

Actuarial Valuation Report

City of Panama City Beach Firefighters' 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 Firefighters' 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 Firefighters' 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 I Ounld

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

Mitzi M. Silverstein

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

June 23, 2021

Discussion of Results

October 1, 2020

The results of the actuarial valuation of the Panama City Beach Firefighters' 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	\$ 379,169	\$ 524,393	
Percent of Participants' Compensation	16.24%	18.44%	

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 8.42% for the plan year ended September 30, 2020. Investment experience compounded over the last 5 years has been approximately 7.8% per year. For the same period, the annual money-weighted rate of return on pension plan investments, net of pension plan investment expense, was 4.2%. 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 0.3%, lower than the assumed salary increase of 6.0%. Salary experience compounded over the last 5 years has been approximately 4.3% 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*	\$ 16,652,930	\$ 17,910,950
Discount Rate	7.75%	7.00%
ACTUARIAL PRESENT VALUE OF ACCUMULATED PLAN BENEFITS		
TOTAL VESTED BENEFITS	\$ 14,343,610	\$ 16,174,750
Percent Funded	116%	111%
TOTAL ACTUARIAL PRESENT VALUE OF ACCUMULATED PLAN BENEFITS	\$ 15,607,979	\$ 17,981,520
Percent Funded	107%	100%

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	\$ 17,152,870	\$ 18,308,303
ENTRY AGE NORMAL ACCRUED LIABILITY	\$ 18,742,728	\$ 18,834,984
Funded Ratio	91.52%	97.20%

^{*} Actuarial Value of Assets

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Development of Normal Cost for State Minimum Required Contribution

		<u>10/1/2019</u>		10/1/2020
1. Number of Participants				
Active Terminated with Vested Benefits Retirees and Beneficiaries Total 2. Participant's Compensation	_	44 2 16 62		54 2 16 72
a. Below Normal Retirement Ageb. Beyond Normal Retirement Agec. Total	\$ 	2,334,449 108,862 2,443,311	\$ 	2,682,934 93,581 2,776,516
3. Present Value of Benefits				
Active Terminated with Vested Benefits Retirees Excess State Monies Reserve Total		10,446,097 655,792 10,800,013 123,537 22,025,439	_	14,209,597 775,477 11,542,332 113,813 26,641,219
4. Entry Age Normal Accrued Liability		N/A	\$	20,816,131
5. Actuarial Value of Assets	\$	16,652,930	\$	17,910,950
6. Unfunded Actuarial Accrued Liability	\$	573,676	\$	2,905,181
7. Past Excess Contributions	\$	70,488		N/A
8. Present Value of Future Employee Contributions	\$	790,610		N/A
9. Present Value of Future City Normal Costs	\$	4,078,711		N/A
10. Present Value of Future Compensation	\$	19,093,974		N/A
11. Normal Cost Rate = (8) ÷ (9)		21.36%		N/A
12. Normal Cost = (2a) x (11)	\$	498,638	\$	674,164

^{*}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	\$ 498,638	\$	674,164
2. Employee Contributions	N/A	\$	(134,253)
3. Amortization of Actuarial Accrued Liability	\$ 129,021	\$	203,660
4. Interest Adjustment on (1), (2), and (3) for Quarterly Payment	\$ 23,868	\$	25,585
5. Expenses			
Current Year Estimate Equal to Prior Year's Actual Make-up for Shortfall in Prior Year's Estimate	\$ 56,496 (3,965)	\$	77,611 21,115
Total	\$ 52,531	\$	98,726
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 Banefits)	¢ 254 626	c	264 065
to Provide Additional Benefits)	\$ 251,636	\$	264,965
Past Excess Contributions plus Interest Adjusted for Quarterly Payment	\$ 73,253	\$	78,524
8. Minimum Required Contribution by City for Fiscal Year = $(1) + (2) + (3) + (4) + (5) - (6) - (7)$	\$ 379,169	\$	524,393
 Percent of Participants' Compensation Below Normal Retirement Age* 	16.24%		18.44%

^{*} 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

	ļ	Initial Amount to be Amortized	Beginning Amortization Period	Original Amortization Period (Years)	Years Remaining	Am	(BOY) Annual cortization Amount	l	Jnamortized Balance as of 10/1/2020
Redetermined Liability (Fresh Start)	\$	2,905,181	10/1/2020	20	20	\$	203,660	\$	2,905,181
						\$	203,660		
				1. Unamortized	d Balance as c	of 10/	1/2020	\$	2,905,181
				2. Past Excess	Contributions	3			75,560
				3. Remaining l	Jnfunded Liab	ilities	s = (1) - (2)	\$	2,829,621

^{*}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.

Schedule Illustrating the Amortization of Unfunded Liabilities Existing This Date

October 1, 2020

October 1	Liability
2020	\$ 2,829,621
2021	2,809,778
2022	2,782,009
2023	2,745,562
2024	2,699,628
2030	2,170,967
2035	1,263,730
2036	1,012,685
2037	733,881

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.

Thus the remaining amortization period as of the October 1, 2020, valuation is 2037 less 2020, or 17 years.

Past Excess Contributions (State Requirements)

October 1, 2020

Plan Year Ended

Charges:	9/30/2019	9/30/2020
Deficiency Brought Forward	\$ -	\$ -
Normal Cost	N/A N/A	N/A N/A
Expenses (Estimated and Make up) Amortization of Frozen Initial and	IN/A	IN/A
Supplemental Liabilities	N/A	N/A
Required City Contribution, per State*	411,502	499,097
State (Estimated)	237,342	251,636
Interest	24,674	28,548
Total Charges	\$ 673,519	\$ 779,281
Credits:		
Excess Contribution Brought Forward	\$ 41,545	\$ 70,488
City Contributions	400,000	460,777
State Contributions (Excluding Excess		
Premium Tax Revenues That Have Not Been	070.000	222
Used to Provide Additional Benefits) Interest	273,626	289,579
merest	28,836	33,997
Total Credits	\$ 744,007	\$ 854,841
Balance:		
Excess Contribution Carried Forward	\$ 70,488	\$ 75,560
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

Assets:	<u>10/1/2019</u>	10/1/2020
Cash Certificates of Deposit Government and Corporate Bond Funds Real Estate and Equity Funds Due from City Funds Due from State of Florida Accrued Interest Miscellaneous Receivable	\$ 846,367.31 - 4,387,702.06 11,914,808.14 - - - - 8,752.01	\$ 926,751.68 - 4,506,319.38 12,888,221.02 - - - - 7,092.95
Total Assets	\$ 17,157,629.52	\$ 18,328,385.03
Liabilities and Fund Balance:		
Liabilities: Accounts Payable Refunds or Benefits Payable Due Other Funds	\$ (4,759.32) - -	\$ (20,082.17) - -
Total Liabilities	\$ (4,759.32)	\$ (20,082.17)
Pension Fund Balance:	\$ 17,152,870.20	\$ 18,308,302.86

Reconciliation of Assets (Market Value)

October 1, 2020

Plan Year Ended

	09/30/2019			09/30/2020		
Revenues:						
City Contributions Employee Contributions State Contributions Repayment of Contributions Interest & Dividends Unrealized/Realized Gains (Losses) Commissions	\$	400,000.00 109,253.95 210,226.97 - 383,486.70 310,641.40	\$	460,776.99 127,720.64 226,179.61 - 332,779.78 1,426,730.66		
Total Revenues	\$	1,413,609.02	\$	2,574,187.68		
Expenses:						
Pension Payments Contribution Refunds DROP Payments Investment Expenses Other Expenses	\$	656,329.41 5,830.32 - 37,668.08 18,827.51	\$	758,732.94 1,290.70 581,120.86 37,278.97 40,331.55		
Total Expenses	\$	718,655.32	\$	1,418,755.02		
Net Income:	\$	694,953.70	\$	1,155,432.66		
Fund Balance, Beginning of Year:	\$	16,457,916.50	\$	17,152,870.20		
Fund Balance, End of Year:	\$	17,152,870.20	\$	18,308,302.86		

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)	\$ 17,152,870	\$ 16,457,917	\$ 16,359,403	\$	14,835,133
3. Receivable Contribution included above	\$ -		\$ -	\$	-
4. Market Value Excluding Receivable (2) - (3)	\$ 17,152,870	\$ 16,457,917	\$ 16,359,403	\$	14,835,133
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)	\$ 814,677	\$ 719,481	\$ 462,186	\$	523,152
6. Benefit Distributions	\$ 1,341,145	\$ 662,160	\$ 1,572,120	\$	790,069
7. Administrative Expenses	\$ 77,611	\$ 56,496	\$ 60,461	\$	64,461
8. Expected Return %	7.75%	7.75%	8.00%		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	\$ 1,329,347 30,980 (51,000) (2,951) 1,306,376	\$ 1,275,489 27,360 (25,180) (2,148) 1,275,521	\$ 1,308,752 18,132 (61,675) (2,372) 1,262,837	\$	1,186,811 20,523 (30,995) (2,529) 1,173,810
9. Expected Market Value (2)+(5)-(6)-(7)+(8)	\$ 17,855,168	17,734,264	\$, ,	·	15,677,565
Actual Market Value this Year (including receivable contributions)	\$ 18,308,303	\$ 17,152,870	\$ 16,457,917	\$	16,359,403
11. Investment Gain/(Loss) from Experience	\$ 453,134	\$ (581,393)	\$ 6,072	\$	681,838

Actuarial Value of Assets

5 -YEAR SMO	N	10/1/2020			
1. Market \	/alue of Assets	3		\$	18,308,303
2. Investme	ent Gains/(Los	ses) for	Four Prior Years		
a. b. c. d.	Oct-19 Oct-18 Oct-17 Oct-16			\$	453,134 (581,393) 6,072 681,838
3. Unrecog	nized Investm	ent Gair	ns/(Losses)		
a. b. c. d.	Oct-19 Oct-18 Oct-17 Oct-16		of (2)(a) of (2)(b) of (2)(c) of (2)(d)	\$	362,508 (348,836) 2,429 136,368
e. To	otal: (a)+(b)+(c)+(d)		\$	152,469
4. Prelimin	ary Actuarial V	/alue of	Assets = (1) - (3)(e)	\$	18,155,834
5. Adjustment to be within 20% of market value					-
6. Actuaria	l Value of Asse	ets = (4)	+ (5)	\$	18,155,834

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	\$ 244,884 17,910,950	\$ 246,940 18,061,363		
Total Fund Balances	\$ 18,155,834	\$ 18,308,303		

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, 2015 fiscal year and later.

	Fiscal Year End	Fiscal Year End
	9/30/2019	9/30/2020
(1) Total Pension Liability	\$ 18,742,728	\$ 18,834,984
(2) Plan Fiduciary Net Position	\$ (17,152,870)	\$ (18,308,303)
(3) Net Pension Liability	\$ 1,589,858	\$ 526,681
(4) Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	91.52%	97.20%

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	\$ 298,547	\$ 365,093
(2) Interest Cost	\$ 1,350,842	\$ 1,532,825
(3) Expected Investment Return	\$ (1,307,750)	\$ (1,297,501)
(4) Employee Contributions	\$ (109,254)	\$ (127,721)
(5) Admin Expense	\$ 56,496	\$ 77,611
(6) Plan Changes	\$ -	\$ -
(7) Amortization of Unrecognized		\$ -
(a) Liability (Gain)/Loss	\$ 167,368	\$ (31,496)
(b) Asset (Gain)/Loss	\$ 213,942	\$ (126,548)
(c) Assumption Changes	\$ (1,369)	\$ (1,369)
(8) Total Expense	\$ 668,822	\$ 390,893

Deferred Outflows/Inflows

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

		Deferred		Deferred
		Outflows		Inflows
(1) Difference between actual and expected experience		\$942,404		\$739,832
(2) Net Difference Between Expected and Actual Earnings on Pension Plan Investments	gs on \$368,174			
(3) Difference in Assumptions	\$	41,233	\$	15,780
(4) Total	\$	1,351,811	\$	1,268,756

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		Balar	ice	Annual
Established	Type of Base	Original	Remaining		Remaining	Payment
10/1/2014	Liability (Gain)/Loss	5.19	0.00	\$614,708	\$0	\$22,472
10/1/2015	Liability (Gain)/Loss	5.20	0.20	(380,401)	(14,701)	(73,140)
10/1/2015	Asset (Gain)/Loss	5.00	0.00	(80,957)	0	(16,191)
10/1/2016	Liability (Gain)/Loss	5.16	1.16	(157,157)	(35,422)	(30,434)
10/1/2016	Asset (Gain)/Loss	5.00	1.00	(689,068)	(137,812)	(137,814)
10/1/2016	Assumption Change	5.16	1.16	(70,012)	(15,780)	(13,558)
10/1/2017	Liability (Gain)/Loss	5.60	2.60	(706,386)	(328,085)	(126,100)
10/1/2017	Asset (Gain)/Loss	5.00	2.00	(14,314)	(5,725)	(2,863)
10/1/2018	Liability (Gain)/Loss	5.38	3.38	1,433,985	942,404	278,596
10/1/2018	Asset (Gain)/Loss	5.00	3.00	613,622	368,174	122,724
10/1/2018	Assumption Change	5.38	3.38	65,611	41,233	12,189
10/1/2019	Liability (Gain)/Loss	4.51	3.51	(464,518)	(361,624)	(102,894)
10/1/2019	Asset (Gain)/Loss	5.00	4.00	(462,009)	(369,607)	(92,402)
	Total Charges				\$83,054	(\$159,413)

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	(107,257)
	2022	82,039
	2023	142,329
	2024	(34,059)
	2025	0
Thereafter		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	\$18,742,728	\$17,152,870	\$1,589,858		
Changes recognized for the fiscal year:					
Service Cost	\$365,093	N/A	\$365,093		
Interest on the total pension liability	\$1,532,825	N/A	\$1,532,825		
Changes of benefit terms	\$0	N/A	\$0		
Differences between expected and actual experience	(\$464,518)	N/A	(\$464,518)		
Changes of assumptions	\$0	N/A	\$0		
Contributions from the employer	N/A	\$460,777	(\$460,777)		
Contributions from the employee	N/A	\$127,721	(\$127,721)		
Contribution from the state	N/A	\$226,180	(\$226,180)		
Net investment income	N/A	\$1,759,510	(\$1,759,510)		
Benefit payments	(\$1,341,145)	(\$1,341,145)	\$0		
Administrative expense	N/A	(\$77,611)	\$77,611		
Other	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>		
Net Changes	<u>\$92,256</u>	<u>1,155,433</u>	(\$1,063,177)		
Balance recognized at 9/30/2020	\$18,834,984	\$18,308,303	\$526,681		

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

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

	Fiscal Year Ending									
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Total Pension Liability										-
Service Cost	N/A	N/A	N/A	\$264,424	\$239,906	\$261,853	\$262,044	\$270,658	\$298,547	\$365,093
Interest Cost	N/A	N/A	N/A	\$577,530	\$1,108,633	\$1,297,175	\$1,351,472	\$1,431,146	\$1,350,842	\$1,532,825
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	\$392,824	\$614,707	(\$380,401)	(\$157,157)	(\$706,386)	\$1,433,984	(\$464,518)
Changes of Assumptions	N/A	N/A	N/A	\$0	\$0	\$0	(\$70,012)	\$0	\$65,611	\$0
Benefit Payments, Including Refunds of Member Contributions	N/A	N/A	N/A	(\$428,064)	(\$461,582)	(\$596,757)	(\$790,069)	(\$1,572,120)	(\$662,160)	(\$1,341,145)
DROP Adjustment	N/A	N/A	N/A	N/A	\$765,571	\$0	\$0	\$0	\$0	\$0
Net Change in Total Pension Liability	N/A	N/A	N/A	\$806,713	\$2,267,235	\$581,870	\$596,279	(\$576,702)	\$2,486,825	\$92,256
Total Pension Liability (Beginning)	N/A	N/A	N/A	\$12,580,508	\$13,387,221	\$15,564,457	\$16,236,326	\$16,832,605	\$16,255,903	\$18,742,728
Total Pension Liability (Ending)	N/A	N/A	\$12,580,508	\$13,387,221	\$15,654,457	\$16,236,326	\$16,832,605	\$16,255,903	\$18,742,728	\$18,834,984
Plan Fiduciary Net Position										
Contributions—Employer	N/A	N/A	N/A	\$501,112	\$416,807	\$383,158	\$266,409	\$190,555	\$400,000	\$460,777
Contributions—Member	N/A	N/A	N/A	\$146,638	\$86,266	\$78,955	\$80,110	\$96,798	\$109,254	\$127,721
Contributions—State	N/A	N/A	N/A	\$206,650	\$187,733	\$193,237	\$176,633	\$174,833	\$210,227	\$226,180
Net Investment Income	N/A	N/A	N/A	\$1,273,642	(\$170,283)	\$1,166,931	\$1,855,648	\$1,268,908	\$694,128	\$1,759,510
Benefit Payments, Including Refunds of Member Contributions	N/A	N/A	N/A	(\$428,064)	(\$461,582)	(\$596,757)	(\$790,069)	(\$1,572,120)	(\$662,160)	(\$1,341,145)
Administrative Expense	N/A	N/A	N/A	(\$62,200)	(\$69,185)	(\$63,487)	(\$64,461)	(\$60,461)	(\$56,496)	(\$77,611)
Other	N/A	N/A	N/A	\$0	\$765,571	\$0	\$0	\$0	\$0	\$0
Net Change in Plan Fiduciary Net Position	N/A	N/A	N/A	\$1,637,777	\$755,328	\$1,162,037	\$1,524,270	\$98,514	\$694,954	\$1,155,433
Plan Fiduciary Net Position (Beginning)	N/A	N/A	N/A	\$11,279,992	\$12,917,769	\$13,673,096	\$14,835,133	\$16,359,403	\$16,457,917	\$17,152,870
Plan Fiduciary Net Position (Ending)	N/A	N/A	\$11,279,992	\$12,917,769	\$13,673,096	\$14,835,133	\$16,359,403	\$16,457,917	\$17,152,870	\$18,308,303
County's Net Pension Liability (Ending)	N/A	N/A	N/A	\$469,453	\$1,981,360	\$1,401,193	\$473,202	(\$202,014)	\$1,589,858	\$526,681
Net Position as a % of Pension Liability	N/A	N/A	N/A	96.49%	87.34%	93.37%	97.19%	101.24%	91.52%	97.20%
Covered-Employee Payroll	N/A	N/A	N/A	\$1,285,641	\$1,460,571	\$1,524,460	\$1,584,980	\$1,905,548	\$2,221,325	\$2,595,638
Net Pension Liability as a % of Payroll	N/A	N/A	N/A	36.52%	135.66%	91.91%	29.86%	-10.60%	71.57%	20.29%

GASB 67 Requirements

GASB 67 is effective for fiscal year ending September 30, 2014. The follow exhibit is a 10 year history of contributions.

		Fiscal Year Ending									
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
Total Pension Liability											
Actuarially Determined Contribution	N/A	N/A	N/A	\$396,234	\$314,947	\$223,668	\$125,213	\$176,073	\$359,855	\$421,532	
Contributions made in Relation to the Actuarially Determined Contribution	N/A	N/A	N/A	\$501,112	\$416,807	\$383,158	\$266,409	\$190,555	\$400,000	\$460,777	
Contribution Deficiency (excess)	N/A	N/A	N/A	\$104,878	\$101,860	(\$159,490)	(\$141,195)	(\$14,482)	(\$40,145)	(\$39,245)	
Covered-Employee Payroll	N/A	N/A	N/A	\$1,285,641	\$1,460,571	\$1,524,460	\$1,584,980	\$1,905,548	\$2,221,325	\$2,595,638	
Contributions as a % of Payroll	N/A	N/A	N/A	38.98%	28.54%	25.13%	16.81%	10.00%	18.01%	17.75%	

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: 6.00%

Investment Rate of Return: 7.75%, net of pension plan investment expense, including inflation. Retirement Age: Graded by age and Division - see assumption section for rates.

Mortality rates were based on RP-2000 Fully Generational Scale BB. Male - 10% Annuitant White Collar/ 90% Annuitant Blue Collar. Female - 100%

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	\$20,920,660	\$18,742,728	\$16,770,697
(2) Plan Fiduciary Net Position	\$17,152,870	\$17,152,870	\$17,152,870
(3) Net Pension Liability	\$3,767,790	\$1,589,858	(\$382,174)

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	\$21,186,294	\$18,834,984	\$16,689,071		
(2) Plan Fiduciary Net Position	\$18,308,303	\$18,308,303	\$18,308,303		
(3) Net Pension Liability	\$2,877,991	\$526,681	(\$1,619,232)		

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.

	<u>10/1/2019</u>	10/1/2020
NET ASSETS AVAILABLE FOR BENEFITS*	\$ 16,652,930	\$ 17,910,950
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	\$ 10,800,013 3,543,597 14,343,610	\$ 11,542,332 4,632,418 16,174,750
Percent Funded	116%	111%
NONVESTED BENEFITS	1,140,832	1,692,957
EXCESS STATE MONIES RESERVE	123,537	113,813
TOTAL ACTUARIAL PRESENT VALUE OF ACCUMULATED PLAN BENEFITS	\$ 15,607,979	\$ 17,981,520
Percent Funded	107%	100%

^{*} Actuarial Value of Assets

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

	-	<u>10/1/2019</u>		<u> 10/1/2020</u>
ACTUARIAL PRESENT VALUE OF ACCUMULATED PLAN BENEFITS AS OF PRIOR VALUATION DATE	\$	15,014,794	\$	15,607,979
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)	\$	1,174,697 (662,160) (69,253) 149,901 - 593,185	\$ 	1,065,958 (760,024) 747,985 1,319,622 - 2,373,541
,	Ψ	333,103	Ψ	2,070,041
ACTUARIAL PRESENT VALUE OF ACCUMULATED PLAN BENEFITS AS OF CURRENT VALUATION DATE	\$	15,607,979	\$	17,981,520

State Required Exhibit

		<u>10/1/2019</u>		10/1/2020
A. Member Data				
Active Members		44		54
2. Retired Members and beneficiaries receiving				
benefits (including DROP)		15		15
3. Disabled Members receiving benefits		1		1
4. Terminated vested Members	_	2	•	2
5. Prior year active compensation	\$	2,221,325	\$	2,595,638
6. Annual benefits payable to retirees	ው	757 700	Φ	054 500
and beneficiaries (including DROP)	\$ \$	757,786 50.746	\$ \$	851,526
7. Annual benefits payable to disabled retirees	Ф	50,746	Ф	51,682
Annual benefits payable to terminated vested Members	\$		\$	9,939
vested interribers	φ	-	φ	9,939
B. Assets				
Actuarial value	\$	16,652,930	\$	17,910,950
2. Market value		16,485,620		18,061,363
C. Liabilities				
Actuarial present value of future expected benefit				
payments for active members				
a. Retirement benefits	\$	8,801,402	\$	11,915,880
b. Termination benefits	,	1,476,427	•	2,073,280
c. Death benefits		70,012		86,505
d. Disability benefits		98,256		133,932
e. Total	\$	10,446,097	\$	14,209,597
2. Actuarial present value of future expected benefit				
payments for terminated vested members	\$	655,792	\$	775,477
Actuarial present value of future expected benefit				
payments for members currently receiving benefits				
 a. Service retired, beneficiaries and DROP 	\$	10,317,383	\$	11,032,952
b. Disability retired		482,630		509,380
c. Total	\$	10,800,013	\$	11,542,332
Excess State Monies Reserve	\$	123,537	\$	113,813
Total actuarial present value of future expected	•	00.00= 40=	•	00 044 046
benefit payments	\$	22,025,439	\$	26,641,219
6. Entry age normal accrued liability	\$	18,742,728	\$	18,834,984
Unfunded entry age normal accrued liability	\$	2,257,108	\$	773,621

State Required Exhibit (Continued)

		10/1/2019		10/1/2020
D.	Statement of Accumulated Plan Benefits 1. Actuarial present value of accumulated vested benefits			
	a. Members currently receiving benefits (including DROP)	\$ 10,800,013	\$	11,542,332
	b. Other Members	3,543,597		4,632,418
	c. Total	\$ 14,343,610	\$	16,174,750
	2. Actuarial present value of accumulated non-			
	vested plan benefits	1,140,832		1,692,957
	3. Excess State Monies Reserve	123,537		113,813
	4. Total actuarial present value of accumulated plan			
	benefits	\$ 15,607,979	\$	17,981,520
E.	Statement of Change in Accumulated Plan Benefits 1. Actuarial present value of accumulated plan benefits as of Prior Valuation Date 2. Increase (decrease) during year attributable to: a. Plan amendment b. Change in actuarial assumptions	\$ 15,014,794 0 149,901	\$	15,607,979 0 1,319,622
	c. Benefits paid	(662,160)		(760,024)
	d. Other, including benefits accumulated and increase	,		, ,
	for interest due to decrease in the discount period	 1,105,444	_	1,813,943
	e. Net increase Actuarial present value of accumulated plan	\$ 593,185	\$, , -
	benefits as of Current Valuation Date	\$ 15,607,979	\$	17,981,520

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	\$ 300,948 16.20%	\$	379,169 16.24%
	iii. Actual Compensation Under NRA	\$ 2,118,625	\$	2,575,287
	iv. Required, per new state interpretation = (ii.) x (iii.)	\$ 343,217	\$	418,227
	b. State (Estimated)	237,342		251,636
	c. Member*	 123,715		163,198
	d. Total = (a.iv.) + (b.) + (c.)2. Actual contributions made:	\$ 704,274	\$	833,061
	a. City	\$ 400,000	\$	460,777
	b. State**	153,904		153,904
	c. Member	109,254		127,721
	d. Total	\$ 663,158	\$	742,402
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*** 	\$ 19,093,974	\$	24,028,419
	Actuarial present value of future employee contributions - attained age***	\$ 790,610	\$	1,017,793
	Actuarial present value of future contributions from other sources	N/A		N/A
	Amount of active members' accumulated contributions	\$ 838,996	\$	965,426
	Actuarial present value of future salaries and future 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 (11.5% for members in the 25 & out tier, 8.1% for all others) 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

FS 112.664 Requirements

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

Changes in the Net Pension Liability and Related Ratios – RP2000, 5.75% Interest

	Fiscal Year Ending												
	2008	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	N/A	\$426,055	\$424,619	\$426,983	\$439,869	\$483,320	\$495,413	\$640,222
Interest Cost	N/A	N/A	N/A	N/A	N/A	N/A	\$539,013	\$1,718,907	\$1,293,377	\$1,279,079	\$1,350,753	\$1,252,006	\$1,438,169
Changes of Benefit Terms	N/A	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	N/A	\$497,329	\$3,018,254	(\$1,471,448)	(\$98,790)	(\$557,588)	\$1,602,446	(\$233,315)
Changes of Assumptions	N/A	N/A	N/A	N/A	N/A	N/A	\$0	\$0	\$0	(\$70,012)	\$0	\$65,611	\$0
Benefit Payments, Including Refunds of Member Contributions	N/A	N/A	N/A	N/A	N/A	N/A	(\$428,064)	(\$461,582)	(\$596,757)	(\$790,069)	(\$1,572,120)	(\$662,160)	(\$1,341,145)
DROP Adjustment	N/A	N/A	N/A	N/A	N/A	N/A	N/A	\$765,571	\$0	\$0	\$0	\$0	\$0
Net Change in Total Pension Liability	N/A	N/A	N/A	N/A	N/A	N/A	\$1,034,333	\$4,700,198	(\$347,844)	\$760,078	(\$295,635)	\$2,753,316	\$503,931
Total Pension Liability (Beginning)	N/A	N/A	N/A	N/A	N/A	N/A	\$16,130,732	\$16,130,732	\$20,830,930	\$20,483,085	\$21,243,163	\$20,947,528	\$23,700,845
Total Pension Liability (Ending)	N/A	N/A	N/A	N/A	N/A	N/A	\$17,165,064	\$20,830,930	\$20,483,085	\$21,243,163	\$20,947,528	\$23,700,845	\$24,204,776
Plan Fiduciary Net Position													
Contributions—Employer	N/A	N/A	N/A	N/A	N/A	N/A	\$501,112	\$416,807	\$383,158	\$266,409	\$190,555	\$400,000	\$460,777
Contributions—Member	N/A	N/A	N/A	N/A	N/A	N/A	\$146,638	\$86,266	\$78,955	\$80,110	\$96,798	\$109,254	\$127,721
Contributions—State							\$206,650	\$187,733	\$193,237	\$176,633	\$174,833	\$210,227	\$226,180
Net Investment Income	N/A	N/A	N/A	N/A	N/A	N/A	\$1,480,292	(\$170,283)	\$1,166,931	\$1,855,648	\$1,268,908	\$694,128	\$1,759,510
Benefit Payments, Including Refunds of Member Contributions	N/A	N/A	N/A	N/A	N/A	N/A	(\$428,064)	(\$461,582)	(\$596,757)	(\$790,069)	(\$1,572,120)	(\$662,160)	(\$1,341,145)
Administrative Expense	N/A	N/A	N/A	N/A	N/A	N/A	(\$62,200)	(\$69,185)	(\$63,487)	(\$64,461)	(\$60,461)	(\$56,496)	(\$77,611)
Other	N/A	N/A	N/A	N/A	N/A	N/A	\$0	\$765,571	\$0	\$0	\$0	\$0	\$0
Net Change in Plan Fiduciary Net Position	N/A	N/A	N/A	N/A	N/A	N/A	\$1,637,777	\$755,328	\$1,162,037	\$1,524,270	\$98,514	\$694,954	\$1,155,433
Plan Fiduciary Net Position (Beginning)	N/A	N/A	N/A	N/A	N/A	N/A	\$11,279,992	\$12,917,769	\$13,673,096	\$14,835,133	\$16,359,403	\$16,457,917	\$17,152,870
Plan Fiduciary Net Position (Ending)	N/A	N/A	N/A	N/A	N/A	N/A	\$12,917,769	\$13,673,096	\$14,835,133	\$16,359,403	\$16,457,917	\$17,152,870	\$18,308,303
County's Net Pension Liability (Ending)	N/A	N/A	N/A	N/A	N/A	N/A	\$4,247,296	\$7,157,834	\$5,647,952	\$4,883,760	\$4,489,612	\$6,547,975	\$5,896,474
Net Position as a % of Pension Liability	N/A	N/A	N/A	N/A	N/A	N/A	75.26%	65.64%	72.43%	77.01%	78.57%	72.37%	75.64%
Covered-Employee Payroll	N/A	N/A	N/A	N/A	N/A	N/A	\$1,285,641	\$1,308,805	\$1,299,830	\$1,435,315	\$1,857,598	\$2,334,449	\$2,682,934
Net Pension Liability as a % of Payroll	N/A	N/A	N/A	N/A	N/A	N/A	330.36%	546.90%	434.51%	340.26%	241.69%	280.49%	219.78%

FS 112.664 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	\$23,700,845	\$18,742,728	\$12,752,946
(2) Plan Fiduciary Net Position	\$17,152,870	\$17,152,870	\$17,152,870
(3) Net Pension Liability	\$6,547,975	\$1,589,858	(\$4,399,924)

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	\$24,204,776	\$18,834,984	\$14,931,037
(2)	Plan Fiduciary Net Position	\$18,308,303	\$18,308,303	\$18,308,303
(3)	Net Pension Liability	\$5,896,474	\$526,681	(\$3,377,266)

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 RP 2000 Mortality and 5.75% Interest	25.42 19.67
•	

Participant Data Summary

October 1, 2020

Terminated								
	Active	DROP	Vested	Disabled	Retired	Beneficiaries	Total	
October 1, 2019	44	3	2	1	12	-	62	
New Entrants	12						12	
Retirements	-	-			-		-	
Disabilities							-	
Terminations a) with refund b) without refund	(2)	(2)	<u>-</u>		2		(2)	
DROP enrollments		-					-	
Deaths a) with beneficiaries b) without beneficiaries					-		- -	
Benefits Expired							-	
Other		-					-	
October 1, 2020	54	1	2	1	14	-	72	
Average Age	33.7	58.9	52	54.3	59.2			

Active Participants as of 10/01/2019

	Males	Females	Total
Number of Participants	42	2	44
Average Age Nearest Birthday	33.7	40.3	34.0
Average Completed Years of Service	6.4	1.9	6.1
Average Compensation for Prior Year	N/A*	N/A*	\$50,968

Active Participants as of 10/01/2020

	Males	Females	Total
Number of Participants	51	3	54
Average Age Nearest Birthday	33.5	36.2	33.7
Average Completed Years of Service	6.1	2.1	5.9
Average Compensation for Prior Year	N/A*	N/A*	\$48,067

^{*} Not displayed due to privacy issue.

Age and Service Distribution

Years of Service								
	0-4	5-9	10-14	15-19	20-24	25-29	30+	Total
Age								
Under 25	7	0	0	0	0	0	0	7
25-29	11	1	0	0	0	0	0	12
30-34	10	1	1	0	0	0	0	12
35-39	3	1	5	1	0	0	0	10
40-44	4	1	2	1	0	0	0	8
45-49	1	0	1	2	0	1	0	5
50-54	0	0	0	0	0	0	0	0
55-59	0	0	0	0	0	0	0	0
60-64	0	0	0	0	0	0	0	0
65 and over	0	0	0	0	0	0	0	0
Total	36	4	9	4	0	1	0	54

Comparison of Actual vs. Assumed Salary Increases and Investment Returns

October 1, 2020

Salary Increases

Year Ended September 30,	Actual	Assumed
1990	11.3%	6.0%
1991	8.1%	6.0%
1992	19.9%	6.0%
1993	8.0%	6.0%
1994	5.5%	6.0%
1995	6.5%	6.0%
1996	5.9%	6.0%
1997	5.7%	6.0%
1998	15.5%	6.0%
1999	10.1%	6.0%
2000	1.3%	6.0%
2001	9.5%	6.0%
2002	9.3%	6.0%
2003	3.7%	6.0%
2004	5.8%	6.0%
2005	3.9%	6.0%
2006	8.6%	6.0%
2007	4.2%	6.0%
2008	9.7%	6.0%
2009	13.2%	6.0%
2010	0.6%	6.0%
2011	8.8%	6.0%
2012	4.1%	6.0%
2013	6.5%	6.0%
2014	2.1%	6.0%
2015	7.1%	6.0%
2016	5.2%	6.0%
2017	5.4%	6.0%
2018	0.3%	6.0%
2019	10.6%	6.0%
2020	0.3%	6.0%
Last 5 Years, Compounded	4.3%	6.0%

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	2.42%	8.0%
1991	2.98%	8.0%
1992	26.77%	8.0%
1993	11.52%	8.0%
1994	0.18%	8.0%
1995	16.21%	8.0%
1996	13.29%	8.0%
1997	24.15%	8.0%
1998	7.01%	8.0%
1999	12.22%	8.0%
2000	10.58%	8.0%
2001	(5.13%)	8.0%
2002	(4.07%)	8.0%
2003	3.63%	8.0%
2004	3.88%	8.0%
2005	4.84%	8.0%
2006	7.85%	8.0%
2007	10.19%	8.0%
2008	6.24%	8.0%
2009	4.24%	8.0%
2010	4.80%	8.0%
2011	3.74%	8.0%
2012	5.13%	8.0%
2013	9.84%	8.0%
2014	11.11%	8.0%
2015	8.46%	8.0%
2016	8.73%	8.0%
2017	8.40%	8.0%
2018	6.88%	7.75%
2019	6.50%	7.75%
2020	8.42%	7.75%
Last 5 Years, Compounded	7.78%	7.85%
Last 20 Years, Compounded	5.60%	7.96%
Last 30 Years, Compounded	7.76%	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.

Reconciliation of DROP Participants and Assets

Participants as of 10/1/2019	3
New DROP Members New DROP's, Withdrew during PY	0
All Other Withdrawals Corrections	(2) 0
Participants as of 10/1/2020	1

	Total
Assets as of 10/1/2019	\$667,249.56
Payments into DROP	146,502.78
Earnings	14,308.51
Distributions	(581,120.86)
Expenses	0.00
Adjustments	0.00
Assets as of 10/1/2020	\$246,939,99

History of Excess Premium Tax Revenues

October 1, 2020

			Regular		Supplemen	tal Compens	ation Fund		Total		
		Cash ceived	Applicable "Frozen" <u>Amount</u>	Excess Over Frozen Amount	Cash <u>Received</u>	Applicable "Frozen" <u>Amount</u>	Excess Over Frozen Amount	Total Excess = Additional Premium Tax Revenue	Current Year Benefit Improve- ments	Set Aside for Future Improve- ments	Cumulative Set Aside for Future Improve- ments
9/30/1998 9/30/1999 9/30/2000 9/30/2001 9/30/2002	7 4	8,873.25 4,211.49 0,881.88 8,577.26 64,888.30	\$ 48,873.25 \$ 48,873.25 48,873.25 48,873.25 48,873.25	0.00 0.00 22,008.63 0.00 6,015.05	\$ 21,907.17 24,139.40 40,444.30 25,381.58 28,691.11	21,907.17 21,907.17	\$ 0.00 2,232.23 18,537.13 3,474.41 6,783.94	2,232.23 40,545.76 3,474.41	\$ 0.00 0.00 0.00 46,252.40 (1) 41,181.00 (2)	\$ 0.00 2,232.23 40,545.76 0.00 0.00	\$ 0.00 2,232.23 42,777.99 0.00 0.00
9/30/2003 9/30/2004 9/30/2005 9/30/2006 9/30/2007	6 7 8	61,580.73 66,676.24 73,517.87 67,444.59 87,251.63	48,873.25 48,873.25 48,873.25 48,873.25 48,873.25	12,707.48 17,802.99 24,644.62 38,571.34 78,378.38	34,312.47 40,043.17 42,460.12 52,473.25 108,377.15	21,907.17 21,907.17 21,907.17 21,907.17 21,907.17	12,405.30 18,136.00 20,552.95 30,566.08 86,469.98	35,938.99 45,197.57 69,137.42	41,181.00 41,181.00 41,181.00 41,181.00 41,181.00	0.00 0.00 4,016.57 27,956.42 123,667.36	0.00 0.00 4,016.57 31,972.99 155,640.35
9/30/2008 9/30/2009 9/30/2010 9/30/2011 9/30/2012	11 13 13	32,873.74 6,306.62 6,553.57 67,445.52 60,652.54	48,873.25 48,873.25 48,873.25 48,873.25 48,873.25	134,000.49 67,433.37 87,680.32 88,572.27 101,779.29	143,540.37 42,616.18 48,163.22 41,843.68 53,112.15		121,633.20 20,709.01 26,256.05 19,936.51 31,204.98	88,142.38 113,936.37 108,508.78	370,093.00 (3) 83,124.00 (4) 83,124.00 83,124.00 83,124.00	0.00 5,018.38 30,812.37 25,384.78 49,860.27	0.00 5,018.38 35,830.75 61,215.53 111,075.80
9/30/2013 9/30/2014 9/30/2015 9/30/2016 9/30/2017	14 16 18	60,729.03 6,749.67 60,239.82 60,727.63 74,180.73	48,873.25 48,873.25 48,873.25 48,873.25 48,873.25	101,855.78 99,876.42 111,366.57 131,854.38 125,307.48	48,217.29 57,900.59 27,493.57 12,509.09 2,452.81	21,907.17 21,907.17 21,907.17 21,907.17 21,907.17	26,310.12 35,993.42 5,586.40 0.00	135,869.84 116,952.97 131,854.38	83,124.00 83,124.00 145,422.88 (5) 142,915.84 (6) 146,523.18 (6)	52,745.84 0.00	156,117.70 208,863.54 180,393.63 169,332.17 148,116.47
9/30/2018 9/30/2019 9/30/2020	21	72,297.52 0,226.97 26,138.48	48,873.25 48,873.25 48,873.25	123,424.27 161,353.72 177,265.23	2,535.66 0.00 41.13	21,907.17 21,907.17 21,907.17	0.00 0.00 0.00	161,353.72		0.00 0.00 0.00	134,160.30 123,537.02 113,812.73

Notes:

- (1) Additional Benefits adopted (\$350 per month Supplemental Benefit) with a lump sum cost in excess of the available \$46,252.40.
- (2) Additional Benefits adopted (\$350 per month Supplemental Benefit) with an annual cost initially valued as \$41,181.
- (3) Additional Benefits adopted (3.00% Multiplier changed to 3.35%) with a lump sum cost in excess of the available \$370,093.
- (4) Additional Benefits adopted (3.00% Multiplier changed to 3.35%) with an annual cost initially valued as \$83,124.
- (5) Additional Benefits adopted (Employee Contribution reduced to 7.5% for 25 and out tier and 4.1% for all others) annual cost estimated at \$62,298.88 for fiscal year end 9/30/2015.
- (6) Annual cost of Employee Contribution Reduction estimated at \$59,791.84 for fiscal year end 9/30/2016, \$63,399.18 for fiscal year end 9/30/2017, \$54,256.44 for fiscal year end 9/30/2018, \$88,853 for fiscal year end 9/30/2019, and \$103,865 for fiscal year end 9/3/2020.

Summary of Major Plan Provisions

October 1, 2020

Effective Date: August 25, 1971.

Plan Year: October 1 to September 30.

Last Amendment: Restatement (Ordinance 670) effective June 8, 2000. First Amendment (Ordinance 723) effective June 14, 2001 (adding Early Retirement and \$350 per month supplement). Second Amendment (Ordinance 792) effective April 10, 2003 (for various law and other changes). Third Amendment (Ordinance 889) effective July 22, 2004 (changing investment policy). Fourth Amendment (Ordinance 984) effective November 1, 2005 (adding 25 & Out Tier). Fifth Amendment (Ordinance 1030) effective May 11, 2006 (changing various provisions as required by new IRS rules). Sixth Amendment (Ordinance 1085) effective July 26, 2007 (adding 5% fixed investment return option for DROP). Seventh Amendment (Ordinance 1127) effective October 1, 2008 (increasing multiplier from 3.00% to 3.35%). Restatement (Ordinance 1157) adopted August 17. 2009. First Amendment (Ordinance 1220) effective February 9, 2012 (adding 300 hours of overtime cap).

Eligibility: All permanent Firefighters who have passed the medical examination.

Employee Contributions: 7.5% of Compensation for Firefighters who elect the 25 & Out Tier, else 4.1% of Compensation (5.0% prior to June 8, 2000). Employee Contributions are excluded from taxable income under IRC Section 414(h). The election of the 25 & Out Tier is irrevocable. Starting October 1, 2014, contributions will be reduced by 4.0% annually, to the extent that an additional offset is available from premium tax revenues.

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 Firefighter, if greater.

Credited Service: Years and fractional parts of years of service as a Firefighter 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 3, 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) if he has elected the 25 & Out Tier, the date he has completed at least 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 (the Actuarially Equivalent adjustment recognizes that the regular retirement benefit includes a 1% COLA and that the \$350 Per Month Supplemental Benefit does not), 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 3.35% 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 Firefighter 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 Firefighter 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 Firefighters, regardless of sex, and the same table with ages set back 6 years is used for all beneficiaries and survivor annuitants, regardless of sex.

Cost-of-Living Adjustment: All retirees, including disabled retirees, who retired on or after June 8, 2000, (including Firefighters who terminate with a deferred benefit after such date, once they retire) and their survivor annuitants shall receive on the first January 1 following one full year of retirement, and on each January 1 thereafter, a 1% cost-of-living adjustment on their regular retirement benefit; the \$350 Per Month Supplemental Benefit does not receive a COLA.

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.

\$350 Per Month Supplemental Benefit: Firefighters who retire from active service only receive a supplemental monthly benefit of \$350 payable for life only, without any COLA. This benefit is not provided for firefighters who terminate prior to being eligible for early, normal or disability retirement, nor is it provided for beneficiaries of deceased firefighters, nor their joint annuitants. However, when he retires a firefighter may elect to have the \$350 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 Disablement			
Age	Male	Female		
20	0.03%	0.04%		
30	0.04%	0.06%		
40	0.07%	0.10%		
50	0.18%	0.26%		
60	0.90%	1.21%		

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 6% 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 Firefighters' 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 Firefighters' 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 \$0.5 million on a GASB 67/68 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 – 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 10.44 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	\$18,834,984
Plan Fiduciary Net Position	(\$18,308,303)
City's Net Pension Liability	\$526,681
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	97.20%

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.