Hampden County Regional
Retirement System

January 1, 2024 Preliminary Actuarial Valuation Results

February 5, 2024

Lisa VanDermark, FSA, MAAA, EA, Vice President & Consulting Actuary

Segal

Participant information

The tables below summarize the data used in this year’s valuation compared to the prior valuation:

Active participants

As of December 31,	2023	2021	Change
Active participants	2,674	2,824	-5.3%
Average age	46.5	46.4	0.1
Average years of service	9.8	9.7	0.1
Average projected compensation	$51,366	$46,344	10.8%

Inactive participants

- In this year’s valuation, there were 118 participants with a vested right to a deferred or immediate vested benefit.
- In addition, there were 1,049 participants entitled to a return of their employee contributions.

Retired participants and beneficiaries

As of December 31,	2023	2021	Change
Retired participants	1,850	1,765	4.8%
Beneficiaries	187	187	0.0%
Average age	73.0	72.7	0.3
Average amount	$2,204	$2,076	6.2%
Total monthly amount	4,489,693	4,052,258	10.8%

Financial information

- The rate of return on the market value of assets was 10.78% and -11.28% for the plan years ending December 31, 2023 and December 31, 2022, respectively. The return on the actuarial value of assets was 7.37% and 5.43% for the same periods. This resulted in an actuarial loss when measured against the assumed rate of return of 7.00%.
- The actuarial value of assets as of December 31, 2023 was $546.0 million, or 103.66% of the market value of assets of $526.7 million.
  - As of December 31, 2021, the actuarial value of assets was $485.7 million, or 90.00% of the market value of assets of $539.7 million.
- The actuarial value of assets does not reflect an unrecognized investment loss as of December 31, 2023 of $19.3 million. As the deferred net loss is recognized in future years, the cost of the System is likely to increase unless the net loss is offset by future experience.

Experience analysis

- The unfunded liability, before consideration of assumption and/or plan changes, is $403.4 million. The development of the unfunded liability since the prior valuation is shown below:

Unfunded Actuarial Accrued Liability	Amount (In millions)
January 1, 2022 unfunded actuarial accrued liability	$401.7
January 1, 2024 projected unfunded actuarial accrued liability	$394.0
Changes in unfunded actuarial accrued liability:	
• Net (gain)/loss from investments	5.7
• Net (gain)/loss from administrative expenses	-0.4
• Net (gain)/loss from other experience	4.0
Net experience (gain)/loss	$9.4
January 1, 2024 unfunded actuarial accrued liability (before assumption and/or plan changes)	**$403.4**

- Based on information on expenses provided by the staff of the Retirement System, we recommend resetting the assumption for administrative expenses to $1,000,000 for calendar 2024.

- A discussion of the investment return assumption is on the following page.

Investment return assumption

- The System's investment advisor has calculated the following expected rates of return:
  - 10-year time horizon: 6.6%
  - 30-year time horizon: 7.7%
- Based on the current target asset allocation, Segal Marco Advisors' capital market expectations as of December 31, 2023 and a building block approach, we calculate the following expected geometric rates of return:
  - Nominal expected return as of December 31, 2023
    - 10-year time horizon: 7.47%
    - 15-year time horizon: 7.30%
    - 20-year time horizon: 7.18%
  - 7-year average of nominal expected return as of December 31, 2023
    - 10-year time horizon: 7.32%
    - 15-year time horizon: 7.18%
    - 20-year time horizon: 7.07%
- After reviewing this information, we recommend maintaining the current investment return assumption of 7.00%.

Cost of Living Adjustment (COLA)

Since the prior valuation, the July 1, 2022 Cost-of-Living Adjustment was increased from 3% to 5%.

- This increased the January 1, 2024 liability by $6.1 million.

Summary of preliminary valuation results

The table below summarizes the results of the January 1, 2024 actuarial valuation (reflecting the recommended administrative expense assumption) with the prior actuarial valuation.

Contribution	2024 Amount	2024 % of Projected Payroll	2022 Amount	2022 % of Projected Payroll
1. Total normal cost	$21,533,170	15.68%	$20,608,490	15.75%
2. Administrative expense assumption	1,000,000	0.73%	1,000,000	0.76%
3. Expected employee contributions	-13,526,869	-9.85%	-12,750,745	-9.74%
4. Employer normal cost: (1) + (2) + (3)	**$9,006,301**	**6.56%**	**$8,857,745**	**6.77%**
5. Actuarial accrued liability	955,442,052		887,453,103	
6. Actuarial value of assets (AVA)	545,968,906		485,717,894	
7. Unfunded actuarial accrued liability: (5) - (6)	**$409,473,146**		**$401,735,209**	
8. Funded percentage based on MVA	55.12%		60.81%	
9. Funded percentage based on AVA	57.14%		54.73%	
10. Projected payroll	$137,353,389		$130,874,871	

Funding schedules

Funding schedule adopted with the prior valuation

With the prior valuation, the Board approved a funding schedule that fully funded the System by June 30, 2036 with appropriations that increased 8.00% per year through fiscal 2030 and 3.75% per year thereafter, 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	$9,154,068	$30,407,220	$39,561,288	$415,558,131	- -
2024	9,484,561	33,241,630	42,726,191	412,657,177	8.00%
2025	9,826,917	36,317,369	46,144,286	406,571,206	8.00%
2026	10,181,561	39,654,268	49,835,829	396,823,375	8.00%
2027	10,548,933	43,273,762	53,822,695	382,882,599	8.00%
2028	10,929,485	47,199,026	58,128,511	364,158,067	8.00%
2029	11,323,690	51,455,102	62,778,792	339,993,230	8.00%
2030	11,732,034	56,069,061	67,801,095	309,659,235	8.00%
2031	12,155,022	58,188,614	70,343,636	272,347,729	3.75%
2032	12,593,177	60,388,345	72,981,522	230,194,534	3.75%
2033	13,047,038	62,671,291	75,718,329	182,776,381	3.75%
2034	13,517,170	65,040,596	78,557,766	129,637,175	3.75%
2035	14,004,149	67,499,533	81,503,682	70,285,589	3.75%
2036	14,508,581	4,263,976	18,772,557	4,192,459	-76.97%
2037	15,031,085	0	15,031,085	0	-19.93%

Notes:
Fiscal 2023 actuarially determined contribution set equal to the amount determined with the prior valuation.
Actuarially determined contributions are assumed to be paid on July 1st and December 31st.
Item (2) reflects 3.25% 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 on future hires.
Projected unfunded actuarial accrued liability does not reflect the recognition of deferred investment gains/losses.

Preliminary funding schedule for 2024

- We have prepared the following funding schedule for the Board's consideration.

	Rate of Appropriation Increases	Fully Funded by June 30,
Funding Schedule	8.00% per year through 2030, then 3.75% per year	2036

- In the schedule:
  - The fiscal 2025 appropriation is equal to the budgeted amount determined with the prior valuation;
  - The appropriation is assumed to be paid on July 1st and December 31st;
  - Employer normal cost is projected based on a 3.25% growth in payroll and a 0.15% adjustment to total normal cost to reflect the effect of mortality improvements due to the generational mortality assumption;
  - Projected normal cost does not reflect the future impact of pension reform for future hires; and
  - The projected unfunded actuarial accrued liability does not reflect the recognition of deferred investment gains/losses.

Funding Schedule
Appropriations increase 8.00% per year through 2030 then 3.75% per year
Fully funded by June 30, 2036

(1) Fiscal Year Ended June 30	(2) Employer Normal Cost	(3) Amortization of Unfunded Liability	(4) Actuarially Determined Contribution (ADC): (2)+(3)	(5) Total Unfunded Actuarial Accrued Liability at Beginning of Fiscal Year	(6) Percent Increase in Actuarially Determined Contribution
2025	$9,307,594	$36,836,692	$46,144,286	$423,562,316	- -
2026	9,644,556	40,191,273	49,835,829	414,457,507	8.00%
2027	9,993,642	43,829,053	53,822,695	401,186,162	8.00%
2028	10,355,288	47,773,223	58,128,511	383,158,684	8.00%
2029	10,729,942	52,048,850	62,778,792	359,719,805	8.00%
2030	11,118,069	56,683,026	67,801,095	330,142,016	8.00%
2031	11,520,153	58,823,483	70,343,636	293,618,380	3.75%
2032	11,936,692	61,044,830	72,981,522	252,286,214	3.75%
2033	12,368,202	63,350,127	75,718,329	205,723,821	3.75%
2034	12,815,219	65,742,547	78,557,766	153,476,764	3.75%
2035	13,278,299	68,225,383	81,503,682	95,055,460	3.75%
2036	13,758,015	30,443,194	44,201,209	29,932,588	-45.77%
2037	14,254,963	0	14,254,963	0	-67.75%

Caveats and questions

- It is important to note that this actuarial valuation is based on plan assets as of December 31, 2023. The System'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 December 31, 2023 due to COVID-19. Segal is available to prepare projections of potential outcomes of market conditions and other demographic experience upon request.
- 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. A discussion of the risks inherent in the measurement of pension plan obligations and other required disclosure information will be included in the January 1, 2024 Actuarial Valuation and Review.

Disclosures

- This report has been prepared in accordance with generally accepted actuarial principles and practices for the exclusive use and benefit of the Board, based on information provided by the staff of the Retirement System and the Retirement System's other service providers.
- The actuarial assumptions and plan provisions used for this valuation are as described in the January 1, 2022 Actuarial Valuation and Review dated November 2, 2022, except for the changes noted previously. The financial information used in this valuation is as of December 31, 2023.
- 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. Accordingly, Segal did not 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 A. Donald Morgan, FSA, MAAA, EA. He 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 his knowledge, the information supplied in this actuarial valuation is complete and accurate. The assumptions used in this actuarial valuation were selected by the Retirement Board based upon our analysis and recommendations. In his opinion the assumptions are reasonable and take into account the experience of the Retirement System and reasonable expectations. In addition, in his opinion, the combined effect of these assumptions is expected to have no significant bias.
- Segal makes no representation or warranty as to the future status of the Retirement System and does not guarantee any particular result. This document does not constitute legal, tax, accounting or investment advice or create or imply a fiduciary relationship. The Board is encouraged to discuss any issues raised in this report with the Plan's legal, tax and other advisors before taking, or refraining from taking, any action.
- In the January 1, 2024 actuarial valuation there will be new disclosures regarding the ASOP 4 (Measuring Pension Obligations and Determining Pension Plan Costs or Contributions) required information.