



July 22, 2019

Ms. Mayte D. Gamiotea
Pension Administrator
Retirement Plan for Employees of the
Town of Surfside
9293 Harding Avenue
Surfside, Florida 33154

Re: Retirement Plan for Employees of the Town of Surfside

Dear Mayte:

As requested, we are pleased to enclose twenty (20) copies of the October 1, 2018 Actuarial Valuation Report for the Retirement Plan for Employees of the Town of Surfside.

Upon Board approval of the Actuarial Valuation Report, we will upload an electronic copy of the Actuarial Valuation Report along with the required disclosure information to the State portal as required by the State.

We appreciate the opportunity to have performed this important assignment on behalf of the Board and look forward to presenting the key results at the July 25th Board Meeting.

If you should have any questions concerning the above, please do not hesitate to contact us.

Sincerest regards,

A handwritten signature in black ink that reads "Michelle Jones". The signature is written in a cursive, flowing style.

Shelly L. Jones, A.S.A., E.A.
Consultant and Actuary

Enclosures

cc: Mr. Michael D. Futterman, C.P.A., w/ Enclosure

RETIREMENT PLAN FOR EMPLOYEES OF THE TOWN OF SURFSIDE

Actuarial Valuation as of October 1, 2018

This Valuation Determines the Annual Contribution for the Plan and Fiscal Year October 1, 2019 through September 30, 2020 to Be Paid in Fiscal Year October 1, 2019 through September 30, 2020

July 22, 2019



**Retirement Plan for Employees of
the Town of Surfside**

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July 22, 2019

Pension Board
Retirement Plan for Employees
of the Town of Surfside
c/o Ms. Mayte Gamiotea
9293 Harding Avenue
Surfside, Florida 33154

Dear Board Members:

[October 1, 2018 Actuarial Valuation](#)

We are pleased to present our October 1, 2018 Actuarial Valuation for the Retirement Plan for Employees of the Town of Surfside (Plan). The purpose of this report is to indicate appropriate contribution levels, comment on the actuarial soundness of the Plan and to satisfy State requirements. Gabriel, Roeder, Smith & Company, as Plan actuary, is authorized by the Pension Board to prepare an annual actuarial valuation under Section 2-185(i)(11)(c) of the Plan. This report is prepared for and at the request of the Pension Board.

This report consists of this commentary, detailed Tables I through XV, the State Required Exhibit on Table XVI and Glossary on Table XVII. The Tables contain basic Plan cost figures plus significant details on the benefits, liabilities and experience of the Plan. We suggest that you thoroughly review the report at your convenience and contact us with any questions that may arise.

[Pension Plan Costs](#)

Our Actuarial Valuation develops the required minimum Pension Plan payment under the Florida Protection of Public Employee Retirement Benefits Act and Police Officers Retirement Chapter 185. The minimum payment consists of payment of annual normal costs and amortization of the components of the unfunded actuarial accrued liability over various periods as prescribed by law. The minimum payment for the Plan year ending September 30, 2020 is **\$1,440,116 (23.3%)**. The figure in parentheses is the Plan cost expressed as a percentage of covered annual payroll (\$6,183,349) as of October 1, 2018.

This total cost is to be met by Member and Town contributions. We anticipate Member contributions will be **\$494,245 (8.0%)**. The resulting minimum required Town contribution to be paid in **fiscal year ending September 30, 2020** is **\$945,871 (15.3%)**. This Actuarial Valuation assumes Town contributions will be made on the first day of the Plan Year.

Changes in Actuarial Assumptions, Methods and Plan Benefits

Plan provisions remain unchanged from the October 1, 2017 Actuarial Valuation. Plan provisions are summarized on Table IX.

The actuarial assumptions and methods remain unchanged from the October 1, 2017 Actuarial Valuation and are outlined on Table X.

Comparison of October 1, 2017 and October 1, 2018 Valuation Results

Table II of our report provides information of a comparative nature. The left columns of the Table indicate the costs as calculated for October 1, 2017. The right columns indicate the costs as calculated for October 1, 2018.

Comparing the left and right columns of Table II shows the effect of Plan experience during the year. The number of active participants increased by approximately 9% - covered payroll increased by approximately 10%. The total normal cost, unfunded actuarial accrued liability and net Town minimum funding requirement increased both as a dollar amount and as a percentage of covered payroll.

Assets exceed the value of vested accrued benefits resulting in a Vested Benefit Security Ratio (VBSR) of 114.9%. This is a decrease from 115.2% as of the October 1, 2017 Actuarial Valuation. The Vested Benefit Security Ratio is based upon the market value of assets.

Actuarial Gains / (Losses)

The Plan experienced an actuarial loss of **\$412,447 (6.7%)** during the year. Our Actuarial Valuation Report tracks the actual experience in areas that are very significant in determining whether a gain or loss occurs. Table XIV presents investment return, salary experience and termination experience.

Table XIV provides the investment experience under the Plan in comparison to the actuarial assumption. During 2017-2018, the fund experienced a smoothed actuarial value net return of approximately 7.31%. This return is more than the assumed 7.25% rate of return. Investment return was an offsetting source of actuarial gain this year. The average smoothed actuarial value return over the last three, five and ten-years is 7.66%, 7.8% and 4.9%, respectively. The one, three, five and ten-year average market value returns are 7.34%, 9.66%, 7.5% and 6.8%, respectively.

Table XIV also provides salary increase experience for the Plan in comparison to assumed salary increases. Salary increases averaged 7.2% and 6.7%, respectively for General Employees and Police Officers this year. The average salary increase assumption was 5.2% for General Employees and 4.9% for Police Officers. Salary increases were generally a source of actuarial loss for both General Employees and Police Officers. General Employee average annual salary increases for the three, five and ten-year periods are 5.3%, 6.5% and 5.6%, respectively. Police Officer average annual salary increases for the three, five and ten-year periods are 3.8%, 3.6% and 5.6%, respectively.

Employee turnover this year was 40% of the assumed turnover for General Employees – there was no turnover for Police Officers. General Employee turnover for the three, five and ten-year periods are 80%, 100% and 140%, respectively of expected turnover. Police Officer turnover for the three, five and ten-year periods are 0%, 20% and 50%, respectively of expected turnover. Employee turnover was generally a contributing source of actuarial loss for General Employees and Police Officers.

Member Census and Financial Data

The Member census data as of October 1, 2018 used for this Actuarial Valuation was submitted to us by the Town. This information contains name, Social Security number, date of birth, date of hire, October 1, 2018 rate of pay, actual salary paid and member contributions for the previous fiscal year. Dates of termination and retirement are provided where applicable. Information on inactive participants including retirees, beneficiaries and vested terminees was also provided by the Town.

We were supplied with information on the assets of the Plan as of September 30, 2018 by the Board. We do not audit the member census data and asset information provided to us; however, we perform certain reasonableness checks. The Plan is responsible for the accuracy of the data.

Risks Associated with Measuring the Accrued Liability and Actuarially Determined Contribution

The determination of the accrued liability and the actuarially determined contribution requires the use of assumptions regarding future economic and demographic experience. Risk measures, as illustrated in this report, are intended to aid in the understanding of the effects of future experience differing from the assumptions used in the course of the actuarial valuation. Risk measures may also help with illustrating the potential volatility in the accrued liability and the actuarially determined contribution that result from the differences between actual experience and the actuarial assumptions.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: Plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions due to changing conditions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period, or additional cost or contribution requirements based on the Plan's funded status); and changes in Plan provisions or applicable law. The scope of an actuarial valuation does not include an analysis of the potential range of such future measurements.

Examples of risk that may reasonably be anticipated to significantly affect the Plan's future financial condition include:

1. Investment risk – actual investment returns may differ from expected returns;
2. Asset / Liability mismatch – changes in asset values may not match changes in liabilities, thereby altering the gap between the accrued liability and assets and consequently altering the funded status and the actuarially determined contribution requirements;
3. Contribution risk – actual contributions may differ from expected future contributions. For example, actual contributions may not be made in accordance with the Plan's funding policy or material changes may occur in the anticipated number of covered employees, covered payroll or other relevant contribution base;
4. Salary and Payroll risk – actual salaries and total payroll may differ from expected, resulting in actual future accrued liability and the actuarially determined contributions differing from expected;
5. Longevity risk – members may live longer or shorter than expected and receive pensions for a period of time other than assumed;
6. Other demographic risks – members may terminate, retire or become disabled at times or with benefits other than assumed resulting in actual future accrued liability and the actuarially determined contributions differing from expected.

The effects of certain trends in experience can generally be anticipated. For example if the investment return since the most recent actuarial valuation is less (or more) than the assumed rate, the actuarially determined contribution can be expected to increase (or decrease). Likewise if longevity is improving (or worsening), increases (or decreases) in the actuarially determined contribution can be anticipated.

The actuarially determined contribution rate shown on page one of the report may be considered as a minimum contribution rate that complies with the Plan's funding policy. The timely receipt of the actuarially determined contributions is critical to support the financial

health of the Plan. Users of this report should be aware that contributions made at the actuarially determined rate do not necessarily guarantee benefit security.

Plan Maturity Measures

Risks facing a pension plan evolve over time. A young plan with virtually no investments and paying few benefits may experience little investment risk. An older plan with a large number of members in pay status and a significant trust fund may be much more exposed to investment risk. Generally accepted plan maturity measures include the following:

	<u>2017</u>	<u>2018</u>
Ratio of market value of assets to payroll	3.79	3.77
Ratio of actuarial accrued liability to payroll	4.18	4.18
Ratio of actives to retirees and beneficiaries	2.35	2.50
Ratio of net cash flow to market value of assets	2.8%	2.1%
Duration of the actuarial accrued liability	14.95	14.87

Ratio of Market Value of Assets to Payroll

The relationship between assets and payroll is a useful indicator of the potential volatility of the actuarially determined contribution. For example, if the market value of assets is 2.0 times the payroll, a return on assets 5% different than assumed would equal 10% of payroll. A higher (lower) or increasing (decreasing) level of this maturity measure generally indicates higher (lower) or increasing (decreasing) volatility in the actuarially determined contribution as a percentage of payroll.

Ratio of Actuarial Accrued Liability to Payroll

The relationship between actuarial accrued liability and payroll is a useful indicator of the potential volatility of the actuarially determined contributions for a fully funded plan. A funding policy targeting a funded ratio of 100% is expected to result in the ratio of assets to payroll and the ratio of liability to payroll converging over time.

The ratio of actuarial accrued liability to payroll may also be used as a measure of sensitivity of the liability itself. For example, if the actuarial accrued liability is 2.5 times payroll, a change in actuarial accrued liability 2% other than assumed would equal 5% of payroll. A higher (lower) or increasing (decreasing) level of this maturity measure generally indicates a higher (lower) or

increasing (decreasing) volatility in actuarial accrued liability (and also the actuarially determined contribution) as a percentage of payroll.

Ratio of Actives to Retirees and Beneficiaries

A young plan with many active members and few retirees will have a high ratio of active to retirees. A mature open plan may have close to the same number of actives to retirees resulting in a ratio near 1.0. A super-mature or closed plan may have significantly more retirees than actives resulting in a ratio below 1.0.

Ratio of Net Cash Flow to Market Value of Assets

A positive net cash flow means contributions exceed benefits and expenses. A negative cash flow means existing funds are being used to make payments. A certain amount of negative net cash flow is generally expected to occur when benefits are prefunded through a qualified trust. Large negative net cash flows as a percent of assets may indicate a super-mature plan or a need for additional contributions.

Duration of Actuarial Accrued Liability

The duration of the actuarial accrued liability may be used to approximate the sensitivity to a 1% change in the assumed rate of return. For example, a duration of 10 indicates the actuarial accrued liability would increase approximately 10% if the assumed rate of return were lowered 1%.

Additional Risk Assessment

Additional risk assessment is outside the scope of the annual actuarial valuation. Additional assessment may include scenario tests, sensitivity tests, stochastic modeling, stress tests and a comparison of the present value of accrued benefits at low-risk discount rates with the actuarial accrued liability.

Summary

In our opinion the benefits provided for under the current Plan will be sufficiently funded through the payment of the amount as indicated in this and future Actuarial Valuation reports. We will continue to update you on the future payment requirements for the Plan through our Actuarial Valuation reports. These reports will also continue to monitor emerging experience of the Plan.

The actuarial assumptions used in this Actuarial Valuation are as adopted by the Board. The economic and demographic actuarial assumptions were last updated based on the results of Experience Study for the period October 1, 2009 – September 30, 2014. The mortality assumptions are as prescribed by statute. Each assumption represents an estimate of future Plan experience.

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

The Unfunded Actuarial Accrued Liability (UAAL) may not be appropriate for assessing the sufficiency of Plan assets to meet the estimated cost of settling benefit obligations but may be appropriate for assessing the need for or the amount of future contributions. The UAAL would be different if it reflected the market value of assets rather than the smoothed actuarial value of assets.

The Unfunded Actuarial Present Value of Vested Accrued Benefits and the corresponding Vested Benefit Security Ratio may be appropriate for assessing the sufficiency of Plan assets to meet the estimated cost of settling benefit obligations but may not be appropriate for assessing the need for or the amount of future contributions.

The Government Accounting Standards Board Net Pension Liability and Plan Fiduciary Net Position as a Percentage of Total Pension Liability may not be appropriate for assessing the sufficiency of Plan assets to meet the estimated cost of settling benefit obligations but may be appropriate for assessing the need for or the amount of future contributions.

This report should not be relied upon for any purpose other than the purpose described in the primary communication. Determinations of the financial results associated with the benefits described in this report in a manner other than the intended purpose may produce significantly different results.

This report has been prepared by actuaries who have substantial experience valuing public employee retirement plans. To the best of our knowledge the information contained in this report is accurate and fairly presents the actuarial position of the Plan as of the valuation date. All calculations have been made in conformity with generally accepted actuarial principles and

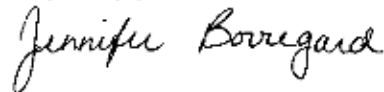
practices, with the Actuarial Standards of Practice issued by the Actuarial Standards Board and with applicable statutes.

This report may be provided to parties other than the Board only in its entirety and only with the permission of an approved representative of the Board.

The signing actuaries are independent of the Plan sponsor.

The undersigned are Members of the American Academy of Actuaries and meet the qualification standards of the American Academy of Actuaries to render the actuarial opinions contained in this report. We are available to respond to any questions with regards to matters covered in this report.

Very truly yours,



Jennifer M. Borregard, E.A.
Consultant and Actuary



Shelly L. Jones, E.A., A.S.A.
Consultant and Actuary

Both Groups Combined

Summary of Retirement Plan Costs as of October 1, 2018

	<u>Cost Data</u>	<u>% of Payroll</u>
A. Participant Data Summary (Table III)		
1. Active Employees	95	N/A
2. Terminated Vested	7	N/A
3. Receiving Benefits (including DROPs)	38	N/A
4. Annual Payroll of Active Employees	\$ 6,183,349	100.0%
B. Total Normal Cost		
1. Age Retirement Benefits	\$ 815,143	13.2%
2. Deferred Vesting Benefits	145,372	2.4%
3. Disability Benefits	134,224	2.2%
4. Return of Employee Contributions	18,389	0.3%
5. Administrative Expenses	120,389	1.9%
6. Total Annual Normal Cost	\$ 1,233,517	19.9%
C. Total Actuarial Accrued Liability		
1. Active Employees	\$ 15,582,734	252.0%
2. Service Retirees and Beneficiaries (including DROPs)	8,764,406	141.7%
3. Disabilities	565,110	9.1%
4. Terminated Vested Members	944,285	15.3%
5. Miscellaneous Liability	0	0.0%
6. Total Actuarial Accrued Liability	\$ 25,856,535	418.2%
D. Plan Assets		
1. Smoothed Actuarial Value	\$ 23,030,736	372.5%
2. Market Value	\$ 23,309,376	377.0%
E. Unfunded Actuarial Accrued Liability (C - D.1.)	\$ 2,825,799	45.7%
F. Minimum Required Contribution		
1. Total Normal Cost	\$ 1,233,517	19.9%
2. Amortization of Unfunded Liability	189,894	3.1%
3. Interest Adjustment	16,705	0.3%
4. Total Contribution	\$ 1,440,116	23.3%

Both Groups Combined

Summary of Retirement Plan Costs as of October 1, 2018

	<u>Cost Data</u>	<u>% of Payroll</u>
G. Expected Payroll of Active Employees for 2019 - 2020 Plan Year (\$6,183,349 x 1.000)	\$ 6,183,349	100.0%
H. Expected Contribution Sources (percent of expected 2019 - 2020 payroll)		
1. Town	\$ 945,871	15.3%
2. Employees	494,245	8.0%
I. Years to Which Contribution Applies:		
1. Plan Year Ending	September 30, 2020	
2. Town Fiscal Year Ending	September 30, 2020	
3. Assumed Dates of Town Contribution	October 1, 2019	
J. Actuarial Gain / (Loss) (Table VI)	\$ (412,447)	(6.7%)
K. Actuarial Present Value of Vested Accrued Benefits		
1. Members Currently Receiving Benefits (including DROPs)	\$ 9,329,516	150.9%
2. Terminated Vested Members Entitled to Future Benefits and Miscellaneous	944,285	15.3%
3. Active Employees	<u>10,010,728</u>	161.9%
4. Total Actuarial Present Value of Vested Accrued Benefits	\$ 20,284,529	328.1%
L. Unfunded Actuarial Present Value of Vested Accrued Benefits (K. - D.2., not less than zero)	\$ 0	0.0%
M. Vested Benefit Security Ratio (D.2. ÷ K.)	114.9%	N/A

General Employees / Senior Management Employees

Summary of Retirement Plan Costs as of October 1, 2018

	<u>Cost Data</u>	<u>% of Payroll</u>
A. Participant Data Summary (Table III)		
1. Active Employees	64	N/A
2. Terminated Vested	4	N/A
3. Receiving Benefits (including DROPs)	24	N/A
4. Annual Payroll of Active Employees	\$ 3,422,731	100.0%
B. Total Normal Cost		
1. Age Retirement Benefits	\$ 240,669	7.0%
2. Deferred Vesting Benefits	99,319	2.9%
3. Disability Benefits	39,037	1.1%
4. Return of Employee Contributions	10,911	0.3%
5. Administrative Expenses	45,822	1.3%
6. Total Annual Normal Cost	\$ 435,758	12.7%
C. Total Actuarial Accrued Liability		
1. Active Employees	\$ 5,478,480	160.1%
2. Service Retirees and Beneficiaries (including DROPs)	4,291,037	125.4%
3. Disabilities	0	0.0%
4. Terminated Vested Members	285,863	8.4%
5. Miscellaneous Liability	0	0.0%
6. Total Actuarial Accrued Liability	\$ 10,055,380	293.8%
D. Plan Assets		
1. Smoothed Actuarial Value	\$ 8,784,384	256.6%
2. Market Value	\$ 8,890,663	259.8%
E. Unfunded Actuarial Accrued Liability (C - D.1.)	\$ 1,270,996	37.1%
F. Minimum Required Contribution		
1. Total Normal Cost	\$ 435,758	12.7%
2. Amortization of Unfunded Liability	102,938	3.0%
3. Interest Adjustment	9,240	0.3%
4. Total Contribution	\$ 547,936	16.0%

General Employees / Senior Management Employees

Summary of Retirement Plan Costs as of October 1, 2018

	<u>Cost Data</u>	<u>% of Payroll</u>
G. Expected Payroll of Active Employees for 2019 - 2020 Plan Year (\$3,422,731 x 1.000)	\$ 3,422,731	100.0%
H. Expected Contribution Sources (percent of expected 2019 - 2020 payroll)		
1. Town	\$ 274,540	8.0%
2. Employees	273,396	8.0%
I. Years to Which Contribution Applies:		
1. Plan Year Ending	September 30, 2020	
2. Town Fiscal Year Ending	September 30, 2020	
3. Assumed Date of Town Contribution	October 1, 2019	
J. Actuarial Gain / (Loss) (Table VI)	\$ (124,125)	(3.6%)
K. Actuarial Present Value of Vested Accrued Benefits		
1. Members Currently Receiving Benefits (including DROPs)	\$ 4,291,037	125.4%
2. Terminated Vested Members Entitled to Future Benefits and Miscellaneous	285,863	8.4%
3. Active Employees	<u>3,450,249</u>	100.8%
4. Total Actuarial Present Value of Vested Accrued Benefits	\$ 8,027,149	234.5%
L. Unfunded Actuarial Present Value of Vested Accrued Benefits (K. - D.2., not less than zero)	\$ 0	0.0%
M. Vested Benefit Security Ratio (D.2. ÷ K.)	110.8%	N/A

Police Officers

Summary of Retirement Plan Costs as of October 1, 2018

	<u>Cost Data</u>	<u>% of Payroll</u>
A. Participant Data Summary (Table III)		
1. Active Employees	31	N/A
2. Terminated Vested	3	N/A
3. Receiving Benefits (including DROPs)	14	N/A
4. Annual Payroll of Active Employees	\$ 2,760,618	100.0%
B. Total Normal Cost		
1. Age Retirement Benefits	\$ 574,474	20.8%
2. Deferred Vesting Benefits	46,053	1.7%
3. Disability Benefits	95,187	3.4%
4. Return of Employee Contributions	7,478	0.3%
5. Administrative Expenses	74,567	2.7%
6. Total Annual Normal Cost	<u>\$ 797,759</u>	28.9%
C. Total Actuarial Accrued Liability		
1. Active Employees	\$ 10,104,254	366.0%
2. Service Retirees and Beneficiaries (including DROPs)	4,473,369	162.0%
3. Disabilities	565,110	20.5%
4. Terminated Vested Members	658,422	23.9%
5. Miscellaneous Liability	0	0.0%
6. Total Actuarial Accrued Liability	<u>\$ 15,801,155</u>	572.4%
D. Plan Assets		
1. Smoothed Actuarial Value	\$ 14,246,352	516.1%
2. Market Value	\$ 14,418,713	522.3%
E. Unfunded Actuarial Accrued Liability (C - D.1.)	\$ 1,554,803	56.3%
F. Minimum Required Contribution		
1. Total Normal Cost	\$ 797,759	28.9%
2. Amortization of Unfunded Liability	86,956	3.1%
3. Interest Adjustment	7,465	0.3%
4. Total Contribution	<u>\$ 892,180</u>	32.3%

Police Officers

Summary of Retirement Plan Costs as of October 1, 2018

	<u>Cost Data</u>	<u>% of Payroll</u>
G. Expected Payroll of Active Employees for 2019 - 2020 Plan Year (\$2,760,618 x 1.000)	\$ 2,760,618	100.0%
H. Expected Contribution Sources (percent of expected 2019 - 2020 payroll)		
1. Town	\$ 671,331	24.3%
2. Employees	220,849	8.0%
I. Years to Which Contribution Applies:		
1. Plan Year Ending	September 30, 2020	
2. Town Fiscal Year Ending	September 30, 2020	
3. Assumed Date of Town Contribution	October 1, 2019	
J. Actuarial Gain / (Loss) (Table VI)	\$ (288,322)	(10.4%)
K. Actuarial Present Value of Vested Accrued Benefits		
1. Members Currently Receiving Benefits (including DROPs)	\$ 5,038,479	182.5%
2. Terminated Vested Members Entitled to Future Benefits and Miscellaneous	658,422	23.9%
3. Active Employees	<u>6,560,479</u>	237.6%
4. Total Actuarial Present Value of Vested Accrued Benefits	\$ 12,257,380	444.0%
L. Unfunded Actuarial Present Value of Vested Accrued Benefits (K. - D.2., not less than zero)	\$ 0	0.0%
M. Vested Benefit Security Ratio (D.2. ÷ K.)	117.6%	N/A

Both Groups Combined

Comparison of Cost Data of October 1, 2017 and October 1, 2018 Valuations

	October 1, 2017		October 1, 2018	
	Cost Data	% of Annual Compensation	Cost Data	% of Annual Compensation
A. Participants				
1. Active Employees	87	N/A	95	N/A
2. Terminated Vested	5	N/A	7	N/A
3. Receiving Benefits (including DROPs)	37	N/A	38	N/A
4. Annual Payroll of Active Employees	\$ 5,624,740	100.0%	\$ 6,183,349	100.0%
B. Total Normal Costs	\$ 1,088,055	19.3%	\$ 1,233,517	19.9%
C. Total Actuarial Accrued Liability	\$ 23,538,407	418.5%	\$ 25,856,535	418.2%
D. Smoothed Actuarial Value of Assets	\$ 21,040,409	374.1%	\$ 23,030,736	372.5%
E. Unfunded Actuarial Accrued Liability	\$ 2,497,998	44.4%	\$ 2,825,799	45.7%
F. Net Town Minimum Funding Payment	\$ 817,472	14.5%	\$ 945,871	15.3%
G. Actuarial Gain / (Loss)	\$ 434,451	7.7%	\$ (412,447)	(6.7%)
H. Unfunded Actuarial Present Value of Vested Accrued Benefits	\$ 0	0.0%	\$ 0	0.0%
I. Vested Benefit Security Ratio	115.2%	N/A	114.9%	N/A

General Employees / Senior Management Employees

Comparison of Cost Data of October 1, 2017 and October 1, 2018 Valuations

	October 1, 2017		October 1, 2018	
	Cost Data	% of Annual Compensation	Cost Data	% of Annual Compensation
A. Participants				
1. Active Employees	59	N/A	64	N/A
2. Terminated Vested	2	N/A	4	N/A
3. Receiving Benefits (including DROPs)	24	N/A	24	N/A
4. Annual Payroll of Active Employees	\$ 3,142,492	100.0%	\$ 3,422,731	100.0%
B. Total Normal Costs	\$ 387,149	12.3%	\$ 435,758	12.7%
C. Total Actuarial Accrued Liability	\$ 9,221,945	293.5%	\$ 10,055,380	293.8%
D. Smoothed Actuarial Value of Assets	\$ 7,989,798	254.3%	\$ 8,784,384	256.6%
E. Unfunded Actuarial Accrued Liability	\$ 1,232,147	39.2%	\$ 1,270,996	37.1%
F. Net Town Minimum Funding Payment	\$ 243,599	7.8%	\$ 274,540	8.0%
G. Actuarial Gain / (Loss)	\$ 227,421	7.2%	\$ (124,125)	(3.6%)
H. Unfunded Actuarial Present Value of Vested Accrued Benefits	\$ 0	0.0%	\$ 0	0.0%
I. Vested Benefit Security Ratio	111.3%	N/A	110.8%	N/A

Police Officers

Comparison of Cost Data of October 1, 2017 and October 1, 2018 Valuations

	October 1, 2017		October 1, 2018	
	Cost Data	% of Annual Compensation	Cost Data	% of Annual Compensation
A. Participants				
1. Active Employees	28	N/A	31	N/A
2. Terminated Vested	3	N/A	3	N/A
3. Receiving Benefits (including DROPs)	13	N/A	14	N/A
4. Annual Payroll of Active Employees	\$ 2,482,248	100.0%	\$ 2,760,618	100.0%
B. Total Normal Costs	\$ 700,906	28.2%	\$ 797,759	28.9%
C. Total Actuarial Accrued Liability	\$ 14,316,462	576.8%	\$ 15,801,155	572.4%
D. Smoothed Actuarial Value of Assets	\$ 13,050,611	525.8%	\$ 14,246,352	516.1%
E. Unfunded Actuarial Accrued Liability	\$ 1,265,851	51.0%	\$ 1,554,803	56.3%
F. Net Town Minimum Funding Payment	\$ 573,873	23.1%	\$ 671,331	24.3%
G. Actuarial Gain / (Loss)	\$ 207,030	8.3%	\$ (288,322)	(10.4%)
H. Unfunded Actuarial Present Value of Vested Accrued Benefits	\$ 0	0.0%	\$ 0	0.0%
I. Vested Benefit Security Ratio	117.7%	N/A	117.6%	N/A

**Characteristics of Participants in Actuarial
Valuation as of October 1, 2018**

	General/ Senior Management Employees	Police Officers	Total
A. <u>Active Plan Participants Summary</u>			
1. Active Participants Vested	23	23	46
2. Active Participants Partially Vested	19	0	19
3. Active Participants Non-Vested	22	8	30
4. Total Active Participants	64	31	95
5. Annual Payroll of Active Participants	\$ 3,422,731	\$ 2,760,618	\$ 6,183,349
B. <u>Retired and Terminated Vested Participant Summary</u>			
1. Service Retirees Receiving Benefits (including DROPs)	17	10	27
2. Beneficiaries Receiving Benefits	7	3	10
3. Disabled Participants Receiving Benefits	0	1	1
4. Terminated Vested Participants Entitled to Future Benefits	4	3	7

Statement of Assets as of October 1, 2018

	<u>Market Value</u>
<u>Investments</u>	
Money market funds	\$ 667,624
Certificates of deposit	29,676
U.S. Treasury securities	193,956
U.S. Government agency bonds	278,905
Municipal obligations	360,157
Corporate bonds	2,597,858
Mortgage backed securities	1,724,206
Equity securities	
- Common stock, American depositary receipts and ETFs	9,171,029
- Mutual funds	6,048,544
- Real estate investment trusts	136,131
Master limited partnerships	675,305
Core real estate fund	1,421,525
Total Investments	<u>\$ 23,304,916</u>
<u>Receivables</u>	
Accrued Interest	\$ 51,367
Other receivables	21,972
Employee contributions	19,269
Due from broker	0
Prepaid expenses	2,959
Total Receivables	<u>\$ 95,567</u>
<u>Liabilities</u>	
Refunds payable	\$ 10,388
Accounts payable	80,719
Due to broker	0
Total Liabilities	<u>\$ 91,107</u>
<u>Net Assets Available For Benefits</u>	\$ 23,309,376

Reconciliation of Plan Assets

		<u>Market Value</u>
A. <u>Value of Assets as of October 1, 2017</u>		\$ 21,292,601
B. <u>Receipts during Period</u>		
1. Employee Contributions		\$ 459,190
2. Service Purchase Contributions		0
3. Town Contributions		917,274
4. Net Investment Return		
i. Interest, Dividends and Other Income	\$ 591,178	
ii. Realized Gains / (Losses)	172,665	
iii. Unrealized Gains / (Losses)	925,676	
iv. Investment Expenses	(109,703)	
v. Net Investment Return		<u>1,579,816</u>
5. Total Receipts during Period		\$ 2,956,280
C. <u>Disbursements during Period</u>		
1. Benefit Payments		\$ 694,605
2. DROP Distributions		121,775
3. Contribution Refunds		2,736
4. Administrative Expenses		<u>120,389</u>
5. Total Disbursements during Period		\$ 939,505
D. <u>Value of Assets as of September 30, 2018</u>		\$ 23,309,376
E. <u>Approximate Rate of Return:</u> (Net of Investment Expense)		7.34%
F. <u>Reconciliation of DROP Account Balances</u>		
1. DROP Accounts Balance as of October 1, 2017		\$ 353,607
2. Benefit Payments into DROP Accounts during Year		55,280
3. Investment Gains / (Losses) during Year		19,582
4. Distributions from DROP Accounts during Year		<u>(121,775)</u>
5. DROP Accounts Balance as of September 30, 2018		\$ 306,694

Development of Smoothed Actuarial Value of Assets as of September 30

	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>
A. Preliminary smoothed actuarial value from prior year	19,046,952	21,040,409	23,030,736			
B. Market value end of year	21,292,601	23,309,376				
C. Market beginning of year	18,751,451	21,292,601	23,309,376			
D. Non-investment net cash flow	523,400	436,959				
E. Investment return						
1. Total market value return: B. - C. - D.	2,017,750	1,579,816				
2. Amount for immediate recognition (7.25%)	1,378,453	1,559,553				
3. Amount for phased-in recognition: E.1. - E.2.	639,297	20,263				
F. Phased-in recognition of investment return						
1. Current year: 20% of E.3.	127,859	4,053				
2. First prior year	75,973	127,859	4,053			
3. Second prior year	(273,095)	75,973	127,859	4,053		
4. Third prior year	59,027	(273,095)	75,973	127,859	4,053	
5. Fourth prior year	101,840	59,025	(273,093)	75,971	127,861	4,051
6. Total phased-in recognition of investment return	91,604	(6,185)	(65,208)	207,883	131,914	4,051
G. Smoothed actuarial value end of year						
1. Preliminary smoothed actuarial value end of year: A. + D. + E.2. + F.6.	21,040,409	23,030,736				
2. Upper corridor limit:120% of B.	25,551,121	27,971,251				
3. Lower corridor limit: 80% of B.	17,034,081	18,647,501				
4. Smoothed actuarial value end of year: G.1., not more than G.2., nor less than G.3.	21,040,409	23,030,736				
H. Difference between market value and smoothed actuarial value	252,192	278,640				
I. Smoothed actuarial value rate of return	7.61%	7.31%				
J. Market value rate of return	10.61%	7.34%				

Allocation of Smoothed Actuarial Value of Assets for Budgeting Purposes

	General / Senior Management Employees	Police Officers	Total
A. <u>Value of Smoothed Assets as of October 1, 2017</u>	\$ 7,989,798	\$ 13,050,611	\$ 21,040,409
B. <u>Receipts During Period</u>			
1. Employee Contributions	\$ 257,485	\$ 201,705	\$ 459,190
2. Service Purchases	0	0	0
3. Town Contributions	309,420	607,854	917,274
4. Net Investment Return	<u>591,237</u>	<u>962,131</u>	<u>1,553,368</u>
5. Total Receipts During Period	\$ 1,158,142	\$ 1,771,690	\$ 2,929,832
C. <u>Disbursements During Period</u>			
1. Pension Benefit Payments	\$ 314,998	\$ 379,607	\$ 694,605
2. DROP Distributions	0	121,775	121,775
3. Contribution Refunds	2,736	0	2,736
4. Administrative Expenses	<u>45,822</u>	<u>74,567</u>	<u>120,389</u>
5. Total Disbursements During Period	\$ 363,556	\$ 575,949	\$ 939,505
D. <u>Value of Smoothed Assets as of September 30, 2018</u>	\$ 8,784,384	\$ 14,246,352	\$ 23,030,736

Actuarial Gain / (Loss) for Plan Year Ended September 30, 2018

	General / Senior Management Employees	Police Officers	Total
A. <u>Derivation of Actuarial Gain / (Loss)</u>			
1. Town normal cost previous Actuarial Valuation	\$ 136,158	\$ 502,326	\$ 638,484
2. Unfunded actuarial accrued liability (UAAL) previous Actuarial Valuation	1,232,147	1,265,851	2,497,998
3. Town contributions previous year	309,420	607,854	917,274
4. Interest on:			
(a) Town normal cost	\$ 9,871	\$ 36,419	\$ 46,290
(b) Unfunded actuarial accrued liability	89,331	91,774	181,105
(c) Town contribution	11,216	22,035	33,251
(d) Net total: (a) + (b) - (c)	<u>\$ 87,986</u>	<u>\$ 106,158</u>	<u>\$ 194,144</u>
5. Expected unfunded actuarial accrued liability current year (1. + 2. - 3. + 4.)	\$ 1,146,871	\$ 1,266,481	\$ 2,413,352
6. Actual unfunded actuarial accrued liability current year	\$ 1,270,996	\$ 1,554,803	\$ 2,825,799
7. Actuarial gain / (loss): (5. - 6.)	\$ (124,125)	\$ (288,322)	\$ (412,447)
B. <u>Approximate Portion of Gain / (Loss) due to Investments</u>			
1. Smoothed actuarial value of assets previous year	\$ 7,989,798	\$ 13,050,611	\$ 21,040,409
2. Contributions during period	566,905	809,559	1,376,464
3. Benefits and administrative expenses during period	363,556	575,949	939,505
4. Expected appreciation for period	<u>586,632</u>	<u>954,638</u>	<u>1,541,270</u>
5. Expected smoothed actuarial value of assets current year (1. + 2. - 3. + 4.)	\$ 8,779,779	\$ 14,238,859	\$ 23,018,638
6. Actual smoothed actuarial value of assets current year	8,784,384	14,246,352	23,030,736
7. Approximate gain / (loss) due to investments: (6. - 5.)	\$ 4,605	\$ 7,493	\$ 12,098
C. <u>Approximate Portion of Gain / (Loss) due to Liabilities: A.7. - B.7.</u>	\$ (128,730)	\$ (295,815)	\$ (424,545)

Amortization of Unfunded Actuarial Accrued Liability

<u>Valuation Date</u>	<u>Unfunded Liability</u>	<u>Amortization Payment</u>
10/01/2018	\$ 2,825,799	\$ 189,894
10/01/2019	\$ 2,827,008	\$ 189,894
10/01/2020	\$ 2,828,305	\$ 189,894
10/01/2021	\$ 2,829,696	\$ 189,894
10/01/2022	\$ 2,831,188	\$ 189,894
...
10/01/2048	\$ 0	\$ 0

Both Groups Combined

Accounting Disclosure Exhibit

I. <u>Financial Accounting Standards Board Allocation as of</u>	<u>10/01/2017</u>	<u>10/01/2018</u>
A. <u>Statement of Accumulated Plan Benefits</u>		
1. Actuarial present value of accumulated vested plan benefits		
a. Participants currently receiving benefits	\$ 8,692,436	\$ 9,329,516
b. Other participants	9,793,937	10,955,013
c. Total	<u>\$ 18,486,373</u>	<u>\$ 20,284,529</u>
2. Actuarial present value of accumulated non-vested plan benefits	<u>732,109</u>	<u>996,025</u>
3. Total actuarial present value of accumulated plan benefits	\$ 19,218,482	\$ 21,280,554
B. <u>Statement of Change in Accumulated Plan Benefits</u>		
1. Actuarial present value of accumulated plan benefits as of October 1, 2017		\$ 19,218,482
2. Increase / (decrease) during year attributable to:		
a. Plan amendment		\$ 0
b. Change in actuarial assumptions		0
c. Benefits paid (includes refunds and DROP distributions)		(819,116)
d. Other, including benefits accumulated, increase for interest due to decrease in the discount period		<u>2,881,188</u>
e. Net increase		\$ 2,062,072
3. Actuarial present value of accumulated plan benefits as of October 1, 2018		\$ 21,280,554
C. <u>Significant Matters Affecting Calculations</u>		
1. Assumed rate of return used in determining actuarial present values		7.25%
2. Change in Plan provisions		None.
3. Change in actuarial assumptions		None.

General Employees / Senior Management Employees

Accounting Disclosure Exhibit

<u>I. Financial Accounting Standards Board Allocation as of</u>	<u>10/01/2017</u>	<u>10/01/2018</u>
<u>A. Statement of Accumulated Plan Benefits</u>		
1. Actuarial present value of accumulated vested plan benefits		
a. Participants currently receiving benefits	\$ 4,261,561	\$ 4,291,037
b. Other participants	3,004,126	3,736,112
c. Total	<u>\$ 7,265,687</u>	<u>\$ 8,027,149</u>
2. Actuarial present value of accumulated non-vested plan benefits	<u>534,552</u>	<u>575,577</u>
3. Total actuarial present value of accumulated plan benefits	\$ 7,800,239	\$ 8,602,726
<u>B. Statement of Change in Accumulated Plan Benefits</u>		
1. Actuarial present value of accumulated plan benefits as of October 1, 2017		\$ 7,800,239
2. Increase / (decrease) during year attributable to:		
a. Plan amendment		\$ 0
b. Change in actuarial assumptions		0
c. Benefits paid (includes refunds and DROP distributions)		(317,734)
d. Other, including benefits accumulated, increase for interest due to decrease in the discount period		<u>1,120,221</u>
e. Net increase		\$ 802,487
3. Actuarial present value of accumulated plan benefits as of October 1, 2018		\$ 8,602,726
<u>C. Significant Matters Affecting Calculations</u>		
1. Assumed rate of return used in determining actuarial present values		7.25%
2. Change in Plan provisions		None.
3. Change in actuarial assumptions		None.

Police Officers

Accounting Disclosure Exhibit

I. <u>Financial Accounting Standards Board Allocation as of</u>	<u>10/01/2017</u>	<u>10/01/2018</u>
A. <u>Statement of Accumulated Plan Benefits</u>		
1. Actuarial present value of accumulated vested plan benefits		
a. Participants currently receiving benefits	\$ 4,430,875	\$ 5,038,479
b. Other participants	6,789,811	7,218,901
c. Total	<u>\$ 11,220,686</u>	<u>\$ 12,257,380</u>
2. Actuarial present value of accumulated non-vested plan benefits	<u>197,557</u>	<u>420,448</u>
3. Total actuarial present value of accumulated plan benefits	\$ 11,418,243	\$ 12,677,828
B. <u>Statement of Change in Accumulated Plan Benefits</u>		
1. Actuarial present value of accumulated plan benefits as of October 1, 2017		\$ 11,418,243
2. Increase / (decrease) during year attributable to:		
a. Plan amendment		\$ 0
b. Change in actuarial assumptions		0
c. Benefits paid (includes refunds and DROP distributions)		(501,382)
d. Other, including benefits accumulated, increase for interest due to decrease in the discount period		<u>1,760,967</u>
e. Net increase		\$ 1,259,585
3. Actuarial present value of accumulated plan benefits as of October 1, 2018		\$ 12,677,828
C. <u>Significant Matters Affecting Calculations</u>		
1. Assumed rate of return used in determining actuarial present values		7.25%
2. Change in Plan provisions		None.
3. Change in actuarial assumptions		None.

Accounting Disclosure Exhibit

II. Net Pension Liability and Related Ratios (GASB No. 67 & No. 68)

Measurement date	9/30/2014	9/30/2015	9/30/2016	9/30/2017	9/30/2018	9/30/2019 *
A. Total Pension Liability (TPL)						
Service Cost	\$ 888,988	\$ 901,998	\$ 932,365	\$ 1,052,014	\$ 1,002,537	\$ 1,113,128
Interest	1,227,596	1,336,817	1,458,652	1,646,114	1,745,881	1,919,811
Benefit Changes	35,244	0	0	282,066	0	0
Difference Between Actual and Expected Experience	170,264	100,031	(35,527)	297,252	(348,726)	388,826
Assumption Changes	0	0	402,655	93,312	0	0
Benefit Payments, including Refunds of Member Contributions	(545,746)	(665,021)	(602,692)	(651,287)	(819,116)	(979,016)
Net Change in Total Pension Liability	\$ 1,776,346	\$ 1,673,825	\$ 2,155,453	\$ 2,719,471	\$ 1,580,576	\$ 2,442,749
Total Pension Liability (TPL) - (beginning of year)	15,562,038	17,338,384	19,012,209	21,167,662	23,887,133	25,467,709
Total Pension Liability (TPL) - (end of year)	\$ 17,338,384	\$ 19,012,209	\$ 21,167,662	\$ 23,887,133	\$ 25,467,709	\$ 27,910,458
B. Plan Fiduciary Net Position						
Contributions - Town	\$ 631,584	\$ 727,022	\$ 757,304	\$ 797,359	\$ 917,274	\$ 817,472
Contributions - Member	349,600	391,213	383,619	462,846	459,190	494,667
Net Investment Income	1,396,431	(132,329)	1,850,417	2,017,750	1,579,816	1,697,641
Benefit Payments, including Refunds of Member Contributions	(545,746)	(665,021)	(602,692)	(651,287)	(819,116)	(979,016)
Administrative Expenses	(80,194)	(85,426)	(130,686)	(85,518)	(120,389)	(120,389)
Other	0	0	0	0	0	0
Net Change in Plan Fiduciary Net Position	\$ 1,751,675	\$ 235,459	\$ 2,257,962	\$ 2,541,150	\$ 2,016,775	\$ 1,910,375
Plan Fiduciary Net Position - (beginning of year)	14,506,355	16,258,030	16,493,489	18,751,451	21,292,601	23,309,376
Plan Fiduciary Net Position - (end of year)	\$ 16,258,030	\$ 16,493,489	\$ 18,751,451	\$ 21,292,601	\$ 23,309,376	\$ 25,219,751
C. Net Pension Liability (NPL) - (end of year): (A) - (B)	\$ 1,080,354	\$ 2,518,720	\$ 2,416,211	\$ 2,594,532	\$ 2,158,333	\$ 2,690,707
D. Plan Fiduciary Net Position as a Percentage of TPL: (B) / (A)	93.77 %	86.75 %	88.59 %	89.14 %	91.53 %	90.36 %
E. Covered Payroll **	\$ 5,103,795	\$ 5,321,296	\$ 5,710,172	\$ 5,766,823	\$ 5,849,505	\$ 6,183,349
F. NPL as a Percentage of Covered Payroll: (C) / (E)	21.17 %	47.33 %	42.31 %	44.99 %	36.90 %	43.52 %
G. Notes to Schedule:						
Valuation Date	10/01/2013	10/01/2014	10/01/2015	10/01/2016	10/01/2017	10/01/2018
Reporting Date (GASB No. 68)	9/30/2015	9/30/2016	9/30/2017	9/30/2018	9/30/2019	9/30/2020

Update procedures used to roll forward TPL excluding DROP account balances to the measurement dates - actual DROP account balances as of measurement dates included in TPL.

See Table VIII, Item IV. for a history of benefit and assumption changes prior to September 30, 2018 measurement date. No benefit or assumption changes for September 30, 2018 measurement date.

* Projected - actual amounts will be available after fiscal year end.

** Reported payroll used to determine contribution as provided under GASB No. 82.

Accounting Disclosure Exhibit

III. Schedule of Employer Contributions (GASB No. 67 & No. 68)

<u>Fiscal Year End 9/30</u>	<u>Actuarially Determined Contribution</u>	<u>Actual Contribution</u>	<u>Contribution Deficiency (Excess)</u>	<u>Covered Payroll^{1,2}</u>	<u>Actual Contribution as a % of Covered Payroll</u>
2009	\$ 423,747	\$ 423,747	\$ 0	\$ 4,568,544	9.28%
2010	553,919	553,919	0	4,059,522	13.64%
2011	625,963	625,963	0	4,016,852	15.58%
2012	515,440	515,440	0	4,053,208	12.72%
2013	534,209	534,209	0	4,359,957	12.25%
2014	631,584	631,584	0	5,103,795	12.37%
2015	727,022	727,022	0	5,321,296	13.66%
2016	757,304	757,304	0	5,710,172	13.26%
2017	797,359	797,359	0	5,766,823	13.83%
2018	917,274	917,274	0	5,849,505	15.68%
2019 ³	817,472	817,472	0	6,183,349	13.22%

¹ Projected prior to fiscal year ended September 30, 2014

² Reported payroll on which contributions to the Plan are based as provided under GASB No. 82

³ Projected - actual amounts will be available after fiscal year end

Accounting Disclosure Exhibit

IV. Notes to Schedule of Contributions (GASB No. 67 & No. 68)

Valuation Date: Actuarially determined contributions are calculated as of October 1st - two years prior the fiscal year end in which contributions are reported.

Methods and Assumptions Used to Determine Contribution Rates for Fiscal Year Ended September 30, 2018:

Actuarial Cost Method	Entry Age
Amortization Method	Level dollar amount, Closed
Amortization Period	30 years
Asset Valuation Method	5-year smoothed market
Inflation	2.5%
Salary Increases	4.0% - 8.0%
Investment Rate of Return	7.25%
Retirement Age	Experience-based table of rates that are specific to the type of eligibility condition
Mortality	<p>For healthy Police Officers during employment, RP 2000 Combined Healthy Participant Mortality Tables, separate rates for males and females, with 10% White Collar / 90% Blue Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For healthy Police Officers post employment, RP 2000 Annuitant Mortality Tables, separate rates for males and females, with 10% White Collar / 90% Blue Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB.</p> <p>For healthy General Employees during employment, RP 2000 Combined Male Healthy Participant Mortality Table, with 50% White Collar / 50% Blue Collar Adjustment for males - RP 2000 Combined Female Healthy Participant Mortality Table, with White Collar Adjustment for females and fully generational mortality improvements projected to each future decrement date with Scale BB. For healthy General Employees post employment, RP 2000 Annuitant Male Mortality Table, with 50% White Collar / 50% Blue Collar Adjustment for males - RP 2000 Annuitant Female Mortality Table, with White Collar Adjustment for females and fully generational mortality improvements projected to each future decrement date with Scale BB.</p> <p>For disabled male Police Officers, 60% RP 2000 Disabled Male Mortality Table setback four years / 40% RP 2000 Annuitant Male Mortality Table, with White Collar Adjustment and no setback, without projected mortality improvements. For disabled female Police Officers, 60% RP 2000 Disabled Female Mortality Table set forward two years / 40% RP 2000 Annuitant Female Mortality Table, with White Collar Adjustment, without projected mortality improvements.</p> <p>For disabled male General Employees, RP 2000 Disabled Male Mortality Table, setback four years, without projected mortality improvements. For disabled female General Employees, RP 2000 Disabled Female Mortality Table, set forward two years, without projected mortality improvements.</p>

Cost of Living Adjustment 1.5%

Other Information:

Benefit Changes

2016: Created a senior management member class, changed retirement eligibility and vesting for Town Attorney along with increased benefit accrual rates, benefit cap and employee contributions for general employees and senior management. 2013: Police Officers - normal retirement eligibility updated to include completion of 15 years and 4 months of service if hired on a full time basis in March 2003; General Employees - may enter DROP upon attainment of normal retirement. 2012: Police Officers - normal retirement eligibility updated to the earliest of (1) age 52 with 20 years of Creditable Service, (2) age 62 with 5 years of Creditable Service or (3) completion of 25 years of Creditable Service. 2011: Town Manager and Town Attorney allowed to opt out of Plan. 2009: Member contributions picked-up by the Town.

Accounting Disclosure Exhibit

IV. Notes to Schedule of Contributions (GASB No. 67 & No. 68) (cont'd)

Assumption Changes

2016: Mortality rates updated for healthy participants per State statute. 2015: Investment return updated from 7.5% to 7.25%; mortality, withdrawal rates, salary increase factors and retirement rates updated. 2012: Mortality assumption for healthy General Employees updated to RP 2000 Combined Mortality Table (RP 2000 Disabled Mortality Table for disabled lives), separate rates for males and females, 15 years generational projection from valuation date for actives - 7 years generational projection from valuation date for inactives with Scale AA; mortality assumption for healthy Police Officer participants updated to RP 2000 Combined Mortality Table with Blue Collar Adjustment, separate rates for males and females, 15 years generational projection from valuation date for actives - 7 years generational projection from valuation date for inactives with Scale AA. 2010: Salary increase factors updated. 2007: Mortality assumption for healthy participants updated to 1994 UP Mortality Table (RP 2000 Disabled Mortality Table for Disabled Lives) projected to 2007 with separate rates for males and females, salary increase, withdrawal and service related disability assumptions updated.

V. Discount Rate (GASB No. 67 & No. 68)

A discount rate of 7.25% was used to measure the TPL. This discount rate was based on the expected rate of return on Plan investments of 7.25%. The projection of cash flows used to determine this discount rate assumed member contributions will be made at the current member contribution rate and employer contributions will be made at rates equal to the difference between actuarially determined current contribution rates and the member contribution rate. Based on these assumptions, the pension Plan's fiduciary net position was projected to be available to make all projected future expected benefit payments of current Plan members. Therefore, the long-term expected rate of return on Plan investments was applied to all periods of projected benefit payments to determine the TPL.

VI. Sensitivity of the NPL to the Discount Rate Assumption (GASB No. 67 & No. 68)

Measurement date: September 30, 2018

	1% Decrease	Current Discount Rate	1% Increase
Discount Rate	6.25%	7.25%	8.25%
NPL	\$ 5,857,744	\$ 2,594,532	\$ (855,458)

Measurement date: September 30, 2019 *

	1% Decrease	Current Discount Rate	1% Increase
Discount Rate	6.25%	7.25%	8.25%
NPL	\$ 6,743,242	\$ 2,690,707	\$ (612,589)

* Projected - actual amounts will be available after fiscal year end

Accounting Disclosure Exhibit

VII. Pension Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions - Reporting Date (GASB No. 68)

Pension Expense for Fiscal Year Ending September 30, 2019 \$ 906,087

Summary of Outstanding Deferred Inflows and Outflows of Resources as of September 30, 2019

	<u>Deferred Outflows of Resources</u>	<u>Deferred Inflows of Resources</u>
Differences between actual and expected experience on liabilities	\$ 292,914	\$ 309,215
Changes of assumptions or other inputs	274,128	0
Net difference between projected and actual earnings on pension Plan investments	<u>0</u>	<u>382,643</u>
Total	<u>\$ 567,042</u>	<u>\$ 691,858</u>

Projected Deferred Outflows for Town Contributions to Be Recognized in Pension Expense for Fiscal Year Ending September 30, 2020 \$ 817,472

Summary of Deferred Outflows and Inflows of Resources that will be Recognized in Pension Expense in Future Years.

<u>Year Ending 30-Sep</u>	<u>Amount</u>
2020	\$ 115,046
2021	(158,048)
2022	(54,599)
2023	18,306
2024	(45,521)
Thereafter	0

Accounting Disclosure Exhibit

The following information is not required to be disclosed but is provided for informational purposes.

VIII. Components of Pension Expense (GASB No. 68)

Measurement Date	<u>9/30/2014</u>	<u>9/30/2015</u>	<u>9/30/2016</u>	<u>9/30/2017</u>	<u>9/30/2018</u>	Projected <u>9/30/2019 *</u>
Service Cost	\$ 888,988	\$ 901,998	\$ 932,365	\$ 1,052,014	\$ 1,002,537	\$ 1,113,128
Interest on Total Pension Liability	1,227,596	1,336,817	1,458,652	1,646,114	1,745,881	1,919,811
Current-Period Benefit Changes	35,244	0	0	282,066	0	0
Contributions - Member	(349,600)	(391,213)	(383,619)	(462,846)	(459,190)	(494,667)
Projected Earnings on Plan Investments	(1,101,298)	(1,233,144)	(1,210,551)	(1,378,453)	(1,559,553)	(1,697,641)
Administrative Expenses	80,194	85,426	130,686	85,518	120,389	120,389
Other Changes in Plan Fiduciary Net Position	0	0	0	0	0	0
Recognition of Beginning Deferred Outflows / (Inflows) due to Liabilities	23,981	38,691	96,965	159,959	101,838	165,580
Recognition of Beginning Deferred Outflows / (Inflows) due to Assets	(59,027)	214,068	86,095	(41,764)	(45,815)	13,208
Total Pension Expense	<u>\$ 746,078</u>	<u>\$ 952,643</u>	<u>\$ 1,110,593</u>	<u>\$ 1,342,608</u>	<u>\$ 906,087</u>	<u>\$ 1,139,808</u>

* Projected - actual amounts will be available after measurement date

Accounting Disclosure Exhibit

The following information is not required to be disclosed but is provided for informational purposes.

IX. Recognition of Deferred Outflows and (Inflows) due to Liabilities - Measurement Date (GASB No. 68)

Recognition of Deferred Outflows due to Differences Between Actual and Expected Experience on Liabilities

Established	Initial Balance	Initial Recognition Period	Remaining Recognition Period as of 9/30/2018	Recognition Amount for 2017 / 2018	Balance as of 9/30/2018
2013 / 2014	\$ 170,264	7.1	2.1	\$ 23,981	\$ 50,359
2014 / 2015	100,031	6.8	2.8	14,710	41,191
2015 / 2016	0	6.3	3.3	0	0
2016 / 2017	297,252	6.2	4.2	47,944	201,364
2017 / 2018	0	6.0	5.0	0	0
TOTAL				\$ 86,635	\$ 292,914

Recognition of Deferred (Inflows) due to Differences Between Actual and Expected Experience on Liabilities

Established	Initial Balance	Initial Recognition Period	Remaining Recognition Period as of 9/30/2018	Recognition Amount for 2017 / 2018	Balance as of 9/30/2018
2013 / 2014	\$ 0	7.1	2.1	\$ 0	\$ 0
2014 / 2015	0	6.8	2.8	0	0
2015 / 2016	(35,527)	6.3	3.3	(5,639)	(18,610)
2016 / 2017	0	6.2	4.2	0	0
2017 / 2018	(348,726)	6.0	5.0	(58,121)	(290,605)
TOTAL				\$ (63,760)	\$ (309,215)

Recognition of Deferred Outflows due to Changes of Assumptions or Other Inputs

Established	Initial Balance	Initial Recognition Period	Remaining Recognition Period as of 9/30/2018	Recognition Amount for 2017 / 2018	Balance as of 9/30/2018
2013 / 2014	\$ 0	7.1	2.1	\$ 0	\$ 0
2014 / 2015	0	6.8	2.8	0	0
2015 / 2016	402,655	6.3	3.3	63,913	210,916
2016 / 2017	93,312	6.2	4.2	15,050	63,212
2017 / 2018	0	6.0	5.0	0	0
TOTAL				\$ 78,963	\$ 274,128

Accounting Disclosure Exhibit

The following information is not required to be disclosed but is provided for informational purposes.

IX. Recognition of Deferred Outflows and (Inflows) due to Liabilities - Measurement Date (GASB No. 68) (cont'd)

Recognition of Deferred (Inflows) due to Changes of Assumptions or Other Inputs

Established	Initial Balance	Initial Recognition Period	Remaining Recognition Period as of 9/30/2018	Recognition Amount for 2017 / 2018	Balance as of 9/30/2018
2013 / 2014	\$ 0	7.1	2.1	\$ 0	\$ 0
2014 / 2015	0	6.8	2.8	0	0
2015 / 2016	0	6.3	3.3	0	0
2016 / 2017	0	6.2	4.2	0	0
2017 / 2018	0	6.0	5.0	0	0
TOTAL				\$ 0	\$ 0

X. Recognition of Deferred Outflows and (Inflows) Due to Assets - Measurement Date (GASB No. 68)

Recognition of Deferred Outflows / (Inflows) due to Difference Between Projected and Actual Earnings on Pension Plan Investments

Established	Initial Balance	Initial Recognition Period	Remaining Recognition Period as of 9/30/2018	Recognition Amount for 2017 / 2018	Balance as of 9/30/2018
2013 / 2014	\$ (295,133)	5	0	\$ (59,025)	\$ 0
2014 / 2015	1,365,473	5	1	273,095	273,093
2015 / 2016	(639,866)	5	2	(127,973)	(255,947)
2016 / 2017	(639,297)	5	3	(127,859)	(383,579)
2017 / 2018	(20,263)	5	4	(4,053)	(16,210)
TOTAL				\$ (45,815)	\$ (382,643)

Outline of Principal Provisions of the Retirement Plan

A. Effective Date:

January 1, 1962. Most recent amendatory Ordinance considered: 16-2392.

B. Eligibility Requirements:

All regular, full-time employees are eligible upon employment. The Town Manager and Town Attorney have the right to opt out of the Plan.

C. Creditable Service:

All service of a member measured in years and completed calendar months since latest date of hire with the Town.

D. Average Final Compensation (AFC):

The average of basic compensation during the highest three years (five years for General Employees) of the ten years preceding termination of employment; does not include bonuses, overtime, lump sum payments of unused leave or other nonregular payments.

E. Normal Retirement:

1. Eligibility:

For sworn Police Officers, the earliest of (1) age 52 with 20 years of Creditable Service, (2) age 62 with 5 years of Creditable Service, (3) completion of 25 years of Creditable Service or (4) the completion of 15 years and 4 months of service if hired on a full time basis in March 2003. For a participating Town Manager and the Town Attorney, the earlier of (1) age 62 with 15 years of Creditable Service or (2) age 64 with 7 years of Creditable Service. For all other employees, the earlier of (1) age 62 with 15 years of Creditable Service or (2) age 65 with 10 years of Creditable Service.

2. Benefit:

Period of Service	Benefit Accrual Rate per Year of Service Based on Employee Contribution Rate of			
	5%	6%	7%	8%
Before 10/1/1979	1 2/3%	N/A	N/A	N/A
10/1/1979 - 6/30/1996	1 2/3%	N/A	2.0%	N/A
7/1/1996 - 1/31/2003	1 2/3%	N/A	2.0%	2.5%
2/1/2003 - 9/30/2005	2.0%	2.5%	N/A	N/A
10/1/2005 - 9/30/2006	2.0%	2.5%	N/A	3.0% ¹
10/1/2006 - 9/30/2016	2.0%	2.5%	N/A	3.5% ¹
10/1/2016 forward	N/A	N/A	2.65% ²	2.8% ² / 3.0% ³ / 3.5% ¹

Maximum benefit is 90% (75% prior to October 1, 2006) of AFC for Police Officers, 68% (60% prior to October 1, 2016) of AFC for General Employees and 80% (60% prior to October 1, 2016) of AFC for Senior Management Employees.

¹ For Police Officers only.

² For General Employees only.

³ For Senior Management Employees only.

Outline of Principal Provisions of the Retirement Plan

3. Form of Payment:

Straight life annuity with guaranteed refund of Accumulated Contributions (with options available).

F. Early Retirement:

1. Eligibility:

The earlier of (a) age 55 with 15 years of Creditable Service, or (b) 20 years of Creditable Service regardless of age.

2. Benefit:

Same as Normal Retirement Benefit using AFC and Creditable Service as of Early Retirement Date but payable at Normal Retirement Date assuming continued employment. Alternatively, benefits may commence immediately after reduction of 0.5% for each month early.

G. Delayed Retirement:

1. Eligibility:

Retirement after Normal Retirement Date.

2. Benefit:

Calculated in the same manner as Normal Retirement Benefit using AFC and Creditable Service as of delayed retirement date.

H. Disability Retirement:

1. Service Connected:

a) Eligibility:

Total and permanent disability incurred prior to normal retirement date as a direct result of performance of service to the Town and eligible for Social Security disability benefits.

b) Benefit:

75% (if injury) or 45% (if disease) of the rate of pay in effect on date of disability payable for life or until recovery. For General Employees, less Social Security disability benefits; there is an offset for Workers' Compensation to the extent that the disability benefit plus the Workers' Compensation benefit exceed 100% of preretirement salary.

2. Non-Service Connected:

a) Eligibility:

Total and permanent disability not incurred as a direct result of performance of service to the Town.

Outline of Principal Provisions of the Retirement Plan

b) Benefit:

Accrued pension benefit.

i. Death Benefit:

1. Pre-Retirement:

Refund of Accumulated Contributions

2. After Normal Retirement Date but before Actual Retirement:

Survivor benefit payable in accordance with optional form of benefit chosen by member.

3. After Retirement:

Refund of any remaining Accumulated Contributions or optional survivor's benefits if elected.

J. Accumulated Contributions:

The sum of all amounts contributed by members including 4% interest on contributions made after January 1, 1979. Effective January 1, 2009, member contributions are *picked-up* by the Town.

K. Termination Benefit:

Upon termination prior to normal or early retirement date a member shall be entitled to choose (1) or (2) below, where:

1. A refund of Accumulated Contributions.
2. The benefit as for normal retirement using AFC and Creditable Service as of date of termination multiplied by the applicable percentage on the table below, commencing upon the earliest date a member would have attained normal retirement had he remained in service (age 65 for General Employees).

<u>Years of Creditable Service</u>	<u>Percentage</u>	
	<u>General Employees</u>	<u>Police Officers</u>
Less than 5	0%	0%
5	50%	100%
6	60%	100%
7	70%	100%
8	80%	100%
9	90%	100%
10 or more	100%	100%

3. A participating Town Manager and the Town Attorney 100% vested upon completion of 7 years of Creditable Service.

Outline of Principal Provisions of the Retirement Plan

L. Cost of Living Increase

A 1.5% automatic annual cost of living increase is provided for all current and future retirees, disableds, beneficiaries and vested terminated members.

M. Deferred Retirement Option Program (DROP)

1. Eligibility: Attainment of normal retirement date.
2. The maximum period of participation in the DROP is five (5) years.
3. An employee's account in the DROP program shall be credited with interest based upon actual Fund investment return.
4. No payment may be made from DROP until the employee actually separates from service with the Town.

N. Changes Since Previous Actuarial Valuation

None.

**Actuarial Assumptions and Actuarial Cost Methods
Used in the Valuation**

A. Mortality

General Mortality Assumptions:

For healthy male participants during employment, RP 2000 Combined Male Healthy Participant Mortality Table, with 50% White Collar / 50% Blue Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For healthy female participants during employment, RP 2000 Combined Female Healthy Participant Mortality Table, with White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB.

For healthy male participants post employment, RP 2000 Annuitant Male Mortality Table, with 50% White Collar / 50% Blue Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For healthy female participants post employment, RP 2000 Annuitant Female Mortality Table, with White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB.

For disabled male participants, RP 2000 Disabled Male Mortality Table, setback four years, without projected mortality improvements. For disabled female participants, RP 2000 Disabled Female Mortality Table, set forward two years, without projected mortality improvements.

Sample Ages (2018)	Pre-retirement Future Life Expectancy (Years)		Post-retirement Future Life Expectancy (Years)	
	Male	Female	Male	Female
	55	30.53	33.57	30.10
60	25.60	28.54	25.44	28.44
62	23.70	26.58	23.60	26.52

Sample Ages (2038)	Pre-retirement Future Life Expectancy (Years)		Post-retirement Future Life Expectancy (Years)	
	Male	Female	Male	Female
	55	32.67	35.41	32.26
60	27.78	30.38	27.63	30.30
62	25.87	28.40	25.78	28.35

**Actuarial Assumptions and Actuarial Cost Methods
Used in the Valuation**

A. Mortality (cont'd)

Police Mortality Assumptions:

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

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

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

Sample Ages (2018)	Pre-retirement Future Life Expectancy (Years)		Post-retirement Future Life Expectancy (Years)	
	Male	Female	Male	Female
	55	29.84	32.60	29.33
60	24.96	27.56	24.76	27.41
62	23.09	25.59	22.97	25.49

Sample Ages (2038)	Pre-retirement Future Life Expectancy (Years)		Post-retirement Future Life Expectancy (Years)	
	Male	Female	Male	Female
	55	32.06	34.54	31.57
60	27.21	29.49	27.03	29.36
62	25.34	27.51	25.23	27.42

Actuarial Assumptions and Actuarial Cost Methods
Used in the Valuation

B. Investment Return

7.25%, compounded annually - net of investment expenses includes inflation at 2.50%.

C. Allowances for Expenses or Contingencies

Estimated expenses for upcoming year, not including investment related expenses.

D. Employee Withdrawal Rates

Withdrawal rates for males and females were used in accordance with the following illustrative examples:

<u>General Employees</u>	
<u>Age</u>	<u>Withdrawal Rate</u>
Under 25	30.0%
25 - 29	20.0%
30 - 34	15.0%
35 - 39	10.0%
40 - 44	9.0%
45 - 49	8.0%
50 - 54	7.0%
55 - 60	6.0%
60 & over	5.0%

<u>Police Officers</u>	
<u>Service</u>	<u>Withdrawal Rate</u>
0 - 4	12.0%
5 - 6	10.0%
7	5.0%
8	2.0%
9 & over	1.0%

**Actuarial Assumptions and Actuarial Cost Methods
Used in the Valuation**

E. Salary Increase Factors

Current salary is assumed to increase at a rate based on the tables below - includes assumed wage inflation of 3.0%.

General Employees	
<u>Service</u>	<u>Salary Increase</u>
0 - 3	6.5%
4 - 5	6.0%
6	5.0%
7 - 9	4.5%
10 & over	4.0%

Police Officers	
<u>Service</u>	<u>Salary Increase</u>
0 - 2	8.0%
3	7.0%
4 - 5	6.0%
6	5.0%
7 & over	4.0%

F. Disability Benefits

1. Rates: See Table Below
2. Percent Service Connected: 25% for General, 80% for Police.
3. Assume 50% of Service Connected Disabilities are due to injury and 50% are due to disease.

Age	Annual Rate of Disability	
	General Employees	Police Department
20	0.07%	0.14%
30	0.11%	0.18%
40	0.19%	0.30%
50	0.51%	1.00%
60	1.66%	0.00%

Actuarial Assumptions and Actuarial Cost Methods
Used in the Valuation

G. Smoothed Actuarial Value of Assets

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

H. Assumed Retirement Age

Age	Annual Rate of Retirement*	
	General Employees	Police Officers
40	N/A	3%
41-45	4%	2%
46-47	3%	1%
48-50	2%	1%
51 & over	1%	1%
NRA	40%	50%
Past NRA	50%	50%

100% of members are assumed to retire upon reaching age 70 for General Employees and age 65 for Police Officers.

* For Employees who meet the age and service eligibility requirements for normal or early retirement

I. Marriage Assumption

100% of all members are assumed to be married. Wives are assumed to be three years younger than their husbands.

J. Actuarial Funding Method

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

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

K. Change Since Previous Actuarial Valuation

None.

**Distribution of Plan Participants by Attained Age Groups
and Service Groups as of October 1, 2018**

General Employees / Senior Management Employees

<u>Attained Age Group</u>	<u>Completed Years of Service Since Hire</u>									<u>Total</u>
	<u>0 - 4</u>	<u>5 - 9</u>	<u>10 - 14</u>	<u>15 - 19</u>	<u>20 - 24</u>	<u>25 - 29</u>	<u>30 - 34</u>	<u>35 - 39</u>	<u>40 +</u>	
0 - 24	1	-	-	-	-	-	-	-	-	1
25 - 29	5	-	-	-	-	-	-	-	-	5
30 - 34	5	6	-	-	-	-	-	-	-	11
35 - 39	2	2	2	-	-	-	-	-	-	6
40 - 44	1	4	2	1	1	-	-	-	-	9
45 - 49	1	1	1	1	1	-	-	-	-	5
50 - 54	5	4	3	1	1	-	-	-	-	14
55 - 59	1	2	2	2	-	1	-	-	-	8
60 - 64	-	-	2	-	-	1	-	-	-	3
65 - 69	-	-	-	1	-	-	-	-	-	1
70 +	1	-	-	-	-	-	-	-	-	1
TOTAL	22	19	12	6	3	2	0	0	0	64

	<u>Prior Year</u>	<u>Current Year</u>
Average Pay	\$ 53,263	\$ 53,480
Average Service	8.37 years	8.28 years
Percent Female	37.3%	39.1%

Distribution of Plan Participants by Attained Age Groups
and Service Groups as of October 1, 2018

Police Officers

Completed Years of Service Since Hire

<u>Attained Age Group</u>	<u>0 - 4</u>	<u>5 - 9</u>	<u>10 - 14</u>	<u>15 - 19</u>	<u>20 - 24</u>	<u>25 - 29</u>	<u>30 - 34</u>	<u>35 - 39</u>	<u>40 +</u>	<u>Total</u>
0 - 24	-	-	-	-	-	-	-	-	-	0
25 - 29	2	1	-	-	-	-	-	-	-	3
30 - 34	1	-	2	-	-	-	-	-	-	3
35 - 39	-	1	2	1	-	-	-	-	-	4
40 - 44	1	1	6	-	-	-	-	-	-	8
45 - 49	-	-	1	1	-	-	-	-	-	2
50 - 54	1	1	3	-	-	1	-	-	-	6
55 - 59	3	-	1	-	-	-	-	-	-	4
60 - 64	-	-	-	-	-	-	-	-	-	0
65 - 69	-	1	-	-	-	-	-	-	-	1
70 +	-	-	-	-	-	-	-	-	-	0
TOTAL	8	5	15	2	0	1	0	0	0	31

	<u>Prior Year</u>	<u>Current Year</u>
Average Pay	\$ 88,652	\$ 89,052
Average Service	10.23 years	9.87 years
Percent Female	17.9%	16.1%

**Distribution of Plan Participants by Attained Age Groups
and Service Groups as of October 1, 2018**

General Employees - 7% Contribution Group

Completed Years of Service Since Hire

Attained Age Group	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 +	Total	
0 - 24	-	-	-	-	-	-	-	-	-	0	
25 - 29	-	-	-	-	-	-	-	-	-	0	
30 - 34	-	-	-	-	-	-	-	-	-	0	
35 - 39	-	-	-	-	-	-	-	-	-	0	
40 - 44	-	-	-	-	-	-	-	-	-	0	
45 - 49	-	-	-	-	-	-	-	-	-	0	
50 - 54	-	-	-	-	-	-	-	-	-	0	
55 - 59	-	-	-	1	-	-	-	-	-	1	
60 - 64	-	-	-	-	-	-	-	-	-	0	
65 - 69	-	-	-	-	-	-	-	-	-	0	
70 +	-	-	-	-	-	-	-	-	-	0	
TOTAL	0	0	0	1	0	0	0	0	0	1	
										Average Pay	42,242

General Employees / Senior Management Employees - 8% Contribution Group

Completed Years of Service Since Hire

Attained Age Group	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 +	Total	
0 - 24	1	-	-	-	-	-	-	-	-	1	
25 - 29	5	-	-	-	-	-	-	-	-	5	
30 - 34	5	6	-	-	-	-	-	-	-	11	
35 - 39	2	2	2	-	-	-	-	-	-	6	
40 - 44	1	4	2	1	1	-	-	-	-	9	
45 - 49	1	1	1	1	1	-	-	-	-	5	
50 - 54	5	4	3	1	1	-	-	-	-	14	
55 - 59	1	2	2	1	-	1	-	-	-	7	
60 - 64	-	-	2	-	-	1	-	-	-	3	
65 - 69	-	-	-	1	-	-	-	-	-	1	
70 +	1	-	-	-	-	-	-	-	-	1	
TOTAL	22	19	12	5	3	2	0	0	0	63	
										Average Pay	\$ 53,659

Both Groups Combined

Summary of Participant Data

	<u>10/01/2017</u>	<u>10/01/2018</u>
Active Participants		
Number: Fully Vested	42	46
Partially Vested	18	19
Non-Vested	27	30
Total	<u>87</u>	<u>95</u>
Average Attained Age	44.02 years	44.17 years
Average Years of Service	8.97 years	8.80 years
Average Compensation	\$ 64,652	\$ 65,088
 Inactive Participants Receiving Benefits (including DROPs)		
Number	37	38
Average Age at Retirement	60.92 years	60.95 years
Average Annual Benefit	\$ 20,202	\$ 21,201
 Inactive Participants Due Deferred Benefits		
Number	5	7
Average Age at Commencement	59.00 years	60.71 years
Average Annual Benefit	\$ 17,273	\$ 16,567

General Employees / Senior Management Employees

Summary of Participant Data

	<u>10/01/2017</u>	<u>10/01/2018</u>
Active Participants		
Number: Fully Vested	18	23
Partially Vested	18	19
Non-Vested	23	22
Total	59	64
Average Attained Age	44.27 years	44.57 years
Average Years of Service	8.37 years	8.28 years
Average Compensation	\$ 53,263	\$ 53,480
 Inactive Participants Receiving Benefits (including DROPs)		
Number	24	24
Average Age at Retirement	61.46 years	61.46 years
Average Annual Benefit	\$ 15,616	\$ 15,828
 Inactive Participants Due Deferred Benefits		
Number	2	4
Average Age at Commencement	65.00 years	65.00 years
Average Annual Benefit	\$ 8,661	\$ 11,732

Police Officers

Summary of Participant Data

	<u>10/01/2017</u>	<u>10/01/2018</u>
Active Participants		
Number: Fully Vested	24	23
Partially Vested	0	0
Non-Vested	4	8
Total	28	31
Average Attained Age	43.49 years	43.33 years
Average Years of Service	10.23 years	9.87 years
Average Compensation	\$ 88,652	\$ 89,052
 Inactive Participants Receiving Benefits (including DROPs)		
Number	13	14
Average Age at Retirement	59.93 years	60.09 years
Average Annual Benefit	\$ 28,670	\$ 30,412
 Inactive Participants Due Deferred Benefits		
Number	3	3
Average Age at Commencement	55.00 years	55.00 years
Average Annual Benefit	\$ 23,014	\$ 23,014

Both Groups Combined

Reconciliation of Employee Data

A. <u>Active Participants</u>	
1. Active participants previous year	87
2. Retired during year	(1)
3. Entered DROP	0
4. Died during year	0
5. Disabled during year	0
6. Non-vested employment terminations	0
7. Vested employment terminations	(2)
8. Terminated vested paid lump sum	0
9. Leave of absence	0
10. Transfers	0
11. New active participants	11
12. Rehired participant	0
13. Part time employees transferred to full time participants	0
14. Active participants current year	<u>95</u>
B. <u>Participants Receiving Benefits</u>	
1. Participants receiving benefits previous year	35
2. New retired participants	1
3. New terminated vested receiving benefits	0
4. New disabled receiving benefits	0
5. New beneficiaries receiving benefits	0
6. Former DROPs now receiving benefits	0
7. Died or ceased payment during year	0
8. Retired or terminated vested receiving benefits current year	<u>36</u>
C. <u>DROP Participants</u>	
1. DROP participants previous year	2
2. Died during year	0
3. Became disabled during year	0
4. Employment terminated and retired during year	0
5. Entered DROP during year	0
6. DROP participants current year	<u>2</u>
D. <u>Terminated Vested Participants Entitled to Future Benefits</u>	
1. Terminated vested entitled previous year	5
2. Died during year	0
3. Commenced receiving benefits during year	0
4. New terminated vested	2
5. Terminated vested paid lump sum	0
6. Terminated vested entitled current year	<u>7</u>

General Employees / Senior Management Employees

Reconciliation of Employee Data

A. <u>Active Participants</u>	
1. Active participants previous year	59
2. Retired during year	0
3. Entered DROP	0
4. Died during year	0
5. Disabled during year	0
6. Non-vested employment terminations	0
7. Vested employment terminations	(2)
8. Terminated vested paid lump sum	0
9. Leave of absence	0
10. Transfers	(2)
11. New active participants	9
12. Rehired participant	0
13. Part time employees transferred to full time participants	0
14. Active participants current year	<u>64</u>
B. <u>Participants Receiving Benefits</u>	
1. Participants receiving benefits previous year	22
2. New retired participants	0
3. New terminated vested receiving benefits	0
4. New disabled receiving benefits	0
5. New beneficiaries receiving benefits	0
6. Former DROPs now receiving benefits	0
7. Died or ceased payment during year	0
8. Retired or terminated vested receiving benefits current year	<u>22</u>
C. <u>DROP Participants</u>	
1. DROP participants previous year	2
2. Died during year	0
3. Became disabled during year	0
4. Employment terminated and retired during year	0
5. Entered DROP during year	0
6. DROP participants current year	<u>2</u>
D. <u>Terminated Vested Participants Entitled to Future Benefits</u>	
1. Terminated vested entitled previous year	2
2. Died during year	0
3. Commenced receiving benefits during year	0
4. New terminated vested	2
5. Terminated vested paid lump sum	0
6. Terminated vested entitled current year	<u>4</u>

Police Officers

Reconciliation of Employee Data

A. <u>Active Participants</u>	
1. Active participants previous year	28
2. Retired during year	(1)
3. Entered DROP	0
4. Died during year	0
5. Disabled during year	0
6. Non-vested employment terminations	0
7. Vested employment terminations	0
8. Terminated vested paid lump sum	0
9. Leave of absence	0
10. Transfers	2
11. New active participants	2
12. Rehired participant	0
13. Part time employees transferred to full time participants	0
14. Active participants current year	<u>31</u>
B. <u>Participants Receiving Benefits</u>	
1. Participants receiving benefits previous year	13
2. New retired participants	1
3. New terminated vested receiving benefits	0
4. New disabled receiving benefits	0
5. New beneficiaries receiving benefits	0
6. Former DROPs now receiving benefits	0
7. Died or ceased payment during year	0
8. Retired or terminated vested receiving benefits current year	<u>14</u>
C. <u>DROP Participants</u>	
1. DROP participants previous year	0
2. Died during year	0
3. Became disabled during year	0
4. Employment terminated and retired during year	0
5. Entered DROP during year	0
6. DROP participants current year	<u>0</u>
D. <u>Terminated Vested Participants Entitled to Future Benefits</u>	
1. Terminated vested entitled previous year	3
2. Died during year	0
3. Commenced receiving benefits during year	0
4. New terminated vested	0
5. Terminated vested paid lump sum	0
6. Terminated vested entitled current year	<u>3</u>

Recent Plan ExperienceA. Investment Return Experience

<u>Year Ended</u>	<u>Market Value</u>	<u>Smoothed Actuarial Value</u>	<u>Assumed</u>
09/30/2018	7.34%	7.31%	7.25%
09/30/2017	10.61%	7.61%	7.25%
09/30/2016	11.08%	8.05%	7.25%
09/30/2015	(0.8%)	7.0%	7.5%
09/30/2014	9.5%	8.9%	7.5%
09/30/2013	11.5%	6.7%	7.5%
09/30/2012	18.4%	0.9%	7.5%
09/30/2011	(3.2%)	0.3%	7.5%
09/30/2010	7.7%	3.9%	7.5%
09/30/2009	(2.1%)	(0.7%)	7.5%
Average			
Last 3 Years	9.66%	7.66%	7.25%
Last 5 Years	7.5%	7.8%	7.3%
Last 10 Years	6.8%	4.9%	7.4%

B. Review of Recent Salary Experience *

<u>Year Ended</u>	<u>General / Senior Management Employees</u>		<u>Police Officers</u>	
	<u>Actual</u>	<u>Assumed</u>	<u>Actual</u>	<u>Assumed</u>
09/30/2018	7.2%	5.2%	6.7%	4.9%
09/30/2017	0.1%	5.1%	(2.5%)	4.8%
09/30/2016	8.7%	5.4%	7.6%	4.8%
09/30/2015	6.1%	5.1%	2.4%	5.7%
09/30/2014	10.7%	4.9%	3.9%	5.8%
09/30/2013	6.6%	5.0%	4.6%	5.1%
09/30/2012	4.6%	4.9%	4.2%	5.3%
09/30/2011	8.6%	5.0%	5.0%	5.5%
09/30/2010	1.0%	7.0%	11.1%	11.4%
09/30/2009	3.0%	6.7%	13.4%	12.1%
Average				
Last 3 Years	5.3%	5.2%	3.8%	4.8%
Last 5 Years	6.5%	5.1%	3.6%	5.2%
Last 10 Years	5.6%	5.4%	5.6%	6.5%

* Participants who have full years of pay for both years considered.

Recent Plan Experience

C. Recent Termination Experience

<u>General Employees / Senior Management Employees</u>				
<u>Year Ended</u>	<u>Number of Employees Previous Valuation</u>	<u>Expected Terminations</u>	<u>Actual Terminations</u>	<u>Ratio of Actual To Expected</u>
09/30/2018	59	5.7	2	0.4
09/30/2017	61	6.3	8	1.3
09/30/2016	59	6.2	5	0.8
09/30/2015	57	4.2	5	1.2
09/30/2014	64	4.8	6	1.3
09/30/2013	52	3.5	3	0.9
09/30/2012	51	3.7	8	2.2
09/30/2011	50	3.1	7	2.3
09/30/2010	50	3.3	3	0.9
09/30/2009	66	4.9	17	3.5
Last 3 Years	179	18.2	15	0.8
Last 5 Years	300	27.2	26	1.0
Last 10 Years	569	45.7	64	1.4

<u>Police Officers</u>				
<u>Year Ended</u>	<u>Number of Employees Previous Valuation</u>	<u>Expected Terminations</u>	<u>Actual Terminations</u>	<u>Ratio of Actual To Expected</u>
09/30/2018	28	0.9	0	0.0
09/30/2017	28	0.9	0	0.0
09/30/2016	28	1.0	0	0.0
09/30/2015	27	1.3	1	0.8
09/30/2014	27	1.4	0	0.0
09/30/2013	27	2.0	1	0.5
09/30/2012	27	2.3	1	0.4
09/30/2011	27	2.4	3	1.3
09/30/2010	29	3.2	1	0.3
09/30/2009	30	3.7	3	0.8
Last 3 Years	84	2.8	0	0.0
Last 5 Years	138	5.5	1	0.2
Last 10 Years	278	19.1	10	0.5

Town Contribution Information

Valuation Date	Contribution Fiscal Year End	Minimum Required Employer Contributions	Actual Employer Contributions Made
10/01/2018	09/30/2020	\$ 945,871	N/A
10/01/2017	09/30/2019	\$ 817,472	N/A
10/01/2016	09/30/2018	¹ \$ 917,274	\$ 917,274
10/01/2015	09/30/2017	² \$ 797,359	\$ 797,359
10/01/2014	09/30/2016	\$ 757,304	\$ 757,304
10/01/2013	09/30/2015	³ \$ 727,022	\$ 727,022
10/01/2012	09/30/2014	⁴ \$ 631,584	\$ 631,584
10/01/2011	09/30/2013	\$ 534,209	\$ 534,209
10/01/2010	09/30/2012	⁵ \$ 515,440	\$ 515,440
10/01/2009	09/30/2011	\$ 625,963	\$ 625,963
10/01/2008	09/30/2010	\$ 553,919	\$ 553,919
10/01/2007	09/30/2009	⁶ \$ 423,747	\$ 423,747
10/01/2006	09/30/2008	⁷ \$ 384,905	\$ 384,416
10/01/2005	09/30/2007	\$ 264,370	\$ 264,370
10/01/2004	09/30/2006	⁸ \$ 203,274	\$ 230,812
10/01/2003	09/30/2005	\$ 0	\$ 102,410
10/01/2002	09/30/2004	\$ 0	\$ 102,410
10/01/2001	09/30/2003	\$ 0	\$ 0
10/01/2000	09/30/2002	\$ 0	\$ 0
10/01/1999	09/30/2001	\$ 0	\$ 0
10/01/1998	09/30/2000	\$ 14,417	\$ 14,417
10/01/1997	09/30/1999	\$ 0	\$ 0
10/01/1996	09/30/1998	\$ 58,833	\$ 58,833
10/01/1995	09/30/1997	\$ 140,751	\$ 140,751
10/01/1994	09/30/1996	\$ 116,992	\$ 116,992
01/01/1994	09/30/1995	\$ 118,566	\$ 118,566
01/01/1993	09/30/1994	\$ 147,703	\$ 167,952
01/01/1992	09/30/1993	\$ 145,740	\$ 167,952
01/01/1991	09/30/1992	\$ 167,483	\$ 167,952
01/01/1990	09/30/1991	\$ 167,981	\$ 167,981

¹ Reflects assumption changes effective October 1, 2016

² Reflects assumption changes effective October 1, 2015 and benefit changes effective October 1, 2016

³ Reflects benefit changes effective October 1, 2013

⁴ Reflects assumption and benefit changes effective October 1, 2012

⁵ Reflects assumption changes effective October 1, 2010

⁶ Reflects assumption changes effective October 1, 2007

⁷ Reflects benefit improvement effective October 1, 2007

⁸ Reflects benefit improvement effective October 1, 2005

Actuarial Valuation as of October 1, 2018State Required Exhibit**All Members**

	<u>10/01/2017</u>	<u>10/01/2018</u>
A. <u>Participant Data</u>		
1. Active participants	87	95
2. Retired, disabled and beneficiaries receiving benefits (including DROPs)	37	38
3. Terminated vested participants	5	7
4. Annual payroll of active participants	\$ 5,624,740	\$ 6,183,349
5. Expected payroll of active employees for the following year	\$ 5,624,740	\$ 6,183,349
6. Annual benefits payable to those currently receiving benefits (including DROPs)	\$ 747,488	\$ 805,636
B. <u>Assets</u>		
1. Smoothed actuarial value	\$ 21,040,409	\$ 23,030,736
2. Market value	\$ 21,296,362	\$ 23,309,376
C. <u>Liabilities</u>		
1. Actuarial present value of future expected benefit payments for active members		
a. Retirement benefits	\$ 18,607,359	\$ 20,573,064
b. Vesting benefits	1,610,965	1,718,286
c. Disability benefits	1,695,443	1,896,681
d. Return of member contributions	191,206	229,872
e. Total	\$ 22,104,973	\$ 24,417,903
2. Actuarial present value of future expected benefit payments for terminated vested members and miscellaneous	\$ 770,851	\$ 944,285
3. Actuarial present value of future expected benefit payments for members currently receiving benefits (including DROPs)	\$ 8,692,436	\$ 9,329,516
4. Total actuarial present value of future expected benefit payments	\$ 31,568,260	\$ 34,691,704
5. Actuarial accrued liabilities	\$ 23,538,407	\$ 25,856,535
6. Unfunded actuarial accrued liabilities	\$ 2,497,998	\$ 2,825,799

Actuarial Valuation as of October 1, 2018

State Required Exhibit

General Employees / Senior Management Employees

	<u>10/01/2017</u>	<u>10/01/2018</u>
A. <u>Participant Data</u>		
1. Active participants	59	64
2. Retired, disabled and beneficiaries receiving benefits (including DROPs)	24	24
3. Terminated vested participants	2	4
4. Annual payroll of active participants	\$ 3,142,492	\$ 3,422,731
5. Expected payroll of active employees for the following year	\$ 3,142,492	\$ 3,422,731
6. Annual benefits payable to those currently receiving benefits	\$ 374,776	\$ 379,868
B. <u>Assets</u>		
1. Smoothed actuarial value	\$ 7,989,798	\$ 8,784,384
2. Market value	\$ 8,086,993	\$ 8,890,663
C. <u>Liabilities</u>		
1. Actuarial present value of future expected benefit payments for active members		
a. Retirement benefits	\$ 5,450,513	\$ 6,216,110
b. Vesting benefits	1,092,553	1,156,020
c. Disability benefits	662,867	725,504
d. Return of member contributions	111,227	134,010
e. Total	<u>\$ 7,317,160</u>	<u>\$ 8,231,644</u>
2. Actuarial present value of future expected benefit payments for terminated vested members and miscellaneous	\$ 160,830	\$ 285,863
3. Actuarial present value of future expected benefit payments for members currently receiving benefits (including DROPs)	<u>\$ 4,261,561</u>	<u>\$ 4,291,037</u>
4. Total actuarial present value of future expected benefit payments	\$ 11,739,551	\$ 12,808,544
5. Actuarial accrued liabilities	\$ 9,221,945	\$ 10,055,380
6. Unfunded actuarial accrued liabilities	\$ 1,232,147	\$ 1,270,996

Actuarial Valuation as of October 1, 2018

State Required Exhibit

Police Officers

	<u>10/01/2017</u>	<u>10/01/2018</u>
A. <u>Participant Data</u>		
1. Active participants	28	31
2. Retired, disabled and beneficiaries receiving benefits (including DROPs)	13	14
3. Terminated vested participants	3	3
4. Annual payroll of active participants	\$ 2,482,248	\$ 2,760,618
5. Expected payroll of active employees for the following year	\$ 2,482,248	\$ 2,760,618
6. Annual benefits payable to those currently receiving benefits	\$ 372,712	\$ 425,768
B. <u>Assets</u>		
1. Smoothed actuarial value	\$ 13,050,611	\$ 14,246,352
2. Market value	\$ 13,209,369	\$ 14,418,713
C. <u>Liabilities</u>		
1. Actuarial present value of future expected benefit payments for active members		
a. Retirement benefits	\$ 13,156,846	\$ 14,356,954
b. Vesting benefits	518,412	562,266
c. Disability benefits	1,032,576	1,171,177
d. Return of member contributions	79,979	95,862
e. Total	<u>\$ 14,787,813</u>	<u>\$ 16,186,259</u>
2. Actuarial present value of future expected benefit payments for terminated vested members and miscellaneous	\$ 610,021	\$ 658,422
3. Actuarial present value of future expected benefit payments for members currently receiving benefits (including DROPs)	<u>\$ 4,430,875</u>	<u>\$ 5,038,479</u>
4. Total actuarial present value of future expected benefit payments	\$ 19,828,709	\$ 21,883,160
5. Actuarial accrued liabilities	\$ 14,316,462	\$ 15,801,155
6. Unfunded actuarial accrued liabilities	\$ 1,265,851	\$ 1,554,803

Actuarial Valuation as of October 1, 2018

State Required Exhibit - All Members

	<u>10/01/2017</u>	<u>10/01/2018</u>
D. <u>Statement of Accumulated Plan Benefits</u>		
1. Actuarial present value of accumulated vested benefits		
a. Participants currently receiving benefits	\$ 8,692,436	\$ 9,329,516
b. Terminated vested members and miscellaneous	770,851	944,285
c. Other participants	9,023,086	10,010,728
d. Total	<u>\$ 18,486,373</u>	<u>\$ 20,284,529</u>
2. Actuarial present value of accumulated non-vested plan benefits	<u>732,109</u>	<u>996,025</u>
3. Total actuarial present value of accumulated plan benefits	\$ 19,218,482	\$ 21,280,554
E. <u>Statement of Change in Accumulated Plan Benefits</u>		
1. Actuarial present value of accumulated plan benefits as of October 1, 2017		\$ 19,218,482
2. Increase / (decrease) during year attributable to:		
a. Plan amendment		\$ 0
b. Change in actuarial assumptions		0
c. Benefits paid (includes refunds and DROP distributions)		(819,116)
d. Other, including benefits accumulated, increase for interest due to decrease in the discount period		<u>2,881,188</u>
e. Net increase		\$ 2,062,072
3. Actuarial present value of accumulated plan benefits as of October 1, 2018		\$ 21,280,554
F. <u>Pension Cost</u>		
1. Total normal cost	\$ 1,088,055	\$ 1,233,517
2. Payment required to amortize unfunded liability	163,792	189,894
3. Interest	15,196	16,705
4. Total required contributions	<u>\$ 1,267,043</u>	<u>\$ 1,440,116</u>
5. Item 4 as a percentage of payroll	22.5%	23.3%
6. Estimated employee contributions	\$ 449,571	\$ 494,245
7. Item 6 as a percentage of payroll	8.0%	8.0%
8. Net amount payable by Town	\$ 817,472	\$ 945,871
9. Item 8 as a percentage of payroll	14.5%	15.3%

Actuarial Valuation as of October 1, 2018

State Required Exhibit - General Employees / Senior Management Employees

	<u>10/01/2017</u>	<u>10/01/2018</u>
D. <u>Statement of Accumulated Plan Benefits</u>		
1. Actuarial present value of accumulated vested benefits		
a. Participants currently receiving benefits	\$ 4,261,561	\$ 4,291,037
b. Terminated vested members and miscellaneous	160,830	285,863
c. Other participants	2,843,296	3,450,249
d. Total	<u>\$ 7,265,687</u>	<u>\$ 8,027,149</u>
2. Actuarial present value of accumulated non-vested plan benefits	<u>534,552</u>	<u>575,577</u>
3. Total actuarial present value of accumulated plan benefits	\$ 7,800,239	\$ 8,602,726
E. <u>Statement of Change in Accumulated Plan Benefits</u>		
1. Actuarial present value of accumulated plan benefits as of October 1, 2017		\$ 7,800,239
2. Increase / (decrease) during year attributable to:		
a. Plan amendment		\$ 0
b. Change in actuarial assumptions		0
c. Benefits paid (includes refunds and DROP distributions)		(317,734)
d. Other, including benefits accumulated, increase for interest due to decrease in the discount period		<u>1,120,221</u>
e. Net increase		\$ 802,487
3. Actuarial present value of accumulated plan benefits as of October 1, 2018		\$ 8,602,726
F. <u>Pension Cost</u>		
1. Total normal cost	\$ 387,149	\$ 435,758
2. Payment required to amortize unfunded liability	98,957	102,938
3. Interest	8,484	9,240
4. Total required contributions	<u>\$ 494,590</u>	<u>\$ 547,936</u>
5. Item 4 as a percentage of payroll	15.7%	16.0%
6. Estimated employee contributions	\$ 250,991	\$ 273,396
7. Item 6 as a percentage of payroll	8.0%	8.0%
8. Net amount payable by Town	\$ 243,599	\$ 274,540
9. Item 8 as a percentage of payroll	7.8%	8.0%

Actuarial Valuation as of October 1, 2018

State Required Exhibit - Police Officers

	<u>10/01/2017</u>	<u>10/01/2018</u>
D. <u>Statement of Accumulated Plan Benefits</u>		
1. Actuarial present value of accumulated vested benefits		
a. Participants currently receiving benefits	\$ 4,430,875	\$ 5,038,479
b. Terminated vested members and miscellaneous	610,021	658,422
c. Other participants	6,179,790	6,560,479
d. Total	<u>\$ 11,220,686</u>	<u>\$ 12,257,380</u>
2. Actuarial present value of accumulated non-vested plan benefits	<u>197,557</u>	<u>420,448</u>
3. Total actuarial present value of accumulated plan benefits	\$ 11,418,243	\$ 12,677,828
E. <u>Statement of Change in Accumulated Plan Benefits</u>		
1. Actuarial present value of accumulated plan benefits as of October 1, 2017		\$ 11,418,243
2. Increase / (decrease) during year attributable to:		
a. Plan amendment		\$ 0
b. Change in actuarial assumptions		0
c. Benefits paid (includes refunds and DROP distributions)		(501,382)
d. Other, including benefits accumulated, increase for interest due to decrease in the discount period		<u>1,760,967</u>
e. Net increase		\$ 1,259,585
3. Actuarial present value of accumulated plan benefits as of October 1, 2018		\$ 12,677,828
F. <u>Pension Cost</u>		
1. Total normal cost	\$ 700,906	\$ 797,759
2. Payment required to amortize unfunded liability	64,835	86,956
3. Interest	6,712	7,465
4. Total required contributions	<u>\$ 772,453</u>	<u>\$ 892,180</u>
5. Item 4 as a percentage of payroll	31.1%	32.3%
6. Estimated employee contributions	\$ 198,580	\$ 220,849
7. Item 6 as a percentage of payroll	8.0%	8.0%
8. Net amount payable by Town	\$ 573,873	\$ 671,331
9. Item 8 as a percentage of payroll	23.1%	24.3%

Actuarial Valuation as of October 1, 2018

State Required Exhibit - All Members

	<u>10/01/2017</u>	<u>10/01/2018</u>
G. Past Contributions		
1. Total contribution required (Prior Year)	\$ 1,388,686	\$ 1,267,043
2. Actual contributions made:		
a. Member	\$ 459,190	N/A
b. Town	917,274	N/A
c. Total	\$ 1,376,464	N/A
H. Net Actuarial Gain / (Loss)		
1. General Employees	\$ 227,421	\$ (124,125)
2. Police Officers	207,030	(288,322)
3. Total	\$ 434,451	\$ (412,447)
I. Disclosure of Following Items:		
1. Actuarial present value of future salaries - attained age		
a. General Employees	\$ 23,336,817	\$ 25,248,413
b. Police Officers	21,125,096	23,172,287
c. Total	\$ 44,461,913	\$ 48,420,700
2. Actuarial present value of future employee contributions - attained age		
a. General Employees	\$ 1,864,808	\$ 2,017,976
b. Police Officers	1,690,008	1,853,783
c. Total	\$ 3,554,816	\$ 3,871,759
3. Actuarial present value of future contributions from other sources	N/A	N/A
4. Amount of active members' accumulated contributions		
a. General Employees	\$ 1,529,369	\$ 1,771,075
b. Police Officers	1,991,345	2,114,973
c. Total	\$ 3,520,714	\$ 3,886,048
5. Actuarial present value of future salaries and future benefits at entry age	N/A	N/A
6. Actuarial present value of future employee contributions at entry age	N/A	N/A

Actuarial Valuation as of October 1, 2018

State Required Exhibit

<u>Date</u>	<u>Unfunded Actuarial Accrued Liabilities</u>	<u>Current Unfunded Liabilities</u>	<u>Amortization Payment</u>	<u>Remaining Funding Period</u>
<u>General Employees</u>				
10/01/2009	Combined Bases *	\$ 1,727	\$ 180	15 years
10/01/2010	Actuarial (Gain) / Loss	202,973	17,466	22 years
10/01/2010	Assumption Changes	(109,046)	(9,383)	22 years
10/01/2011	Actuarial (Gain) / Loss	74,190	6,268	23 years
10/01/2012	Actuarial (Gain) / Loss	144,335	11,992	24 years
10/01/2012	Assumption Changes	109,052	9,061	24 years
10/01/2013	Actuarial (Gain) / Loss	77	6	25 years
10/01/2014	Actuarial (Gain) / Loss	79,239	6,392	26 years
10/01/2015	Actuarial (Gain) / Loss	139,573	11,114	27 years
10/01/2015	Assumption Changes	129,570	10,318	27 years
10/01/2015	Plan Amendment	271,565	21,625	27 years
10/01/2016	Actuarial (Gain) / Loss	282,350	22,217	28 years
10/01/2016	Assumption Changes	34,263	2,696	28 years
10/01/2017	Actuarial (Gain) / Loss	(212,997)	(16,576)	29 years
10/01/2018	Actuarial (Gain) / Loss	124,125	9,562	30 years
	Total	\$ 1,270,996	\$ 102,938	
<u>Police Officers</u>				
10/01/2011	Combined Credit Bases *	\$ (5,381,442)	\$ (559,643)	15 years
10/01/2011	Combined Charge Bases *	6,283,676	593,001	18 years
10/01/2012	Actuarial (Gain) / Loss	580,310	48,216	24 years
10/01/2012	Assumption Changes	43,836	3,642	24 years
10/01/2013	Actuarial (Gain) / Loss	(33,857)	(2,770)	25 years
10/01/2013	Plan Amendment	40,274	3,295	25 years
10/01/2014	Actuarial (Gain) / Loss	(165,168)	(13,325)	26 years
10/01/2015	Actuarial (Gain) / Loss	(167,232)	(13,317)	27 years
10/01/2015	Assumption Changes	289,081	23,020	27 years
10/01/2016	Actuarial (Gain) / Loss	(82,849)	(6,519)	28 years
10/01/2016	Assumption Changes	59,473	4,680	28 years
10/01/2017	Actuarial (Gain) / Loss	(199,621)	(15,535)	29 years
10/01/2018	Actuarial (Gain) / Loss	288,322	22,211	30 years
	Total	\$ 1,554,803	\$ 86,956	

* Combined per Internal Revenue Code Regulation 1.412(b)-1

This Actuarial Valuation and/or cost determination was prepared and completed by us or under our direct supervision, and we 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 material increase in Plan costs or required contribution rates have been taken into account in the valuation.

Jennifer Borregard

Jennifer M. Borregard, E.A.
Enrollment Number: 17-07624
Date: July 22, 2019

Michelle Jones

Shelly L. Jones, A.S.A.
Enrollment Number: 17-08684

Glossary

Actuarial Accrued Liability. The difference between the Actuarial Present Value of Future Benefits, and the Actuarial Present Value of Future Normal Costs.

Actuarial Assumptions. Assumptions about future plan experience that affect costs or liabilities, such as: mortality, withdrawal, disablement, and retirement; future increases in salary; future rates of investment earnings; future investment and administrative expenses; characteristics of members not specified in the data, such as marital status; characteristics of future members; future elections made by members and other items.

Actuarial Cost Method. Actuarial Cost Method A procedure for allocating the Actuarial Present Value of Future Benefits between the Actuarial Present Value of Future Normal Costs and the Actuarial Accrued Liability.

Actuarial Equivalent. Of equal Actuarial Present Value, determined as of a given date and based on a given set of Actuarial Assumptions.

Actuarial Present Value of Future Benefits. The Actuarial Present Value of amounts which are expected to be paid at various future times to active members, retired members, beneficiaries receiving benefits and inactive, non-retired members entitled to either a refund or a future retirement benefit. Expressed another way, it is the value that would have to be invested on the valuation date so that the amount invested plus investment earnings would provide sufficient assets to pay all projected benefits and expenses when due.

Actuarial Valuation. The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a plan. An Actuarial Valuation for a governmental retirement system typically also includes calculations of items needed for compliance with GASB No. 67.

Actuarial Value of Assets. The value of the assets as of a given date, used by the actuary for valuation purposes. This may be the market or fair value of plan assets or a smoothed value in order to reduce the year-to-year volatility of calculated results, such as the funded ratio and the actuarially required contribution.

Amortization Method. A method for determining the Amortization Payment. The most common methods used are level dollar and level percentage of payroll. Under the Level Dollar method, the Amortization Payment is one of a stream of payments, all equal, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the Amortization Payment is one of a stream of increasing payments, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the stream of payments increases at the rate at which total covered payroll of all active members is assumed to increase.

Glossary

Amortization Payment. That portion of the plan contribution which is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability.

Amortization Period. The period used in calculating the Amortization Payment.

Annual Required Contribution. The employer's periodic required contributions, expressed as a dollar amount or a percentage of covered plan compensation. The annual required contribution consists of the Employer Normal Cost and Amortization Payment plus interest adjustment.

Closed Amortization Period. A specific number of years that is reduced by one each year, and declines to zero with the passage of time. For example if the amortization period is initially set at 30 years, it is 29 years at the end of one year, 28 years at the end of two years, etc.

Employer Normal Cost. The portion of the Normal Cost to be paid by the employer. This is equal to the Normal Cost less expected member contributions.

Equivalent Single Amortization Period. For plans that do not establish separate amortization bases (separate components of the UAAL), this is the same as the Amortization Period. For plans that do establish separate amortization bases, this is the period over which the UAAL would be amortized if all amortization bases were combined upon the current UAAL payment.

Experience Gain/Loss. A measure of the difference between actual experience and that expected based upon a set of Actuarial Assumptions, during the period between two actuarial valuations. To the extent that actual experience differs from that assumed, Unfunded Actuarial Accrued Liabilities emerge which may be larger or smaller than projected. Gains are due to favorable experience, e.g., the assets earn more than projected, salaries do not increase as fast as assumed, members retire later than assumed, etc. Favorable experience means actual results produce actuarial liabilities not as large as projected by the actuarial assumptions. Losses are the result of unfavorable experience, i.e., actual results that produce Unfunded Actuarial Accrued Liabilities which are larger than projected.

Funded Ratio. The ratio of the Actuarial Value of Assets to the Actuarial Accrued Liability.

GASB. Governmental Accounting Standards Board.

Glossary

GASB No. 67 and GASB No. 68. These are the governmental accounting standards that set the accounting rules for public retirement plans and the employers that sponsor or contribute to them. Statement No. 67 sets the accounting rules for the plans themselves, while Statement No. 68 sets the accounting rules for the employers that sponsor or contribute to public retirement plans.

Normal Cost. The annual cost assigned, under the Actuarial Cost Method, to the current plan year.

Open Amortization Period. An open amortization period is one which is used to determine the Amortization Payment but which does not change over time. In other words, if the initial period is set as 30 years, the same 30-year period is used in determining the Amortization Period each year. In theory, if an Open Amortization Period is used to amortize the Unfunded Actuarial Accrued Liability, the UAAL will never completely disappear, but will become smaller each year, either as a dollar amount or in relation to covered payroll.

Unfunded Actuarial Accrued Liability. The difference between the Actuarial Accrued Liability and Actuarial Value of Assets.

Valuation Date. The date as of which the Actuarial Present Value of Future Benefits are determined. The benefits expected to be paid in the future are discounted to this date.