

Boston Retirement System

**Governmental Accounting Standards Board
Statements No. 67 and 68 (GASB 67/68) Accounting
Valuation as of December 31, 2023**



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Segal



116 Huntington Ave., Suite 901
Boston, MA 02116-5749
segalco.com
T 617.424.7300

June 5, 2024

Retirement Board
Boston Retirement System
City Hall, Room 816
Boston, MA 02201

Dear Board Members:

We are pleased to submit this Governmental Accounting Standards Board Statements No. 67 and 68 (GASB 67/68) Accounting Valuation as of December 31, 2023 for the Boston Retirement System. It contains various information that will need to be disclosed in order to comply with GASB 67 and 68. Except as noted otherwise, please refer to the Boston Retirement System Actuarial Valuation and Review as of January 1, 2022, dated August 1, 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 Board, based upon information provided by the staff of the Retirement System and the Retirement System'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 completed 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 the actuarial valuation is complete and accurate. The assumptions used in this actuarial valuation were selected by the Board based upon our analysis and recommendations. In my opinion, the assumptions are reasonable and take into account the experience of the Boston Retirement System and reasonable expectations. In addition, in my 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 Retirement System's legal, tax and other advisors before taking, or refraining from taking, any action.

I look forward to reviewing this report with you and to answering any questions.

Sincerely,

Segal



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

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Section 1: Actuarial Valuation Summary

Purpose and basis

This report has been prepared by Segal to present certain disclosure information required by Governmental Accounting Standards Board Statements No. 67 and 68 (GASB 67/68) as of December 31, 2023. This report is based on financial information as of December 31, 2023 and the Actuarial Valuation and Review as of January 1, 2022, which reflects:

- The benefit provisions of the Massachusetts General Law Chapter 32;
- The characteristics of covered active participants, inactive participants, and retired participants and beneficiaries as of December 31, 2021, provided by the staff of the Retirement System;
- Economic assumptions regarding future salary increases and investment earnings; and
- Other actuarial assumptions, regarding employee terminations, retirement, death, etc.

Highlights of the valuation

1. The Net Pension Liability (NPL) measured as of December 31, 2023 and December 31, 2022 was determined based upon the results of an actuarial valuation as of January 1, 2022.
2. Pursuant to Chapter 269 of the Acts of 2022, the Board approved a one-time increase in the COLA from 3% to 5% effective July 1, 2022. The one-time increase is reflected in this report.
3. The NPL is equal to the difference between the Total Pension Liability (TPL) and the Plan Fiduciary Net Position (FNP). The Plan Fiduciary Net Position is equal to the market value of assets, and, therefore, the NPL measure is very similar to an Unfunded Actuarial Accrued Liability (UAL) on a market value basis. The NPL decreased from \$4,774,589,574 as of December 31, 2022 to \$4,229,712,920 as of December 31, 2023 and the Plan Fiduciary Net Position as a percent of the TPL increased from 64.12% to 69.39%.
4. The discount rate used to measure the TPL and NPL was 6.90% as of December 31, 2023 and December 31, 2022 for the BRS excluding Teachers and 7.00% for the Teachers.

Section 1: Actuarial Valuation Summary

Important information about actuarial valuations

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. 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 Retirement System. 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 Retirement System.
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. This requires actuarial assumptions as to the probability of death, disability, withdrawal, and retirement of participants in each year, as well as forecasts of the plan's benefits for each of those events. In addition, the benefits forecasted for each of those events in each future year reflect actuarial assumptions as to salary increases and cost-of-living adjustments. 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. 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 are selected 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 may use approximations and estimates that will have an immaterial impact on our results. 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.
Actuarial 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 Retirement Board. 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 System will be determined by the actual benefits and expenses paid and the actual investment experience of the System.
- Actuarial results in this report are not rounded, but that does not imply precision.
- If the Retirement Board 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 and is not acting as a fiduciary to the System. 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 Board should look to their other advisors for expertise in these areas.

Section 2: GASB Information

General information about the pension plan

Plan membership. At December 31, 2021, pension plan membership consisted of the following:

Membership	Number
Retired participants or beneficiaries currently receiving benefits	14,819
Inactive participants with a vested right to a deferred or immediate benefit	1,303
Inactive participants entitled to a refund of employee contributions	12,821
Active members	20,884
Total	49,827

Section 2: GASB Information

Exhibit 1 – Net Pension Liability

Components of the Net Pension Liability	Current	Prior
Reporting date for employer under GASB 68	June 30, 2024	June 30, 2023
Measurement date	December 31, 2023	December 31, 2022
Total Pension Liability*	\$13,816,143,577	\$13,307,349,662
Plan Fiduciary Net Position	9,586,430,657	8,532,760,088
Net Pension Liability	4,229,712,920	4,774,589,574
Plan Fiduciary Net Position as a percentage of the Total Pension Liability†	69.39%	64.12%

Actuarial assumptions. The TPL as of December 31, 2023, which was determined based on the results of an actuarial valuation as of January 1, 2022, used the following actuarial assumptions, applied to all periods included in the measurement:

Assumption Type	Assumption
Salary increases	4.00% for Group 1, 4.25% for Group 2 and 4.50% for Group 4, for BRS excluding Teachers; based on years of service, ranging from 7.50% at 0 years of service decreasing to 4.00% after 20 years of service, for Teachers
Wage inflation	3.25%
Net investment return	6.90% for BRS excluding Teachers and 7.00% for Teachers
Cost-of-living adjustment	5% of first \$15,000 for fiscal 2023 and 3% of the first \$15,000 thereafter
Mortality rates	<p>For BRS excluding Teachers:</p> <p>Healthy: Pub-2010 General Employee, Healthy Retiree and Contingent Survivor Amount-Weighted Mortality Tables set forward one year projected generationally using Scale MP-2021 for Groups 1 and 2 and the Pub-2010 Safety Employee, Healthy Retiree and Contingent Survivor Amount-Weighted Mortality Tables projected generationally using Scale MP-2021 for Group 4.</p> <p>Disabled: Pub-2010 General Healthy Retiree Amount-Weighted Mortality Tables set forward one year projected generationally using Scale MP-2021 for Groups 1 and 2 and the Pub-2010 Safety Disabled Retiree Amount-Weighted Mortality Tables projected generationally using Scale MP-2021 for Group 4.</p> <p>For Teachers:</p> <p>Healthy: Pub-2010 Teacher Employee, Healthy Retiree and Contingent Survivor Headcount-Weighted Mortality Tables projected generationally using Scale MP-2021.</p> <p>Disabled: Pub-2010 Teacher Healthy Retiree Headcount-Weighted Mortality Tables projected generationally using Scale MP-2021.</p>

Detailed information regarding all actuarial assumptions can be found in the January 1, 2022 Actuarial Valuation and Review.

* Total pension liability includes liability associated with COLAs granted prior to July 1, 1998 and reimbursed by the Commonwealth.

† These funded percentages are not necessarily appropriate for assessing the sufficiency of Plan assets to cover the estimated cost of settling the System's benefit obligation or the need for or the amount of future contributions.

Section 2: GASB Information

Determination of discount rate and investment rates of return

The long-term expected rate of return on pension 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 adding expected inflation. The target allocation (approved by the Board) and 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	Target Allocation BRS excluding Teachers	Target Allocation Teachers	Long-Term Expected Real Rate of Return
Domestic equity	23.00%	22.00%	6.29%
International developed markets equity	16.00%	9.50%	6.39%
International emerging markets equity	8.00%	4.50%	7.63%
Core fixed income	18.00%	15.00%	1.72%
High-yield fixed income	5.00%	9.00%	3.43%
Emerging market debt	4.00%	0.00%	3.53%
Real estate	10.00%	10.00%	3.24%
Timber	0.00%	4.00%	3.72%
Hedge fund, GTAA, Risk parity	5.00%	10.00%	2.87%
Private equity	11.00%	16.00%	9.43%
Total	100.00%	100.00%	

Note: Some asset classes included in the System's target asset allocation have been combined.

Discount rate. The discount rate used to measure the TPL was 6.90% for the BRS excluding Teachers and 7.00% for the Teachers as of December 31, 2023 and December 31, 2022. The projection of cash flows used to determine the discount rate assumed plan member contributions will be made at the current contribution rate and that employer contributions will be made at rates equal to the actuarially determined contribution rates. Based on those assumptions, the Plan FNP was projected to be available to make all projected future benefit payments for current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the TPL as of both December 31, 2023 and December 31, 2022.

Section 2: GASB Information

Discount rate sensitivity

Sensitivity of the Net Pension Liability to changes in the discount rate. The following presents the Net Pension Liability of the Boston Retirement System as of December 31, 2023 calculated using the discount rate of 6.90% for the BRS excluding Teachers and 7.00% for the Teachers, as well as what the Boston Retirement System's NPL would be if it were calculated using a discount rate that is 1-percentage-point lower (5.90% for the BRS excluding Teachers and 6.00% for the Teachers) or 1-percentage-point higher (7.90% for the BRS excluding Teachers and 8.00% for the Teachers) than the current rate.

Item	1% Decrease	Current Discount Rate	1% Increase
Boston Retirement System's Net Pension Liability as of December 31, 2023	\$5,842,857,339	\$4,229,712,920	\$2,880,795,659

Section 2: GASB Information

Exhibit 2 – Schedule of changes in Net Pension Liability

Components of the Net Pension Liability	Current	Prior
Reporting and Measurement Dates		
Reporting date for employer under GASB 68	June 30, 2024	June 30, 2023
Measurement date	December 31, 2023	December 31, 2022
Total Pension Liability		
Service cost	\$304,906,138	\$293,446,938
Interest	917,819,411	892,855,969
Change of benefit terms	44,522,250	0
Differences between expected and actual experience	0	-94,165,909
Changes of assumptions	0	0
Benefit payments, including refunds of member contributions	-758,453,884	-729,815,852
Net change in Total Pension Liability	\$508,793,915	\$362,321,146
Total Pension Liability — beginning	13,307,349,662	12,945,028,516
Total Pension Liability — ending	\$13,816,143,577	\$13,307,349,662
Plan Fiduciary Net Position		
Contributions — employer	\$706,962,840	\$606,830,845
Contributions — employee	211,745,801	189,615,571
Net investment income	901,145,629	-1,009,240,666
Benefit payments, including refunds of member contributions	-758,453,884	-729,815,852
Administrative expense	-7,729,817	-8,260,133
Net change in Plan Fiduciary Net Position	\$1,053,670,569	-\$950,870,235
Plan Fiduciary Net Position — beginning	8,532,760,088	9,483,630,323
Plan Fiduciary Net Position — ending	\$9,586,430,657	\$8,532,760,088

Section 2: GASB Information

Components of the Net Pension Liability	Current	Prior
Net Pension Liability		
Net Pension Liability – ending	\$4,229,712,920	\$4,774,589,574
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	69.39%	64.12%
Covered payroll	\$1,924,552,582	\$1,863,973,445
Plan Net Pension Liability as percentage of covered payroll	219.78%	256.15%

Notes to Schedule:

- Employer contributions in 2022 include military service contributions.
- Total pension liability and plan fiduciary net position calculations were completed separately for the BRS excluding Teachers and the Teachers.
- Covered payroll for 2022 and 2023 as estimated in the January 1, 2022 valuation.
- **Benefit changes:**
 - Effective December 31, 2022:
None
 - Effective December 31, 2023:
Pursuant to Chapter 269 of the Acts of 2022, the Board approved a one-time increase in the COLA from 3% to 5% effective July 1, 2022.
- **Changes of assumptions:**
 - Effective December 31, 2022:
None
 - Effective December 31, 2023:
None

Section 2: GASB Information

Exhibit 3 – Schedule of employer contributions

Year Ended December 31	Actuarially Determined Contributions	Contributions in Relation to the Actuarially Determined Contributions	Contribution Deficiency / (Excess)	Covered Payroll	Contributions as a Percentage of Covered Payroll
2014	\$312,559,621	\$312,559,621	\$0	\$1,444,652,177	21.64%
2015	339,246,904	339,246,904	0	1,493,958,273	22.71%
2016	368,247,904	380,247,904	-12,000,000	1,498,768,546	25.37%
2017	391,462,547	391,462,547	0	1,547,478,524	25.30%
2018	426,334,770	438,334,770	-12,000,000	1,608,544,227	27.25%
2019	465,292,048	486,292,048	-21,000,000	1,660,821,914	29.28%
2020	498,508,120	513,508,120	-15,000,000	1,719,830,947	29.86%
2021	550,225,930	550,225,930	0	1,775,725,453	30.99%
2022	606,830,845	606,830,845	0	1,863,973,445	32.56%
2023	683,462,840	706,962,840	-23,500,000	1,924,552,582	36.73%

See accompanying notes to this schedule on next page.

Section 2: GASB Information

Methods and assumptions used to determine contribution rates for the year ended December 31, 2023:

Valuation date

Actuarial determined contribution for year ended December 31, 2023 is determined with the January 1, 2022 actuarial valuation, updated to reflect the increase in July 1, 2022 COLA.

Actuarial cost method

Entry Age Normal Cost Method.

Amortization method

Prior year's contribution increased by 8.85% for BRS excluding Teachers; contribution as reported by the State Actuary for Teachers.

Remaining amortization period

5 years remaining as of July 1, 2022 for BRS excluding Teachers; 14 years remaining as of January 1, 2022 for Teachers.

Asset valuation method

Sum of actuarial value at beginning of the year, contributions and investment earnings based on the actuarial interest assumption less benefit payments and operating expenses plus 20% of market value at end of year in excess of that sum, plus additional adjustment toward market value as necessary so that final actuarial value is within 20% of market value.

Similar formula used for negative adjustment toward market value if actuarial value exceeds market value.

Investment rate of return

6.90% for BRS excluding Teachers; 7.00% for Teachers.

Wage inflation rate

3.25%.

Section 2: GASB Information

Projected salary increases

4.00% for Group 1, 4.25% for Group 2 and 4.50% for Group 4, for BRS excluding Teachers; based on years of service, ranging from 7.50% at 0 years of service decreasing to 4.00% after 20 years of service, for Teachers.

Cost of living adjustments

5% of first \$15,000 for fiscal 2023 and 3% of the first \$15,000 thereafter.

Mortality:

Groups 1 and 2:

Healthy: Pub-2010 General Employee, Healthy Retiree and Contingent Survivor Amount-Weighted Mortality Tables set forward one year projected generationally using Scale MP-2021.

Disabled: Pub-2010 General Healthy Retiree Amount-Weighted Mortality Tables set forward one year projected generationally using Scale MP-2021.

Group 4:

Healthy: Pub-2010 Safety Employee, Healthy Retiree and Contingent Survivor Amount-Weighted Mortality Tables projected generationally using Scale MP-2021.

Disabled: Pub-2010 Disabled Retiree Amount-Weighted Mortality Tables projected generationally using Scale MP-2021.

Teachers:

Healthy: Pub-2010 Teacher Employee, Healthy Retiree and contingent Survivor Headcount-Weighted Mortality Tables projected generationally using Scale MP-2021.

Disabled: Pub-2010 Teacher Healthy Retiree Headcount-Weighted Mortality Tables projected generationally using Scale MP-2021.

Other information

Same as those used in the January 1, 2022 funding actuarial valuation.

Section 2: GASB Information

Exhibit 4 – Pension expense

Components of pension expense	Current	Prior
Reporting date for employer under GASB 68	June 30, 2024	June 30, 2023
Measurement date	December 31, 2023	December 31, 2022
Service cost	\$304,906,138	\$293,446,938
Interest	917,819,411	892,855,969
Current-period benefit changes	44,522,250	0
Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	0	-15,694,319
Expensed portion of current-period changes of assumptions	0	0
Member contributions	-211,745,801	-189,615,571
Projected earnings on pension plan investments	-596,209,580	-658,815,825
Expensed portion of current-period differences between actual and projected earnings on pension plan investments	-60,987,210	333,611,298
Administrative expense	7,729,817	8,260,133
Recognition of beginning of year deferred outflows of resources as pension expense	462,632,173	356,492,950
Recognition of beginning of year deferred inflows of resources as pension expense	-357,606,670	-340,565,891
Pension expense	\$511,060,528	\$679,975,682

Section 2: GASB Information

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 68	June 30, 2024	June 30, 2023
Measurement date	December 31, 2023	December 31, 2022
Deferred outflows of resources		
Changes in proportion and differences between employer's contributions and proportionate share of contributions*	\$21,075,397	\$25,223,901
Changes of assumptions	184,183,312	311,121,274
Net difference between projected and actual earnings on pension plan investments	463,130,505	753,666,786
Difference between expected and actual experience in the Total Pension Liability	6,560,090	8,200,112
Total deferred outflows of resources	\$674,949,304	\$1,098,212,073
Deferred inflows of resources		
Changes in proportion and differences between employer's contributions and proportionate share of contributions†	\$21,075,397	\$25,223,901
Changes of assumptions	0	0
Net difference between projected and actual earnings on pension plan investments	0	0
Difference between expected and actual experience in the Total Pension Liability	114,105,323	184,245,246
Total deferred inflows of resources	\$135,180,720	\$209,469,147
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:		
Reporting date for employer under GASB 68 year ended June 30:		
2024	N/A	\$105,025,503
2025	\$180,428,528	241,415,738
2026	150,469,133	211,456,343
2027	285,552,446	346,539,656
2028	-76,681,523	-15,694,314
2029	0	0
Thereafter	0	0

Note: Average expected remaining service is 6.00 years as of December 31, 2023 and December 31, 2022.

*Calculated in accordance with Paragraphs 54 and 55 of GASB 68

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Section 2: GASB Information

Exhibit 5 – Determination of proportionate share

Employer Name	FY 2023 Total Appropriation	Percent of FY 2023 Total Appropriation	Share of NPL as of December 31, 2022	FY 2024 Total Appropriation	Percent of FY 2024 Total Appropriation	Share of NPL as of December 31, 2023
City of Boston	\$345,013,616	84.749179%	\$1,755,817,614	\$375,184,169	84.863752%	\$1,379,913,532
Boston Housing Authority	16,863,923	4.142456%	85,822,627	18,404,897	4.163045%	67,692,531
Boston Planning & Development Agency	3,287,221	0.807473%	16,729,074	3,152,894	0.713160%	11,596,225
Boston Water and Sewer Commission	14,717,619	3.615238%	74,899,824	15,542,863	3.515675%	57,166,074
Public Health Commission	27,217,274	6.685654%	138,512,127	29,816,970	6.744368%	109,665,724
Subtotal Participating Employers, excluding Sheriffs	\$407,099,653	100.000000%	\$2,071,781,266	\$442,101,793	100.000000%	\$1,626,034,086
Sheriff of Suffolk County	2,898,233	N/A	8,751,556	2,888,636	N/A	6,367,119
Subtotal Participating Employers, including Sheriffs	\$409,997,886	N/A	\$2,080,532,822	\$444,990,429	N/A	\$1,632,401,205
Commonwealth of Massachusetts (Other contributing entity - City of Boston Teachers)	\$196,832,959	N/A	\$2,682,385,777	\$238,472,411	N/A	2,586,900,889
Commonwealth of Massachusetts (state reimbursed COLA)	N/A	N/A	11,670,975	N/A	N/A	10,410,826
Subtotal Commonwealth of Massachusetts	\$196,832,959	N/A	\$2,694,056,752	\$238,472,411	N/A	\$2,597,311,715
Total for All Entities:	\$606,830,845	N/A	\$4,774,589,574	\$683,462,840	N/A	\$4,229,712,920

Section 2: GASB Information

Exhibit 6 – Determination of proportionate share amounts by employer

Net Pension Liability by Employer With Discount Rate Sensitivity

Employer Name	2024 Share of Cost Allocation	Net Pension Liability	Covered Employee Payroll	1% Decrease in Discount Rate (5.90%)	Current Discount Rate (6.90%)	1% Increase in Discount Rate (7.90%)
City of Boston	84.863752%	\$1,379,913,532	\$1,029,485,046	\$2,246,800,105	\$1,379,913,532	\$649,335,666
Boston Housing Authority	4.163045%	67,692,531	50,502,040	110,218,199	67,692,531	31,853,572
Boston Planning & Development Agency	0.713160%	11,596,225	8,651,368	18,881,182	11,596,225	5,456,749
Boston Water and Sewer Commission	3.515675%	57,166,074	42,648,772	93,078,833	57,166,074	26,900,215
Public Health Commission	6.744368%	109,665,724	81,816,156	178,559,707	109,665,724	51,604,585
Subtotal Participating Employers, excluding Sheriffs	100%	\$1,626,034,086	\$1,213,103,382	\$2,647,538,026	\$1,626,034,086	\$765,150,787
Sheriff of Suffolk County	N/A	6,367,119	0	7,102,133	6,367,119	5,747,678
Subtotal Participating Employers, including Sheriffs	N/A	\$1,632,401,205	\$1,213,103,382	\$2,654,640,159	\$1,632,401,205	\$770,898,465
Commonwealth of Massachusetts (Other contributing entity - City of Boston Teachers)	N/A	\$2,586,900,889	\$711,449,200	\$3,177,292,657	\$2,586,900,889	\$2,099,951,228
Commonwealth of Massachusetts (state reimbursed COLA)	N/A	10,410,826	0	10,924,523	10,410,826	9,945,966
Subtotal Commonwealth of Massachusetts	N/A	\$2,597,311,715	\$711,449,200	\$3,188,217,180	\$2,597,311,715	\$2,109,897,194
Total for All Entities:	N/A	\$4,229,712,920	\$1,924,552,582	\$5,842,857,339	\$4,229,712,920	\$2,880,795,659

Section 2: GASB Information

Exhibit 6 – Determination of proportionate share by employer

Schedule of Contributions and Pension Expense by Employer

Employer Name	Statutory Required Contribution	Contributions in Relation to the Statutory Required Contribution	Contribution Deficiency / (Excess)	Contributions as a Percentage of Covered Employee Payroll	Proportionate Share of Plan Pension Expense	Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Employer Pension Expense
City of Boston	\$375,184,169	-\$398,684,169	-\$23,500,000	38.73%	\$270,353,658	\$9,197,319	\$279,550,977
Boston Housing Authority	18,404,897	-18,404,897	0	36.44%	13,262,370	-3,023,428	10,238,942
Boston Planning & Development Agency	3,152,894	-3,152,894	0	36.44%	2,271,941	-742,295	1,529,646
Boston Water and Sewer Commission	15,542,863	-15,542,863	0	36.44%	11,200,019	-2,517,597	8,682,422
Public Health Commission	29,816,970	-29,816,970	0	36.44%	21,485,788	-2,913,999	18,571,789
Subtotal Participating Employers, excluding Sheriffs	\$442,101,793	-\$465,601,793	-\$23,500,000	N/A	\$318,573,776	\$0	\$318,573,776
Sheriff of Suffolk County	2,888,636	-2,888,636	0	N/A	504,199	0	504,199
Subtotal Participating Employers, including Sheriffs	\$444,990,429	-\$468,490,429	-\$23,500,000	38.62%	\$319,077,975	\$0	\$319,077,975
Commonwealth of Massachusetts (Other contributing entity - City of Boston Teachers)	\$238,472,411	-\$238,472,411	0	33.52%	\$194,109,935	\$0	\$194,109,935
Commonwealth of Massachusetts (state reimbursed COLA)	0	0	0	N/A	-2,127,382	0	-2,127,382
Subtotal Commonwealth of Massachusetts	\$238,472,411	-\$238,472,411	0	33.52%	\$191,982,553	\$0	\$191,982,553
Total for All Entities:	\$683,462,840	-\$706,962,840	-\$23,500,000	36.73%	\$511,060,528	\$0	\$511,060,528

Section 2: GASB Information

Exhibit 6 – Determination of proportionate share by employer

Deferred Outflows and Inflows of Resources

Employer Name	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Changes of Assumptions	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Deferred Inflows of Resources
City of Boston	\$0	\$321,177,664	\$115,164,470	\$18,502,806	\$454,844,940	\$59,489,571	\$0	\$891,776	\$60,381,347
Boston Housing Authority	0	15,755,573	5,649,466	976,767	22,381,806	2,918,299	0	6,574,088	9,492,387
Boston Planning & Development Agency	0	2,699,045	967,795	282,749	3,949,589	499,926	0	2,557,492	3,057,418
Boston Water and Sewer Commission	0	13,305,519	4,770,952	80,252	18,156,723	2,464,492	0	5,905,067	8,369,559
Public Health Commission	0	25,524,919	9,152,454	1,232,823	35,910,196	4,727,809	0	5,146,974	9,874,783
Subtotal Participating Employers, excluding Sheriffs	\$0	\$378,462,720	\$135,705,137	\$21,075,397	\$535,243,254	\$70,100,097	\$0	\$21,075,397	\$91,175,494
Sheriff of Suffolk County	0	0	0	0	0	0	0	0	0
Subtotal Participating Employers, including Sheriffs	\$0	\$378,462,720	\$135,705,137	\$21,075,397	\$535,243,254	\$70,100,097	\$0	\$21,075,397	\$91,175,494
Commonwealth of Massachusetts (Other contributing entity - City of Boston Teachers)	\$6,560,090	\$89,157,672	\$48,371,536	N/A	\$144,089,298	\$43,552,839	\$0	N/A	43,552,839
Commonwealth of Massachusetts (state reimbursed COLA)	0	-4,489,887	106,639	N/A	-4,383,248	452,387	0	N/A	452,387
Subtotal Commonwealth of Massachusetts	\$6,560,090	\$84,667,785	\$48,478,175	N/A	\$139,706,050	\$44,005,226	\$0	N/A	\$44,005,226
Total for All Entities:	\$6,560,090	\$463,130,505	\$184,183,312	\$21,075,397	\$674,949,304	\$114,105,323	\$0	\$21,075,397	\$135,180,720

Section 2: GASB Information

Exhibit 6 – Determination of proportionate share by employer

Deferred Inflows/(Outflows) Recognized In Future Pension Expense (Year Ended June 30)

Employer Name	2025	2026	2027	2028	2029	Thereafter
City of Boston	\$147,247,572	\$122,978,093	\$174,939,348	-\$51,548,032	\$846,612	\$0
Boston Housing Authority	4,157,098	3,656,695	8,283,857	-3,090,787	-117,444	0
Boston Planning & Development Agency	535,235	542,502	891,906	-840,636	-236,836	0
Boston Water and Sewer Commission	3,446,677	3,096,706	6,511,917	-2,909,906	-358,230	0
Public Health Commission	8,856,677	8,420,717	13,554,769	-4,662,648	-134,102	0
Subtotal Participating Employers, excluding Sheriffs	\$164,243,259	\$138,694,713	\$204,181,797	-\$63,052,009	\$0	\$0
Sheriff of Suffolk County	0	0	0	0	0	0
Subtotal Participating Employers, including Sheriffs	\$164,243,259	\$138,694,713	\$204,181,797	-\$63,052,009	\$0	\$0
Commonwealth of Massachusetts (Other contributing entity - City of Boston Teachers)	\$18,193,169	\$13,323,440	\$82,229,964	-\$13,210,114	\$0	\$0
Commonwealth of Massachusetts (state reimbursed COLA)	-2,007,900	-1,549,020	-859,315	-419,400	0	0
Subtotal Commonwealth of Massachusetts	\$16,185,269	\$11,774,420	\$81,370,649	-\$13,629,514	\$0	\$0
Total for All Entities:	\$180,428,528	\$150,469,133	\$285,552,446	-\$76,681,523	\$0	\$0

Appendix: Definition of terms

Definitions of certain terms as they are used in Statement No. 68. The terms may have different meanings in other contexts.

Term	Definition
Active employees	Individuals employed at the end of the reporting or measurement period, as applicable.
Actual contributions	Cash contributions recognized as additions to a pension Plan Fiduciary Net Position.
Actuarial present value of projected benefit payments	Projected benefit payments discounted to reflect the expected effects of the time value (present value) of money and the probabilities of payment.
Actuarial valuation	The determination, as of a point in time (the actuarial valuation date), of the service cost, Total Pension Liability, and related actuarial present value of projected benefit payments for pensions performed in conformity with Actuarial Standards of Practice unless otherwise specified by the GASB.
Actuarial valuation date	The date as of which an actuarial valuation is performed.
Actuarially determined contribution	A target or recommended contribution to a defined benefit pension plan for the reporting period, determined in conformity with Actuarial Standards of Practice based on the most recent measurement available when the contribution for the reporting period was adopted.
Ad hoc cost-of-living adjustments (Ad Hoc COLAs)	Cost-of-living adjustments that require a decision to grant by the authority responsible for making such decisions.
Ad hoc postemployment benefit changes	Postemployment benefit changes that require a decision to grant by the authority responsible for making such decisions.
Agent employer	An employer whose employees are provided with pensions through an agent multiple-employer defined benefit pension plan.
Agent multiple-employer defined benefit pension plan (agent pension plan)	A multiple-employer defined benefit pension plan in which pension plan assets are pooled for investment purposes but separate accounts are maintained for each individual employer so that each employer's share of the pooled assets is legally available to pay the benefits of only its employees.
Allocated insurance contract	A contract with an insurance company under which related payments to the insurance company are currently used to purchase immediate or deferred annuities for individual employees. Also may be referred to as an annuity contract.
Automatic cost-of-living adjustments (Automatic COLAs)	Cost-of-living adjustments that occur without a requirement for a decision to grant by a responsible authority, including those for which the amounts are determined by reference to a specified experience factor (such as the earnings experience of the pension plan) or to another variable (such as an increase in the consumer price index).

Appendix: Definition of terms

Term	Definition
Automatic postemployment benefit changes	Postemployment benefit changes that occur without a requirement for a decision to grant by a responsible authority, including those for which the amounts are determined by reference to a specified experience factor (such as the earnings experience of the pension plan) or to another variable (such as an increase in the consumer price index).
Closed period	A specific number of years that is counted from one date and declines to zero with the passage of time. For example, if the recognition period initially is five years on a closed basis, four years remain after the first year, three years after the second year, and so forth.
Collective deferred outflows of resources and deferred inflows of resources related to pensions	Deferred outflows of resources and deferred inflows of resources related to pensions arising from certain changes in the collective Net Pension Liability.
Collective Net Pension Liability	The Net Pension Liability for benefits provided through (1) a cost-sharing pension plan or (2) a single-employer or agent pension plan in circumstances in which there is a special funding situation.
Collective pension expense	Pension expense arising from certain changes in the collective Net Pension Liability.
Contributions	Additions to a pension Plan Fiduciary Net Position for amounts from employers, non-employer contributing entities (for example, state government contributions to a local government pension plan), or employees. Contributions can result from cash receipts by the pension plan or from recognition by the pension plan of a receivable from one of these sources.
Cost-of-living adjustments	Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.
Cost-sharing employer	An employer whose employees are provided with pensions through a cost-sharing multiple-employer defined benefit pension plan.
Cost-sharing multiple employer defined benefit pension plan (Cost-sharing pension plan)	A multiple-employer defined benefit pension plan in which the pension obligations to the employees of more than one employer are pooled and pension plan assets can be used to pay the benefits of the employees of any employer that provides pensions through the pension plan.
Covered payroll	The payroll of employees that are provided with pensions through the pension plan.
Deferred retirement option program (DROP)	A program that permits an employee to elect a calculation of benefit payments based on service credits and salary, as applicable, as of the DROP entry date. The employee continues to provide service to the employer and is paid for that service by the employer after the DROP entry date; however, the pensions that would have been paid to the employee (if the employee had retired and not entered the DROP) are credited to an individual employee account within the defined benefit pension plan until the end of the DROP period.

Appendix: Definition of terms

Term	Definition
Defined benefit pension plans	Pension plans that are used to provide defined benefit pensions.
Defined benefit pensions	Pensions for which the income or other benefits that the employee will receive at or after separation from employment are defined by the benefit terms. The pensions may be stated as a specified dollar amount or as an amount that is calculated based on one or more factors such as age, years of service, and compensation. (A pension that does not meet the criteria of a defined contribution pension is classified as a defined benefit pension for purposes of Statement No. 68.)
Defined contribution pension plans	Pension plans that are used to provide defined contribution pensions.
Defined contribution pensions	Pensions having terms that (1) provide an individual account for each employee; (2) define the contributions that an employer is required to make (or the credits that it is required to provide) to an active employee's account for periods in which that employee renders service; and (3) provide that the pensions an employee will receive will depend only on the contributions (or credits) to the employee's account, actual earnings on investments of those contributions (or credits), and the effects of forfeitures of contributions (or credits) made for other employees, as well as pension plan administrative costs, that are allocated to the employee's account.
Discount rate	<p>The single rate of return that, when applied to all projected benefit payments, results in an actuarial present value of projected benefit payments equal to the total of the following:</p> <ol style="list-style-type: none"> 1. The actuarial present value of benefit payments projected to be made in future periods in which (a) the amount of the pension Plan Fiduciary Net Position is projected (under the requirements of Statement No. 68) to be greater than the benefit payments that are projected to be made in that period and (b) pension plan assets up to that point are expected to be invested using a strategy to achieve the long-term expected rate of return, calculated using the long-term expected rate of return on pension plan investments. 2. The actuarial present value of projected benefit payments not included in (1), calculated using the municipal bond rate.
Entry age actuarial cost method	A method under which the actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis over the earnings or service of the individual between entry age and assumed exit age(s). The portion of this actuarial present value allocated to a valuation year is called the normal cost. The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future normal costs is called the actuarial accrued liability.
Inactive employees	Terminated individuals that have accumulated benefits but are not yet receiving them, and retirees or their beneficiaries currently receiving benefits.
Measurement period	The period between the prior and the current measurement dates.

Appendix: Definition of terms

Term	Definition
Multiple-employer defined benefit pension plan	A defined benefit pension plan that is used to provide pensions to the employees of more than one employer.
Net Pension Liability (NPL)	The liability of employers and non-employer contributing entities to employees for benefits provided through a defined benefit pension plan.
Non-employer contributing entities	Entities that make contributions to a pension plan that is used to provide pensions to the employees of other entities. For purposes of Statement No. 68, employees are not considered non-employer contributing entities.
Other postemployment benefits	All postemployment benefits other than retirement income (such as death benefits, life insurance, disability, and long-term care) that are provided separately from a pension plan, as well as postemployment healthcare benefits, regardless of the manner in which they are provided. Other postemployment benefits do not include termination benefits.
Pension plans	Arrangements through which pensions are determined, assets dedicated for pensions are accumulated and managed and benefits are paid as they come due.
Pensions	Retirement income and, if provided through a pension plan, postemployment benefits other than retirement income (such as death benefits, life insurance, and disability benefits). Pensions do not include postemployment healthcare benefits and termination benefits.
Plan members	Individuals that are covered under the terms of a pension plan. Plan members generally include (1) employees in active service (active plan members) and (2) terminated employees who have accumulated benefits but are not yet receiving them and retirees or their beneficiaries currently receiving benefits (inactive plan members).
Postemployment	The period after employment.
Postemployment benefit changes	Adjustments to the pension of an inactive employee.
Postemployment healthcare benefits	Medical, dental, vision, and other health-related benefits paid subsequent to the termination of employment.
Projected benefit payments	All benefits estimated to be payable through the pension plan to current active and inactive employees as a result of their past service and their expected future service.
Public employee retirement system	A special-purpose government that administers one or more pension plans; also may administer other types of employee benefit plans, including postemployment healthcare plans and deferred compensation plans.
Real rate of return	The rate of return on an investment after adjustment to eliminate inflation.
Service costs	The portions of the actuarial present value of projected benefit payments that are attributed to valuation years.

Appendix: Definition of terms

Term	Definition
Single employer	An employer whose employees are provided with pensions through a single-employer defined benefit pension plan.
Single-employer defined benefit pension plan (Single-employer pension plan)	A defined benefit pension plan that is used to provide pensions to employees of only one employer.
Special funding situations	<p>Circumstances in which a non-employer entity is legally responsible for making contributions directly to a pension plan that is used to provide pensions to the employees of another entity or entities and either of the following conditions exists:</p> <ol style="list-style-type: none"> 1. The amount of contributions for which the non-employer entity legally is responsible is not dependent upon one or more events or circumstances unrelated to the pensions. 2. The non-employer entity is the only entity with a legal obligation to make contributions directly to a pension plan.
Termination benefits	Inducements offered by employers to active employees to hasten the termination of services, or payments made in consequence of the early termination of services. Termination benefits include early-retirement incentives, severance benefits, and other termination-related benefits.
Total Pension Liability (TPL)	The portion of the actuarial present value of projected benefit payments that is attributed to past periods of employee service in conformity with the requirements of Statement No. 68.