To: Committee of the Whole
From: Susan Albright
Re: Retirement Board decision at May 23 meeting
Date: May 23, 2023

The Retirement Board met this morning. The first agenda item discussed was in regard to their cola docket item: "4/10/23 Request to City Council for approval of incremental increase to COLA base(1k per year from FY24-FY26). 6.6% growth rate, fully funded date FY32."

Kathleen Riley presented her valuation update which included the option of a 5.5% growth rate and 4 incremental Colas, to be fully funded in FY33, along with the 9.6% (fully funded in FY31) and 6.6% growth rate with 3 COLA increases (fully funded in FY32). Along with this memo you should also have this valuation from Segal.

The Board discussed the options and decided to stay with their original docket item. They dismissed the 6.2% growth rate because they want a "margin of safety". You will note on p.6 of the Segal valuation, that while the Retirement Board now predicts the investment return rate to be 6.9% the predictions from both the System's investing advisor and Segal Marco Advisors for future growth in the economy were all higher. Nevertheless, Kathleen Riley stated that her company is advising all their clients to stay with 6.9% assumption for investment return. The Retirement Board referenced the national discussion about the debt ceiling and had fears for what might happen to the market, as one member stated, "the market is wobbling right now". They were not able to take a final vote, because the Council has not yet acted, however they had a straw vote which passed unanimously to stay with the 6.6% rate of growth with 3 incremental COLAs and that if the Council failed to vote for the Cola increases they would stay with the 9.6% rate of growth.

While this is not the outcome that many of us wanted, we feel that our work over this past year both encouraged the Mayor to request a lower rate of growth and the Retirement Board to approve it. We will reap the benefit of $48 million freed up cash over the next 9 years. In addition, and this is important, once Newton has achieved a higher percent of fully funding the pension trust (now estimated to be 62.7%) we should – hopefully in 3 years again ask for a lower rate of growth. Having read many PERAC valuation approval letters, many communities reduce the rate of growth as they get closer to full funding of the trust. Requesting another reduction in the rate of growth after achieving a higher percentage of fully funding the pension trust should both satisfy the concerns of bond rating agencies (everything else being equal) and allay the Retirement Boards fears of never achieving full funding. This did come up during the meeting – so for those on the Board in 2027 – please remember this.

Sincerely,

Council President Susan Albright

Newton Contributory Retirement System

January 1, 2023 Preliminary Actuarial Valuation Results

May 23, 2023

Kathleen A. Riley, FSA, MAAA, EA

This document has been prepared by Segal for the benefit of the Newton Contributory Retirement Board and is not complete without the presentation made at the May 23, 2023 meeting. This document should not be shared, copied or quoted, in whole or in part, without the consent of Segal, except to the extent otherwise required by law.

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Participant Data

The table below summarizes the data used in this year's valuation, compared to the data used in the prior year's valuation.

	Year Ended December 31		Change From Prior Year
	2022	2021	
Active participants:			
• Number	1,629	1,555	4.8%
• Average age	45.6	46.4	-0.8
• Average years of service	11.2	12.1	-0.9
• Total payroll[1]	$116,871,238	$111,990,380	4.4%
• Average payroll	71,744	72,020	-0.4%
• Total account balances	103,782,404	102,683,049	1.1%
Inactive participants:			
• Inactive participants with a vested right to a deferred or immediate benefit	50	49	2.0%
• Inactive participants due a refund of employee contributions	550	526	4.6%
Retired participants:			
• Number in pay status	1,008	983	2.5%
• Average age	74.7	74.6	0.1
• Average monthly benefit	$3,004	$2,919	2.9%
Disabled participants:			
• Number in pay status	125	122	2.5%
• Average age	69.7	69.8	-0.1
• Average monthly benefit	$3,802	$3,709	2.5%
Beneficiaries:			
• Number in pay status	229	229	0.0%
• Average age	77.8	78.8	-1.0
• Average monthly benefit	1,884	1,805	4.4%

[1] Payroll figures are for the prior year and reflect annualized salaries for participants hired during the year.
Calendar year 2022 payroll figures were increased by 14.2% for parking control clerks to reflect unsettled bargaining contracts. Figures were decreased by 9.8% for superior officers, 3.4% for patrolmen, 7.1% for engineers and Local 2443 foremen to reflect retroactive payments.
Calendar year 2021 payroll figures were increased by 10.9% for superior officers and patrolmen, 9.8% for parking control clerks, 6.6% for engineers and Local 2443 foremen and 4.5% for inspectors to reflect unsettled bargaining contracts. Figures were decreased by 4.3% for Local 3092 City Hall associates and 1.5% for Local 25 teamsters to reflect retroactive payments.

Financial Information

- During the plan year ending December 31, 2022, the rate of return on the market value of assets was -10.75%. The rate of return on the actuarial value of assets (which gradually recognizes market fluctuations) for the plan year ending December 31, 2022 was 5.04%. This resulted in an actuarial loss of $8.8 million when measured against the assumed rate of return of 6.9%.

- The actuarial value of assets as of December 31, 2022 was $500.3 million, or 105.6% of the market value of assets of $473.8 million (as reported in the Annual Statement).
  - As of December 31, 2021, the actuarial value of assets was 89.7% of the market value of assets.

- The actuarial value of assets does not reflect the unrecognized investment loss as of December 31, 2022 of $26.5 million. This investment loss will be recognized in the determination of the actuarial value of assets for funding purposes in the next few years, to the extent it is not offset by recognition of investment gains derived from future experience.
  - This implies that earning the assumed rate of investment return (net of expenses) on a market value basis will result in investment losses on the actuarial value of assets in the next few years.
  - The projected unfunded actuarial accrued liability in the funding schedules does not reflect the recognition of deferred investment losses.

Experience Analysis

- The unfunded liability was expected to decrease by $13.7 million from $301.2 million as of January 1, 2022 to $287.4 million as of January 1, 2023. The actual unfunded liability of $297.9 million as of January 1, 2023, before consideration of any changes, is $10.5 million higher than expected. The sources of the net experience loss are shown below:

	(In millions)
January 1, 2022 unfunded actuarial accrued liability	$301.2
January 1, 2023 expected unfunded actuarial accrued liability	287.4
Changes in unfunded actuarial accrued liability:	
• Investment loss on an actuarial value basis	$8.8
• Loss due to administrative expenses and net 3(8)(c) payments more than assumed	0.0
• Loss due to salaries increasing more than expected for continuing actives	4.4
• Gain due to pensioner and beneficiary mortality experience	-0.2
• Miscellaneous experience gain (including changes in data)	-2.5
Net loss	$10.5
January 1, 2023 unfunded actuarial accrued liability (before consideration of any changes)	$297.9

- With this valuation, we have made the following changes:
  - The allowance for net 3(8)(c) payments was increased from $145,000 to $228,000
  - The administrative expense assumption was lowered from $450,000 to $410,000.
- A discussion of the investment return assumption is on the following page.

Assumptions Review

Investment Return

- The System's investment advisor (NEPC) has calculated the following expected rates of return:
  - 30 year time horizon: 7.7%
  - 10 year time horizon: 7.0%
- Based on the current target asset allocation, Segal Marco Advisors' capital market expectations as of December 31, 2022 and a building block approach, we calculate the following expected geometric rates of return:
  - 20 year time horizon: 7.34%
  - 15 year time horizon: 7.46%
  - 10 year time horizon: 7.68%
- Based on this information, we have maintained the current investment return assumption of 6.90%.

Increase in the COLA Base

- As requested, we have determined the cost of increasing the COLA base from the current level of $12,000 to the following:
  - Option #1 - $13,000 effective July 1, 2023, $14,000 effective July 1, 2024 and $15,000 effective July 1, 2025
  - Option #2 - $13,000 effective July 1, 2023, $14,000 effective July 1, 2024, $15,000 effective July 1, 2025 and $16,000 effective July 1, 2026
- Option #1 increases the July 1, 2023 normal cost by $214,000 and the July 1, 2023 unfunded actuarial accrued liability by $9.9 million. This option is reflected in Funding Schedule 2.
- Option #2 increases the July 1, 2023 normal cost by $276,000 and the July 1, 2023 unfunded actuarial accrued liability by $12.5 million. This option is reflected in Funding Schedule 3.

Summary of Preliminary Valuation Results

The table below summarizes the results of the January 1, 2023 actuarial valuation using a 6.90% investment return assumption (including the updated administrative expense assumption and net 3(8)(c) allowance) with the current COLA base of $12,000.

		2023 6.90% Investment Return Assumption $12,000 COLA Base		2022 6.90% Investment Return Assumption $12,000 COLA Base	
		Amount	**% of Projected Payroll**	**Amount**	**% of Projected Payroll**
1.	Total normal cost	$17,828,671	14.67%	$17,213,280	14.76%
2.	Administrative expense assumption	638,000	0.52%	595,000	0.51%
3.	Expected employee contributions	-12,250,884	-10.08%	-11,713,903	-10.04%
4.	Employer normal cost: **(1) + (2) + (3)**	$6,215,787	5.11%	$6,094,377	5.22%
5.	Actuarial accrued liability	$798,221,055		$773,220,722	
6.	Actuarial value of assets (AVA)	500,276,612		472,061,348	
7.	Unfunded actuarial accrued liability: **(5) - (6)**	$297,944,443		$301,159,374	
8.	Funded percentage based on AVA	62.7%		61.1%	
9.	Market value of assets (MVA)	$473,820,818		526,328,950	
10.	Funded percentage based on MVA	59.4%		68.1%	

Funding Schedules

Funding Schedule adopted with the January 1, 2022 Valuation

With the prior valuation, the Board approved a funding schedule based on a 6.90% investment return assumption that fully funded the System by June 30, 2030 with appropriations that increased by 9.60% per year if all assumptions are met and there are no changes in the plan of benefits or actuarial assumptions.

(1) Fiscal Year Ended June 30	(2) Employer Normal Cost	(3) Amortization of Unfunded Actuarial Accrued Liability	(4) Actuarially Determined Contribution (ADC): (2) + (3)	(5) Unfunded Actuarial Accrued Liability at Beginning of Fiscal Year	(6) Percent Increase in ADC Over Prior Year
2023	$6,212,051	$34,635,175	$40,847,226	$311,376,074	--
2024	6,409,925	38,358,635	44,768,560	296,041,320	9.60%
2025	6,614,026	42,452,316	49,066,342	275,690,160	9.60%
2026	6,824,548	46,952,163	53,776,711	249,582,890	9.60%
2027	7,041,690	51,897,585	58,939,275	216,890,555	9.60%
2028	7,265,659	57,331,786	64,597,445	176,685,106	9.60%
2029	7,496,668	63,302,132	70,798,800	127,928,531	9.60%
2030	7,734,936	69,848,141	77,583,077	69,460,842	9.58%
2031	7,980,689	0	7,980,689	0	-89.71%

Notes:
Fiscal 2023 Actuarially Determined Contribution set equal to budgeted amount.
Actuarially Determined Contributions are assumed to be paid on August 1.
Item (2) reflects 2.75% growth in payroll, as well as a 0.15% adjustment to total normal cost to reflect the effects of mortality improvements due to the generational mortality assumption.
Projected normal cost does not reflect the future impact of pension reform for future hires.
Projected unfunded actuarial accrued liability does not reflect the recognition of deferred investment gains.

Preliminary Funding Schedules for 2023

- We have prepared three funding schedules for the Board's consideration.
  - In each schedule:
    - The appropriation is assumed to be paid on August 1st.
    - Employer normal cost is projected based on a 2.75% growth in payroll per year, as well as a 0.15% adjustment to total normal cost to reflect the effects of mortality improvements due to the generational mortality assumption.
    - Projected normal cost does not reflect the future impact of pension reform for future hires.
    - The projected unfunded actuarial accrued liability does not reflect the recognition of deferred investment losses.
    - The projections assume all assumptions are met and there are no changes in the plan of benefits or actuarial assumptions.
- Funding Schedule 1 reflects the current $12,000 COLA base.
  - The fiscal 2024 appropriation is equal to the budgeted amount from the prior valuation (a 9.60% increase over the fiscal 2023 appropriation).
  - Appropriations increase 9.60% per year.
  - The System is fully funded by 2031.
- Funding Schedule 2 reflects an increase in the COLA base to $13,000 effective July 1, 2023, $14,000 effective July 1, 2024 and $15,000 effective July 1, 2025.
  - The fiscal 2024 appropriation is equal to the fiscal 2023 appropriation increased by 6.60%.
  - Appropriations increase 6.60% per year.
  - The System is fully funded by 2032.

- Funding Schedule 3 reflects an increase in the COLA base to $13,000 effective July 1, 2023, $14,000 effective July 1, 2024, $15,000 effective July 1, 2025 and $16,000 effective July 1, 2026.
  - The fiscal 2024 appropriation is equal to the fiscal 2023 appropriation increased by 5.50%.
  - Appropriations increase 5.50% per year.
  - The System is fully funded by 2033.

Funding Schedule 1
Current $12,000 COLA base
Appropriations increase 9.60% per year
Fully funded by June 30, 2031

(1) Fiscal Year Ended June 30	(2) Employer Normal Cost	(3) Amortization of Unfunded Actuarial Accrued Liability	(4) Actuarially Determined Contribution (ADC): (2) + (3)	(5) Total Unfunded Actuarial Accrued Liability at Beginning of Fiscal Year	(6) Percent Increase in ADC Over Prior Year
2024	$6,335,805	$38,432,755	$44,768,560	$308,052,078	- -
2025	6,538,050	42,528,292	49,066,342	288,450,865	9.60%
2026	6,746,667	47,030,044	53,776,711	263,143,316	9.60%
2027	6,961,860	51,977,415	58,939,275	231,303,857	9.60%
2028	7,183,831	57,413,614	64,597,445	192,008,061	9.60%
2029	7,412,794	63,386,006	70,798,800	144,221,781	9.60%
2030	7,648,965	69,946,520	77,595,485	86,789,162	9.60%
2031	7,892,569	18,522,093	26,414,662	18,419,390	-65.96%
2032	8,143,839	0	8,143,839	0	-69.17%

Notes:
Fiscal 2024 Actuarially Determined Contribution set equal to fiscal 2023 Actuarially Determined Contribution with a 9.60% increase.
Actuarially Determined Contributions are assumed to be paid on August 1.
Item (2) reflects 2.75% growth in payroll, as well as a 0.15% adjustment to total normal cost to reflect the effects of mortality improvements due to the generational mortality assumption.
Projected normal cost does not reflect the future impact of pension reform for future hires.
Projected unfunded actuarial accrued liability does not reflect the recognition of deferred investment losses.

Funding Schedule 2
Increase to $15,000 COLA base
Appropriations increase 6.60% per year
Fully funded by June 30, 2032

(1) Fiscal Year Ended June 30	(2) Employer Normal Cost	(3) Amortization of Unfunded Actuarial Accrued Liability	(4) Actuarially Determined Contribution (ADC): (2) + (3)	(5) Total Unfunded Actuarial Accrued Liability at Beginning of Fiscal Year	(6) Percent Increase in ADC Over Prior Year
2024	$6,550,218	$36,992,925	$43,543,143	$317,959,390	- -
2025	6,758,689	39,658,301	46,416,990	300,572,426	6.60%
2026	6,973,715	42,506,796	49,480,511	279,152,273	6.60%
2027	7,195,502	45,550,723	52,746,225	253,225,973	6.60%
2028	7,424,260	48,803,216	56,227,476	222,274,843	6.60%
2029	7,660,204	52,278,285	59,938,489	185,730,449	6.60%
2030	7,903,559	55,990,870	63,894,429	142,970,241	6.60%
2031	8,154,558	59,956,903	68,111,461	93,312,832	6.60%
2032	8,413,436	36,213,681	44,627,117	36,012,881	-34.48%
2033	8,680,439	0	8,680,439	0	-80.55%

Notes:
Fiscal 2024 Actuarially Determined Contribution set equal to fiscal 2023 Actuarially Determined Contribution with a 6.60% increase.
Actuarially Determined Contributions are assumed to be paid on August 1.
Item (2) reflects 2.75% growth in payroll, as well as a 0.15% adjustment to total normal cost to reflect the effects of mortality improvements due to the generational mortality assumption.
Projected normal cost does not reflect the future impact of pension reform for future hires.
Projected unfunded actuarial accrued liability does not reflect the recognition of deferred investment losses.

Funding Schedule 3
Increase to $16,000 COLA base
Appropriations increase 5.50% per year
Fully funded by June 30, 2033

(1) Fiscal Year Ended June 30	(2) Employer Normal Cost	(3) Amortization of Unfunded Actuarial Accrued Liability	(4) Actuarially Determined Contribution (ADC): (2) + (3)	(5) Total Unfunded Actuarial Accrued Liability at Beginning of Fiscal Year	(6) Percent Increase in ADC Over Prior Year
2024	$6,612,174	$36,481,649	$43,093,823	$320,553,703	- -
2025	6,822,444	38,641,539	45,463,983	303,889,270	5.50%
2026	7,039,321	40,925,181	47,964,502	283,778,871	5.50%
2027	7,263,012	43,339,538	50,602,550	259,853,177	5.50%
2028	7,493,731	45,891,959	53,385,690	231,709,974	5.50%
2029	7,731,694	48,590,209	56,321,903	198,911,481	5.50%
2030	7,977,126	51,442,482	59,419,608	160,981,457	5.50%
2031	8,230,261	54,457,425	62,687,686	117,402,088	5.50%
2032	8,491,337	57,644,172	66,135,509	67,610,639	5.50%
2033	8,760,603	11,057,147	19,817,750	10,995,837	-70.03%
2034	9,038,312	0	9,038,313	0	-54.39%

Notes:
Fiscal 2024 Actuarially Determined Contribution set equal to fiscal 2023 Actuarially Determined Contribution with a 5.50% increase.
Actuarially Determined Contributions are assumed to be paid on August 1.
Item (2) reflects 2.75% growth in payroll, as well as a 0.15% adjustment to total normal cost to reflect the effects of mortality improvements due to the generational mortality assumption.
Projected normal cost does not reflect the future impact of pension reform for future hires.
Projected unfunded actuarial accrued liability does not reflect the recognition of deferred investment losses.

Caveats and Questions

- It is important to note that this actuarial valuation is based on plan assets as of December 31, 2022. The Plan's actuarial status is not based on the daily fluctuations of the market, but on the market values on the last day of the Plan Year. While it is impossible to determine how the market will perform in the future, and how that will affect the results of next year's valuation, Segal is available to prepare projections of potential outcomes upon request.
- Projections, by their nature, are not a guarantee of future results. The projections are intended to serve as estimates of future outcomes, based on the information available to us and the assumptions described herein. Emerging results may differ significantly if the actual experience proves to be different from these assumptions.
- A discussion of the risks inherent in the measurement of pension plan obligations will be included in the January 1, 2023 Actuarial Valuation and Review.

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Disclosures

- This report was prepared in accordance with generally accepted actuarial principles and practices at the request of the Board to assist in administering the Retirement System. The census information and financial information on which this actuarial valuation was based was prepared by the staff of the Retirement System.
- The actuarial assumptions and plan provisions used for this valuation are as described in Section 4 of the January 1, 2022 Actuarial Valuation and Review dated July 15, 2022, except for the changes noted previously. The financial information used in this valuation is as of December 31, 2022.
- The measurements shown in this actuarial valuation may not be applicable for other purposes. 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.
- An actuarial valuation is a measurement at a specific date – it is not a prediction of a plan's future financial condition. We have not been retained to perform an analysis of the potential range of financial measurements, except where otherwise noted.
- 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.

- The actuarial calculations were directed under the supervision of Kathleen A. Riley, FSA, MAAA, EA. She is a member of the American Academy of Actuaries and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. To the best of her knowledge, the information supplied in this actuarial valuation is complete and accurate. The assumptions used in this actuarial valuation were selected by the Newton Contributory Retirement Board based upon her analysis and recommendations. In her opinion, the assumptions are reasonable and take into account the experience of the Newton Contributory Retirement System and reasonable expectations.