Barnstable County

Governmental Accounting Standards Board (GASB) Statements No. 74 and 75 Accounting Valuation Report

Review as of June 30, 2024

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November 15, 2024

Carol Coppola Finance Director Barnstable County P.O. Box 427 Barnstable, MA 02630

Dear Ms. Coppola:

We are pleased to submit this Governmental Accounting Standards Board (GASB) Statements No. 74 and 75 Accounting Valuation as of June 30, 2024 for the Barnstable County. It contains the actuarial information that will need to be disclosed in order to comply with GASB 74 and 75. Except as otherwise noted, please refer to the Barnstable County Actuarial Valuation and Review of Other Postemployment Benefits (OPEB) as of June 30, 2022 for the data, assumptions and plan of benefits underlying these calculations.

This report has been prepared in accordance with generally accepted actuarial principles and practices for the exclusive use and benefit of the Barnstable County, based upon information provided by the Barnstable County and the Barnstable County's other service providers.

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; and changes in plan provisions or applicable law.

The actuarial calculations were directed under our supervision. We are members of the American Academy of Actuaries and collectively meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. The assumptions used in this actuarial valuation were selected by the Barnstable County based upon our analysis and recommendations. In our opinion, the assumptions are reasonable and take into account the experience of the Barnstable County and reasonable expectations. In addition, in our opinion, the combined effect of these assumptions is expected to have no significant bias.

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Segal makes no representation or warranty as to the future status of the Plan 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 Barnstable County is encouraged to discuss any issues raised in this report with the Barnstable County's legal, tax and other advisors before taking, or refraining from taking, any action.

Sincerely,

Kathleen A. Riley, FSA, MAAA, EA Senior Vice President and Chief Actuary

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Mark J. Nooran, ASA, MAAA Vice President and Health Actuary

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Actuarial Valuation Summary

Purpose and basis

This report has been prepared by Segal to present certain disclosure information for the Barnstable County (the "Employer") Other Postemployment Benefits (OPEB) plan and the Barnstable County OPEB Trust (the "Plan") as of June 30, 2024, required by Governmental Accounting Standards Board (GASB) Statements No. 74 and 75. The actuarial computations made are for purposes of fulfilling plan accounting requirements. Determinations for purposes other than meeting financial accounting requirements may be significantly different from the results reported here. This report is based on financial information as of June 30, 2024 provided by the Barnstable County and the Barnstable County Actuarial Valuation and Review of Other Postemployment Benefits (OPEB) as of June 30, 2022 which reflects:

- The benefit provisions of the OPEB plan;
- The characteristics of covered active participants and retired participants and beneficiaries as of June 30, 2022;
- Economic assumptions regarding future salary increases and investment earnings;
- Health care assumptions regarding per capita costs, trend rates and participation; and
- Other actuarial assumptions, regarding employee terminations, retirement, death, etc.

Highlights of the valuation

Accounting and financial reporting

- 1. The Net OPEB Liability (NOL) is equal to the difference between the Total OPEB Liability (TOL) and the Plan's Fiduciary Net Position. The Plan's Fiduciary Net Position is equal to the market value of assets. The NOL increased from \$16,657,847 as of June 30, 2023 to \$18,313,201 as of June 30, 2024 and the Plan's Fiduciary Net Position as a percent of the TOL increased from 18.38% to 18.98%.
- 2. The NOL measured as of June 30, 2024 and June 30, 2023 was determined based upon the results of the actuarial valuation as of June 30, 2022.
- 3. The discount rate used to measure the TOL and NOL as of June 30, 2024 and June 30, 2023 was 6.50%.



Section 1: Actuarial Valuation Summary

- 4. The TOL measured as of June 30, 2024 reflects the estimated impact of the Inflation Reduction Act on Medicare Prescription Drug plans. The IRA includes material benefit cost-sharing changes for 2025, most notably implementing a \$2,000 member outof-pocket maximum, as well as various funding changes that will lower Medicare's share of prescription drug costs. Both changes are expected to significantly increase the premiums charged for Medicare prescription drug coverage. Our projections include an estimated impact of the IRA on the Plan's calendar year 2025 based on preliminary information.
- 5. The Annual OPEB Expense decreased from -\$1,739,155 for the year ending June 30, 2023 to -\$2,549,630 for the year ending June 30, 2024.



Important information about actuarial valuations

An actuarial valuation is a budgeting tool with respect to defining future uncertain obligations of a postretirement health plan. As such, it will never forecast the precise future stream of benefit payments. It is an estimated forecast – the actual cost of the plan will be determined by the benefits and expenses paid, not by the actuarial valuation.

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

Input Item	Description
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. For example, a plan may provide health benefits to post-65 retirees that coordinates with Medicare. If so, changes in the Medicare law or administration may change the plan's costs without any change in the terms of the plan itself. It is important for the Barnstable County 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 plan. 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 not necessary to have perfect data for an actuarial valuation: the valuation is an estimated forecast, not a prediction. The uncertainties in other factors are such that even perfect data does not produce a "perfect" result. Notwithstanding the above, 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 Barnstable County.
Actuarial assumptions	In preparing an actuarial valuation, Segal starts by developing a forecast of the benefits to be paid to existing plan participants for the rest of their lives and the lives of their beneficiaries. To determine the future costs of benefits, Segal collects claims, premiums, and enrollment data in order to establish a baseline cost for the valuation measurement, and then develops short- and long-term health care cost trend rates to project increases in costs in future years. This forecast also requires actuarial assumptions as to the probability of death, disability, withdrawal, and retirement of each participant for each year, as well as forecasts of the plan's benefits for each of those events. The forecasted benefits are then discounted to a present value, typically based on an estimate of the rate of return that will be achieved on the plan's assets or, if there are no assets, a rate of return based on a yield or index rate for 20-year, tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher (or equivalent quality on another rating scale). All of these factors are uncertain and unknowable. Thus, there will be a range of reasonable assumptions, and the results may vary materially based on which assumptions the actuary selects within that range. That is, there is no right answer (except with hindsight). It is important for any user of an actuarial valuation to understand and accept this constraint. The actuarial model necessarily uses approximations and estimates that may lead to significant changes in our results but will have no impact on the actual cost of the plan. In addition, the actuarial assumptions may change over time, and while this can have a significant impact on the reported results, it does not mean that the previous assumptions or results were unreasonable or wrong.



Section 1: Actuarial Valuation Summary

Description
Segal accounting results are based on proprietary actuarial modeling software. The accounting valuation models generate a comprehensive set of liability and cost calculations that are presented to meet accounting standards and client requirements. Our Actuarial Technology and Systems unit, comprising 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 results are also based on models for cost projections developed by Segal actuaries and programmers. The client team customizes and validates the models, and reviews the results, under the supervision of the responsible actuary.
Our claims costs assumptions are based on proprietary modeling software as well as models that were developed by others. These models generate per capita claims cost calculations that are used in our valuation software. Our Health Technical Services Unit, comprised of actuaries and programmers, is responsible for the initial development and maintenance of our health models. They are also responsible for testing models that we purchase from other vendors for reasonableness. The client team inputs the paid claims, enrollments, plan provisions and assumptions into these models and reviews the results for reasonableness, 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 for use by the Barnstable County. It includes information for compliance with accounting standards and for the plan's auditor. Segal is not responsible for the use or misuse of its report, particularly by any other party.
- If the Barnstable County 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.
- 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. 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.
- Sections of this report include actuarial results that are not rounded, but that does not imply precision.
- Critical events for a plan include, but are not limited to, decisions about changes in benefits and contributions. The basis for such decisions needs to consider many factors such as the risk of changes in plan enrollment, emerging claims experience, health care trend, and investment losses, not just the current valuation results.
- Segal does not provide investment, legal, accounting, or tax advice and is not acting as a fiduciary to the Plan. This valuation is based on Segal's understanding of applicable guidance in these areas and of the Plan's provisions, but they may be subject to alternative interpretations. The Barnstable County should look to their other advisors for expertise in these areas.
- While Segal maintains extensive quality assurance procedures, an actuarial valuation involves complex computer models and numerous inputs. In the event that an inaccuracy is discovered after presentation of Segal's valuation, Segal may revise that valuation or make an appropriate adjustment in the next valuation.
- Segal's report shall be deemed to be final and accepted by the Barnstable County upon delivery and review. The Barnstable County should notify Segal immediately of any questions or concerns about the final content.



GASB Information

General information about the OPEB plan

Plan membership. At June 30, 2022, the Barnstable County's plan membership consisted of the following:

Membership	Number
Retired members or beneficiaries currently receiving benefits	183
Active members	133
Total	316

We have assumed other general information about the Plan will be provided by the Barnstable County's auditors.



Net OPEB liability

Components of the Net OPEB Liability	Current	Prior
Measurement and Reporting Dates		
Reporting Date for Employer under GASB 75	June 30, 2024	June 30, 2023
Measurement Date	June 30, 2024	June 30, 2023
Components of the Net OPEB Liability		
Total OPEB Liability	\$22,602,857	\$20,410,135
Plan Fiduciary Net Position	4,289,656	3,752,288
Net OPEB Liability	18,313,201	16,657,847
Plan Fiduciary Net Position as a percentage of the Total OPEB Liability ¹	18.98%	18.38%

Actuarial assumptions. The Total OPEB Liability as of June 30, 2024 was measured by an actuarial valuation as of June 30, 2022, using the following actuarial assumptions, applied to all periods included in the measurement, unless otherwise specified:

Assumption	Description
Wage inflation	3.25%
Salary increases	Service-related increases for Group 1 (excluding Teachers) and Group 2 employees: 6.00% decreasing over 11 years to an ultimate level of 4.00%
Investment rate of return	6.50% as of June 30, 2024 and 6.50% as of June 30, 2023
Discount rate	6.50% as of June 30, 2024 and 6.50% as of June 30, 2023

¹ These funded percentages 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.



Assumption	Description
ealth care cost trend	CCMHG:
rates	Non-Medicare ¹ : 3.86% for 1 year, then 6.75% decreasing by 0.25% each year to an ultimate level of 4.50% per year
	Medicare: 7.00%, 6.75%, 14.91% ² , then 6.25% decreasing by 0.25% each year to an ultimate level of 4.50% per year
	Dental ¹ : 0.00% for 1 year, then 3.00%
	Part B ¹ : 5.15% for 1 year, then 4.50%
	Contributions: Retiree contributions for medical and prescription drug coverage are expected to increase with medical trend.
Mortality rates	Preretirement mortality rates:
	Healthy: RP-2014 Blue Collar Employee Mortality Table projected generationally with Scale MP-2021
	Postretirement mortality rates:
	Healthy: RP-2014 Blue Collar Healthy Annuitant Mortality Table projected generationally with Scale MP-2021
	Disabled: RP-2014 Blue Collar Healthy Annuitant Mortality Table set forward one year projected generationally with Scale MP-2021

Detailed information regarding all actuarial assumptions can be found in the June 30, 2022 Actuarial Valuation and Review of Other Postemployment Benefits.

First year trends reflect known increases
Reflects estimated impact of Inflation Reduction Act of 2022



Determination of discount rate and investment rates of return

Development of long-term rate

The long-term expected rate of return on OPEB plan investments was determined using a building block method in which expected future real rates of return (expected returns, net of inflation) are developed for each major asset class. These returns are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. The projected arithmetic real rates of return for each major asset class, after deducting inflation, but before investment expenses, used in the derivation of the long-term expected investment rate of return assumption are summarized in the following table:

Asset Class	Long-Term Expected Real Rate of Return
Domestic equity	6.29%
International developed markets equity	6.39%
International emerging markets equity	7.63%
Core fixed income	1.72%
High-yield fixed income	3.43%
Real estate	3.24%
Commodities	3.72%
Hedge fund, GTAA, Risk parity	2.87%
Private equity	9.43%

Nature of Assets: The assets are in an irrevocable OPEB Trust and the majority are invested with Rockland Trust.

Development of blended discount rate

The discount rate used to measure the total OPEB liability was 6.50% as of June 30, 2024 and June 30, 2023. The OPEB plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on OPEB plan investment was applied to all periods of projected benefit payments to determine the total OPEB liability.



Sensitivity

The following presents the NOL of the Barnstable County as well as what the Barnstable County's NOL would be if it were calculated using a discount rate that is 1-percentage-point lower (5.50%) or 1-percentage-point higher (7.50%) than the current rate. Also, shown is the NOL as if it were calculated using healthcare cost trend rates that were 1-percentage-point lower or 1-percentage-point higher than the current healthcare trend rates.

Item	1% Decrease (5.50%)	Current Discount Rate (6.50%)	1% Increase (7.50%)
Net OPEB Liability (Asset)	\$21,177,473	\$18,313,201	\$15,935,617
ltem	1% Decrease in Health Care Cost Trend Rates	Current Health Care Cost Trend Rates	1% Increase in Health Care Cost Trend Rates
Net OPEB Liability (Asset)	\$15,441,407	\$18,313,201	\$21,847,163



Schedule of changes in Net OPEB Liability – Last two fiscal years

Components of the Net OPEB Liability	Current	Prior
Reporting and Measurement Dates		
Reporting Date for Employer under GASB 75	June 30, 2024	June 30, 2023
Measurement Date	June 30, 2024	June 30, 2023
Total OPEB Liability		
Service cost	\$526,119	\$1,095,065
Interest	1,325,119	1,337,058
Change of benefit terms	_	_
Differences between expected and actual experience	_	-5,784,836
Changes of assumptions	1,458,699	-12,388,292
Benefit payments, including refunds of member contributions	-1,117,215	-1,038,583
Net change in Total OPEB Liability	\$2,192,722	-\$16,779,588
Total OPEB Liability – beginning	20,410,135	37,189,723
Total OPEB Liability – ending	\$22,602,857	\$20,410,135
Plan Fiduciary Net Position		
Contributions – employer	\$1,267,215	\$3,541,210
Contributions – employee	_	_
Net investment income	387,368	188,808
Benefit payments, including refunds of member contributions	-1,117,215	-1,038,583
Administrative expense	_	_
Net change in Plan Fiduciary Net Position	\$537,368	\$2,691,435
Plan Fiduciary Net Position – beginning	3,752,288	1,060,853
Plan Fiduciary Net Position – ending	\$4,289,656	\$3,752,288



Components of the Net OPEB Liability	Current	Prior
Net OPEB Liability		
Net OPEB Liability – ending	\$18,313,201	\$16,657,847
Plan Fiduciary Net Position as a percentage of the Total OPEB Liability	18.98%	18.38%
Covered payroll	N/A	N/A
Plan Net OPEB Liability as percentage of covered payroll	N/A	N/A

Note: Please enter covered payroll for missing years

Notes to Schedule:

- Benefit changes:
 - Effective June 30, 2023: None
 - Effective June 30, 2024: None

• Change of Assumptions:

- Effective June 30, 2023:

The discount rate was updated from 3.54% as of June 30, 2022 to 6.50% as of June 30, 2023.

Per capita health care costs, contributions and trends for retirees were updated to reflect current experience and future expectations.

The mortality projection scale assumption was updated to use the most recently released projection scale.

- Effective June 30, 2024:

The Medicare trend assumption was revised to reflect the estimated impact of the Inflation Reduction Act of 2022.



OPEB expense

Components of OPEB expense	Current	Prior
Measurement and Reporting Dates		
Reporting Date for Employer under GASB 75	June 30, 2024	June 30, 2023
Measurement Date	June 30, 2024	June 30, 2023
Components of OPEB Expense		
Service cost	\$526,119	\$1,095,065
Interest on the Total OPEB Liability	1,325,119	1,337,058
Current-period benefit changes	_	_
Expensed portion of current-period difference between expected and actual experience in the Total OPEB Liability	—	-1,156,968
Expensed portion of current-period changes of assumptions	291,739	-2,477,660
Member contributions		
Projected earnings on plan investments	-248,774	-150,291
Expensed portion of current-period differences between actual and projected earnings on OPEB plan investments	-27,718	-7,705
Administrative expense		
Recognition of beginning of year deferred outflows of resources as OPEB expense	1,776,309	2,171,442
Recognition of beginning of year deferred inflows of resources as OPEB expense	-6,192,424	-2,550,096
OPEB Expense	-\$2,549,630	-\$1,739,155



Deferred outflows of resources and deferred inflows of resources

Deferred outflows and inflows	Current	Prior
Reporting and Measurement Dates	-	
Reporting Date for Employer under GASB 75	June 30, 2024	June 30, 2023
Measurement Date	June 30, 2024	June 30, 2023
Deferred Outflows of Resources		
Changes of assumptions	\$1,166,960	\$1,580,254
Net difference between projected and actual earnings on OPEB plan investments	0	36,948
Difference between expected and actual experience in the Total OPEB Liability	151,975	303,950
Total Deferred Outflows of Resources	\$1,318,935	\$1,921,152
Deferred Inflows of Resources		
Changes of assumptions	\$11,675,119	\$16,679,674
Net difference between projected and actual earnings on OPEB plan investments	87,106	0
Difference between expected and actual experience in the Total OPEB Liability	3,470,901	4,627,868
Total Deferred Inflows of Resources	\$15,233,126	\$21,307,542
Deferred outflows of resources and deferred inflows of resources related to OPEB will be recognized as follows:		
Reporting Date for Employer under GASB 75 Year Ended June 30:		
2024	N/A	-\$4,416,115
2025	-\$5,741,389	-6,005,410
2026	-5,058,516	-5,322,537
2027	-3,378,307	-3,642,328
2028	264,021	0
2029	0	0
Thereafter	0	0

Note: Average expected remaining service lives is 5 years.



Schedule of reconciliation of Net OPEB Liability

Item	Current	Prior
Reporting and Measurement Dates		
Reporting Date for Employer under GASB 75	June 30, 2024	June 30, 2023
Measurement Date	June 30, 2024	June 30, 2023
Net OPEB Liability		
Beginning Net OPEB Liability	\$16,657,847	\$36,128,870
OPEB expense	-2,549,630	-1,739,155
Employer contributions	-1,267,215	-3,541,210
New net deferred inflows/outflows	1,056,084	-14,569,312
Recognition of prior deferred inflows/outflows	4,416,115	378,654
Ending Net OPEB Liability	\$18,313,201	\$16,657,847



Schedule of contributions – Last eight fiscal years

Year Ended June 30	Actuarially Determined Contributions	Contributions in Relation to the Actuarially Determined Contributions	Contribution Deficiency / (Excess)	Covered Payroll	Contributions as a Percentage of Covered Payroll
2017	\$967,715	\$967,715	\$0	N/A	N/A
2018	1,011,262	1,011,262	0	N/A	N/A
2019	1,836,278	1,960,329	-124,051	N/A	N/A
2020	1,895,957	1,188,797	707,160	N/A	N/A
2021	1,827,648	1,243,123	584,525	N/A	N/A
2022	1,887,855	1,414,810	473,045	N/A	N/A
2023	1,641,525	3,541,210	-1,899,685	N/A	N/A
2024	1,695,688	1,267,215	428,473	N/A	N/A

Note: Please enter covered payroll for missing years

See accompanying notes to this schedule on next page.



Notes to Schedule:

Methods and assumptions used to establish "actuarially determined contribution" rates:

Method or Assumption	Description
Valuation date	Actuarially determined contribution for fiscal year ending June 30, 2024 was determined with the June 30, 2022 actuarial valuation.
Actuarial cost method	Entry Age Normal - Level Percentage of Payroll
Amortization method	Level percentage of payroll – payments increasing 3.25% per year
Remaining amortization period	23 years from July 1, 2023
Asset valuation method	Market value
Wage inflation	3.25%
Investment rate of return	6.50%
Health care trend rates	CCMHG: Non-Medicare ¹ : 3.86% for 1 year, then 6.75% decreasing by 0.25% each year to an ultimate level of 4.50% per year Medicare: 7.00% decreasing by 0.25% each year to an ultimate level of 4.50% per year Dental ¹ : 0.00% for 1 year, then 3.00% Part B ¹ : 5.15% for 1 year, then 4.50% Contributions: Retiree contributions for medical and prescription drug coverage are expected to increase with medical trend.
Mortality rates	Preretirement mortality rates: Healthy: RP-2014 Blue Collar Employee Mortality Table projected generationally with Scale MP-2021 Postretirement mortality rates: Healthy: RP-2014 Blue Collar Healthy Annuitant Mortality Table projected generationally with Scale MP-2021 Disabled: RP-2014 Blue Collar Healthy Annuitant Mortality Table set forward one year projected generationally with Scale MP-2021

¹ First year trends reflect known increases

