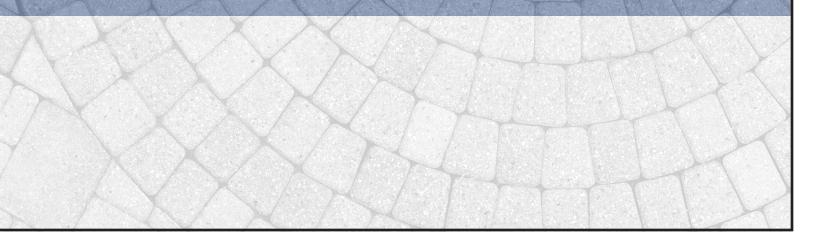
2022 PERAC INVESTMENT REPORT AUGUST 2023



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### John W. Parsons, Esq. Executive Director

## Public Employee Retirement Administration Commission

Five Middlesex Avenue Suite 304 Somerville, MA 02145

 Phone
 617 666 4446

 Fax
 617 628 4002

 TTY
 617 591 8917

 Web
 www.mass.gov/perac



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## Letter from Executive Director

# John W. Parsons

<sup>66</sup>PERAC has determined that no retirement board will be ordered to transfer its assets to the Pension Reserves Investment Trust Fund (PRIT) based on 2022 results.<sup>99</sup>

**TAT**e are pleased to release this Investment Report for 2022. Each year, PERAC publishes the returns and annualized past returns of each Massachusetts public retirement system, in addition to their funded ratio. This summary report allows readers to review the current and long-term performance of our systems and the steady, positive progress being made towards full funding. Our Annual Report will provide a more comprehensive view of our systems, both individually and collectively.

Following the adoption of Chapter 68 of the Acts of 2007, the Public Employee Retirement Administration Commission (PERAC) began issuing an Investment Report containing investment and funding results prior to the issuance of our Annual Report. Chapter 68 of the Acts of 2007 mandates that systems must meet certain investment and funding standards or they shall transfer their assets to the Pension Reserves Investment Management Board (PRIM) to invest in the Pension Reserves Investment Trust Fund (PRIT). The two Chapter 68 standards are a funded ratio of 65% and investment returns within 200 basis points (2%) of PRIM's 10-year investment performance. Based on investment performance results for 2022, the investment standard is 6.35% (PRIM 10-year return of 8.35% minus 2.00%).

This report delineates investment returns for several periods: 2022, 2018-2022 inclusive, 2013-2022 inclusive, and since inception through 2022. The funded ratios are as of the date of the most recent valuation available to PERAC. Ratios based on actuarial valuations received after April 1, 2023, have not been included in this report. However, such valuations have been used to conduct the Chapter 68 analysis.

PERAC has completed its analysis of system funded status and investment performance in accordance with Chapter 68 of the Acts of 2007. Applying the tests set forth in that statute and PERAC Memo #35 of 2007, PERAC has determined that no retirement board will be ordered to transfer its assets to the Pension Reserves Investment Trust Fund (PRIT) based on 2022 results.

This report is the result of the efforts of PERAC's Investment, Compliance, Audit, and Communications Units. On behalf of the Commission, I would like to thank Senior Investment Analyst Sarita Yee for her efforts in preparing this report. Lastly, we express our appreciation to the administrative staff at our retirement boards for their efforts in providing the detailed data that allows us to issue this report accurately.

I hope you find the report informative and helpful as you assess the state of our retirement systems.

Sincerely,

John W. Parsons, Esq. Executive Director

## 2022 RETURNS & ANNUALIZED PAST RETURNS (%) | FUNDED RATIOS

|                     | Return  | 5-Year | 10-Year | 38-Year |
|---------------------|---------|--------|---------|---------|
|                     | (2022)  | Return | Return  | Return  |
| ADAMS               | -10.81% | 5.42%  | 6.13%   | 7.55%   |
| AMESBURY            | -10.59% | 6.65%  | 8.24%   | 8.00%   |
| ANDOVER             | -8.37%  | 7.07%  | 8.51%   | 8.36%   |
| ARLINGTON           | -10.82% | 6.52%  | 8.01%   | 8.26%   |
| ATTLEBORO           | -14.42% | 6.63%  | 8.24%   | 8.72%   |
| BARNSTABLE COUNTY   | -10.86% | 6.86%  | 8.40%   | 7.60%   |
| BELMONT             | -8.32%  | 6.37%  | 7.95%   | 9.07%   |
| BERKSHIRE COUNTY    | -10.92% | 6.61%  | 8.23%   | 8.84%   |
| BEVERLY             | -10.91% | 6.72%  | 8.34%   | 8.49%   |
| BLUE HILLS REGIONAL | -10.85% | 6.56%  | 8.20%   | 8.55%   |
| BOSTON (CITY)       | -10.55% | 4.71%  | 6.71%   | 8.47%   |
| BOSTON (TEACHERS)   | -10.70% | 6.60%  | 8.21%   | N/A     |
| BRAINTREE           | -10.62% | 5.97%  | 7.25%   | 8.41%   |
| BRISTOL COUNTY      | -9.46%  | 6.36%  | 7.88%   | 8.66%   |
| BROCKTON            | -6.33%  | 6.04%  | 7.13%   | 8.46%   |
| BROOKLINE           | -9.75%  | 7.33%  | 8.01%   | 8.58%   |
| CAMBRIDGE           | -9.99%  | 6.08%  | 8.22%   | 9.00%   |
| CHELSEA             | -11.01% | 6.67%  | 8.30%   | 7.97%   |
| CHICOPEE            | -10.04% | 5.69%  | 7.88%   | 8.43%   |
| CLINTON             | -10.44% | 7.01%  | 8.46%   | 7.81%   |
| CONCORD             | -11.27% | 5.31%  | 7.53%   | 8.30%   |
| DANVERS             | -15.68% | 4.22%  | 6.69%   | 7.68%   |
| DEDHAM              | -10.91% | 6.75%  | 8.38%   | 9.29%   |
| DUKES COUNTY        | -13.86% | 7.00%  | 9.02%   | 7.91%   |
| EASTHAMPTON         | -10.97% | 6.71%  | 8.31%   | 8.23%   |
| ESSEX REGIONAL      | -10.80% | 6.60%  | 8.34%   | 8.62%   |
| EVERETT             | -10.82% | 6.77%  | 8.40%   | 8.40%   |
| FAIRHAVEN           | -10.87% | 6.72%  | 8.30%   | 9.10%   |
| FALL RIVER          | -10.82% | 6.54%  | 8.11%   | 8.28%   |
| FALMOUTH            | -8.49%  | 5.89%  | 8.09%   | 8.73%   |
| FITCHBURG           | -11.12% | 6.62%  | 8.15%   | 7.68%   |
| FRAMINGHAM          | -10.65% | 6.63%  | 8.26%   | 9.07%   |
| FRANKLIN REGIONAL   | -12.16% | 6.36%  | 8.45%   | 8.28%   |
| GARDNER             | -11.04% | 6.62%  | 8.27%   | 9.17%   |
| GLOUCESTER          | -10.78% | 6.76%  | 8.34%   | 8.74%   |
| GREATER LAWRENCE    | -17.25% | 7.36%  | 8.99%   | 7.78%   |

|        | Date of<br>Most |
|--------|-----------------|
| Funded | Recent          |
| Ratio  | Valuation       |
| 70.6%  | 1/1/22          |
| 60.9%  | 1/1/22          |
| 46.9%  | 1/1/21          |
| 63.0%  | 1/1/22          |
| 69.3%  | 1/1/22          |
| 65.8%  | 1/1/22          |
| 70.4%  | 1/1/22          |
| 87.4%  | 1/1/21          |
| 71.4%  | 1/1/22          |
| 85.3%  | 1/1/22          |
| 82.4%  | 1/1/22          |
| 47.1%  | 1/1/22          |
| 71.9%  | 1/1/22          |
| 66.1%  | 1/1/22          |
| 94.5%  | 1/1/22          |
| 68.8%  | 1/1/22          |
| 90.6%  | 1/1/22          |
| 77.7%  | 1/1/21          |
| 85.7%  | 1/1/21          |
| 74.2%  | 1/1/21          |
| 93.4%  | 1/1/22          |
| 64.1%  | 1/1/22          |
| 90.0%  | 1/1/22          |
| 85.3%  | 1/1/22          |
| 88.5%  | 1/1/22          |
| 60.3%  | 1/1/22          |
| 76.1%  | 1/1/22          |
| 83.7%  | 1/1/22          |
| 44.5%  | 1/1/21          |
| 71.3%  | 1/1/22          |
| 55.3%  | 1/1/22          |
| 80.9%  | 1/1/22          |
| 78.3%  | 1/1/22          |
| 73.5%  | 1/1/22          |
| 56.3%  | 1/1/22          |
| 97.0%  | 1/1/21          |
|        |                 |

## 2022 RETURNS & ANNUALIZED PAST RETURNS (%) | FUNDED RATIOS

|  | Return  | 5-Year | 10-Year | 38-Year |
|--|---------|--------|---------|---------|
|  | (2022)  | Return | Return  | Return  |
| GREENFIELD                               | -10.95% | 6.79%  | 8.39%   | 8.44%   |
| HAMPDEN COUNTY REGIONAL                  | -10.94% | 6.47%  | 8.11%   | 8.47%   |
| HAMPSHIRE COUNTY                         | -10.39% | 6.46%  | 7.44%   | 8.18%   |
| HAVERHILL                                | -9.75%  | 7.47%  | 8.49%   | 9.71%   |
| HINGHAM                                  | -10.94% | 6.71%  | 7.85%   | 8.93%   |
| HOLYOKE                                  | -6.92%  | 7.64%  | 9.37%   | 9.32%   |
| HULL                                     | -10.70% | 6.74%  | 8.33%   | 7.94%   |
| LAWRENCE                                 | -11.02% | 6.66%  | 8.26%   | 7.82%   |
| LEOMINSTER                               | -10.85% | 6.22%  | 8.74%   | 8.48%   |
| LEXINGTON                                | -14.47% | 4.94%  | 7.16%   | 8.42%   |
| LOWELL                                   | -10.80% | 6.50%  | 8.06%   | 8.87%   |
| LYNN                                     | -10.04% | 6.69%  | 8.32%   | 8.01%   |
| MALDEN                                   | -16.68% | 4.79%  | 6.98%   | 9.02%   |
| MARBLEHEAD                               | -10.98% | 6.67%  | 8.30%   | 9.03%   |
| MARLBOROUGH                              | -12.42% | 5.31%  | 6.73%   | 8.04%   |
| MASS. HOUSING FINANCE AGENCY (MHFA)      | -8.46%  | 7.06%  | 7.30%   | 7.52%   |
| MASSPORT                                 | -13.96% | 5.91%  | 7.57%   | 8.72%   |
| MASS. TEACHERS' RETIREMENT SYSTEM (MTRS) | -10.98% | 6.74%  | 8.36%   | 9.24%   |
| MASS. WATER RESOURCES AUTHORITY (MWRA)   | -11.64% | 5.35%  | 6.97%   | 7.87%*  |
| MAYNARD                                  | -12.16% | 5.30%  | 7.98%   | 7.77%   |
| MEDFORD                                  | -10.45% | 5.90%  | 6.62%   | 8.45%   |
| MELROSE                                  | -10.53% | 6.37%  | 7.88%   | 8.25%   |
| METHUEN                                  | -10.81% | 6.75%  | 8.58%   | 8.02%   |
| MIDDLESEX COUNTY                         | -11.11% | 6.50%  | 7.95%   | 8.28%   |
| MILFORD                                  | -10.68% | 6.63%  | 8.23%   | 8.17%   |
| MILTON                                   | -10.97% | 6.68%  | 8.29%   | 9.15%   |
| MINUTEMAN REGIONAL                       | -10.84% | 6.56%  | 8.07%   | 9.19%   |
| MONTAGUE                                 | -10.97% | 6.66%  | 8.26%   | 8.94%   |
| NATICK**                                 |         |        |         |         |
| NEEDHAM                                  | -10.82% | 6.65%  | 8.22%   | 9.37%   |
| NEW BEDFORD                              | -11.43% | 6.54%  | 8.32%   | 8.07%   |
| NEWBURYPORT                              | -10.85% | 6.73%  | 8.21%   | 8.17%   |
| NEWTON                                   | -10.44% | 6.58%  | 8.15%   | 8.50%   |
| NORFOLK COUNTY                           | -10.98% | 5.77%  | 7.53%   | 8.36%   |
| NORTH ADAMS                              | -17.35% | 4.92%  | 7.40%   | 9.01%   |
| NORTH ATTLEBORO                          | -14.59% | 5.99%  | 8.25%   | 8.42%   |

| Funded<br>Ratio         Date of<br>Most<br>Recent<br>Valuation           59.9%         1/1/21           54.7%         1/1/22           70.7%         1/1/22 | n |
|---|---|
| Funded<br>Ratio         Recent<br>Valuation           59.9%         1/1/21           54.7%         1/1/22   | n |
| 59.9%1/1/2154.7%1/1/22  | 1 |
| 54.7% 1/1/22  |   |
|   |   |
| 70.7% 1/1/22  |   |
|   |   |
| 63.3% 1/1/22  |   |
| 78.8% 1/1/22  | ų |
| 76.8% 1/1/22  |   |
| 88.5% 1/1/22  |   |
| 61.2% 1/1/22  |   |
| 119.4% 1/1/22   |   |
| 76.6% 1/1/21  |   |
| 58.7% 1/1/21  |   |
| 58.5% 1/1/21  |   |
| 80.2% 1/1/22  |   |
| 71.4% 1/1/22  |   |
| 79.0% 1/1/21  |   |
| 94.8% 1/1/21  |   |
| 98.4% 1/1/22  |   |
| 59.0% 1/1/22  |   |
| 89.0% 1/1/22  |   |
| 75.0% 1/1/21  |   |
| 66.2% 1/1/22  |   |
| 60.8% 1/1/21  |   |
| 66.3% 1/1/22  |   |
| 54.5% 1/1/22  |   |
| 65.8% 1/1/21  |   |
| 88.6% 1/1/21  |   |
| 94.2% 1/1/21  |   |
| 87.0% 1/1/22  |   |
| 70.4% 1/1/21  |   |
| 73.7% 1/1/22  |   |
| 52.2% 1/1/22  |   |
| 73.5% 1/1/22  |   |
| 61.1% 1/1/22  |   |
| 71.8% 1/1/22  |   |
| 83.3% 1/1/21  |   |
| 77.2% 1/1/22  |   |

### NOTES:

\* Based on 37-year return.

\*\* Complete information was not available for this Retirement Board as of publication date.

## 2022 RETURNS & ANNUALIZED PAST RETURNS (%) | FUNDED RATIOS

|                    | Return<br>(2022) | 5-Year<br>Return | 10-Year<br>Return | 38-Year<br>Return |
|--------------------|------------------|------------------|-------------------|-------------------|
| NORTHAMPTON        | -16.76%          | 4.78%            | 7.37%             | 8.84%             |
| NORTHBRIDGE        | -10.90%          | 6.79%            | 8.37%             | 9.15%             |
| NORWOOD            | -4.61%           | 8.64%            | 9.24%             | 9.19%             |
| PEABODY            | -10.88%          | 6.72%            | 8.32%             | 8.53%             |
| PITTSFIELD         | -10.80%          | 6.41%            | 8.07%             | 8.11%             |
| PLYMOUTH           | -10.55%          | 6.61%            | 8.59%             | 8.68%             |
| PLYMOUTH COUNTY    | -6.68%           | 6.67%            | 8.02%             | 8.91%             |
| QUINCY             | -9.60%           | 5.97%            | 7.02%             | 8.00%             |
| READING            | -10.26%          | 6.79%            | 8.35%             | 9.08%             |
| REVERE             | -10.93%          | 6.60%            | 8.19%             | 8.30%             |
| SALEM              | -10.41%          | 6.73%            | 8.17%             | 8.09%             |
| SAUGUS             | -9.86%           | 6.76%            | 8.34%             | 9.03%             |
| SHREWSBURY         | -10.40%          | 7.01%            | 8.91%             | 9.00%             |
| SOMERVILLE         | -22.06%          | 7.41%            | 8.62%             | 8.85%             |
| SOUTHBRIDGE        | -10.88%          | 6.66%            | 8.24%             | 8.03%             |
| SPRINGFIELD        | -10.55%          | 6.89%            | 8.52%             | 8.36%             |
| STATE              | -10.97%          | 6.75%            | 8.37%             | 9.23%             |
| STONEHAM           | -7.71%           | 5.70%            | 7.88%             | 8.57%             |
| SWAMPSCOTT         | -9.58%           | 6.88%            | 8.60%             | 8.91%             |
| TAUNTON            | -13.11%          | 5.93%            | 8.00%             | 9.20%             |
| WAKEFIELD          | -10.83%          | 6.71%            | 8.34%             | 9.39%             |
| WALTHAM            | -12.16%          | 5.72%            | 7.83%             | 8.41%             |
| WATERTOWN          | -11.19%          | 6.01%            | 7.82%             | 8.14%             |
| WEBSTER            | -9.46%           | 5.25%            | 7.53%             | 7.91%             |
| WELLESLEY          | -10.87%          | 6.71%            | 8.34%             | 9.64%             |
| WEST SPRINGFIELD   | -16.61%          | 4.72%            | 7.25%             | 7.81%             |
| WESTFIELD          | -7.21%           | 6.76%            | 9.09%             | 8.72%             |
| WEYMOUTH           | -12.58%          | 6.16%            | 7.93%             | 9.44%             |
| WINCHESTER         | -10.73%          | 6.61%            | 7.59%             | 8.77%             |
| WINTHROP           | -10.78%          | 6.76%            | 8.28%             | 8.55%             |
| WOBURN             | -10.98%          | 6.54%            | 8.39%             | 9.14%             |
| WORCESTER          | -8.47%           | 7.16%            | 7.74%             | 8.70%             |
| WORCESTER REGIONAL | -11.00%          | 6.64%            | 8.21%             | 8.13%             |
| COMPOSITE          | -10.84%          | 6.55%            | 8.18%             | 8.99%             |
| PRIM               | -10.74%          | 6.83%            | 8.35%             | 9.31%             |
|                    |                  |                  |                   |                   |

|         | Date of<br>Most |
|---------|-----------------|
| Funded  | Recent          |
| Ratio   | Valuation       |
| 76.4%   | 1/1/22          |
| 84.2%   | 1/1/22          |
| 76.3%   | 1/1/22          |
| 56.4%   | 1/1/22          |
| 52.0%   | 1/1/21          |
| 58.4%   | 1/1/22          |
| 68.8%   | 1/1/22          |
| 101.2%  | 1/1/22          |
| 75.5%   | 1/1/21          |
| 63.5%   | 1/1/21          |
| 67.2%   | 1/1/22          |
| 83.2%   | 1/1/21          |
| 105.8%  | 1/1/22          |
| 77.3%   | 1/1/22          |
| 75.8%   | 1/1/22          |
| 35.6%   | 1/1/22          |
| 72.9%   | 1/1/22          |
| 88.4%   | 1/1/22          |
| 62.4%   | 1/1/21          |
| 79.3%   | 1/1/22          |
| 73.7%   | 1/1/22          |
| 61.5%   | 1/1/21          |
| 103.6%  | 1/1/22          |
| 66.7%   | 1/1/22          |
| 84.9%   | 1/1/21          |
| 72.1%   | 1/1/22          |
| 73.5%   | 1/1/21          |
| 70.7%   | 1/1/22          |
| 84.7%   | 1/1/21          |
| 92.7%   | 1/1/21          |
| 66.8%   | 1/1/22          |
| 72.9%   | 1/1/22          |
| 50.9%   | 1/1/22          |
| NOT APP | LICABLE         |



# Notes

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## **COMMONWEALTH OF MASSACHUSETTS**

Public Employee Retirement Administration CommissionFive Middlesex Avenue, Suite 304 • Somerville, MA 02145PH 617-666-4446 • FAX 617-628-4002TTY 617-591-8917 • WEB www.mass.gov/perac

