The Retirement Plan for Employees of the Town of Portsmouth, Rhode Island

Actuarial Valuation and Review as of July 1, 2021

This report has been prepared at the request of the Town of Portsmouth, Rhode Island to assist in administering The Retirement Plan for Employees of the Town of Portsmouth, Rhode Island. This valuation report may not otherwise be copied or reproduced in any form without the consent of Town of Portsmouth, Rhode Island and may only be provided to other parties in its entirety, unless expressly authorized by Segal. The measurements shown in this actuarial valuation may not be applicable for other purposes.

Segal

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December 22, 2021

Ms. Lisa M. Lasky, CPA, Director of Finance
Town of Portsmouth, Rhode Island
2200 East Main Road
Portsmouth, RI 02871

Dear Ms. Lasky:

We are pleased to submit this Actuarial Valuation and Review as of July 1, 2021. It summarizes the actuarial data used in the valuation, analyzes the preceding year's experience, and establishes the funding requirements for fiscal 2022 and later years.

This report was prepared in accordance with generally accepted actuarial principles and practices at the request of the Town of Portsmouth, Rhode Island to assist in administering the Retirement Plan. The census information and financial information on which our calculations were based was prepared by the staff of the Plan. That assistance is gratefully acknowledged.

The actuarial calculations were directed under my supervision. I am a member of the American Academy of Actuaries and I meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. To the best of my knowledge, the information supplied in this actuarial valuation is complete and accurate. Further, in my opinion, the assumptions as approved by the Town of Portsmouth, Rhode Island are reasonably related to the experience of and the expectations for the Plan.

We look forward to reviewing this report at your next meeting and to answering any questions.

Sincerely,
Segal

Bridget P. Orr

Bridget P. Orr, ASA, MAAA, EA
Consulting Actuary

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Section 1: Actuarial Valuation Summary

Purpose and basis

This report was prepared by Segal to present a valuation of The Retirement Plan for Employees of the Town of Portsmouth, Rhode Island as of July 1, 2021. The valuation was performed to determine whether the assets and contributions are sufficient to provide the prescribed benefits. The measurements shown in this actuarial valuation may not be applicable for other purposes. In particular, the measures herein are not necessarily appropriate for assessing the sufficiency of Plan assets to cover the estimated cost of settling the Plan's benefit obligations. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as 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; and changes in plan provisions or applicable law.

Certain disclosure information required by Governmental Accounting Standards Board (GASB) Statements No. 67 and 68 as of July 1, 2021 for the Plan is provided in a separate report.

The contribution requirements presented in this report are based on:

- The benefit provisions of the Retirement Plan, as administered by the Town of Portsmouth, Rhode Island;
- The characteristics of covered active employees, inactive employees, and retired employees and beneficiaries as of July 1, 2021, provided by the Town of Portsmouth, Rhode Island;
- The assets of the Plan as of June 30, 2021, provided by the Town of Portsmouth, Rhode Island;
- Economic assumptions regarding future salary increases and investment earnings;
- Other actuarial assumptions regarding employee terminations, retirement, death, etc. and
- The funding policy adopted by the Town of Portsmouth, Rhode Island.

Valuation highlights

1. Segal strongly recommends an actuarial funding method that targets 100% funding of the actuarial accrued liability. Generally, this implies payments that are ultimately at least enough to cover normal cost, interest on the unfunded actuarial accrued liability and the principal balance. The funding policy adopted by the Town of Portsmouth, Rhode Island meets this standard and funds the unfunded actuarial accrued liability of the Plan by June 30, 2040 in level amortization payments.
2. The number of active employees decreased from 121 as of July 1, 2020 to 96 as of July 1, 2021, primarily due to 22 employees of the Police department transferring to the State retirement system. Because the participants who transferred to the State system only had disability benefits covered by the Plan, rather than full retirement benefits, the decrease in liability was not as significant as the decrease in the number of actives.
3. The funded ratio (the ratio of the actuarial value of assets to actuarial accrued liability) is 60.1%, compared to the prior year funded ratio of 53.4%. This ratio is one measure of funding status, and its history is a measure of funding progress. Using the market value of assets, the funded ratio is 65.9%, compared to 49.5% as of the prior valuation date. These measurements are not necessarily appropriate for assessing the sufficiency of Plan assets to cover the estimated cost of settling the Plan's benefit obligation or the need for or the amount of future contributions.
4. The Actuarially Determined Contribution (ADC) for the fiscal year ended June 30, 2022 is the previously budgeted amount of $5,679,202. The results of this valuation are used to determine the ADC for the fiscal year ending June 30, 2023 of $4,385,799. In the prior valuation, the fiscal 2023 contribution was projected to be $5,803,378. The decrease is primarily due to the changes in the assumptions described below along with the demographic and investment gains detailed in Section 2.
5. The unfunded actuarial accrued liability is $43,297,992, which is a decrease of $9,163,511 since the prior valuation.
6. The actuarial gain from investment and other experience is $2,953,648, or 2.6% of actuarial accrued liability, before reflecting assumption or plan changes.
7. The rate of return on the market value of assets was 28.68% for the July 1, 2020 to June 30, 2021 plan year. The return on the actuarial value of assets was 8.77% for the same period due to the recognition of prior years' investment gains and losses. This resulted in an actuarial gain when measured against the assumed rate of return of 6.40%. We have increased the long-term rate of return to 6.75%. Given the low fixed income interest rate environment, target asset allocation and expectations of future investment returns for various classes, we advise the Town to continue to monitor actual and anticipated investment returns relative to this assumption.
8. The actuarial value of assets is 91.1% of the market value of assets. The investment experience in the past years has only been partially recognized in the actuarial value of assets. As the deferred net gain is recognized in future years, the cost of the Plan is likely to decrease unless the net gain is offset by future experience.

9. The following actuarial assumptions were changed with this valuation:
   - The investment return assumption was increased from 6.40% to 6.75%.
   - The administrative expense assumption was increased from $0 to $39,900. With the prior valuation, we had been informed by the Town that administrative expenses were not paid from plan assets.
   - The rate of annual salary increases was lowered from 3.5% to 2.0%.

   As a result of these assumption changes, the employer normal cost decreased by $245,933 and the actuarial accrued liability decreased by $5,924,255.

10. The following Plan change is included for the first time in this valuation:
   - For two Town Management employees, credited service is no longer frozen at the July 1, 2014 amount for purposes of benefit accruals, and the employee contribution rate for these employees increased from 0.0% to 5.0%.

   As a result of this plan change, the actuarial accrued liability increased by $373,382.

11. This report constitutes an actuarial valuation for the purpose of determining the actuarially determined contribution under the Plan's funding policy and measuring the progress of that funding policy. The Net Pension Liability (NPL) and Pension Expense under Governmental Accounting Standards Board (GASB) Statements No. 67 and No. 68, for inclusion in the plan and employer's financial statements as of June 30, 2021, has been provided separately. The accounting disclosures will utilize different methodologies from those employed in the funding valuation, as required by the GASB. However, the Actuarially Determined Contribution (ADC) in this valuation is expected to be used as the ADC for GASB financial reporting.

12. It is important to note that this actuarial valuation is based on plan assets as of June 30, 2021. Due to the COVID-19 pandemic, market conditions have changed significantly since the onset of the Public Health Emergency. The plan's funded status does not reflect short-term fluctuations of the market, but rather is based on the market values on the last day of the plan year. Moreover, this actuarial valuation does not include any possible short-term or long-term impacts on mortality of the covered population that may emerge after June 30, 2021. While it is impossible to determine how the pandemic will affect market conditions and other demographic experience of the plan in future valuations, Segal is available to prepare projections of potential outcomes upon request.

13. Since the actuarial valuation results are dependent on a given set of assumptions, there is a risk that emerging results may differ significantly as actual experience proves to be different from the assumptions. We have not been engaged to perform a detailed analysis of the potential range of the impact of risk relative to the Plan's future financial condition, but have included a brief discussion of some risks that may affect the Plan in Section 2. A more detailed assessment would provide the Town with a better understanding of the inherent risks. This could be important because the Plan's assets can produce large swings in the unfunded liabilities because retired participants account for most of the Plan's liabilities, leaving limited options for reducing costs in the event of adverse experience, and the Town has not had a detailed risk assessment in several years.

Summary of key valuation results

		2021	2020
Contributions for plan year beginning July 1:	• Actuarially determined contributions for fiscal 2022 and fiscal 2021	$5,679,202	$4,918,997
	• Actuarially determined contributions as a percent of compensation	95.28%	65.46%
	• Actuarially determined contributions for fiscal 2023 and fiscal 2022	$4,385,799	$5,679,202
	• Actuarially determined contributions as a percent of compensation	77.27%	76.82%
Actuarial accrued liability for plan year beginning July 1:	• Retired employees[1] and beneficiaries	$85,139,673	$88,633,673
	• Inactive vested employees	1,877,812	1,843,304
	• Active employees	21,413,469	22,009,469
	• Total	108,430,954	112,486,446
	• Normal cost including administrative expenses for plan year beginning July 1	938,671	1,217,126
Assets for plan year beginning July 1:	• Market value of assets (MVA)	$71,509,342	$55,706,800
	• Actuarial value of assets (AVA)	65,132,962	60,024,943
	• Actuarial value of assets as a percentage of market value of assets	91.08%	107.75%
Funded status for plan year beginning July 1:	• Unfunded actuarial accrued liability on market value of assets	$36,921,612	$56,779,646
	• Funded percentage on MVA basis	65.95%	49.52%
	• Unfunded actuarial accrued liability on actuarial value of assets	$43,297,992	$52,461,503
	• Funded percentage on AVA basis	60.07%	53.36%
	• Amortization period on an AVA basis	19	20
Key assumptions	• Net investment return	6.75%	6.40%
	• Inflation rate	2.75%	2.75%
	• Salary increase	2.00%	3.50%
Demographic data for plan year beginning July 1:	• Number of retired employees[1] and beneficiaries	202	200
	• Number of inactive vested employees	12	12
	• Number of active employees	96	121
	• Total compensation	$5,843,765	$7,260,027
	• Average compensation	60,873	60,000

[1] Including alternate payees

Important information about actuarial valuations

An actuarial valuation is a budgeting tool with respect to the financing of future projected obligations of a pension plan. It is an estimated forecast – the actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.

In order to prepare a valuation, Segal relies on a number of input items. These include:

Plan of benefits	Plan provisions define the rules that will be used to determine benefit payments, and those rules, or the interpretation of them, may change over time. Even where they appear precise, outside factors may change how they operate. It is important to keep Segal informed with respect to plan provisions and administrative procedures, and to review the plan summary included in our report to confirm that Segal has correctly interpreted the plan of benefits.
Participant data	An actuarial valuation for a plan is based on data provided to the actuary by the Town of Portsmouth, RI. Segal does not audit such data for completeness or accuracy, other than reviewing it for obvious inconsistencies compared to prior data and other information that appears unreasonable. It is important for Segal to receive the best possible data and to be informed about any known incomplete or inaccurate data.
Assets	The valuation is based on the market value of assets as of the valuation date, as provided by the Town of Portsmouth, RI. The Town of Portsmouth, RI uses an "actuarial value of assets" that differs from market value to gradually reflect year-to-year changes in the market value of assets in determining the contribution requirements.
Actuarial assumptions	In preparing an actuarial valuation, Segal projects the benefits to be paid to existing plan participants for the rest of their lives and the lives of their beneficiaries. This projection requires actuarial assumptions as to the probability of death, disability, withdrawal, and retirement of each participant for each year. In addition, the benefits projected to be paid for each of those events in each future year reflect actuarial assumptions as to salary increases and cost-of-living adjustments. The projected benefits are then discounted to a present value, based on the assumed rate of return that is expected to be achieved on the plan's assets. There is a reasonable range for each assumption used in the projection and the results may vary materially based on which assumptions are selected. It is important for any user of an actuarial valuation to understand this concept. Actuarial assumptions are periodically reviewed to ensure that future valuations reflect emerging plan experience. While future changes in actuarial assumptions may have a significant impact on the reported results that does not mean that the previous assumptions were unreasonable.
Models	Segal valuation results are based on proprietary actuarial modeling software. The actuarial valuation models generate a comprehensive set of liability and cost calculations that are presented to meet regulatory, legislative and client requirements. Our Actuarial Technology and Systems unit, comprised of both actuaries and programmers, is responsible for the initial development and maintenance of these models. The models have a modular structure that allows for a high degree of accuracy, flexibility and user control. The client team programs the assumptions and the plan provisions, validates the models, and reviews test lives and results, under the supervision of the responsible actuary

Section 1: Actuarial Valuation Summary

The user of Segal's actuarial valuation (or other actuarial calculations) should keep the following in mind:

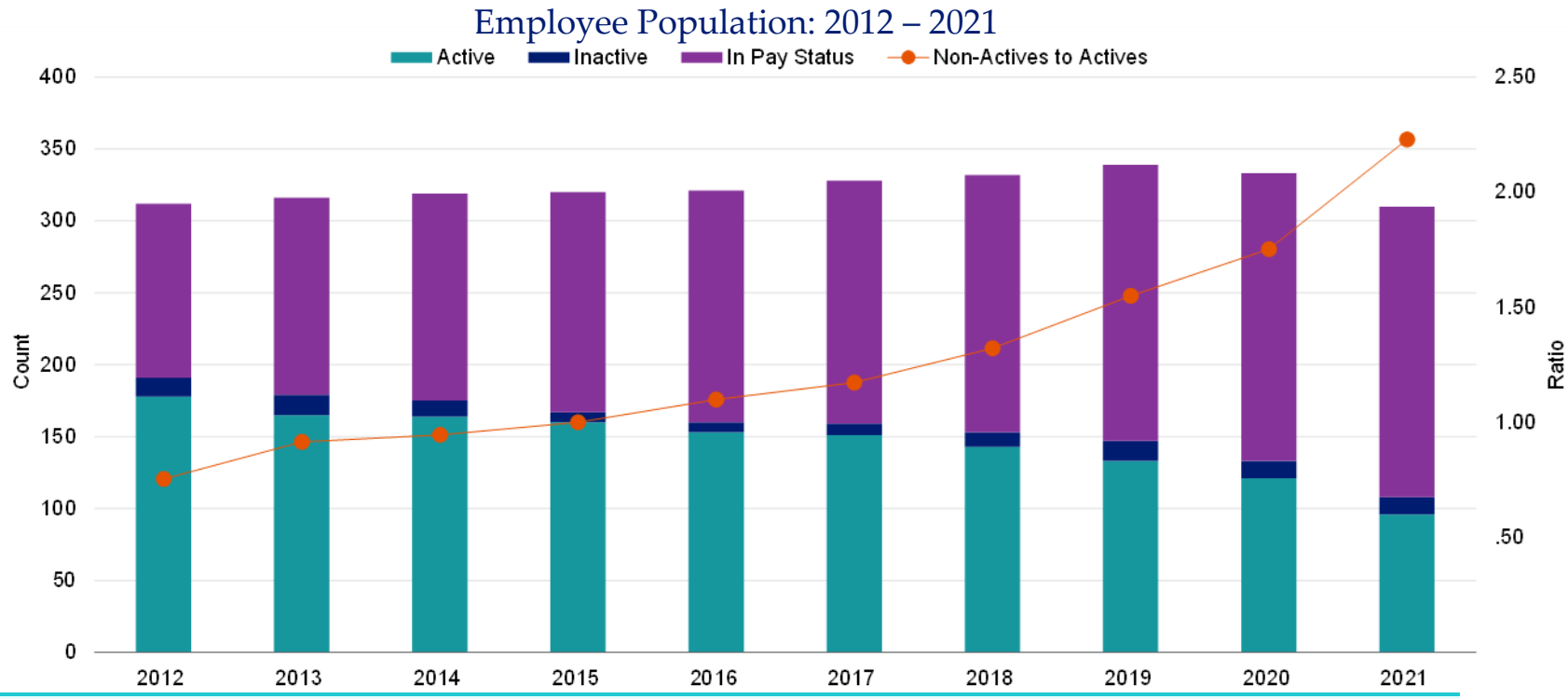
The actuarial valuation is prepared at the request of the Town of Portsmouth, RI. Segal is not responsible for the use or misuse of its report, particularly by any other party.
An actuarial valuation is a measurement of the plan's assets and liabilities at a specific date. Accordingly, except where otherwise noted, Segal did not perform an analysis of the potential range of future financial measures. The actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.
Actuarial results in this report are not rounded, but that does not imply precision.
If the Town of Portsmouth, RI is aware of any event or trend that was not considered in this valuation that may materially change the results of the valuation, Segal should be advised, so that we can evaluate it.
Segal does not provide investment, legal, accounting, or tax advice. Segal's valuation is based on our understanding of applicable guidance in these areas and of the plan's provisions, but they may be subject to alternative interpretations. The Town of Portsmouth, RI should look to their other advisors for expertise in these areas.

As Segal has no discretionary authority with respect to the management or assets of the Plan, it is not a fiduciary in its capacity as actuaries and consultants with respect to the Plan.

Section 2: Actuarial Valuation Results

Employee data

This section presents a summary of significant statistical data on covered employees. Note that the decrease in active employees from 121 in the prior year to 96 with this valuation is primarily due to 22 employees of the Police department transferring to the State retirement system.



	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
In Pay Status	121	137	144	153	161	169	179	192	200	202
Inactive[1]	13	14	11	7	7	8	10	14	12	12
Active	178	165	164	160	153	151	143	133	121	96
Ratio	0.75	0.92	0.95	1.00	1.10	1.17	1.32	1.55	1.75	2.23

More detailed information for this valuation year and the preceding valuation can be found in *Section 3, Exhibit A*

Note: Information prior to 2014 is from the prior actuary's reports.

[1] Excludes terminated participants due a refund of employee contributions

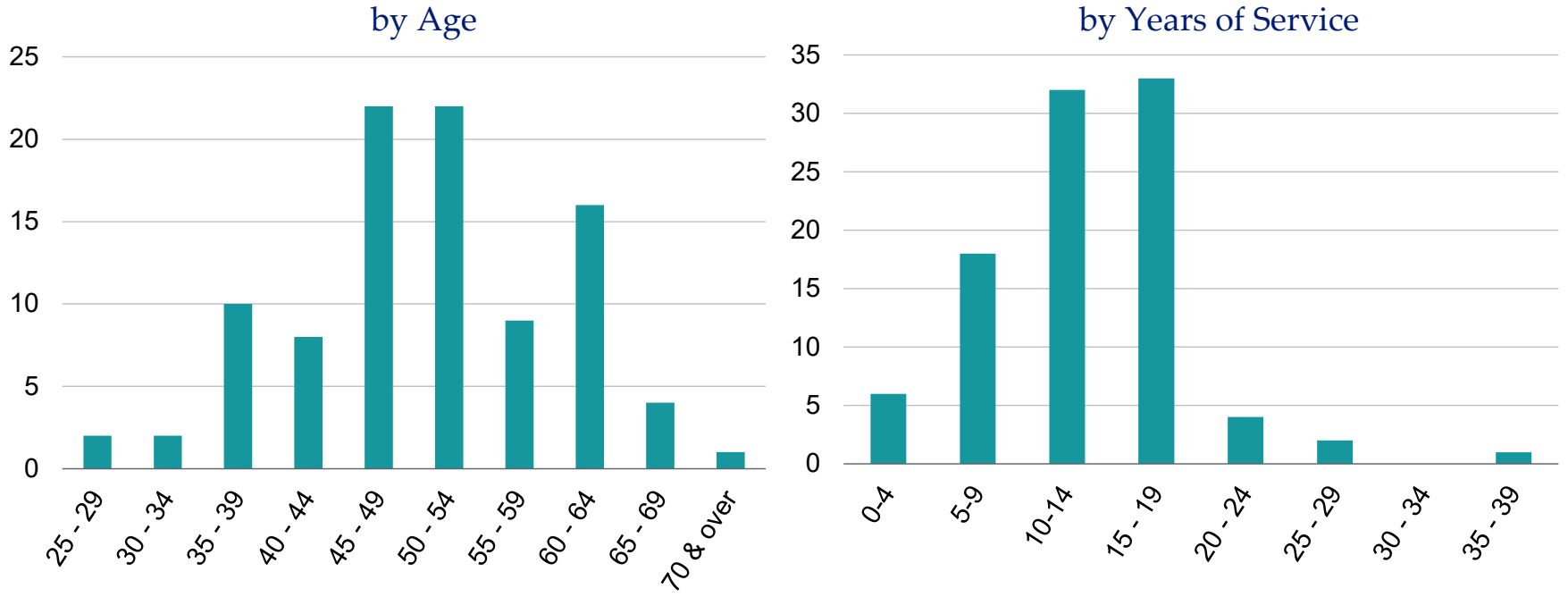
Active employees

As of June 30,	2020	2021	Change
Active participants	121	96	-20.7%
Average age	45.8	50.8	5.0
Average years of service	11.4	13.9	2.5
Average compensation	$60,000	$60,873	1.5%

Among the active employees, there were none with unknown age and/or service information.

In addition, in this and last year's valuation, there were 12 employees with a vested right to a deferred or immediate vested benefit.

Distribution of Active Employees as of June 30, 2021

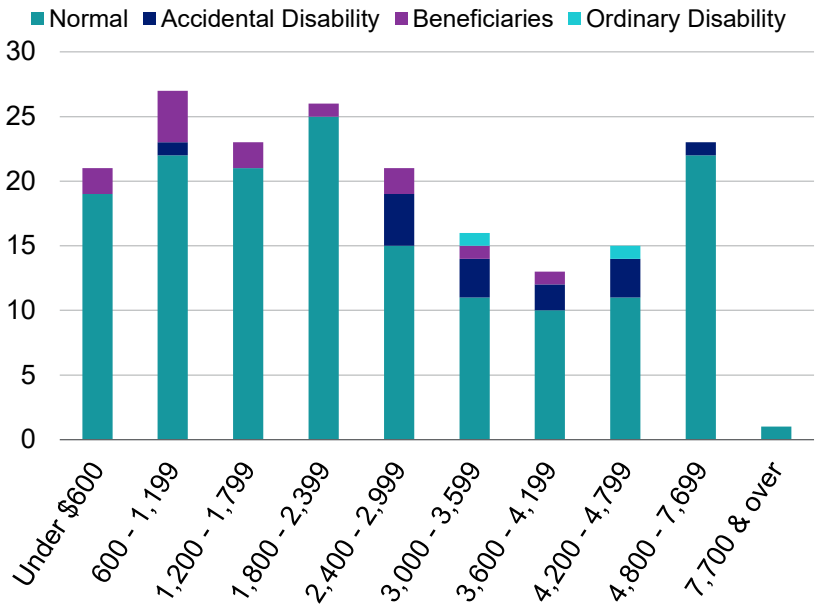


Retired employees and beneficiaries

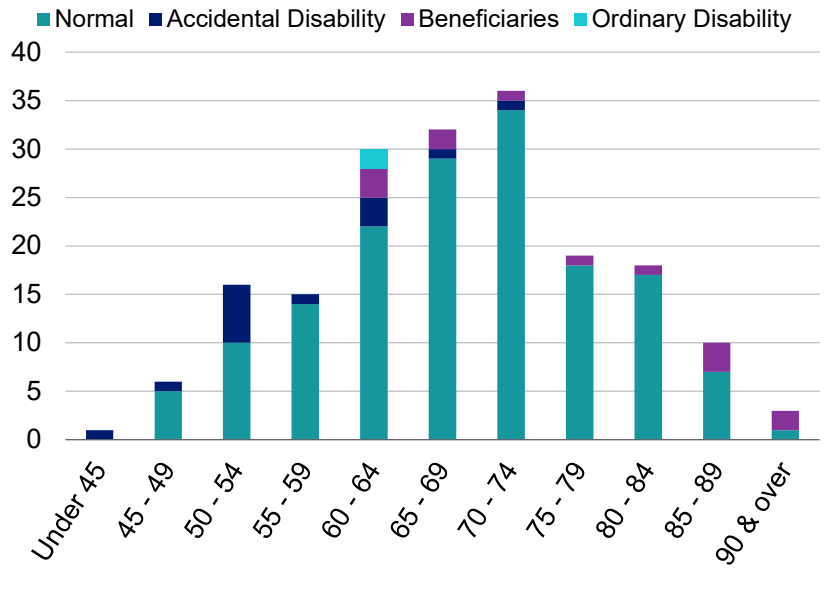
As of June 30,	2020	2021	Change
Retirees[1]	188	189	0.5%
Average age	67.1	66.9	-0.2
Average amount	$2,550	$2,538	-0.5%
Beneficiaries	12	13	8.3%
Total monthly amount	$510,090	$512,683	0.5%

Distribution of Retired Participants and Beneficiaries as of June 30, 2021

by Type and Monthly Amount



by Type and Age



[1] Includes QDROs.

Historical plan population

Employee Data Statistics: 2012 – 2021

	Active Employees			Retired Employees and Beneficiaries		
Year Ended June 30	Count	Average Age	Average Service	Count	Average Age	Average Monthly Amount
2012	178	45.3	9.7	121	64.4	$2,155
2013	165	45.5	9.2	137	58.9	2,251
2014	164	46.9	10.5	144	64.5	2,273
2015	160	47.1	10.9	153	64.6	2,289
2016	153	46.9	11.2	161	65.5	2,329
2017	151	46.9	11.0	169	65.6	2,430
2018	143	46.5	11.0	179	66.2	2,504
2019	133	45.3	10.9	192	66.7	2,509
2020	121	45.8	11.4	200	67.1	2,550
2021	96	50.8	13.9	202	66.9	2,538

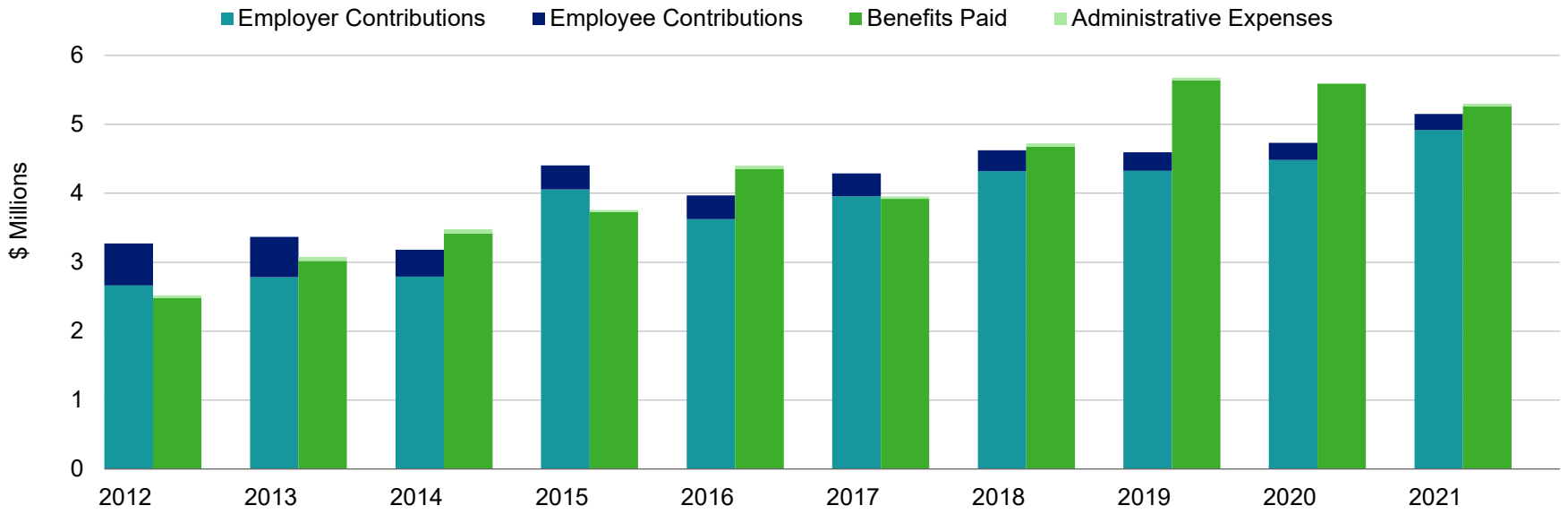
Note: Information prior to 2014 is from the prior actuary's reports.

Financial information

Retirement plan funding anticipates that, over the long term, both contributions (less administrative expenses) and investment earnings (less investment fees) will be needed to cover benefit payments. Retirement plan assets change as a result of the net impact of these income and expense components.

Additional financial information, including a summary of transactions for the valuation year, is presented in *Section 3, Exhibit C*.

Comparison of Contributions Made with Benefits and Expenses Paid
for Years Ended June 30, 2012 – 2021



Section 2: Actuarial Valuation Results

It is desirable to have level and predictable plan costs from one year to the next. For this reason, the Town has approved an asset valuation method that gradually adjusts to market value. Under this valuation method, the full value of market fluctuations is not recognized in a single year and, as a result, the asset value and the plan costs are more stable. The amount of the adjustment to recognize market value is treated as income, which may be positive or negative. Realized and unrealized gains and losses are treated equally and, therefore, the sale of assets has no immediate effect on the actuarial value.

Determination of Actuarial Value of Assets for Year Ended June 30, 2021

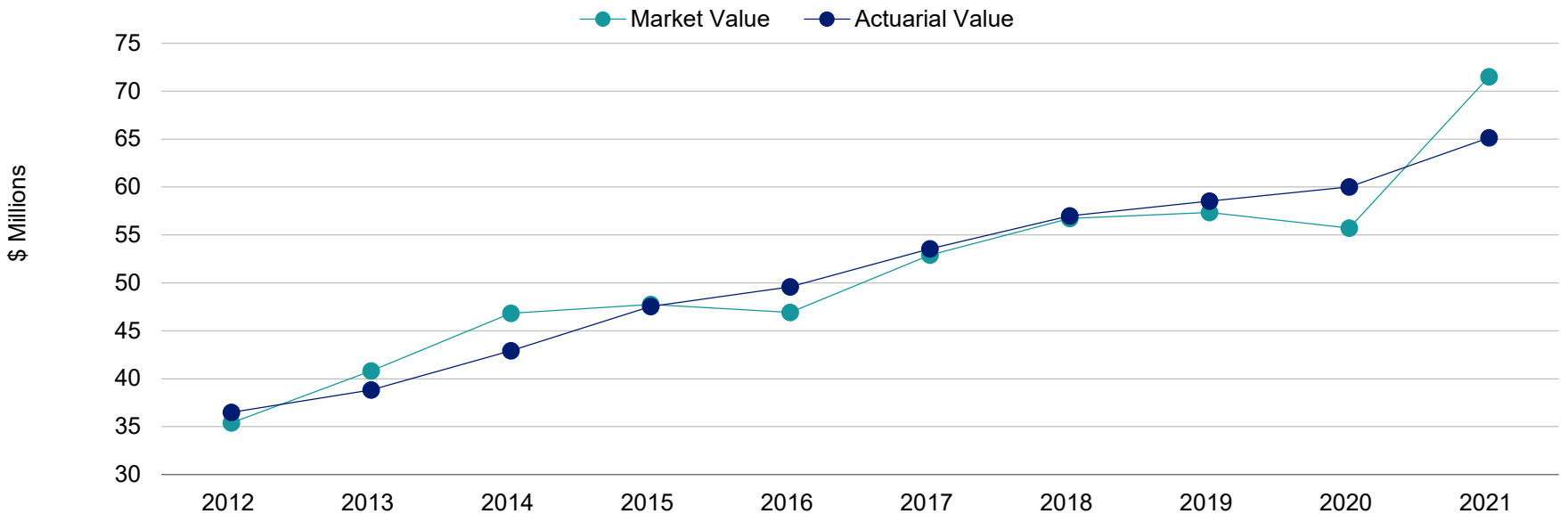
1	Market value of assets, June 30, 2021				$71,509,342
2	Calculation of unrecognized return	**Original Amount[1]**	**Percent Deferred**	**Unrecognized Amount[2]**	
	(a) Year ended June 30, 2021	$12,392,423	80%	$9,913,938	
	(b) Year ended June 30, 2020	-4,615,302	60%	-2,769,180	
	(c) Year ended June 30, 2019	-2,085,544	40%	-834,218	
	(d) Year ended June 30, 2018	329,198	20%	65,840	
	(e) Year ended June 30, 2017	2,468,728	0%	0	
	(f) Total unrecognized return				$6,376,380
3	Preliminary actuarial value: **(1) - (2f)**				65,132,962
4	Adjustment to be within 20% corridor				0
5	Final actuarial value of assets as of June 30, 2021: **(3) + (4)**				65,132,962
6	Actuarial value as a percentage of market value: **(5) ÷ (1)**				91.1%
7	Amount deferred for future recognition: **(1) - (5)**				$6,376,380

[1] Total return minus expected return on a market value basis.
[2] Recognition at 20% per year over five years

Section 2: Actuarial Valuation Results

Both the actuarial value and market value of assets are representations of the Plan's financial status. As investment gains and losses are gradually taken into account, the actuarial value of assets tracks the market value of assets. The actuarial asset value is significant because the Plan's liabilities are compared to these assets to determine what portion, if any, remains unfunded. Amortization of the unfunded actuarial accrued liability is an important element in determining the contribution requirement.

Market Value of Assets vs. Actuarial Value of Assets



	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Market Value[1]	$35.39	$40.82	$46.83	$47.75	$46.93	$52.92	$56.72	$57.34	$55.71	$71.51
Actuarial Value[1]	36.50	38.82	42.93	47.54	49.58	53.55	56.99	58.55	60.02	65.13

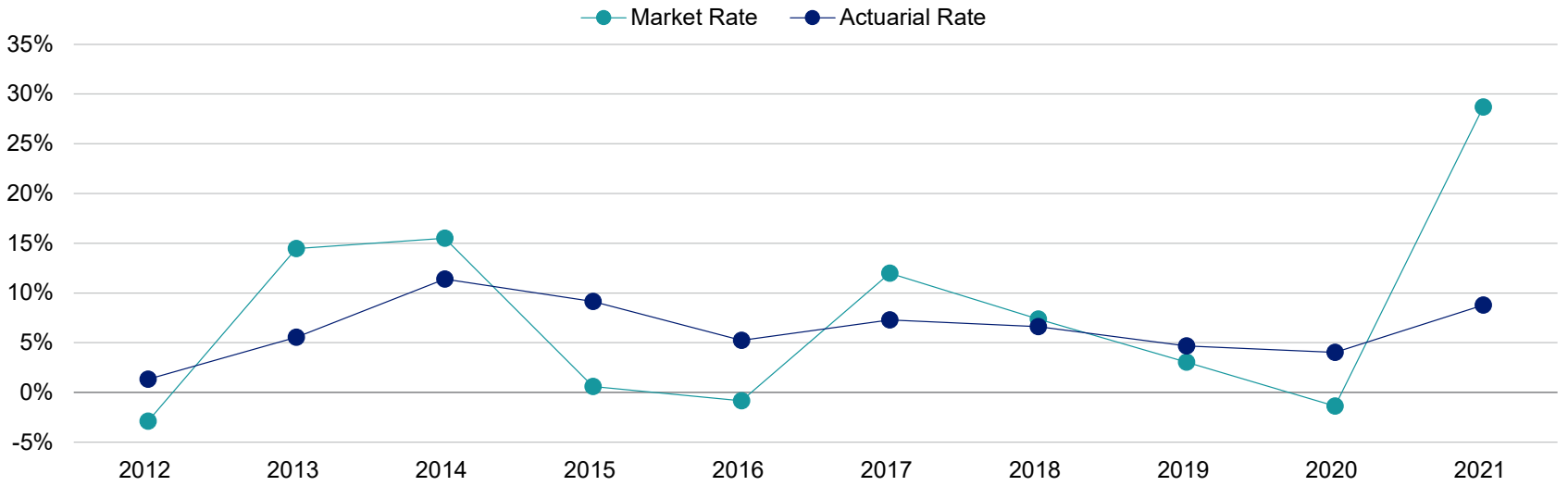
[1] In $ millions

Section 2: Actuarial Valuation Results

Because actuarial planning is long term, it is useful to see how the assumed investment rate of return has followed actual experience over time. The chart below shows the rate of return on an actuarial basis compared to the actual market value investment return for the last 10 years, including averages over select time periods. Based on the new asset allocation adopted by the Town and future expectations, we have increased the assumed rate of return from 6.40% to 6.75%.

As described earlier in this section, the actuarial asset valuation method gradually recognizes fluctuations in the market value rate of return. The goal of this is to stabilize the actuarial rate of return and to produce more level pension plan costs.

Market and Actuarial Rates of Return for Years Ended June 30, 2012 - 2021



	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Market rate	-2.9%	14.5%	15.5%	0.6%	-0.8%	12.0%	7.4%	3.0%	-1.4%	28.7%
Actuarial rate	1.3%	5.5%	11.4%	9.2%	5.2%	7.3%	6.6%	4.7%	4.0%	8.8%
Assumed rate	6.75%	6.75%	6.75%	6.75%	6.75%	6.75%	6.75%	6.75%	6.75%	6.40%

Average Rates of Return	Actuarial Value	Market Value
Most recent five-year average return:	6.26%	9.84%
Ten-year average return:	6.42%	7.72%

Actuarial experience

To calculate any actuarially determined contribution, assumptions are made about future events that affect the amount and timing of benefits to be paid and assets to be accumulated. Each year actual experience is measured against the assumptions. If overall experience is more favorable than anticipated (an actuarial gain), any contribution requirement will decrease from the previous year. On the other hand, any contribution requirement will increase if overall actuarial experience is less favorable than expected (an actuarial loss).

Taking account of experience gains or losses in one year without making a change in assumptions reflects the belief that the single year's experience was a short-term development and that, over the long term, experience will return to the original assumptions. For contribution requirements to remain stable, assumptions should approximate experience. If assumptions are changed, the contribution requirement is adjusted to take into account a change in experience anticipated for all future years.

Actuarial Experience for Year Ended June 30, 2021

1	Net gain from investments[1]	$1,421,538
2	Net loss from administrative expenses	-38,588
3	Net gain from other experience	1,570,698
4	Net experience gain: **1 + 2 + 3**	$2,953,648

[1] Details on next page

Investment experience

A major component of projected asset growth is the assumed rate of return. The assumed return should represent the expected long-term rate of return, based on the Plan's investment policy. The rate of return on the market value of assets was 28.68% for the year ended June 30, 2021.

For valuation purposes, the assumed rate of return on the actuarial value of assets was 6.40% for the year ending June 30, 2021. The actual rate of return on an actuarial basis was 8.77%. Since the actual return for the year was greater than the assumed return, the Plan experienced an actuarial gain during the year ended June 30, 2021 with regard to its investments.

Investment Experience

		Year Ended June 30, 2021	
		Market Value	**Actuarial Value**
1	Net investment income	$15,952,848	$5,258,325
2	Average value of assets	55,631,647	59,949,790
3	Rate of return: **1 ÷ 2**	28.68%	8.77%
4	Assumed rate of return	6.40%	6.40%
5	Expected investment income: **2 x 4**	$3,560,425	$3,836,787
6	Actuarial gain/(loss): **1 - 5**	$12,392,423	$1,421,538

Non-investment experience

Administrative expenses

Administrative expenses for the year ended June 30, 2021 totaled $37,500, as compared to the assumption of $0. We had been previously been told by the Town that administrative expenses were not paid from Plan assets.

Other experience

There are other differences between the expected and the actual experience that appear when the new valuation is compared with the projections from the previous valuation. These include:

- the extent of turnover among employees,
- retirement experience (earlier or later than projected),
- mortality (more of fewer deaths than projected),
- the number of disability retirements (more or fewer than projected), and
- salary increases (greater or smaller than projected).

The net gain from this other experience for the year ended June 30, 2021 amounted to $1,570,698, which is 1.4% of the actuarial accrued liability.

Liability Changes Due to Demographic Experience for Year Ended June 30, 2021

Loss due to less turnover than projected	-$206,326
Loss due to active retirement earlier than projected	-18,349
Gain due to more deaths than projected amongst retired employees and beneficiaries	1,489,545
Loss due to more disability retirements than projected	-125,027
Gain due to salary increases less than projected	300,581
Miscellaneous gain	130,274
Total	**$1,570,698**

Actuarial assumptions

The assumption changes reflected in this report are:

- The investment return assumption was increased from 6.40% to 6.75%.
- An administrative expense assumption of $39,900 for the plan year beginning July 1, 2021 was added.
- The rate of salary increases was lowered from 3.5% to 2.0%.

Details on actuarial assumptions and methods are in *Section 4, Exhibit I*.

Plan provisions

There was one change in plan provisions since the prior valuation. For two Town Management employees identified by the Town, credited service is no longer frozen as of July 1, 2014 for purposes of benefit accruals and their employee contribution rate increased from 0.0% to 5.0%.

A summary of plan provisions is in *Section 4, Exhibit II*.

Section 2: Actuarial Valuation Results

Development of Unfunded Actuarial Accrued Liability for Year Ended June 30, 2021

1	Unfunded actuarial accrued liability at beginning of year		$52,461,503
2	Normal cost at beginning of year		1,217,126
3	Total contributions		-5,149,099
4	Interest on **1, 2 & 3**		3,272,983
5	Expected unfunded actuarial accrued liability		$51,802,513
6	Changes due to:		
	(a) Experience gain	-$2,953,648	
	(b) Assumption changes	-5,924,255	
	(c) Changes to plan provisions	373,382	
	Total changes		-$8,504,521
7	Unfunded actuarial accrued liability at end of year		$43,297,992

Actuarially determined contribution

The Town of Portsmouth, RI has a policy to fund the unfunded actuarial accrued liability of The Retirement Plan for Employees of the Town of Portsmouth, Rhode Island by June 30, 2040 in level amortization payments. The projection of the unfunded actuarial accrued liability recognizes any deferred investment gains or losses due to the operation of the actuarial valuation method.

Because the fiscal year ending June 30, 2022 contribution has been previously budgeted at $5,679,202, the results of this valuation are used to determine the actuarially determined contribution for the fiscal year ending June 30, 2023 of $4,385,799. This contribution is comprised of a projected employer normal cost payment and an 18-year level payment on the projected July 1, 2022 unfunded actuarial accrued liability. The funding schedule shown on the following page shows the actuarially determined contribution for each year until the projected full funding date of June 30, 2040.

The actuarially determined contribution requirement as of July 1, 2021 is based on the data previously described, the actuarial assumptions and Plan provisions described in *Section 4*, including all changes affecting future costs adopted at the time of the actuarial valuation, actuarial gains and losses, and changes in the actuarial assumptions.

Actuarially Determined Contribution for Year Beginning July 1

		2021		2020	
		Amount	% of Projected Compensation	Amount	% of Projected Compensation
1	Total normal cost	$898,771	15.08%	$1,217,126	16.20%
2	Administrative expenses	39,900	0.67%	0	0.00%
3	Expected employee contributions	-240,782	-4.04%	-238,206	-3.17%
4	Employer normal cost: **(1) + (2) + (3)**	$697,889	11.71%	$978,920	13.03%
5	Actuarial accrued liability	$108,430,954		$112,486,446	
6	Actuarial value of assets	65,132,962		60,024,943	
7	Unfunded actuarial accrued liability: **(5) - (6)**	$43,297,992		$52,461,503	
8	Payment on unfunded actuarial accrued liability	4,843,892	81.26%	3,826,966	50.92%
9	Adjustment for timing	137,421	2.31%	113,111	1.51%
10	Actuarially determined contribution: **(4) + (8) + (9)**	$5,679,202	95.28%	$4,918,997	65.46%
11	Projected compensation	$5,960,640		$7,514,128	

Notes:
Actuarially determined contributions are assumed to be paid at the beginning of every quarter.
Actuarially determined contributions are determined with previous valuations.

Funding Schedule

(1) Fiscal Year Ended June 30	(2) Employer Normal Cost	(3) Amortization of Unfunded Liability	(4) Actuarially Determined Contribution: (2) + (3)	(5) Increase	(6) Payroll	(7) Contributions as a % of Payroll: (4) / (6)	(8) Actuarial Accrued Liability	(9) Actuarial Value of Assets	(10) Total Unfunded Liability: (8) – (9)	(11) Funded Ratio: (9) / (8)
2022	$715,195	$4,964,007	$5,679,202		$5,960,640	95.28%	$108,430,954	$65,132,962	$43,297,992	60.07%
2023	690,997	3,694,802	4,385,799	-22.77%	5,675,967	77.27%	110,619,865	71,196,415	39,423,450	64.36%
2024	657,007	3,551,841	4,208,849	-4.03%	5,348,723	78.69%	112,664,230	75,907,889	36,756,341	67.38%
2025	627,766	3,369,923	3,997,689	-5.02%	5,076,046	78.76%	114,538,006	80,820,621	33,717,385	70.56%
2026	546,609	3,096,169	3,642,778	-8.88%	4,616,547	78.91%	116,154,762	86,310,537	29,844,224	74.31%
2027	462,809	3,096,169	3,558,978	-2.30%	4,066,270	87.52%	117,394,701	88,761,176	28,633,525	75.61%
2028	417,301	3,096,169	3,513,469	-1.28%	3,684,435	95.36%	118,317,217	90,976,114	27,341,103	76.89%
2029	358,602	3,096,169	3,454,771	-1.67%	3,268,117	105.71%	118,911,226	92,949,783	25,961,443	78.17%
2030	321,933	3,096,169	3,418,102	-1.06%	2,986,622	114.45%	119,241,450	94,752,794	24,488,656	79.46%
2031	257,812	3,096,169	3,353,980	-1.88%	2,532,156	132.46%	119,234,720	96,318,264	22,916,456	80.78%
2032	243,344	3,096,169	3,339,513	-0.43%	2,353,968	141.87%	118,967,518	97,729,386	21,238,132	82.15%
2033	230,324	3,096,169	3,326,493	-0.39%	2,177,144	152.79%	118,521,627	99,075,106	19,446,521	83.59%
2034	197,256	3,096,169	3,293,425	-0.99%	1,878,375	175.33%	117,841,112	100,307,135	17,533,977	85.12%
2035	165,524	3,096,169	3,261,692	-0.96%	1,604,912	203.23%	116,916,850	101,424,514	15,492,336	86.75%
2036	126,546	3,096,169	3,222,714	-1.20%	1,180,866	272.91%	115,748,806	102,435,922	13,312,884	88.50%
2037	116,558	3,096,169	3,212,727	-0.31%	1,032,298	311.22%	114,361,950	103,375,631	10,986,319	90.39%
2038	100,105	3,096,169	3,196,274	-0.51%	811,307	393.97%	112,778,382	104,275,671	8,502,711	92.46%
2039	93,578	3,096,169	3,189,747	-0.20%	673,603	473.54%	111,012,432	105,160,972	5,851,460	94.73%
2040	90,677	3,096,169	3,186,846	-0.09%	583,575	546.09%	109,100,267	106,079,018	3,021,249	97.23%
2041	87,912	0	87,912	-97.24%	510,642	17.22%	107,051,247	107,051,247	0	100.00%
2042	86,759	0	86,759	-1.31%	458,923	18.91%	104,876,202	104,876,202	0	100.00%

Notes:
Fiscal 2022 contribution set at budgeted amount.
Contribution is assumed to be paid at the beginning of each quarter.
Normal cost and payroll are based on a closed group projection.
Administrative expenses are assumed to increase 2.75% per year.
Schedule reflects deferred investment gains and losses.
Columns (8) through (11) are as of the beginning of the fiscal year.

Risk

Since the actuarial valuation results are dependent on a given set of assumptions and data as of a specific date, there is a risk that emerging results may differ significantly as actual experience differs from the assumptions.

This report does not contain a detailed analysis of the potential range of future measurements, but does include a brief discussion of some risks that may affect the Plan. We recommend a more detailed assessment to provide the Town with a better understanding of the risks inherent in the Plan. This assessment may include scenario testing, sensitivity testing, stress testing and stochastic modeling.

- **Investment Risk** (the risk that returns will be different than expected)

  The market value rate of return over the last 10 years has ranged from a low of -2.90% to a high of 28.68%.

- **Longevity Risk** (the risk that mortality experience will be different than expected)

  The actuarial valuation includes an expectation of future improvement in life expectancy. Emerging plan experience that does not match these expectations will result in either an increase or decrease in the actuarially determined contribution.

- **Contribution Risk** (the risk that actual contributions will be different from actuarially determined contribution)

  The Plan's funding policy requires payment of the actuarially determined contribution. As long as this policy is adhered to, contribution risk is negligible.

  If contributions remain at current level and future experience matches the current assumptions, we project the unfunded actuarial accrued liability will be paid off in 19 years.

- **Demographic Risk** (the risk that participant experience will be different than assumed)

  Examples of this risk include:

  – Actual retirements occurring earlier or later than assumed. The value of retirement plan benefits is sensitive to the rate of benefit accruals and any early retirement subsidies that apply.
  – More or less active participant turnover than assumed.
  – Disability experience different than assumed.
  – Salary increases greater or less than projected.

- **Actual Experience** Over the Last 8 years and Implications for the Future

  Past experience can help demonstrate the sensitivity of key results to the Plan's actual experience.

  The investment gain/(loss) over the past eight years has ranged from a loss of $4,615,302 to a gain of $12,392,423.

The non-investment gain(loss) over the past eight years has ranged from a loss of $1,998,917 to a gain $1,532,110.

The funded percentage on the actuarial value of assets has ranged from a low of 52.1% to a high of 61.5% since 2011.

- **Maturity Measures**

As pension plans mature, the cash need to fulfill benefit obligations will increase over time. Therefore, cash flow projections and analysis should be performed to assure that the Plan's asset allocation is aligned to meet emerging pension liabilities.

Currently the Plan has a non-active to active participant ratio of 2.23. For the prior year, benefits and administrative expenses paid were $150,306 more than contributions received. As the Plan matures, more cash will be needed from the investment portfolio to meet benefit payments.

Section 3: Supplemental Information

Exhibit A: Table of Plan Demographics

Category	Year Ended June 30 2021	Year Ended June 30 2020	Change From Prior Year
Active employees in valuation:			
• Number	96	121	-20.7%
• Average age	50.8	45.8	5.0
• Average years of service	13.9	11.4	2.5
• Total compensation	$5,843,765	$7,260,027	-19.5%
• Average compensation	60,873	60,000	1.5%
Inactive vested employees	12	12	0.0%
Retired employees[1]:			
• Number in pay status	173	174	-0.6%
• Average age	67.5	67.4	0.1
• Average monthly benefit	$2,514	$2,553	-1.5%
Disabled employees:			
• Number in pay status	16	14	14.3%
• Average age	56.1	55.6	0.5
• Average monthly benefit	$3,522	$3,391	3.9%
Beneficiaries:			
• Number in pay status	13	12	8.3%
• Average age	76.8	77.0	-0.2
• Average monthly benefit	$1,646	$1,538	7.0%

[1] Includes 16 alternate payees in pay status in 2021 and 14 in 2020.

Exhibit B: Employees in Active Service as of June 30, 2021 by Age, Years of Service, and Average Compensation

Age	Total	0-4	5-9	10-14	15 - 19	20 - 24	25 - 29	30 & over
25 - 29	2	2	- -	- -	- -	- -	- -	- -
	55,943	55,943	- -	- -	- -	- -	- -	- -
30 - 34	2	1	1	- -	- -	- -	- -	- -
	70,898	54,193	87,603	- -	- -	- -	- -	- -
35 - 39	10	1	3	5	1	- -	- -	- -
	72,893	58,603	68,610	78,430	72,348	- -	- -	- -
40 - 44	8	1	- -	3	4	- -	- -	- -
	68,470	54,193	- -	57,109	80,560	- -	- -	- -
45 - 49	22	1	6	5	10	- -	- -	- -
	69,036	55,474	62,981	69,884	73,601	- -	- -	- -
50 - 54	22	- -	2	8	10	1	1	- -
	60,107	- -	57,419	48,529	64,332	110,507	65,444	- -
55 - 59	9	- -	2	4	3	- -	- -	- -
	43,000	- -	52,435	36,599	45,244	- -	- -	- -
60 - 64	16	- -	4	6	2	3	- -	1
	50,881	- -	62,869	40,543	28,486	71,758	- -	47,127
65 - 69	4	- -	- -	1	2	- -	1	- -
	42,079	- -	- -	45,727	28,574	- -	65,444	- -
70 & over	1	- -	- -	- -	1	- -	- -	- -
	102,832	- -	- -	- -	102,832	- -	- -	- -
Total	96	6	18	32	33	4	2	1
	$60,873	$55,725	$63,473	$54,267	$64,442	$81,445	$65,445	47,127

Exhibit C: Summary Statement of Income and Expenses on a Market Value Basis

	Year Ended June 30, 2021		Year Ended June 30, 2020	
Net assets at market value at the beginning of the year		$55,706,800		$57,341,324
Contribution income:				
• Employer contributions	$4,918,997		$4,484,385	
• Employee contributions	230,102		246,659	
• Less administrative expenses	-37,500		0	
Net contribution income		*5,111,599*		*4,731,044*
Net investment income		**15,952,848**		**-773,812**
Total income available for benefits		**$21,064,447**		**$3,957,232**
Less benefit payments:		-$5,261,905		-$5,591,756
Change in reserve for future benefits		**$15,802,542**		**-$1,634,524**
Net assets at market value at the end of the year		**$71,509,342**		**$55,706,800**

Exhibit D: Department Results as of July 1, 2021

		School	Fire	Police	Public Works	Town	Total
1	Demographics						
	• Active employees in valuation	39	23	12	16	6	96
	• Inactive employees	7	0	1	1	3	12
	• Retired employees and beneficiaries in pay status	68	46	52	15	21	202
	• Total	114	69	65	32	30	310
2	Total normal cost	$149,780	$346,872	$317,594	$25,234	$59,291	898,771
3	Administrative expenses	6,649	15,399	14,100	1,120	2,632	39,900
4	Expected employee contributions	-73,807	-58,692	-90,226	0	-18,057	-240,782
5	Employer normal cost: **(2) + (3) + (4)**	$82,622	$303,579	$241,468	$26,354	$43,866	$697,889
6	Employer normal cost, adjusted for timing	84,671	311,107	247,455	27,008	44,954	715,195
7	Employer normal cost as a percentage of compensation	5.01%	17.35%	24.68%	2.78%	8.95%	12.00%
8	Actuarial accrued liability	$14,551,986	$36,397,120	$41,118,511	$4,548,974	$11,814,363	$108,430,954
9	Actuarial value of assets	8,741,175	21,863,242	24,699,317	2,732,505	7,096,723	65,132,962
10	Unfunded actuarial accrued liability: **(8) - (9)**	$5,810,811	$14,533,878	$16,419,194	$1,816,469	$4,717,640	$43,297,992
11	Payment on unfunded actuarial accrued liability, adjusted for timing	660,417	1,652,462	1,891,536	207,837	551,755	4,964,007
12	Actuarially determined contribution for fiscal year 2022: **(6) + (11)**[1]	745,088	1,963,569	2,138,991	234,845	596,709	5,679,202
13	Actuarially determined contribution as a percentage of projected compensation	44.10%	109.51%	213.36%	24.13%	118.83%	95.28%
14	Projected compensation	$1,689,709	$1,793,106	$1,002,506	$973,166	$502,153	$5,960,640
15	Actuarially determined contribution for fiscal year 2023	576,331	1,549,596	1,649,549	181,579	428,744	4,385,799
16	Actuarially determined contribution for fiscal year 2024	551,272	1,477,934	1,596,768	175,014	407,861	4,208,849
17	Actuarially determined contribution for fiscal year 2025	519,896	1,415,930	1,511,215	166,920	383,728	3,997,689

[1] Fiscal 2022 contributions set at budgeted amounts.

Exhibit E: Definition of Pension Terms

The following list defines certain technical terms for the convenience of the reader:

Actuarial Accrued Liability for Actives:	The equivalent of the accumulated normal costs allocated to the years before the valuation date.
Actuarial Accrued Liability for Retirees and Beneficiaries:	Actuarial Present Value of lifetime benefits to existing retirees and beneficiaries. This sum takes account of life expectancies appropriate to the ages of the annuitants and the interest that the sum is expected to earn before it is entirely paid out in benefits.
Actuarial Cost Method:	A procedure allocating the Actuarial Present Value of Future Benefits to various time periods; a method used to determine the Normal Cost and the Actuarial Accrued Liability that are used to determine the actuarially determined contribution.
Actuarial Gain or Loss:	A measure of the difference between actual experience and that expected based upon a set of Actuarial Assumptions, during the period between two Actuarial Valuation dates. To the extent that actual experience differs from that assumed, Actuarial Accrued Liabilities emerge which may be the same as forecasted, or may be larger or smaller than projected. Actuarial gains are due to favorable experience, e.g., assets earn more than projected, salary increases are less than assumed, members retire later than assumed, etc. Favorable experience means actual results produce actuarial liabilities not as large as projected by the actuarial assumptions. On the other hand, actuarial losses are the result of unfavorable experience, i.e., actual results yield actuarial liabilities that are larger than projected.
Actuarially Equivalent:	Of equal Actuarial Present Value, determined as of a given date and based on a given set of Actuarial Assumptions.
Actuarial Present Value (APV):	The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of Actuarial Assumptions. Each such amount or series of amounts is: Adjusted for the probable financial effect of certain intervening events (such as changes in compensation levels, marital status, etc.) Multiplied by the probability of the occurrence of an event (such as survival, death, disability, withdrawal, etc.) on which the payment is conditioned, and Discounted according to an assumed rate (or rates) of return to reflect the time value of money.
Actuarial Present Value of Future Benefits:	The Actuarial Present Value of benefit amounts expected to be paid at various future times under a particular set of Actuarial Assumptions, taking into account such items as the effect of advancement in age, anticipated future compensation, and future service credits. The Actuarial Present Value of Future Benefits includes the liabilities for active members, retired members, beneficiaries receiving benefits, and inactive members entitled to either a refund of member contributions or a future retirement benefit. Expressed another way, it is the value that would have to be invested on the valuation date so that the amount invested plus investment earnings would provide sufficient assets to pay all projected benefits and expenses when due.

Section 3: Supplemental Information

Actuarial Valuation:	The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a plan, as well as Actuarially Determined Contributions.
Actuarial Value of Assets (AVA):	The value of the Plan's assets as of a given date, used by the actuary for valuation purposes. This may be the market or fair value of plan assets, but commonly plans use a smoothed value in order to reduce the year-to-year volatility of calculated results, such as the funded ratio and the Actuarially Determined Contribution.
Actuarially Determined:	Values that have been determined utilizing the principles of actuarial science. An actuarially determined value is derived by application of the appropriate actuarial assumptions to specified values determined by provisions of the Plan.
Actuarially Determined Contribution (ADC):	The employer's periodic required contributions, expressed as a dollar amount or a percentage of covered plan compensation, determined under the Plan's funding policy. The ADC consists of the Employer Normal Cost and the Amortization Payment.
Amortization Method:	A method for determining the Amortization Payment. The most common methods used are level dollar and level percentage of payroll. Under the Level Dollar method, the Amortization Payment is one of a stream of payments, all equal, whose Actuarial Present Value is equal to the Unfunded Actuarial Accrued Liability. Under the Level Percentage of Pay method, the Amortization Payment is one of a stream of increasing payments, whose Actuarial Present Value is equal to the Unfunded Actuarial Accrued Liability. Under the Level Percentage of Pay method, the stream of payments increases at the assumed rate at which total covered payroll of all active members will increase.
Amortization Payment:	The portion of the pension plan contribution, or ADC, that is intended to pay off the Unfunded Actuarial Accrued Liability.
Assumptions or Actuarial Assumptions:	The estimates upon which the cost of the Plan is calculated, including: Investment return - the rate of investment yield that the Plan will earn over the long-term future; Mortality rates - the rate or probability of death at a given age for employees and retirees; Retirement rates - the rate or probability of retirement at a given age or service; Disability rates - the rate or probability of disability retirement at a given age; Withdrawal rates - the rate or probability at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement; Salary increase rates - the rates of salary increase due to inflation, real wage growth and merit and promotion increases.
Closed Amortization Period:	A specific number of years that is counted down by one each year, and therefore declines to zero with the passage of time. For example, if the amortization period is initially set at 20 years, it is 19 years at the end of one year, 18 years at the end of two years, etc. See Open Amortization Period.
Decrements:	Those causes/events due to which a member's status (active-inactive-retiree-beneficiary) changes, that is: death, retirement, disability, or withdrawal.

Section 3: Supplemental Information

Defined Benefit Plan:	A retirement plan in which benefits are defined by a formula based on the member's compensation, age and/or years of service.
Defined Contribution Plan:	A retirement plan, such as a 401(k) plan, a 403(b) plan, or a 457 plan, in which the contributions to the plan are assigned to an account for each member, the plan's earnings are allocated to each account, and each member's benefits are a direct function of the account balance.
Employer Normal Cost:	The portion of the Normal Cost to be paid by the employer. This is equal to the Normal Cost less expected member contributions.
Experience Study:	A periodic review and analysis of the actual experience of the Plan that may lead to a revision of one or more actuarial assumptions. Actual rates of decrement and salary increases are compared to the actuarially assumed values and modified based on recommendations from the Actuary.
Funded Ratio:	The ratio of the Actuarial Value of Assets (AVA) to the Actuarial Accrued Liability (AAL). Plans sometimes also calculate a market funded ratio, using the Market Value of Assets (MVA), rather than the AVA.
GASB 67 and GASB 68:	Governmental Accounting Standards Board (GASB) Statements No. 67 and No. 68. These are the governmental accounting standards that set the accounting rules for public retirement systems and the employers that sponsor or contribute to them. Statement No. 68 sets the accounting rules for the employers that sponsor or contribute to public retirement systems, while Statement No. 67 sets the rules for the systems themselves.
Investment Return:	The rate of earnings of the Plan from its investments, including interest, dividends and capital gain and loss adjustments, computed as a percentage of the average value of the fund. For actuarial purposes, the investment return often reflects a smoothing of the capital gains and losses to avoid significant swings in the value of assets from one year to the next.
Net Pension Liability (NPL):	The Net Pension Liability is equal to the Total Pension Liability minus the Plan Fiduciary Net Position.
Normal Cost:	The portion of the Actuarial Present Value of Future Benefits and expenses allocated to a valuation year by the Actuarial Cost Method. Any payment with respect to an Unfunded Actuarial Accrued Liability is not part of the Normal Cost (see Amortization Payment). For pension plan benefits that are provided in part by employee contributions, Normal Cost refers to the total of member contributions and employer Normal Cost unless otherwise specifically stated.
Open Amortization Period:	An open amortization period is one which is used to determine the Amortization Payment but which does not change over time. If the initial period is set as 30 years, the same 30-year period is used in each future year in determining the Amortization Period.
Plan Fiduciary Net Position:	Market value of assets.
Total Pension Liability (TPL):	The actuarial accrued liability under the entry age normal cost method and based on the blended discount rate as described in GASB 67 and 68.

Section 3: Supplemental Information

Unfunded Actuarial Accrued Liability:	The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. This value may be negative, in which case it may be expressed as a negative Unfunded Actuarial Accrued Liability, also called the Funding Surplus or an Overfunded Actuarial Accrued Liability.
Valuation Date or Actuarial Valuation Date:	The date as of which the value of assets is determined and as of which the Actuarial Present Value of Future Benefits is determined. The expected benefits to be paid in the future are discounted to this date.

Section 4: Actuarial Valuation Basis

Exhibit I: Actuarial Assumptions, Cost Method and Models

Net Investment Return:	6.75% (previously, 6.40%). The net investment return assumption is a long-term estimate derived from historical data, current and recent market expectations, and professional judgment. As part of the analysis, a building block approach was used that reflects inflation expectations and anticipated risk premiums for each of the portfolio's asset classes as provided by Segal Marco Advisors, as well as the Plan's target asset allocation.
Salary Increases:	2.0% per year (previously 3.5%). The salary increase assumption is a long-term estimate derived from historical data, current and recent market expectations, and professional judgement.
Payroll Growth:	Based on a closed group projection (previously, total payroll for School Management and employees eligible for a disability benefit only was projected to increase 2.75% per year).
Interest on Employee Contributions:	5.0%
Administrative Expenses:	The administrative expense assumption was set to $39,900 for the plan year beginning July 1, 2021. (Previously, we were told administrative expenses were not paid from plan assets.) The administrative expense assumption is based on Segal's fees.
Defined Contribution Account Balance:	Balances as of July 1, 2021 were provided by the Town of Portsmouth, RI and were assumed to earn 6.75% annually. Balances were converted to monthly benefits using valuation interest and mortality assumptions.
Cost-of-Living Adjustments:	Cost-of-living increases for pensioners whose COLAs were based on 50% of the percentage salary increase received the previous July 1 by the active bargaining unit from which the employee retired or whose COLAs were based on the annual CPI adjustment are assumed to be 2% annually. Cost-of-living increases for all other pensioners were provided by the Town of Portsmouth, RI.

Section 4: Actuarial Valuation Basis

Mortality Rates:

Pre-Retirement: RP-2006 White Collar Employee Mortality Table projected generationally using Scale MP-2019.

Healthy Retiree: RP-2006 White Collar Healthy Annuitant Mortality Table projected generationally using Scale MP-2019.

Disabled Retiree: RP-2006 White Collar Healthy Annuitant Mortality Table set forward 5 years and projected generationally using Scale MP-2019.

The underlying tables with generational projection to the ages of employees as of the measurement date reasonably reflect the mortality experience of the Plan as of the measurement date.

The mortality rates were based on historical and current demographic data, adjusted to reflect estimated future experience and professional judgment. As part of the analysis, a comparison was made between the actual number of deaths by age and the projected number based on the prior year's assumption over the most recent five years. These mortality tables were then adjusted to future years using the generational projection to reflect future mortality improvement between the measurement date and those years.

Termination Rates before Retirement:

	Fire and Police Rate (%)					
	Mortality[1]		Disability[2]		Withdrawal	
Age	Male	Female	Male	Female	Male	Female
20	0.04	0.02	0.13	0.08	9.87	14.87
25	0.04	0.02	0.19	0.13	6.87	9.87
30	0.03	0.02	0.27	0.22	4.87	6.87
35	0.04	0.03	0.38	0.34	3.87	4.87
40	0.05	0.04	0.52	0.40	2.65	3.65
45	0.08	0.06	0.71	0.66	1.50	2.50
50	0.14	0.10	1.02	1.00	0.16	1.16
55	0.21	0.15	1.72	1.59	- -	- -
60	0.35	0.24	2.58	1.85	- -	- -

[1] Mortality rates do not reflect generational projection.
[2] 100% of the disability rates shown represent accidental disability.

Section 4: Actuarial Valuation Basis

	School, Public Works and Town Rate (%)					
	Mortality[1]		Disability[2]		Withdrawal	
Age	Male	Female	Male	Female	Male	Female
20	0.04	0.02	0.02	0.02	9.92	14.92
25	0.04	0.02	0.03	0.04	6.92	9.92
30	0.03	0.02	0.04	0.06	4.92	6.92
35	0.04	0.03	0.05	0.10	3.92	4.92
40	0.05	0.04	0.09	0.16	2.78	3.78
45	0.08	0.06	0.15	0.24	1.69	2.69
50	0.14	0.10	0.27	0.40	0.47	1.47
55	0.21	0.15	0.54	0.71	0.08	0.08
60	0.35	0.24	0.94	0.87	- -	- -

The withdrawal rates and disability rates were based on historical and current demographic data, adjusted to reflect estimated future experience and professional judgment. As part of the analysis, a comparison was made between the actual number of withdrawals and disability retirements by age and the projected number based on the prior year's assumption over the most recent five years.

[1] Mortality rates do not reflect generational projection.
[2] 100% of the disability rates shown represent accidental disability.

Section 4: Actuarial Valuation Basis

Retirement Rates:

Service	Rate (%) Police	Fire
20	80.0	80.0
21	15.0	10.0
22	5.0	10.0
23	5.0	10.0
24	5.0	10.0
25	50.0	10.0
26	50.0	10.0
27	50.0	30.0
28	50.0	30.0
29	50.0	30.0
30	100.0	100.0

Section 4: Actuarial Valuation Basis

	Rate (%)		
Age	School	Town Management/ Public Works	Town Non-Management
55	2.0	5.0	- -
56	2.0	5.0	- -
57	2.0	5.0	- -
58	2.0	5.0	- -
59	2.0	5.0	- -
60	30.0	10.0	10.0
61	5.0	10.0	10.0
62	35.0	15.0	15.0
63	35.0	15.0	15.0
64	10.0	15.0	15.0
65	10.0	50.0	50.0
66	10.0	50.0	50.0
67	10.0	100.0	100.0
68	30.0	- -	- -
69	30.0	- -	- -
70	100.0	- -	- -

The retirement rates were based on historical and current demographic data, adjusted to reflect economic conditions of the area and estimated future experience and professional judgment. As part of the analysis, a comparison was made between the actual number of retirements and the projected number based on the prior year's assumption over the most recent five years.

Retirement Rates for Inactive Vested Participants:	Normal Retirement Age The retirement age for inactive vested participants was based on historical and current demographic data, adjusted to reflect economic conditions of the area and estimated future experience and professional judgment.
Unknown Data for Participants:	Same as those exhibited by employees with similar known characteristics.

Section 4: Actuarial Valuation Basis

Family Composition:	85% of participants are assumed to be married. None are assumed to have dependent children. Females are assumed to be three years younger than their male spouses.
Benefit Election:	Monthly life annuity for School, Public Works and Town. 67.5% Joint and Survivor annuity for married Police and Fire, in accordance with Section 45-21.3-1, General Laws of Rhode Island (1956).
2020 - 2021 Salary:	Salaries for benefits and contributions were provided by the Town of Portsmouth, RI.
Actuarial Value of Assets:	Market value of assets as reported by the Town of Portsmouth, RI less unrecognized returns in each of the last five years. Unrecognized return is equal to the difference between the actual market return and the expected return on the market value, and is recognized over a five-year period, further adjusted, if necessary, to be within 20% of the market value.
Actuarial Cost Method:	Entry Age Actuarial Cost Method. Entry Age is the age at date of hire. Normal Cost and Actuarial Accrued Liability are calculated on an individual basis and are allocated by salary, with Normal Cost determined using the plan of benefits applicable to each participant.
Justification for Change in Actuarial Assumptions:	Based on past experience and future expectations, the following actuarial assumptions were changed as of July 1, 2021: • The investment return assumption was changed from 6.40% to 6.75%. • An administrative expense assumption of $39,900 for the plan year beginning July 1, 2021 was added. • The salary scale was lowered from 3.50% to 2.00%.

Segal valuation results are based on proprietary actuarial modeling software. The actuarial valuation models generate a comprehensive set of liability and cost calculations that are presented to meet regulatory, legislative and client requirements. Deterministic cost projections are based on a proprietary forecasting model. Our Actuarial Technology and Systems unit, comprised of both actuaries and programmers, is responsible for the initial development and maintenance of these models. The models have a modular structure that allows for a high degree of accuracy, flexibility and user control. The client team programs the assumptions and the plan provisions, validates the models, and reviews test lives and results, under the supervision of the responsible actuary.

Exhibit II: Summary of Plan Provisions

This exhibit summarizes the major provisions of the Plan included in the valuation. It is not intended to be, nor should it be interpreted as, a complete statement of all plan provisions.

Plan Year:	• Effective July 1, 2006: July 1 through June 30 • Prior to July 1, 2006: January 1 through December 31
Plan Status:	• *Police:* Closed • *Fire:* Closed • *School Non-Management:* Closed • *School Management:* Ongoing[1] • *Town:* Closed • *Public Works:* Closed (with the exception of disability benefits)
	POLICE
Normal Retirement Benefits:	• *Service Requirement:* 20 years of credited service • *Amount:* 60% of average monthly earnings plus 2% for each year beyond 20 years subject to a maximum of 70%. • An employee's average monthly earnings are defined as the highest gross annual salary during the last three years of employment. Gross annual salary includes base salary, longevity and $5,000 retirement bonus, but excludes overtime, clothing allowance, holiday pay and any other forms of compensation. The retirement bonus is only payable to those employees who give at least one year's advance notice of their retirement date. • Employees hired on or after July 1, 2010 are not entitled to Normal Retirement Benefits.
Accidental Disability:	• *Service Requirement:* None. • *Amount:* 67% of gross annual salary. For employees hired on or after July 1, 2010 who have not transferred to the State plan, this benefit will be offset by the actuarially equivalent benefit provided by the account balance from the defined contribution plan.
Ordinary Disability:	• *Service Requirement:* 10 years of credited service • *Amount:* 50% of highest consecutive two years average salary. For employees hired on or after July 1, 2010 who have not transferred to the State plan, this benefit is payable until Normal Retirement Date at which time the participant would begin taking distributions exclusively from the 401(a) plan.

[1] Effective September 1, 2021, the School Management department was closed to new employees.

Section 4: Actuarial Valuation Basis

Deferred Vested Benefit:	• *Service Requirement:* 10 years of credited service • *Amount:* Normal Retirement Benefit payable at Normal Retirement Date, prorated if less than 20 years of service
Spouse's Pre-Retirement Death Benefit:	• *Service Requirement:* 10 years of credited service • *Amount:* 30% of final five-year average earnings payable to the spouse plus 10% of final five-year average earnings payable to each minor child under age 21. The maximum benefit payable is 50% of final five-year average earnings. Employees hired on or after July 1, 2010 are not entitled to pre-retirement death benefits.
Cost of Living Adjustments:	• Employees who retired on or after July 1, 2003 with 20 years of credited service receive a 3% COLA commencing on the January 1st following the first anniversary of retirement. Employees who retired prior to July 1, 2003 receive a COLA based on 50% of the percentage salary increase received the previous July 1 by the active bargaining unit employees in the department from which the employee retired. • Effective July 1, 2010, employees who retire on or after July 1, 2013 with 20 years of credited service or become disabled receive a 3% COLA commencing on the January 1st following the second year of retirement. • There is no COLA on a Deferred Vested Benefit or a Pre-Retirement Death Benefit.
Employee Contributions:	• 9.0% of gross annual earnings. • No contributions for employees hired on or after July 1, 2010.
Normal Form of Payment:	Benefits will continue to the surviving spouse and dependent children of a deceased retired police officer in accordance with Section 45-21.3-1, General Laws of Rhode Island (1956). The surviving spouse will receive 67.5% of the participant's benefit until death or remarriage in which case dependent children will receive the benefit until age 18. On death, if there is no spousal benefit due, the estate will receive a refund of participant contributions in excess of any retirement payments received.
Credited Service:	Full years plus fractions thereof from date of hire to date of termination.
Changes in Plan Provisions:	There were no changes in plan provisions reflected in this valuation.

Section 4: Actuarial Valuation Basis

FIRE

Normal Retirement Benefit:	• *Service Requirement:* 20 years of credited service • *Amount:* – For service before July 1, 2013: 3% of average monthly earnings per year of credited service to a maximum of 20 years plus 2% for each year beyond 20 years. – For service on or after July 1, 2013 and before June 30, 2016: 1% of average monthly earnings per year of credited service. – For service on or after July 1, 2016: 2% of average monthly earnings per year of credited service. – The maximum benefit is 74% of average monthly earnings. – An employee's average monthly earnings are defined as the highest pensionable annual salary during the last three years of employment. Pensionable annual salary includes base salary, longevity, EMT bonus and $2,000 retirement bonus, but excludes overtime, clothing allowance, holiday pay and any other forms of compensation. The retirement bonus is only payable to those employees who give at least one year's advance notice of their retirement date. Employees hired on or after July 1, 2013 are not entitled to Normal Retirement Benefits.
Accidental Disability:	• *Service Requirement:* None • *Amount:* 66 ⅔% of gross annual salary. For employees hired on or after July 1, 2013 who have not transferred to the State plan, this benefit will be offset by the actuarially equivalent benefit provided by the account balance from the defined contribution plan.
Ordinary Disability:	• *Service Requirement:* 10 years of credited service • *Amount:* 50% of highest consecutive three years average salary. For employees hired on or after July 1, 2013 who have not transferred to the State plan, this benefit is payable until Normal Retirement Date at which time the participant would begin taking distributions exclusively from the 401(a) plan.
Deferred Vested Benefit:	• *Service Requirement:* 10 years of credited service • *Amount:* Normal Retirement Benefit payable at Normal Retirement Date, prorated if less than 20 years of service.
Spouse's Pre-Retirement Death Benefit:	• *Service Requirement:* 10 years of credited service • *Amount:* 30% of final five-year average earnings payable to the spouse plus 10% of final five-year average earnings payable to each minor child under age 21. The maximum benefit payable is 50% of final five-year average earnings. Employees hired on or after July 1, 2013 are not entitled to pre-retirement death benefits.

Section 4: Actuarial Valuation Basis

Cost of Living Adjustments:	• Employees who retired prior to July 1, 2007 receive a COLA based on 50% of the percentage salary increase received the previous July 1 by the active bargaining unit employees in the department from which the employee retired. • Employees who retired on or after July 1, 2007 and before July 1, 2013 with 20 years of credited service receive a 3% COLA commencing on the January 1st immediately following the participant's retirement. • Employees who retire under a Fire Service disability incurred after July 1, 2010 will receive a 1.7% COLA commencing on the January 1st immediately following the fifth anniversary of retirement. • Employees who retire on or after July 1, 2013 with 20 years of credited service receive a 1.7% non-compounding COLA commencing on the January 1st following the fifth anniversary of retirement. • Fire Chiefs receive a 3% COLA commencing on the January 1st following the fifth year of retirement, regardless of date of retirement. • Employees who retired prior to July 1, 2016 under Accidental Disability receive a 3% compounding COLA commencing on the January 1st immediately following the participant's retirement. • Employees who retire on or after July 1, 2016 under Accidental Disability receive a 3% non-compounding COLA commencing on the January 1st immediately following the participant's retirement. • There is no COLA on a Deferred Vested Benefit or a Pre-Retirement Death Benefit.
Employee Contributions:	• 4.0% of pensionable annual earnings. • No contributions for employees hired on or after July 1, 2013.
Normal Form of Payment:	Benefits will continue to the surviving spouse and dependent children of a deceased retired firefighter in accordance with Section 45-21.3-1, General Laws of Rhode Island (1956). The surviving spouse will receive 67.5% of the participant's benefit until death or remarriage in which case dependent children will receive the benefit until age 18. On death, if there is no spousal benefit due, the estate will receive a refund of participant contributions in excess of any retirement payments received.
Credited Service:	Full years plus fractions thereof from date of hire to date of termination.
Changes in Plan Provisions:	There were no changes in plan provisions.

Section 4: Actuarial Valuation Basis

	SCHOOL
Normal Retirement Benefit:	• *Age and Service Requirement:* Age 60 with 10 years of credited service • *Amount:* – Non-Certified: • For service before October 1, 2013: 2.5% of average monthly earnings per year of credited service. • For service on or after October 1, 2013: 1% of average monthly earnings per year of credited service. • Benefit is reduced prorata if less than 20 years of service. • Non-certified employees hired after July 1, 2012 and before October 1, 2013 were transferred to the defined contribution plan effective October 1, 2013. – Management: 2.5% of average monthly earnings per year of credited service. Benefit is reduced prorata for less than 20 years of service. – An employee's average monthly earnings are defined as base annual salary and longevity pay averaged over the final three years of employment. School Department employees who are not School Management, who are hired on or after October 1, 2013 are not eligible to participate in this Plan.
Early Retirement Benefit:	• *Age and Service Requirement:* Age 55 with 20 years of credited service • *Amount:* Normal Retirement Benefit multiplied by the ratio of credited service as of the Early Retirement Date to the number of years the employee would have completed if he or she remained employed until Normal Retirement Date.
Ordinary Disability:	• *Service Requirement:* 10 years of credited service • *Amount:* Accrued benefit as of the date of disability multiplied by the ratio of credited service as of the date of disability to the number of years the employee would have completed if he or she remained employed until Normal Retirement Date, with payments ceasing upon the Employee's attainment of Normal or Early Retirement Date.
Deferred Vested Benefit:	• *Service Requirement:* 10 years of credited service • *Amount:* Normal Retirement Benefit payable at Normal Retirement Date, prorated if less than 20 years of service.
Spouse's Pre-Retirement Death Benefit:	• *Service Requirement:* 10 years of credited service • *Amount:* 100% Joint and Survivor benefit is payable to the spouse upon the death of the employee, prorated if less than 20 years and reduced for early retirement and payable no earlier than when the employee would be eligible to retire.

Section 4: Actuarial Valuation Basis

Cost of Living Adjustments:	• Non-certified: Effective July 1, 2002, employees who retire at age 55 with 20 years of credited service shall receive a 1.7% COLA beginning on the first anniversary of retirement. For retirements on or after October 1, 2013, the COLA commences on the fifth anniversary of retirement. • Management: Effective January 1, 2001 employees who retire at age 55 with 25 years of credited service or age 60 with 20 years of credited service shall receive a 1.7% COLA beginning on the first anniversary of retirement. • There is no COLA on a Deferred Vested Benefit, an Ordinary Disability Benefit, or a Pre-Retirement Death Benefit.
Employee Contributions:	• Non-Certified: 4% of gross annual salary. • Management: 6% of gross annual salary.
Normal Form of Payment:	Life annuity payable monthly.
Credited Service:	Full years plus fractions thereof from date of hire to date of termination.
Changes in Plan Provisions:	There were no changes in plan provisions reflected in this valuation.

Section 4: Actuarial Valuation Basis

	TOWN
Normal Retirement Benefit:	• *Age and Service Requirement:* Age 60 with 10 years of credited service • *Amount:* – Non-Management: • For service before July 1, 2013: 2.5% of average monthly earnings per year of credited service to a maximum of 27 years. • For service on or after July 1, 2013 and before July 1, 2016: 1% of average monthly earnings per year of credited service. • For service on or after July 1, 2016: 2% of average monthly earnings per year of credited service. • The maximum benefit is 67.5% of average monthly earnings. • Benefit is reduced prorata if less than 20 years of service. – Management: 3.0% of average monthly earnings per year of credited service for up to 20 years of service, plus 2.0% of average monthly earnings per year of credited service to a maximum of 74%. As of the valuation date, there are three Town Management employees accruing benefits in the Plan. The credited service is frozen as of July 1, 2016 for one employee and is not frozen for the other two employees (previously, service was frozen as of July 1, 2014 for these two employees). – An employee's monthly earnings are defined as the highest annual salary (base salary and longevity) during the final three years of employment. Town Hall employees hired on or after July 1, 2012 are not eligible to participate in this Plan.
Early Retirement Benefit:	• *Age and Service Requirement:* Management: Age 55 with 25 years of credited service • *Amount:* Management: Normal Retirement Benefit multiplied by the ratio of credited service as of the Early Retirement Date to the number of years the employee would have completed if he or she remained employed until Normal Retirement Date. • There is no Early Retirement Benefit for Non-Management employees.
Ordinary Disability:	• *Service Requirement:* 10 years of credited service • *Amount:* Accrued benefit as of the date of disability multiplied by the ratio of credited service as of the date of disability to the number of years the employee would have completed if he or she remained employed until Normal Retirement Date, with payments ceasing upon the Employee's attainment of Normal or Early Retirement Date.
Deferred Vested Benefit:	• *Service Requirement:* 10 years of credited service • *Amount:* Normal Retirement Benefit payable at Normal Retirement Date, prorated if less than 20 years of service.

Section 4: Actuarial Valuation Basis

Spouse's Pre-Retirement Death Benefit:	• *Service Requirement:* 10 years of credited service • *Amount:* 30% of final five-year average earnings payable to the spouse plus 10% of final five-year average earnings payable to each minor child under 21. The maximum benefit payable is 50% of final five-year average earnings.
Cost of Living Adjustments:	• *Non-Management:* Employees who are members of PMEA and who retire on or after July 1, 1998 at age 60 with 20 years of credited service receive a 2.0% COLA with a two-year waiting period from date of retirement. Effective July 1, 2003, the COLA commences the January 1st immediately following retirement. Effective July 1, 2005 employees retiring at or after age 60 with at least 20 years of credited service shall receive a cost of living adjustment of the annual Consumer Price Index (CPI-U, U.S. city average established on December 31 of the preceding year), but shall be not less than 2% or more than 3%, annually commencing on the first anniversary of retirement. For retirements on or after July 1, 2013, the COLA is 1.7% and commences on the fifth anniversary of retirement. Effective July 1, 2016, for employees retiring at or after age 60 with 25 years of credited service, the COLA commences on the earlier of age 65 or the second anniversary of retirement. • *Management:* Employees who retire on or after July 1, 2002 at age 60 with 20 years of credited service or age 55 with 25 years of service receive a 2.0% COLA with a one-year waiting period from date of retirement. Employees who retire on or after July 1, 2004 receive a 3.0% COLA commencing on the January 1st following the first anniversary of retirement. For retirements on or after July 1, 2013, the COLA is 1.7% commencing on the January 1st following the fifth anniversary of retirement. • There is no COLA on a Deferred Vested Benefit, an Ordinary Disability Benefit, or a Pre-Retirement Death Benefit.
Employee Contributions:	• Non-Management: Effective July 1, 2016, 5% of base salary. • Management: No employee contributions after July 1, 2014. Effective February 12, 2021, 5.0% for two Town Management employees.
Normal Form of Payment:	Life annuity payable monthly.
Credited Service:	Full years plus fractions thereof from date of hire to date of termination.
Changes in Plan Provisions:	For two Town Management employees identified by the Town, credited service is no longer frozen as of July 1, 2014 for purposes of benefit accruals and their employee contribution rate increased from 0.0% to 5.0%.

PUBLIC WORKS

Normal Retirement Benefit:	• *Age and Service Requirement:* Age 60 with 10 years of credited service • *Amount:* – For employees with less than 10 years of credited service at July 1, 2013 who were hired before June 30, 2010: 2.5% of average monthly earnings per year of credited service up to a maximum of 25%. Benefit is reduced prorata if less than 20 years of service. – For employees with 10 or more years of service as of June 30, 2013: 2.5% of average monthly earnings per year of credited service prior to July 1, 2013 to a maximum of 67.5%. Benefit is reduced prorata if less than 20 years of service. – An employee's average monthly earnings are defined as annual salary (base salary and longevity) averaged over the final five years of employment. Employees hired on or after July 1, 2010 are not entitled to Normal Retirement Benefits.
Ordinary Disability:	• *Service Requirement:* 10 years of credited service • *Amount:* Accrued benefit as of the date of disability multiplied by the ratio of credited service as of the date of disability to the number of years the employee would have completed if he or she remained employed until Normal Retirement Date, with payments ceasing upon the Employee's attainment of Normal or Early Retirement Date. For employees hired on or after July 1, 2013, this benefit will be offset by the actuarially equivalent benefit provided by the account balance for the defined contribution plan.
Deferred Vested Benefit:	• *Service Requirement:* 10 years of credited service • *Amount:* Normal Retirement Benefit payable at Normal Retirement Date, prorated if less than 20 years of service.
Spouse's Pre-Retirement Death Benefit:	• *Service Requirement:* 10 years of credited service • *Amount:* 30% of final five-year average earnings payable to the spouse plus 10% of final five-year average earnings payable to each minor child under 21. The maximum benefit payable is 50% of final five-year average earnings. Employees hired on or after July 1, 2010 are not entitled to pre-retirement death benefits.
Cost of Living Adjustments:	• Employees who retire on or after July 1, 1987 at age 60 with 20 years of credited service shall receive 50% of the percentage salary increase received the previous July 1 by the active bargaining unit employees in the department from which the employee retired. There is a two-year waiting period commencing on the January 1 following date of retirement. Employees who retire on or after July 1, 2013 at age 60 with 10 years of service receive a 1.7% COLA commencing on the sixth anniversary of retirement. • There is no COLA on a Deferred Vested Benefit, an Ordinary Disability Benefit, or a Pre-Retirement Death Benefit.
Employee Contributions:	No employee contributions after July 1, 2013.

Section 4: Actuarial Valuation Basis

Normal Form of Payment:	Life annuity payable monthly.
Credited Service:	Full years plus fractions thereof from date of hire to date of termination.
Changes in Plan Provisions:	There were no changes in plan provisions reflected in this valuation.