Milliman

80 Lamberton Road
Windsor, CT 06095
USA

Main +1 860 687 2110
Fax +1 860 687 2111

milliman.com

December 28, 2017

PERSONAL & CONFIDENTIAL

Ms. Janet Murphy
Director of Finance
Town of Newington
131 Cedar Street
Newington, CT 06111

Re: Town of Newington Pension Plans
Actuarial Reports for Fiscal Year 2018-2019

Dear Janet:

We are pleased to provide these actuarial reports for the Town of Newington Pension Plans. The reports show the financial status of the plans as of July 1, 2017 and present the cost figures for 2018-2019. A summary of the principal results of each valuation can be found at the end of Section I.

The Actuarially Determined Contributions for FY 2018-2019 are shown below:

	Administrative Plan	**Municipal Plan**	**Police Plan**	**Total**
Town	$438,468	$791,826	$3,496,092	$4,726,386
Board of Education	78,104	961,187	0	1,039,291
Total	516,572	1,753,013	3,496,092	5,765,677

Please let me know if you have any questions.

Sincerely,

Becky

Rebecca A. Sielman, FSA
Consulting Actuary

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TOWN OF NEWINGTON
POLICE OFFICERS' PENSION PLAN

Actuarial Valuation as of July 1, 2017
For Fiscal Year 2018-19

Prepared by

Rebecca A. Sielman, FSA
Consulting Actuary

Teresa M. Medeiros, FSA
Consulting Actuary

80 Lamberton Road
Windsor, CT 06095 USA
Tel +1 860.687.2110
Fax +1 860.687.2111
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Certification

We have performed an actuarial valuation of the Plan as of July 1, 2017 for fiscal year 2018-19. This report presents the results of our valuation.

The ultimate cost of a pension plan is the total amount needed to provide benefits for plan members and beneficiaries and to pay the expenses of administering the plan. Pension costs are met by contributions and by investment return on plan assets. The principal purpose of this report is to set forth an actuarial recommendation of the contribution, or range of contributions, which will properly fund the plan, in accordance with applicable government regulations. In addition, this report provides:

- A valuation of plan assets and liabilities to review the year-to-year progress of funding.
- Information needed to meet disclosure requirements.
- Review of plan experience for the previous year to ascertain whether the assumptions and methods employed for valuation purposes are reflective of actual events and remain appropriate for prospective application.
- Assessment of the relative funded position of the plan, i.e., through a comparison of plan assets and projected plan liabilities.
- Comments on any other matters which may be of assistance in the funding and operation of the plan.

This report may not be used for purposes other than those listed above without Milliman's prior written consent. If this report is distributed to other parties, it must be copied in its entirety, including this certification section.

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In preparing this report, we relied on employee census data and financial information as of the valuation date, furnished by the Town. We performed a limited review of the data used directly in our analysis for reasonableness and consistency and have found them to be reasonably consistent and comparable with data used for other purposes. If the underlying data or information is inaccurate or incomplete, the results of our analysis may likewise be inaccurate or incomplete and our calculations may need to be revised. If there are material defects in the data, it is possible that they would be uncovered by a detailed, systematic review and comparison of the data to search for data values that are questionable or for relationships that are materially inconsistent. Such a review was beyond the scope of our assignment.

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The calculations reported herein have been made on a basis consistent with our understanding of ERISA and the related sections of the tax code. Additional determinations may be needed for purposes other than meeting funding requirements, such as judging benefit security at plan termination or meeting employer accounting requirements. On the basis of the foregoing, we hereby certify that, to the best of our knowledge, this report is complete and accurate and all costs and liabilities were determined in conformance with generally accepted actuarial principles and practices.

We further certify that, in our opinion, each actuarial assumption, method and technique used is reasonable taking into account the experience of the Plan and reasonable expectations or would, in the aggregate, result in a total contribution equivalent to that which would be determined if each such assumption, method, or technique were reasonable. Future actuarial measurements may differ significantly from the current measurements presented in this report due to factors such as, but not limited to, the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of the actuarial assignment, we did not perform an analysis of the potential range of such future measurement.

The consultants who worked on this assignment are pension actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

The signing actuary is independent of the plan sponsor. We are not aware of any relationship that would impair the objectivity of our work.

We are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Rebecca A. Sielman, FSA
Consulting Actuary

Teresa M. Medeiros, FSA
Consulting Actuary

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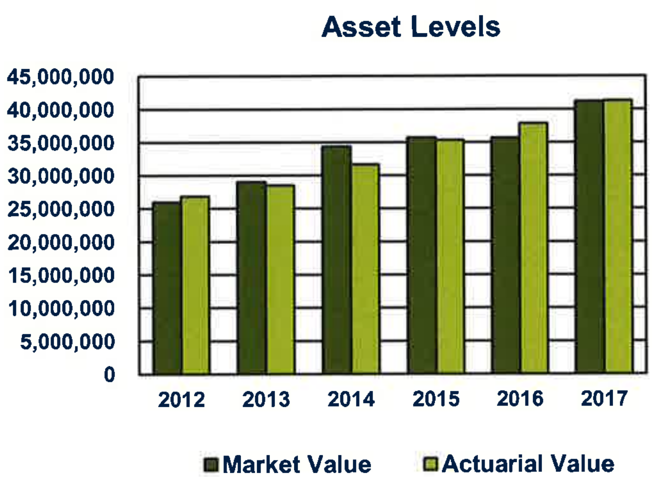
Section I - Executive Summary
A. Highlights

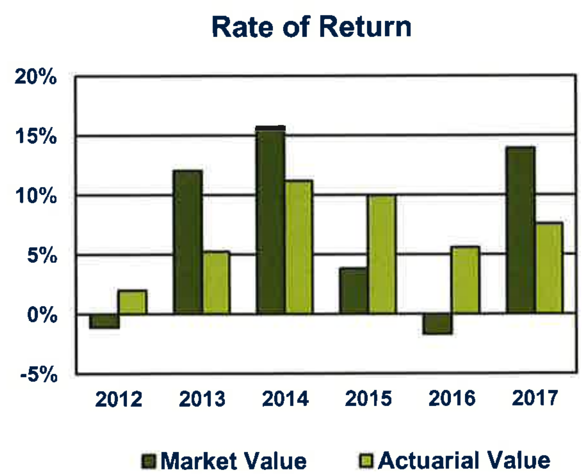
Assets

There are two different measures of the plan's assets that are used throughout this report. The **Market Value** is a snapshot of the plan's investments as of the valuation date. The **Actuarial Value** is a smoothed asset value designed to temper the volatile fluctuations in the market by recognizing investment gains or losses over five years.

	Market	Actuarial
Value as of July 1, 2016	$35,660,348	$37,835,177
Contributions	4,073,127	4,073,127
Investment Income	5,003,679	2,886,809
Benefit Payments and Administrative Expenses	(3,530,891)	(3,530,891)
Value as of July 1, 2017	41,206,263	41,264,222

For fiscal year 2016-17, the plan's assets earned 13.93% on a Market Value basis and 7.58% on an Actuarial Value basis. The actuarial assumption for this period was 7.25%; the result is an asset gain of $2,399,500 on a Market Value basis and a gain of $125,700 on an Actuarial Value basis. Historical asset values are shown in the graph below to the left; historical returns are shown in the graph below to the right.





Please note that the Actuarial Value currently exceeds the Market Value by $58,000. This figure represents investment losses that will be gradually recognized over the next five years. This process will exert upward pressure on the Town's contribution, unless there are offsetting market gains.

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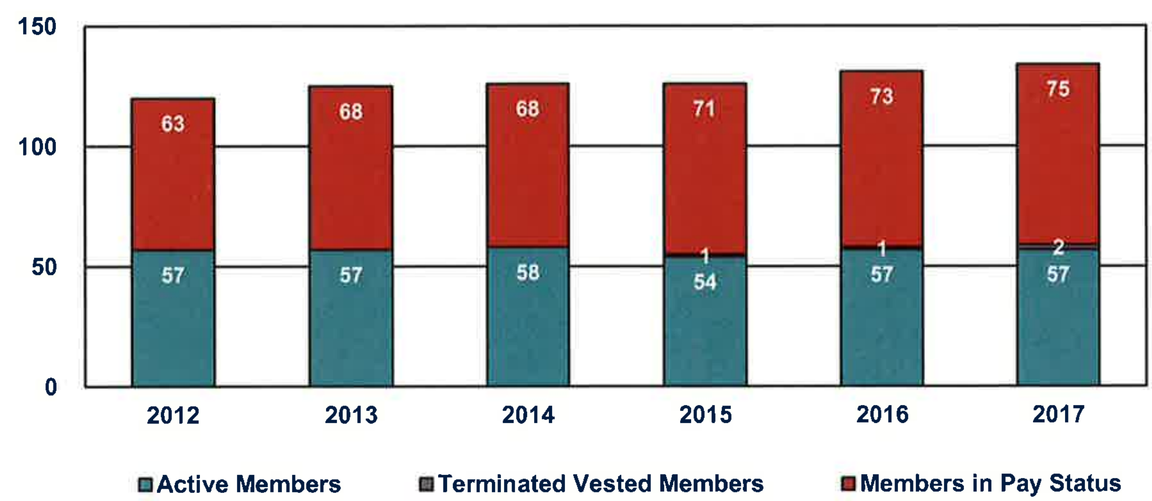
Section I - Executive Summary
A. Highlights

Membership

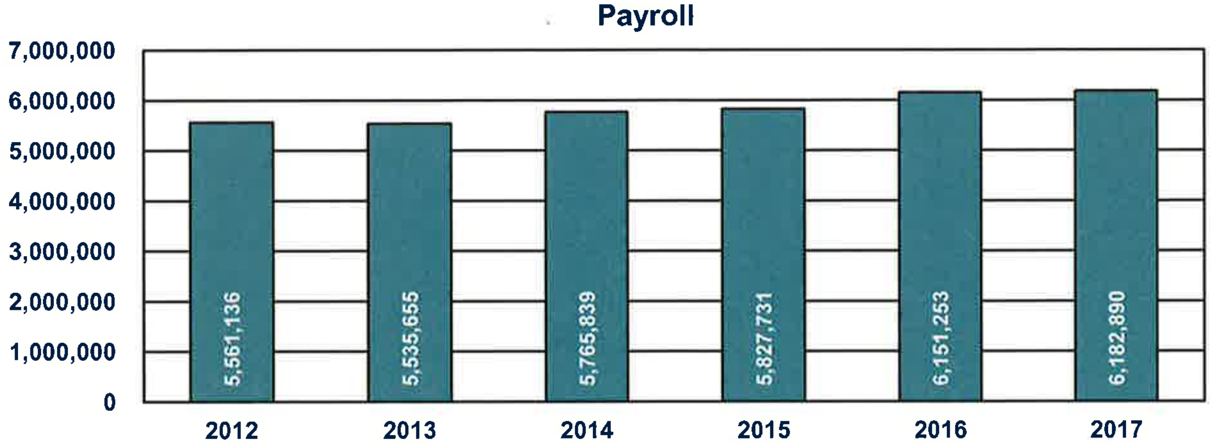
There are three basic categories of plan members included in the actuarial valuation: (1) active employees who have met the eligibility requirements for membership, (2) former employees who have a vested right to benefits but have not yet started collecting, and (3) members who are receiving monthly pension benefits.

Number of Members



From July 1, 2016 to July 1, 2017, the overall membership increased from 131 to 134. During this period, there were 5 new active members, 2 active members retired, 1 active member terminated and is due a return of employee contributions, and 2 active members were paid a refund.

Payroll



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Section I - Executive Summary
A. Highlights

Plan Changes

None.

Changes in Actuarial Methods or Assumptions

In order to better anticipate future market returns, we have lowered the interest rate assumption from 7.25% to 7.125%. This change increased the Unfunded Accrued Liability by $892,000 and increased the Actuarially Determined Contribution by $109,800. We will continue to reduce the interest rate assumption by increments over the next several years.

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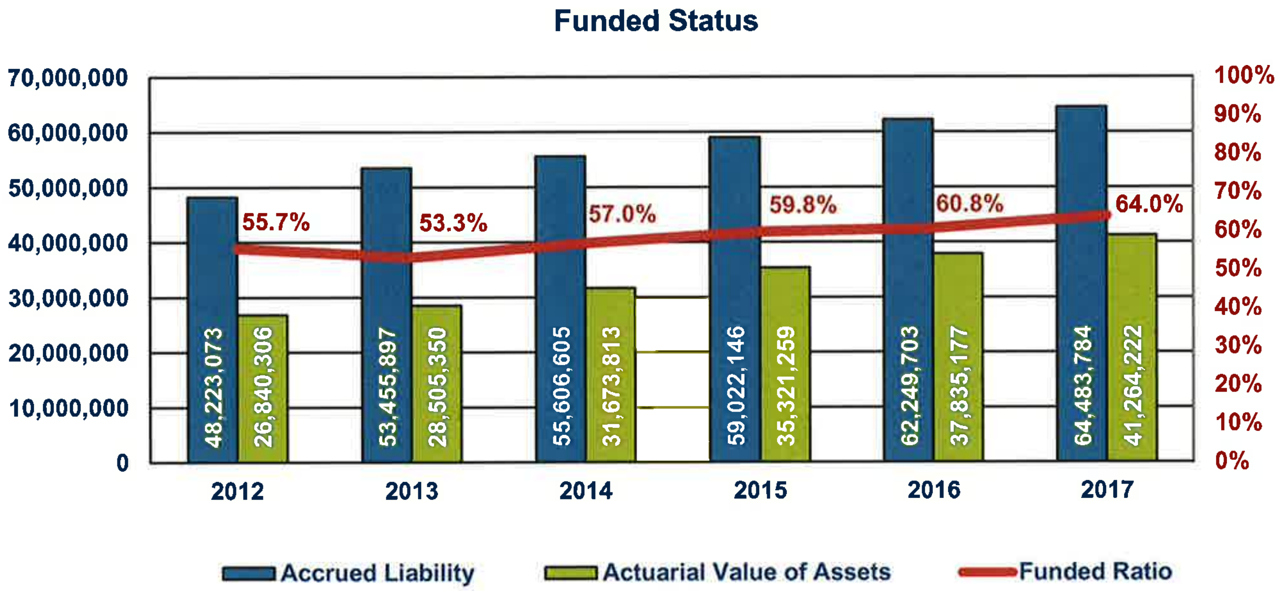
Section I - Executive Summary
A. Highlights

Funded Status

The chart below shows the plan's Accrued Liability and Actuarial Value of Assets for the past few years.



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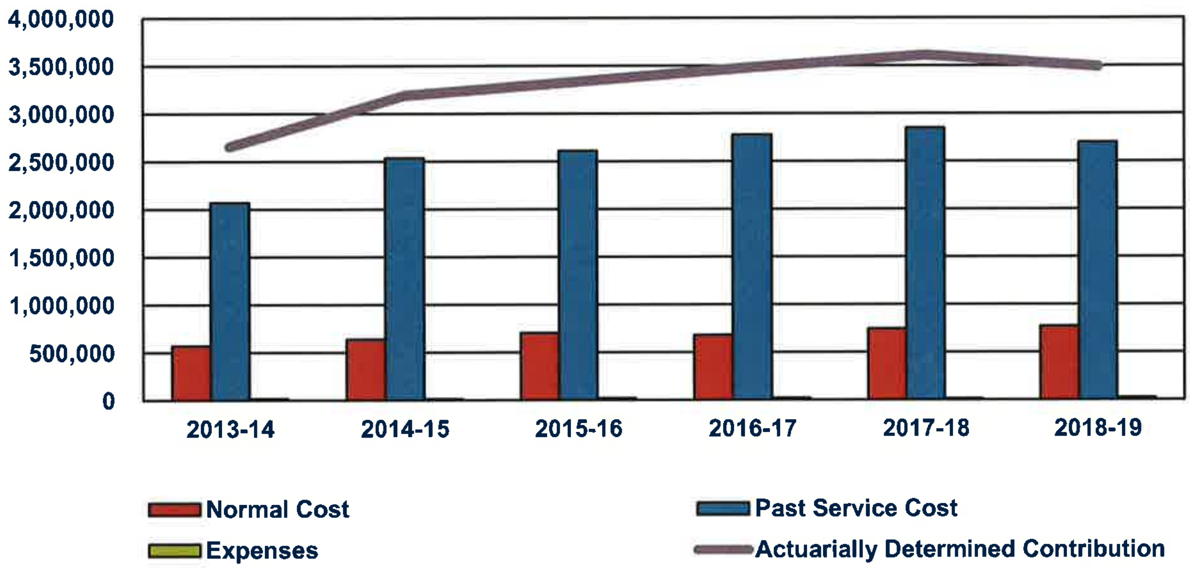
Section I - Executive Summary
A. Highlights

Actuarially Determined Contribution

The Actuarially Determined Contribution consists of three pieces: a **Normal Cost** payment to fund the benefits earned each year, a **Past Service Cost** to gradually reduce any unfunded or surplus liability, and **Expenses** expected to be paid from plan assets. If the plan has a sufficiently large surplus, the Past Service Cost may be large enough to cover the Normal Cost, in which case no contribution is required.

Contribution levels for the current year and the past few fiscal years are shown below.



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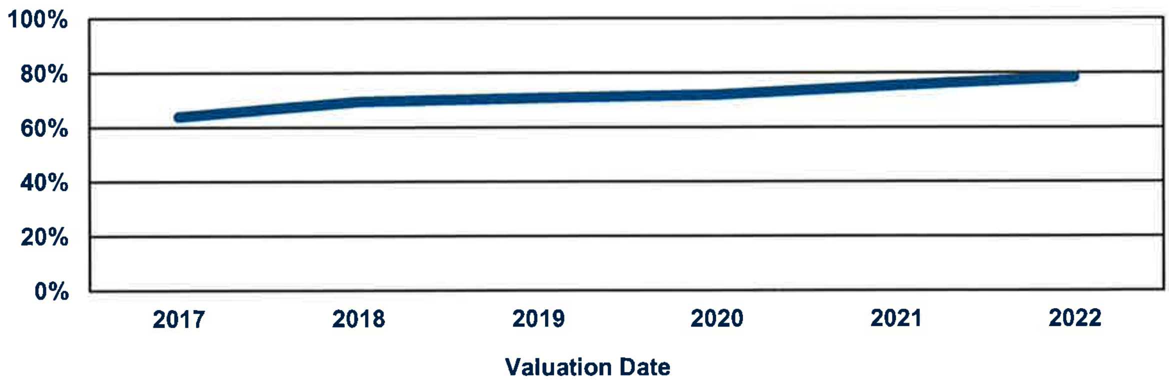
Section I - Executive Summary
A. Highlights

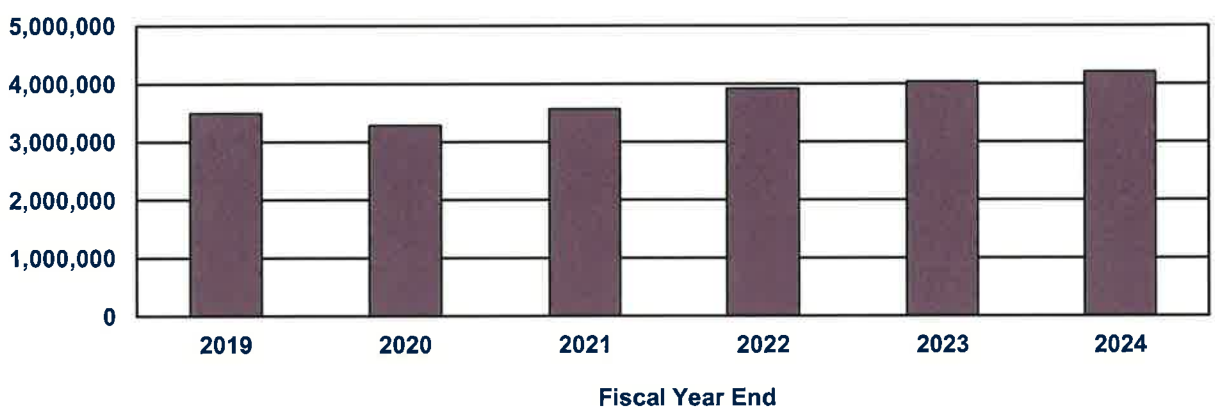
Long Range Forecast

The Town intends to reduce the interest rate assumption gradually over the next several years. This will depress the funded ratio and increase the Actuarially Determined Contribution while that process is underway.

Funded Ratio



Actuarially Determined Contribution



To the extent that there are future investment or liability gains or losses, changes in the actuarial assumptions or methods, or plan changes, the actual valuation results will differ from these forecasts. Please see Section III C for more details of the long range forecast.

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Section I - Executive Summary
B. Summary of Principal Results

Membership	July 1, 2016	July 1, 2017
Active Members	57	57
Terminated Vested Members	1	2
Members in Pay Status	73	75
Payroll	$6,151,253	$6,182,890

Assets and Liabilities	July 1, 2016	July 1, 2017
Market Value of Assets	$35,660,348	$41,206,263
Actuarial Value of Assets	37,835,177	41,264,222
Accrued Liability for Active Members	$19,549,164	$21,035,832
Accrued Liability for Terminated Vested Members	126,625	183,078
Accrued Liability for Members in Pay Status	42,573,914	43,264,874
Total Accrued Liability	62,249,703	64,483,784
Unfunded Accrued Liability	24,414,526	23,219,562
Funded Ratio	60.8%	64.0%

Actuarially Determined Contribution for Fiscal Year	2017-18	2018-19
Normal Cost	$746,183	$773,388
Past Service Cost	2,850,609	2,697,804
Expenses	16,300	24,900
Actuarially Determined Contribution	3,613,092	3,496,092

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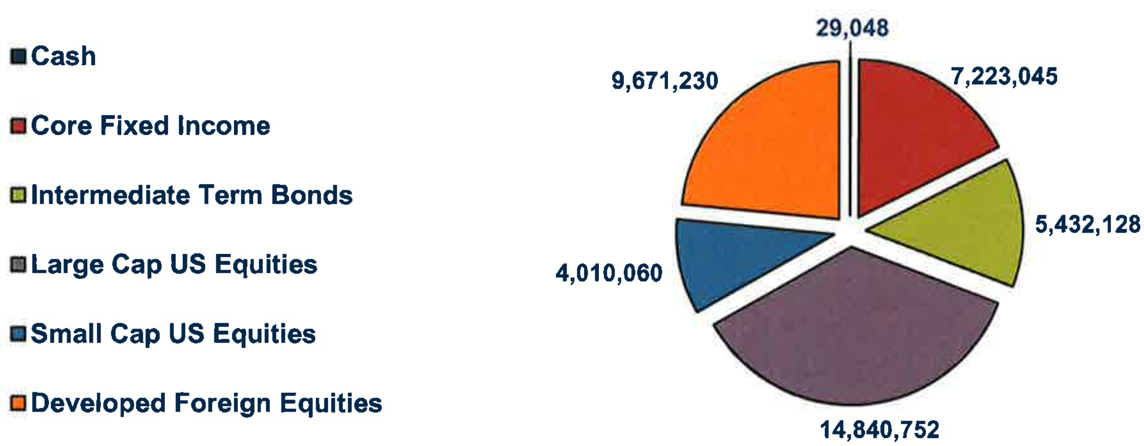
Section II - Plan Assets
A. Summary of Fund Transactions

Market Value as of July 1, 2016	$35,660,348
Employer Contributions	3,515,356
Employee Contributions	557,771
Benefit Payments	(3,506,673)
Interest and Dividends	554,006
Capital Gains/(Losses)	4,651,358
Investment Expenses	(201,685)
Administrative Expenses	(24,218)
Market Value as of July 1, 2017	41,206,263
Approximate Rate of Return	13.93%

Note: The rate shown here is not the dollar or time weighted investment yield rate which measures investment performance. It is an approximate net return assuming all activity occurred on average midway through the fiscal year.

Asset Allocation



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Section II - Plan Assets
B. Development of Actuarial Value of Assets

In order to minimize the impact of market fluctuations on the contribution level, we use an Actuarial Value of Assets that recognizes gains and losses over a five year period. The Actuarial Value of Assets as of July 1, 2017 is determined below.

1. Expected Market Value of Assets:	
a. Market Value of Assets as of July 1, 2016	$35,660,348
b. Employer and Employee Contributions	4,073,127
c. Benefit Payments and Administrative Expenses	(3,530,891)
d. Expected Investment Return Based on 7.250% Interest	2,604,212
e. Expected Market Value of Assets as of July 1, 2017	38,806,796
2. Actual Market Value of Assets as of July 1, 2017	41,206,263
3. Market Value (Gain)/Loss: (1e) - (2)	(2,399,467)
4. Delayed Recognition of Market (Gains)/Losses:	

Plan Year End	(Gain)/Loss	Percent Not Recognized	Amount Not Recognized	
06/30/2017	($2,399,467)	80%	($1,919,574)	
06/30/2016	3,261,544	60%	1,956,926	
06/30/2015	1,254,807	40%	501,923	
06/30/2014	(2,406,578)	20%	(481,316)	
				57,959

5. Actuarial Value of Assets as of July 1, 2017: (2) + (4)	41,264,222
6. Approximate Rate of Return on Actuarial Value of Assets	7.58%
7. Actuarial Value (Gain)/Loss	(125,679)

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Section III - Development of Contribution
A. Past Service Cost

For determining the Past Service Cost, the Unfunded Accrued Liability is amortized as a level percent over a period of 10 years.

	July 1, 2016	July 1, 2017
1. Accrued Liability		
Active Members	$19,549,164	$21,035,832
Terminated Vested Members	126,625	183,078
Retired Members	36,505,737	37,258,533
Disabled Members	1,082,607	1,081,022
Beneficiaries of Deceased Members	4,985,570	4,925,319
Total	62,249,703	64,483,784
2. Actuarial Value of Assets (see Section II B)	37,835,177	41,264,222
3. Unfunded Accrued Liability: (1) - (2)	24,414,526	23,219,562
4. Funded Ratio: (2) / (1)	60.8%	64.0%
5. Amortization Period	10	10
6. Amortization Growth Rate	3.50%	3.50%
7. Past Service Cost: (3) amortized over (5)	2,850,609	2,697,804

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Section III - Development of Contribution
B. Actuarially Determined Contribution

	Fiscal Year 2017-18	Fiscal Year 2018-19
1. Total Normal Cost	$1,299,140	$1,329,629
2. Expected Employee Contributions	552,957	556,241
3. Expected Expenses	16,300	24,900
4. Net Normal Cost: (1) - (2) + (3)	762,483	798,288
5. Past Service Cost (see Section III A)	2,850,609	2,697,804
6. Actuarially Determined Contribution: (4) + (5)	3,613,092	3,496,092

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Section III - Development of Contribution
C. Long Range Forecast

This forecast is based on the results of the July 1, 2017 actuarial valuation and assumes that the Town will pay the Actuarially Determined Contribution each year, the assets will return the assumed interest rate on a market value basis each year, and there are no future changes in the actuarial methods or assumptions or in the plan provisions. Actual results at each point in time will yield different values, reflecting the actual experience of the plan membership and assets.

		Values as of the Valuation Date					Cash Flows Projected to the Following Fiscal Year			
Valuation Date	Interest Rate	Accrued Liability	Actuarial Value of Assets	Unfunded Accrued Liability	Funded Ratio	Fiscal Year Ending	Town Contributions	Employee Contributions	Benefit Payments	Net Cash Flows
7/1/2017	7.125%	$64,483,784	$41,264,222	$23,219,562	64.0%	2019	$3,496,092	$555,000	($3,670,000)	$381,092
7/1/2018	7.000%	64,585,000	44,931,000	19,654,000	69.6%	2020	3,284,000	558,000	(3,890,000)	(48,000)
7/1/2019	6.875%	67,758,000	48,012,000	19,746,000	70.9%	2021	3,566,000	554,000	(4,143,000)	(23,000)
7/1/2020	6.750%	70,900,000	51,085,000	19,815,000	72.1%	2022	3,921,000	561,000	(4,325,000)	157,000
7/1/2021	6.750%	72,955,000	54,993,000	17,962,000	75.4%	2023	4,038,000	563,000	(4,502,000)	99,000
7/1/2022	6.750%	74,935,000	58,839,000	16,096,000	78.5%	2024	4,206,000	569,000	(4,663,000)	112,000
7/1/2023	6.750%	76,841,000	62,883,000	13,958,000	81.8%	2025	4,437,000	575,000	(4,843,000)	169,000
7/1/2024	6.750%	78,695,000	67,212,000	11,483,000	85.4%	2026	4,716,000	583,000	(5,000,000)	299,000
7/1/2025	6.750%	80,483,000	71,891,000	8,592,000	89.3%	2027	5,115,000	585,000	(5,158,000)	542,000
7/1/2026	6.750%	82,226,000	77,020,000	5,206,000	93.7%	2028	5,958,000	592,000	(5,344,000)	1,206,000
7/1/2027	6.750%	83,899,000	82,745,000	1,154,000	98.6%	2029	1,878,000	608,000	(5,444,000)	(2,958,000)
7/1/2028	6.750%	85,480,000	89,542,000	(4,062,000)	104.8%	2030	0	611,000	(5,582,000)	(4,971,000)
7/1/2029	6.750%	87,083,000	92,493,000	(5,410,000)	106.2%	2031	0	621,000	(5,766,000)	(5,145,000)
7/1/2030	6.750%	88,642,000	93,560,000	(4,918,000)	105.5%	2032	0	633,000	(5,883,000)	(5,250,000)
7/1/2031	6.750%	90,123,000	94,519,000	(4,396,000)	104.9%	2033	0	639,000	(6,034,000)	(5,395,000)
7/1/2032	6.750%	91,593,000	95,433,000	(3,840,000)	104.2%	2034	0	646,000	(6,227,000)	(5,581,000)
7/1/2033	6.750%	93,005,000	96,257,000	(3,252,000)	103.5%	2035	0	662,000	(6,353,000)	(5,691,000)
7/1/2034	6.750%	94,319,000	96,945,000	(2,626,000)	102.8%	2036	0	677,000	(6,433,000)	(5,756,000)
7/1/2035	6.750%	95,611,000	97,563,000	(1,952,000)	102.0%	2037	0	696,000	(6,472,000)	(5,776,000)
7/1/2036	6.750%	96,838,000	98,154,000	(1,316,000)	101.4%	2038	0	695,000	(6,614,000)	(5,919,000)

For purposes of this forecast the amortization period declines to 1 year to illustrate the progress of the plan towards becoming fully funded; in actual practice the amortization period will not be less than 10 years in order to shield the Town from contribution volatility.

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Section IV - Accounting Information
A. Notes to Required Supplementary Information

The information presented in Section IV has been determined as part of the actuarial valuations at the dates indicated. Additional information as of the latest actuarial valuation follows:

Valuation Date	July 1, 2017
Actuarial Cost Method	Entry Age Normal
Amortization Method	Level percent
Amortization Period	Open 10 years from July 1, 2015
Asset Valuation Method	5 Year Smoothed Market Value
Actuarial Assumptions	
Investment Rate of Return	7.125%
Projected Salary Increases	3.50%
Amortization Growth Rate	3.50%
Inflation	2.75%
Cost-of-Living Adjustments	1.50%

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Section IV - Accounting Information
B. Historical Schedule of Funding Progress

Actuarial Valuation Date	For Fiscal Year	(1) Actuarial Value of Assets	(2) Actuarial Accrued Liability (AAL)	(3) Unfunded AAL (UAAL) (2) - (1)	(4) Funded Ratio (1) / (2)	(5) Covered Payroll	(6) UAAL as a Percentage of Covered Payroll (3) / (5)
07/01/2008	2009-10	$28,004,694	$41,214,834	$13,210,140	67.9%	$4,788,496	275.9%
07/01/2009	2010-11	27,947,368	43,198,720	15,251,352	64.7%	5,237,052	291.2%
07/01/2010	2011-12	27,902,613	45,387,810	17,485,197	61.5%	5,247,720	333.2%
07/01/2011	2012-13	26,699,832	46,584,532	19,884,700	57.3%	5,828,742	341.1%
07/01/2012	2013-14	26,840,306	48,223,073	21,382,767	55.7%	5,561,136	384.5%
07/01/2013	2014-15	28,505,350	53,455,897	24,950,547	53.3%	5,535,655	450.7%
07/01/2014	2015-16	31,673,813	55,606,605	23,932,792	57.0%	5,765,839	415.1%
07/01/2015	2016-17	35,321,259	59,022,146	23,700,887	59.8%	5,827,731	406.7%
07/01/2016	2017-18	37,835,177	62,249,703	24,414,526	60.8%	6,151,253	396.9%
07/01/2017	2018-19	41,264,222	64,483,784	23,219,562	64.0%	6,182,890	375.5%

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Section IV - Accounting Information
C. Schedule of Employer Contributions

Fiscal Year Ending June 30	(1) Actuarially Determined Contribution	(2) Contribution in Relation to the Actuarially Determined Contribution	(3) Contribution Deficiency/ (Excess) (1) - (2)	(4) Covered Payroll	(5) Contribution as a Percentage of Covered Payroll (2) / (4)
2010	$1,525,296	$1,525,296	$0	$4,788,496	31.9%
2011	1,799,656	1,799,656	0	5,237,052	34.4%
2012	2,064,999	2,064,999	0	5,247,720	39.4%
2013	2,426,210	2,804,586	(378,376)	5,828,747	48.1%
2014	2,661,462	2,661,462	0	5,561,136	47.9%
2015	3,195,093	3,195,093	0	5,535,655	57.7%
2016	3,338,285	3,338,285	0	5,765,839	57.9%
2017	3,486,256	3,515,356	(29,100)	5,827,731	60.3%
2018	3,613,092	TBD	TBD	6,151,253	TBD
2019	3,496,092	TBD	TBD	6,182,890	TBD

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Section IV - Accounting Information
D. Accrued and Vested Benefits

The actuarially computed Value of Accrued Benefits represents the present value of (a) the benefits based on earnings and service to date expected to become payable at future dates to present employees, (b) the benefits expected to become payable to former employees who have terminated service with vested rights or who have become inactive, and (c) the benefits currently payable to retired participants and beneficiaries.

	As of July 1, 2016	As of July 1, 2017
1. Value of Vested Benefits		
Active Members	$14,161,591	$15,881,931
Terminated Vested Members	126,625	183,078
Retired Members	36,505,737	37,258,533
Disabled Members	1,082,607	1,081,022
Beneficiaries of Deceased Members	4,985,570	4,925,319
Total Value of Vested Benefits	56,862,130	59,329,883
2. Value of Non-Vested Benefits	933,883	1,037,066
3. Total Value of Accrued Benefits: (1) + (2)	57,796,013	60,366,949
4. Market Value of Assets	35,660,348	41,206,263
5. Vested Funded Ratio: (4) / (1)	62.7%	69.5%
6. Accrued Funded Ratio: (4) / (3)	61.7%	68.3%

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Section IV - Accounting Information
E. Statement of Changes in Accrued Plan Benefits

Increase/(Decrease) during the 2016-2017 plan year attributable to:

Increase for interest due to the decrease in the discount period	$4,065,318
Benefits Accumulated/(Forfeited)	1,164,079
Benefit Payments	(3,506,673)
Plan Amendments	0
Changes in Actuarial Assumptions	848,212
Net Increase/(Decrease)	2,570,936

Value of Accrued Plan Benefits:

July 1, 2017	$60,366,949
July 1, 2016	57,796,013
Net Increase/(Decrease)	2,570,936

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Section V - Membership Data
A. Reconciliation of Membership from Prior Valuation

Details of the changes in the Plan membership since the last valuation are shown below. Additional details on the Plan membership are provided in the remainder of Section V.

	Active	Term. Vested	Retirees	Disabled	Bene-ficiaries	Total
Count as of July 1, 2016	57	1	57	3	13	131
Terminated not vested	-	-	-	-	-	0
Terminated, benefits due	(1)	1	-	-	-	0
Retired	(2)	-	2	-	-	0
Died, with beneficiary	-	-	-	-	-	0
Died, no beneficiary	-	-	-	-	-	0
Paid refund	(2)	-	-	-	-	(2)
New member	5	-	-	-	-	5
New beneficiary	-	-	-	-	-	0
QDRO alternate payee	-	-	-	-	-	0
Correction	-	-	-	-	-	0
Count as of July 1, 2017	57	2	59	3	13	134

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Section V - Membership Data
B. Statistics of Membership

	As of July 1, 2016	As of July 1, 2017
Active Members		
Number	57	57
Average Age	39.9	40.0
Average Service	10.7	11.0
Total Payroll	$6,151,253	$6,182,890
Average Payroll	107,917	108,472
Terminated Vested Members		
Number	1	2
Total Annual Benefit	$22,674	$22,674
Average Annual Benefit	22,674	11,337
Average Age	36.0	34.5
Retired Members		
Number	57	59
Total Annual Benefit	$2,865,281	$2,928,176
Average Annual Benefit	50,268	49,630
Average Age	63.3	64.1
Disabled Members		
Number	3	3
Total Annual Benefit	$91,961	$91,961
Average Annual Benefit	30,654	30,654
Average Age	54.0	55.0
Beneficiaries of Deceased Members		
Number	13	13
Total Annual Benefit	$440,264	$440,264
Average Annual Benefit	33,866	33,866
Average Age	68.0	69.0

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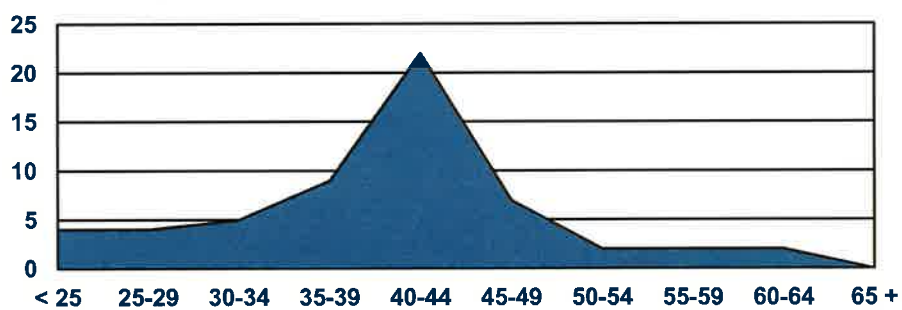
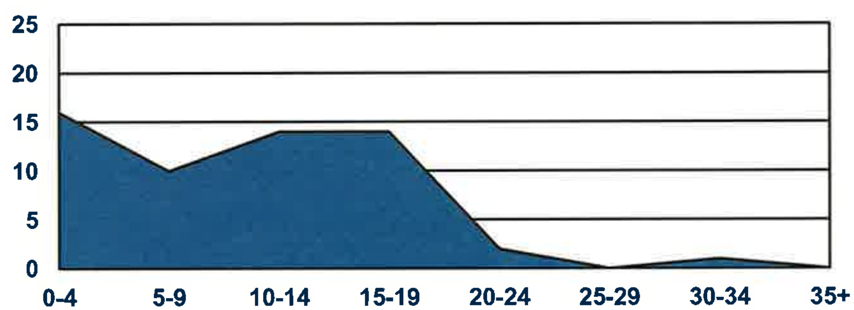
Section V - Membership Data
C. Distribution of Active Members as of July 1, 2017 - Count

	Years of Service								
Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35+	Total
< 25	4	0	0	0	0	0	0	0	4
25-29	4	0	0	0	0	0	0	0	4
30-34	2	2	1	0	0	0	0	0	5
35-39	1	4	4	0	0	0	0	0	9
40-44	3	3	6	10	0	0	0	0	22
45-49	2	0	1	3	1	0	0	0	7
50-54	0	0	1	0	1	0	0	0	2
55-59	0	0	1	1	0	0	0	0	2
60-64	0	1	0	0	0	0	1	0	2
65 +	0	0	0	0	0	0	0	0	0
Total	16	10	14	14	2	0	1	0	57

Distribution By Age



Distribution by Years of Service



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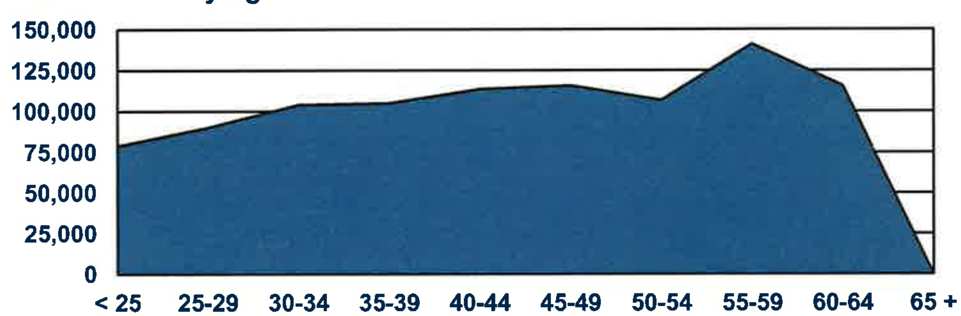
Section V - Membership Data

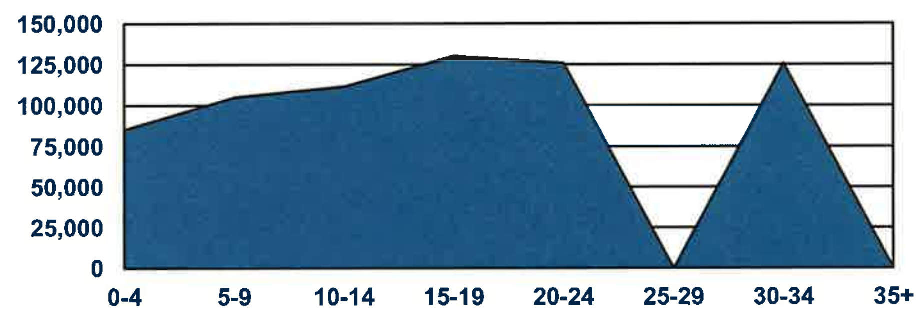
D. Distribution of Active Members as of July 1, 2017 - Average Pay

	Years of Service								
Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35+	Total
< 25	79,197	0	0	0	0	0	0	0	79,197
25-29	90,271	0	0	0	0	0	0	0	90,271
30-34	90,746	113,535	112,373	0	0	0	0	0	104,187
35-39	70,752	103,732	114,838	0	0	0	0	0	105,003
40-44	94,792	100,849	113,778	123,137	0	0	0	0	113,680
45-49	76,452	0	114,842	136,421	133,729	0	0	0	115,820
50-54	0	0	95,477	0	118,333	0	0	0	106,905
55-59	0	0	98,339	183,914	0	0	0	0	141,127
60-64	0	105,544	0	0	0	0	125,753	0	115,649
65 +	0	0	0	0	0	0	0	0	0
Total	85,462	105,009	111,646	130,325	126,031	0	125,753	0	108,472

Distribution By Age



Distribution by Years of Service



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Section V - Membership Data
E. Distribution of Inactive Members as of July 1, 2017

	Age	Number	Annual Benefits
Terminated Vested Members / Members Due Refunds	< 30	0	$0
	30 - 39	2	22,674
	40 - 49	0	0
	50 - 59	0	0
	60 - 64	0	0
	65 +	0	0
	Total	2	22,674
Retired Members	< 50	6	$314,148
	50 - 59	18	1,022,623
	60 - 69	14	623,009
	70 - 79	15	753,856
	80 - 89	6	214,540
	90 +	0	0
	Total	59	2,928,176
Disabled Members	< 50	1	$43,770
	50 - 59	1	26,247
	60 - 69	1	21,945
	70 - 79	0	0
	80 - 89	0	0
	90 +	0	0
	Total	3	91,962
Beneficiaries of Deceased Members	< 50	1	$6,684
	50 - 59	1	60,821
	60 - 69	3	146,937
	70 - 79	7	212,122
	80 - 89	1	13,700
	90 +	0	0
	Total	13	440,264

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Appendix A - Actuarial Funding Method

The actuarial funding method used in the valuation of this Plan is known as the **Entry Age Normal Cost Method**. Recommended annual contributions until the accrued liability is completely funded will consist of two pieces: Normal Cost plus a payment towards the Unfunded Accrued Liability.

The **Normal Cost** is determined by calculating the present value of future benefits for present active Members that will become payable as the result of death, disability, retirement or termination. This cost is then spread as a level percentage of earnings from entry age to termination as an Active Member. If Normal Costs had been paid at this level for all prior years, a fund would have accumulated. Because this fund represents the portion of benefits that would have been funded to date, it is termed the **Accrued Liability**. In fact, it is calculated by adding the present value of benefits for Retired Members and Terminated Vested Members to the present value of benefits for Active Members and subtracting the present value of future Normal Cost contributions.

The funding cost of the Plan is derived by making certain specific assumptions as to rates of interest, mortality, turnover, etc. which are assumed to hold for many years into the future. Since actual experience may differ somewhat from the assumptions, the costs determined by the valuation must be regarded as estimates of the true costs of the Plan.

The unfunded liability for the plan is the excess of the Accrued Liability over the assets which have been accumulated for the plan. This Unfunded Accrued Liability is amortized as a level percent. Beginning on July 1, 2005, the amortization period is 20 years; the amortization period will decrease each year until it reaches 10 years, after which point it will remain at 10 years.

The **Actuarial Value of Assets** is determined by recognizing asset gains and losses over **five** years.

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Appendix B - Actuarial Assumptions

Each of the assumptions used in this valuation was set based on industry standard published tables and data, the particular characteristics of the plan, relevant information from the plan sponsor or other sources about future expectations, and our professional judgment regarding future plan experience. We believe the assumptions are reasonable for the contingencies they are measuring, and are not anticipated to produce significant cumulative actuarial gains or losses over the measurement period.

Interest	Current: 7.125% Prior: 7.25%
Salary Scale	3.50%
Amortization Growth Rate	3.50%
Expenses	Administrative expenses paid in the prior year, increased by 3% and rounded to the nearest $100.
Healthy Mortality	RP-2000 Combined Healthy Mortality Table, Male and Female, with generational projection of future mortality improvements per Scale AA. This assumption includes a margin for improvements in longevity beyond the valuation date.
Turnover	None.
Retirement	50% in the first year eligible for Normal Retirement. 15% in each following year. 100% at age 65. For employees hired after October 1, 2013, no retirements are assumed prior to the completion of 25 years of service.
Disability	11th Railroad Retirement Board Disability Rates.
Disabled Mortality	RP-2000 Disabled Mortality Table, Male and Female. This assumption does not include a margin for improvements in longevity beyond the valuation date.
Marital Status	80% of members are assumed to be married with wives 3 years younger than husbands.
Cost of Living Adjustment	1.50%
Worker's Compensation	10% of Final Average Earnings.

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Appendix C - Summary of Plan Provisions

This exhibit summarizes the major provisions of the Plan. It is not intended to be, nor should it be interpreted as a complete statement of all plan provisions. All eligibility requirements and benefit amounts shall be determined in strict accordance with the plan document itself. To the extent that this summary does not accurately reflect the plan provisions, then the results of this valuation may not be accurate.

Eligibility

Employed for twenty or more hours a week for more than 5 months per calendar year.

Employee Contributions

8% of after tax earnings, 8.5% of after tax earnings effective July 1, 2015 and 9% of after tax earnings effective July 1, 2016. Interest is credited at 4% per annum.

Refund of Employee Contributions with interest to date of termination of employment or death, unless the employee is eligible for a deferred retirement income.

Continuous Service

The period of continuous employment with the Police Department beginning with the first of the month following date of employment measured in years and full months.

Final Average Earnings

Highest average earnings received in any three full calendar years.

Normal Retirement Date

Earlier of age 50 or completion of 20 years of service or for employees hired after October 1, 2013, age 45 and completion of 20 years of service. For employees hired after January 1, 2007 the completion of 25 years of service is required to be eligible for retiree medical benefits. For employees hired after January 1, 2007 but before October 1, 2013 the completion of 25 years of service is required to be eligible for cost of living adjustments.

Normal Retirement Benefit

2.5% of Final Average Earnings multiplied by Continuous Service. For employees hired after January 1, 2007 the benefit is capped at the lesser of 70% of base compensation in the year prior to retirement and 62.5% of Final Average Earnings.

Early Retirement Date

Age 45 and 10 years of Continuous Service.

Early Retirement Benefit

Benefit is based on Continuous Service and Final Average Earnings to actual retirement date actuarially reduced for early commencement.

Deferred Retirement Date

Members may continue to work beyond Normal Retirement.

Deferred Retirement Benefit

Benefit based on Continuous Service and Final Average Earnings to actual date of retirement.

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Appendix C - Summary of Plan Provisions

Death Benefit Eligibility	Married Member (for at least one year) or with minor children. Age 25 with 1 year of Aggregate Service.
Death Benefit	35% of benefit accrued to date of death.
Disability Retirement	Members not covered under the Long Term Disability Contract.
Disability Retirement Benefit	60% of earnings at the time of disability, less Worker's Compensation.
Termination Benefit Eligibility	Ten years of Continuous Service.
Termination Benefit	Benefit accrued to date of termination with payment commencing on Normal Retirement Date.
Cost of Living Adjustment	One half of active salary increases.

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