PUBLIC WORKS EMPLOYEES' PENSION FUND OF THE TOWN OF WESTPORT

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

Prepared by

Rebecca A. Sielman, FSA
Consulting Actuary

80 Lamberton Road
Windsor, CT 06095 USA
Tel +1 860.687.2110
Fax +1 860.687.2111
milliman.com

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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.

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 actuaries are 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

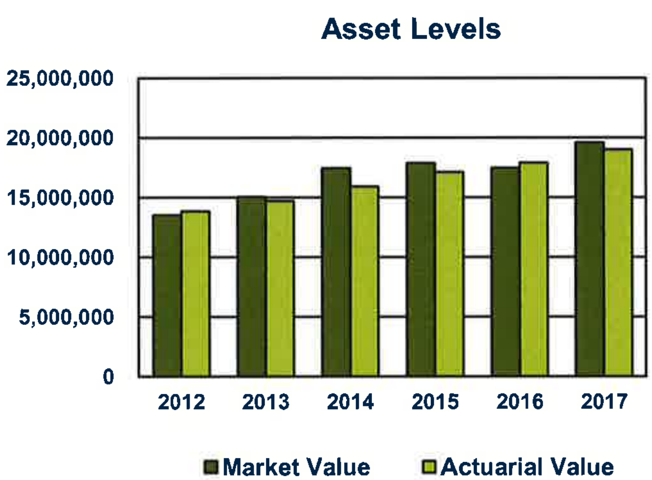
Section I - Executive Summary
A. Highlights

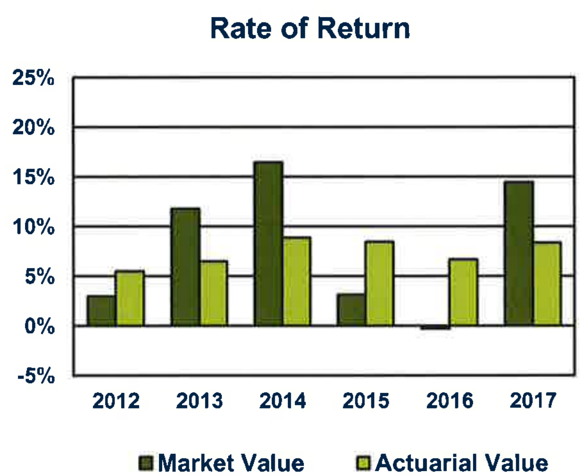
Assets

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	$17,470,488	$17,917,045
Contributions	374,615	374,615
Investment Income	2,501,002	1,479,354
Benefit Payments and Administrative Expenses	(748,462)	(748,462)
Value as of July 1, 2017	19,597,643	19,022,552

For fiscal year 2016-17, the plan's assets earned 14.470% on a Market Value basis and 8.344% on an Actuarial Value basis. The actuarial assumption for this period was 6.125%; the result is an asset gain of $1,442,400 on a Market Value basis and a gain of $393,400 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.



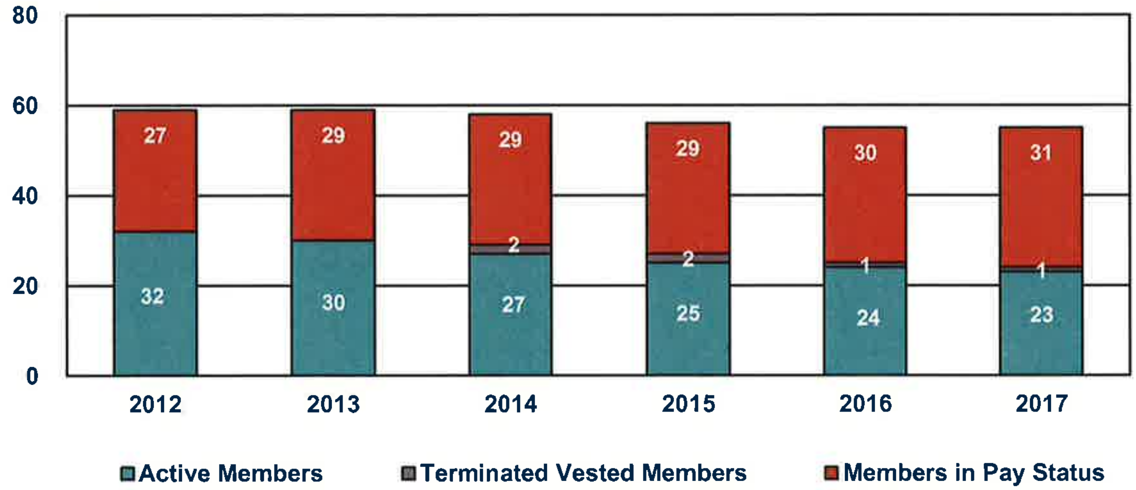


Please note that the Actuarial Value currently is less than the Market Value by $575,100. This figure represents investment gains that will be gradually recognized over the next five years. This process will exert downward pressure on the Town's contribution, unless there are offsetting market losses.

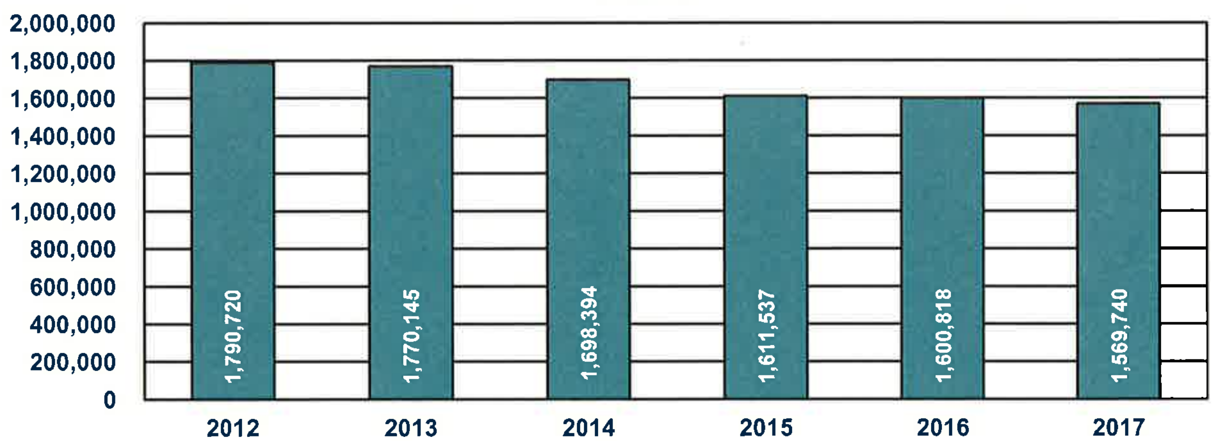
Section I - Executive Summary
A. Highlights

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 stayed the same at 55. During this period, there was 1 active member who retired and 1 retired member who died with benefits continuing to a beneficiary.



Section I - Executive Summary
A. Highlights

Plan Changes

None.

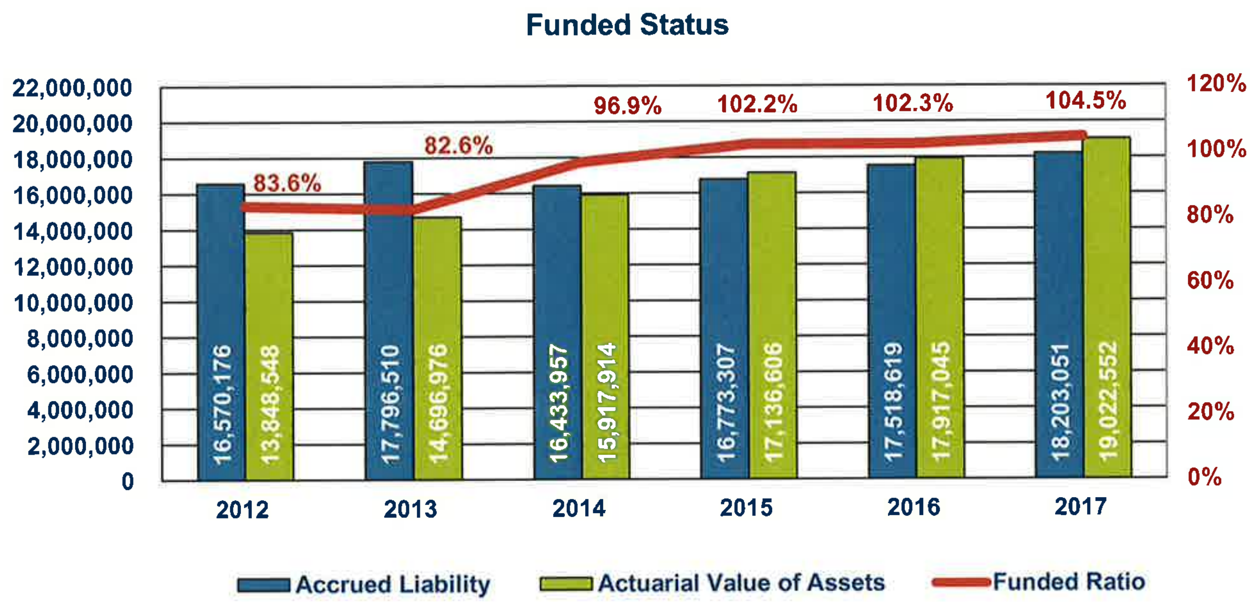
Changes in Actuarial Methods or Assumptions

None.

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.

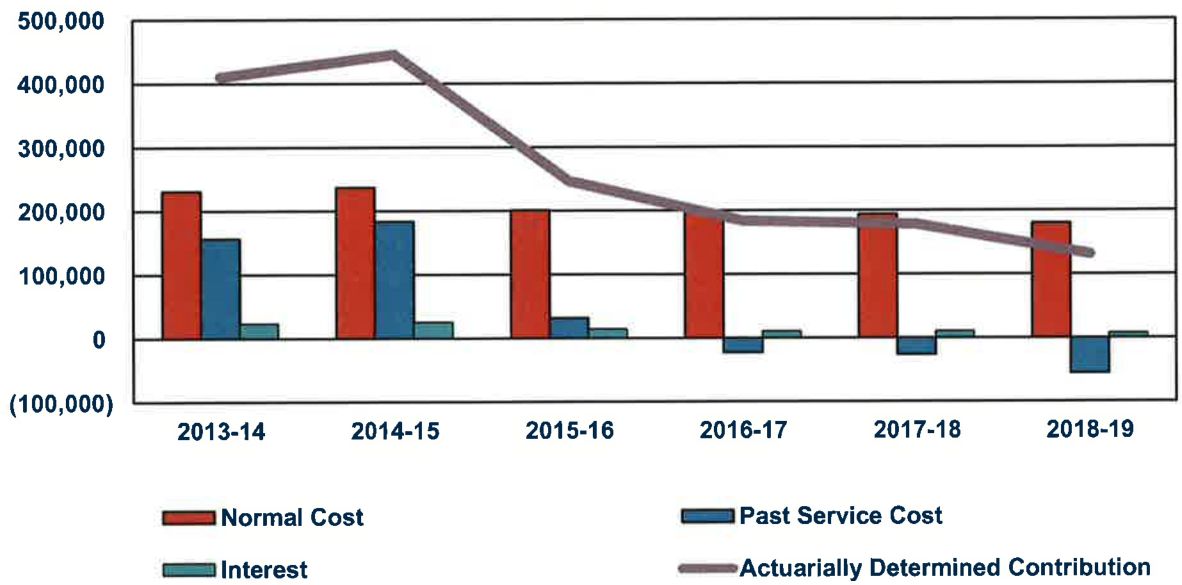


Section I - Executive Summary
A. Highlights

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.

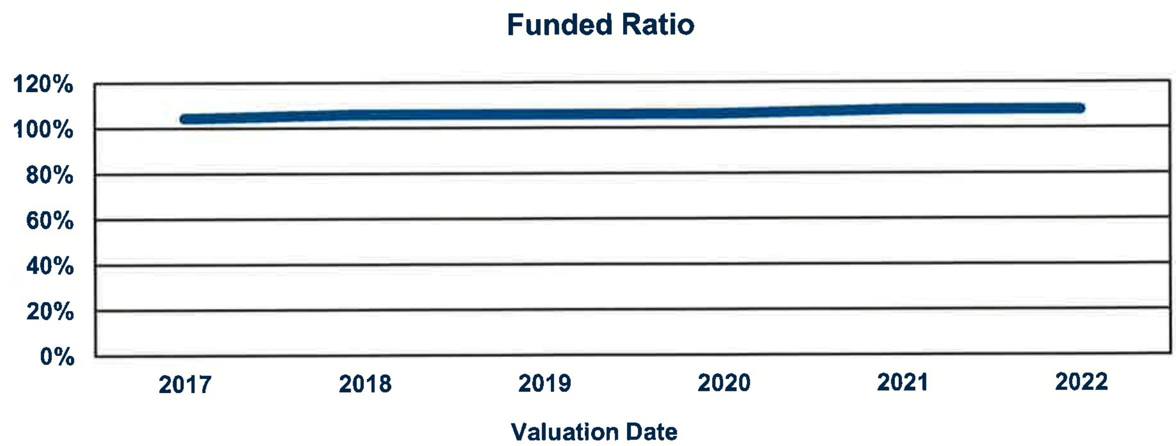
Contribution levels for the current year and the past few fiscal years are shown below.

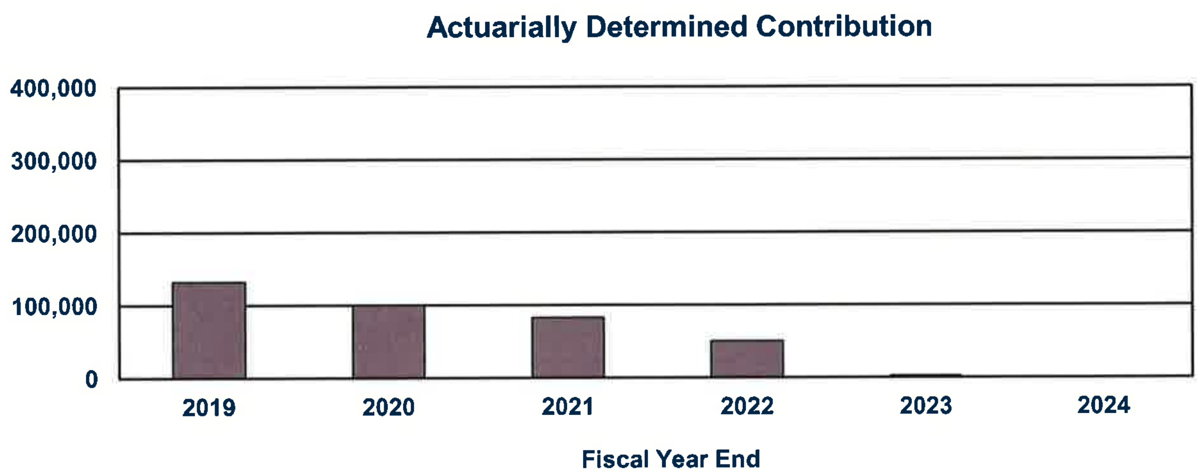


Section I - Executive Summary
A. Highlights

Long Range Forecast

We expect the valuation results for the next several years to follow the patterns illustrated below:





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

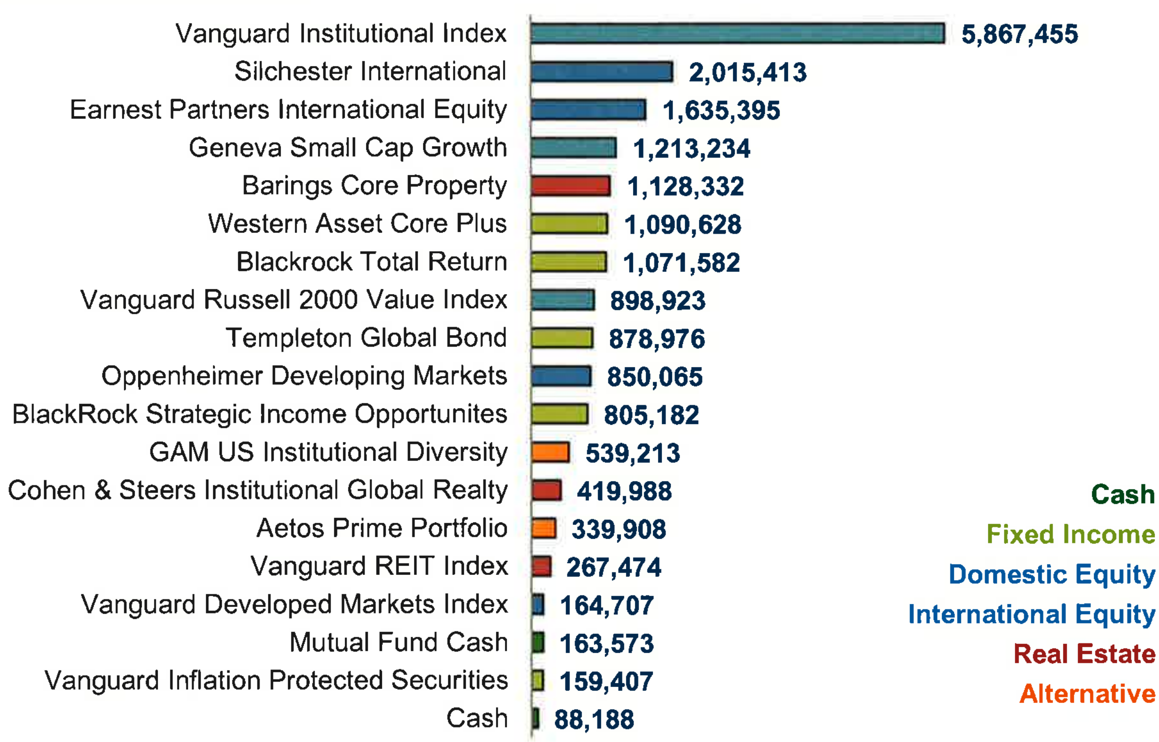
Membership	July 1, 2016	July 1, 2017
Active Members	24	23
Terminated Vested Members	1	1
Members in Pay Status	30	31
Payroll	$1,600,818	$1,569,740
Assets and Liabilities	**July 1, 2016**	**July 1, 2017**
Market Value of Assets	$17,470,488	$19,597,643
Actuarial Value of Assets	17,917,045	19,022,552
Accrued Liability for Active Members	$9,325,955	$9,507,900
Accrued Liability for Terminated Vested Members	212,931	210,246
Accrued Liability for Members in Pay Status	7,979,733	8,484,905
Total Accrued Liability	17,518,619	18,203,051
Unfunded Accrued Liability	(398,426)	(819,501)
Funded Ratio	102.3%	104.5%
Actuarially Determined Contribution for Fiscal Year	**2017-18**	**2018-19**
Normal Cost	$194,390	$180,286
Past Service Cost	(26,074)	(55,695)
Interest	10,309	7,631
Actuarially Determined Contribution	178,625	132,222
Alternative Town Contribution (see Section III B)	300,292	263,512

Section II - Plan Assets
A. Summary of Fund Transactions

Market Value as of July 1, 2016	$17,470,488
Employer Contributions	226,536
Employee Contributions	148,079
Benefit Payments	(748,462)
Investment Income	2,534,459
Investment Expenses	(33,457)
Market Value as of July 1, 2017	19,597,643
Approximate Rate of Return	14.470%

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 as of June 30, 2017



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 starting on July 1, 2011. 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	$17,470,488
b. Employer and Employee Contributions	374,615
c. Benefit Payments and Administrative Expenses	(748,462)
d. Expected Investment Return Based on 6.125% Interest	1,058,648
e. Expected Market Value of Assets as of July 1, 2017	18,155,289
2. Actual Market Value of Assets as of July 1, 2017	19,597,643
3. Market Value (Gain)/Loss: (1e) - (2)	(1,442,354)
4. Delayed Recognition of Market (Gains)/Losses:	

Plan Year End	(Gain)/Loss	Percent Not Recognized	Amount Not Recognized	
06/30/2017	($1,442,354)	80%	($1,153,883)	
06/30/2016	1,134,119	60%	680,471	
06/30/2015	522,783	40%	209,113	
06/30/2014	(1,553,959)	20%	(310,792)	
				(575,091)

5. Actuarial Value of Assets as of July 1, 2017: (2) + (4)	19,022,552
6. Approximate Rate of Return on Actuarial Value of Assets	8.344%
7. Actuarial Value (Gain)/Loss	(393,419)

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 25 years starting on July 1, 2011.

		July 1, 2016	July 1, 2017
1.	Accrued Liability		
	Active Members	$9,325,955	$9,507,900
	Terminated Vested Members	212,931	210,246
	Retired Members	4,364,162	4,879,487
	Disabled Members	1,556,944	1,407,972
	Beneficiaries of Deceased Members	2,058,627	2,197,446
	Total	17,518,619	18,203,051
2.	Actuarial Value of Assets (see Section II B)	17,917,045	19,022,552
3.	Unfunded Accrued Liability: (1) - (2)	(398,426)	(819,501)
4.	Funded Ratio: (2) / (1)	102.3%	104.5%
5.	Amortization Period	20	19
6.	Amortization Growth Rate	3.00%	3.00%
7.	Past Service Cost: (3) amortized over (5)	(26,074)	(55,695)

Section III - Development of Contribution
B. Actuarially Determined Contribution

	Fiscal Year 2017-18	Fiscal Year 2018-19
1. Total Normal Cost	$336,050	$314,194
2. Expected Employee Contributions	141,660	133,908
3. Expected Expenses	0	0
4. Net Normal Cost: (1) - (2) + (3)	194,390	180,286
5. Past Service Cost (see Section III A)	(26,074)	(55,695)
6. Interest on (4) + (5) to start of next fiscal year	10,309	7,631
7. Actuarially Determined Contribution: (4) + (5) + (6)	178,625	132,222

Because the plan is more than 100% funded, you may wish to contribute on the basis of an alternative funding target of becoming 110% funded. This will provide a margin for future adverse experience. The Town's contribution on this basis is determined as follows:

	Fiscal Year 2017-18	Fiscal Year 2018-19
8. 110% of Accrued Liability	$19,270,481	$20,023,356
9. Actuarial Value of Assets	17,917,045	19,022,552
10. Underfunding Relative to 110% Target: (8) - (9)	1,353,436	1,000,804
11. Past Service Cost based on 110% Target	88,571	68,017
12. Interest on (4) + (11) to start of next fiscal year	17,331	15,209
13. Alternative Town Contribution: (4) + (11) + (12)	300,292	263,512

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 6.125% 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	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	$18,203,051	$19,022,552	($819,501)	104.5%	2019	$132,222	$130,485	($914,961)	($652,254)
7/1/2018	18,736,000	19,899,000	(1,163,000)	106.2%	2020	100,000	121,000	(991,000)	(770,000)
7/1/2019	19,250,000	20,422,000	(1,172,000)	106.1%	2021	83,000	105,000	(1,104,000)	(916,000)
7/1/2020	19,701,000	20,962,000	(1,261,000)	106.4%	2022	51,000	96,000	(1,173,000)	(1,026,000)
7/1/2021	20,010,000	21,608,000	(1,598,000)	108.0%	2023	2,000	82,000	(1,276,000)	(1,192,000)
7/1/2022	20,255,000	21,874,000	(1,619,000)	108.0%	2024	0	67,000	(1,383,000)	(1,316,000)
7/1/2023	20,385,000	21,986,000	(1,601,000)	107.9%	2025	0	60,000	(1,420,000)	(1,360,000)
7/1/2024	20,374,000	21,976,000	(1,602,000)	107.9%	2026	0	57,000	(1,437,000)	(1,380,000)
7/1/2025	20,290,000	21,921,000	(1,631,000)	108.0%	2027	0	52,000	(1,452,000)	(1,400,000)
7/1/2026	20,162,000	21,841,000	(1,679,000)	108.3%	2028	0	39,000	(1,530,000)	(1,491,000)
7/1/2027	20,053,000	21,737,000	(1,684,000)	108.4%	2029	0	35,000	(1,538,000)	(1,503,000)
7/1/2028	19,775,000	21,532,000	(1,757,000)	108.9%	2030	0	31,000	(1,549,000)	(1,518,000)
7/1/2029	19,453,000	21,302,000	(1,849,000)	109.5%	2031	0	22,000	(1,592,000)	(1,570,000)
7/1/2030	19,097,000	21,042,000	(1,945,000)	110.2%	2032	0	14,000	(1,618,000)	(1,604,000)
7/1/2031	18,643,000	20,713,000	(2,070,000)	111.1%	2033	0	11,000	(1,610,000)	(1,599,000)
7/1/2032	18,122,000	20,328,000	(2,206,000)	112.2%	2034	0	7,000	(1,610,000)	(1,603,000)
7/1/2033	17,558,000	19,926,000	(2,368,000)	113.5%	2035	0	5,000	(1,594,000)	(1,589,000)
7/1/2034	16,960,000	19,494,000	(2,534,000)	114.9%	2036	0	2,000	(1,578,000)	(1,576,000)
7/1/2035	16,324,000	19,050,000	(2,726,000)	116.7%	2037	0	2,000	(1,546,000)	(1,544,000)
7/1/2036	15,665,000	18,593,000	(2,928,000)	118.7%	2038	0	1,000	(1,512,000)	(1,511,000)

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 25 years from July 1, 2011
Asset Valuation Method	5 Year Smoothed Market Value
Actuarial Assumptions	
Investment Rate of Return	6.125%
Projected Salary Increases	3.500%
Amortization Growth Rate	3.000%
Inflation	2.750%
Cost-of-Living Adjustments	None.

Section IV - Accounting Information
B. 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)
07/01/2011	2012-13	$13,191,401	$16,426,604	$3,235,203	80.3%	$1,701,718	190.1%
07/01/2012	2013-14	13,848,548	16,570,176	2,721,628	83.6%	1,790,720	152.0%
07/01/2013	2014-15	14,696,976	17,796,510	3,099,534	82.6%	1,770,145	175.1%
07/01/2014	2015-16	15,917,914	16,433,957	516,043	96.9%	1,698,394	30.4%
07/01/2015	2016-17	17,136,606	16,773,307	(363,299)	102.2%	1,611,537	-22.5%
07/01/2016	2017-18	17,917,045	17,518,619	(398,426)	102.3%	1,600,818	-24.9%
07/01/2017	2018-19	19,022,552	18,203,051	(819,501)	104.5%	1,569,740	-52.2%

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	$243,485	$124,000	$119,485	1,732,762	7.2%
2011	378,249	365,000	13,249	1,810,736	20.2%
2012	362,891	337,000	25,891	1,671,941	20.2%
2013	406,370	406,370	0	1,701,718	23.9%
2014	410,976	453,170	(42,194)	1,790,720	25.3%
2015	446,200	405,720	40,480	1,770,145	22.9%
2016	247,130	247,130	0	1,698,394	14.6%
2017	184,442	226,536	(42,094)	1,611,537	14.1%
2018	178,625	TBD	TBD	1,600,818	TBD
2019	132,222	TBD	TBD	1,569,740	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	$7,728,460	$7,976,820
Terminated Vested Members	212,931	210,246
Retired Members	4,364,162	4,879,487
Disabled Members	1,556,944	1,407,972
Beneficiaries of Deceased Members	2,058,627	2,197,446
Total Value of Vested Benefits	15,921,124	16,671,971
2. Value of Non-Vested Benefits	601,682	573,161
3. Total Value of Accrued Benefits: (1) + (2)	16,522,806	17,245,132
4. Market Value of Assets	17,470,488	19,597,643
5. Vested Funded Ratio: (4) / (1)	109.7%	117.5%
6. Accrued Funded Ratio: (4) / (3)	105.7%	113.6%

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	$989,441
Benefits Accumulated/(Forfeited)	481,347
Benefit Payments	(748,462)
Plan Amendments	0
Changes in Actuarial Assumptions	0
Net Increase/(Decrease)	722,326

Value of Accrued Plan Benefits:

July 1, 2017	$17,245,132
July 1, 2016	16,522,806
Net Increase/(Decrease)	722,326

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	24	1	12	6	12	55
Terminated, due refund	-	-	-	-	-	0
Terminated, benefits due	-	-	-	-	-	0
Retired	(1)	-	1	-	-	0
Disabled	-	-	-	-	-	0
Died, with beneficiary	-	-	-	(1)	1	0
Died, beneficiary paid out	-	-	-	-	-	0
Paid refund	-	-	-	-	-	0
Net transfers	-	-	-	-	-	0
New member	-	-	-	-	-	0
New beneficiary	-	-	-	-	-	0
Correction	-	-	-	-	-	0
Count as of July 1, 2017	23	1	13	5	13	55

Section V - Membership Data
B. Statistics of Membership

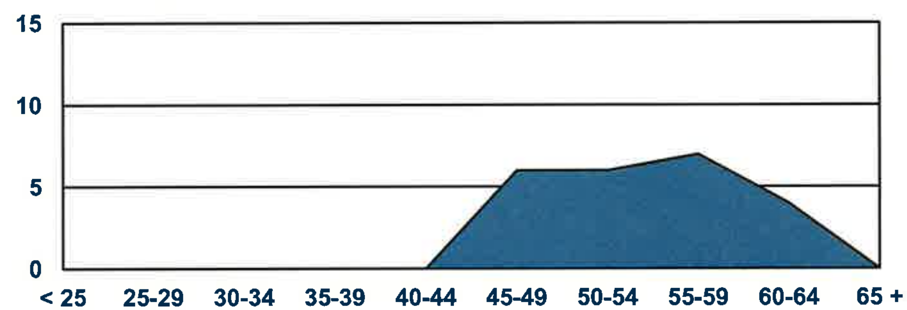
	As of July 1, 2016	As of July 1, 2017
Active Members		
Number	24	23
Average Age	53.4	53.8
Average Service	21.6	22.4
Total Payroll	$1,600,818	$1,569,740
Average Payroll	66,701	68,250
Terminated Vested Members		
Number	1	1
Total Annual Benefit	$16,137	$16,137
Average Annual Benefit	16,137	16,137
Average Age	55.0	56.0
Retired Members		
Number	12	13
Total Annual Benefit	$384,675	$433,063
Average Annual Benefit	32,056	33,313
Average Age	75.9	76.1
Disabled Members		
Number	6	5
Total Annual Benefit	$152,219	$133,760
Average Annual Benefit	25,370	26,752
Average Age	60.0	58.6
Beneficiaries of Deceased Members		
Number	12	13
Total Annual Benefit	$209,225	$227,684
Average Annual Benefit	17,435	17,514
Average Age	79.0	79.3

Section V - Membership Data

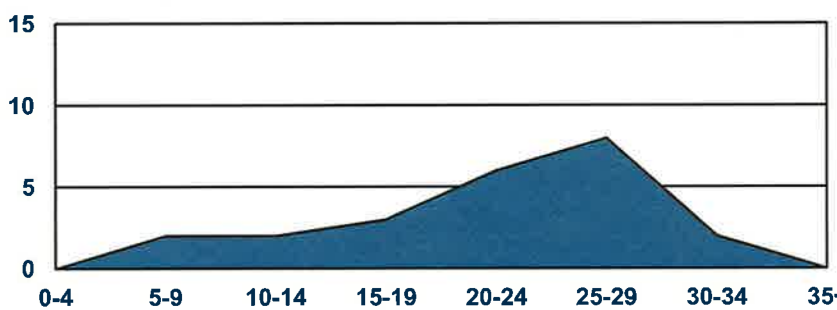
C. Distribution of Active Members as of July 1, 2017 - Count

	Years of Service								
Age	**0-4**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30-34**	**35+**	**Total**
< 25	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	0	0	0	0	0	0	0
40-44	0	0	0	0	0	0	0	0	0
45-49	0	0	1	2	2	1	0	0	6
50-54	0	1	1	1	0	3	0	0	6
55-59	0	1	0	0	2	3	1	0	7
60-64	0	0	0	0	2	1	1	0	4
65 +	0	0	0	0	0	0	0	0	0
Total	0	2	2	3	6	8	2	0	23

Distribution By Age



Distribution by Years of Service

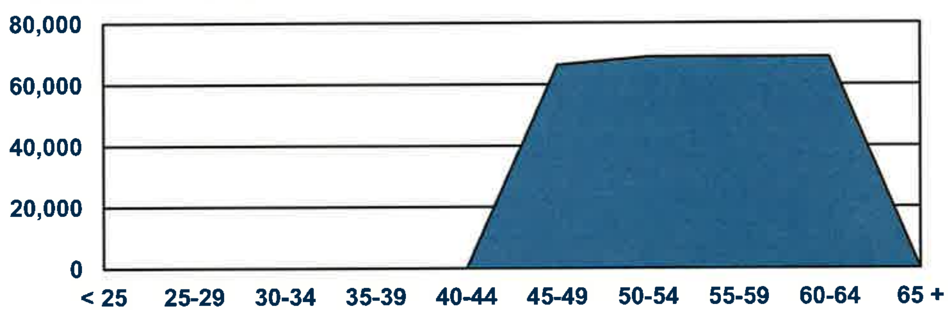


Section V - Membership Data

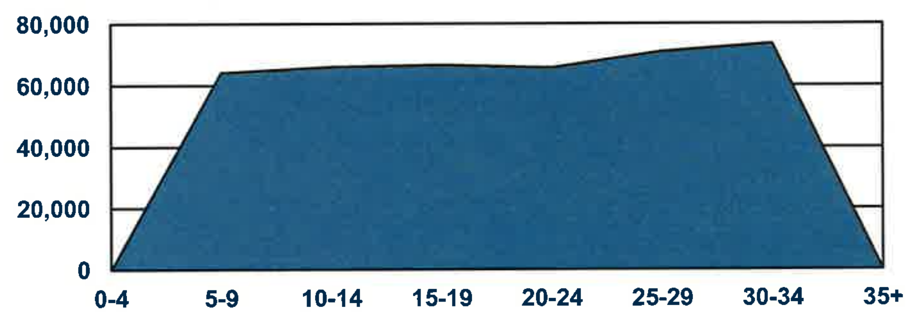
D. Distribution of Active Members as of July 1, 2017 - Average Pay

	Years of Service								
Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35+	Total
< 25	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	0	0	0	0	0	0	0
40-44	0	0	0	0	0	0	0	0	0
45-49	0	0	65,248	66,545	63,927	71,733	0	0	66,321
50-54	0	64,705	66,931	67,001	0	71,637	0	0	68,925
55-59	0	63,742	0	0	66,381	70,166	75,401	0	68,915
60-64	0	0	0	0	66,931	70,270	71,733	0	68,966
65 +	0	0	0	0	0	0	0	0	0
Total	0	64,224	66,090	66,697	65,746	70,926	73,567	0	68,250

Distribution By Age



Distribution by Years of Service



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	0	0
	40 - 49	0	0
	50 - 59	1	16,137
	60 - 64	0	0
	65 +	0	0
	Total	1	16,137
Retired Members	< 50	0	$0
	50 - 59	0	0
	60 - 69	3	123,650
	70 - 79	7	271,933
	80 - 89	1	18,371
	90 +	2	19,109
	Total	13	433,063
Disabled Retirees	< 50	0	$0
	50 - 59	3	75,878
	60 - 69	2	57,882
	70 - 79	0	0
	80 - 89	0	0
	90 +	0	0
	Total	5	133,760
Beneficiaries	< 50	0	$0
	50 - 59	2	106,346
	60 - 69	1	5,700
	70 - 79	3	39,988
	80 - 89	4	50,643
	90 +	3	25,007
	Total	13	227,684

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 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 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, 2011, the amortization period is 25 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.

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 6.125%

Amortization Growth Rate 3.000%

Salary Scale 3.500%

Expenses None.

Mortality RP-2000 Mortality Tables for employees, healthy annuitants, and disabled annuitants, with generational projection of future mortality improvements per Scale AA. This assumption includes a margin for improvements in longevity beyond the valuation date.

Turnover 50% of Vaughn Select and Ultimate table:

	Service			
Age	**1**	**2**	**3**	**4+**
20	14.90%	12.50%	10.50%	9.30%
25	13.90%	11.25%	9.25%	6.80%
30	12.90%	10.00%	8.00%	5.05%
35	11.90%	8.90%	6.90%	3.95%
40	10.90%	7.90%	5.90%	3.25%
45	9.90%	7.05%	5.05%	2.75%
50	8.90%	6.30%	4.30%	2.25%
55	6.75%	4.75%	3.08%	1.54%
60	0.00%	0.00%	0.00%	0.00%

Retirement Active members are assumed to retire according to the following table:

Age	Rate
<62	5%
62-69	20%
70	100%

Also 100% are assumed to retire at 33 years of service.

Terminated vested members are assumed to retire at their Normal Retirement Date.

Appendix B - Actuarial Assumptions

Disability

50% of 1985 Pension Class 4 table:

Age	Male	Female
25	0.13%	0.09%
35	0.25%	0.23%
45	0.47%	0.44%
55	1.14%	1.06%
65	2.30%	1.43%

All disabled members are assumed to receive the On Duty disability benefit.

Marriage Assumption

80% of members are assumed to be married and husbands are assumed to be 3 years older than their wives.

Load for Unused Sick Days

The Accrued Liability and Total Normal Cost for active members are loaded by 1.00% to anticipate the trade of unused sick days for additional pension service.

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

Each public works employee is eligible to participate as of the date the employee completes the probationary period. Employees hired after the effective date of the new contract are not covered by this plan.

Employee Contributions

9% of Compensation for employees hired before July 1, 1999. 10% of Compensation for employees hired on or after July 1, 1999. Contributions are credited with 5% interest.

Credited Service

Service from date of hire measured in years and completed months, capped at 32.5 years. Effective July 1, 2011, service is capped at 26 years. Credited Service includes unused sick time of 60-120 days.

Compensation

Base Salary, including "pick-up" contributions but excluding overtime or other income.

Final Average Earnings

Compensation earned during the last 12 months of service.

Normal Retirement Date

The first day of the month coincident with or next following the later of the date the member's age plus Credited Service equals 75, with a minimum age of 55 and completion of 10 years of service.

Normal Retirement Benefit

2.50% of Final Average Compensation times Credited Service (maximum of 26 years) reduced by payments from any program to which the employer has contributed. Maximum service is 32.5 years for active members with more than 26 years of service as of June 30, 2011.

Early Retirement Date

None provided.

Disability Retirement (On Duty)

50% of the annualized Compensation immediately prior to disability or if greater, the Normal Retirement Benefit calculated as if the member terminated at date of disability. At the death of the member, 100% of the benefit will continue to the spouse or eligible children. If hired on or after January 1, 2002, 75% of the benefit will continue.

Disability Retirement (Non Duty)

Refund of accumulated employee contributions with interest. The Pension Board may award a pension equal to the On Duty Disability benefit.

Appendix C - Summary of Plan Provisions

Pre-Retirement Death (On Duty)	50% of the annualized Compensation immediately prior to death. For members hired on or after January 1, 1999, 75% of the amount described above is payable to the beneficiary.
Pre-Retirement Death (Non Duty)	Refund of accumulated employee contributions with interest.
Normal Form of Payment	100% Joint & Survivor for members hired before January 1, 1999. 75% Joint & Survivor for members hired on or after January 1, 1999. Upon the death of the member and any beneficiaries, the excess of employee contributions with interest over the sum of benefits previously paid is payable to the member's estate.
Vesting	100% vested after completing 10 years of continuous service.
Vested Retirement	If vested, Normal Retirement Benefit accrued to date of termination payable at Normal Retirement Date. Can opt to receive a refund of employee contributions with interest in lieu of a monthly benefit.
Termination Benefit	If not vested at termination, a refund of accumulated employee contributions with interest will be paid.