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## **TOWN OF GLASTONBURY RETIREMENT INCOME PLAN**

**Actuarial Valuation as of July 1, 2021  
To Determine Funding for Fiscal Year 2022-23**

**Prepared by**

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## Certification

We have performed an actuarial valuation of the Plan as of July 1, 2021 to determine funding for fiscal year 2022-23. 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 of Glastonbury ("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 exceptions: (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.

The valuation results were developed using models intended for valuations that use standard actuarial techniques. In addition to the models described previously, Milliman has developed certain models to develop the expected long term rate of return on assets used in this analysis. We have reviewed the models, including their inputs, calculations, and outputs for consistency, reasonableness, and appropriateness to the intended purpose and in compliance with generally accepted actuarial practice and relevant actuarial standards of practice (ASOP). The models, including all input, calculations, and output may not be appropriate for any other purpose.

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

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

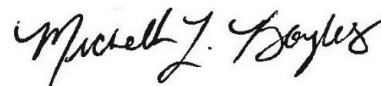
The signing actuaries are independent of the plan sponsor. We are not aware of any relationship that would impact the objectivity of our work.

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.



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## Section I - Executive Summary Changes Since the Prior Valuation

### Changes in Actuarial Methods and Assumptions

None.

### Plan Changes

Employee contributions as a percentage of earnings have been updated for non-hybrid Town and Housing Authority employees, Animal Control Officers, Police officers hired before January 1, 2013, IUOE employees, Dispatchers, Secretaries, Paraprofessionals and Nurses. Please see page 49 of this report for details.

### Other Significant Changes

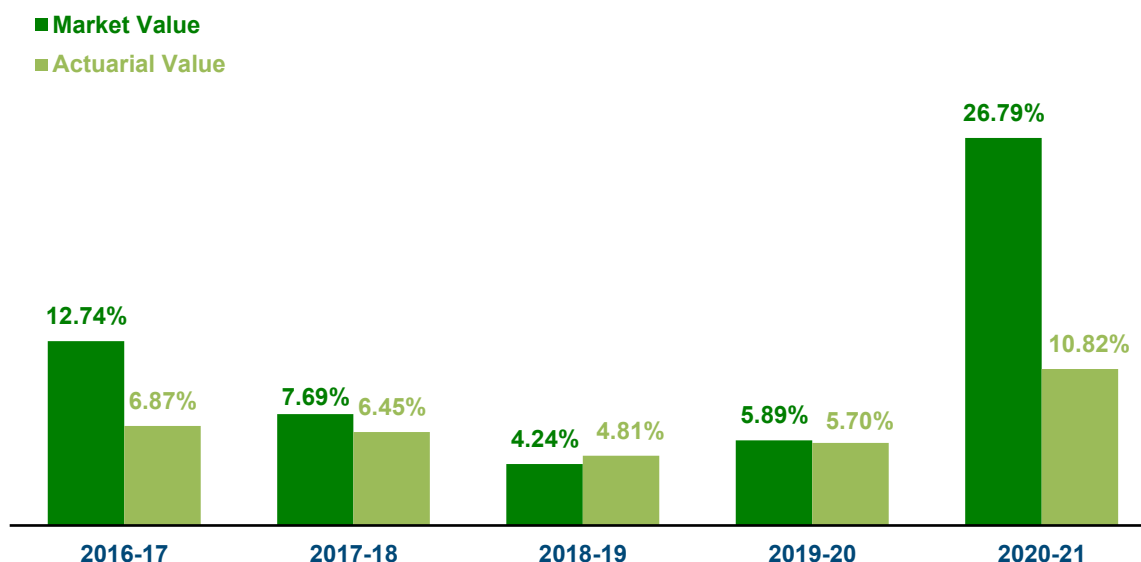
Although it is possible that the COVID-19 pandemic could have a material impact on the projected mortality, liabilities, and contribution requirements, we have chosen not to make an adjustment in the projections at this time, given the substantial current uncertainty regarding the impact of COVID-19 on mortality and plan costs, including whether the pandemic will increase or decrease mortality during the term of our projections. We will be monitoring this development closely and may adjust future projections to reflect the impact of COVID-19, if and when it becomes appropriate.

## Section I - Executive Summary 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 non-asymptotically over five years.

	<b>Market</b>	<b>Actuarial</b>
Value as of July 1, 2020	\$163,025,392	\$163,766,959
Town and Member Contributions	11,972,324	11,972,324
Investment Income	43,757,303	17,763,035
Benefit Payments and Administrative Expenses	(11,304,894)	(11,304,894)
Value as of July 1, 2021	207,450,125	182,197,424

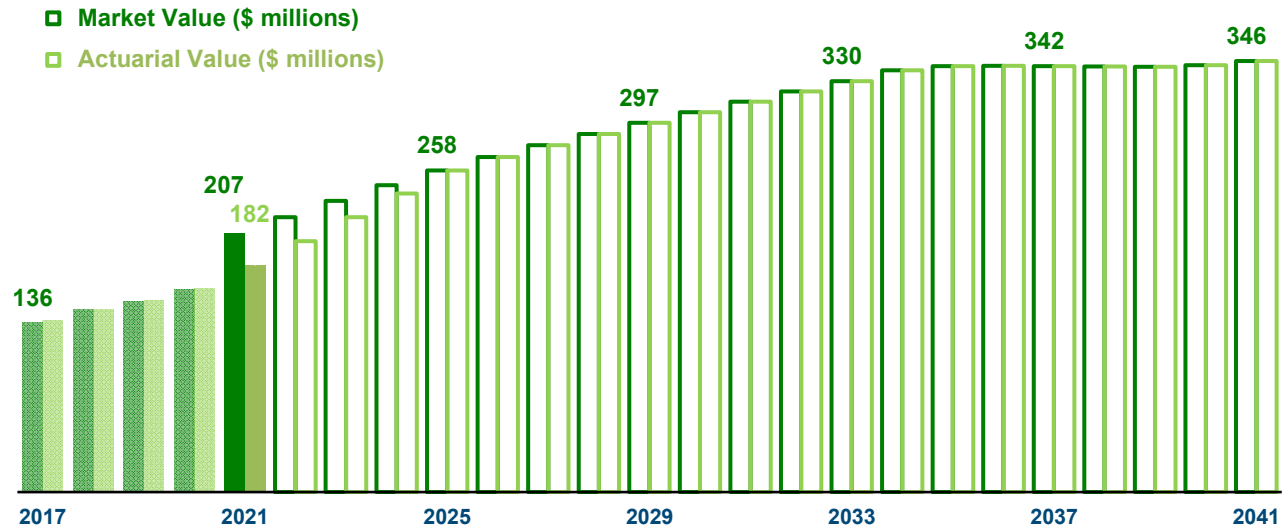
For fiscal year 2020-21, the plan's assets earned 26.79% on a Market Value basis and 10.82% on an Actuarial Value basis. The actuarial assumption for this period was 6.25% for the Non-Hybrid Plan and 5.00% for the Hybrid Plan; the result is an asset gain of about \$33.6 million on a Market Value basis and a gain of about \$7.5 million on an Actuarial Value basis. Historical rates of return are shown in the graph below.



Please note that the Actuarial Value currently is less than the Market Value by \$25.3 million. This figure represents investment gains that will be gradually recognized in future years. This process will exert downward pressure on the Town's contribution, unless there are offsetting market losses.

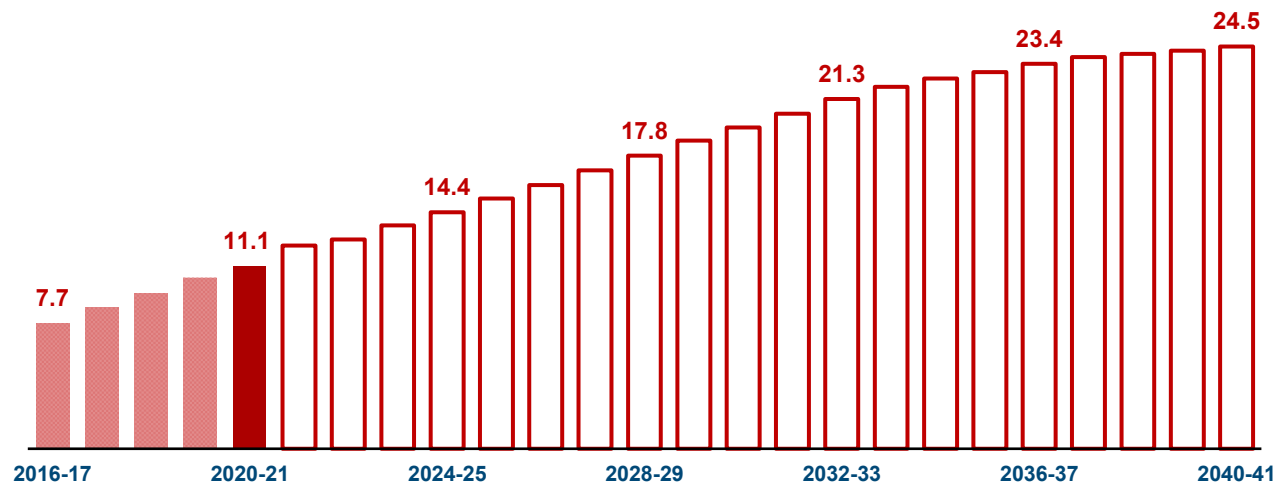
## Section I - Executive Summary Assets (continued)

The graph below shows how this year's asset values compare to where the plan's assets have been over the past several years and how they are projected to change over the next 20 years. For purposes of this projection, we have assumed that the Town always contributes the Actuarially Determined Contribution and the investments always earn the assumed interest rate each year.



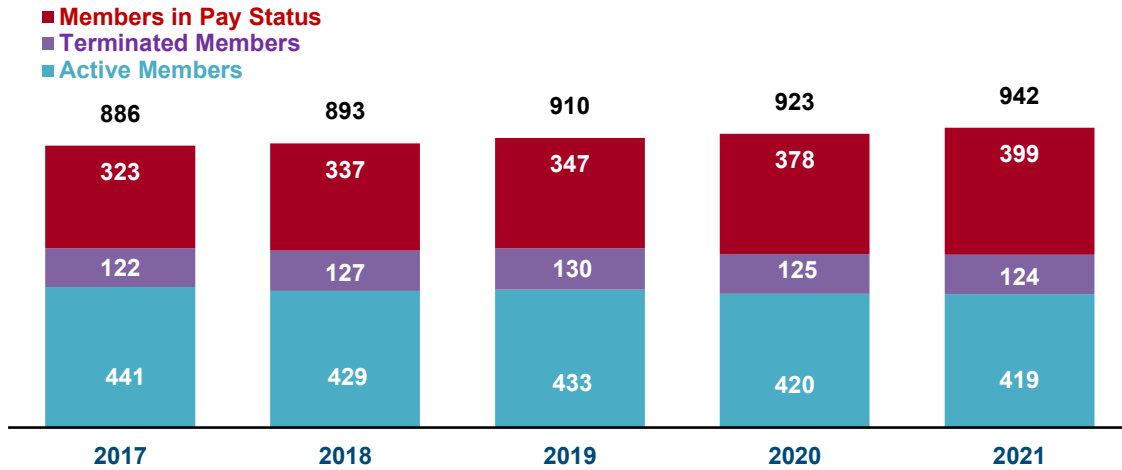
In 2020-21, the plan paid out \$11.1 million in benefits to members. Over the next 20 years, the plan is projected to pay out a total of \$387 million in benefits to members.

### Benefit Payments (\$ millions)



## Section I - Executive Summary Membership

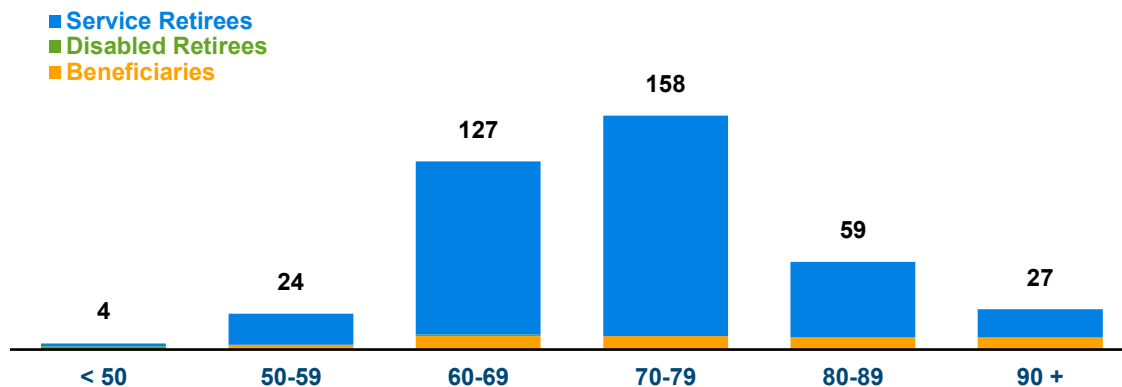
There are three basic categories of plan members included in the valuation: (1) members who are receiving monthly pension benefits, (2) former employees who have a vested right to benefits but have not yet started collecting, and (3) active employees who have met the eligibility requirements for membership.



### Members in Pay Status on July 1, 2021

Board of Education	169	Total Count	399
Highway / Veh Maint / Refuse	31	Average Age	72.7
Dispatchers	4	Total Annual Benefit	\$11,277,334
Housing Authority	6	Average Annual Benefit	28,264
Police Pre-2013	70		
Police Post-2012	0		
Town	106		
Facilities / Wastewater	13		
Town Hybrid	0		
Housing Authority Hybrid	0		

The members in pay status fall across a wide distribution of ages:





## Section I - Executive Summary Membership (continued)

### Terminated Vested Members on July 1, 2021

Board of Education	55	Total Count	103
Highway / Veh Maint / Refuse	2	Average Age	56.4
Dispatchers	2	Total Annual Benefit	\$749,805
Housing Authority	3	Average Annual Benefit	7,280
Police Pre-2013	5		
Police Post-2012	0		
Town	35		
Facilities / Wastewater	1		
Town Hybrid	0		
Housing Authority Hybrid	0		

### Nonvested Members Due Refunds on July 1, 2021

Board of Education	9	Total Count	21
Highway / Veh Maint / Refuse	0		
Dispatchers	2		
Housing Authority	0		
Police Pre-2013	2		
Police Post-2012	0		
Town	0		
Facilities / Wastewater	0		
Town Hybrid	6		
Housing Authority Hybrid	2		

## Section I - Executive Summary Membership (continued)

### Active Members on July 1, 2021

Board of Education	212	Total Count	419
Highway / Veh Maint / Refuse	15	Average Age	51.8
Dispatchers	10	Average Service	12.2
Housing Authority	9	Payroll	\$29,754,081
Police Pre-2013	30	Average Payroll	71,012
Police Post-2012	23		
Town	59		
Facilities / Wastewater	9		
Town Hybrid	49		
Housing Authority Hybrid	3		

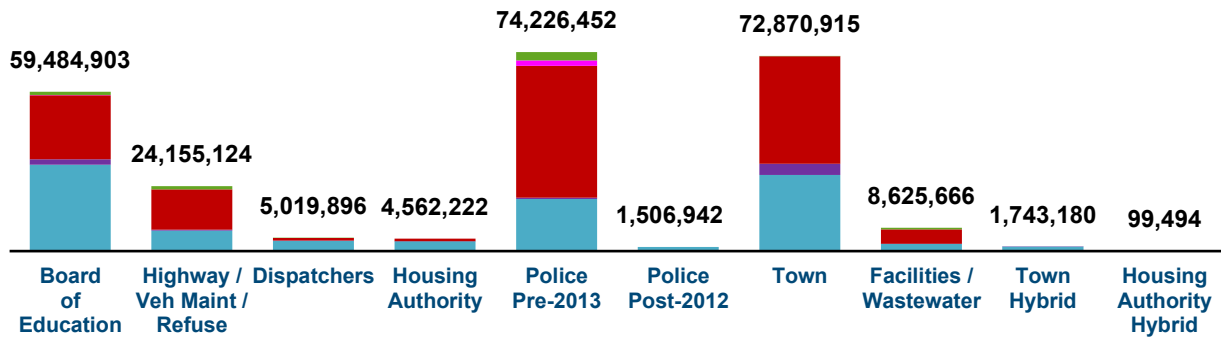
The table below illustrates the age and years of service of the active membership:

Age	Years of Service							Total
	0-4	5-9	10-14	15-19	20-24	25-29	30+	
< 25	4	1						5
25-29	12	4						16
30-34	14	8	4					26
35-39	8	13	6	2				29
40-44	9	9	7	7	2			34
45-49	11	6	1	10	6			34
50-54	15	15	13	11	5	1	1	61
55-59	17	19	16	12	16	2	15	97
60-64	2	10	14	18	20	5	11	80
65+	2	3	6	6	6	3	11	37
<b>Total</b>	<b>94</b>	<b>88</b>	<b>67</b>	<b>66</b>	<b>55</b>	<b>11</b>	<b>38</b>	<b>419</b>

## Section I - Executive Summary Accrued Liability

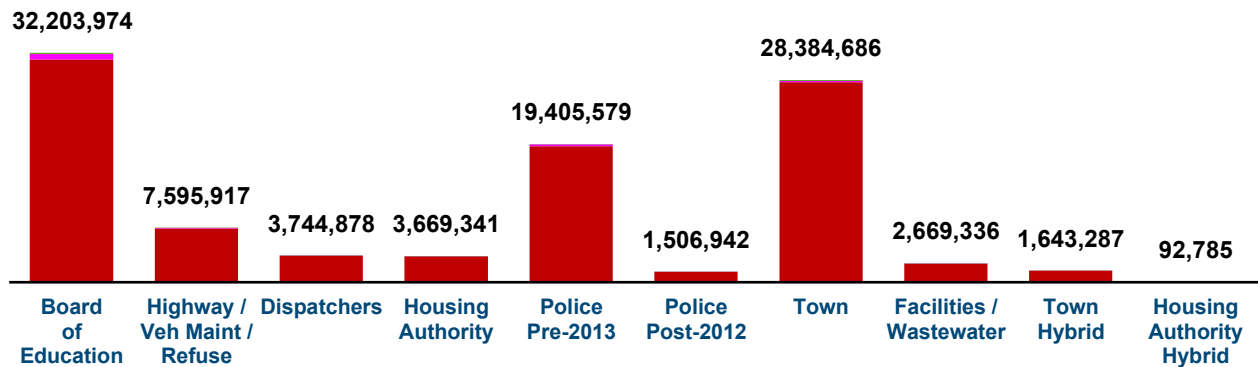
The Accrued Liability as of July 1, 2021 equals \$252,294,794, which consists of the following pieces:

- **Beneficiaries = \$6.3 million**
- **Disabled Retirees = \$2.0 million**
- **Service Retirees = \$135.7 million**
- **Terminated Vested Members = \$7.5 million**
- **Active Members = \$100.9 million**



The Accrued Liability for active members can be broken down further by the different types of benefits provided by the plan:

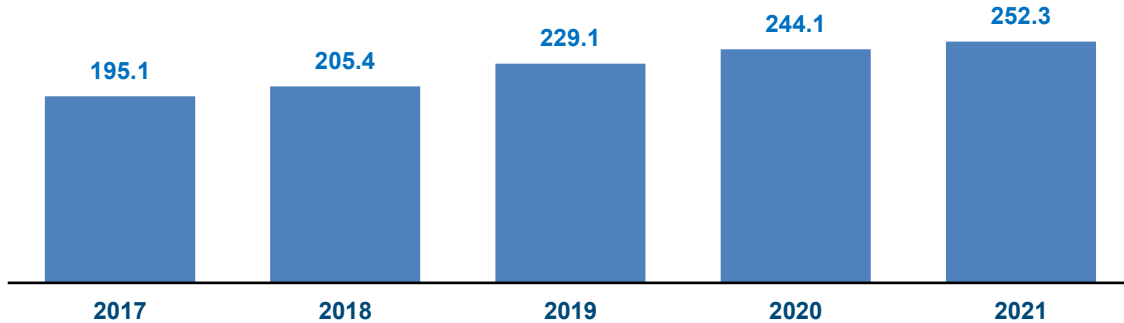
- **Preretirement Death = \$634,250**
- **Disability = \$1,409,473**
- **Retirement = \$98,792,799**
- **Termination = \$80,203**



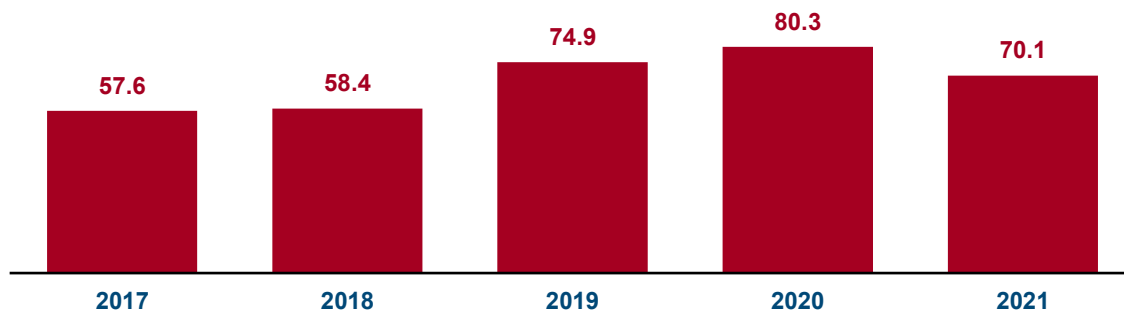
## Section I - Executive Summary Funded Status

The Accrued Liability grows over time as active members earn additional benefits, and goes down over time as members receive benefits; it may also change when there are changes to the plan provisions or changes in the actuarial assumptions. The Unfunded Accrued Liability is the dollar difference between the Accrued Liability and the Actuarial Value of Assets; the Funded Ratio is the ratio of the two.

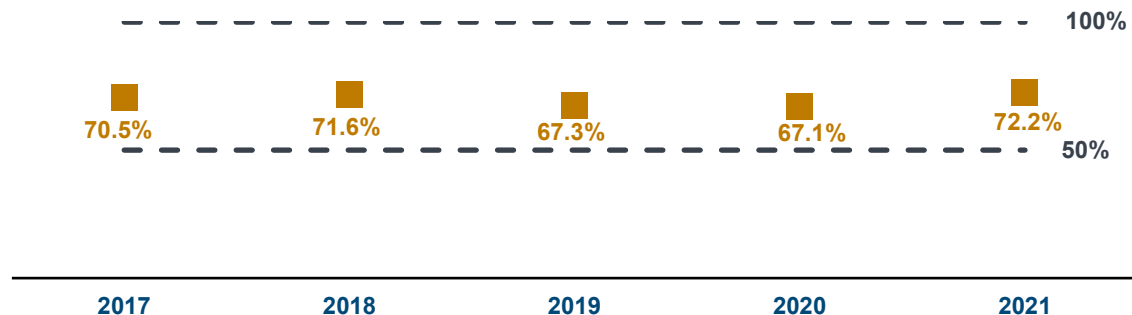
Accrued Liability (\$ millions)



Unfunded Accrued Liability (\$ millions)



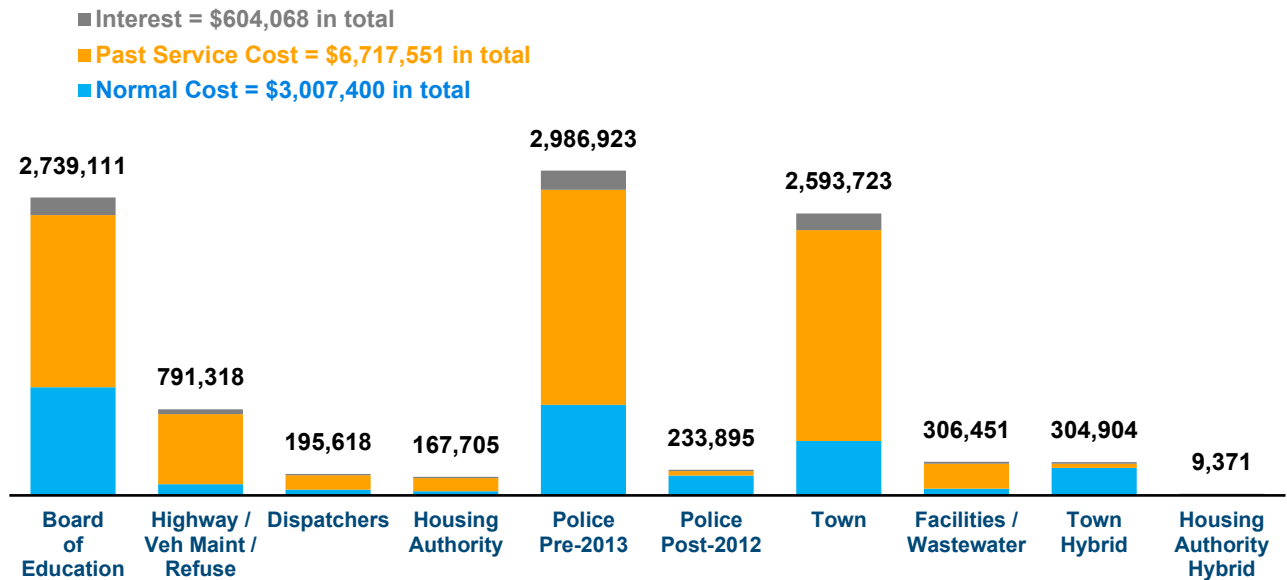
Funded Ratio



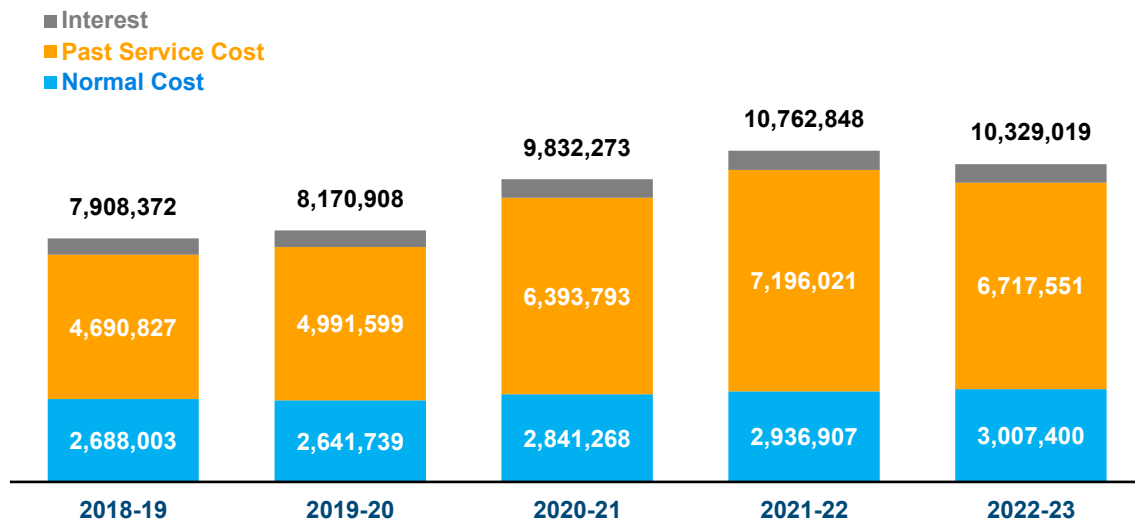
## Section I - Executive Summary Actuarially Determined Contribution

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 reflect the timing of the contribution relative to the valuation date.

The Actuarially Determined Contribution for fiscal year 2022-23 is \$10,329,019; its component pieces are shown graphically below.

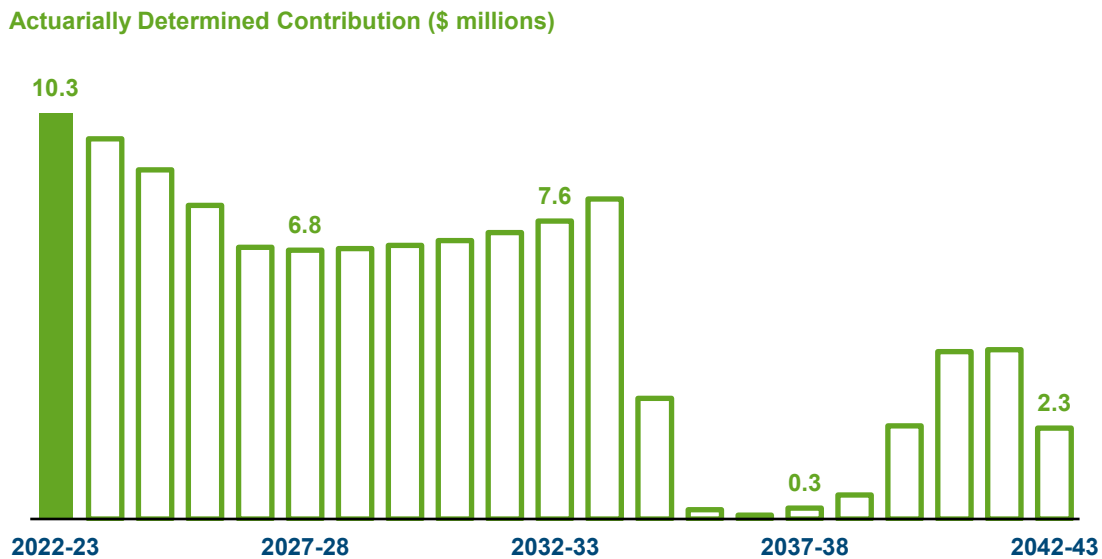
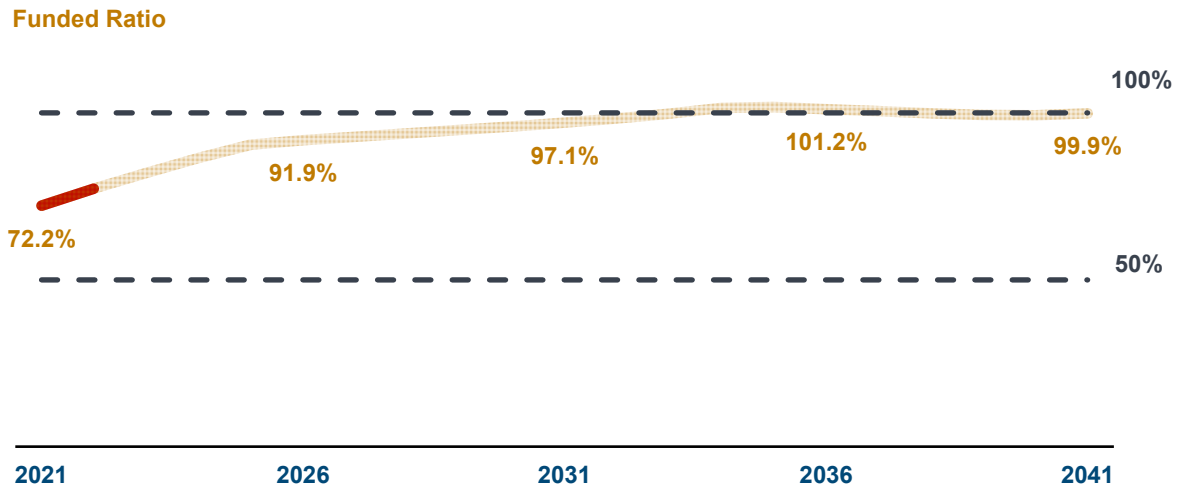


The chart below shows the Actuarially Determined Contribution for the past five fiscal years. Note that the Normal Cost is relatively consistent from year to year, whereas the Past Service Cost tends to be more volatile since it reflects the impact of asset performance.



## Section I - Executive Summary Long-Range Forecast

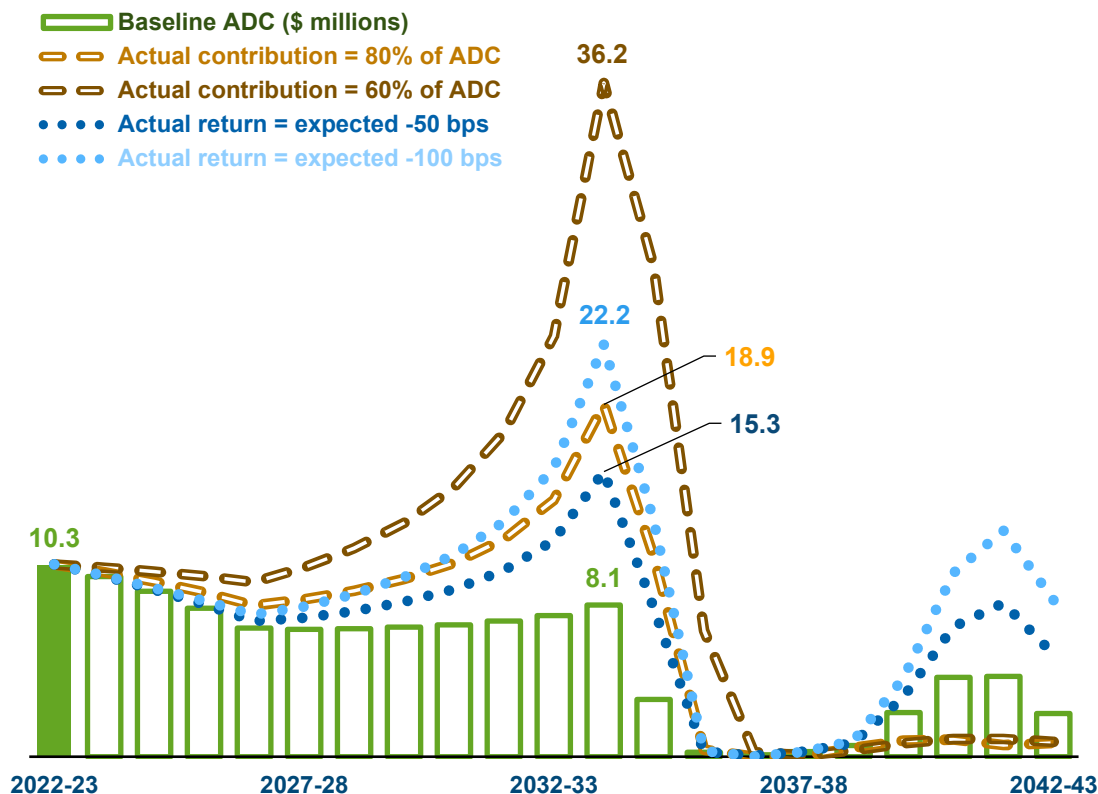
If the Town pays the Actuarially Determined Contribution each year, the investments earn exactly the assumed interest rate each year, and there are no changes in the plan provisions or in the actuarial methods and assumptions, then we project the following changes in the plan's funded status and the long-range contribution levels:



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 E for more details of the long range forecast.

## Section I - Executive Summary Long-Range Forecast (continued)

Pension benefits are paid for through a combination of contributions from the Town and from employees, and from investment income. If the Town pays less than the Actuarially Determined Contribution each year, or if the investments persistently earn less than the assumed interest rate, then the plan's funded status would suffer, and to compensate, the Town's contribution levels would be pushed higher. The risks of underfunding and underearning are illustrated in the hypothetical scenarios below:



The scenarios illustrated above are based on deterministic projections that assume emerging plan experience always exactly matches the actuarial assumptions; in particular that actual asset returns will be constant in every year of the projection period. Variation in asset returns, contribution amounts, and many other factors may have a significant impact on the long-term financial health of the plan, the liquidity constraints on plan assets, and the Town's future contribution levels. Stochastic projections could be prepared that would enable the Town to understand the potential range of future results based on the expected variability in asset returns and other factors. Such analysis was beyond the scope of this engagement.

## Section I - Executive Summary Summary of Principal Results

Membership as of	July 1, 2020	July 1, 2021
Active Members	420	419
Terminated Members	125	124
Members in Pay Status	<u>378</u>	<u>399</u>
Total Count	923	942
 Payroll	 \$29,063,202	 \$29,754,081
Assets and Liabilities as of	July 1, 2020	July 1, 2021
Market Value of Assets	\$163,025,392	\$207,450,125
Actuarial Value of Assets	163,766,959	182,197,424
 Accrued Liability for Active Members	 96,165,011	 100,916,725
Accrued Liability for Terminated Members	8,647,657	7,459,872
Accrued Liability for Members in Pay Status	<u>139,296,134</u>	<u>143,918,197</u>
Total Accrued Liability	244,108,802	252,294,794
 Unfunded Accrued Liability	 80,341,843	 70,097,370
 Funded Ratio	 67.1%	 72.2%
Actuarially Determined Contribution for Fiscal Year	2021-22	2022-23
Normal Cost	\$2,936,907	\$3,007,400
Past Service Cost	7,196,021	6,717,551
Interest	<u>629,920</u>	<u>604,068</u>
Actuarially Determined Contribution	10,762,848	10,329,019



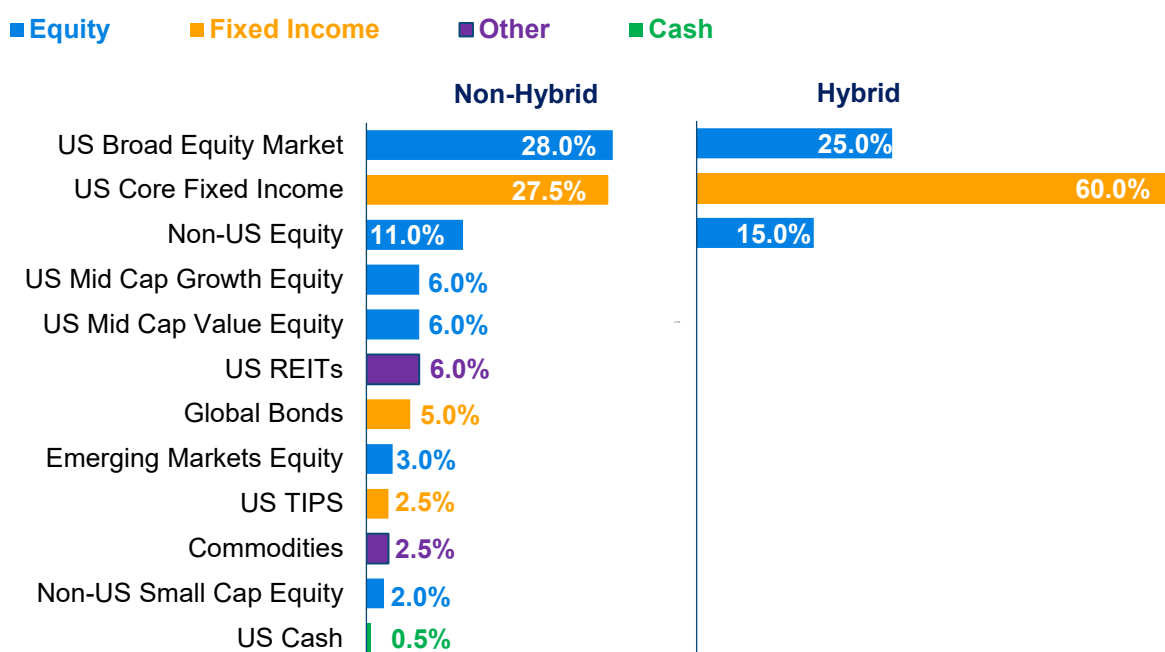
## Section II - Plan Assets

### A. Summary of Fund Transactions

	Non-Hybrid	Hybrid	Total
<b>Market Value as of July 1, 2020</b>	\$162,124,351	\$901,041	\$163,025,392
Town Contributions	9,665,497	214,693	9,880,190
Member Contributions	1,865,569	226,565	2,092,134
Net Investment Income	43,584,088	173,215	43,757,303
Benefit Payments	(11,098,850)	(8,689)	(11,107,539)
Administrative Expenses	(196,978)	(377)	(197,355)
<b>Market Value as of June 30, 2021</b>	205,943,677	1,506,448	207,450,125
Expected Return on Market Value of Assets	10,141,495	55,840	10,197,335
Market Value (Gain)/Loss	(33,442,593)	(117,375)	(33,559,968)
Approximate Rate of Return *	26.86%	15.51%	26.79%

\* 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.

#### Target Asset Allocation as of June 30, 2021



## Section II - Plan Assets

### B. Development of Actuarial Value of Assets

In order to minimize the impact of market fluctuations on the contribution level, we use an Actuarial Value of Assets that recognizes gains and losses over a five year period. The Actuarial Value of Assets as of July 1, 2021 is determined below.

	Non-Hybrid	Hybrid	Total				
1. Expected Rate of Return, July 1, 2020 Valuation	6.25%	5.00%					
2. Expected Market Value of Assets:							
Market Value as of July 1, 2020	\$162,124,351	\$901,041	\$163,025,392				
Employer and Employee Contributions	11,531,066	441,258	11,972,324				
Benefit Payments and Administrative Expenses	(11,295,828)	(9,066)	(11,304,894)				
Expected Net Investment Income	<u>10,141,495</u>	<u>55,840</u>	<u>10,197,335</u>				
Expected Market Value as of July 1, 2021	172,501,084	1,389,073	173,890,157				
3. Actual Market Value as of July 1, 2021	205,943,677	1,506,448	207,450,125				
4. Market Value (Gain)/Loss: (2) - (3)	(33,442,593)	(117,375)	(33,559,968)				
5. Delayed Recognition of Market (Gains)/Losses:							
	<b>Market (Gains)/Losses</b>		<b>Amount Not Recognized</b>				
	<b>Year</b>	<b>Percent</b>	<b>Non-Hybrid</b>	<b>Hybrid</b>	<b>Non-Hybrid</b>	<b>Hybrid</b>	<b>Total</b>
	2021	80%	(\$33,442,593)	(\$117,375)	(\$26,754,074)	(\$93,900)	(\$26,847,974)
	2020	60%	961,160	(32,965)	576,696	(19,779)	556,917
	2019	40%	3,327,433	(7,509)	1,330,973	(3,004)	1,327,969
	2018	20%	(1,455,334)	7,268	<u>(291,067)</u>	<u>1,454</u>	<u>(289,613)</u>
					(25,137,472)	(115,229)	(25,252,701)
6. Actuarial Value of Assets as of July 1, 2021: (3) + (5)	180,806,205	1,391,219	182,197,424				
7. Rate of Return on Actuarial Value of Assets	10.84%	7.90%	10.82%				
8. Actuarial Value (Gain)/Loss	(7,485,019)	(31,568)	(7,516,587)				

**Section III - Development of Contribution**  
**A. Non-Hybrid Past Service Cost**

In determining the Past Service Cost, the Unfunded Accrued Liability is amortized as a level percent over 14 years starting on July 1, 2019.

	Board of Education	Highway / Veh Maint / Refuse	Dispatchers	Housing Authority	Police Pre-2013	Police Post-2012	Town	Facilities / Wastewater	Non-Hybrid Total
1. Accrued Liability									
Active Members	32,203,974	7,595,917	3,744,878	3,669,341	19,405,579	1,506,942	28,384,686	2,669,336	99,180,653
Terminated Members	2,048,950	331,420	142,599	17,695	518,163	0	4,227,132	67,311	7,353,270
Service Retirees	23,924,309	15,130,050	977,322	875,186	49,243,983	0	40,135,663	5,378,584	135,665,097
Disabled Retirees	53,269	0	0	0	1,939,067	0	0	0	1,992,336
Beneficiaries	<u>1,254,401</u>	<u>1,097,737</u>	<u>155,097</u>	<u>0</u>	<u>3,119,660</u>	<u>0</u>	<u>123,434</u>	<u>510,435</u>	<u>6,260,764</u>
Total Accrued Liability	59,484,903	24,155,124	5,019,896	4,562,222	74,226,452	1,506,942	72,870,915	8,625,666	250,452,120
2. Actuarial Value of Assets*	42,943,296	17,438,049	3,623,960	3,293,556	53,585,504	1,087,890	52,606,916	6,227,034	180,806,205
3. Unfunded Accrued Liability: (1) - (2)	16,541,607	6,717,075	1,395,936	1,268,666	20,640,948	419,052	20,263,999	2,398,632	69,645,915
4. Amortization Period	12	12	12	12	12	12	12	12	12
5. Amortization Growth Rate	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%
6. Past Service Cost: (3) amortized over (4)	1,585,827	643,959	133,827	121,626	1,978,826	40,174	1,942,689	229,954	6,676,882
7. Total Payroll	11,065,791	1,416,391	778,746	663,922	3,710,649	2,079,753	4,906,777	731,675	25,353,704
8. Past Service Cost as a % of Total Payroll: (6) / (7)	14.33%	45.46%	17.18%	18.32%	53.33%	1.93%	39.59%	31.43%	26.33%

\*The Actuarial Value of Assets (see Section IIB) was allocated in proportion to the Accrued Liability.

**Section III - Development of Contribution**  
**B. Non-Hybrid Actuarially Determined Contribution for FY 2022-23**

	Board of Education	Highway / Veh Maint / Refuse	Dispatchers	Housing Authority	Police Pre-2013	Police Post-2012	Town	Facilities / Wastewater	Non-Hybrid Total
1. Total Normal Cost	\$1,690,910	\$180,389	\$100,729	\$80,652	\$1,096,945	\$360,719	\$795,168	\$106,358	\$4,411,870
2. Expected Member Contributions	746,941	99,147	54,512	48,134	324,682	181,978	355,741	54,876	1,866,011
3. Expected Administrative Expenses	48,191	19,569	4,067	3,696	60,133	1,221	59,035	6,988	202,900
4. Net Normal Cost: (1) - (2) + (3)	992,160	100,811	50,284	36,214	832,396	179,962	498,462	58,470	2,748,759
5. Past Service Cost (see Section IIIA)	1,585,827	643,959	133,827	121,626	1,978,826	40,174	1,942,689	229,954	6,676,882
6. Interest on (4) + (5)	161,124	46,548	11,507	9,865	175,701	13,759	152,572	18,027	589,103
7. Actuarially Determined Contribution for FY 2022-23: (4) + (5) + (6)	2,739,111	791,318	195,618	167,705	2,986,923	233,895	2,593,723	306,451	10,014,744
8. Total Payroll	11,065,791	1,416,391	778,746	663,922	3,710,649	2,079,753	4,906,777	731,675	25,353,704
9. Actuarially Determined Contribution as a % of Total Payroll: (7) / (8)	24.75%	55.87%	25.12%	25.26%	80.50%	11.25%	52.86%	41.88%	39.50%

## Section III - Development of Contribution

### C. Hybrid Past Service Cost

In determining the Past Service Cost, the Unfunded Accrued Liability is amortized as a level percent over 14 years starting on July 1, 2019.

	Town Hybrid	Housing Authority Hybrid	Hybrid Total
1. Accrued Liability			
Active Members	1,643,287	92,785	1,736,072
Terminated Members	99,893	6,709	106,602
Service Retirees	0	0	0
Disabled Retirees	0	0	0
Beneficiaries	<u>0</u>	<u>0</u>	<u>0</u>
Total Accrued Liability	1,743,180	99,494	1,842,674
2. Actuarial Value of Assets*	1,316,101	75,118	1,391,219
3. Unfunded Accrued Liability: (1) - (2)	427,079	24,376	451,455
4. Amortization Period	12	12	12
5. Amortization Growth Rate	3.50%	3.50%	3.50%
6. Past Service Cost: (3) amortized over (4)	38,473	2,196	40,669
7. Total Payroll	3,285,624	162,888	3,448,512
8. Past Service Cost as a % of Total Payroll: (6) / (7)	1.17%	1.35%	1.18%

\*The Actuarial Value of Assets (see Section IIB) was allocated in proportion to the Accrued Liability.

**Section III - Development of Contribution**  
**D. Hybrid Actuarially Determined Contribution for FY 2022-23**

	Town Hybrid	Housing Authority Hybrid	Hybrid Total
1. Total Normal Cost	\$465,100	\$17,295	\$482,395
2. Expected Member Contributions	213,566	10,588	224,154
3. Expected Administrative Expenses	378	22	400
4. Net Normal Cost: (1) - (2) + (3)	251,912	6,729	258,641
5. Past Service Cost (see Section IIIC)	38,473	2,196	40,669
6. Interest on (4) + (5)	14,519	446	14,965
7. Actuarially Determined Contribution for FY 2022-23: (4) + (5) + (6)	304,904	9,371	314,275
8. Total Payroll	3,285,624	162,888	3,448,512
9. Actuarially Determined Contribution as a % of Total Payroll: (7) / (8)	9.28%	5.75%	9.11%

## Section III - Development of Contribution

### E. Long Range Forecast

This forecast is based on the results of the July 1, 2021 actuarial valuation and assumes that the Town will pay the Actuarially Determined Contribution each year, the assets will return the assumed interest rate on a market value basis each year, and there are no future changes in the actuarial methods or assumptions or in the plan provisions. 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 1 years in order to shield the Town from contribution volatility. Actual results at each point in time will yield different values, reflecting the actual experience of the plan membership and assets.

Valuation Date	Values as of the Valuation Date				Fiscal Year	Cash Flows Projected to the Following Fiscal Year			
	Accrued Liability	Actuarial Value of Assets	Unfunded Accrued Liability	Funded Ratio		Town Contributions	Member Contributions	Benefit Payments	Net Cash Flows
7/1/2021	\$252,294,794	\$182,197,424	\$70,097,370	72.2%	2022-23	\$10,329,019	\$2,173,857	(\$12,738,352)	(\$235,476)
7/1/2022	260,685,000	201,581,000	59,104,000	77.3%	2023-24	9,681,000	2,201,000	(13,589,000)	(1,707,000)
7/1/2023	269,264,000	220,749,000	48,515,000	82.0%	2024-25	8,889,000	2,256,000	(14,401,000)	(3,256,000)
7/1/2024	277,499,000	239,880,000	37,619,000	86.4%	2025-26	7,983,000	2,295,000	(15,231,000)	(4,953,000)
7/1/2025	285,400,000	258,370,000	27,030,000	90.5%	2026-27	6,916,000	2,355,000	(16,054,000)	(6,783,000)
7/1/2026	292,897,000	269,117,000	23,780,000	91.9%	2027-28	6,843,000	2,389,000	(16,946,000)	(7,714,000)
7/1/2027	300,032,000	278,630,000	21,402,000	92.9%	2028-29	6,882,000	2,430,000	(17,840,000)	(8,528,000)
7/1/2028	306,637,000	287,756,000	18,881,000	93.8%	2029-30	6,967,000	2,478,000	(18,761,000)	(9,316,000)
7/1/2029	312,663,000	296,593,000	16,070,000	94.9%	2030-31	7,084,000	2,536,000	(19,566,000)	(9,946,000)
7/1/2030	318,075,000	305,147,000	12,928,000	95.9%	2031-32	7,293,000	2,597,000	(20,396,000)	(10,506,000)
7/1/2031	322,951,000	313,561,000	9,390,000	97.1%	2032-33	7,585,000	2,624,000	(21,298,000)	(11,089,000)
7/1/2032	327,286,000	321,899,000	5,387,000	98.4%	2033-34	8,147,000	2,667,000	(22,044,000)	(11,230,000)
7/1/2033	330,850,000	330,130,000	720,000	99.8%	2034-35	3,066,000	2,751,000	(22,553,000)	(16,736,000)
7/1/2034	333,741,000	338,703,000	(4,962,000)	101.5%	2035-36	230,000	2,849,000	(22,936,000)	(19,857,000)
7/1/2035	336,253,000	342,105,000	(5,852,000)	101.7%	2036-37	92,000	2,905,000	(23,450,000)	(20,453,000)
7/1/2036	338,567,000	342,473,000	(3,906,000)	101.2%	2037-38	268,000	2,981,000	(23,858,000)	(20,609,000)
7/1/2037	340,480,000	342,227,000	(1,747,000)	100.5%	2038-39	602,000	3,115,000	(24,045,000)	(20,328,000)
7/1/2038	342,108,000	341,776,000	332,000	99.9%	2039-40	2,367,000	3,236,000	(24,246,000)	(18,643,000)
7/1/2039	343,713,000	341,557,000	2,156,000	99.4%	2040-41	4,259,000	3,336,000	(24,496,000)	(16,901,000)
7/1/2040	345,288,000	343,028,000	2,260,000	99.3%	2041-42	4,309,000	3,464,000	(24,637,000)	(16,864,000)

**Section III - Development of Contribution  
F. History of Funded Status**

Valuation Date	Actuarial Value of Assets	Accrued Liability	Unfunded Accrued Liability	Funded Ratio
July 1, 2013	\$100,043,439	\$149,596,651	\$49,553,212	66.9%
July 1, 2014	111,242,055	157,479,604	46,237,549	70.6%
July 1, 2015	121,001,212	167,525,980	46,524,768	72.2%
July 1, 2016	128,069,667	180,580,934	52,511,267	70.9%
July 1, 2017	137,484,904	195,101,288	57,616,384	70.5%
July 1, 2018	146,970,419	205,400,511	58,430,092	71.6%
July 1, 2019	154,273,071	229,132,148	74,859,077	67.3%
July 1, 2020	163,766,959	244,108,802	80,341,843	67.1%
July 1, 2021	182,197,424	252,294,794	70,097,370	72.2%



## Section III - Development of Contribution

### G. History of Town Contributions

Fiscal Year	Actuarially Determined Contribution	Actual Town Contribution	Payroll	Actual Contribution as a Percent of Payroll
2014-15	\$6,001,585	\$6,001,585	\$27,153,582	22.1%
2015-16	6,118,624	6,118,624	26,362,701	23.2%
2016-17	6,325,362	6,325,363	27,677,315	22.9%
2017-18	7,193,600	7,137,123	28,655,358	24.9%
2018-19	7,908,372	7,908,372	29,581,276	26.7%
2019-20	8,170,908	9,170,908	28,602,606	32.1%
2020-21	9,832,273	9,880,190	29,331,962	33.7%
2021-22	10,762,848	TBD	29,063,202	TBD
2022-23	10,329,019	TBD	29,754,081	TBD

## Section IV - 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 IV.

	Active Members	Terminated Vested Members	Nonvested Members Due Refunds	Service Retirees	Disabled Retirees	Bene- ficiaries	Total
<b>Count July 1, 2020</b>	420	108	17	340	3	35	923
Terminated							
- refunds due	(3)	-	3	-	-	-	0
- paid refund	(7)	(2)	-	-	-	-	(9)
- vested benefits due	(3)	3	-	-	-	-	0
Retired	(18)	(6)	-	24	-	-	0
Died							
- with beneficiary	-	-	-	(3)	-	3	0
- no beneficiary	-	-	-	(2)	-	(1)	(3)
Benefits expired	-	-	-	-	-	-	0
New member	30	-	1	-	-	-	31
Rehired	-	-	-	-	-	-	0
New Alternate Payee	-	-	-	-	-	-	0
Correction	-	-	-	-	-	-	0
<b>Count July 1, 2021</b>	419	103	21	359	3	37	942

## Section IV - Membership Data

### B. Statistics of Active Membership

		As of July 1, 2020	As of July 1, 2021
<b>Number of Active Members</b>	Board of Education	218	212
	Highway / Veh Maint / Refuse	15	15
	Dispatchers	8	10
	Housing Authority	9	9
	Police Pre-2013	31	30
	Police Post-2012	22	23
	Town	63	59
	Facilities / Wastewater	9	9
	Town Hybrid	42	49
	Housing Authority Hybrid	<u>3</u>	<u>3</u>
	Total	420	419
<b>Average Age</b>	Board of Education	55.0	54.7
	Highway / Veh Maint / Refuse	54.0	55.0
	Dispatchers	48.8	46.0
	Housing Authority	58.4	59.4
	Police Pre-2013	43.3	44.2
	Police Post-2012	34.8	35.0
	Town	56.8	57.3
	Facilities / Wastewater	53.0	54.0
	Town Hybrid	44.9	44.6
	Housing Authority Hybrid	32.2	38.7
	Total	52.0	51.8
<b>Average Service</b>	Board of Education	11.8	11.7
	Highway / Veh Maint / Refuse	21.0	22.0
	Dispatchers	18.7	15.8
	Housing Authority	17.4	18.4
	Police Pre-2013	14.1	14.9
	Police Post-2012	3.2	3.9
	Town	18.3	19.5
	Facilities / Wastewater	15.4	16.4
	Town Hybrid	2.5	2.8
	Housing Authority Hybrid	3.3	4.0
	Total	12.1	12.2

**Section IV - Membership Data**  
**B. Statistics of Active Membership (continued)**

		As of July 1, 2020	As of July 1, 2021
<b>Total Payroll</b>	Board of Education	\$11,313,540	\$11,518,220
	Highway / Veh Maint / Refuse	1,309,166	1,416,391
	Dispatchers	719,095	778,746
	Housing Authority	715,802	761,135
	Police Pre-2013	3,736,561	3,710,649
	Police Post-2012	1,875,728	2,079,753
	Town	5,476,269	5,309,000
	Facilities / Wastewater	776,757	731,675
	Town Hybrid	3,002,621	3,285,624
	Housing Authority Hybrid	<u>137,663</u>	<u>162,888</u>
	Total	29,063,202	29,754,081
<b>Average Payroll</b>	Board of Education	51,897	54,331
	Highway / Veh Maint / Refuse	87,278	94,426
	Dispatchers	89,887	77,875
	Housing Authority	79,534	84,571
	Police Pre-2013	120,534	123,688
	Police Post-2012	85,260	90,424
	Town	86,925	89,983
	Facilities / Wastewater	86,306	81,297
	Town Hybrid	71,491	67,054
	Housing Authority Hybrid	45,888	54,296
	Total	69,198	71,012

## Section IV - Membership Data

### C. Distribution of Active Members as of July 1, 2021

#### Board of Education

Age	Years of Service							Total
	0-4	5-9	10-14	15-19	20-24	25-29	30+	
< 25	2	1						3
25-29	2	2						4
30-34	4	1	2					7
35-39	2	3	2					7
40-44	8	3	2	1				14
45-49	3	2	1	3	3			12
50-54	8	10	11	3				32
55-59	11	14	12	7	9	1	5	59
60-64	2	6	11	13	16	2	3	53
65+	1	2	3	3	4	3	5	21
<b>Total</b>	<b>43</b>	<b>44</b>	<b>44</b>	<b>30</b>	<b>32</b>	<b>6</b>	<b>13</b>	<b>212</b>

#### Highway / Veh Maint / Refuse

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

#### Dispatchers

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

## Section IV - Membership Data

### C. Distribution of Active Members as of July 1, 2021 (continued)

#### Housing Authority

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

#### Police Pre-2013

Age	Years of Service							Total
	0-4	5-9	10-14	15-19	20-24	25-29	30+	
< 25								0
25-29								0
30-34		1	2					3
35-39		1	3	2				6
40-44			1	6				7
45-49		1		4				5
50-54		1	1	2	3		1	8
55-59					1			1
60-64								0
65+								0
<b>Total</b>	0	4	7	14	4	0	1	30

#### Police Post-2012

Age	Years of Service							Total
	0-4	5-9	10-14	15-19	20-24	25-29	30+	
< 25	1							1
25-29	5	1						6
30-34	4	2						6
35-39	1	3						4
40-44		3						3
45-49	1	1						2
50-54								0
55-59		1						1
60-64								0
65+								0
<b>Total</b>	12	11	0	0	0	0	0	23

## Section IV - Membership Data

### C. Distribution of Active Members as of July 1, 2021 (continued)

**Town**

Age	Years of Service							Total
	0-4	5-9	10-14	15-19	20-24	25-29	30+	
< 25								0
25-29								0
30-34								0
35-39		1	1					2
40-44			4		1			5
45-49	1			1	3			5
50-54		1		2				3
55-59	2	3	3	3	6	1	3	18
60-64	1	3	3	3	3	3	2	15
65+		1	2	1	1		6	11
<b>Total</b>	<b>0</b>	<b>7</b>	<b>13</b>	<b>10</b>	<b>14</b>	<b>4</b>	<b>11</b>	<b>59</b>

**Facilities / Wastewater**

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

**Town Hybrid**

Age	Years of Service							Total
	0-4	5-9	10-14	15-19	20-24	25-29	30+	
< 25	1							1
25-29	4	1						5
30-34	4	3						7
35-39	5	1						6
40-44	1	2						3
45-49	6							6
50-54	7	3						10
55-59	6	2						8
60-64		2						2
65+	1							1
<b>Total</b>	<b>35</b>	<b>14</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>49</b>

**Section IV - Membership Data**  
**C. Distribution of Active Members as of July 1, 2021 (continued)**

**Housing Authority Hybrid**

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



**Section IV - Membership Data**  
**D. Statistics of Inactive Membership**

	As of July 1, 2020	As of July 1, 2021
<b>Terminated Vested Members</b>		
Number	108	103
Total Annual Benefit	\$869,766	\$749,805
Average Annual Benefit	8,053	7,280
Average Age	54.3	56.4
<b>Nonvested Members Due Refunds</b>		
Number	17	21
<b>Service Retirees</b>		
Number	340	359
Total Annual Benefit	\$10,011,739	\$10,517,386
Average Annual Benefit	29,446	29,296
Average Age	72.1	72.5
<b>Disabled Retirees</b>		
Number	3	3
Total Annual Benefit	\$87,249	\$114,469
Average Annual Benefit	29,083	38,156
Average Age	52.3	53.3
<b>Beneficiaries</b>		
Number	35	37
Total Annual Benefit	\$617,960	\$645,479
Average Annual Benefit	17,656	17,445
Average Age	75.3	76.2

**Section IV - Membership Data**  
**E. Distribution of Inactive Members as of July 1, 2021**

	Age	Number	Annual Benefits
<b>Terminated Vested Members</b>	< 30	2	\$119,340
	30 - 39	12	311,615
	40 - 49	22	296,553
	50 - 59	41	21,801
	60 - 64	29	496
	65 +	<u>18</u>	<u>0</u>
	Total	124	749,805
<b>Service Retirees</b>	< 50	2	\$45,905
	50 - 59	21	1,112,476
	60 - 69	117	4,332,276
	70 - 79	149	3,889,840
	80 - 89	51	949,575
	90 +	<u>19</u>	<u>187,314</u>
	Total	359	10,517,386
<b>Disabled Retirees</b>	< 50	2	\$110,183
	50 - 59	0	0
	60 - 69	1	4,286
	70 - 79	0	0
	80 - 89	0	0
	90 +	<u>0</u>	<u>0</u>
	Total	3	114,469
<b>Beneficiaries</b>	< 50	0	\$0
	50 - 59	3	57,791
	60 - 69	9	138,179
	70 - 79	9	163,428
	80 - 89	8	150,120
	90 +	<u>8</u>	<u>135,961</u>
	Total	37	645,479

## Section V - Analysis of Risk

### A. Introduction

The results of this actuarial valuation are based on one set of reasonable assumptions. However, it is almost certain that future experience will not exactly match these assumptions. As an example, the plan's investments may perform better or worse than assumed in any single year and over any longer time horizon. It is therefore important to consider the potential impacts of these likely differences when making decisions that may affect the future financial health of the plan, or of the plan's members.

In addition, as plans mature they accumulate larger pools of assets and liabilities. The increase in size in turn increases the potential magnitude of adverse experience. As an example, the dollar impact of a 10% investment loss on a plan with \$1 billion in assets and liabilities is much greater than the dollar impact for a plan with \$1 million in assets and liabilities. Since pension plans make long-term promises and rely on long-term funding, it is important to consider how mature the plan is today, and how mature it may become in the future.

Actuarial Standard of Practice No. 51 (ASOP 51) directs actuaries to provide pension plan sponsors with information concerning the risks associated with the plan:

- Identify risks that may be significant to the plan.
- Assess the risks identified as significant to the plan. The assessment does not need to include numerical calculations.
- Disclose plan maturity measures and historical information that are significant to understanding the plan's risks.

This section of the report uses the framework of ASOP 51 to communicate important information about significant risks to the plan, the plan's maturity, and relevant historical plan data.

Please see Section III E for more information on the basis for the projected results shown on the following pages.

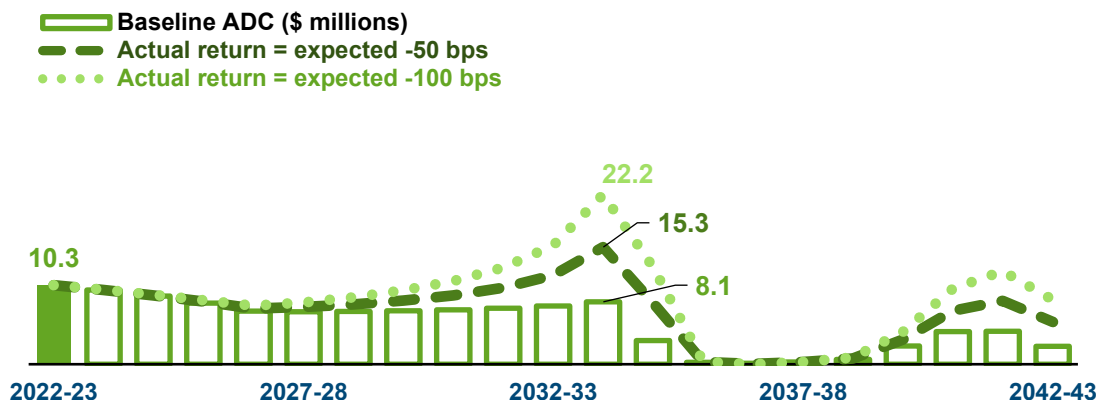
## Section V - Analysis of Risk

### B. Risk Identification and Assessment

#### Investment Risk

Definition: This is the potential that investment returns will be different than expected.

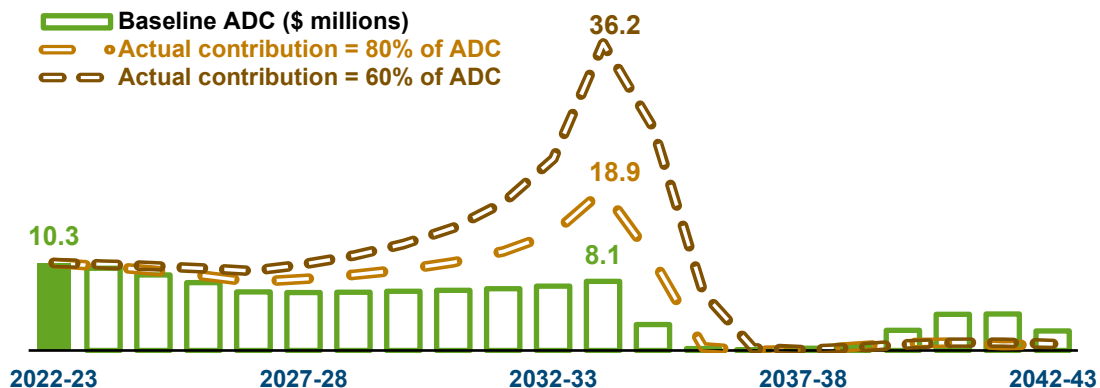
Identification: To the extent that actual investment returns differ from the assumed investment return, the plan's future assets, Actuarially Determined Contributions, and funded status may differ significantly from those presented in this valuation. The consequences of persistent underperformance on future Actuarially Determined Contribution levels are illustrated below:



#### Contribution Risk

Definition: This is the potential that actual future contributions will be less than the Actuarially Determined Contribution.

Identification: Over the past 7 years, actual contributions have been 102.2% of the Actuarially Determined Contribution in total. The consequences of persistent underfunding on future Actuarially Determined Contribution levels are illustrated below:



## Section V - Analysis of Risk

### B. Risk Identification and Assessment

#### Liquidity Risk

**Definition:** This is the potential that assets must be liquidated at a loss earlier than planned in order to pay for the plan's benefits and operating costs. This risk is heightened for plans with negative cash flows, in which contributions are not sufficient to cover benefit payments plus expenses.

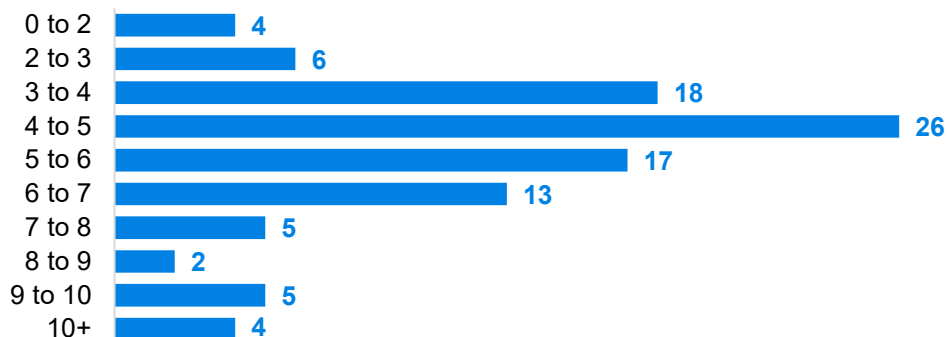
**Identification:** In 2020-21, the plan had positive cash flow, with town and member contributions to the plan of \$11,972,324 compared to \$11,304,894 of benefit payments and administrative expenses paid out of the plan. We suggest that you consult with your investment advisors with respect to the liquidity characteristics of the plan's investment holdings.

#### Maturity Risk

**Definition:** This is the potential for total plan liabilities to become more heavily weighted toward inactive liabilities over time, and for plan assets and/or liabilities to become larger relative to the active member liability.

**Identification:** The plan is subject to maturity risk because as plan assets and liabilities continue to grow, the dollar impact of any gains or losses on the assets or liabilities also becomes larger.

**Assessment:** As of July 1, 2021, the plan's Asset Volatility Ratio (the ratio of the market value of plan assets to payroll) is 7.0. According to Milliman's 2021 Public Pension Funding Study, the 100 largest US public pension plans have the following range of Asset Volatility Ratios:



#### Inflation Risk

**Definition:** This is the potential for a pension to lose purchasing power over time due to inflation.

**Identification:** The members of pension plans without fully inflation-indexed benefits are subject to the risk that their purchasing power will be reduced over time due to inflation.

**Assessment:** This plan provides for postretirement benefit increases that are directly tied to each year's rate of actual inflation. However, there is a maximum annual adjustment and a maximum lifetime adjustment. Further, not all members are eligible for these increases; this leaves members bearing some inflation risk.

## Section V - Analysis of Risk

### B. Risk Identification and Assessment

#### Insolvency Risk

Definition: This is the potential that a plan will become insolvent; that is, assets will be fully depleted.

Identification: If a plan becomes insolvent, contractually required benefits must be paid from the plan sponsor's other remaining assets.

Assessment: Under the GASB 68 depletion date methodology, the plan is not projected to become insolvent. Please see the GASB 68 report for more details on the underlying analysis.

#### Demographic Risks

Definition: This is the potential that mortality, turnover, retirement, or other demographic experience will be different than expected.

Identification: The pension liabilities reported herein have been calculated by assuming that members will follow patterns of demographic experience as described in Appendix B. If actual demographic experience or future demographic assumptions are different from what is assumed to occur in this valuation, future pension liabilities, Actuarially Determined Contributions, and funded status may differ significantly from those presented in this valuation. Formal Experience Studies performed on a regular basis are helpful in ensuring that the demographic assumptions reflect emerging plan experience.

#### Retirement Risk

Definition: This is the potential for members to retire and receive subsidized benefits that are more valuable than expected.

Identification: This plan has valuable early retirement benefits. If members retire at earlier ages than are anticipated by the actuarial assumptions, this will put upward pressure on subsequent Actuarially Determined Contributions.

#### Pensionable Earnings Risk

Definition: This is the potential for active members to add items to their pensionable earnings and receive pension benefits that are higher than expected.

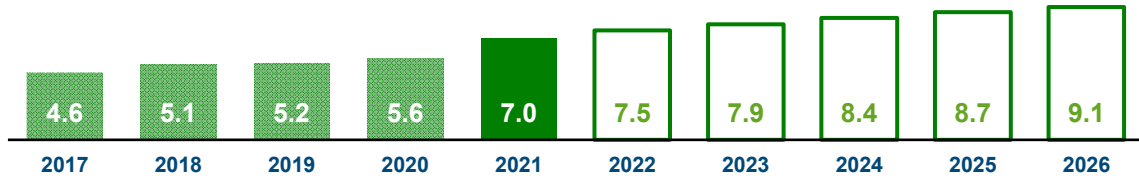
Identification: As Earnings include overtime payments, commissions, bonuses and any other additional compensation, a participant can significantly increase their final years of Earnings which are included in their Average Annual Earnings to calculate their final benefit. We have reflected a load for compensated absences for the groups that are eligible for these adjustments.

## Section V - Analysis of Risk

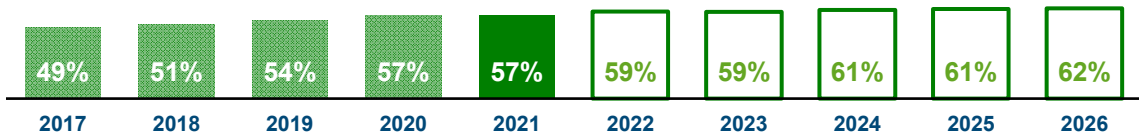
### C. Maturity Measures

The metrics presented below are different ways of understanding the plan's maturity level, both in the past and as it is expected to change in the coming years.

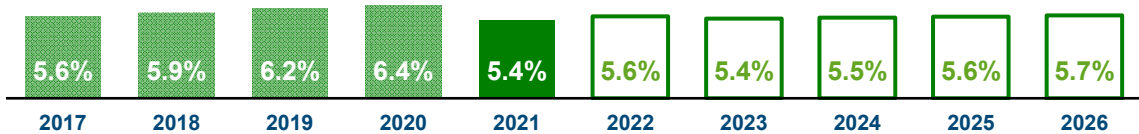
#### Asset Volatility Ratio: Market Value of Assets compared to Payroll



#### Accrued Liability for members in pay status compared to total Accrued Liability

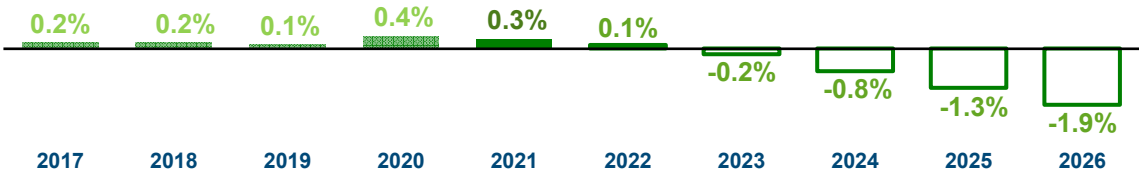


#### Benefit Payments compared to Market Value of Assets

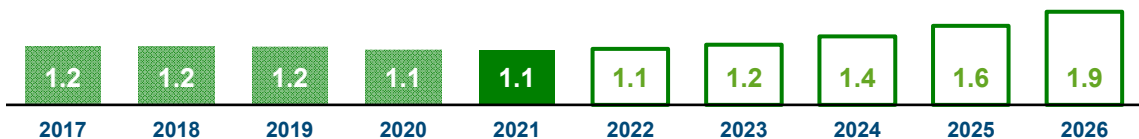


#### Net Cash Flows compared to Market Value of Assets

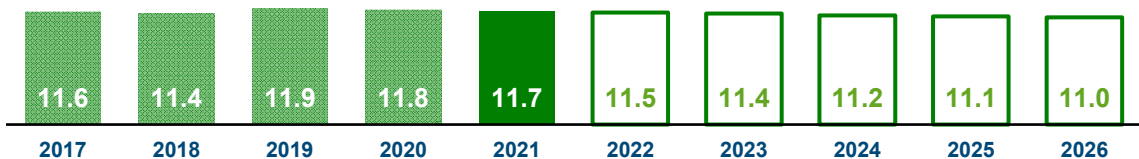
*Net Cash Flows = Contributions - Benefit Payments and Administrative Expenses*



#### Benefit Payments compared to Town Contributions



#### Duration of Accrued Liability (based on GASB 68 sensitivity disclosures)



## Appendix A - Actuarial Funding Method

The actuarial funding method used in the valuation of this Plan is known as the Entry Age Normal Method. The Actuarially Determined Contribution consists of three pieces: Normal Cost plus a Past Service Cost payment to gradually eliminate the Unfunded Accrued Liability plus Interest to reflect the timing of the contribution relative to the valuation date.

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

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

The Unfunded Accrued Liability 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 over 14 years starting with July 1, 2019. The amortization period will decline by 1 each year until it reaches 10 years, after which time it will remain at 10 years.

The Actuarial Value of Assets is determined by recognizing market gains and losses non-asymptotically over a five year period.

The long-range forecasts included in this report have been developed by assuming that members will terminate, retire, become disabled, and die according to the actuarial assumptions with respect to these causes of decrement, and that pay increases, cost of living adjustments, and so forth will likewise occur according to the actuarial assumptions. For those unions whose new employees are eligible to participate in this plan, members who are projected to leave active employment are assumed to be replaced by new active members with the same age, service, gender, and pay characteristics as those hired in the past few 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 Rate** Non-Hybrid plan: 6.25%

Hybrid plan: 5.00%

**Inflation** 2.75%

**Salary Scale** Graded salary growth with an ultimate rate of 3.00%.

<b>Age</b>	<b>Police</b>	<b>Town/BOE</b>
25	6.50%	6.25%
30	6.00%	5.75%
35	4.75%	4.50%
40	3.75%	4.25%
45	3.50%	4.00%
50	3.50%	3.50%
55	3.25%	3.25%
60+	3.00%	3.00%

**Amortization Growth Rate** 3.50%

**Administrative Expenses** Prior year administrative expenses increased 3.0% and rounded to the nearest hundred.

**Mortality** Public Safety and Blue Collar Employees: PubS-2010 Mortality Table with generational projection with 100% of MP 2019 Ultimate Scale, with employee rates before benefit commencement and healthy or disabled annuitant rates after benefit commencement. This assumption includes a margin for improvements in longevity beyond the valuation date.

All Others: PubG-2010 Mortality Table with generational projection with 100% of MP 2019 Ultimate Scale, with employee rates before benefit commencement and healthy or disabled annuitant rates after benefit commencement. This assumption includes a margin for improvements in longevity beyond the valuation date.

## Appendix B - Actuarial Assumptions

### Survivor's Benefit

It is assumed that husbands are 3 years older than wives and that 90% of the male participants and 60% of the female participants who are or will become eligible for coverage under the Survivor's Benefit will be survived by an eligible survivor.

### Turnover

**Police:** None

**Town/BOE:** The probability that a participant at the indicated age will terminate is:

Age	Rate
20	13.95%
25	10.20%
30	7.58%
35	5.93%
40	4.88%
45	4.13%
50	3.38%
55	2.33%
60+	0.00%

### Retirement

Participants are assumed to retire as shown below:

Town		BOE	
Age	Rate	Age	Rate
60	3%	63-64	10%
61-64	15%	65	50%
65	50%	66-69	30%
66-69	30%	70	100%
70	100%		

Police		Police	
Hired before January 1, 2013		Hired on or after January 1, 2013	
Service	Rate	Service	Rate
20	10%	25	50%
21	15%	26-29	20%
22	30%	30	100%
23-24	15%		
25-29	30%		
30	100%		

For **Police**, minimum assumed retirement age is 50; 100% are assumed to retire at age 60.

## Appendix B - Actuarial Assumptions

<b>Disability</b>	50% of the 1985 Disability Pension Table Class 1 Rates.  50% of <b>Police</b> who become disabled are assumed to have a Service Connected Disability.
<b>Compensated Absences</b>	Increase active liability and normal cost by 7% for <b>Town</b> and <b>Highway</b> and by 10% for <b>Police</b> hired before January 1, 2013.
<b>Cost of Living Adjustments</b>	<b>Non-Hybrid:</b> 2.75%  <b>Hybrid:</b> 2.00%  Cost of Living Adjustments are not available for some groups and are subject to limitations for some groups. These restrictions are reflected in accordance with the plan provisions.

## 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

Completed one year of continuous Service and elects to make Mandatory Employee Contributions. No Division 005 (Highway / Vehicle Maintenance / Refuse) or Division 007 (Facilities / Wastewater) employees hired on or after September 1, 2013 are eligible to enter the Plan. All other Town and Housing Authority employees hired on or after June 1, 2013 will be eligible for benefits under the Hybrid plan benefit structure.

### Earnings

Basic compensation received from the Employer for services as an Employee, plus overtime payments, commissions, bonuses and any other additional compensation.

Effective July 1, 2004, for Employees hired on or after such date, Highway / Vehicle Maintenance / Refuse employees shall not include sick leave payments as Earnings.

Effective July 1, 1994, Facilities / Wastewater employees shall not include sick leave payments as Earnings.

Effective January 1, 2013, for Employees hired on or after such date, Police employees shall not include overtime, private duty or sick leave payments as Earnings.

### Average Annual Earnings

#### **Town, Board of Education, Dispatchers, Housing Authority and Facilities / Wastewater**

The highest average Earnings received in any five consecutive Earnings Computation Periods during the Participant's period of Credited Service in which their Earnings were highest and dividing the aggregate of such five years Earnings by 5.

#### **Police**

The highest average Earnings received in any 48 consecutive calendar months during the Participant's period of Credited Service in which Earnings were highest and dividing the aggregate of such 48 months Earnings by 4.

#### **Highway / Vehicle Maintenance / Refuse / Hybrid plan groups**

The highest average Earnings received in any 60 consecutive calendar months during the Participant's period of Credited Service in which their Earnings were highest and dividing the aggregate of such five years Earnings by 5.

## Appendix C - Summary of Plan Provisions

<b>Service</b>	All years of Service with the employer, computed to the nearest 1/12 of a year, from date of employment to date of termination of employment, retirement date or date of death.
<b>Credited Service</b>	Participant's continuous Service completed prior to July 1, 1963 and subsequent to the date of coverage during which they have made contributions in accordance with the eligibility requirements, computed to the nearest 1/12 of a year, excluding any time absent from work due to a qualified disability, and excluding service after age 60 for police officers.
<b>Social Security</b>	The yearly Primary Insurance Amount for which the participant is estimated to be eligible at his or her Social Security Normal Retirement Age under the Social Security Act as in effect on their Normal Retirement Date, or the date their Service ceases, if earlier. The estimate is based upon the participant's compensation for which they have paid taxes under the Social Security Act. It is assumed that the participant will not receive any future compensation which would be treated as wages for the purpose of the Social Security Act.
<b>Normal Form of Annuity</b>	Single Life Annuity
<b>Normal Retirement Date</b>	<b>Town, Board of Education, Highway / Vehicle Maintenance / Refuse, Housing Authority and Facilities / Wastewater / Hybrid plan groups</b> If a participant became covered under the Plan prior to January 1, 1983, the day on which the participant attains age 65.  If a participant becomes covered under the plan on or after January 1, 1983, the day on which the participant attains age 65, or, if later, the earlier of the day on which the participant completes ten years of Service or the tenth anniversary of their participation commencement date.  <b>Police</b> Effective July 1, 1991, the day on which the participant attains age 55 or, if earlier, the day on which the participant completes 25 years of Service.  Effective July 1, 1994, for a participant with an Hour of Service on or after July 1, 1994, the day on which the participant attains age 55 or, if earlier, the day on which the participant completes 20 years of Service or the date the participant would have completed 20 years of Service if the participant's employment had not ceased.  For new participants hired on or after January 1, 2013, the day on which the participant attains age 55, or, if earlier, the day on which the participant completes 25 years of Service.

## Appendix C - Summary of Plan Provisions

### Normal Retirement Date

#### Dispatchers

If a participant became covered under the Plan prior to January 1, 1983, the day on which the participant attains age 65.

If a participant became covered under the Plan on or after January 1, 1983, but prior to July 1, 1991, the day on which the participant attains age 65 or, if later, the earlier of the day on which the participant completes 10 years of Service with the Employer or the 10th anniversary of their participation commencement date.

On or after July 1, 1991, the day on which the participant attains age 62 or, if later the earlier of the day on which the Participant completes 10 years of Service or the 10th anniversary of their participation commencement date.

### Normal Retirement Benefit

#### Town, Housing Authority, Dispatchers, and Highway / Vehicle Maintenance / Refuse (CILU)

1.75% of Average Annual Earnings times Credited Service plus 0.50% of Average Annual Earnings over \$15,000 times Credited Service.

#### Board of Education

2.00% of Average Annual Earnings times Credited Service.

#### Police

Greater of 2.50% of Average Annual Earnings times Credited Service (maximum 30 years of Credited Service or 75% of Annual Average Earnings) or \$360.

For Officers hired on or after January 1, 2013, 2.0% of Final Average Earnings times Credited Service to a maximum of 70% of Annual Average Earnings.

#### Facilities / Wastewater (AFSCME)

2.15% of Average Annual Earnings times Credited Service.

Maximum Benefit – 70% of Average Annual Earnings for Employees hired after November 29, 2005. 60% of Average Annual Earnings for Employees hired after June 30, 2008.

#### Hybrid plan groups

1.50% of Average Annual Earnings times Credited Service (maximum 30 years of Credited Service or 45% of Annual Average Earnings).

## Appendix C - Summary of Plan Provisions

**Vested Benefit**                      Accrued benefit as of date of termination adjusted by the applicable vesting percentage, payable as of Normal Retirement Date.

**Vesting Schedule**                      **Town, Housing Authority, Board of Education, Highway / Vehicle Maintenance / Refuse and Dispatchers**

<b>Years of Service</b>	<b>Vesting Percentage</b>
0 ≤ Years of Service < 5	0%
5 ≤ Years of Service < 6	50%
6 ≤ Years of Service < 7	60%
7 ≤ Years of Service < 8	70%
8 ≤ Years of Service < 9	80%
9 ≤ Years of Service < 10	90%
10 ≤ Years of Service	100%

**Police / Hybrid plan groups**

<b>Years of Service</b>	<b>Vesting Percentage</b>
0 ≤ Years of Service < 10	0%
10 ≤ Years of Service	100%

**Facilities / Wastewater**

<b>Years of Service</b>	<b>Vesting Percentage</b>
0 ≤ Years of Service < 5	0%
5 ≤ Years of Service < 6	80%
6 ≤ Years of Service < 7	90%
7 ≤ Years of Service	100%

**Early Retirement Date**                      Ten years early with 10 years of Service.

**Early Retirement Benefit**                      Normal Retirement benefit accrued to early retirement, actuarially reduced for the number of months the participant's Annuity Commencement Date precedes the participant's Normal Retirement Date.

## Appendix C - Summary of Plan Provisions

### Pre Retirement Spouse Benefit

**Town, Housing Authority, Board of Education, Highway / Vehicle Maintenance / Refuse, Dispatchers and Facilities / Wastewater / Hybrid plan groups**

To be eligible, must be actively contributing to the plan, have attained age 40 with 10 years of Service, and been married one full year prior to death. The benefit is the greater of 50% of the Ultimate Benefit times a Spouse Age Adjustment Factor or \$120.

#### Police

To be eligible, must be actively contributing to the plan, have been married one full year prior to death, and death occurs within two years of a Service connected incident. The benefit is the lesser of 2.50% of Average Annual Earnings times Credited Service at NRD or 75% of Average Annual Earnings.

### Disability Eligibility

**Town, Housing Authority, Board of Education, Highway / Vehicle Maintenance / Refuse, Dispatchers and Facilities / Wastewater / Hybrid**

Actively contributing to the plan and 10 years of continuous Service and total disablement.

#### Police

Non Service Connected Disability - Attained age 40 with 10 years of Service.

Service Connected Disability - Totally and permanently disabled.

### Disability Benefit Payable Before Normal Retirement Date

**Town / Housing Authority / Hybrid plan groups**

The lesser of 75% of Earnings at date of disability or \$15,000, minus Worker's Compensation.

**Highway / Vehicle Maintenance / Refuse and Facilities / Wastewater**

Lesser of 75% of Earnings at date of disability or \$18,750.

#### Police

Non Service Connected Disability: 2.50% of Average Annual Earnings times Credited Service as of date of disability (maximum 30).

Service Connected Disability: lesser of 2.50% of Average Annual Earnings times Credited Service at NRD (maximum 30) or 75% of Average Annual Earnings as of date of disability.



## Appendix C - Summary of Plan Provisions

### Disability Benefit Payable Before Normal Retirement Date

#### Board of Education and Dispatchers

Non Service Connected Disability: lesser of (A) or (B), minus Worker's Compensation

- A. 1.0% of Average Annual Earnings times Credited Service at Disability plus 0.67% of Average Annual Earnings over \$4,800 times Credited Service at Disability.
- B. 66.67% of Average Annual Earnings less 66.67% of Social Security.

Service Connected Disability: lesser of [greater of (A) or (B)] and (C), minus Worker's Compensation

- A. 1.0% of Average Annual Earnings times Credited Service at Disability plus 0.67% of Average Annual Earnings over \$4,800 times Credited Service at Disability.
- B. 50.00% of Average Annual Earnings less 66.67% of Social Security.
- C. 66.67% of Average Annual Earnings less 66.67% of Social Security.

### Disability Benefit Payable After Normal Retirement Date

#### Town / Housing Authority / Dispatchers / Hybrid plan groups

Lesser of 50% of Earnings at date of disability or \$10,000.

#### Highway / Vehicle Maintenance / Refuse and Facilities / Wastewater

Lesser of 50% of Earnings at date of disability or \$14,000.

#### Police

Non Service Connected Disability: 2.50% of Average Annual Earnings times Credited Service as of date of disability (maximum 30).

Service Connected Disability: Lesser of 2.50% of Average Annual Earnings times Credited Service at NRD (maximum 30) or 75% of Average Annual Earnings as of date of disability.

## Appendix C - Summary of Plan Provisions

### Disability Benefit Payable After Normal Retirement Date

#### Board of Education

Non Service Connected Disability: lesser of 1.0% of Average Annual Earnings times Credited Service at Disability plus 0.67% of Average Annual Earnings over \$4,800 times Credited Service at Disability, or 66.67% of Average Annual Earnings less 66.67% of Social Security.

Service Connected Disability: lesser of [greater of (A) or (B)] and (C) minus Worker's Compensation

- A. 1.0% of Average Annual Earnings times Credited Service at Disability plus 0.67% of Average Annual Earnings over \$4,800 times Credited Service at Disability.
- B. 50.00% of Average Annual Earnings less 66.67% of Social Security.
- C. 66.67% of Average Annual Earnings less 66.67% of Social Security.

### Death / Termination Refund

Pre Retirement: Refund of Employee Contributions with interest to date of termination or death, if not eligible for Spouse benefit.

Post Retirement: Excess of Employee Contributions with interest over annuity payments.

## Appendix C - Summary of Plan Provisions

### Employee Contributions

#### Town and Housing Authority

7.00% of Earnings as of January 1, 2021, increasing to 7.25% as of January 1, 2022. Animal Control Officer is 6.75% of Earnings as of July 1, 2021, increasing to 7.00%, 7.25%, and 7.50% as of July 1, 2022, 2023 and 2024, respectively.

Effective August 1, 2013, Employee Contributions are made on a pre-tax (Section 414(h)(2)) basis.

#### Hybrid plan group

6.50% of Earnings.

#### Board of Education (excluding Custodians)

Secretary/Paraprofessionals/Nurses: 6.75% of Earnings as of July 1, 2021, increasing to 7.00%, 7.25%, 7.50% and 7.75% as of July 1, 2022, 2023, 2024 and 2025, respectively.

Non-Contract/Security Guards/School Foods: 6.75% of Earnings as of July 1, 2021.

#### Board of Education (Custodians)

6.75% as of July 1, 2021, previously 6.00% of Earnings.

#### Police

Hired before January 1, 2013: 8.75% of Earnings as of July 1, 2021, increased to 9.00% and 9.25% as of July 1, 2022 and 2023, respectively. Reduced to 5.25% after 30 years of service.

Hired on or after January 1, 2013: 8.75% of Earnings. Reduced to 5.25% after 30 years of service.

#### Highway / Vehicle Maintenance / Refuse

7.00% of Earnings as of July 1, 2021, increasing to 7.25%, 7.50% and 7.75% as of January 1, 2022, 2023 and 2024, respectively.

Effective September 1, 2013, Employee Contributions are made on a pre-tax (Section 414(h)(2)) basis.

#### Dispatchers

7.00% of Earnings as of July 1, 2021, increasing to 7.25%, 7.50% and 7.75% as of July 1, 2022, 2023 and 2024, respectively.

#### Facilities / Wastewater

7.50% of Earnings as of July 1, 2021.

Effective September 1, 2013, Employee Contributions are made on a pre-tax (Section 414(h)(2)) basis.

## Appendix C - Summary of Plan Provisions

**Interest Credited on Employee Contributions** 6.00%

**Eligibility for Cost of Living Adjustments** Any participant, contingent annuitant, dependent spouse or beneficiary who is currently receiving retirement payments. Police who retired prior to February 1, 2013: at age 55. Police who retire on or after February 1, 2013: at age 57. Hybrid plan: at age 67.

**Amount of Cost of Living Adjustments** The annual cost-of-living adjustment is effective May 1st each year and is equal to the ratio of the current year's Consumer Price Index over the Consumer Price Index in the year of retirement, subject to certain applicable annual and lifetime maximums:

### **Town, Housing Authority, Board of Education and Dispatchers**

Maximum Annual Adjustment 5.00%  
Maximum Lifetime Adjustment 50.00%

### **Highway / Vehicle Maintenance / Refuse**

Maximum Annual Adjustment 5.00% Employment Date ≤ 6/30/2004  
Maximum Lifetime Adjustment 50.00%

Highway employees hired on or after July 18, 2005 are not eligible for cost-of-living adjustments.

### **Facilities / Wastewater**

Maximum Annual Adjustment 5.00% Employment Date ≤ 11/28/2005  
Maximum Annual Adjustment 2.50% Employment Date > 11/28/2005 and ≤ 06/30/2008  
Maximum Lifetime Adjustment 50.00%

Wastewater / Building Maintenance employees hired on or after July 1, 2008 are not eligible for cost-of-living adjustments.

### **Police**

Maximum Annual Adjustment 4.00% Employment Date ≤ 12/13/2005  
Maximum Annual Adjustment 3.00% Employment Date ≥ 12/14/2005  
Maximum Lifetime Adjustment 50.00% Retirement Date ≤ 06/30/1987  
Maximum Lifetime Adjustment N/A Retirement Date ≥ 07/01/1987

Police hired on or after January 1, 2013 are not eligible for cost-of-living adjustments.

### **Hybrid plan group**

Maximum Annual Adjustment 2.00%  
Maximum Lifetime Adjustment 50.00%

## Appendix D - Glossary

**Actuarial Cost Method** - This is a procedure for determining the Actuarial Present Value of Benefits and allocating it to time periods to produce the Actuarial Accrued Liability and the Normal Cost.

**Accrued Liability** - This is the portion of the Actuarial Present Value of Benefits attributable to periods prior to the valuation date by the Actuarial Cost Method (i.e., that portion not provided by future Normal Costs).

**Actuarial Assumptions** - With any valuation of future benefits, assumptions of anticipated future events are required. If actual events differ from the assumptions made, the actual cost of the plan will vary as well. Some examples of key assumptions include the interest rate, salary scale, and rates of mortality, turnover and retirement.

**Actuarial Present Value of Benefits** - This is the present value, as of the valuation date, of future payments for benefits and expenses under the Plan, where each payment is: a) multiplied by the probability of the event occurring on which the payment is conditioned, such as the probability of survival, death, disability, termination of employment, etc.; and b) discounted at the assumed interest rate.

**Actuarial Value of Assets** - This is the value of cash, investments and other property belonging to the plan, typically adjusted to recognize investment gains or losses over a period of years to dampen the impact of market volatility on the Actuarially Determined Contribution.

**Actuarially Determined Contribution (“ADC”)** - This is the employer’s periodic contributions to a defined benefit plan, calculated in accordance with actuarial standards of practice.

**Attribution Period** - The period of an employee’s service to which the expected benefit obligation for that employee is assigned. The beginning of the attribution period is the employee’s date of hire and costs are spread across all employment.

**Interest Rate** - This is the long-term expected rate of return on any investments set aside to pay for the benefits. In a financial reporting context (e.g., GASB 68) this is termed the Discount Rate.

**Normal Cost** - This is the portion of the Actuarial Present Value of Benefits allocated to a valuation year by the Actuarial Cost Method.

**Past Service Cost** - This is a catch-up payment to fund the Unfunded Accrued Liability over time (generally 10 to 30 years). A closed amortization period is a specific number of years counted from one date and reducing to zero with the passage of time; an open amortization period is one that begins again or is recalculated at each valuation date. Also known as the Amortization Payment.

**Return on Plan Assets** - This is the actual investment return on plan assets during the fiscal year.

**Unfunded Accrued Liability** - This is the excess of the Accrued Liability over the Actuarial Value of Assets.