



---

## **TOWN OF WESTPORT RETIREMENT PLAN FOR NON-UNION EMPLOYEES**

**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

## Table of Contents

|   | Page |
|---|------|
| <b>CERTIFICATION</b>  | 1    |
| <b>I EXECUTIVE SUMMARY</b>                                  |      |
| <b>A. Highlights</b>  | 3    |
| <b>B. Summary of Principal Results</b>                      | 9    |
| <b>II PLAN ASSETS</b>                                       |      |
| <b>A. Summary of Fund Transactions</b>                      | 10   |
| <b>B. Development of Actuarial Value of Assets</b>          | 11   |
| <b>III DEVELOPMENT OF CONTRIBUTION</b>                      |      |
| <b>A. Past Service Cost</b>                                 | 12   |
| <b>B. Actuarially Determined Contribution</b>               | 13   |
| <b>C. Long Range Forecast</b>                               | 14   |
| <b>IV ACCOUNTING INFORMATION</b>                            |      |
| <b>A. Notes to Required Supplementary Information</b>       | 15   |
| <b>B. Schedule of Funding Progress</b>                      | 16   |
| <b>C. Schedule of Employer Contributions</b>                | 17   |
| <b>D. Accrued and Vested Benefits</b>                       | 18   |
| <b>E. Statement of Changes in Accrued Plan Benefits</b>     | 19   |
| <b>V MEMBERSHIP DATA</b>                                    |      |
| <b>A. Reconciliation of Membership From Prior Valuation</b> | 20   |
| <b>B. Statistics of Membership</b>                          | 21   |
| <b>C. Distribution of Active Members - Count</b>            | 22   |
| <b>D. Distribution of Active Members - Average Pay</b>      | 23   |
| <b>E. Distribution of Inactive Members</b>                  | 24   |
| <b>APPENDICES</b>   |      |
| <b>A. Actuarial Funding Method</b>                          | 25   |
| <b>B. Actuarial Assumptions</b>                             | 26   |
| <b>C. Summary of Plan Provisions</b>                        | 28   |

## 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

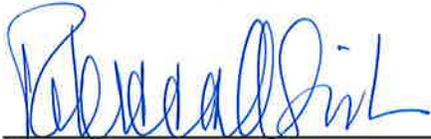
The calculations reported herein have been made on a basis consistent with our understanding of ERISA and the related sections of the tax code. Additional determinations may be needed for purposes other than meeting funding requirements, such as judging benefit security at plan termination or meeting 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

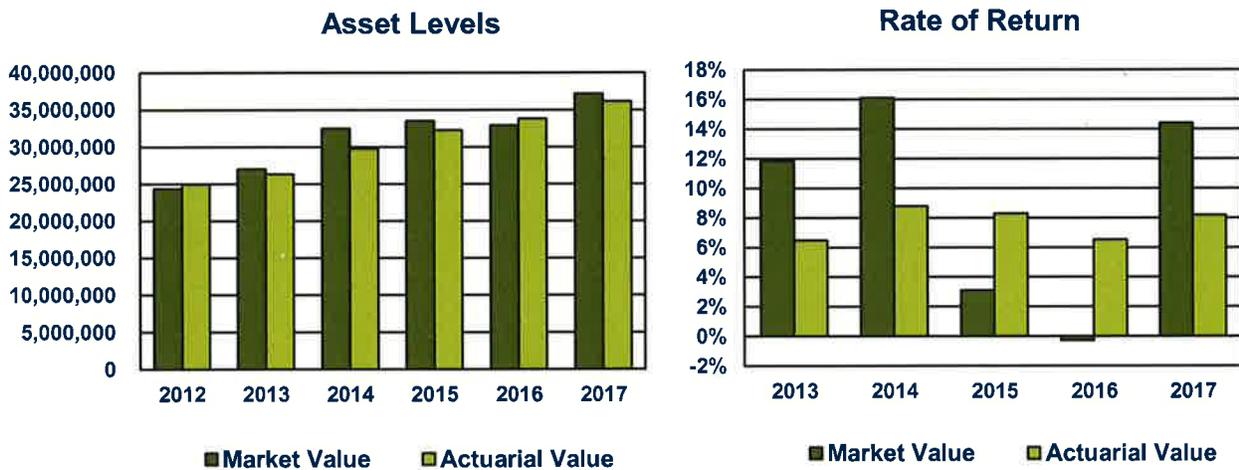
### A. Highlights

#### 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                     | \$32,896,308 | \$33,813,124 |
| Contributions                                | 1,920,231    | 1,920,231    |
| Investment Income                            | 4,709,402    | 2,747,666    |
| Benefit Payments and Administrative Expenses | (2,331,086)  | (2,331,086)  |
| Value as of July 1, 2017                     | 37,194,855   | 36,149,935   |

For fiscal year 2016-17, the plan's assets earned 14.406% on a Market Value basis and 8.176% on an Actuarial Value basis. The actuarial assumption for this period was 6.125%; the result is an asset gain of \$2,707,100 on a Market Value basis and a gain of \$689,300 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.



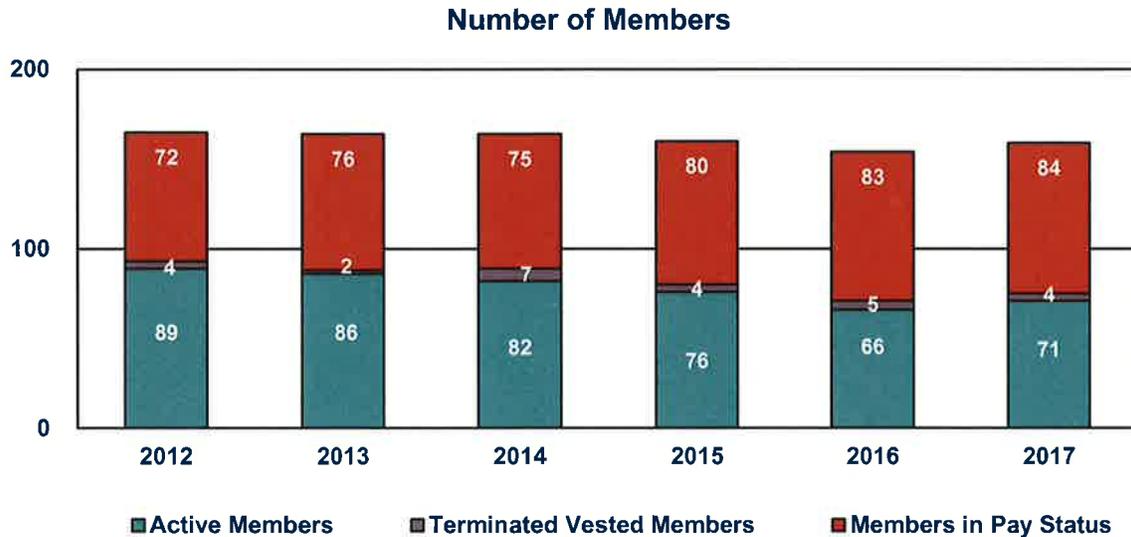
Please note that the Actuarial Value currently is less than the Market Value by \$1,044,900. This figure represents investment gains that will be gradually recognized over the next five years. This process will exert downward pressure on the Town's contribution, unless there are offsetting market losses.

## Section I - Executive Summary

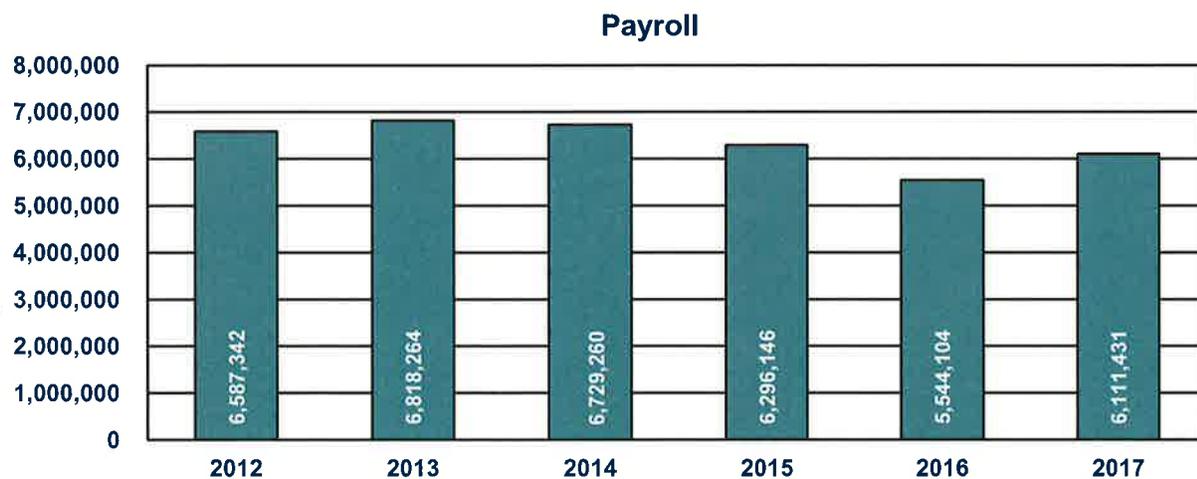
### A. Highlights

#### 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 increased from 154 to 159. During this period, there were 6 Custodians who transferred from the Municipal pension plan, 3 actives hired prior to January 1, 2012 who became eligible, 1 active member corrected to the Municipal pension plan, 1 active member who terminated with a vested benefit, and 2 retirees and 1 beneficiary died.



## **Section I - Executive Summary**

### **A. Highlights**

#### **Plan Changes**

None.

#### **Changes in Actuarial Methods or Assumptions**

None.

#### **Other Changes**

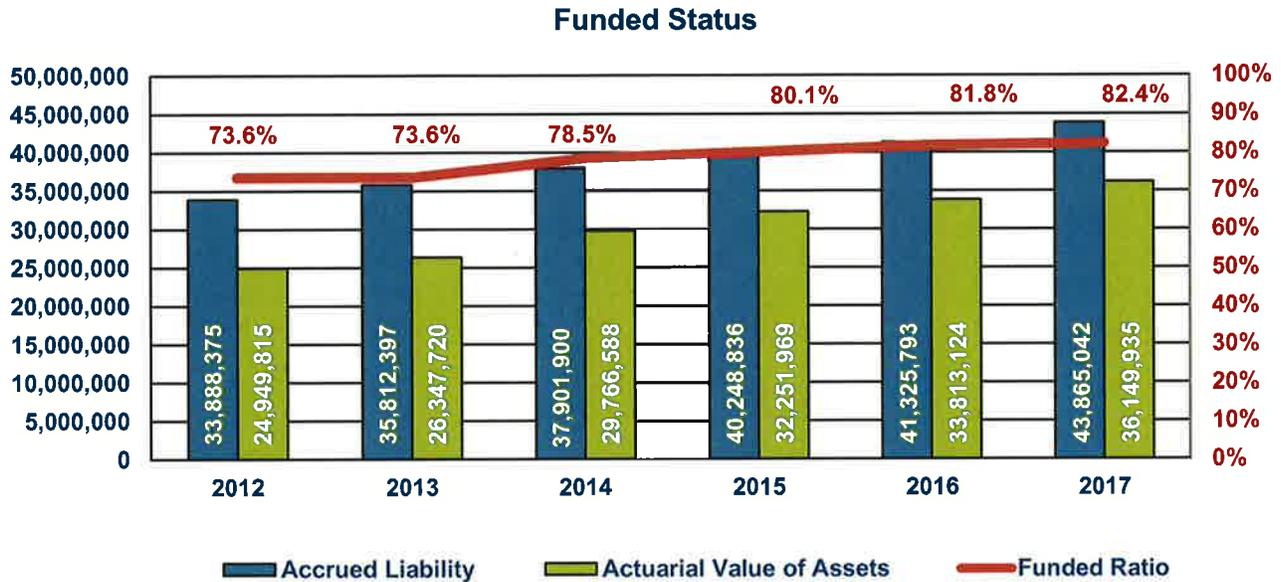
A total of 6 active members were transferred from the Retirement Plan for Municipal Employees to this plan. As of July 1, 2017, these members have Accrued Liability of \$1,060,000 and Net Normal Cost of \$44,000 in aggregate, so the result of their transfer is that the Actuarially Determined Contribution for this plan rose by \$124,000. Note that their transfer resulted in corresponding reductions in the figures for the Municipal plan.

## 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.



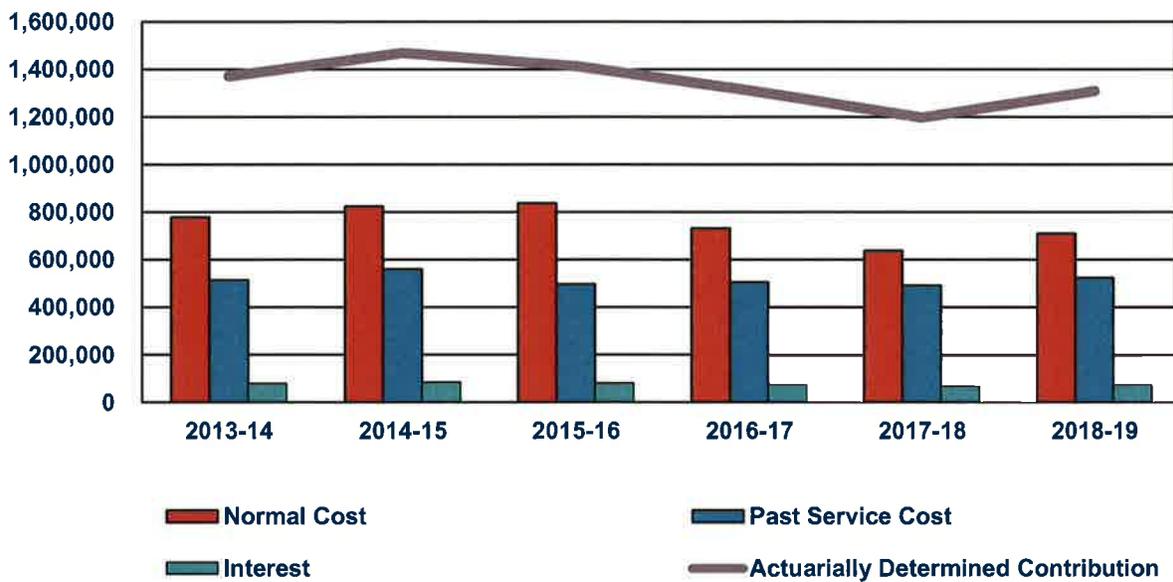
## Section I - Executive Summary

### 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.

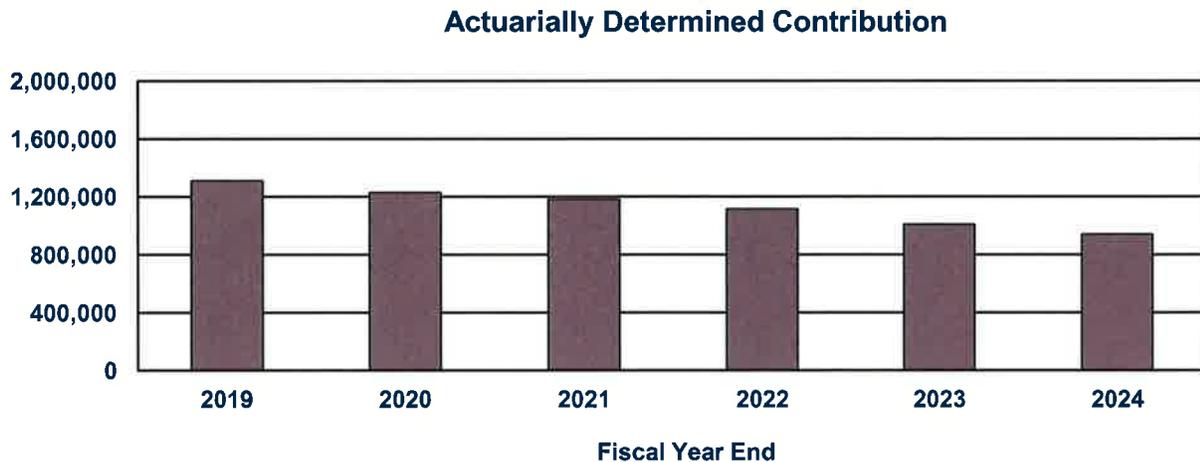
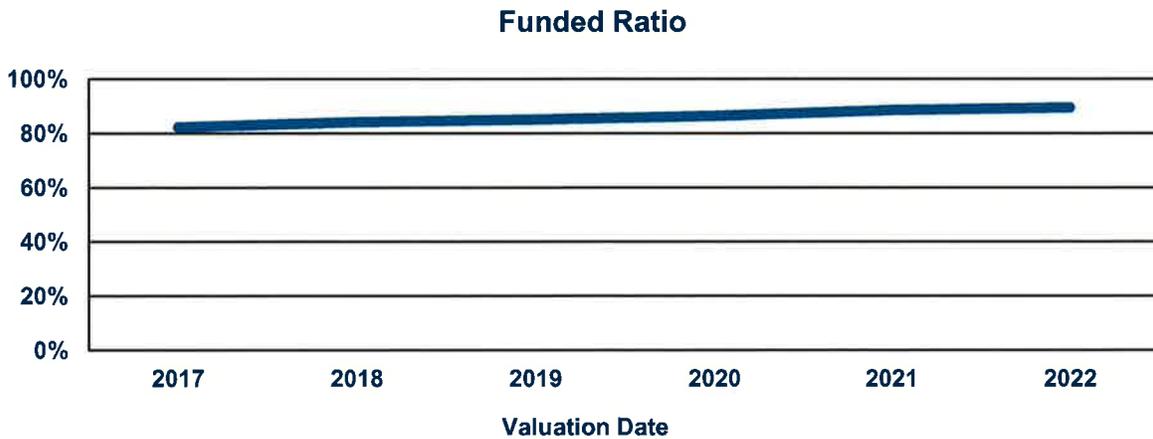


## Section I - Executive Summary

### 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**

---

| <b>Membership</b>  | <b>July 1, 2016</b> | <b>July 1, 2017</b> |
|--|---------------------|---------------------|
| Active Members   | 66                  | 71                  |
| Terminated Vested Members                                  | 5                   | 4                   |
| Members in Pay Status                                      | 83                  | 84                  |
| Payroll  | \$5,544,104         | \$6,111,431         |
|  |                     |                     |
| <b>Assets and Liabilities</b>                              | <b>July 1, 2016</b> | <b>July 1, 2017</b> |
| Market Value of Assets                                     | \$32,896,308        | \$37,194,855        |
| Actuarial Value of Assets                                  | 33,813,124          | 36,149,935          |
|  |                     |                     |
| Accrued Liability for Active Members                       | \$16,840,005        | \$19,116,834        |
| Accrued Liability for Terminated Vested Members            | 889,428             | 589,232             |
| Accrued Liability for Members in Pay Status                | 23,596,360          | 24,158,976          |
| Total Accrued Liability                                    | 41,325,793          | 43,865,042          |
|  |                     |                     |
| Unfunded Accrued Liability                                 | 7,512,669           | 7,715,107           |
|  |                     |                     |
| Funded Ratio   | 81.8%               | 82.4%               |
|  |                     |                     |
| <b>Actuarially Determined Contribution for Fiscal Year</b> | <b>2017-18</b>      | <b>2018-19</b>      |
| Normal Cost  | \$638,600           | \$710,554           |
| Past Service Cost  | 491,641             | 524,335             |
| Interest   | 69,227              | 75,637              |
| Actuarially Determined Contribution                        | 1,199,468           | 1,310,526           |

---

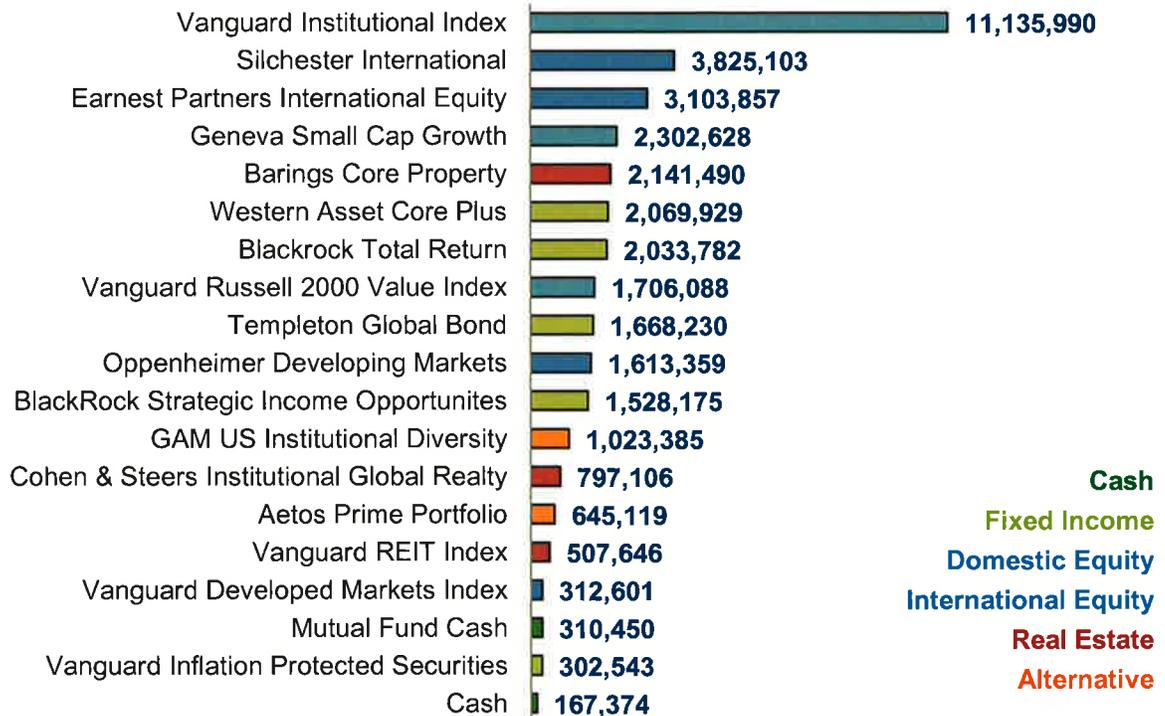
## Section II - Plan Assets

### A. Summary of Fund Transactions

|  |                       |
|--|-----------------------|
| <b>Market Value as of July 1, 2016</b>     | <b>\$32,896,308</b>   |
| Employer Contributions                     | 1,681,195             |
| Employee Contributions                     | 239,036               |
| Benefit Payments                           | (2,331,086)           |
| Investment Income                          | 4,772,401             |
| Investment Expenses                        | (62,999)              |
| <br><b>Market Value as of July 1, 2017</b> | <br><b>37,194,855</b> |
| <br><b>Approximate Rate of Return</b>      | <br><b>14.406%</b>    |

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            |                    | \$32,896,308                      |
|    | b. Employer and Employee Contributions                  |                    | 1,920,231                         |
|    | c. Benefit Payments and Administrative Expenses         |                    | (2,331,086)                       |
|    | d. Expected Investment Return Based on 6.125% Interest  |                    | <u>2,002,297</u>                  |
|    | e. Expected Market Value of Assets as of July 1, 2017   |                    | 34,487,750                        |
| 2. | Actual Market Value of Assets as of July 1, 2017        |                    | 37,194,855                        |
| 3. | Market Value (Gain)/Loss: (1e) - (2)                    |                    | (2,707,105)                       |
| 4. | Delayed Recognition of Market (Gains)/Losses:           |                    |                                   |
|    | <b>Plan Year End</b>                                    | <b>(Gain)/Loss</b> | <b>Percent Not<br/>Recognized</b> |
|    | 06/30/2017  | (\$2,707,105)      | 80%                               |
|    | 06/30/2016  | 2,130,144          | 60%                               |
|    | 06/30/2015  | 981,037            | 40%                               |
|    | 06/30/2014  | (2,748,686)        | 20%                               |
|    |   |                    | <b>Amount Not<br/>Recognized</b>  |
|    |   |                    | (1,044,920)                       |
| 5. | Actuarial Value of Assets as of July 1, 2017: (2) + (4) |                    | 36,149,935                        |
| 6. | Approximate Rate of Return on Actuarial Value of Assets |                    | 8.176%                            |
| 7. | Actuarial Value (Gain)/Loss                             |                    | (689,269)                         |

**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                                  | \$16,840,005     | \$19,116,834     |
| Terminated Vested Members                       | 889,428          | 589,232          |
| Retired Members                                 | 20,311,143       | 20,949,638       |
| Disabled Members                                | 0                | 0                |
| Beneficiaries of Deceased Members               | <u>3,285,217</u> | <u>3,209,338</u> |
| Total   | 41,325,793       | 43,865,042       |
| 2. Actuarial Value of Assets (see Section II B) | 33,813,124       | 36,149,935       |
| 3. Unfunded Accrued Liability: (1) - (2)        | 7,512,669        | 7,715,107        |
| 4. Funded Ratio: (2) / (1)                      | 81.8%            | 82.4%            |
| 5. Amortization Period                          | 20               | 19               |
| 6. Amortization Growth Rate                     | 3.00%            | 3.00%            |
| 7. Past Service Cost: (3) amortized over (5)    | 491,641          | 524,335          |

**Section III - Development of Contribution**  
**B. Actuarially Determined Contribution**

---

|   | Fiscal Year<br>2017-18 | Fiscal Year<br>2018-19 |
|---|------------------------|------------------------|
| 1. Total Normal Cost                                    | \$853,074              | \$947,145              |
| 2. Expected Employee Contributions                      | 214,474                | 236,591                |
| 3. Expected Expenses                                    | 0                      | 0                      |
| 4. Net Normal Cost: (1) - (2) + (3)                     | 638,600                | 710,554                |
| 5. Past Service Cost (see Section III A)                | 491,641                | 524,335                |
| 6. Interest on (4) + (5) to start of next fiscal year   | 69,227                 | 75,637                 |
| 7. Actuarially Determined Contribution: (4) + (5) + (6) | 1,199,468              | 1,310,526              |

---

**Milliman Actuarial Valuation**

**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                        | \$43,865,042      | \$36,149,935              | \$7,715,107                | 82.4%   | 2019               | \$1,310,526        | \$220,974              | (\$2,574,317)    | (\$1,042,817)  |  |
| 7/1/2018                        | 44,929,000        | 37,874,000                | 7,055,000                  | 84.3%   | 2020               | 1,230,000          | 206,000                | (2,717,000)      | (1,281,000)    |  |
| 7/1/2019                        | 45,843,000        | 39,073,000                | 6,770,000                  | 85.2%   | 2021               | 1,181,000          | 190,000                | (2,860,000)      | (1,489,000)    |  |
| 7/1/2020                        | 46,596,000        | 40,302,000                | 6,294,000                  | 86.5%   | 2022               | 1,115,000          | 174,000                | (3,005,000)      | (1,716,000)    |  |
| 7/1/2021                        | 47,185,000        | 41,810,000                | 5,375,000                  | 88.6%   | 2023               | 1,009,000          | 158,000                | (3,179,000)      | (2,012,000)    |  |
| 7/1/2022                        | 47,582,000        | 42,602,000                | 4,980,000                  | 89.5%   | 2024               | 941,000            | 144,000                | (3,305,000)      | (2,220,000)    |  |
| 7/1/2023                        | 47,753,000        | 43,137,000                | 4,616,000                  | 90.3%   | 2025               | 884,000            | 131,000                | (3,412,000)      | (2,397,000)    |  |
| 7/1/2024                        | 47,750,000        | 43,490,000                | 4,260,000                  | 91.1%   | 2026               | 831,000            | 120,000                | (3,501,000)      | (2,550,000)    |  |
| 7/1/2025                        | 47,584,000        | 43,683,000                | 3,901,000                  | 91.8%   | 2027               | 784,000            | 108,000                | (3,599,000)      | (2,707,000)    |  |
| 7/1/2026                        | 47,262,000        | 43,730,000                | 3,532,000                  | 92.5%   | 2028               | 741,000            | 97,000                 | (3,691,000)      | (2,853,000)    |  |
| 7/1/2027                        | 46,782,000        | 43,618,000                | 3,164,000                  | 93.2%   | 2029               | 694,000            | 87,000                 | (3,775,000)      | (2,994,000)    |  |
| 7/1/2028                        | 46,134,000        | 43,350,000                | 2,784,000                  | 94.0%   | 2030               | 650,000            | 78,000                 | (3,815,000)      | (3,087,000)    |  |
| 7/1/2029                        | 45,323,000        | 42,919,000                | 2,404,000                  | 94.7%   | 2031               | 611,000            | 70,000                 | (3,839,000)      | (3,158,000)    |  |
| 7/1/2030                        | 44,384,000        | 42,365,000                | 2,019,000                  | 95.5%   | 2032               | 571,000            | 63,000                 | (3,868,000)      | (3,234,000)    |  |
| 7/1/2031                        | 43,332,000        | 41,705,000                | 1,627,000                  | 96.2%   | 2033               | 532,000            | 56,000                 | (3,873,000)      | (3,285,000)    |  |
| 7/1/2032                        | 42,157,000        | 40,926,000                | 1,231,000                  | 97.1%   | 2034               | 485,000            | 49,000                 | (3,876,000)      | (3,342,000)    |  |
| 7/1/2033                        | 40,877,000        | 40,047,000                | 830,000                    | 98.0%   | 2035               | 425,000            | 43,000                 | (3,836,000)      | (3,368,000)    |  |
| 7/1/2034                        | 39,496,000        | 39,056,000                | 440,000                    | 98.9%   | 2036               | 342,000            | 39,000                 | (3,773,000)      | (3,392,000)    |  |
| 7/1/2035                        | 38,051,000        | 37,977,000                | 74,000                     | 99.8%   | 2037               | 169,000            | 35,000                 | (3,726,000)      | (3,522,000)    |  |
| 7/1/2036                        | 36,576,000        | 36,807,000                | (231,000)                  | 100.6%  | 2038               | 0                  | 31,000                 | (3,648,000)      | (3,617,000)    |  |

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:

---

|                               |                                   |
|-------------------------------|-----------------------------------|
| <b>Valuation Date</b>         | July 1, 2017                      |
| <b>Actuarial Cost Method</b>  | Entry Age Normal                  |
| <b>Amortization Method</b>    | Level percent                     |
| <b>Amortization Period</b>    | Closed 25 years from July 1, 2011 |
| <b>Asset Valuation Method</b> | 5 Year Smoothed Market Value      |
| <b>Actuarial Assumptions</b>  |                                   |
| Investment Rate of Return     | 6.125%                            |
| Projected Salary Increases    | Age based scale                   |
| Amortization Growth Rate      | 3.000%                            |
| Inflation                     | 2.750%                            |
| Cost-of-Living Adjustments    | None.                             |

---

**Milliman Actuarial Valuation**

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

| Actuarial Valuation Date | For Fiscal Year | (1)<br>Actuarial Value of Assets | (2)<br>Actuarial Accrued Liability (AAL) | (3)<br>Unfunded AAL (UAAL) (2) - (1) | (4)<br>Funded Ratio (1) / (2) | (5)<br>Covered Payroll | (6)<br>UAAL as a Percentage of Covered Payroll (3) / (5) |
|--------------------------|-----------------|----------------------------------|--|--------------------------------------|-------------------------------|------------------------|--|
| 07/01/2011               | 2012-13         | \$22,524,803                     | \$29,140,889                             | \$6,616,086                          | 77.3%                         | \$6,670,562            | 99.2%  |
| 07/01/2012               | 2013-14         | 24,949,815                       | 33,888,375                               | 8,938,560                            | 73.6%                         | 6,587,342              | 135.7%   |
| 07/01/2013               | 2014-15         | 26,347,720                       | 35,812,397                               | 9,464,677                            | 73.6%                         | 6,818,264              | 138.8%   |
| 07/01/2014               | 2015-16         | 29,766,588                       | 37,901,900                               | 8,135,312                            | 78.5%                         | 6,729,260              | 120.9%   |
| 07/01/2015               | 2016-17         | 32,251,969                       | 40,248,836                               | 7,996,867                            | 80.1%                         | 6,222,001              | 128.5%   |
| 07/01/2016               | 2017-18         | 33,813,124                       | 41,325,793                               | 7,512,669                            | 81.8%                         | 5,544,104              | 135.5%   |
| 07/01/2017               | 2018-19         | 36,149,935                       | 43,865,042                               | 7,715,107                            | 82.4%                         | 6,111,431              | 126.2%   |

**Section IV - Accounting Information**  
**C. Schedule of Employer Contributions**

| Fiscal Year<br>Ending<br>June 30 | (1)<br>Actuarially<br>Determined<br>Contribution | (2)<br>Contribution in<br>Relation to the<br>Actuarially<br>Determined<br>Contribution | (3)<br>Contribution<br>Deficiency/<br>(Excess)<br>(1) - (2) | (4)<br>Covered<br>Payroll | (5)<br>Contribution as a<br>Percentage of<br>Covered Payroll<br>(2) / (4) |
|----------------------------------|--|--|---|---------------------------|---|
| 2010                             | \$1,698,683                                      | \$1,340,937  | \$357,746   | \$6,825,610               | 19.6%   |
| 2011                             | 2,143,607  | 2,250,000  | (106,393)   | \$6,608,618               | 34.0%   |
| 2012                             | 2,005,359  | 2,442,123  | (436,764)   | 6,561,689                 | 37.2%   |
| 2013                             | 1,195,432  | 1,195,432  | 0   | 6,670,562                 | 17.9%   |
| 2014                             | 1,373,057  | 2,505,548  | (1,132,491)   | 6,587,342                 | 38.0%   |
| 2015                             | 1,470,807  | 1,556,428  | (85,621)  | 6,818,264                 | 22.8%   |
| 2016                             | 1,416,354  | 1,416,354  | 0   | 6,729,260                 | 21.0%   |
| 2017                             | 1,313,623  | 1,681,195  | (367,572)   | 6,222,001                 | 27.0%   |
| 2018                             | 1,199,468  | TBD  | TBD   | 5,544,104                 | TBD   |
| 2019                             | 1,310,526  | TBD  | TBD   | 6,111,431                 | 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.

|   | <b>As of<br/>July 1, 2016</b> | <b>As of<br/>July 1, 2017</b> |
|---|-------------------------------|-------------------------------|
| 1. Value of Vested Benefits                   |                               |                               |
| Active Members                                | \$12,336,971                  | \$14,135,063                  |
| Terminated Vested Members                     | 889,428                       | 589,232                       |
| Retired Members                               | 20,311,143                    | 20,949,638                    |
| Disabled Members                              | 0                             | 0                             |
| Beneficiaries of Deceased Members             | <u>3,285,217</u>              | <u>3,209,338</u>              |
| Total Value of Vested Benefits                | 36,822,759                    | 38,883,271                    |
| 2. Value of Non-Vested Benefits               | 1,035,993                     | 1,039,864                     |
| 3. Total Value of Accrued Benefits: (1) + (2) | 37,858,752                    | 39,923,135                    |
| 4. Market Value of Assets                     | 32,896,308                    | 37,194,855                    |
| 5. Vested Funded Ratio: (4) / (1)             | 89.3%                         | 95.7%                         |
| 6. Accrued Funded Ratio: (4) / (3)            | 86.9%                         | 93.2%                         |

**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 | \$2,248,520 |
| Benefits Accumulated/(Forfeited)                                 | 2,146,949   |
| Benefit Payments   | (2,331,086) |
| Plan Amendments  | 0           |
| Changes in Actuarial Assumptions                                 | 0           |
| Net Increase/(Decrease)  | 2,064,383   |

**Value of Accrued Plan Benefits:**

|                         |              |
|-------------------------|--------------|
| July 1, 2017            | \$39,923,135 |
| July 1, 2016            | 37,858,752   |
| Net Increase/(Decrease) | 2,064,383    |

---

**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.<br>Vested | Retirees | Disabled | Bene-<br>ficiaries | Total |
|---------------------------------|--------|-----------------|----------|----------|--------------------|-------|
| <b>Count as of July 1, 2016</b> | 66     | 5               | 70       | 0        | 13                 | 154   |
| Terminated, due refund          | -      | -               | -        | -        | -                  | 0     |
| Terminated, benefits due        | (1)    | 1               | -        | -        | -                  | 0     |
| Retired                         | (2)    | (2)             | 4        | -        | -                  | 0     |
| Disabled                        | -      | -               | -        | -        | -                  | 0     |
| Died, with beneficiary          | -      | -               | -        | -        | -                  | 0     |
| Died, no beneficiary            | -      | -               | (2)      | -        | (1)                | (3)   |
| Paid refund                     | -      | -               | -        | -        | -                  | 0     |
| Net transfers                   | -      | -               | -        | -        | -                  | 0     |
| Return to Active                | 3      | -               | -        | -        | -                  | 3     |
| Correction                      | (1)    | -               | -        | -        | -                  | (1)   |
| Transferred Custodians          | 6      | -               | -        | -        | -                  | 6     |
| <b>Count as of July 1, 2017</b> | 71     | 4               | 72       | 0        | 12                 | 159   |

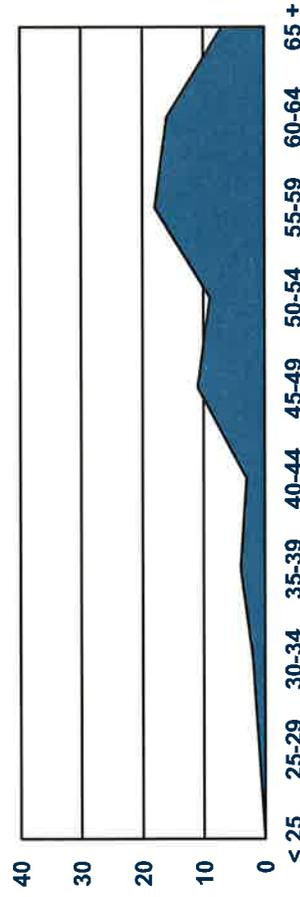
**Section V - Membership Data**  
**B. Statistics of Membership**

|  | As of<br>July 1, 2016 | As of<br>July 1, 2017 |
|--|-----------------------|-----------------------|
| <b>Active Members</b>                    |                       |                       |
| Number                                   | 66                    | 71                    |
| Average Age                              | 54.0                  | 54.3                  |
| Average Service                          | 14.4                  | 15.0                  |
| Total Payroll                            | \$5,544,104           | \$6,111,431           |
| Average Payroll                          | 84,002                | 86,076                |
| <b>Terminated Vested Members</b>         |                       |                       |
| Number                                   | 5                     | 4                     |
| Total Annual Benefit                     | \$90,624              | \$71,494              |
| Average Annual Benefit                   | 18,125                | 17,874                |
| Average Age                              | 54.0                  | 50.0                  |
| <b>Retired Members</b>                   |                       |                       |
| Number                                   | 70                    | 72                    |
| Total Annual Benefit                     | \$1,953,292           | \$2,029,051           |
| Average Annual Benefit                   | 27,904                | 28,181                |
| Average Age                              | 73.3                  | 73.4                  |
| <b>Disabled Members</b>                  |                       |                       |
| Number                                   | 0                     | 0                     |
| Total Annual Benefit                     | \$0                   | \$0                   |
| Average Annual Benefit                   | 0                     | 0                     |
| Average Age                              | 0.0                   | 0.0                   |
| <b>Beneficiaries of Deceased Members</b> |                       |                       |
| Number                                   | 13                    | 12                    |
| Total Annual Benefit                     | \$306,488             | \$298,505             |
| Average Annual Benefit                   | 23,576                | 24,875                |
| Average Age                              | 67.7                  | 68.4                  |

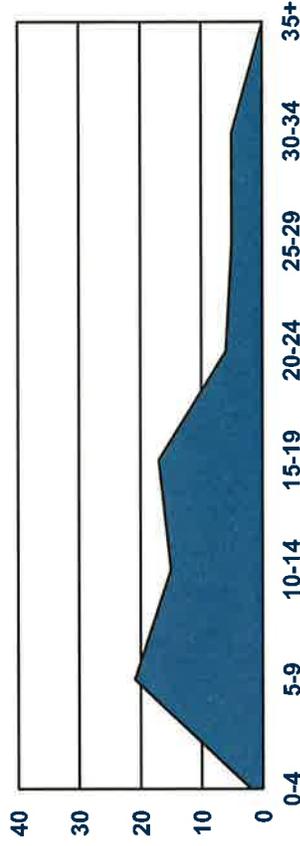
**Section V - Membership Data**  
**C. Distribution of Active Members as of July 1, 2017 - Count**

| Age          | Years of Service |           |           |           |          |          |          |          |          |          | Total     |
|--------------|------------------|-----------|-----------|-----------|----------|----------|----------|----------|----------|----------|-----------|
|              | 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        | 0        | 0         |
| 25-29        | 0                | 1         | 0         | 0         | 0        | 0        | 0        | 0        | 0        | 0        | 1         |
| 30-34        | 0                | 2         | 0         | 0         | 0        | 0        | 0        | 0        | 0        | 0        | 2         |
| 35-39        | 0                | 1         | 2         | 1         | 0        | 0        | 0        | 0        | 0        | 0        | 4         |
| 40-44        | 0                | 2         | 1         | 0         | 0        | 0        | 0        | 0        | 0        | 0        | 3         |
| 45-49        | 1                | 1         | 1         | 7         | 1        | 0        | 0        | 0        | 0        | 0        | 11        |
| 50-54        | 1                | 3         | 1         | 1         | 0        | 2        | 1        | 0        | 0        | 0        | 9         |
| 55-59        | 0                | 5         | 5         | 2         | 2        | 3        | 1        | 0        | 0        | 0        | 18        |
| 60-64        | 0                | 5         | 5         | 4         | 2        | 0        | 0        | 0        | 0        | 0        | 16        |
| 65 +         | 0                | 1         | 0         | 2         | 1        | 0        | 3        | 0        | 0        | 0        | 7         |
| <b>Total</b> | <b>2</b>         | <b>21</b> | <b>15</b> | <b>17</b> | <b>6</b> | <b>5</b> | <b>5</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>71</b> |

Distribution By Age



Distribution by Years of Service



This work product was prepared solely for the Town for the purposes described herein and may not be appropriate to use for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. Milliman recommends that third parties be aided by their own actuary or other qualified professional when reviewing the Milliman work product.

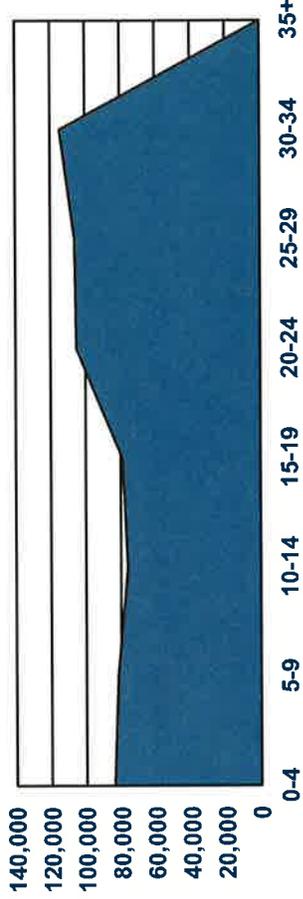
**Section V - Membership Data**  
**D. Distribution of Active Members as of July 1, 2017 - Average Pay**

| Age          | Years of Service |               |               |               |                |                |                |          |          |          |          | Total    |          |          |               |
|--------------|------------------|---------------|---------------|---------------|----------------|----------------|----------------|----------|----------|----------|----------|----------|----------|----------|---------------|
|              | 0-4              | 5-9           | 10-14         | 15-19         | 20-24          | 25-29          | 30-34          | 35+      | 35+      | 35+      | 35+      |          |          |          |               |
| < 25         | 0                | 0             | 0             | 0             | 0              | 0              | 0              | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0             |
| 25-29        | 0                | 53,714        | 0             | 0             | 0              | 0              | 0              | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 53,714        |
| 30-34        | 0                | 54,054        | 0             | 0             | 0              | 0              | 0              | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 54,054        |
| 35-39        | 0                | 39,119        | 99,117        | 71,263        | 0              | 0              | 0              | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 77,154        |
| 40-44        | 0                | 72,759        | 66,414        | 0             | 0              | 0              | 0              | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 70,644        |
| 45-49        | 89,143           | 70,239        | 66,905        | 80,752        | 87,785         | 0              | 0              | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 79,940        |
| 50-54        | 78,909           | 99,614        | 63,918        | 113,155       | 0              | 107,005        | 90,778         | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 95,512        |
| 55-59        | 0                | 80,255        | 73,740        | 61,521        | 121,054        | 105,449        | 106,049        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 86,529        |
| 60-64        | 0                | 104,897       | 75,613        | 78,626        | 102,322        | 0              | 0              | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 88,856        |
| 65 +         | 0                | 78,410        | 0             | 79,441        | 97,124         | 0              | 125,492        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 101,556       |
| <b>Total</b> | <b>84,026</b>    | <b>81,891</b> | <b>76,149</b> | <b>79,183</b> | <b>105,277</b> | <b>106,071</b> | <b>114,661</b> | <b>0</b> | <b>86,076</b> |

**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 |
|------------------------------------|---------|--------|-----------------|
| <b>Terminated Vested Members /</b> | < 30    | 0      | \$0             |
| <b>Members Due Refunds</b>         | 30 - 39 | 0      | 0               |
|                                    | 40 - 49 | 2      | 30,748          |
|                                    | 50 - 59 | 1      | 29,742          |
|                                    | 60 - 64 | 1      | 11,004          |
|                                    | 65 +    | 0      | 0               |
|                                    | Total   | 4      | 71,494          |
| <b>Retired Members</b>             | < 50    | 0      | \$0             |
|                                    | 50 - 59 | 2      | 103,909         |
|                                    | 60 - 69 | 28     | 1,002,770       |
|                                    | 70 - 79 | 20     | 493,341         |
|                                    | 80 - 89 | 15     | 378,263         |
|                                    | 90 +    | 7      | 50,768          |
|                                    | Total   | 72     | 2,029,051       |
| <b>Disabled Retirees</b>           | < 50    | 0      | \$0             |
|                                    | 50 - 59 | 0      | 0               |
|                                    | 60 - 69 | 0      | 0               |
|                                    | 70 - 79 | 0      | 0               |
|                                    | 80 - 89 | 0      | 0               |
|                                    | 90 +    | 0      | 0               |
|                                    | Total   | 0      | 0               |
| <b>Beneficiaries</b>               | < 50    | 0      | \$0             |
|                                    | 50 - 59 | 4      | 84,481          |
|                                    | 60 - 69 | 2      | 29,528          |
|                                    | 70 - 79 | 3      | 159,543         |
|                                    | 80 - 89 | 3      | 24,953          |
|                                    | 90 +    | 0      | 0               |
|                                    | Total   | 12     | 298,505         |

## 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** According to the following table:

| Age   | Rate  |
|-------|-------|
| <25   | 4.00% |
| 25-29 | 3.75% |
| 30-34 | 3.50% |
| 35-39 | 3.25% |
| 40-44 | 3.00% |
| 45-49 | 2.75% |
| 50+   | 2.50% |

**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** 75% of Vaughn Select and Ultimate table:

| Age | Service |        |        |        |
|-----|---------|--------|--------|--------|
|     | 1       | 2      | 3      | 4+     |
| 20  | 22.35%  | 18.75% | 15.75% | 13.95% |
| 25  | 20.85%  | 16.88% | 13.88% | 10.20% |
| 30  | 19.35%  | 15.00% | 12.00% | 7.58%  |
| 35  | 17.85%  | 13.35% | 10.35% | 5.93%  |
| 40  | 16.35%  | 11.85% | 8.85%  | 4.87%  |
| 45  | 14.85%  | 10.58% | 7.58%  | 4.13%  |
| 50  | 13.35%  | 9.45%  | 6.45%  | 3.38%  |
| 55  | 10.13%  | 7.12%  | 4.63%  | 2.31%  |
| 60  | 0.00%   | 0.00%  | 0.00%  | 0.00%  |

## Appendix B - Actuarial Assumptions

### Retirement

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

| Age   | First Eligible<br>to Retire | Thereafter |
|-------|-----------------------------|------------|
| <55   | 1%                          | 1%         |
| 55    | 12%                         | 1%         |
| 56-59 | 5%                          | 5%         |
| 60-63 | 15%                         | 15%        |
| 64    | 5%                          | 5%         |
| 65-79 | 20%                         | 20%        |
| 80    | 100%                        | 100%       |

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

### Disability

1985 Pension Class 1 table:

| Age | Male  | Female |
|-----|-------|--------|
| 25  | 0.04% | 0.05%  |
| 35  | 0.07% | 0.14%  |
| 45  | 0.20% | 0.32%  |
| 55  | 0.72% | 0.95%  |
| 65  | 1.75% | 1.36%  |

### 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 2.50% 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.

|  |   |
|--|---|
| <b>Eligibility</b>                                 | Each non-union employee is eligible to participate as of the date the employee completes the Probationary Period provided the employee works 20 or more hours per week and 9 months or more per year. If hired at age 60, employee can opt out of plan. Non-union employees hired on or after January 1, 2012 are not covered by this plan.   |
| <b>Employee Contributions</b>                      | 4% of Compensation. Contributions are credited with 5% interest.  |
| <b>Credited Service</b>                            | Years of Service during which the Employee is eligible for the plan and makes required contributions. May include Credited Service from another qualifying Town. A twelve month period shall constitute a year of service for Supervisory employees who regularly work 9 months or more but less than 12 months per year. May be allowed to buy back all or part of prior service that is Governmental & Other Related Service subject to some provisions. Credited Service includes unused sick time of 60-120 days. |
| <b>Compensation</b>                                | Base Salary, excluding overtime or any other income, but including "pick-up" contributions.   |
| <b>Final Average Earnings</b>                      | The greater of the highest calendar year of Compensation and Compensation earned during the last 12 months.   |
| <b>Normal Retirement Date</b>                      | <p>For Supervisory employees, the first day of the month coincident with or next following the earliest of age 55 with 10 years of Credited Service, or 25 years of Credited Service without regard to age, or age 60 with 5 years of Credited Service.</p> <p>For Non-Supervisory employees, the first day of the month coincident with next following the earliest of age 55 with 10 years of continuous Credited Service, or 25 years of Credited Service without regard to age.</p>                               |
| <b>Normal Retirement Benefit (Supervisory)</b>     | 2.25% of Final Average Compensation times years and completed months of Credited Service. Benefit may be offset if member accrued benefits under another Town plan.   |
| <b>Normal Retirement Benefit (Non-Supervisory)</b> | 2.00% of Final Average Compensation times years and completed months of Credited Service not greater than 20 years; plus 2.25% of Final Average Compensation times years and completed months of Credited Service in excess of 20 years.  |

## Appendix C - Summary of Plan Provisions

|                               |  |
|-------------------------------|--|
| <b>Early Retirement Date</b>  | None provided.   |
| <b>Maximum Benefit</b>        | The sum of the pension from this Plan and any other plan if Credited Service is granted under this plan shall not be greater than 100% of Final Average Compensation.  |
| <b>Minimum Benefit</b>        | If vested, \$1,000 per year.   |
| <b>Disability Retirement</b>  | The greater of 50% of Compensation immediately prior to disability, or the Normal Retirement Benefit calculated as if the member terminated at date of disability reduced by other disability benefits, retirement benefits, wages or salary, and Social Security benefits. Benefits will commence 6 months after disability and are payable until the latest of age 65, Normal Retirement Date of the fifth anniversary of the commencement of disability payments.   |
| <b>Pre-retirement Death</b>   | <p>If the member is vested at time of death, 50% of Final Average Compensation reduced by 1.5% for each year of Credited Service less than 25 years. If the spouse is more than 5 years younger than the deceased member, such benefit shall be reduced by <math>\frac{1}{6}\%</math> for each month the beneficiary is more than 5 years younger. The death benefit shall not be less than the Normal Retirement Benefit calculated as if the member terminated at date of death. Death benefits may be payable to surviving dependent children.</p> <p>If the member is not vested at date of death or is vested but has no surviving spouse or dependent children, a refund of accumulated contributions with interest will be paid to the member's estate.</p> |
| <b>Normal Form of Payment</b> | Single Life Annuity  |
| <b>Vesting</b>                | <p>For Supervisory employees, 100% after 5 years of service.</p> <p>For Non-Supervisory employees, 100% after 10 years of service.</p>   |
| <b>Termination Benefit</b>    | If not vested at termination, a refund of the member's accumulated employee contributions with interest will be paid.  |