	\$ 2	20,475,368
	2. Actuarial present value of accumulated non-	·	, ,		, ,
	vested plan benefits		1,194,475		1,466,407
	3. Excess State Monies Reserve		34,501		84,022
	4. Total actuarial present value of accumulated plan				
	benefits	\$	21,370,926	\$ 2	22,025,797
F	Statement of Change in Accumulated Plan Benefits				
	Actuarial present value of accumulated plan				
	benefits as of Prior Valuation Date	\$	20,114,589	\$ 2	21,370,926
	2. Increase (decrease) during year attributable to:				
	a. Plan amendment		0		0
	b. Change in actuarial assumptions		177,783		1,713,449
	c. Benefits paid		(987,025)		(1,067,153)
	d. Other, including benefits accumulated and increase	;			
	for interest due to decrease in the discount period	Φ.	2,065,579		8,575
	e. Net increase	\$	1,256,337	\$	654,871
	Actuarial present value of accumulated plan benefits as of Current Valuation Date	\$	21,370,926	\$ 2	2,025,797
	benefits as of Guiterit valuation Date	Ψ	21,010,020	ΨΖ	.2,020,131

State Required Exhibit (Continued)

	Actuarial Valuation Date For Contribution Year	<u>10/1/2018</u> 2018-19		<u>10/1/2019</u> 2019-20
F.	Past Contributions			
	Total contribution required a. City			
	i. Estimated Dollars, from Actuarial Valuationii. Percentage of Participants' Compensation	\$ 433,065 12.68%	\$	411,507 10.41%
	iii. Actual Compensation Under NRA	\$ 4,175,768	\$	3,836,713
	iv. Required, per new state interpretation = (ii.) x (iii.)	\$ 529,487	\$	399,402
	b. State (Estimated)	135,554		135,554
	c. Member*	346,555		434,861
	d. Total = (a.iv.) + (b.) + (c.)2. Actual contributions made:	\$ 1,011,596	\$	969,817
	a. City	\$ 720,133	\$	514,218
	b. State**	135,554		135,554
	c. Member	459,335		422,039
	d. Total	\$ 1,315,022	\$	1,071,811
G.	Net Actuarial Gain (Loss)	N/A		N/A
Н.	Disclosure of Following Items:	10/1/2019		10/1/2020
	 Actuarial present value of future salaries - attained age*** 	\$ 26,750,083	\$	25,758,226
	Actuarial present value of future employee contributions - attained age***	\$ 2,529,928	\$	2,459,817
	3. Actuarial present value of future contributions from other sources4. Amount of active members' accumulated	N/A		N/A
	contributions 5. Actuarial present value of future salaries and future	\$ 2,805,834	\$	2,421,762
	benefits at entry age	Not provided	d by	system
	Actuarial present value of future employee contributions at entry age	Not provided	d by	system

^{*} Determined by applying the required employee contribution rate (11.0%) to expected compensation for the year for participants under Normal Retirement Age (NRA)

^{**} Excluding Excess Premium Tax Revenues that have not been used to provide Additional Benefits

^{***} Participants under Normal Retirement Age (NRA) only

FS112.664 Requirements

Changes in the Net Pension Liability and Related Ratios – RP2000, 7.75% Interest

State Required Disclosure—Changes in the Net Pension Liability and Related Ratios

	Fiscal Year Ending											
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Total Pension Liability												
Service Cost	N/A	N/A	N/A	N/A	N/A	\$751,847	\$857,325	\$954,618	\$979,603	\$962,677	\$846,553	\$350,070
Interest Cost	N/A	N/A	N/A	N/A	N/A	\$255,200	\$1,884,505	\$1,497,333	\$1,607,333	\$1,642,873	\$1,638,193	\$1,769,790
Changes of Benefit Terms	N/A	N/A	N/A	N/A	N/A	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Differences Between Expected and Actual Experiences	N/A	N/A	N/A	N/A	N/A	\$1,629,832	(\$524,160)	\$292,523	\$224,790	(\$735,069)	\$1,439,122	\$642,436
Changes of Assumptions	N/A	N/A	N/A	N/A	N/A	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Benefit Payments, Including Refunds of Member Contributions	N/A	N/A	N/A	N/A	N/A	(\$1,037,204)	(\$926,647)	(\$904,816)	(\$967,438)	(\$1,056,519)	(\$987,025)	(\$1,290,489)
Net Change in Total Pension Liability	N/A	N/A	N/A	N/A	N/A	\$1,599,675	\$1,291,023	\$1,839,658	\$1,844,288	\$813,961	\$2,936,843	\$1,471,806
Total Pension Liability (Beginning)	N/A	N/A	N/A	N/A	N/A	\$21,562,637	\$23,162,312	\$24,453,335	\$26,292,993	\$28,137,281	\$28,137,281	\$31,074,124
Total Pension Liability (Ending)	N/A	N/A	N/A	N/A	\$23,162,312	\$23,162,312	\$24,453,335	\$26,292,993	\$28,137,281	\$28,951,242	\$31,074,124	\$32,545,930
Plan Fiduciary Net Position												
Contributions—Employer	N/A	N/A	N/A	N/A	N/A	\$646,023	\$589,810	\$590,606	\$580,095	\$577,269	\$720,133	\$514,218
Contributions—Member	N/A	N/A	N/A	N/A	N/A	\$307,896	\$325,235	\$338,561	\$344,327	\$373,527	\$502,866	\$422,039
Contributions - State	N/A	N/A	N/A	N/A	N/A	\$111,257	\$117,870	\$137,097	\$142,663	\$155,114	\$170,055	\$185,075
Net Investment Income	N/A	N/A	N/A	N/A	N/A	\$1,757,729	(\$232,058)	\$1,402,233	\$2,274,231	\$1,641,966	\$904,516	\$2,420,688
Benefit Payments, Including Refunds of Member Contributions	N/A	N/A	N/A	N/A	N/A	(\$1,037,204)	(\$926,647)	(\$904,816)	(\$967,438)	(\$1,056,519)	(\$987,025)	(\$1,290,489)
Administrative Expense	N/A	N/A	N/A	N/A	N/A	(\$52,988)	(\$69,185)	(\$64,805)	(\$72,937)	(\$82,818)	(\$64,615)	(\$86,952)
Other	N/A	N/A	N/A	N/A	N/A	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Net Change in Plan Fiduciary Net Position	N/A	N/A	N/A	N/A	N/A	\$1,732,712	(\$194,975)	\$1,498,876	\$2,300,941	\$1,608,539	\$1,245,929	\$2,164,579
Plan Fiduciary Net Position (Beginning)	N/A	N/A	N/A	N/A	N/A	\$14,806,469	\$16,539,181	\$16,344,206	\$17,843,082	\$20,144,023	\$21,752,563	\$22,998,492
Plan Fiduciary Net Position (Ending)	N/A	N/A	N/A	N/A	\$14,806,469	\$16,539,181	\$16,344,206	\$17,843,082	\$20,144,023	\$21,752,563	\$22,998,492	\$25,163,071
County's Net Pension Liability (Ending)	N/A	N/A	N/A	N/A	N/A	\$6,623,130	\$8,109,128	\$8,449,911	\$7,993,257	\$7,198,679	\$8,075,632	\$7,382,859
Net Position as a % of Pension Liability	N/A	N/A	N/A	N/A	N/A	71.41%	85.95%	85.95%	91.91%	93.69%	93.69%	95.62%
Covered-Employee Payroll	N/A	N/A	N/A	N/A	N/A	\$2,969,177	\$2,967,537	\$2,967,537	\$3,145,402	\$4,175,768	\$4,175,768	\$3,895,753
Net Pension Liability as a % of Payroll	N/A	N/A	N/A	N/A	N/A	223.06%	273.26%	273.26%	254.13%	172.39%	193.39%	189.51%

FS112.664 Requirements

Sensitivity

The following table illustrates the impact of interest rate sensitivity on the Net Pension Liability for fiscal year end September 30, 2019:

		2% Decrease	Current Rate	2% Increase
		(5.75%)	(7.75%)	(9.75%)
(1)	Total Pension Liability	\$31,074,124	\$24,547,799	\$17,616,420
(2)	Plan Fiduciary Net Position	\$22,998,492	\$22,998,492	\$22,998,492
(3)	Net Pension Liability	\$8,075,632	\$1,549,307	(\$5,382,072)

The following table illustrates the impact of interest rate sensitivity on the Net Pension Liability for fiscal year end September 30, 2020:

		2% Decrease	Current Rate	2% Increase
		(5.75%)	(7.75%)	(9.75%)
(1)	Total Pension Liability	\$32,545,930	\$26,314,378	\$17,952,932
(2)	Plan Fiduciary Net Position	\$25,163,071	\$25,163,071	\$25,163,071
(3)	Net Pension Liability	\$7,382,859	\$1,151,307	(\$7,210,139)

Adequacy of Assets

The following table illustrates the number of years and fractions for which the Market Value of Assets are adequate to sustain expected retirement benefits.

Assumptions	Years and Fractions		
RP 2000 Mortality and 7.75% Interest	25.08		
RP 2000 Mortality and 5.75% Interest	19.42		

Reconciliation of DROP Participants and Assets

Participants as of 10/1/2019	1
New DROP Members	2
New DROP's, Withdrew during PY	0
All Other Withdrawals	(1)
Corrections	0
Participants as of 10/1/2020	2

	Total
Assets as of 10/1/2019	\$206,670.66
Payments into DROP	71,201.14
Earnings	4,280.73
Distributions	(223,335.47)
Expenses	0.00
Adjustments	0.00
Assets as of 10/1/2020	\$58,817.06

Participant Data Summary

October 1, 2020

			Terminated				
	Active	DROP	Vested	Disabled	Retired	Beneficiaries	Total
October 1, 2019	68	1	4	-	23	1	97
New Entrants	8						8
Retirements	(4)	-			2		(2)
Disabilities							-
Terminations a) with refund b) without refund	(11) (1)	(1)	1				(12) -
DROP enrollments		2					2
Deaths a) with beneficiaries b) without beneficiaries					- -	-	- -
Benefits Expired							-
Other		-					-
October 1, 2020	60	2	5	-	25	1	93
Average Age	36.8	50.8	49.5		64.7	56.5	

Active Participants as of 10/01/2019

	Males	Females	Total
Number of Participants	60	8	68
Average Age Nearest Birthday	37.2	36.2	37.1
Average Completed Years of Service	8.1	4.7	7.7
Average Compensation for Prior Year	\$57,990	\$50,389	\$57,096

Active Participants as of 10/01/2020

	Males	Females	Total
Number of Participants	52	8	60
Average Age Nearest Birthday	37.4	32.7	36.8
Average Completed Years of Service	7.9	3.7	7.3
Average Compensation for Prior Year	\$54.707	\$43,293	\$53,185

Age and Service Distribution

Years of Service								
	0-4	5-9	10-14	15-19	20-24	25-29	30+	Total
Age								
Under 25	6	0	0	0	0	0	0	6
25-29	4	4	0	0	0	0	0	8
30-34	8	2	1	0	0	0	0	11
35-39	6	5	3	1	0	0	0	15
40-44	1	2	2	1	1	0	0	7
45-49	2	0	1	1	3	0	0	7
50-54	1	2	0	1	0	1	0	5
55-59	0	0	0	1	0	0	0	1
60-64	0	0	0	0	0	0	0	0
65 and over	0	0	0	0	0	0	0	0
Total	28	15	7	5	4	1	0	60
iotai	20	10	,	9	7	ı	U	00

Comparison of Actual vs. Assumed Salary Increases and Investment Returns

October 1, 2020

Salary Increases

Year Ended September 30,	Actual	Assumed
1990	4.7%	6.0%
1991	1.5%	6.0%
1992	7.6%	6.0%
1993	7.1%	6.0%
1994	4.5%	6.0%
1995	7.0%	6.0%
1996	15.7%	6.0%
1997	-0.3%	6.0%
1998	11.5%	6.0%
1999	13.8%	6.0%
2000	1.7%	6.0%
2001	13.5%	6.0%
2002	3.9%	6.0%
2003	6.7%	6.0%
2004	4.0%	6.0%
2005	4.7%	6.0%
2006	7.1%	6.0%
2007	9.9%	6.0%
2008	11.2%	6.0%
2009	3.1%	6.0%
2010	2.0%	6.0%
2011	8.8%	6.0%
2012	4.4%	6.0%
2013	2.4%	6.0%
2014	5.0%	6.0%
2015	8.5%	6.0%
2016	3.3%	6.0%
2017	1.9%	6.0%
2018	9.2%	5.0%
2019	11.8%	5.0%
2020	-2.3%	5.0%
Last 5 Years, Compounded	4.7%	5.4%

Each figure is the rate of increase in weighted average compensation from the prior year, as reported for the actuarial valuations. The average includes only continuing active employees who have a full year of compensation in both the current and prior years, based on their reported dates of employment. Prior to September 30, 2001, employees with less than a full year of compensation in the prior year were also included by annualizing their compensation on a pro rata basis.

Comparison of Actual vs. Assumed Salary Increases and Investment Returns (Continued)

October 1, 2020

Investment Return

Year Ended September 30,	Actual	Assumed
1990	2.72%	8.0%
1991	2.95%	8.0%
1992	27.46%	8.0%
1993	10.29%	8.0%
1994	(0.67%)	8.0%
1995	15.73%	8.0%
1996	12.57%	8.0%
1997	23.52%	8.0%
1998	5.93%	8.0%
1999	11.27%	8.0%
2000	10.72%	8.0%
2001	(5.35%)	8.0%
2002	(3.70%)	8.0%
2003	3.71%	8.0%
2004	4.11%	8.0%
2005	5.67%	8.0%
2006	7.80%	8.0%
2007	10.53%	8.0%
2008	6.10%	8.0%
2009	3.86%	8.0%
2010	4.24%	8.0%
2011	3.10%	8.0%
2012	4.27%	8.0%
2013	9.64%	8.0%
2014	11.01%	8.0%
2015	8.31%	8.0%
2016	8.74%	8.0%
2017	11.72%	8.0%
2018	7.63%	7.75%
2019	6.61%	7.75%
2020	8.43%	7.75%
Last 5 Years, Compounded	8.60%	7.80%
Last 20 Years, Compounded	5.73%	7.96%
Last 30 Years, Compounded	7.68%	7.97%

The actual experience figures are the approximate time-weighted rates of return for the particular year. Through September 30, 2002, the return shown is from market value to market value; thereafter the return is from smoothed value to smoothed value. Income includes dividends, interest, and realized and unrealized gains (losses), based upon statements of Fund Balances provided by the City. The time-weighted rates reflect estimated transaction dates for income, employer, employee and state contributions, expenses, and disbursements.

History of Excess Premium Tax Revenues

October 1, 2020

Regular						
	Cash <u>Received</u>	Applicable "Frozen" <u>Amount</u>	Excess = Additional Premium Tax Revenue	Current Year Benefit Improve- <u>ments</u>	Set Aside for Future Improve- <u>ments</u>	Cumulative Set Aside for Future Improve- ments
9/30/1998 9/30/1999 9/30/2000 9/30/2001 9/30/2002	\$ 47,792.65 46,261.19 44,579.19 48,325.16 61,887.18	\$ 47,792.65 47,792.65 47,792.65 47,792.65 47,792.65	\$ 0.00 0.00 0.00 532.51 14,094.53	\$ 0.00 0.00 0.00 0.00 0.00 0.00	\$ 0.00 0.00 0.00 532.51 14,094.53	\$ 0.00 0.00 0.00 532.51 14,627.04
9/30/2003	62,368.77	47,792.65	14,576.12	0.00	14,576.12	29,203.16
9/30/2004	81,949.69	47,792.65	34,157.04	0.00	34,157.04	63,360.20
9/30/2005	89,105.73	47,792.65	41,313.08	0.00	41,313.08	104,673.28
9/30/2006	93,883.30	47,792.65	46,090.65	0.00	46,090.65	150,763.93
9/30/2007	89,105.73	47,792.65	41,313.08	192,077.01 (1)	0.00	0.00
9/30/2008	96,755.15	47,792.65	48,962.50	45,846.00 (2)	3,116.50	3,116.50
9/30/2009	92,821.89	47,792.65	45,029.24	45,846.00	0.00	3,116.50
9/30/2010	95,223.83	47,792.65	47,431.18	45,846.00	1,585.18	4,701.68
9/30/2011	94,730.77	47,792.65	46,938.12	45,846.00	1,092.12	5,793.80
9/30/2012	98,598.30	47,792.65	50,805.65	45,846.00	4,959.65	10,753.45
9/30/2013	99,510.28	47,792.65	51,717.63	45,846.00	5,871.63	16,625.08
9/30/2014	111,256.94	47,792.65	63,464.29	45,846.00	17,618.29	34,243.37
9/30/2015	117,869.72	47,792.65	70,077.07	45,846.00	24,231.07	58,474.44
9/30/2016	137,096.72	47,792.65	89,304.07	45,846.00	43,458.07	101,932.51
9/30/2017	142,662.63	47,792.65	94,869.98	45,846.00	49,023.98	150,956.49
9/30/2018	155,114.25	47,792.65	107,321.60	212,432.09 (3)	0.00	0.00
9/30/2019	170,054.80	47,792.65	122,262.15	87,761.00 (4)	34,501.15	34,501.15
9/30/2020	185,074.44	47,792.65	137,281.79	87,761.00	49,520.79	84,021.94

Notes:

- (1) Additional Benefits adopted (increasing multiplier to 3.42%) with a lump sum cost in excess of the available \$192,077.01.
- (2) Additional Benefits adopted (increasing multiplier to 3.42%) with an annual cost initially valued as \$45,846.
- (3) Additional Benefits adopted (adding \$150/month supplement and 25 and out normal retirement) with a lump sum cost in excess of the available \$212,432.09
- (4) Additional Benefits adopted (adding \$150/month supplement and 25 and out normal retirement) with an annual cost initially valued as \$87,761

Summary of Major Plan Provisions

October 1, 2020

Effective Date: August 25, 1971.

Plan Year: October 1 to September 30.

Last Amendment: Restatement (Ordinance 669) effective June 8, 2000. First Amendment (Ordinance 715) effective March 8, 2001 (changing Employee Contributions from 7.0% to 9.7% and the multiplier from 3.00% to 3.25%). Second Amendment (Ordinance 794) effective April 10, 2003 (for various law and other changes). Third Amendment (Ordinance 811) effective July 10, 2003 (adding Early Retirement). Fourth Amendment (Ordinance 881) effective July 22, 2004 (adding 3% increasing annuities as an Optional Form of Payment and changing investment policy). Fifth Amendment (Ordinance 1029) effective May 11, 2006 (changing various provisions as required by new IRS rules). Sixth Amendment (Ordinance 1070) effective May 17, 2007 (changing Employee Contributions from 9.7% to 11.0% and the multiplier from 3.25% to 3.50%). Seventh Amendment (Ordinance 1083) effective July 26, 2007 (adding 5% fixed investment return option for DROP). Restatement (Ordinance 1159) adopted August 17, 2009. First Amendment (Ordinance 1222) effective February 9, 2012 (adding 300 hours of overtime cap). First Amendment (Ordinance 1419) Effective October 12, 2017 (adding supplemental benefit and 25 and out retirement provision).

Eligibility: All permanent Police Officers who have passed the medical examination.

Employee Contributions: 11% of Compensation (9.7% prior to May 17, 2007) and excluded from taxable income under IRC Section 414(h).

Compensation: Total compensation paid by the City for services rendered as reported on Form W-2, plus all tax deferred, tax sheltered or tax exempt amounts derived from elective employee contributions or salary reductions. Compensation includes regular pay, overtime (up to 300 hours) and other cash incentives. Payments of leave amounts (vacation, sick, etc.) upon termination of employment shall not be included. Auto allowance and mileage reimbursements shall not be included. Compensation in excess of the IRC Section 401(a)(17) limit is disregarded.

Average Final Compensation: The Compensation received during the 5 years out of the last 10 years of Credited Service divided by 60, which produces the highest average, or the career average as a full-time Police Officer, if greater.

Credited Service: Years and fractional parts of years of service as a Police Officer with the City and while making Employee Contributions.

Accrued Benefit: The benefit using the formula for the Normal Retirement Benefit, based upon the Average Final Compensation and Credited Service as of the date of the calculation. The Accrued Benefit is payable at the Normal Retirement Date in the Normal Form of Benefit.

Accumulated Contributions: A participant's contributions with interest compounded annually at 5.25% through June 8, 2000; after that date interest is no longer accrued.

Normal Retirement Date: The first day of the month coincident with or next following the earlier of (1) the date a participant attains age 50 and has completed at least 20 years of Credited Service or (2) the date he attains age 55 and has completed at least 10 years of Credited Service or (3) 25 years of Credited Service, regardless of age .

Early Retirement Date: The first day of the month coincident with or next following the date a participant attains age 50 and has completed at least 10 years of Credited Service.

Normal Form of Benefit: A monthly annuity for life with 10 years certain.

Optional Forms of Benefit: Benefits Actuarially Equivalent to the benefit provided under the Normal Form of Benefit; optional forms:

- a. Life annuity (with no modified cash refund feature),
- b. Joint and survivor annuity (100%, 75%, 66 2/3% or 50%; reducing upon death of participant only),
- c. Level income option,
- d. Any of the above forms, increasing 3% per year on each January 1, or
- e. Lump Sum if under \$5,000, or less than \$100 per month.

Normal Retirement Benefit: A monthly benefit commencing at the Normal Retirement Date equal to 3.5% of Average Final Compensation multiplied by years of Credited Service, but not more than 100% of Average Final Compensation (excluding COLA's).

Late Retirement Benefit: Additional benefits will accrue after the Normal Retirement Date.

Early Retirement Benefit: A participant who elects to retire on or after his Early Retirement Date may receive an Early Retirement Benefit commencing at his Normal Retirement Date equal to his Accrued Benefit. If he further elects to have such benefit commence prior to his Normal Retirement Date, it shall be reduced 3% per year (.25% per month) for each period by which the benefit commencement date precedes his Normal Retirement Date. For this purpose Normal Retirement Date is determined based on the participant's actual years of Credited Service as a Police Officer at his termination date.

Death Benefit: The beneficiary of a participant who dies (1) during employment or after termination with a vested benefit and (2) with respect to whom benefit payments have not commenced shall be entitled to a Death Benefit equal to 100 times his monthly Accrued Benefit based on his Credited Service and Average Final Compensation as of the time of death. This benefit is payable in a lump sum unless the Police Officer elected that it be paid in an Actuarially Equivalent annuity or installments. The Plan also provides minimum Death Benefits based upon the vested, 10-year-certain portion of the Normal Form of Benefit or the refund of Accumulated Contributions.

Termination of Employment Benefit: A participant who terminates his employment after completing ten years of Credited Service for reason other than death, disability or retirement shall be entitled to a vested deferred monthly benefit commencing at his Normal Retirement Date equal to his Accrued Benefit. Any participant may withdraw his Accumulated Contributions; a vested participant who withdraws his Accumulated Contributions forfeits his rights to his vested Accrued Benefit or Death Benefit.

If a participant terminates after completing 10 years but prior to being eligible for retirement:

- With less than 20 years of Credited Service, his annuity can begin unreduced at age 55 or reduced (3% per year) between ages 50 and 55, or
- With 20 or more years of Credited Service, his annuity can begin unreduced at age 50.

Disability Benefit: A Participant who becomes totally and permanently disabled shall be eligible to receive a Disability Benefit in the form of an immediate monthly annuity for life with ten years certain as follows:

Job-Related Disability: Without regard to years of Credited Service, a benefit equal to the greater of his Accrued Benefit or 42% of Average Final Compensation as of the date of disability.

Non-Job-Related Disability: With ten or more years of Credited Service, a benefit equal to his Accrued Benefit as of the date of disability.

The Disability Benefit together with worker's compensation benefits may not exceed 100% of pay, as provided in the Plan. Optional Forms of Benefit may be elected.

Actuarial Equivalent: A benefit or amount of equal value, based upon the 1983 Group Annuity Mortality Table for Males and an interest rate of 8% per annum. In practice, in accordance with the prior document, the Table for Males is used for all Police Officers, regardless of sex, and the same table with ages set back 6 years is used for all beneficiaries and survivor annuitants, regardless of sex.

Maximum Benefits: IRC Section 415 limits apply as modified for governmental plans and for police and fire plans.

Deferred Retirement Option Program (DROP):

- a. **Eligibility**: Normal Retirement.
- b. **Benefit Amount**: The participant's Accrued Benefit calculated as of the beginning of the DROP period, accumulated quarterly with interest at a rate equal to either the Pension Plan's net investment performance during the quarter or a fixed guaranteed rate of 5% annually, plus cost-of-living adjustments, if any, during the DROP period. The participant elects which interest basis he wants upon his entry into the DROP, and may change such election only once during the DROP period.
- c. **Form of Benefit**: When the DROP period ends (maximum 5 years), the employee must terminate employment. At that time, the accumulated DROP benefits will be distributed in the form of a lump sum, a rollover, or a nonforfeitable fixed annuity to the participant, or if deceased, such participant's designated beneficiary. In addition, the monthly annuity, including any COLA adjustments, will continue to the participant as otherwise provided in the Plan.
- d. **Other Provisions**: A participant in DROP is no longer eligible for Death or Disability Benefits. Employee Contributions are no longer collected, and Credited Service and Average Final Compensation are frozen as of the date of entry into DROP.

\$150 Per Month Supplemental Benefit: Police Officers who retire from active service only receive a supplemental monthly benefit of \$150 payable for life only, without any COLA. This benefit is not provided for Police Officers who terminate prior to being eligible for early, normal or disability retirement, nor is it provided for beneficiaries of deceased Police Officers, nor their joint annuitants. However, when he retires a Police Officer may elect to have the \$150 benefit paid in one of the reduced, Actuarially Equivalent Optional Forms of Benefit; this includes having it paid as a reduced, Actuarially Equivalent, increasing annuity under the 3% increasing annuity option.

Actuarial Basis

October 1, 2020

ACTUARIAL COST METHOD

Entry Age Normal with Amortization of the unfunded actuarial accrued liability plus normal cost and expenses. The initial unfunded accrued liability is amortized as a percentage of payroll over 20 years. Future gains and losses will be amortized over 10 years.

ACTUARIAL ASSUMPTIONS

Investment Yield: The investment rate of earnings is assumed to be 7.00% per annum.

Interest on Employee Contributions: No interest is credited beyond June 8, 2000.

Mortality: PUB 2010, adjusted for the safety classification, set forward one year, projected using scale MP 2018 (Florida Retirement System Special Risk mortality).

Disability: Preretirement disability is assumed to occur in accordance with a standard scale of disability rates (1955 UAW, male and female). Sample rates are shown below:

Probability of Disabl Male Fe		
0.03%	0.04%	
0.04%	0.06%	
0.07%	0.10%	
0.18%	0.26%	
0.90%	1.21%	
	Male 0.03% 0.04% 0.07% 0.18%	

Twenty-five percent of disabilities are assumed to be non-job-related.

Withdrawal: Preretirement withdrawals are assumed to occur in accordance with a standard scale of turnover rates (Frees 2003). Sample rates are shown below:

Age		Years of Service					
	< 2	2-4	5-9	>10			
20	18.0%	14.2%	15.0%	18.8%			
30	18.6%	13.6%	8.4%	4.8%			
40	15.9%	10.4%	6.0%	4.2%			
50	15.6%	8.9%	5.3%	3.5%			

Salary Scale: Future salaries are assumed to increase at the rate of 5% per year.

Actuarial Value of Assets: Assets are valued using a 5-year smoothed market value without phase-in.

Retirement Rates: Active employees are expected to retire at a rate of 60% at first eligibility. They are then assumed to retire at a rate of 50% for each year thereafter. 100% of eligible participants are assumed to retire at age 60.

Timing of Contribution: The contribution is assumed to be made quarterly throughout the plan year.

Employees Covered: All participants as of the actuarial valuation date.

Expenses: Expenses for the current year are assumed to equal actual expenses for the prior year. If actual expenses for the current year differ from this estimate, a make-up contribution or credit is included.

Maximum Compensation: Compensation is limited to \$285,000 projected to increase at the rate of 4% per annum.

Maximum Benefits: The \$230,000 maximum for years ending in 2020 and other applicable Benefit Limitations under Section 415 are projected to increase at the rate of 4% per annum.

Completeness of Assumptions: All benefits and expenses to be provided by the Plan are recognized in the valuation. All known events are taken into account; no current trends are assumed to discontinue in the future.

All assumptions, with the exception of the investment return and mortality, were selected in conjunction with guidance provided by Aon. The demographic assumptions were selected as a result of an experience study, and are reviewed annually for reasonableness.

The investment return was selected by the Pension Board in conjunction with the investment consultant.

The mortality used is based on the mortality assumption used by the Florida Retirement System, as mandated by Florida Statute.

COMPARABILITY WITH PRIOR VALUATION

Significant Events During the Year: None.

Significant Changes in the Summary of Major Plan Provisions: None

Significant Changes in the Actuarial Cost Method or Actuarial Assumptions:

The actuarial cost method was updated from the Frozen Initial Liability method to the Entry Age Normal method. The investment yield assumption was reduced from 7.75% to 7.00%.

Other Information Needed to Fully and Fairly Disclose the Actuarial Position of the Plan: None.

Actuarial Cost Method "Entry Age Normal"

October 1, 2020

An actuarial valuation is a series of mathematical calculations which project future benefits under a pension plan and future contributions to fund those benefits. The true cost of a pension plan cannot be determined until the last benefit is paid, because the true cost is the actual benefits ultimately paid, plus the expense of maintaining the plan, less the actual income earned on invested funds. Since funding cannot wait until the last benefit is paid, however, actuarial assumptions are used to project ultimate benefit levels and the reserves needed to provide them. An actuarial cost method is then used to establish a reasonable pattern of contributions to accumulate those reserves. The assumptions and cost method themselves, therefore, only impact on the incidence of funding, not the true cost. Each new valuation automatically corrects for any differences between the assumptions and actual experience, and the correction is spread over the current and future years of funding.

The Entry Age Normal cost method spreads the funding of the annual accrual of pension benefits over the future service of all active participants and the balance is funded in a separate amortization schedule.

The initial unfunded accrued liability (UAL) is determined and fixed in the first year the cost method is adopted. The UAL, is amortized over a closed 20 year period over a level percentage of payroll. Future gains and losses will be amortized over 10 years.

The state minimum required contribution in a particular year is equal to the Normal Cost, plus an amount which will amortize the Unfunded Accrued Liability over the applicable number of years, plus expected and "make-up" expenses, less the Past Excess Contributions and expected employee contributions.

The calculation of the contribution has been made in a manner that assumes quarterly payment during the Plan Year. In order to meet the state minimum funding requirements, the state minimum required contribution must be made at least quarterly during the Plan Year.

Disclosure Notes to the Financial Statements for Year Ended September 30, 2020

Summary of Significant Accounting Policies

Preserving the Police Officers' Retirement Fund is a major objective of the City of Panama City Beach. The City funds a defined benefit pension plan for its employees. They are treated as fiduciary funds in the financial sections. It is the goal to invest all funds in a manner that provides the highest investment return using authorized instruments while meeting the City's acceptable risk level. The primary objectives, in priority order, in investment activities shall be safety, liquidity, and yield.

Method used to value investments. Investments are reported at fair value. All deposits are in various financial institutions and are carried at cost. Securities traded on a national or international exchange are valued at the last reported sales price at current exchange rates.

Plan Description

Plan Administration

The Board of Trustees oversees the management of the Police Officers' Pension Plan for the City of Panama City Beach. The board has established procedures to ensure that idle funds are invested as authorized by Florida statute, to earn the maximum interest.

Benefits Provided

See pages 30-32 of the Actuarial Report.

Contributions

The City's annual contribution to the pension trust is determined through the budgetary process and with reference to actuarial determined contributions. As of September 30, 2020, the most recent actuarial study shows a deficit of \$1.15 million on a GASB 67 funding basis. The Board establishes rates based on an actuarially determined rate recommended by an independent actuary. The actuarially determined rate is the estimated amount necessary to finance the costs of benefits earned by plan members during the year, with an additional amount to finance any unfunded accrued liability. The contribution is designed to accumulate sufficient assets to pay benefits when due.

Investments

Asset Class	Target Allocation Total
Large Cap Equity	30%
Small Cap Equity	20%
International Equity	15%
Fixed Income	25%
Real Estate	5%
Cash	5%
Total	100%

No changes have been made to the pension plan investment policy over the past year.

Concentrations

The long-term expected rate of return on pension plan investments was confirmed appropriate using Aon's etool model assuming general inflation of 2.5%, which is a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the pension plan's target asset allocation as of October 1, 2020 (see the discussion of the pension plan's investment policy) are summarized in the following table:

Asset Class	Long-Term Expected Nominal Return	Long-Term Expected Real Rate of Return
Equity		_
Large Cap U.S. Equity	6.40%	3.90%
Small Cap U.S. Equity	6.90%	4.40%
International (Non-U.S.) Equity		
(Developed)	7.50%	5.00%
Emerging Markets Equity	7.80%	5.30%
Fixed Income		
Long Duration Bonds – Gov't / Credit	2.50%	0.00%
Alternative Investments		
Real Estate (Broad Market)	5.60%	3.10%

Rate of Return

For the year ended September 30, 2020, the annual money-weighted rate of return on pension plan investments, net of pension plan investment expense, was 10.6 percent. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

Receivables

The pension plan does not have receivables from long-term contracts with the City for contributions.

Allocated Insurance Contracts

The pension plan has not allocated insurance contracts that are excluded from pension plan assets.

Reserves

The pension plan has no reserves that are required to be disclosed under paragraph 30e of Statement 67.

Deferred Retirement Option Program (DROP)

The City offers a DROP to all employees who meet retirement eligibility. A description of the DROP can be found on page 32 of the actuarial valuation report.

Net Pension Liability of the City

The components of the net pension liability under GASB 67 of the City at September 30, 2020, were as follows:

Total Pension Liability	\$26,314,378
Plan Fiduciary Net Position	<u>(\$25,163,071)</u>
City's Net Pension Liability	\$1,151,308
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	95.62%

Actuarial Assumptions

See pages 33-35 of the Actuarial Report.

Discount Rate

The discount rate used to measure the total pension liability was 7.75 percent. The projection of cash flows used to determine the discount rate assumed that plan member contributions will be made at the current contribution rate and that Board of Trustees contributions will be made at rates equal to the difference between actuarially determined contribution rates and the member rate. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.