



TOWN OF GRANBY PENSION PLAN

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

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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.

Milliman's work is prepared solely for the internal business use of the Town. To the extent that Milliman's work is not subject to disclosure under applicable public records laws, Milliman's work may not be provided to third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of its work product. Milliman's consent to release its work product to any third party may be conditioned on the third party signing a Release, subject to the following exception(s): (a) the Town may provide a copy of Milliman's work, in its entirety, to the Town's professional service advisors who are subject to a duty of confidentiality and who agree to not use Milliman's work for any purpose other than to benefit the Town; and (b) the Town may provide a copy of Milliman's work, in its entirety, to other governmental entities, as required by law. No third party recipient of Milliman's work product should rely upon Milliman's work product. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

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.

Certification

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.

I further certify that, in my 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
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Section I - Executive Summary

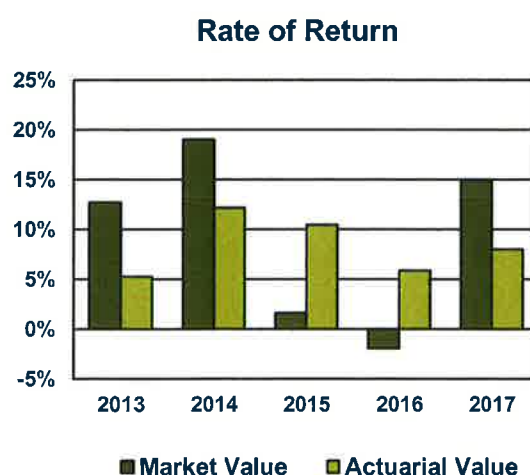
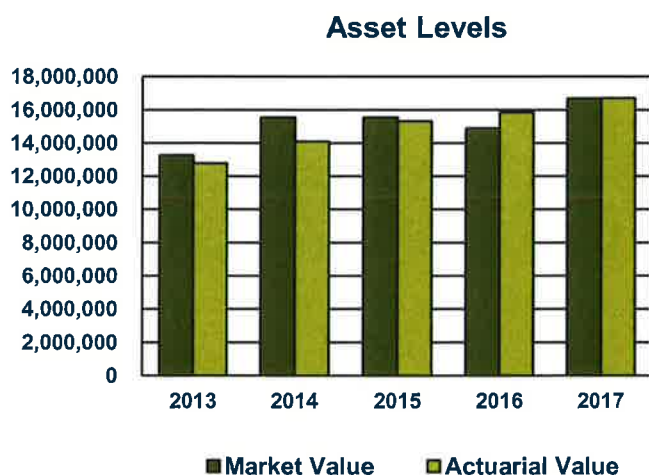
A. Highlights

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	\$14,888,369	\$15,844,834
Contributions	649,253	649,253
Investment Income	2,189,923	1,250,306
Benefit Payments	(1,044,529)	(1,044,529)
Value as of July 1, 2017	16,683,016	16,699,864

For fiscal year 2016-17, the plan's assets earned 14.91% on a Market Value basis and 7.99% on an Actuarial Value basis. The actuarial assumption for this period was 7.25%; the result is an asset gain of \$1,125,100 on a Market Value basis and a gain of \$115,800 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.



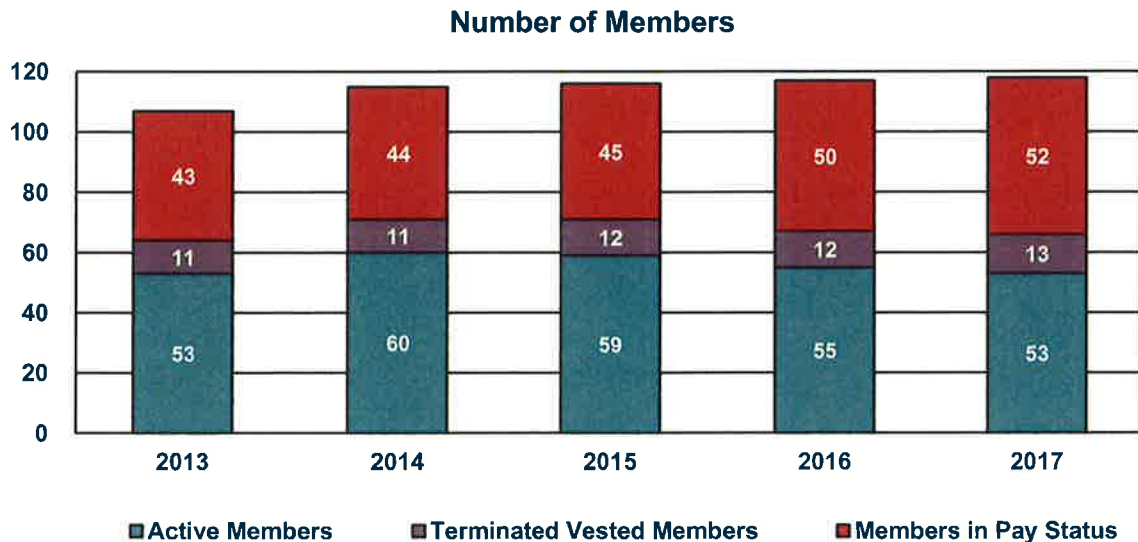
Please note that the Actuarial Value currently exceeds the Market Value by \$16,800. This figure represents investment losses that will be gradually recognized over the next five years. This process will exert upward pressure on the Town's contribution, unless there are offsetting market gains.

Section I - Executive Summary

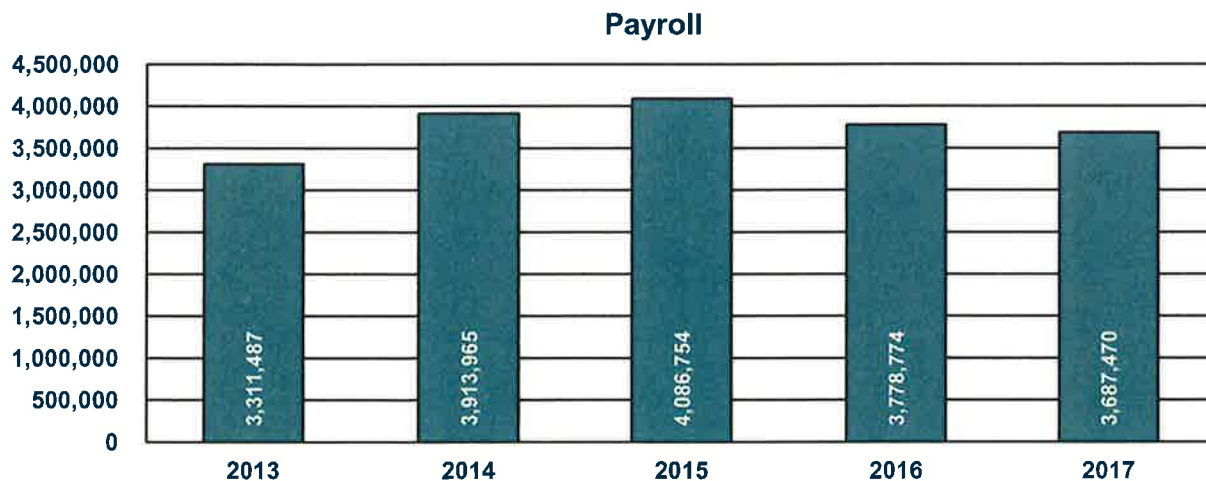
A. Highlights

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.



From July 1, 2016 to July 1, 2017, the overall membership increased from 117 to 118. During this period, there were 3 new members offset by 4 members who retired, 1 member who terminated with benefits due, and 2 members who terminated and received a return of employee contributions.



Section I - Executive Summary

A. Highlights

Plan Changes

None.

Changes in Actuarial Methods or Assumptions

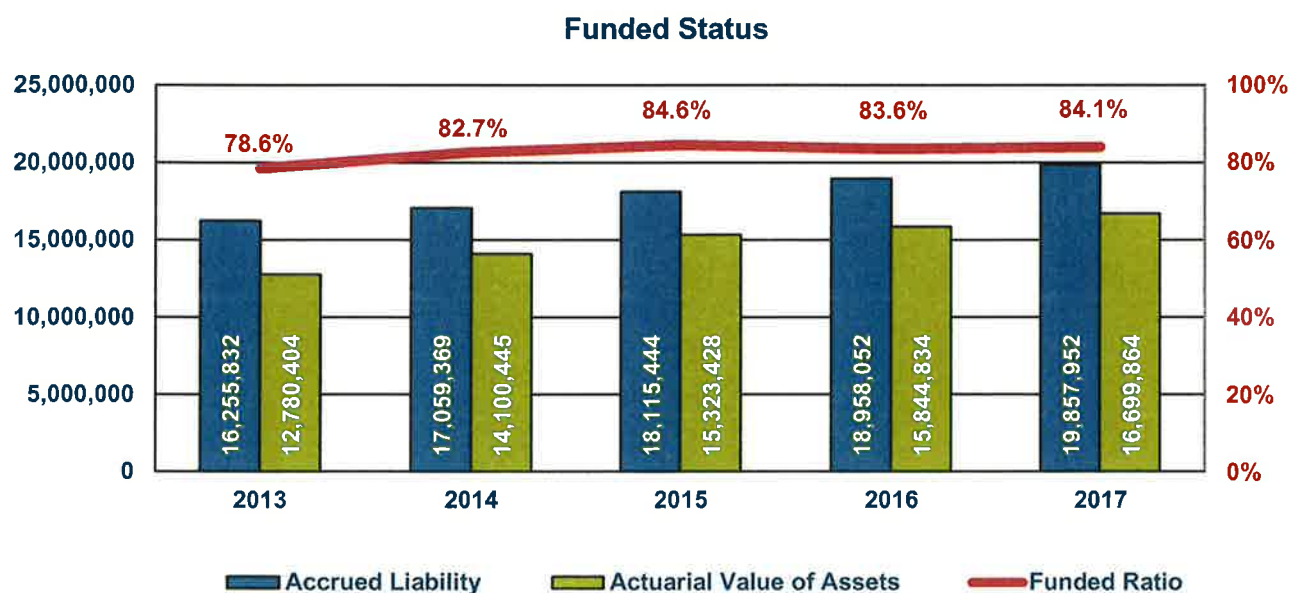
In order to better anticipate future plan experience, we lowered the interest rate assumption from 7.25% to 7.125%. Over the next few years, the interest rate assumption will continue to be reduced gradually. The impact of this change was to increase the Unfunded Accrued Liability by about \$237,000 and to increase the Actuarially Determined Contribution by approximately \$30,500.

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.



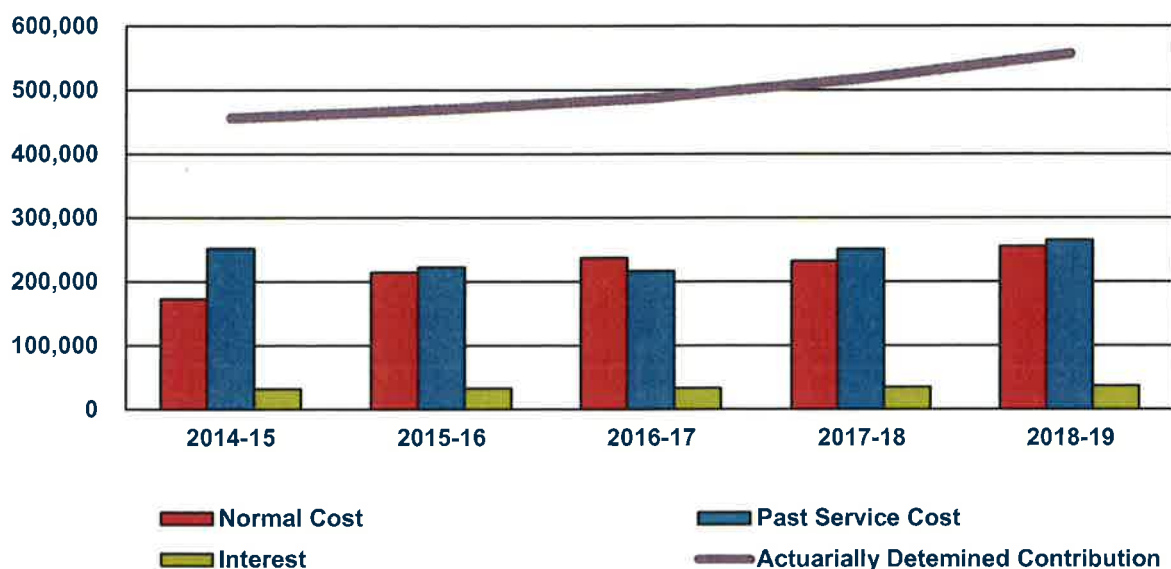
Section I - Executive Summary

A. Highlights

Actuarially Determined Contribution

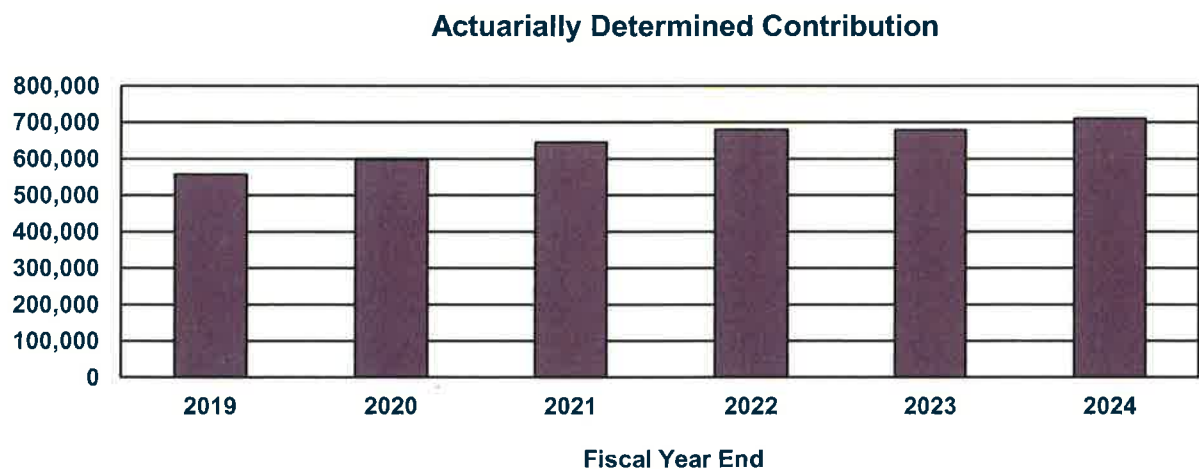
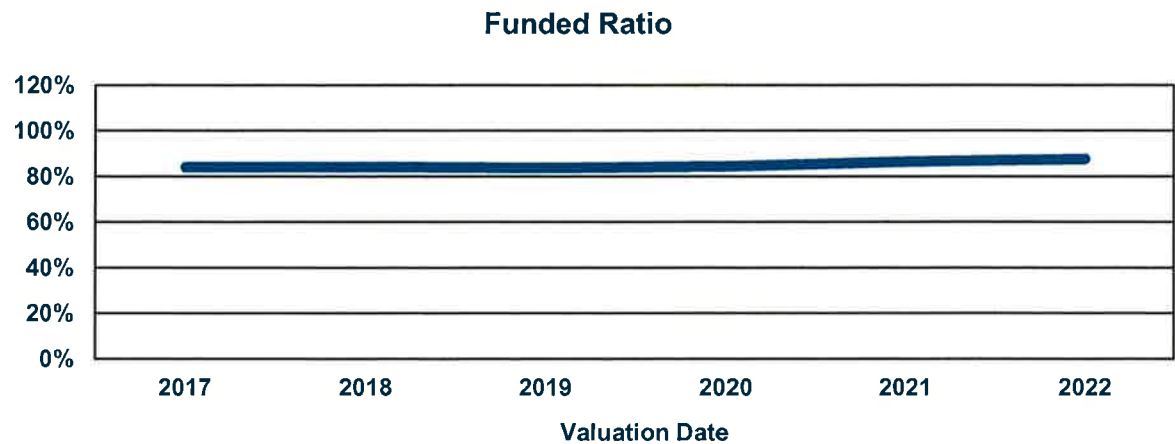
The Actuarially Determined Contribution consists of three pieces: a **Normal Cost** payment to fund the benefits earned each year, a **Past Service Cost** to gradually reduce any unfunded or surplus liability, and **Interest** to the end of the year. If the plan has a sufficiently large surplus, the 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.



Section I - Executive Summary
A. Highlights

Long Range Forecast



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.

Section I - Executive Summary

B. Summary of Principal Results

Membership	July 1, 2016	July 1, 2017
Active Members	55	53
Terminated Vested Members	12	13
Members in Pay Status	50	52
Payroll	\$3,778,774	\$3,687,470
Assets and Liabilities	July 1, 2016	July 1, 2017
Market Value of Assets	\$14,888,369	\$16,683,016
Actuarial Value of Assets	15,844,834	16,699,864
Accrued Liability for Active Members	\$8,885,318	\$8,783,502
Accrued Liability for Terminated Vested Members	405,925	440,348
Accrued Liability for Members in Pay Status	9,666,809	10,634,102
Total Accrued Liability	18,958,052	19,857,952
Unfunded Accrued Liability	3,113,218	3,158,088
Funded Ratio	83.6%	84.1%
Actuarially Determined Contribution for Fiscal Year	2017-18	2018-19
Normal Cost	\$232,125	\$255,178
Past Service Cost	250,719	264,968
Interest	35,006	37,060
Actuarially Determined Contribution	517,850	557,206
Allocation of Actuarially Determined Contribution*		
General Government and Police	\$305,894	\$303,677
Board of Education	211,956	253,529

* Allocated in proportion to payroll.

Section II - Plan Assets

A. Summary of Fund Transactions

	Plan Investments	Accrued Contributions	Market Value
Market Value as of July 1, 2016	\$14,885,666	\$2,703	\$14,888,369
Employer Contributions	487,591	0	487,591
Employee Contributions	161,647	15	161,662
Benefit Payments	(1,042,283)	(2,246)	(1,044,529)
Interest	756	0	756
Dividends	305,427	0	305,427
Net Appreciation/Depreciation	1,926,018	0	1,926,018
Accrued Income	48	0	48
Investment Expenses	(42,326)	0	(42,326)
Administrative Expenses	0	0	0
Market Value as of July 1, 2017	16,682,544	472	16,683,016
Approximate Rate of Return			14.91%

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.

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				\$14,888,369
b. Employer and Employee Contributions				649,253
c. Benefit Payments				(1,044,529)
d. Expected Investment Return Based on 7.25% Interest				<u>1,064,852</u>
e. Expected Market Value of Assets as of July 1, 2017				15,557,945
2. Actual Market Value of Assets as of July 1, 2017				16,683,016
3. Market Value Gain/(Loss): (2) - (1e)				1,125,071
4. Delayed Recognition of Market Gains/(Losses):				
	Plan Year End	Gain/(Loss)	Percent Not Recognized	Amount Not Recognized
	06/30/2017	\$1,125,071	80%	\$900,057
	06/30/2016	(1,429,563)	60%	(857,738)
	06/30/2015	(907,273)	40%	(362,909)
	06/30/2014	1,518,709	20%	<u>303,742</u>
				(16,848)
5. Actuarial Value of Assets as of July 1, 2017: (2) - (4)				16,699,864
6. Approximate Rate of Return on Actuarial Value of Assets				7.99%
7. Actuarial Value Gain/(Loss)				115,798

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 22 years starting on July 1, 2010.

	July 1, 2016	July 1, 2017
1. Accrued Liability		
Active Members	\$8,885,318	\$8,783,502
Terminated Vested Members*	405,925	440,348
Retired Members	8,937,630	9,916,758
Disabled Members	48,447	0
Beneficiaries of Deceased Members	<u>680,732</u>	<u>717,344</u>
Total	18,958,052	19,857,952
2. Actuarial Value of Assets (see Section II B)	15,844,834	16,699,864
3. Unfunded Accrued Liability: (1) - (2)	3,113,218	3,158,088
4. Funded Ratio: (2) / (1)	83.6%	84.1%
5. Amortization Period	16	15
6. Amortization Growth Rate	3.50%	3.50%
7. Past Service Cost: (3) amortized over (5)	250,719	264,968

* Includes liability for former members who are due refunds.

Section III - Development of Contribution

B. Actuarially Determined Contribution

	Fiscal Year 2017-18	Fiscal Year 2018-19
1. Total Normal Cost	\$416,685	\$433,460
2. Expected Employee Contributions	184,560	178,282
3. Net Normal Cost: (1) + (2)	232,125	255,178
4. Past Service Cost (see Section III A)	250,719	264,968
5. Interest on (3) + (4) to start of next fiscal year	35,006	37,060
6. Actuarially Determined Contribution: (3) + (4) + (5)	517,850	557,206
7. Allocation of Actuarially Determined Contribution*		
Town	305,894	303,677
Board of Education	211,956	253,529

* Allocated in proportion to payroll.

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 7.125% on a market value basis each year, there are no future changes in the actuarial methods or assumptions or in the plan provisions, and all new employees will elect to participate in the defined benefit plan. 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	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	\$19,857,952	\$16,699,864	\$3,158,088	84.1%	2019	\$557,206	\$188,269	(\$1,286,248)	(\$540,773)
7/1/2018	20,706,000	17,448,000	3,258,000	84.3%	2020	597,000	197,000	(1,366,000)	(572,000)
7/1/2019	21,316,000	17,883,000	3,433,000	83.9%	2021	646,000	205,000	(1,429,000)	(578,000)
7/1/2020	21,908,000	18,515,000	3,393,000	84.5%	2022	680,000	213,000	(1,499,000)	(606,000)
7/1/2021	22,499,000	19,476,000	3,023,000	86.6%	2023	679,000	220,000	(1,590,000)	(691,000)
7/1/2022	23,083,000	20,237,000	2,846,000	87.7%	2024	711,000	226,000	(1,696,000)	(759,000)
7/1/2023	23,648,000	20,964,000	2,684,000	88.7%	2025	738,000	234,000	(1,764,000)	(792,000)
7/1/2024	24,170,000	21,670,000	2,500,000	89.7%	2026	771,000	243,000	(1,813,000)	(799,000)
7/1/2025	24,691,000	22,395,000	2,296,000	90.7%	2027	791,000	251,000	(1,844,000)	(802,000)
7/1/2026	25,211,000	23,163,000	2,048,000	91.9%	2028	821,000	260,000	(1,907,000)	(826,000)
7/1/2027	25,765,000	23,983,000	1,782,000	93.1%	2029	855,000	271,000	(1,943,000)	(817,000)
7/1/2028	26,322,000	24,837,000	1,485,000	94.4%	2030	885,000	278,000	(1,991,000)	(828,000)
7/1/2029	26,903,000	25,760,000	1,143,000	95.8%	2031	909,000	288,000	(2,045,000)	(848,000)
7/1/2030	27,502,000	26,738,000	764,000	97.2%	2032	921,000	295,000	(2,094,000)	(878,000)
7/1/2031	28,121,000	27,764,000	357,000	98.7%	2033	907,000	294,000	(2,227,000)	(1,026,000)
7/1/2032	28,761,000	28,834,000	(73,000)	100.3%	2034	457,000	307,000	(2,314,000)	(1,550,000)
7/1/2033	29,324,000	29,826,000	(502,000)	101.7%	2035	15,000	320,000	(2,360,000)	(2,025,000)
7/1/2034	29,866,000	30,346,000	(480,000)	101.6%	2036	55,000	329,000	(2,394,000)	(2,010,000)
7/1/2035	30,425,000	30,410,000	15,000	100.0%	2037	607,000	339,000	(2,435,000)	(1,489,000)
7/1/2036	31,023,000	30,496,000	527,000	98.3%	2038	1,175,000	350,000	(2,484,000)	(959,000)

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.

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	Closed 22 years from July 1, 2010
Asset Valuation Method	5 year smoothing of market gains/losses
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	None

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

	(1)	(2)	(3)	(4)	(5)	(6)
Actuarial Valuation Date	Actuarial Value of Assets	Actuarial Accrued Liability (AAL)	Unfunded AAL (UAAL) (2) - (1)	Funded Ratio (1) / (2)	Covered Payroll	UAAL as a Percentage of Covered Payroll (3) / (5)
	Fiscal Year					
07/01/2008	2009-10	\$12,948,590	\$1,866,296	85.6%	\$3,619,257	51.6%
07/01/2009	2010-11	13,775,802	2,341,033	83.0%	3,735,252	62.7%
07/01/2010	2011-12	14,205,226	2,630,255	81.5%	3,402,929	77.3%
07/01/2011	2012-13	15,118,477	2,978,271	80.3%	3,637,892	81.9%
07/01/2012	2013-14	15,660,430	3,300,912	78.9%	3,409,422	96.8%
07/01/2013	2014-15	16,255,832	3,475,428	78.6%	3,311,487	105.0%
07/01/2014	2015-16	17,059,369	2,958,924	82.7%	3,913,965	75.6%
07/01/2015	2016-17	18,115,444	2,792,016	84.6%	4,086,754	68.3%
07/01/2016	2017-18	18,958,052	3,113,218	83.6%	3,778,774	82.4%
07/01/2017	2018-19	19,857,952	3,158,088	84.1%	3,687,470	85.6%

Section IV - Accounting Information

C. Schedule of Employer Contributions

	(1)	(2)	(3)	(4)	(5)
Fiscal Year Ending June 30	Actuarially Determined Contribution	Contribution in Relation to the Actuarially Determined Contribution	Contribution Deficiency/ (Excess) (1) - (2)	Covered Payroll	Contribution as a Percentage of Covered Payroll (2) / (4)
2010	\$275,958	\$275,958	\$0	\$3,619,257	8%
2011	286,664	286,664	0	3,735,252	8%
2012	359,226	359,226	0	3,402,929	11%
2013	361,909	361,909	0	3,637,892	10%
2014	448,025	448,025	0	3,409,422	13%
2015	456,702	456,702	0	3,311,487	14%
2016	470,130	470,130	0	3,913,965	12%
2017	487,591	487,591	0	4,086,754	12%
2018	517,850	TBD	TBD	3,778,774	TBD
2019	557,206	TBD	TBD	3,687,470	TBD

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	\$6,646,785	\$6,865,036
Terminated Vested Members*	405,925	440,348
Retired Members	8,937,630	9,916,758
Disabled Members	48,447	0
Beneficiaries of Deceased Members	<u>680,732</u>	<u>717,344</u>
Total Value of Vested Benefits	16,719,519	17,939,486
2. Value of Non-Vested Benefits	97,062	98,150
3. Total Value of Accrued Benefits: (1) + (2)	16,816,581	18,037,636
4. Market Value of Assets	14,888,369	16,683,016
5. Vested Funded Ratio: (4) / (1)	89.0%	93.0%
6. Accrued Funded Ratio: (4) / (3)	88.5%	92.5%

* Includes liability for former members who are due refunds.

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	\$1,182,000
Benefits Accumulated/(Forfeited)	874,351
Benefit Payments	(1,044,529)
Plan Amendments	0
Changes in Actuarial Assumptions	209,233
Net Increase/(Decrease)	1,221,055

Value of Accrued Plan Benefits:

July 1, 2017	\$18,037,636
July 1, 2016	16,816,581
Net Increase/(Decrease)	1,221,055

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	Due Refund	Term. Vested	Retirees	Disabled	Bene- ficiaries	Total
General Government							
Count as of July 1, 2016	18	0	3	14	0	2	37
Terminated, paid refund	(1)	-	-	-	-	-	(1)
Terminated, benefits due	-	-	-	-	-	-	0
Retired	(2)	-	-	2	-	-	0
Died, with beneficiary	-	-	-	-	-	-	0
Died, no beneficiary	-	-	-	-	-	-	0
New member	-	-	-	-	-	-	0
Correction	-	-	-	-	-	-	0
Count as of July 1, 2017	15	0	3	16	0	2	36
Board of Education							
Count as of July 1, 2016	28	6	1	26	1	1	63
Terminated, paid refund	(1)	-	-	-	-	-	(1)
Terminated, benefits due	(1)	-	1	-	-	-	0
Retired	(1)	-	-	1	-	-	0
Died, with beneficiary	-	-	-	(1)	-	1	0
Died, no beneficiary	-	-	-	-	(1)	-	(1)
New member	3	-	-	-	-	-	3
Correction	-	-	-	-	-	-	0
Count as of July 1, 2017	28	6	2	26	0	2	64
Police							
Count as of July 1, 2016	9	1	1	5	0	1	17
Terminated, paid refund	-	-	-	-	-	-	0
Terminated, benefits due	-	-	-	-	-	-	0
Retired	-	-	-	-	-	-	0
Died, with beneficiary	-	-	-	-	-	-	0
Died, no beneficiary	-	-	-	-	-	-	0
New member	1	-	-	-	-	-	1
Correction	-	-	-	-	-	-	0
Count as of July 1, 2017	10	1	1	5	0	1	18

Section V - Membership Data

B. Statistics of Active Membership

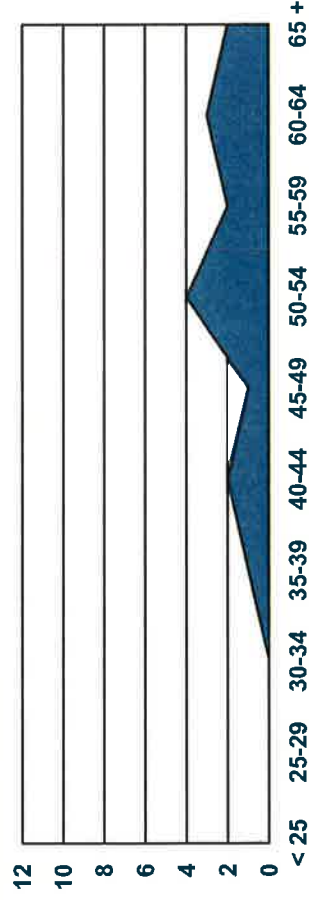
	As of July 1, 2016	As of July 1, 2017
Number of Active Members		
General Government	18	15
Board of Education	28	28
Police	<u>9</u>	<u>10</u>
Total	55	53
Total Annual Compensation		
General Government	\$1,319,799	\$1,165,725
Board of Education	1,540,886	1,665,697
Police	<u>918,089</u>	<u>856,048</u>
Total	3,778,774	3,687,470
Average Compensation		
General Government	\$73,322	\$77,715
Board of Education	55,032	59,489
Police	102,010	85,605
Total	68,705	69,575
Average Age		
General Government	52.9	53.8
Board of Education	53.7	54.3
Police	43.1	42.8
Total	51.7	52.0
Average Service		
General Government	15.9	16.4
Board of Education	13.1	13.2
Police	11.0	10.9
Total	13.7	13.7

Section V - Membership Data

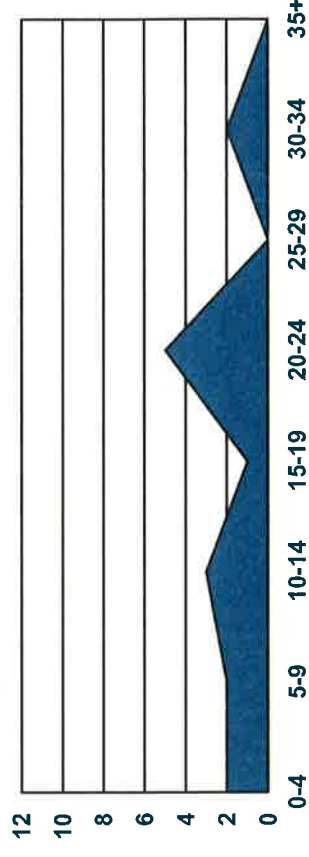
C. Distribution of Active Members as of July 1, 2017 - General Government

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

Distribution By Age



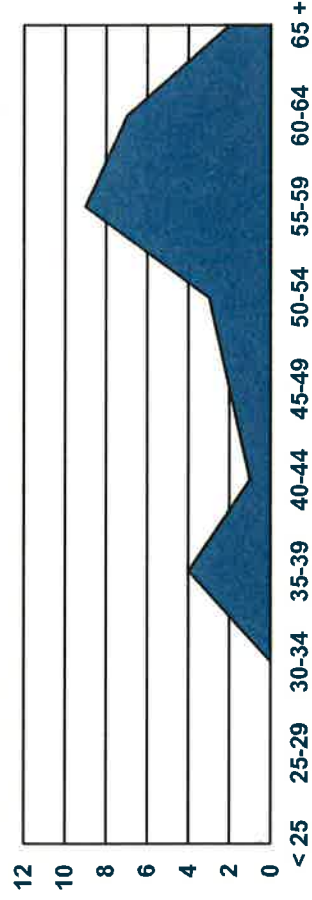
Distribution by Years of Service



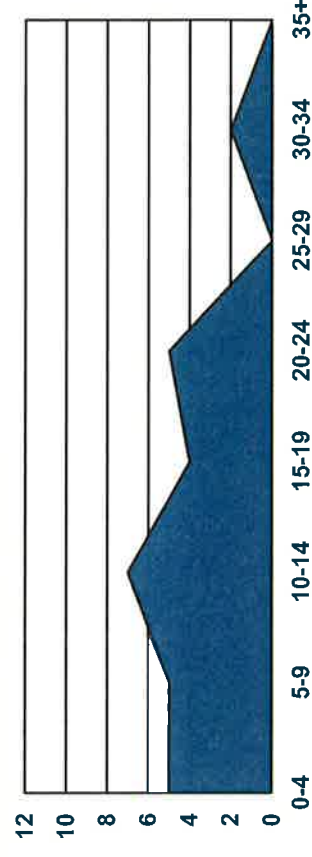
Section V - Membership Data
C. Distribution of Active Members as of July 1, 2017 - Board of Education

Age	Years of Service								Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35+	
< 25	0	0	0	0	0	0	0	0	0
25-29	0	0	0	0	0	0	0	0	0
30-34	0	0	0	0	0	0	0	0	0
35-39	1	3	0	0	0	0	0	0	4
40-44	0	0	0	1	0	0	0	0	1
45-49	1	0	1	0	0	0	0	0	2
50-54	0	2	1	0	0	0	0	0	3
55-59	3	0	2	2	2	0	0	0	9
60-64	0	0	3	1	2	0	1	0	7
65 +	0	0	0	0	1	0	1	0	2
Total	5	5	7	4	5	0	2	0	28

Distribution By Age



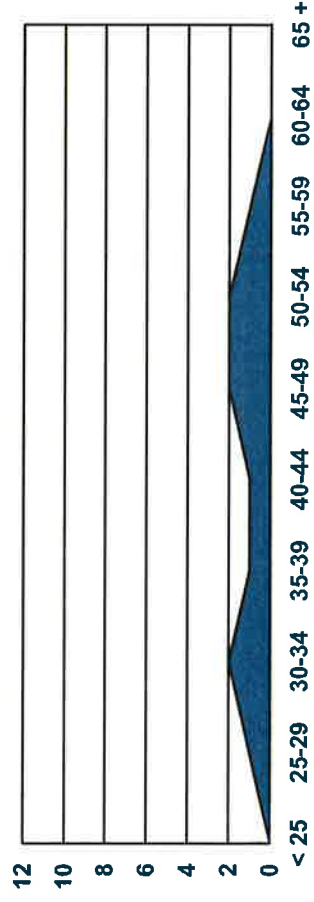
Distribution by Years of Service



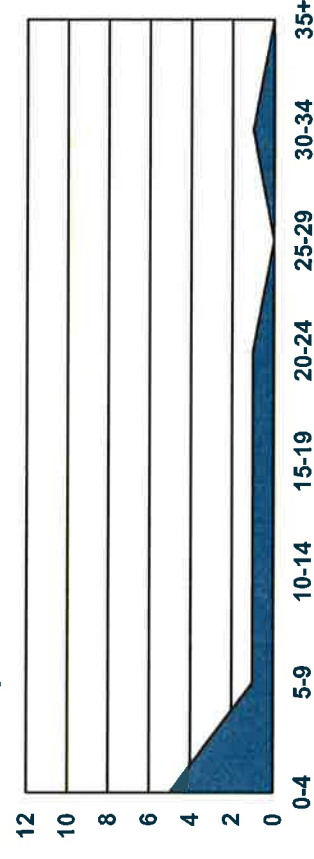
Section V - Membership Data
C. Distribution of Active Members as of July 1, 2017 - Police

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

Distribution By Age



Distribution by Years of Service



Section V - Membership Data
D. Distribution of Inactive Members as of July 1, 2017
General Government

		Age	Number	Annual Benefits
Terminated Vested Members /				
Members Due Refunds		< 30	0	\$0
		30 - 39	0	0
		40 - 49	0	0
Count	3	50 - 59	2	20,413
Average Age	56.3	60 - 64	1	4,001
Total Annual Benefit	\$24,414	65 +	0	0
Average Annual Benefit	8,138	Total	3	24,414
Retired Members				
		< 50	0	\$0
		50 - 59	1	47,410
Count	16	60 - 69	4	118,788
Average Age	73.8	70 - 79	7	241,079
Total Annual Benefit	\$430,498	80 - 89	2	11,113
Average Annual Benefit	26,906	90 +	2	12,109
		Total	16	430,498
Disabled Retirees				
		< 50	0	\$0
		50 - 59	0	0
Count	0	60 - 69	0	0
Average Age	0.0	70 - 79	0	0
Total Annual Benefit	\$0	80 - 89	0	0
Average Annual Benefit	0	90 +	0	0
		Total	0	0
Beneficiaries				
		< 50	0	\$0
		50 - 59	0	0
Count	2	60 - 69	1	4,441
Average Age	67.0	70 - 79	1	3,316
Total Annual Benefit	\$7,757	80 - 89	0	0
Average Annual Benefit	3,879	90 +	0	0
		Total	2	7,757

Section V - Membership Data
D. Distribution of Inactive Members as of July 1, 2017
Board of Education

		Age	Number	Annual Benefits
Terminated Vested Members /				
Members Due Refunds				
		< 30	0	\$0
		30 - 39	1	5,617
		40 - 49	0	0
Count	8	50 - 59	4	0
Average Age	55.9	60 - 64	2	10,955
Total Annual Benefit	\$16,572	65 +	1	0
Average Annual Benefit	2,072	Total	8	16,572
Retired Members				
		< 50	0	\$0
		50 - 59	0	0
Count	26	60 - 69	7	119,945
Average Age	72.2	70 - 79	16	256,890
Total Annual Benefit	\$403,510	80 - 89	3	26,674
Average Annual Benefit	15,520	90 +	0	0
		Total	26	403,510
Disabled Retirees				
		< 50	0	\$0
		50 - 59	0	0
Count	0	60 - 69	0	0
Average Age	0.0	70 - 79	0	0
Total Annual Benefit	\$0	80 - 89	0	0
Average Annual Benefit	0	90 +	0	0
		Total	0	0
Beneficiaries				
		< 50	0	\$0
		50 - 59	0	0
Count	2	60 - 69	1	11,425
Average Age	68.5	70 - 79	1	4,989
Total Annual Benefit	\$16,414	80 - 89	0	0
Average Annual Benefit	8,207	90 +	0	0
		Total	2	16,414

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

		Age	Number	Annual Benefits
Terminated Vested Members /		< 30	0	\$0
Members Due Refunds		30 - 39	0	0
		40 - 49	1	0
Count	2	50 - 59	0	0
Average Age	55.0	60 - 64	0	0
Total Annual Benefit	\$17,247	65 +	1	17,247
Average Annual Benefit	8,624	Total	2	17,247
Retired Members		< 50	0	\$0
		50 - 59	1	37,260
Count	5	60 - 69	3	142,031
Average Age	65.8	70 - 79	1	21,871
Total Annual Benefit	\$201,162	80 - 89	0	0
Average Annual Benefit	40,232	90 +	0	0
		Total	5	201,162
Disabled Retirees		< 50	0	\$0
		50 - 59	0	0
Count	0	60 - 69	0	0
Average Age	0.0	70 - 79	0	0
Total Annual Benefit	\$0	80 - 89	0	0
Average Annual Benefit	0	90 +	0	0
		Total	0	0
Beneficiaries		< 50	0	\$0
		50 - 59	1	40,207
Count	1	60 - 69	0	0
Average Age	60.0	70 - 79	0	0
Total Annual Benefit	\$40,207	80 - 89	0	0
Average Annual Benefit	40,207	90 +	0	0
		Total	1	40,207

Appendix A - Actuarial Funding Method

The actuarial funding method used in the valuation of this Plan is the **Entry Age Normal Cost Method**. Recommended annual contributions until the accrued liability is completely funded will consist of three pieces: Normal Cost plus a payment towards the Unfunded Accrued Liability plus interest to adjust for the lag between the valuation date and the start of the fiscal year.

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 Accrued Liability** for the plan is the excess of the Accrued Liability over the Actuarial Value of Assets. This Unfunded Accrued Liability is amortized as a level percent. Beginning on July 1, 2010, the amortization period is 22 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 market gains or losses over a five year period.

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: 7.250%		
Salary Scale	3.50%		
Amortization Growth Rate	3.50%		
Healthy Mortality	RP-2000 Mortality Tables for Employees and Healthy Annuitants, 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.		
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.		
Turnover	Age	Male	Female
	20	6.00%	15.00%
	25	4.80%	15.00%
	30	3.60%	10.00%
	35	2.75%	7.50%
	40	2.05%	5.00%
	45	1.40%	2.50%
	50	0.75%	0.00%
Rate of Retirement	General Government		
	Age	Rate	
	55-59	2%	
	60-61	10%	
	62	50%	
	63-64	30%	
	65-69	40%	
	70	100%	

Appendix B - Actuarial Assumptions

Retirement

Board of Education

Age	Rate
55-59	5%
60-61	15%
62	50%
63-64	30%
65-69	40%
70	100%

Police

75% of members are assumed to retire at age 55 with 20 years of Credited Service.

At all other ages:

Age	Rate
56-64	20%
65	100%

Marital Status

75% of participants are assumed to be married with husbands assumed to be 3 years older than their wives.

Cost of Living Adjustment

None.

Expenses

It is assumed that all expenses will be paid directly by the Town.

Form of Annuity

Life annuity with Modified Cash Refund.

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	Non-bargaining unit members hired prior to age 25 may elect to participate on date of hire. Participation is mandatory at age 25.
	Bargaining unit members may elect to participate after 1 year of Continuous Service. Participation is retroactive to date of hire. The Town will pay the Member Contributions for the first year of service.
Final Average Earnings	Certified Police Officers: Average of the 5 calendar years with the highest gross earnings. Gross earnings include overtime, educational incentive pay and longevity pay.
	Others: Average of the 5 consecutive calendar years with the highest gross earnings. Gross earnings include overtime and any other form of additional compensation.
Continuous Service	Continuous employment with the Town.
Credited Service	All service counted in years and completed months from date of participation. Participation is retroactive to date of hire.
Member Contributions	Certified Police Officers: Effective July 1, 2000, 6% of earnings.
	Others: Effective July 1, 2004, 5% of earnings.
	Member contributions stop at Normal Retirement Date.
	Interest is credited from January 1 following the date of the contribution to the date of the distribution as follows:
	06/01/1966 to 12/31/1969 3.5%
	01/01/1970 to 06/30/1986 4.5%
	07/01/1986 and after 5.5%
Normal Form of Benefit	Life Annuity with Modified Cash Refund. Optional forms of benefit are available on an actuarially equivalent basis.
Normal Retirement Date	Certified Police Officers: The earlier of age 65 or age 55 with 20 years of Continuous Service.
	Others: Earlier of age 65 or the date the member's age plus Continuous Service total 80.

Appendix C - Summary of Plan Provisions

Normal Retirement Benefit	<p>Certified Police Officers: 2.5% of Final Average Earnings multiplied by Credited Service up to 20 years plus 1.5% of Final Average Earnings multiplied by Credited Service in excess of 20 years; maximum benefit is 65% of Final Average Earnings.</p> <p>Others: 2.0% of Final Average Earnings multiplied by Credited Service.</p>
Early Retirement Date	<p>Certified Police Officers: None.</p> <p>Others: Age 55 with 15 years of Continuous Service.</p>
Early Retirement Benefit	Benefit calculated at Early Retirement Date reduced actuarially for commencement prior to Normal Retirement Date.
Late Retirement Date	Any date beyond Normal Retirement Date.
Late Retirement Benefit	Benefit calculated at Late Retirement Date.
Vesting	100% vested after 5 years of Continuous Service.
Termination Benefit	If Member is not vested as of date of termination, the Member shall receive a return of Member Contributions with interest. If a Member is vested as of termination, the Member shall be entitled to a Normal Retirement Benefit. The Member with a vested benefit can elect to receive Member contributions with interest. If the Member contributions are withdrawn, any employer provided benefit is forfeited.
Disability Retirement Date	Available at total and permanent disability after age 50 with 15 years of Continuous Service.
Disability Retirement Benefit	Benefit is the same as for Early Retirement.
Pre-Retirement Survivor Benefit	If the member has at least 5 years of Continuous Service and is married at time of death, the surviving spouse will receive an immediate benefit equal to 50% of the benefit that would have payable had the member terminated immediately before death, elected to retire at the member's earliest retirement eligibility date or date of death if later, and elected a 50% joint and survivor annuity. The surviving spouse's benefit is payable on the date that would have been the member's earliest retirement date.
Pre-Retirement Death Benefit	Return of Member Contributions with interest, in lieu of any Pre-Retirement Survivor Benefit if applicable.
Post-Retirement Death Benefit	Return of Member Contributions with interest, less any retirement benefits paid.