


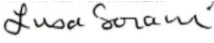
**EAST BAY MUNICIPAL UTILITY DISTRICT**

---

DATE: November 21, 2024

MEMO TO: Members of the Retirement Board

THROUGH: Cindy Charan, Director of Human Resources 

FROM: Lisa Sorani, Manager of Employee Services 

SUBJECT: Retirement Board Regular Meeting – 11/21/2024

A regular meeting of the Retirement Board will convene at 9:00 a.m. on Thursday, November 21, 2024. This meeting will be conducted in person with all Retirement Board members physically present in the Administration Training Resource Center, 375 Eleventh Street, Oakland, California, which shall serve as the physical location for members of the public who wish to attend the meeting in person. Please note, however, that members of the public will also be provided the opportunity to participate via video and teleconference. Public participation will also be available by live audio stream at <https://www.ebmud.com/about-us/board-directors/board-meetings/retirement-board-meetings/>; however, listeners will not be able to provide public comment via live audio stream. To participate in the meeting or provide public comment, please see the Appendix of the Agenda for instructions on joining the Zoom meeting online or by phone.

Some Staff and Presenters may be attending via Zoom which will be broadcast at the meeting.

Enclosed are the agenda items for the November 21, 2024 meeting, and the Minutes for the September 19, 2024 regular meeting. The package also includes the following: **(1) CONSENT items:** Approval of Minutes of the Retirement Board – Regular Meeting of September 19, 2024, Ratifying and Approving Investment Transactions by Retirement Fund Managers for August 2024 and September 2024, Ratifying and Approving the Short-Term Investment Transactions for August 2024 and September 2024, Approving Treasurer’s Statement of Receipts and Disbursements for August 2024 and September 2024; **(2) ACTION items:** Declare Interest Rate Credited to Members, Adopt Actuarial Experience Study Review; **INFORMATION items:** Performance Report and Economic Review, Present Audited Financial Statements, Update on Portfolio Transition Plan, Update on High-Yield and Bank Search, Review of Stage 1 of Portfolio Transition, Annual Proxy Voting Update, CEM Benchmarking Update, Announce 2025 Retiree Health Benefit Rates, Status of Disability Earnings Income Verification for 2024, October 2024 LRS Pension Gold Implementation Update; **(4) REPORTS FROM THE RETIREMENT BOARD:**

CC:ls

Enclosure

## AGENDA

### EBMUD EMPLOYEES' RETIREMENT SYSTEM November 21, 2024

A regular meeting of the Retirement Board will convene at 9:00 a.m. on Thursday, November 21, 2024. This meeting will be conducted with Retirement Board Members physically present in the Administration **Training Resource Center**, 375 Eleventh Street, Oakland, California. This location shall serve as the physical location for members of the public who wish to attend the meeting in person. Please note, however, that members of the public will also be provided the opportunity to participate via video and teleconference. Public participation will also be available by live audio stream <https://www.ebmud.com/about-us/board-directors/board-meetings/retirement-board-meetings/>; however, listeners will not be able to provide public comment via live audio stream. To participate in the meeting or provide public comment, please see the Appendix of the Agenda for instructions on joining the Zoom meeting online or by phone. Some Presenters may be attending via Zoom.

*Retirement Board Members: Clifford Chan, Marguerite Young, April Chan, Jae Park, Max Fefer and Elizabeth Grassetti*

*Staff to the Retirement Board: Sophia Skoda, Lourdes Matthew, Cindy Charan, Robert Hannay, Lisa Sorani, Steven Goodman-Leibof, Valerie Weekly and Mae Shepherd*

*Consultants & Presenters: Meketa: Colin Bebee, Sarah Bernstein, and Eric Larsen; Segal: Andy Yeung Dirk Adamsen, Emily Klare, and EBMUD Finance: David Glasser*

#### **\*\*Public Participation\*\***

**Please see Appendix at end of Agenda for Public Participation Details**

#### **ROLL CALL:**

**PUBLIC COMMENT:** The Retirement Board is limited by State Law to providing a brief response, asking questions for clarification, or referring a matter to staff when responding to items that are not listed on the agenda.

#### **REGULAR BUSINESS MEETING**

#### **CONSENT CALENDAR:**

1. Approval of Minutes of the Retirement Board – Regular Meeting of September 19, 2024
2. Ratifying and Approving Investment Transactions by Retirement Fund Managers for August 2024 and September 2024
3. Ratifying and Approving Short-Term Investment Transactions for August 2024 and September 2024
4. Approving Treasurer's Statement of Receipts and Disbursements for August 2024 and September 2024

**ACTION:**

5. Declare Interest Rate Credited to Members – C. Charan
6. Adopt Actuarial Experience Study Review – S. Skoda

**INFORMATION:**

7. Performance Report and Economic Review – S. Skoda
8. Present Audited Financial Statements – S. Skoda
9. Update on Portfolio Transition Plan – S. Skoda
10. Update on High-Yield and Bank Search – S. Skoda
11. Review of Stage 1 of Portfolio Transition – S. Skoda
12. Annual Proxy Voting Update – S. Skoda
13. CEM Benchmarking Update – S. Skoda
14. Announce 2025 Retiree Health Benefit Rates – C. Charan
15. Status of Disability Earnings Income Verification for 2024 - C. Charan
16. October 2024 LRS Pension Gold Implementation Update - C. Charan

**REPORTS FROM THE RETIREMENT BOARD:**

**ITEMS TO BE CALENDARED:**

**MEETING ADJOURNMENT:**

**The next regular meeting of the Retirement Board will be held on January 23, 2025.**

**Retirement Board Meetings**

- January 23, 2025
- March 20, 2025
- May 22, 2025
- July 10, 2025
- September 18, 2025
- November 20, 2025

## APPENDIX

Retirement Board Meeting  
Thursday, November 21, 2024  
9:00 a.m.

This meeting will be conducted with Retirement Board Members physically present in the Administration Training Resource Center, 375 Eleventh Street, Oakland, California. Members of the public are welcome to attend in person or virtually as described below.  
Please note that Retirement Board meetings are recorded and live-streamed.

To view the livestream of the Retirement Board Meeting, without making public comment, please visit: <https://www.ebmud.com/about-us/board-directors/board-meetings/retirement-board-meetings/>

If you wish to join the meeting, or to make public comment, please visit this page beforehand to familiarize yourself with Zoom. <http://support.zoom.us/hc/en-us/articles/201362193-Joining-a-Meeting>

### Zoom Webinar Information

**When: Nov 21, 2024 09:00 AM Pacific Time (US and Canada)**  
**Topic: November 21, 2024 EBMUD Retirement Board Meeting**

**Please click the link below to join the webinar:**

<https://ebmud.zoom.us/j/89928523981>

**Or One tap mobile :**

+16699006833, 89928523981# US (San Jose)

+16694449171, 89928523981# US

**Or Telephone:**

**Dial(for higher quality, dial a number based on your current location):**

+1 669 900 6833 US (San Jose)

+1 669 444 9171 US

**Webinar ID: 899 2852 3981**

**International numbers available: <https://ebmud.zoom.us/u/kWfewosci>**

### Providing Public Comment

The EBMUD Retirement Board is limited by State Law to providing a brief response, asking questions for clarification, or referring a matter to staff when responding to items that are not listed on the agenda.

**If you wish to provide public comment, please:**

- Use the raise hand feature in Zoom to indicate you wish to make a public comment  
<https://support.zoom.us/hc/en-us/articles/20055661-Raising-your-hand-in-a-webinar>
  - If you participate by phone, press \*9 to raise your hand
- When prompted by the Asst. Secretary, please state your name, affiliation if applicable, and topic
- The Assistant Secretary will call each speaker in the order received
- Comments on non-agenda items will be heard at the beginning of the meeting
- Comments on agenda items will be heard when the item is up for consideration
- Each Speaker is allotted 3 minutes to speak; The Retirement Board President has the discretion to amend this time based on the number of speakers
- The Assistant Secretary will keep track of time and inform each speaker when time is up

**MINUTES**  
**EBMUD EMPLOYEES' RETIREMENT SYSTEM**  
**September 19, 2024**

A regular meeting of the Retirement Board **convened at 9:03 a.m.** on Thursday, September 19, 2024. This meeting will be conducted with Retirement Board Members physically present in the Administration **Training Resource Center**, 375 Eleventh Street, Oakland, California. This location shall serve as the physical location for members of the public who wish to attend the meeting in person. Please note, however, that members of the public will also be provided the opportunity to participate via video and teleconference. Public participation will also be available by live audio stream <https://www.ebmud.com/about-us/board-directors/board-meetings/retirement-board-meetings/>; however, listeners will not be able to provide public comment via live audio stream. To participate in the meeting or provide public comment, please see the Appendix of the Agenda for instructions on joining the Zoom meeting online or by phone. Some Presenters may be attending via Zoom.

*Retirement Board Members: Clifford Chan, Marguerite Young, April Chan, Jae Park, Max Fefer and Elizabeth Grasseti*

*Staff to the Retirement Board: Sophia Skoda, Lourdes Matthew, Cindy Charan, Robert Hannay, Lisa Sorani, Steven Goodman-Leibof, Valerie Weekly and Mae Shepherd*

*Consultants & Presenters: Meketa: Colin Bebee, Sarah Bernstein, and Eric Larsen; Segal: Andy Yeung*

**\*\*Public Participation\*\***

**Please see Appendix at end of Agenda for Public Participation Details**

**ROLL CALL:**

Present: Clifford Chan, Marguerite Young, April Chan, Max Fefer, Jae Park and Elizabeth Grasseti

**PUBLIC COMMENT:** The Retirement Board is limited by State Law to providing a brief response, asking questions for clarification, or referring a matter to staff when responding to items that are not listed on the agenda.

Public comment by Diane Eggering requested a couple of tables in the guest area to accommodate those using laptops or taking notes. She also hoped that the costing for the additional HIB scenario will be addressed today. Lisa Sorani mentioned it is in today's board packet.

There was a written comment submitted this morning that was presented to the Board once printed.

**REGULAR BUSINESS MEETING**

**CONSENT CALENDAR:**

Max Fefer moved to approve the Consent Calendar. Clifford Chan seconded, and the motion passed (5-0) by the following vote AYES (A. Chan, C. Chan, M. Young, M. Fefer, J. Park), NOES (none), ABSTAIN (none), ABSENT (none).

## **ACTION:**

### **5. Declare Results of the Election of the Retiree Representative to the Retirement Board**

Cindy Charan – provide update of election of retiree member. Election and certification has been completed. As secretary she reviewed the process and results. Valerie Weekly reported that during the process, it was discovered that some new retirees did not receive notice of election. Consequently, the election was extended for those 29 people to allow them the opportunity to vote. Elizabeth Grasseti was declared candidate with the votes so she will retain her seat for another term. April Chan moved to approve the item. Marguerite Young seconded, and the motion passed (5-0) by the following vote AYES (A. Chan, C. Chan, M. Young, M. Fefer, J. Park), NOES (none), ABSTAIN (none), ABSENT (none).

### **6. Approve Meketa Contract Extension**

Robert Hannay reported that Board is considering extending the Meketa contract since they have provided a high level of service since 2005 and their contract expires March 31, 2025. We are in the midst of a portfolio transition plan which will take a few years to implement. Staff is recommending extension of the contract and is happy to answer any questions. Marguerite Young asked how the fees compare to other systems with same size and complexity. We are in the bottom half when compared to similarly situate systems. Marguerite Young moved to approve the item. Clifford Chan seconded, and the motion passed (5-0) by the following vote AYES (A. Chan, C. Chan, M. Young, M. Fefer, J. Park), NOES (none), ABSTAIN (none), ABSENT (none).

### **7. Authorize Selection of Cheiron to Conduct Actuarial Audit**

Steve Goodman-Leibof reported under Board rule B-13 an actuarial audit will be conducted every six years. During the Actuarial RFP for actuarial, we discussed conducting an audit if we continued with. In addition, since Cheiron was the runner-up in the RFP, we could use them for this purpose. Cheiron has submitted a proposal for a full audit, which includes a replication of actuarial valuations. The proposed fee is \$73,000; Meketa did confirm these fees are reasonable given the extensive proposal. Marguerite Young moved to approve the item. Max Fefer seconded, and the motion passed (5-0) by the following vote AYES (A. Chan, C. Chan, M. Young, M. Fefer, J. Park), NOES (none), ABSTAIN (none), ABSENT (none).

## **INFORMATION:**

### **8. Performance Report and Economic Review**

Sophia Skoda introduced Eric Larsen, Colin Bebee and Sarah Bernstein from Meketa, who presented the item. Eric Larsen presented some Q2 figures that will feed into the performance report. A lot has happened since this was published. We saw continued strength in equity markets. Fixed income markets have been flat for the quarter and year to date. In addition, US Equities are still leading the way versus small cap which are negative. As of yesterday, S&P was up 19% YTD. In addition, Fixed income markets are doing well in expectation of the Federal Reserve lowering interest rates.

Yields finished slightly higher and yield curve has un-inverted. Feds cut interest rates by 50 basis points. Inflation is above Fed target, but it is dropping. Housing inflation is sticky which has propped these rates at higher levels. Unemployment has started to tick up slightly 4.1% at

end of 2nd quarter. There is expectation of 2-3 cuts before the end of the year. On page 29 of the Performance Report, there is a 46M gain over one quarter and 281M over the one year. We are above the benchmark over all periods. We are very strong as compared to peers in the 4<sup>th</sup> percentile, largely because of exposure to public equities. The plan added another 2% in July and estimate another 2% in August, approximately 10% YTD.

Max Fefer posed a question about Federal Reserve cuts. Eric Larsen said he hoped for 50 basis points. The markets started slightly positive and what we saw, Chair Powell did not really provide commentary why 50 points was needed and there was some negative reaction. Today it has manifested as good news for the market. With this cut the Federal Reserve may be on the way to elusive soft landing.

## **9. Update on Portfolio Transition Plan**

Sarah Bernstein reported the process has gone well. The actual transition of dollars will be completed by October 1<sup>st</sup>. The cost was 14 basis points, which is quite low. We expect to be providing reports during each meeting. The next search will be looking for bank loan managers and hired in first half of 2025. Clifford Chan asked if we are on track to begin 1<sup>st</sup> phase in October. Sarah Bernstein responded yes there has been no issues that have not been resolved. In addition, staff may have comments on the new policy guidelines. Robert Hannay mentioned there are new investment agreements to be considered and then we will make changes to the investment policy which will be brought before the retirement board. Max Fefer questioned ESG consideration for new managers. Sarah Bernstein we would look at how they integrate ESG into how they operate and how they include factors. It is part of elemental review.

Marguerite Young mentioned that in the bank loans and private debt we see some opportunistic investments. She isn't sure how to identify managers who will not take part in those types of activities. Sarah Bernstein responded we can look for manager who are impact managers. We can ask explicit questions. Marguerite Young said maybe we should avoid investing in items that would contribute to headline risk, we would not want EBMUD to appear on list that points at EBMUD as not investing responsibly in relation to the community.

## **10. HIB Study: Additional Costing Data for Summary of Findings Report**

Cindy Charan announced the item. Andy Yeung presented, reminded the Board of the 5 scenarios included in the report approved in July. An option A (1A, 2A, etc.) has been added and associated cost included. Each of the scenarios A reflects the 2013 tier with an accelerated vesting schedule, with 100% vesting achieved at 15 years of service. Max Fefer mentioned that Medicare Part B costs for most of our retirees will likely be higher than the \$174.70 cost in 2024 mentioned in the table due to the Income-Related Monthly Adjustment Amount. Max Fefer requested that Segal's report be updated with more information on Medicare Part B costs, including a mention of the Income-Related Monthly Adjustment Amount. Max Fefer also asked staff to include more information on the Income-Related Monthly Adjustment Amount in written resources to current employees so employees can adequately budget for their retirement healthcare costs.

## **11. Announcement of 2025 Retirement Board Calendar**

No presentation was required for this item. April Chan wants to make sure the July 2026 Retirement Board meeting does not fall during the Board of Director break in the future.

## 12. August 2024 LRS Pension Gold Implementation Update

Cindy Charan announced that they recently made an offer to Business Systems Analyst II that is pending. Valerie Weekly reported that deliverable 2 is close to closing out testing. The Project Team has started work on deliverable 3.

**PUBLIC COMMENT:** The Board returned to the public comment by Ivette Rivera, which was submitted in writing. The public comment proposed using performance pay for Confidential, L21 and Management employees to fund HIB benefit increases. Lists of 2024 performance pay for these groups was attached.

### **REPORTS FROM THE RETIREMENT BOARD:**

Max Fefer attended the CALAPRS Principles of Pension Governance for Trustees training.

### **ITEMS TO BE CALENDARED:**

None.

### **MEETING ADJOURNMENT:** Adjournment at 10:24 am

The next regular meeting of the Retirement Board will be held on November 21, 2024.

  
\_\_\_\_\_  
President

ATTEST:

  
\_\_\_\_\_  
Secretary

11/21/2024

**EAST BAY MUNICIPAL UTILITY DISTRICT**

---

DATE: November 21, 2024

MEMO TO: Members of the Retirement Board

FROM: Sophia D. Skoda, Director of Finance *SDS*

SUBJECT: Investment Transactions by Retirement Fund Managers for August 2024 and September 2024

The attached Investment Transactions by Retirement Fund Managers report for the months of August 2024 and September 2024 is hereby submitted for Retirement Board approval.

SDS:RLH:SGL

Attachment: Investment Transactions by Retirement Fund Managers

R.B. RESOLUTION NO. 7017

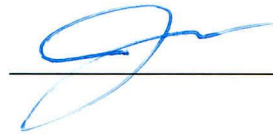
RATIFYING AND APPROVING INVESTMENT TRANSACTIONS BY FUND MANAGERS  
FOR AUGUST 2024 AND SEPTEMBER 2024

Introduced by: Clifford Chan ; Seconded by: April Chan

WHEREAS, Retirement Board Rule No. B-5 provides for investment transactions without prior specific approval by the Retirement Board; and

WHEREAS, investment transactions have been consummated during August 2024 and September 2024, in accordance with the provisions of said rule and in securities designated as acceptable by Retirement Board Resolution No. 4975, as amended;

NOW, THEREFORE, BE IT RESOLVED that the investment transactions appearing on the following Exhibit A are hereby ratified and approved.



\_\_\_\_\_  
President

ATTEST:

  
\_\_\_\_\_  
Secretary

11/21/2024

| INVESTMENT TRANSACTIONS BY RETIREMENT FUND MANAGERS |                      |                      |                        |
|---|----------------------|----------------------|------------------------|
| <b>August 2024</b>                                  |                      |                      |                        |
|   | PURCHASES            | SALES                | PORTFOLIO VALUE        |
| <b>FIXED INCOME</b>                                 |                      |                      |                        |
| C.S. McKee  | \$34,647,600         | \$32,796,088         | \$224,874,411          |
| Federated Bank Loans                                | \$14,831,706         | \$13,649,981         | \$58,494,228           |
| Garcia Hamilton Associates                          | \$4,926,394          | \$2,718,046          | \$220,321,979          |
| Mackay Shields - HY                                 | \$6,953,508          | \$6,183,795          | \$62,749,261           |
| <b>TOTAL</b>  | <b>\$61,359,209</b>  | <b>\$55,347,910</b>  | <b>\$566,439,879</b>   |
| <b>DOMESTIC EQUITY</b>                              |                      |                      |                        |
| Russell 3000 Index Fund                             | \$0                  | \$0                  | \$737,019,348          |
| <b>Total Domestic Equity</b>                        | <b>\$0</b>           | <b>\$0</b>           | <b>\$737,019,348</b>   |
| <b>COVERED CALLS</b>                                |                      |                      |                        |
| Parametric (BXM)                                    | \$6,133,922          | \$6,021,443          | \$174,063,452          |
| Parametric (Delta-Shift)                            | \$2,187,138          | \$2,154,021          | \$185,332,010          |
| Van Hulzen  | \$211,846            | \$519,729            | \$171,284,996          |
| <b>Total Covered Calls</b>                          | <b>\$8,532,906</b>   | <b>\$8,695,193</b>   | <b>\$530,680,459</b>   |
| <b>INTERNATIONAL EQUITY</b>                         |                      |                      |                        |
| ACWI Index fund                                     | \$0                  | \$0                  | \$640,776,040          |
| Global Transition                                   | \$0                  | \$0                  | \$893,752              |
| <b>Total International Equity</b>                   | <b>\$0</b>           | <b>\$0</b>           | <b>\$641,669,792</b>   |
| <b>REAL ESTATE EQUITY</b>                           |                      |                      |                        |
| RREEF America II                                    | \$0                  | \$0                  | \$53,589,928           |
| CenterSquare  | \$1,467,572          | \$1,284,147          | \$73,096,255           |
| <b>Total Real Estate</b>                            | <b>\$1,467,572</b>   | <b>\$1,284,147</b>   | <b>\$126,686,182</b>   |
| <b>TOTAL ALL FUND MANAGERS</b>                      | <b>\$71,359,687</b>  | <b>\$65,327,251</b>  | <b>\$2,602,495,660</b> |
| <b>September 2024</b>                               |                      |                      |                        |
|   | PURCHASES            | SALES                | PORTFOLIO VALUE        |
| <b>FIXED INCOME</b>                                 |                      |                      |                        |
| C.S. McKee  | \$29,758,055         | \$27,747,617         | \$227,983,033          |
| Federated Bank Loans                                | \$5,254,019          | \$4,515,227          | \$58,974,446           |
| Garcia Hamilton Associates                          | \$4,055,691          | \$3,248,608          | \$223,533,397          |
| Mackay Shields - HY                                 | \$10,740,861         | \$8,330,891          | \$63,387,250           |
| <b>TOTAL</b>  | <b>\$49,808,626</b>  | <b>\$43,842,342</b>  | <b>\$573,878,126</b>   |
| <b>DOMESTIC EQUITY</b>                              |                      |                      |                        |
| Russell 3000 Index Fund                             | \$248,756,958        | \$3,400              | \$1,002,195,816        |
| <b>Total Domestic Equity</b>                        | <b>\$248,756,958</b> | <b>\$3,400</b>       | <b>\$1,002,195,816</b> |
| <b>COVERED CALLS</b>                                |                      |                      |                        |
| Parametric (BXM)                                    | \$4,617,436          | \$4,481,867          | \$177,232,457          |
| Parametric (Delta-Shift)                            | \$3,104,718          | \$3,002,394          | \$188,416,693          |
| Van Hulzen  | \$12,717,908         | \$172,705,434        | \$181,001              |
| <b>Total Covered Calls</b>                          | <b>\$20,440,062</b>  | <b>\$180,189,696</b> | <b>\$365,830,151</b>   |
| <b>INTERNATIONAL EQUITY</b>                         |                      |                      |                        |
| ACWI Index fund                                     | \$0                  | \$0                  | \$658,196,323          |
| Global Transition                                   | \$0                  | \$0                  | \$819,466              |
| <b>Total International Equity</b>                   | <b>\$0</b>           | <b>\$0</b>           | <b>\$659,015,788</b>   |
| <b>REAL ESTATE EQUITY</b>                           |                      |                      |                        |
| RREEF America II                                    | \$0                  | \$0                  | \$53,589,932           |
| CenterSquare  | \$1,501,244          | \$76,677,650         | \$233,270              |
| <b>Total Real Estate</b>                            | <b>\$1,501,244</b>   | <b>\$76,677,650</b>  | <b>\$53,823,202</b>    |
| <b>TOTAL ALL FUND MANAGERS</b>                      | <b>\$320,506,890</b> | <b>\$300,713,089</b> | <b>\$2,654,743,083</b> |

Prepared By: Sherry Sarcos  
 Sherry Sarcos, Accounting Technician


Date: 10/17/2024

**EAST BAY MUNICIPAL UTILITY DISTRICT**

---

DATE: November 21, 2024

MEMO TO: Members of the Retirement Board

FROM: Sophia D. Skoda, Director of Finance 

SUBJECT: Short Term Investment Transactions for August 2024 and September 2024

The attached Short Term Investment Transactions reports for the months of August 2024 and September 2024 are hereby submitted for Retirement Board approval.

SDS:RLH:SGL

Attachments: Short Term Investment Transactions August 2024  
Short Term Investment Transactions September 2024

R.B. RESOLUTION NO. 7018

RATIFYING AND APPROVING SHORT TERM INVESTMENT TRANSACTIONS BY THE  
TREASURER FOR AUGUST 2024 AND SEPTEMBER 2024

Introduced by: Clifford Chan ; Seconded by: April Chan

WHEREAS, Retirement Board Rule No. B-7 provides for the temporary investment of retirement system funds by the Treasurer or Assistant Treasurer in securities authorized by Sections 1350 through 1366 of the Financial Code or holding funds in inactive time deposits in accordance with Section 12364 of the Municipal Utility District Act; and

WHEREAS, investment transactions during August 2024 and September 2024, have been made in accordance with the provisions of the said rule;

NOW, THEREFORE, BE IT RESOLVED that the investment transactions consummated by the Treasurer and included on the attached reports for August 2024 and September 2024 are hereby ratified and approved.

  
\_\_\_\_\_  
President

ATTEST:

  
\_\_\_\_\_  
Secretary

11/21/2024

**EBMUD EMPLOYEES' RETIREMENT SYSTEM  
SHORT TERM INVESTMENT TRANSACTIONS  
CONSUMMATED BY THE TREASURER  
MONTH OF AUGUST 2024**

| <u>COST/<br/>FACE VALUE</u>   | <u>DESCRIPTION</u>           | <u>DATE OF<br/>PURCHASE</u> | <u>DATE OF<br/>SALE/MATURITY</u> | <u>YIELD (%)</u> |
|-------------------------------|------------------------------|-----------------------------|----------------------------------|------------------|
| \$ 5,573,000.00               | Local Agency Investment Fund | 2-Aug-24                    |                                  | 4.579            |
| \$ 500,000.00                 | Local Agency Investment Fund | 6-Aug-24                    |                                  | 4.579            |
| \$ 5,572,000.00               | Local Agency Investment Fund | 16-Aug-24                   |                                  | 4.579            |
| \$ (8,965,000.00)             | Local Agency Investment Fund |                             | 29-Aug-24                        | 4.579            |
| <b><u>\$ 2,680,000.00</u></b> | Net Activity for Month       |                             |                                  |                  |
| <br>                          |                              |                             |                                  |                  |
| \$ 2,648,380.09               | Beginning Balance            |                             |                                  |                  |
| <u>2,680,000.00</u>           | Net Activity for Month       |                             |                                  |                  |
| <b><u>\$ 5,328,380.09</u></b> | Ending Balance               |                             |                                  |                  |

SUBMITTED BY David Glasser  
David Glasser  
Controller

DATE 10/28/24

Robert L. Hannay  
Robert L. Hannay  
Treasury Mgr.

Kevin Ma  
Kevin Ma  
Acctg. Systems Supvr.  
prepared by Ssarcos

**EBMUD EMPLOYEES' RETIREMENT SYSTEM  
SHORT TERM INVESTMENT TRANSACTIONS  
CONSUMMATED BY THE TREASURER  
MONTH OF SEPTEMBER 2024**

| <u>COST/<br/>FACE VALUE</u>     | <u>DESCRIPTION</u>           | <u>DATE OF<br/>PURCHASE</u> | <u>DATE OF<br/>SALE/MATURITY</u> | <u>YIELD (%)</u> |
|---------------------------------|------------------------------|-----------------------------|----------------------------------|------------------|
| \$ 5,610,000.00                 | Local Agency Investment Fund | 2-Aug-24                    |                                  | 4.575            |
| \$ 5,582,000.00                 | Local Agency Investment Fund | 6-Aug-24                    |                                  | 4.575            |
| \$ -                            | Local Agency Investment Fund | 16-Aug-24                   |                                  | 4.575            |
| \$ (14,381,000.00)              | Local Agency Investment Fund |                             | 30-Sep-24                        | 4.575            |
| <b><u>\$ (3,189,000.00)</u></b> | Net Activity for Month       |                             |                                  |                  |
| <br>                            |                              |                             |                                  |                  |
| \$ 5,328,380.09                 | Beginning Balance            |                             |                                  |                  |
| <u>(3,189,000.00)</u>           | Net Activity for Month       |                             |                                  |                  |
| <b><u>\$ 2,139,380.09</u></b>   | Ending Balance               |                             |                                  |                  |

SUBMITTED BY David Glasser  
David Glasser  
Controller

DATE 10/18/24

Robert L. Hannay  
Robert L. Hannay  
Treasury Mgr.

Kevin Ma  
Kevin Ma  
Acctg. Systems Supvr.  
prepared by Ssarcos

**EAST BAY MUNICIPAL UTILITY DISTRICT**

---

DATE: November 21, 2024  
MEMO TO: Members of the Retirement Board  
FROM: Sophia D. Skoda, Director of Finance *SDS*  
SUBJECT: Treasurer's Statement of Receipts and Disbursements for August 2024 and September 2024

**SUMMARY**

The attached Treasurer's Statement of Receipts and Disbursements reports for the months of August 2024 and September 2024 are hereby submitted for Retirement Board approval.

SDS:RLH:SGL

Attachments: Statement of Receipts and Disbursements August 2024  
Statement of Receipts and Disbursements September 2024

STATEMENT OF RECEIPTS AND DISBURSEMENTS  
EMPLOYEES' RETIREMENT FUND  
MONTH OF AUGUST 2024

|   |    |    |                                |
|---|----|----|--------------------------------|
| CASH BALANCE at July 31, 2024                 |    | \$ | 4,594,674.10                   |
| <u>Receipts</u>                               |    |    |                                |
| Employees' Contributions                      | \$ |    | 2,860,768.88                   |
| District Contributions                        |    |    | 14,055,007.52                  |
| LAIF Redemptions                              |    |    | 8,965,000.00                   |
| Northern Trust Redemptions                    |    |    | 500,000.00                     |
| Refunds and Commission Recapture              |    |    | <u>49,248.84</u>               |
| TOTAL Receipts                                |    |    | 26,430,025.24                  |
| <u>Disbursements</u>                          |    |    |                                |
| Checks/Wires Issued:                          |    |    |                                |
| Service Retirement Allowances                 | \$ |    | 12,665,400.10                  |
| Disability Retirement Allowances              |    |    | 164,868.41                     |
| Health Insurance Benefit                      |    |    | 30,558.70                      |
| Payments to Retiree's Resigned/Deceased       |    |    | 109,302.14                     |
| LAIF Deposits                                 |    |    | 11,645,000.00                  |
| Administrative Cost                           |    |    | <u>411,131.58</u>              |
| TOTAL Disbursements                           |    |    | <u>(25,026,260.93)</u>         |
| CASH BALANCE at August 31, 2024               |    | \$ | <u>5,998,438.41</u>            |
| LAIF  |    |    | <u>5,328,380.09</u>            |
| LAIF and CASH BALANCE at August 31, 2024      |    | \$ | <u><u>11,326,818.50</u></u>    |
| <u>Domestic Equity</u>                        |    |    |                                |
| Russell 3000 Index Fund                       | \$ |    | <u>737,019,348.09</u>          |
| Subtotal Domestic Equity                      |    |    | 737,019,348.09                 |
| <u>Covered Calls</u>                          |    |    |                                |
| Parametric (BXM)                              | \$ |    | 174,063,452.30                 |
| Parametric (Delta-Shift)                      |    |    | 185,332,010.11                 |
| Van Hulzen                                    |    |    | <u>171,284,996.22</u>          |
| Subtotal Covered Calls                        |    |    | 530,680,458.63                 |
| <u>International Equity</u>                   |    |    |                                |
| ACWI Index fund                               | \$ |    | 640,776,040.01                 |
| Global Transition                             |    |    | <u>893,751.69</u>              |
| Subtotal International Equity                 |    |    | 641,669,791.70                 |
| <u>Real Estate</u>                            |    |    |                                |
| RREEF America REIT II                         | \$ |    | 53,589,927.91                  |
| Center Square                                 |    |    | <u>73,096,254.55</u>           |
| Subtotal Real Estate                          |    |    | 126,686,182.46                 |
| <u>Fixed Income</u>                           |    |    |                                |
| CS Mckee                                      | \$ |    | 224,874,410.93                 |
| Federated Bank Loans                          |    |    | 58,494,228.10                  |
| Garcia Hamilton Associates                    |    |    | 220,321,978.99                 |
| Mackay Shields-High Yield                     |    |    | <u>62,749,260.69</u>           |
| Subtotal Fixed Income                         |    |    | 566,439,878.71                 |
| Total for Domestic and International Equities |    |    | <u>2,602,495,659.59</u>        |
| MARKET VALUE of ASSETS at August 31, 2024     |    | \$ | <u><u>2,613,822,478.09</u></u> |

Respectfully submitted,

*David Glasser*

\_\_\_\_\_  
David Glasser  
Controller

*Robert L. Hannay*  
\_\_\_\_\_  
Robert L. Hannay  
Treasury Mgr.

*Kevin Ma*  
\_\_\_\_\_  
Kevin Ma  
Acctg Sys Supvr.  
prepared by Sscaros

STATEMENT OF RECEIPTS AND DISBURSEMENTS  
EMPLOYEES' RETIREMENT FUND  
MONTH OF SEPTEMBER 2024

|   |    |                         |                         |
|---|----|-------------------------|-------------------------|
| CASH BALANCE at August 31, 2024               |    | \$                      | 5,998,438.41            |
| <u>Receipts</u>                               |    |                         |                         |
| Employees' Contributions                      | \$ | 1,900,690.97            |                         |
| District Contributions                        |    | 9,422,715.00            |                         |
| LAIF Redemptions                              |    | 14,381,000.00           |                         |
| Northern Trust Redemptions                    |    | 0.00                    |                         |
| Refunds and Commission Recapture              |    | <u>51,504.49</u>        |                         |
| TOTAL Receipts                                |    |                         | 25,755,910.46           |
| <u>Disbursements</u>                          |    |                         |                         |
| Checks/Wires Issued:                          |    |                         |                         |
| Service Retirement Allowances                 | \$ | 12,625,282.33           |                         |
| Disability Retirement Allowances              |    | 164,868.41              |                         |
| Health Insurance Benefit                      |    | 1,066,467.72            |                         |
| Payments to Retiree's Resigned/Deceased       |    | 3,636.58                |                         |
| LAIF Deposits                                 |    | 11,192,000.00           |                         |
| Administrative Cost                           |    | <u>402,400.66</u>       |                         |
| TOTAL Disbursements                           |    |                         | <u>(25,454,655.70)</u>  |
| CASH BALANCE at September 30, 2024            |    | \$                      | <u>6,299,693.17</u>     |
| LAIF  |    |                         | <u>2,139,380.09</u>     |
| LAIF and CASH BALANCE at September 30, 2024   |    | \$                      | <u>8,439,073.26</u>     |
| <u>Domestic Equity</u>                        |    |                         |                         |
| Russell 3000 Index Fund                       | \$ | <u>1,002,195,816.37</u> |                         |
| Subtotal Domestic Equity                      |    | 1,002,195,816.37        |                         |
| <u>Covered Calls</u>                          |    |                         |                         |
| Parametric (BXM)                              | \$ | 177,232,456.65          |                         |
| Parametric (Delta-Shift)                      |    | 188,416,693.04          |                         |
| Van Hulzen                                    |    | <u>181,000.91</u>       |                         |
| Subtotal Covered Calls                        |    | 365,830,150.60          |                         |
| <u>International Equity</u>                   |    |                         |                         |
| ACWI Index fund                               | \$ | 658,196,322.77          |                         |
| Global Transition                             |    | <u>819,465.55</u>       |                         |
| Subtotal International Equity                 |    | 659,015,788.32          |                         |
| <u>Real Estate</u>                            |    |                         |                         |
| RREEF America REIT II                         | \$ | 53,589,931.78           |                         |
| Center Square                                 |    | <u>233,270.27</u>       |                         |
| Subtotal Real Estate                          |    | 53,823,202.05           |                         |
| <u>Fixed Income</u>                           |    |                         |                         |
| CS Mckee                                      | \$ | 227,983,033.11          |                         |
| Federated Bank Loans                          |    | 58,974,445.59           |                         |
| Garcia Hamilton Associates                    |    | 223,533,396.53          |                         |
| Mackay Shields-High Yield                     |    | <u>63,387,250.34</u>    |                         |
| Subtotal Fixed Income                         |    | 573,878,125.57          |                         |
| Total for Domestic and International Equities |    |                         | <u>2,654,743,082.91</u> |
| MARKET VALUE of ASSETS at September 30, 2024  |    | \$                      | <u>2,663,182,156.17</u> |

Respectfully submitted,

*David Glasser*

David Glasser  
Controller

*Robert L. Hannay*  
Robert L. Hannay  
Treasury Mgr.

*Kevin Ma*  
Kevin Ma  
Acctg Sys Supvr.  
prepared by Ssarcos

**EAST BAY MUNICIPAL UTILITY DISTRICT**

---

DATE: November 21, 2024

MEMO TO: Members of the Retirement Board

THROUGH: Cindy Charan, Director of Human Resources

FROM: Lisa Sorani, Manager of Employee Services *Lisa Sorani*

SUBJECT: Declare the Interest Rate on Member Contributions for the Period Ending June 30, 2024

ACTION: Adopt Resolution for Interest Rate for Member Contributions for the Period Ending June 30, 2024

**RECOMMENDATION**

Adopt resolution to declare the interest rate for member contributions for the period ending June 30, 2024.

**BACKGROUND**

The Retirement Ordinance, Section 4(d), directs the Retirement Board to semi-annually declare the rate of interest to be credited to accumulated Member contributions.

In accordance with Retirement Board Rule B-9, the annual rate of interest credited to Members' accumulated contributions as of June 30, 2024 will be the lesser of the actuarially assumed rate of return, or the five (5) year average rate of return on Retirement System investments for the period ending June 30, 2024. As of June 30, 2024, the actuarially assumed rate of return was 6.75% and the five-year average rate of return was 7.6%.

Therefore, the attached resolution declares the annual interest rate of 6.75%. The rate credited to Member accounts will be prorated to a semi-annual rate of 3.375%. The interest will be credited effective December 31, 2024 based on the balance of Member accumulated contributions and interest as of June 30, 2024.

CC:ls

R.B. RESOLUTION NO. 7019

DECLARING THE INTEREST RATE ON MEMBER CONTRIBUTIONS

Introduced by: Max Fefer

; Seconded by: April Chan

WHEREAS, section 4(d) of Ordinance, as amended, provides that the Retirement Board shall semi-annually declare the rate of interest for the preceding six (6) months to be credited on accumulated contributions of members, which rate shall be based upon criteria to be established by the Retirement Board; and

WHEREAS, the crediting rate will be the lesser of the actuarial assumed rate of six and seventy-five hundredths percent (6.75%) as of June 30, 2024 or the actual five (5) year earnings rate of the fund, determined to be seven and six-tenths percent (7.6%), for the period ending June 30, 2024;

NOW THEREFORE, BE IT RESOLVED that the Retirement Board does hereby declare a six and seventy-five hundred percent (6.75%) annual interest rate. The rate credited to member accounts effective December 31, 2024 will be three and three hundred seventy-five thousandths percent (3.375%) for the balance of employee contributions and interest as of June 30, 2024, in accordance with Rules B-8 and B-9 of the Retirement Board.



\_\_\_\_\_  
President

ATTEST:

  
\_\_\_\_\_  
Secretary

11/21/2024

**EAST BAY MUNICIPAL UTILITY DISTRICT**

---

DATE: November 21, 2024

MEMO TO: Members of the Retirement Board

THROUGH: Cindy Charan, Director of Human Resources

FROM: Lisa Sorani, Manager of Employee Services *Lisa Sorani*

SUBJECT: Declare the Interest Rate on Member Contributions for the Period Ending June 30, 2024

ACTION: Adopt Resolution for Interest Rate for Member Contributions for the Period Ending June 30, 2024

**RECOMMENDATION**

Adopt resolution to declare the interest rate for member contributions for the period ending June 30, 2024.

**BACKGROUND**

The Retirement Ordinance, Section 4(d), directs the Retirement Board to semi-annually declare the rate of interest to be credited to accumulated Member contributions.

In accordance with Retirement Board Rule B-9, the annual rate of interest credited to Members' accumulated contributions as of June 30, 2024 will be the lesser of the actuarially assumed rate of return, or the five (5) year average rate of return on Retirement System investments for the period ending June 30, 2024. As of June 30, 2024, the actuarially assumed rate of return was 6.75% and the five-year average rate of return was 7.6%.

Therefore, the attached resolution declares the annual interest rate of 6.75%. The rate credited to Member accounts will be prorated to a semi-annual rate of 3.375%. The interest will be credited effective December 31, 2024 based on the balance of Member accumulated contributions and interest as of June 30, 2024.


CC:ls

## EAST BAY MUNICIPAL UTILITY DISTRICT

---

DATE: November 21, 2024

MEMO TO: Members of the Retirement Board

FROM: Sophia D. Skoda, Director of Finance 

SUBJECT: Adopt Actuarial Experience Study

### RECOMMENDATION

Adopt the Actuarial Experience Study, including the associated economic and non-economic actuarial assumptions, prepared by Segal, the Retirement System's actuary. The Actuarial Experience Study's recommendations include changes to the merit and promotion increases, mortality assumptions, disability rates, termination rates, retirement rates, and other assumptions. The changes make the plan more consistent with the System's recent experience and more financially resilient. The recommended actuarial assumptions are expected to increase the normal cost and unfunded liability.

### DISCUSSION

Each year, Segal produces Actuarial Valuations for the Retirement System's pension and Health Insurance Benefit (HIB) plans which include recommended contribution rates. In January, the Retirement Board uses the results of the Actuarial Valuations to recommend contribution rates for the District's Board of Directors to set for the following fiscal year. To develop the Actuarial Valuations, Segal relies on a set of economic and non-economic assumptions that are determined through an Actuarial Experience Study. Section 22 of the Retirement Ordinance requires the Retirement System to conduct a new Actuarial Experience Study covering economic and non-economic assumptions at least every four years. In recent years, the Retirement Board has conducted an Actuarial Experience Study every four years and a mid-cycle Economic Assumptions Review in the intervening two years. The last Actuarial Experience Study covered data through June 30, 2020 and the last Economic Assumptions Review covered data through June 30, 2022.

### Recommended Changes to Assumptions

The attached Actuarial Experience Study is based on data from July 1, 2020 through June 30, 2024. The study provides recommended assumptions for future Actuarial Valuations starting with the June 30, 2024 Valuations. The report recommends the following adjustments to assumptions:

- Adjustment to merit and promotion rates of salary increases based on past experience
- Update to mortality tables for beneficiaries not in pay status
- Update to mortality improvement scales from MP-2020 to MP-2021 (the latest available)
- Adjustment to disability rates to reflect slightly lower incidence
- Adjustment to termination rates to reflect slightly higher incidence rate
- Adjustment to retirement rates to reflect later retirements
- Increase to sick leave conversion assumption
- Implementation of a technical change to the calculation of the Normal Cost rate for the 2013 Tier
- Increase to percent married/domestic partnership for females
- Adjustment to form of payment assumptions to reflect higher election of the unmodified option/Option 1
- Increase in participation assumption for certain employees in the retiree health plan
- Adjustment to spousal coverage and covered spouse age difference in the retiree health plan

Details on each adjustment are included in the attached Actuarial Experience Study.

### **Unchanged Assumptions**

Several important assumptions remained unchanged in the study, including the following:

- Inflation assumption remains at 2.50 percent
- Cost-of-living adjustments remain at 2.75 percent
- Investment return assumption remains at 6.75 percent
- Payroll growth assumption, including inflation and real “across-the-board” increases, remains at 3.00 percent

### **Estimated Cost Impact**

The ultimate impact of these changes will be provided in the 2024 Actuarial Valuation in January. However, in the Experience Study, Segal has estimated the cost impact of the changes based on 2023 Actuarial Valuation data. These changes are estimated to increase the Unfunded Actuarial Accrued Liability (UAAL) of the Pension Plan \$27.5 million, increase the total Normal Cost rate 0.40 percent, and increase the UAAL rate 0.62 percent. The combined impact on total rates is estimated to be 1.02 percent of payroll for the Pension Plan. The HIB changes are estimated to lead to a smaller \$1.6 million increase on the HIB UAAL, a negligible impact on the total Normal Cost, a 0.04 percent increase on the UAAL rate, and a 0.04 percent increase on the total HIB contribution rate.

### **Employee Contribution Rate Impacts**

All employees contribute to the Pension Plan, covering a portion of the Normal Cost. Contribution rates for members of the 1980 Plan are established in the Memoranda of Understanding (MOUs) with the District. Employee contributions for members of the 2013 Tier are determined in accordance with the Public Employees' Pension Reform Act (PEPRA), which mandates that members contribute at least 50% of the Normal Cost. Under PEPRA, the employee contribution rate readjusts when the total Normal Cost rate changes by more than 1% of payroll compared to the total Normal Cost rate at the time when the employee contribution rate was last adjusted. Under the proposed changes in the Experience Study, the 2013 Tier total Normal Cost rate is expected to increase by more than 1% above the total Normal Cost rate measured as of June 30, 2020 (the date of the last adjustment). Based on 2023 data, this would lead to the 2013 Tier employee contribution rate increasing from 9.41% to 10.10% under the Pension Plan. The actual increase will be determined as part of the 2024 Actuarial Valuation in January 2025.

### **Recommendation**

Staff recommends adopting the Actuarial Experience Study and the updated assumptions in the Study. The changes help make the plan more consistent with the System's recent experience and make the plan more financially resilient. The recommended actuarial assumptions are expected to increase the normal cost and unfunded liability.

Andy Yeung, Emily Klare and Dirk Adamsen from Segal will review the Actuarial Experience Study and its recommendations at the November 21, 2024 Retirement Board meeting.

ATTACHMENTS



East Bay Municipal Utility District Employees' Retirement System

# Actuarial Experience Study

Analysis for the period from July 1, 2020 through June 30, 2024

November 21, 2024 / Andy Yeung / Emily Klare / Dirk Adamsen

# Agenda

**Actuarial Experience Study Overview**

**Summary of Recommendations**

**Actuarial Cost Impact**

**Retiree Health Assumptions and Impact**

**Taking a Closer Look**

# Actuarial Experience Study Overview

# Actuarial Experience Study Overview

*Why do we need experience studies?*

## **Develop recommended assumptions for annual actuarial valuation**

- Reviews economic and demographic assumptions every four years
  - Review economic assumptions only between full studies
- Current study is based on the **four-year** period from 2020-2024
  - Various assumptions also include experience from prior studies

## **Segal's role is to make appropriate recommendations to the Board**

- Recommendations follow guidance of Actuarial Standards of Practice
  - Assumptions are reasonable individually and in aggregate (ASOP No. 27 & 35)

# Purpose of the Actuarial Assumptions

*What do the assumptions do?*



## Economic

How will assets grow?

How will salaries and benefits increase?

How will UAAL be amortized?

What type of benefits will be paid?

When will benefits be paid and how long?



## Demographic

Actuaries make assumptions as to when and how a member will leave active service and estimate the amount, duration and present value of the expected benefits paid.

# Summary of Recommendations

# Summary of Economic Assumptions

| Assumption                 | Recommendation   |
|----------------------------|--|
| Inflation                  | <ul style="list-style-type: none"><li>• Maintain current assumption of 2.50%</li></ul>   |
| Cost-of-Living Adjustments | <ul style="list-style-type: none"><li>• Maintain current assumption of 2.75%<ul style="list-style-type: none"><li>– Reflects a 0.25% margin above the recommended inflation assumption</li></ul></li></ul>   |
| Investment Return          | <ul style="list-style-type: none"><li>• Maintain current assumption of 6.75%</li><li>• <b>New</b> model to calculate assumption based on <b>geometric</b> average return</li></ul>   |
| Salary Increase            | <ul style="list-style-type: none"><li>• Maintain current inflation assumption of 2.50%</li><li>• Maintain current “across-the-board” salary increase of 0.50%</li><li>• <b>Introduce</b> separate assumptions for 1955/1980 Plan and 2013 Tier</li><li>• <b>Increase</b> merit and promotion salary increase assumptions to reflect <b>higher</b> salary increases overall</li></ul> |
| Payroll Growth             | <ul style="list-style-type: none"><li>• Maintain current assumption of 3.00%</li></ul>   |



# Summary of Demographic Assumptions

## *Rates of decrement*

| Assumption  | Recommendation   |
|-------------|--|
| Mortality   | <ul style="list-style-type: none"><li>• Maintain base tables and adjustments</li><li>• <b>Adopt MP-2021</b> projection scale</li><li>• <b>Introduce</b> separate mortality tables for beneficiaries not in pay status</li></ul>  |
| Disability  | <ul style="list-style-type: none"><li>• <b>Reduce</b> rates to reflect <b>lower</b> disability incidence</li></ul>   |
| Termination | <ul style="list-style-type: none"><li>• <b>Adjust</b> rates to vary by service only</li><li>• <b>Introduce</b> separate assumptions for 1955/1980 Plan and 2013 Tier</li><li>• <b>Increase</b> rates to reflect <b>higher</b> overall termination experience, particularly for 2013 Tier</li></ul> |
| Retirement  | <ul style="list-style-type: none"><li>• <b>Reduce</b> rates to reflect <b>lower</b> overall retirement experience for 1955/1980 Plan</li><li>• <b>Reduce</b> rates to reflect <b>lower</b> overall retirement experience for 2013 Tier</li></ul>   |



# Summary of Demographic Assumptions

## *Miscellaneous assumptions*

| Assumption                     | Recommendation   |
|--------------------------------|--|
| Deferred Vested Retirement Age | <ul style="list-style-type: none"> <li>Maintain current assumption of age 59</li> </ul>  |
| Reciprocity                    | <ul style="list-style-type: none"> <li>Maintain current assumption that 15% of future deferred vested members will be covered by a reciprocal system</li> </ul>  |
| Sick Leave Conversion          | <ul style="list-style-type: none"> <li><b>Increase</b> sick leave conversion from 0.038 to <b>0.040</b> years of additional service credit per year</li> </ul>   |
| Survivor Assumptions           | <ul style="list-style-type: none"> <li>Maintain percent married/domestic partnership assumption at 85% for males and <b>increase</b> from 60% to 65% for females</li> <li>Maintain current age and gender of survivor assumptions</li> </ul> |
| Form of Payment                | <ul style="list-style-type: none"> <li><b>Adjust</b> current form of payment assumptions to reflect <b>greater</b> election of unmodified or Option 1 and <b>lower</b> election of Option 4.</li> </ul>                                      |
| Methodology Change             | <ul style="list-style-type: none"> <li><b>Adjust</b> methodology to calculate a more stable normal cost rate for 2013 Tier</li> </ul>  |

# Actuarial Cost Impact

# Estimated Actuarial Impact – Pension Plan

*Modeled as of June 30, 2023 (\$ in thousands)*

- Actual cost impact will be reflected in the June 30, 2024 valuation

| Component                     | Current Assumptions | Pre-Retirement Changes | Post-Retirement Changes | Total Change | Proposed Assumptions |
|-------------------------------|---------------------|------------------------|-------------------------|--------------|----------------------|
| Total normal cost             | \$62,315            | \$940                  | \$407                   | \$1,347      | \$63,662             |
| Total normal cost rate        | 23.76%              | 0.25%                  | 0.15%                   | 0.40%        | 24.16%               |
| Actuarial accrued liability   | \$2,994,429         | \$2,817                | \$24,692                | \$27,509     | \$3,021,938          |
| UAAL contribution rate        | 25.42%              | -0.04%                 | 0.66%                   | 0.62%        | 26.04%               |
| VVA funded ratio              | 75.2%               | -0.1%                  | -0.6%                   | -0.7%        | 74.5%                |
| <b>Total Normal Cost Rate</b> |                     |                        |                         |              |                      |
| 1955/1980 Plan                | 27.83%              | 0.21%                  | 0.19%                   | 0.40%        | 28.23%               |
| 2013 Tier                     | 19.79%              | 0.29%                  | 0.12%                   | 0.41%        | 20.20%               |
| <b>Combined</b>               | <b>23.76%</b>       | <b>0.25%</b>           | <b>0.15%</b>            | <b>0.40%</b> | <b>24.16%</b>        |

# Contribution Rate Impact – Pension Plan

*Modeled as of June 30, 2023 as % of payroll*

| Tier & Component           | Current Assumptions | Total Change  | Proposed Assumptions |
|----------------------------|---------------------|---------------|----------------------|
| <b>1955/1980 Plan</b>      |                     |               |                      |
| Total normal cost          | 27.83%              | +0.40%        | 28.23%               |
| Employee normal cost       | 8.66%               | +0.00%        | 8.66%                |
| Employer normal cost       | 19.17%              | +0.40%        | 19.57%               |
| UAAL rate                  | 25.42%              | +0.62%        | 26.04%               |
| <b>Total employer rate</b> | <b>44.59%</b>       | <b>+1.02%</b> | <b>45.61%</b>        |
| <b>2013 Tier</b>           |                     |               |                      |
| Total normal cost          | 19.79%              | +0.41%        | 20.20%               |
| Employee normal cost       | 9.41%*              | +0.69%        | 10.10%               |
| Employer normal cost       | 10.38%              | -0.28%        | 10.10%               |
| UAAL rate                  | 25.42%              | +0.62%        | 26.04%               |
| <b>Total employer rate</b> | <b>35.80%</b>       | <b>+0.34%</b> | <b>36.14%</b>        |

\* 9.41% is at least 50% of the 18.81% total normal cost rate calculated in the June 30, 2020 valuation.  12

# Retiree Health Assumptions and Impact

# Estimated Actuarial Impact – Retiree Health

*Modeled as of June 30, 2023 (\$ in thousands)*

- **Increase** participation assumptions for vested terminated members.  
**Change** spousal coverage and spouse age difference.
- Actual cost impact will be reflected in the June 30, 2024 valuation
  - Impact varies by plan of benefits

| Component                   | Current Assumptions | Total Change | Proposed Assumptions |
|-----------------------------|---------------------|--------------|----------------------|
| Total normal cost           | \$2,214             | -\$2         | \$2,212              |
| Actuarial accrued liability | \$131,627           | \$1,603      | \$133,230            |
| VVA funded ratio            | 47.7%               | -0.6%        | 47.1%                |

# Contribution Rate Impact – Retiree Health

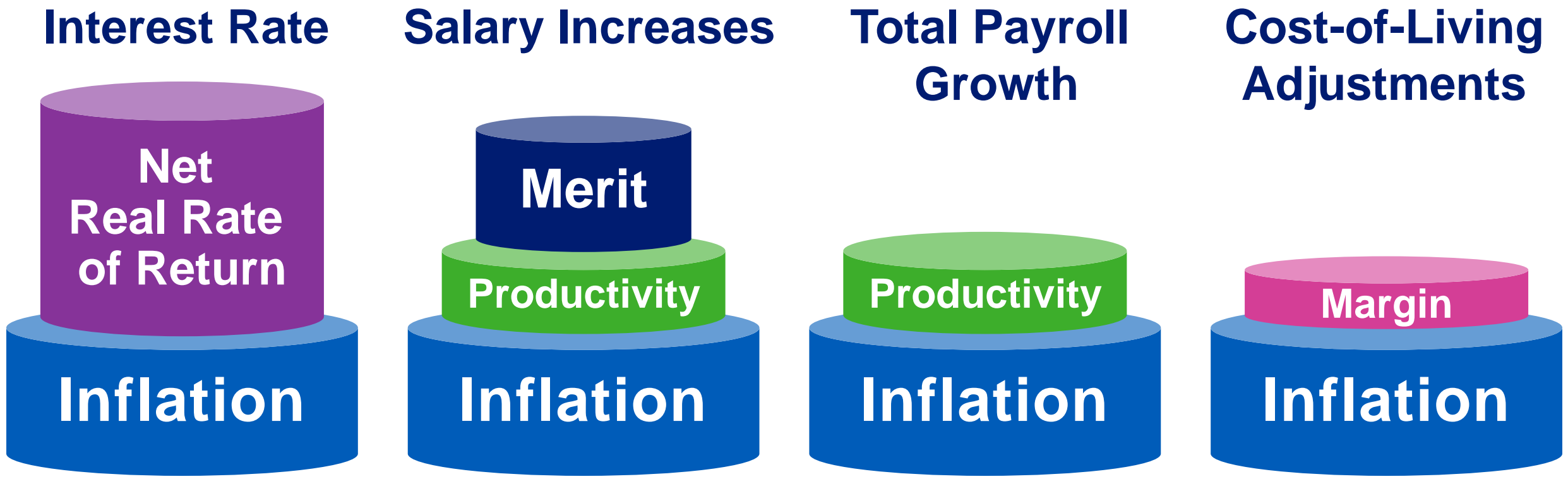
*Modeled as of June 30, 2023 as % of payroll*

| Tier & Component           | Current Assumptions | Total Change  | Proposed Assumptions |
|----------------------------|---------------------|---------------|----------------------|
| <b>1955/1980 Plan</b>      |                     |               |                      |
| Total normal cost          | 0.95%               | +0.06%        | 1.01%                |
| Employee normal cost       | 0.09%               | +0.00%        | 0.09%                |
| Employer normal cost       | 0.86%               | +0.06%        | 0.92%                |
| UAAL rate                  | 3.57%               | +0.04%        | 3.61%                |
| <b>Total employer rate</b> | <b>4.43%</b>        | <b>+0.10%</b> | <b>4.53%</b>         |
| <b>2013 Tier</b>           |                     |               |                      |
| Total normal cost          | 0.79%               | -0.06%        | 0.73%                |
| Employee normal cost       | 0.09%               | +0.00%        | 0.09%                |
| Employer normal cost       | 0.70%               | -0.06%        | 0.64%                |
| UAAL rate                  | 3.57%               | +0.04%        | 3.61%                |
| <b>Total employer rate</b> | <b>4.27%</b>        | <b>-0.02%</b> | <b>4.25%</b>         |

# Taking a Closer Look...

# Summary of Economic Assumptions

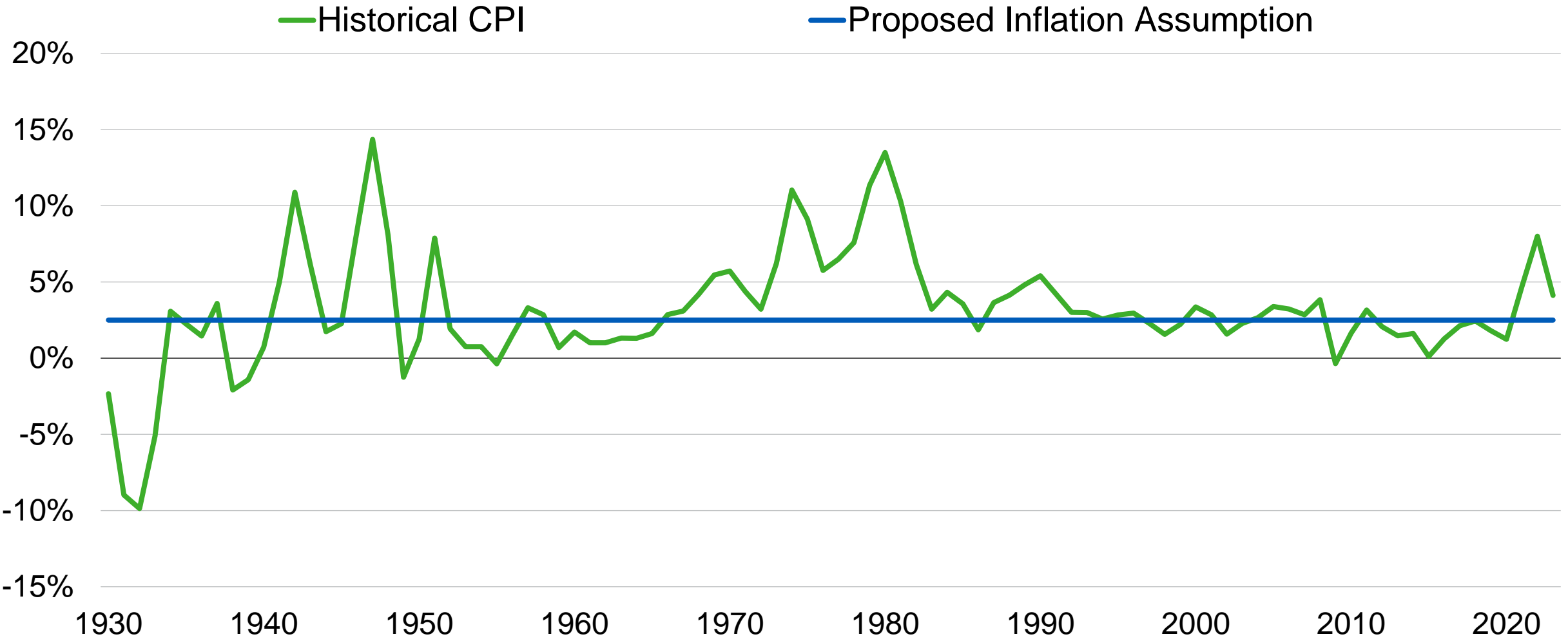
*What are the components of the economic assumptions?*



Each component should be consistent across all economic assumptions

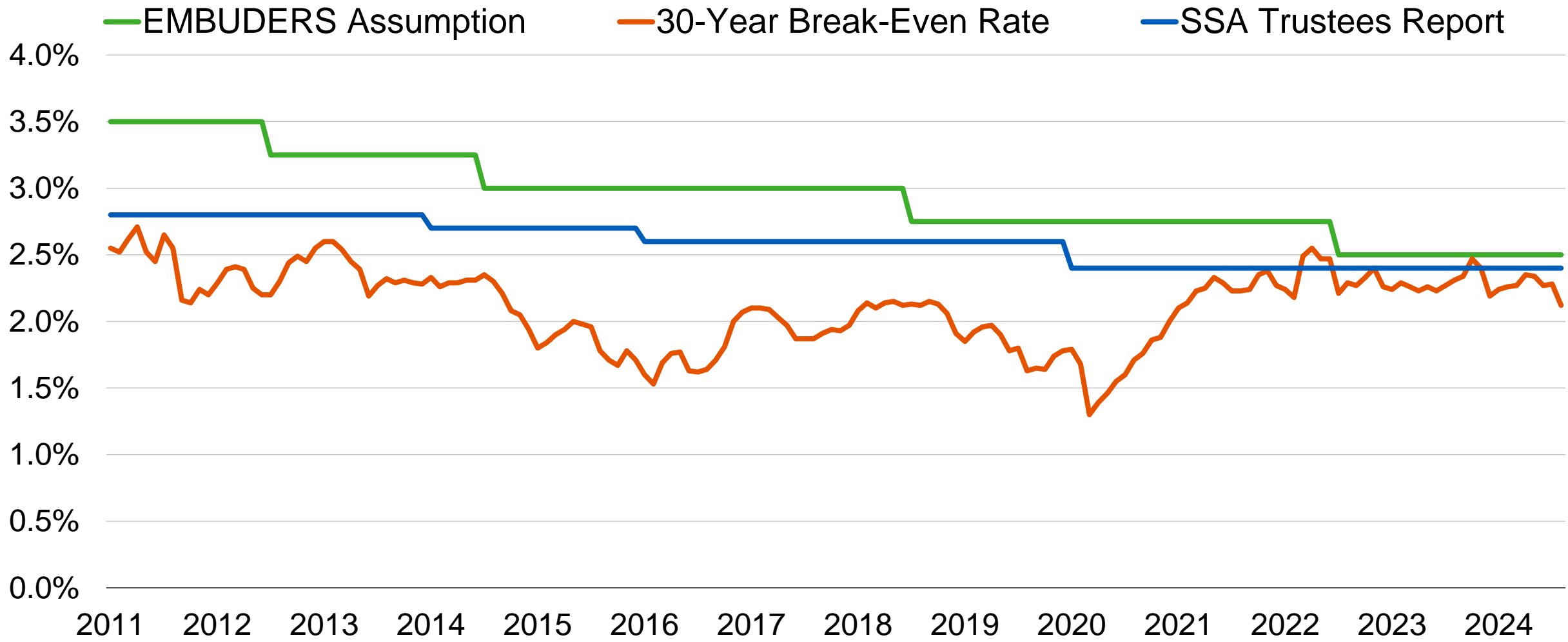
# Historical Consumer Price Index (CPI)

*Price inflation historical review*



# Historical Inflation Forecasts

## *Price inflation comparisons*



# Price Inflation Assumption

*Looking forward*

## Future expectations

- Investment consultant survey average inflation is 2.5%
  - Meketa: 2.80% annual inflation over 20 years
- Social Security Administration: 2.40% average CPI over 75 years
- Market implied forward inflation hovering between 2%-2.5%
- Public Plan Database: 2.50% median inflation assumption

Recommend maintaining annual inflation assumption at 2.50%

# Model Change for Setting Return Assumption

## *Moving from arithmetic to geometric returns*

- Expected arithmetic returns
  - Expected to have no surplus or shortfall (“mean”)
  - Investment management fees **reduce** expected return
  - Used in 2022 economic assumptions study
- Expected geometric returns
  - Equal likelihood of surplus or shortfall (“median”)
  - Investment management fees **do not** reduce expected return
  - **New!** Used in 2024 experience study
- Differences offset to some degree, so results are generally comparable

# Investment earnings assumption

*Putting it all together*

| Assumption Component                         | June 30, 2024<br>Recommended | June 30, 2024<br>Comparison | June 30, 2022<br>Adopted |
|--|------------------------------|-----------------------------|--------------------------|
| Inflation                                    | 2.50%                        | 2.50%                       | 2.50%                    |
| Portfolio expected arithmetic real return    | 5.26%                        | 5.26%                       | 4.71%                    |
| Adjustment to expected geometric real return | (0.78)%                      | N/A                         | N/A                      |
| Expense adjustment                           | (0.15)%                      | (0.25)%                     | (0.25)%                  |
| Risk adjustment                              | (0.08)%                      | (0.76)%                     | (0.21)%                  |
| <b>Total</b>                                 | <b>6.75%</b>                 | <b>6.75%</b>                | <b>6.75%</b>             |
| <b>Confidence level</b>                      | <b>51%</b>                   | <b>59%</b>                  | <b>53%</b>               |

# Real Returns by Asset Class

- Target allocation adopted by the Board
- Average real returns based on Segal survey
  - **New!** Net of investment expenses
- Portfolio real return increased from 4.71% to **5.26%** on an arithmetic basis

| Asset Class               | Target Allocation | Average Net Real Return |
|---------------------------|-------------------|-------------------------|
| U.S. Large-Cap Equity     | 32.55%            | 5.80%                   |
| U.S. Small-Cap Equity     | 2.45%             | 6.59%                   |
| Non-U.S. Developed Equity | 18.00%            | 6.44%                   |
| Emerging Market Equity    | 7.00%             | 8.32%                   |
| Core Bonds                | 20.00%            | 2.27%                   |
| High Yield Loans          | 7.50%             | 4.62%                   |
| Bank Loans                | 5.00%             | 4.43%                   |
| Real Estate               | 2.50%             | 4.54%                   |
| Private Debt              | 5.00%             | 6.63%                   |
| <b>Total</b>              | <b>100.00%</b>    | <b>5.26%*</b>           |

\* Total average net real return is 5.89% if calculated using Meketa's assumptions.

# Expense and Risk Adjustment

## Investment and administrative expenses

- Recommend **decreasing** expense assumption from 0.25% to **0.15%**
  - No longer reflects investment manager fees

## Risk adjustment

- **Decrease** in risk adjustment
  - Results in **lower** confidence level
- Compares risk position over time

| Years Ending<br>June 30   | Risk<br>Adjustment | Confidence<br>Level |
|---------------------------|--------------------|---------------------|
| 2014 – 2015               | 0.09%              | 51%                 |
| 2016 – 2017               | 0.44%              | 55%                 |
| 2018 – 2019               | 0.12%              | 51%                 |
| 2020 – 2021               | 0.05%              | 51%                 |
| 2022 – 2023               | 0.21%              | 53%                 |
| <b>2024 (Comparison)</b>  | <b>0.76%</b>       | <b>59%</b>          |
| <b>2024 (Recommended)</b> | <b>0.08%</b>       | <b>51%</b>          |

# Comparison with Other Systems

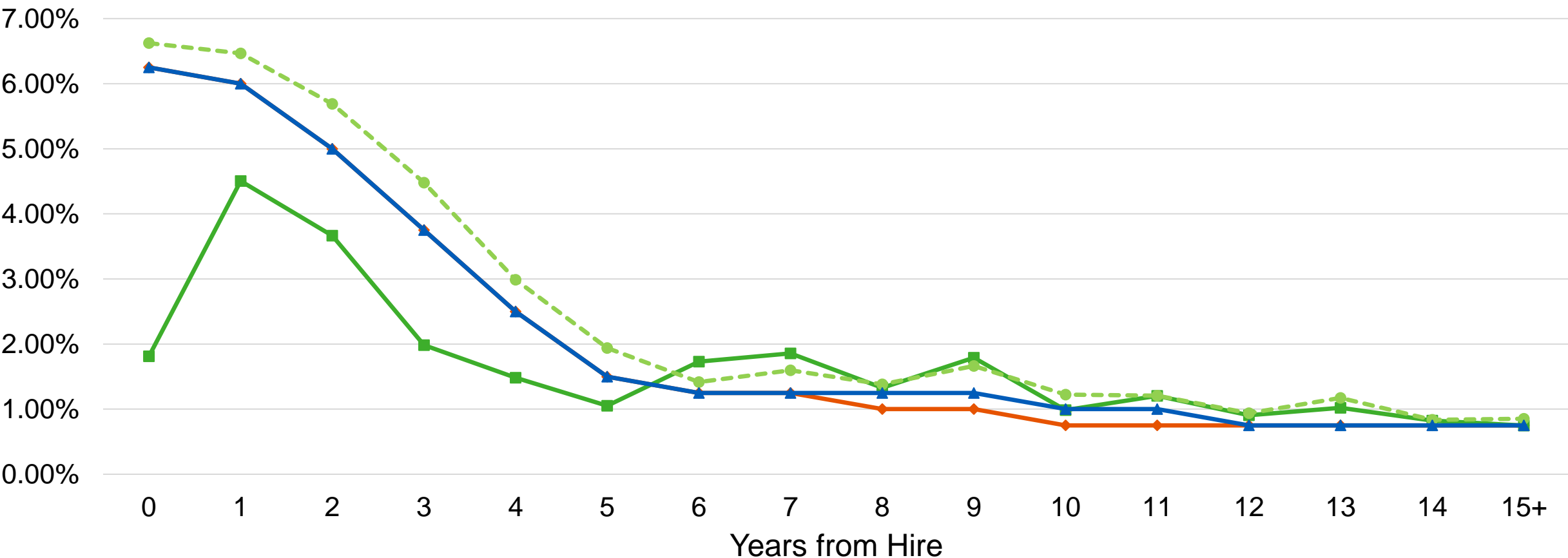
*How does the 6.75% recommendation compare?*

- **National** median is 7.00%
  - 207 large public retirement funds in their 2023 fiscal year valuation
  - State systems outside California tend to lag emerging practices
- In **California** most common return assumption is 6.75% or lower

| System(s)                | Assumption | Count |
|--------------------------|------------|-------|
| CalPERS                  | 6.80%      |       |
| CalSTRS                  | 7.00%      |       |
| University of California | 6.75%      |       |
| 1937 CERL Systems        | 7.25%      | 1     |
|                          | 7.00%      | 6     |
|                          | 6.75%      | 9     |
|                          | 6.50%      | 3     |
|                          | 6.25%      | 1     |
| San Francisco            | 7.20%      |       |
| LACERS, LAFPP            | 7.00%      |       |
| LADWP                    | 6.50%      |       |
| Fresno                   | 6.75%      |       |
| San Jose                 | 6.625%     |       |
| San Diego                | 6.50%      |       |

# Merit and Promotion Increase Example

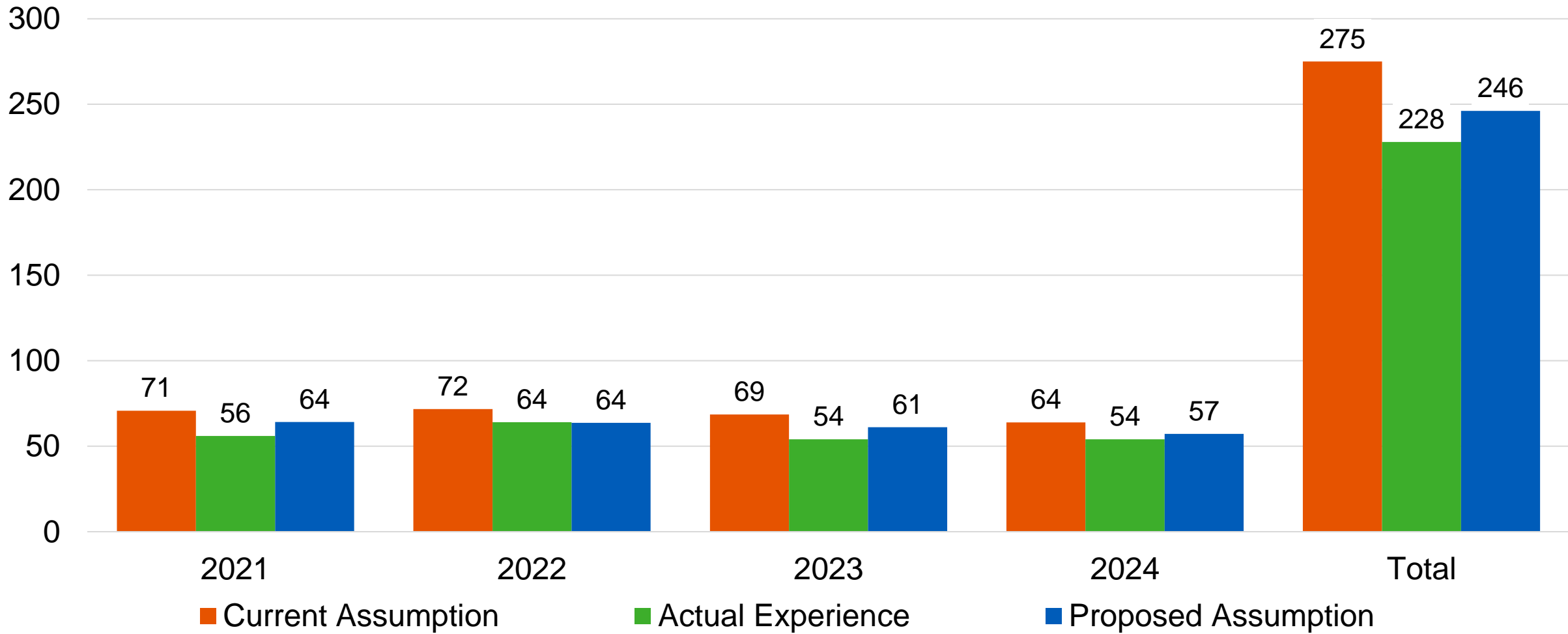
*1955/1980 Plan Members*



- ◆— Current Assumption
 —■— Actual Experience (2020-24, 1955/1980 Plan)
- - -●- - - Actual Experience (2016-24, All Members)
 —▲— Proposed Assumption

# Retirement Increase Example

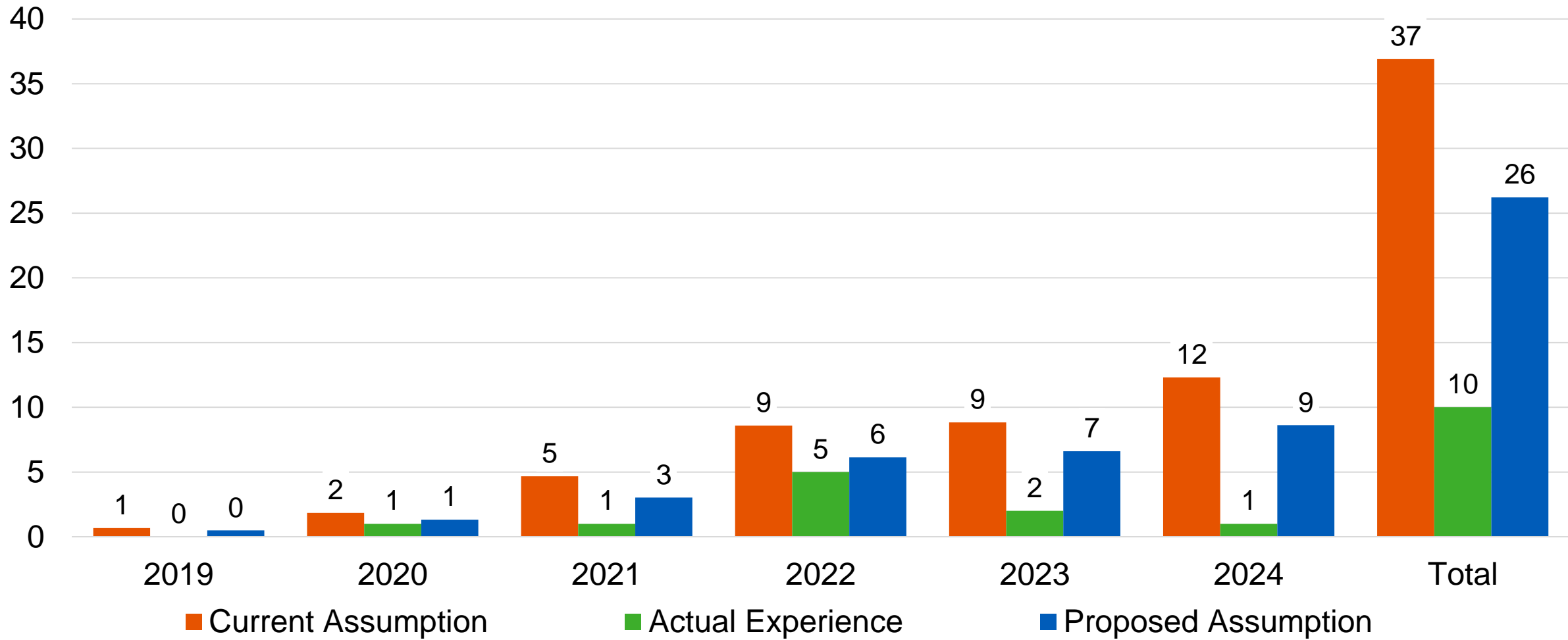
*1955/1980 Plan Members (Eligible for Unreduced Benefit)*



Note: Results may not add due to rounding.

# Retirement Increase Example

## 2013 Tier Members



Note: Results may not add due to rounding.

# Thank You

**Andy Yeung, ASA, MAAA, FCA, EA**  
Vice President and Actuary  
ayeung@segalco.com

**Emily Klare, ASA, MAAA, EA**  
Senior Actuary  
eklare@segalco.com

**Dirk Adamsen**  
Associate Actuarial Consultant  
dadamsen@segalco.com



## Disclaimer

This document has been prepared for the exclusive use and benefit of the client, based upon information provided by you and your other service providers or otherwise made available to Segal at the time this document was created. Segal makes no representation or warranty as to the accuracy of any forward-looking statements and does not guarantee any particular outcome or result. Except as may be required by law, this document should not be shared, copied or reproduced in any form and should only be shared with other parties in its entirety as necessary for the proper administration of the Plan. This document does not constitute legal, tax or investment advice or create or imply a fiduciary relationship. You are encouraged to discuss any issues raised with your legal, tax and other advisors before taking, or refraining from taking, any action.

East Bay Municipal Utility District  
Employees' Retirement System (EBMUDERS)

# Actuarial Experience Study

**Analysis of Actuarial Experience During the Period  
July 1, 2020 through June 30, 2024**

This report should only be copied, reproduced, or shared with other parties in its entirety as necessary for the proper administration of the Plan.

© 2024 by The Segal Group, Inc.



November 13, 2024

Ms. Sophia Skoda  
Director of Finance  
East Bay Municipal Utility District  
375 Eleventh Street  
Oakland, CA 94607-4240

**Re: Review of Actuarial Assumptions for the June 30, 2024 Actuarial Valuations**

Dear Sophia:

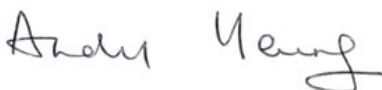
We are pleased to submit this report of our review of the actuarial experience for the East Bay Municipal Utility District Employees' Retirement System (EBMUDERS). This study utilizes the census data for the period July 1, 2020 to June 30, 2024 as well as prior periods for some assumptions, examines other relevant inputs, and provides the proposed actuarial assumptions, both economic and demographic, to be used in the June 30, 2024 valuations.

The actuarial calculations were completed under the supervision of Andy Yeung, ASA, MAAA, FCA, Enrolled Actuary and Mehdi Riazi, FSA, MAAA, FCA, Enrolled Actuary. We are members of the American Academy of Actuaries and we meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein.

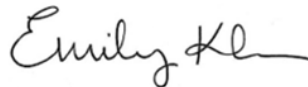
Segal makes no representation or warranty as to the future status of the Plan and does not guarantee any particular result. This document does not constitute legal, tax, accounting or investment advice or create or imply a fiduciary relationship. The Board is encouraged to discuss any issues raised in this report with the Plan's legal, tax and other advisors before taking, or refraining from taking, any action.

We look forward to reviewing this report with you and answering any questions you may have.

Sincerely,

Handwritten signature of Andy Yeung in black ink.

Andy Yeung, ASA, MAAA, FCA, EA  
Vice President and Actuary

Handwritten signature of Emily Klare in black ink.

Emily Klare, ASA, MAAA, EA  
Senior Actuary

Handwritten signature of Mehdi Riazi in black ink.

Mehdi Riazi, FSA, MAAA, FCA, EA  
Vice President and Actuary

DNA/jl

# Table of Contents

|   |    |
|---|----|
| Section 1: Introduction, Summary, and Recommendations ..... | 4  |
| Section 2: Background and Methodology .....                 | 10 |
| Economic assumptions.....                                   | 10 |
| Demographic assumptions .....                               | 11 |
| Section 3: Economic Assumptions.....                        | 12 |
| A. Inflation.....   | 12 |
| B. Investment return .....                                  | 16 |
| C. Salary increase .....                                    | 25 |
| Section 4: Demographic Assumptions .....                    | 31 |
| A. Mortality rates - healthy.....                           | 31 |
| B. Mortality rates - disabled .....                         | 42 |
| C. Disability incidence rates .....                         | 46 |
| D. Termination rates .....                                  | 48 |
| E. Retirement rates.....                                    | 54 |
| F. Miscellaneous assumptions and change in method.....      | 61 |
| G. Retiree health assumptions .....                         | 66 |
| Section 5: Cost Impact.....                                 | 69 |
| Appendix A: Current Actuarial Assumptions .....             | 75 |
| Appendix B: Proposed Actuarial Assumptions.....             | 82 |

# Section 1: Introduction, Summary, and Recommendations

To project the cost and liabilities of the Pension and Health Funds, assumptions are made about all future events that could affect the amount and timing of the benefits to be paid and the assets to be accumulated. Each year actual experience is compared against the projected experience, and to the extent there are differences, the future contribution requirement is adjusted.

If assumptions are modified, contribution requirements are adjusted to take into account a change in the projected experience in all future years. There is a great difference in both philosophy and cost impact between recognizing the actuarial deviations as they occur annually and changing the actuarial assumptions. Taking into account one year's gains or losses without making a change in the assumptions means that year's experience is treated as temporary and that, over the long run, experience will return to what was originally assumed. For example, the actuarial assumptions used in the most recent valuation did not include any possible short-term or long-term impacts on mortality of the covered population that emerged due to COVID-19.<sup>1</sup> Changing assumptions reflects a basic change in thinking about the future and has a much greater effect on the current contribution requirements than recognizing gains or losses as they occur.

The use of realistic actuarial assumptions is important in maintaining adequate funding, while paying the promised benefit amounts to participants already retired and to those near retirement. The actuarial assumptions used do not determine the "actual cost" of the plan. The actual cost is determined solely by the benefits and administrative expenses paid out, offset by investment income received. However, it is desirable to estimate as closely as possible what the actual cost will be so as to permit an orderly method for setting aside contributions today to provide benefits in the future, and to maintain equity among generations of participants and taxpayers.

This study was undertaken in order to review the economic and demographic actuarial assumptions and to compare the actual experience with that expected under the current assumptions during the four-year experience period from July 1, 2020 through June 30, 2024. The study was performed in accordance with Actuarial Standard of Practice (ASOP) No. 27 "Selection of Economic Assumptions for Measuring Pension Obligations" and ASOP No. 35 "Selection of Demographic and Other Non-Economic Assumptions for Measuring Pension Obligations." These Standards of Practice provide guidance for the selection of the various actuarial assumptions utilized in a pension plan actuarial valuation. Based on the study's results and expected future experience, we are recommending various changes in the current actuarial assumptions.

We are recommending changes in the assumptions for merit and promotion salary increases, pre-retirement mortality, post-retirement healthy and disabled life mortality, beneficiary mortality, disability, termination, retirement from active employment, sick leave conversion, percent

<sup>1</sup> An analysis of the ongoing impact of the COVID-19 pandemic is beyond the scope of the current experience study.

married/domestic partnership, and form of payment election. We are also recommending a change in the methodology used to calculate the normal cost rate for the 2013 Tier. In addition, we have included the retiree health assumptions we recommend for the Health Insurance Benefit Plan.

Our recommendations for the major actuarial assumption categories are as follows:

| Pg # | Actuarial Assumption Category  | Recommendation  |
|------|--|---|
| 12   | <b>Inflation:</b> Future increases in the Consumer Price Index (CPI), which drives investment returns and active member salary increases.  | Maintain the inflation assumption at 2.50% per annum as discussed in <i>Section 3(A)</i> .  |
| 15   | <b>Cost-of-living adjustments (COLA):</b> Future increases in the cost of living adjustments for retirees.   | Maintain the retiree cost-of-living assumption at 2.75% per annum (based on our recommended inflation assumption of 2.50% plus a margin for adverse deviation of 0.25%) as discussed in <i>Section 3(A)</i> .   |
| 16   | <b>Investment return:</b> The estimated average net rate of return on current and future assets of the System as of the valuation date. This rate is used to discount liabilities.   | Maintain the investment return assumption at 6.75% per annum as discussed in <i>Section 3(B)</i> .  |
| 25   | <p><b>Individual salary increases:</b> Increases in the salary of a member between the date of the valuation to the date of separation from active service. This assumption has three components:</p> <ul style="list-style-type: none"> <li>• Inflationary salary increases</li> <li>• Real “across-the-board” salary increases</li> <li>• Merit and promotion increases</li> <li>• Payroll growth: Used to amortize the UAAL in determining the UAAL contribution rate.</li> </ul> | <p>Maintain the inflationary salary increase assumption at 2.50% and maintain the real “across-the-board” salary increase assumption at 0.50%.</p> <p>Adjust the merit and promotion rates of salary increase as developed in <i>Section 3(C)</i> to reflect past experience. This includes introducing separate rates of merit and promotion salary increases for 1955/1980 Plan and 2013 Tier members. Future merit and promotion salary increases are higher in several time from hire categories under the proposed assumptions.</p> <p>The recommended total rates of salary increase anticipate higher increases overall than the current assumptions for both 1955/1980 Plan and 2013 Tier members.</p> <p>Maintain the payroll growth assumption (combined inflationary and real “across-the-board” salary increases) at 3.00%.</p> |

| Pg # | Actuarial Assumption Category   | Recommendation  |
|------|---|---|
| 31   | <p><b>Mortality rates - healthy:</b> The probability of dying at each age for non-disabled members. Mortality rates are used to anticipate life expectancies.</p> | <p><b>Healthy retirees</b></p> <p><i>Current and recommended base table:</i><br/>           Pub-2010 General Healthy Retiree Amount-Weighted/Headcount-Weighted<sup>1</sup> Above-Median Mortality Tables with rates increased by 5% for males</p> <p><b>Beneficiaries</b></p> <p><i>Current base table for all beneficiaries:</i><br/>           Pub-2010 Contingent Survivor Amount-Weighted/Headcount-Weighted<sup>1</sup> Above-Median Mortality Tables with rates increased by 5% for males and females</p> <p><i>Recommended base table for beneficiaries in pay status at the valuation:</i><br/>           Pub-2010 Contingent Survivor Amount-Weighted/Headcount-Weighted<sup>1</sup> Above-Median Mortality Table with rates increased by 5% for males and females</p> <p><i>Recommended base table for beneficiaries not in pay status at the valuation:</i><br/>           For the purposes of the actuarial valuations (for funding and financial reporting), when calculating the liability for the continuance to a beneficiary of a surviving member we recommend that the Healthy Retiree mortality tables be used for beneficiary mortality both before and after the expected death of the member.</p> <p><b>Pre-retirement mortality</b></p> <p><i>Current and recommended base table:</i><br/>           Pub-2010 General Employee Amount-Weighted/Headcount-Weighted<sup>1</sup> Above-Median Mortality Tables</p> <p><b>Mortality projection</b></p> <p><i>Current projection:</i><br/>           All current tables are projected generationally with the two-dimensional mortality improvement scale MP-2020.</p> <p><i>Recommended projection:</i><br/>           All recommended tables are projected generationally with the two-dimensional mortality improvement scale MP-2021. This is the most recent projection scale, as an updated projection scale was not published in 2022, 2023, nor 2024.</p> |

<sup>1</sup> The above Amount-Weighted tables are recommended for the Pension Plan and the Headcount-Weighted tables are recommended for the Health Plan.

| Pg # | Actuarial Assumption Category  | Recommendation  |
|------|--|---|
| 42   | <b>Mortality rates - disabled:</b> The probability of dying at each age for disabled members. Mortality rates are used to anticipate life expectancies.  | <p><b>Disabled retirees</b></p> <p><i>Current and recommended base table:</i><br/>           Pub-2010 Non-Safety Disabled Retiree Amount-Weighted/Headcount-Weighted<sup>1</sup> Mortality Tables with rates increased by 5% for males</p> <p><b>Mortality projection</b></p> <p><i>Current projection:</i><br/>           All current tables are projected generationally with the two-dimensional mortality improvement scale MP-2020.</p> <p><i>Recommended projection:</i><br/>           All recommended tables are projected generationally with the two-dimensional mortality improvement scale MP-2021. This is the most recent projection scale, as an updated projection scale was not published in 2022, 2023, nor 2024.</p> |
| 46   | <b>Disability incidence rates:</b> The probability of becoming disabled at each age.   | Adjust the disability rates to those developed in <i>Section 4(C)</i> to reflect slightly lower incidence of disability overall.  |
| 48   | <b>Termination rates:</b> The probability of leaving employment at each age or after a certain number of years of service and receiving either a refund of member contributions or a deferred vested retirement benefit. | Adjust the termination rates to those developed in <i>Section 4(D)</i> to reflect a slightly higher incidence of termination overall. This includes introducing separate termination rates for 1955/1980 Plan and 2013 Tier members and switching to use service-based assumptions.   |
| 54   | <b>Retirement rates:</b> The probability of retirement at each age at which participants are eligible to retire. Includes retirement age for deferred vested members.  | <p>For active members, adjust the current retirement rates to those developed in <i>Section 4(E)</i> to reflect later retirements.</p> <p>For deferred vested members, maintain the assumed retirement age of 59 for all members.</p>   |

<sup>1</sup> The above Amount-Weighted tables are recommended for the Pension Plan and the Headcount-Weighted tables are recommended for the Health Plan.

| Pg # | Actuarial Assumption Category   | Recommendation   |
|------|---|--|
| 61   | <p><b>Miscellaneous assumption and methodology changes including:</b></p> <ul style="list-style-type: none"> <li>• Reciprocity</li> <li>• Sick leave conversion</li> <li>• Percent married/domestic partnership</li> <li>• Age and gender of spouse/domestic partner</li> <li>• Form of payment</li> <li>• Change in methodology</li> </ul> | <p>Maintain the current proportion of future deferred vested members expected to be covered by a reciprocal system at 15%.</p> <p>Increase the sick leave conversion assumption from 0.038 years of additional service credit at retirement for each year of membership to 0.040 years of additional service credit.</p> <p>For active and deferred vested members, maintain the current percent married at retirement assumption at 85% for males and increase from 60% to 65% for females.</p> <p>Maintain the spouse/domestic partner assumptions that male retirees are two years older than their female spouses and that female retirees are three years younger than their male spouses.</p> <p>Change the form of payment assumptions as outlined in <i>Section 4(F)</i>.</p> <p>Implement a technical change in the calculation of normal cost rate for the 2013 Tier to achieve a more stable future normal cost rate.</p> |
| 66   | <p><b>Retiree health assumptions including:</b></p> <ul style="list-style-type: none"> <li>• Retiree participation</li> <li>• Spousal coverage</li> <li>• Covered spouse age difference</li> </ul>  | <p>Maintain the 95% participation assumption for retirees who are eligible for Health Insurance Benefit (HIB).</p> <p>Maintain the 70% assumption for participation in a non-Medicare health plan sponsored by EBMUDERS (for calculating implicit subsidy under accounting valuation).</p> <p>Increase participation assumption for current vested terminated employees from 50% to 65%.</p> <p>Change spousal coverage and covered spouse age difference to those described in <i>Section 4(G)</i>.</p>   |

We have estimated the impact of all the recommended economic and demographic assumptions as if they were applied to the June 30, 2023 actuarial valuation. The first table below shows the changes in the total contribution rates due to the proposed assumption changes separately for the recommended pre-retirement assumptions (including the change in methodology to calculate normal cost rate for the 2013 Tier) and the recommended post-retirement mortality assumptions for the Pension Plan. For the Health Plan, the second table below shows the change in the total contribution rates for all the assumptions combined.

## Pension Plan

### Estimated Cost Impact of Assumption and Methodology Changes Based on June 30, 2023 Valuation

| Assumption  | (1)<br>Impact on<br>UAAL<br>(\$ thousands) | (2)<br>Impact on<br>Total Normal<br>Cost Rate | (3)<br>Impact on<br>UAAL Rate | (4)<br>Impact on<br>Total Rate<br>(2) + (3) |
|---|--|---|-------------------------------|---|
| Increase due to pre-retirement assumption and methodology changes   | \$2,817                                    | 0.25%   | (0.04%)                       | 0.21%                                       |
| Increase due to post-retirement assumption changes                  | \$24,692                                   | 0.15%   | 0.66%                         | 0.81%                                       |
| <b>Total increase due to all assumption and methodology changes</b> | <b>\$27,509</b>                            | <b>0.40%</b>                                  | <b>0.62%</b>                  | <b>1.02%</b>                                |

Of the various assumption changes, the most significant rate increase is due to the updated post-retirement assumption changes. A breakdown of the changes in the employer and employee contribution rates for each of the 1955/1980 Plan and 2013 Tier is provided in *Section 5*.

## Health Plan

### Estimated Cost Impact of Assumption Changes Based on June 30, 2023 Valuation

| Assumption  | (1)<br>Impact on<br>UAAL<br>(\$ thousands) | (2)<br>Impact on<br>Total Normal<br>Cost Rate | (3)<br>Impact on<br>UAAL Rate | (4)<br>Impact on<br>Total Rate<br>(2) + (3) |
|---|--|---|-------------------------------|---|
| <b>Total increase due to all assumption changes</b> | <b>\$1,603</b>                             | <b>0.00%</b>                                  | <b>0.04%</b>                  | <b>0.04%</b>                                |

A breakdown of the changes in the employer contribution rates for each of the 1955/1980 Plan and 2013 Tier is provided in *Section 5*.

In total, the changes recommended in this study would increase the contribution rate by 1.06% of total payroll, or \$2,780,089 if the changes were applied in the June 30, 2023 valuations.<sup>1</sup>

*Section 2* provides some background on the basic principles and methodology used for the experience study and for the review of the economic and demographic actuarial assumptions. A detailed discussion of each assumption and reasons for the proposed changes are found in *Section 3* for the economic assumptions and *Section 4* for the demographic assumptions. The cost impact of the proposed changes is detailed in *Section 5*.

<sup>1</sup> Based on total payroll of \$262,272,600 as of June 30, 2023.

# Section 2: Background and Methodology

In this report, we analyzed both economic and demographic (“non-economic”) assumptions. The primary economic assumptions reviewed are inflation, cost-of-living adjustments, investment return, and salary increases. Demographic assumptions include the probabilities of certain events occurring in the population of members, referred to as “decrements,” e.g., termination from service, disability retirement, service retirement, and death before and after retirement. In addition to decrements, other demographic assumptions reviewed in this study include the percentage of members with an eligible spouse or domestic partner, spousal age difference, percent of members assumed to go on to work for a reciprocal system, reciprocal salary increases, form of payment, and unused sick leave conversion. We have also reviewed certain retiree health assumptions for the Health Insurance Benefit Plan.

## Economic assumptions

Economic assumptions consist of:

- **Inflation:** Increases in the price of goods and services. The inflation assumption reflects the basic return that investors expect from securities markets. It also reflects the expected basic salary increase for active employees.
- **Cost-of-Living Adjustments:** Increases in future benefit payments for retirees. Based on plan provisions, EBMUDERS provides maximum 3% annual increases in the benefits paid to retired employees that is increased to 5% when the System’s funded ratio measured on a Projected Benefit Obligation (PBO) basis is more than 85%.<sup>1,2</sup> This assumption is tied to the inflation assumption and the System’s funded ratio measured on a PBO basis.
- **Investment return:** Expected long-term rate of return on the System’s investments after accounting for certain investment expenses and all administrative expenses. This assumption has a significant impact on contribution rates.
- **Salary increases:** In addition to inflationary increases, it is assumed that salaries will also grow by real “across-the-board” pay increases in excess of price inflation. It is also assumed that employees will receive raises above these average increases as they advance in their careers, which are commonly referred to as merit and promotion increases. Payments to amortize any Unfunded Actuarial Accrued Liability (UAAL) are assumed to increase each year by the price inflation rate plus any real “across-the-board” pay increases that are assumed.

The setting of these economic assumptions is described in *Section 3*.

<sup>1</sup> Effective October 1, 2000, when the System is 85% funded on a PBO basis and the cost of living is less than 4%, withdrawals from the accumulated COLA bank are made to allow cost of living increases up to 4%.

<sup>2</sup> We note that as of July 1, 2024, the amounts in the COLA banks range from 0.00% to 12.20%, with about 90% of the retirees and beneficiaries having a COLA bank of 3.3% as of that date. This is a result of most continuing retirees and beneficiaries receiving a COLA increase on July 1, 2024 equal to the 3.0% provision, thereby increasing their 2.6% July 1, 2023 COLA bank by 0.7% to 3.3% as of July 1, 2024.

## Demographic assumptions

In order to determine the probability of an event occurring, we examine the “decrements” and “exposures” of that event. For example, taking termination from service, we compare the number of employees who actually terminate in a certain service category (i.e., the number of “decrements”) with those who could have terminated (i.e., the number of “exposures”). So if there were 500 active employees with 5 years of service at the beginning of the year and 50 of them left during the year, we would say the probability of termination at 5 years of service is  $50 \div 500$  or 10%.

The reliability of the resulting probability is highly dependent on both the number of decrements and the number of exposures. For example, if there are only a few people in a high service category at the beginning of the year (number of exposures), we would not lend as much credibility to the probability of termination developed for that service group, especially if it is out of line with the pattern shown for the other service groups. Similarly, if we are considering the death decrement, there may be a large number of exposures in the age 20-24 group, but very few decrements (actual deaths); therefore, we would not be able to rely heavily on the probability developed for that group.

One reason we use several years of experience for such a study is to have more exposures and decrements, and therefore more statistical reliability. Another reason for using several years of data is to smooth out fluctuations that may occur from one year to the next. However, we also calculate the rates on a year-to-year basis to check for any trend that may be developing in the later years.

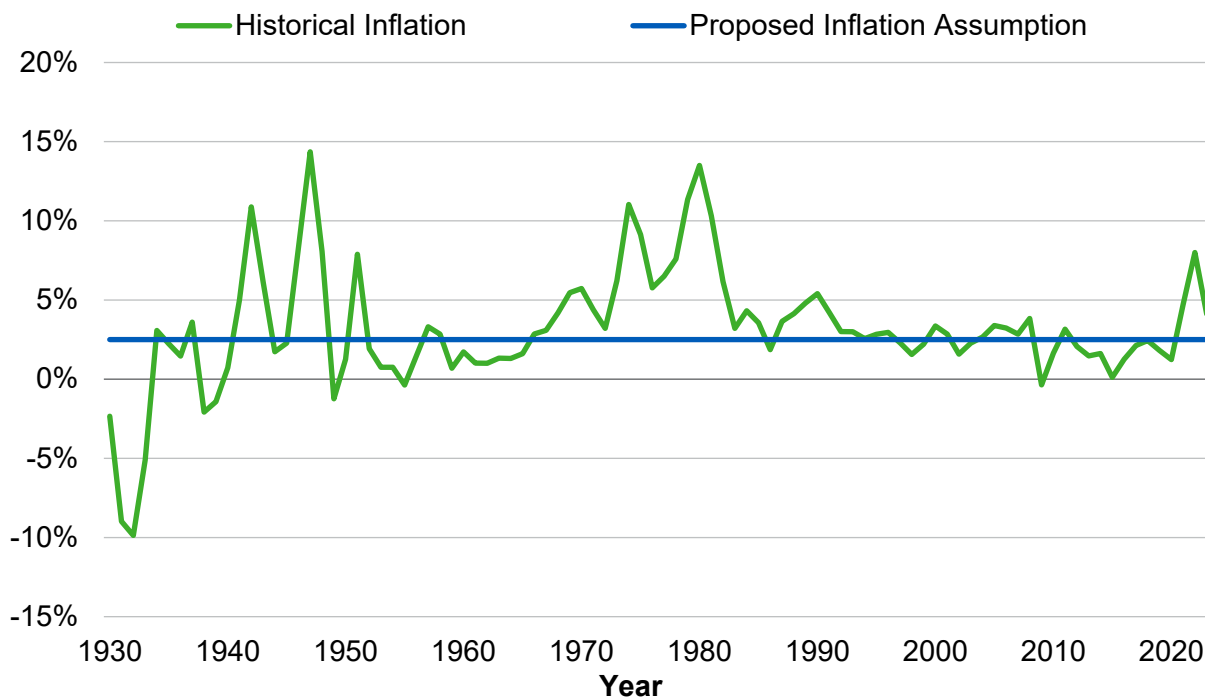
# Section 3: Economic Assumptions

## A. Inflation

Unless an investment grows at least as fast as prices increase, investors will experience a reduction in the inflation-adjusted value of their investment. There may be times when “riskless” investments return more or less than inflation, but over the long term, investment market forces will generally require an issuer of fixed income securities to maintain a minimum return which protects investors from inflation.

The inflation assumption is long term in nature, so our analysis begins with a review of historical information. Following is a graph showing historical inflation rates and a comparison with the inflation assumption of 2.50% that we recommend in this report:

Historical Consumer Price Index – 1930 to 2023<sup>1</sup>  
(U.S. City Average - All Urban Consumers)



There was a spike in inflation that started in the second quarter of 2021 and continued into 2022. However, the rate of inflation, while still elevated, has leveled off and started to decline since the Federal Reserve began to increase interest rates starting around the second quarter of 2022. In particular, the change in the CPI from September 2023 to September 2024 was 2.4%.

Based on information found in the Public Plans Database, which is produced in partnership with the National Association of State Retirement Administrators (NASRA), the median inflation

<sup>1</sup> Source: Bureau of Labor Statistics – Based on CPI for All Items in U.S. city average, all urban consumers, not seasonally adjusted (Series ID: CUUR0000SA0).

assumption used by 176 large public retirement funds in their 2023 fiscal year valuations was 2.50%.<sup>1</sup> In California, CalSTRS and five<sup>2</sup> 1937 Act CERL systems currently use an inflation assumption of 2.75%, the other fifteen 1937 Act CERL systems use an inflation assumption of 2.50%<sup>3</sup> (as does EBMUDERS) and CalPERS uses an inflation assumption of 2.30%.

EBMUDERS' investment consultant, Meketa, anticipates an annual inflation rate of 2.80% over a 20-year horizon, while the average inflation assumption provided by Meketa and five other investment advisory firms retained by Segal's California public sector clients, as well as Segal's investment advisory division (Segal Marco Advisors), was 2.50%. Note that, in general, investment consultants use a time horizon for this assumption that is shorter than the time horizon we use for the actuarial valuation.<sup>4</sup>

To find a forecast of inflation based on a longer time horizon, we referred to the Social Security Administration's (SSA) 2024 report on the financial status of the Social Security program.<sup>5</sup> The projected average increase in the Consumer Price Index (CPI) over the next 75 years under the intermediate cost assumptions used in that report was 2.40%. The SSA report also includes alternative projections using lower and higher inflation assumptions of 1.80% and 3.00%, respectively.

We also compared the yields on the thirty-year inflation indexed U.S. Treasury bonds to comparable traditional U.S. Treasury bonds.<sup>6</sup> This "break-even rate" is commonly regarded as a market-based gauge of future inflation expectations. As of August 2024, the difference in yields is about 2.12% which provides a measure of market expectations of inflation. It is worth noting that even during the peak of the recent inflation spike this break-even rate exceeded 2.50% in only a single month, April 2022. This measure of market expectation for long-term inflation can be quite volatile, which is illustrated in the table below.

<sup>1</sup> Among 228 large public retirement funds, the 2023 fiscal year inflation assumption was not available for 52 of the public retirement funds in the survey data as of September 2024.

<sup>2</sup> We note that none of these five 1937 Act CERL Systems are served by Segal.

<sup>3</sup> Eight of these 1937 Act CERL systems use a 2.50% inflation assumption with a 2.75% COLA assumption.

<sup>4</sup> The time horizon used by the six investment consultants included in our review, with the exception of one investment consultant that uses a 1-year horizon, generally ranges from 20 years to 30 years, with Meketa using a 20-year horizon.

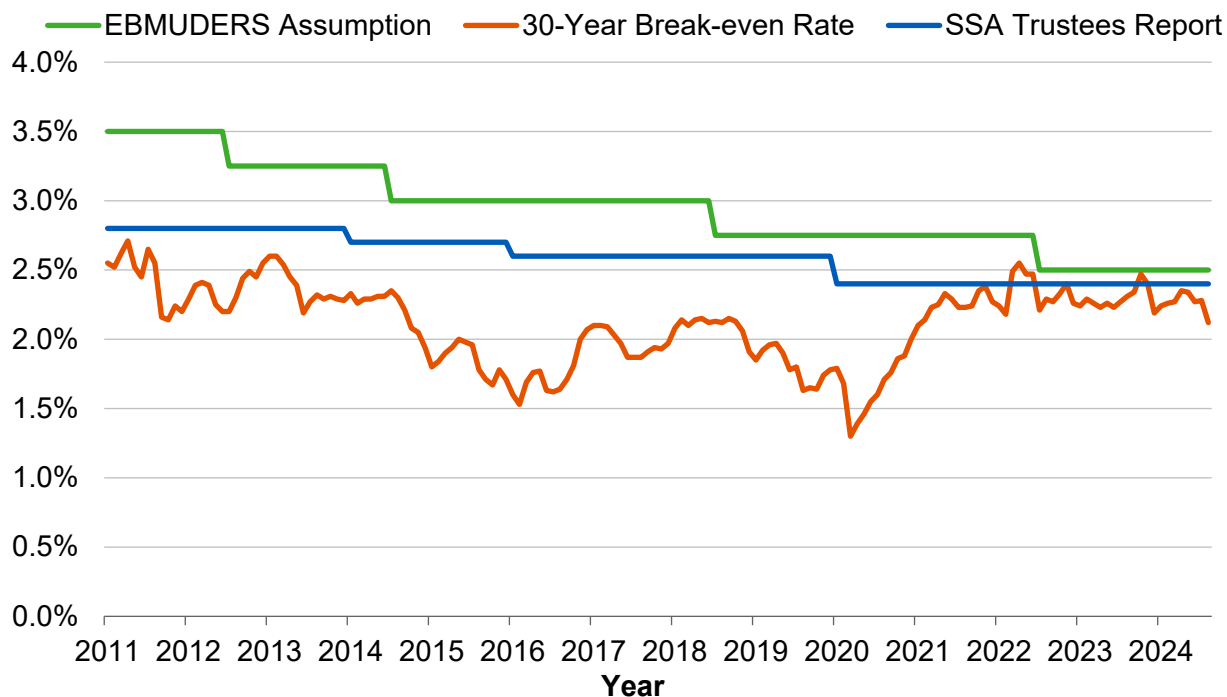
<sup>5</sup> Source: Social Security Administration: The 2024 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds.

<sup>6</sup> Source: Board of Governors of the Federal Reserve System.

| Observation Month | Difference in Yields | Observation Month | Difference in Yields |
|-------------------|----------------------|-------------------|----------------------|
| January 2022      | 2.24%                | May 2023          | 2.26%                |
| February 2022     | 2.18%                | June 2023         | 2.23%                |
| March 2022        | 2.49%                | July 2023         | 2.27%                |
| April 2022        | 2.55%                | August 2023       | 2.31%                |
| May 2022          | 2.47%                | September 2023    | 2.34%                |
| June 2022         | 2.47%                | October 2023      | 2.47%                |
| July 2022         | 2.21%                | November 2023     | 2.40%                |
| August 2022       | 2.29%                | December 2023     | 2.19%                |
| September 2022    | 2.27%                | January 2024      | 2.24%                |
| October 2022      | 2.33%                | February 2024     | 2.26%                |
| November 2022     | 2.40%                | March 2024        | 2.27%                |
| December 2022     | 2.26%                | April 2024        | 2.35%                |
| January 2023      | 2.24%                | May 2024          | 2.34%                |
| February 2023     | 2.29%                | June 2024         | 2.27%                |
| March 2023        | 2.26%                | July 2024         | 2.28%                |
| April 2023        | 2.23%                | August 2024       | 2.12%                |

The following graph shows EBMUDERS’ historical and current proposed inflation assumptions compared to the two other metrics just discussed, going back to 2011. In effect, this compares EBMUDERS’ assumption to two separate independent forecasts, one based on market observations and one developed by economists at the SSA. The graph shows that over the observed period, EBMUDERS’ assumption has been higher but consistently moving towards these other forecasts and seems to be in a stable place at this point in time.

### Historical Inflation Forecasts



The setting of the inflation assumption using the information outlined above is a somewhat subjective process, and Segal does not apply a specific weight to each of the metrics in

determining our recommended inflation assumption. Based on a consideration of all the above metrics, beginning in 2021 we have been recommending the same 2.50% inflation assumption in our experience studies for our California public retirement system clients.

**Based on all of the above information, we recommend maintaining the annual inflation assumption at 2.50%.**

## Retiree cost-of-living increases

The annual cost of living increase in the benefit paid to retired members and beneficiaries is dependent on inflation. Up to a 3% annual adjustment will be made and that adjustment is increased to 5% when the Retirement Board determines that the System is more than 85% funded on a Projected Benefit Obligation (PBO) basis using market value of assets. Effective October 1, 2000, when the System is 85% funded on a PBO basis and the cost of living is less than 4%, withdrawals from the accumulated COLA bank are made to allow cost of living increases up to 4%. (As we noted in the footnote at the bottom of *Section 2*, about 90% of retirees and beneficiaries had a 3.3% COLA bank as of July 1, 2024, due to the 0.7% increase to their 2.6% July 1, 2023 COLA bank after they received a July 1, 2024 COLA equal to the 3% provision.)

In our last economic assumptions study dated November 8, 2022, the Board adopted the continued use of a 2.75% COLA assumption which included a 0.25% margin above the 2.50% inflation assumption.<sup>1</sup>

In the table below, we continue to observe that the changes in the annual CPI based on the San Francisco-Oakland-Hayward area used by the Board to set COLAs have exceeded those of the changes in the annual CPI for the U.S. City Average during the most recent 10-year, 15-year and 20-year periods. While there has been a reversal to this trend in the most recent five-year period, we note that the average change in annual CPI for the San Francisco-Oakland-Hayward area is still higher than the 3% maximum COLA.

|                | Change in Annual CPI for San Francisco-Oakland-Hayward Area | Change in Annual CPI for U.S. City Average |
|----------------|---|--|
| 5-year period  | 3.49%   | 3.94%                                      |
| 10-year period | 3.30%   | 2.72%                                      |
| 15-year period | 2.84%   | 2.34%                                      |
| 20-year period | 2.77%   | 2.55%                                      |

**We recommend maintaining the current assumptions to value the post-retirement COLA benefit at 2.75% per year which includes a 0.25% margin above our recommended inflation assumption.**

As of the date of the most recent valuation as of June 30, 2023, the Pension Plan's PBO funded ratio was 75.0% while the combined Pension and Health Insurance Benefit Plans' PBO funded ratio was 73.6%. We will continue to monitor the PBO funded ratio and the inflation environment

<sup>1</sup> We will continue to assume in the valuation that retired members and beneficiaries with a COLA bank on the date of the valuation will continue to receive the maximum COLA until the balances in their COLA banks are used up.

and to report back to the Board if we believe an additional margin should be included to anticipate payment of COLA in excess of what we assume in the valuation.

## B. Investment return

The investment return assumption is comprised of two primary components, inflation and real rate of investment return, with adjustments for certain expenses and risk.

### Real rate of investment return

This component represents the portfolio's incremental investment market returns over inflation. Generally, when an investor takes on greater investment risk, the return on the investment is expected to also be greater, at least in the long run<sup>1</sup>. This additional risk and return is expected to vary by asset class and empirical data supports that expectation. For that reason, the real rate of return assumptions are developed by asset class. Therefore, the real rate of return assumption for a retirement plan's portfolio will vary with the Board's asset allocation among asset classes.

The System's current target asset allocation and the assumed real rate of return assumptions by asset class are shown in the following table. The first column of real rate of return assumptions are determined by reducing Meketa's total or "nominal" 2024 return assumptions by their assumed 2.80% inflation rate. The second column of returns represents the average of a sample of real rate of return assumptions. The sample includes the expected annual real rate of return provided to us by Meketa and five other investment advisory firms retained by Segal's public sector clients, as well as Segal's investment advisory division. We believe these averages are a reasonable consensus forecast of long-term future market returns in excess of inflation.<sup>2</sup>

<sup>1</sup> However, an argument can also be made that taking on more risk in the portfolio could justify a greater risk margin in the actuarial assumption used, to help manage that risk.

<sup>2</sup> Note that, just as for the inflation assumption, in general the time horizon used by the investment consultants in determining the real rate of return assumption is shorter than the time horizon encompassed by the actuarial valuation.

## EBMUDERS' Target Asset Allocation and Assumed Arithmetic Net Real Rate of Return Assumptions by Asset Class and for the Portfolio

| Asset Class                      | Percentage of Portfolio | Meketa's Assumed Net Real Rate of Return <sup>1</sup> | Average Assumed Net Real Rate of Return from a Sample of Consultants to Segal's California Public Sector Clients <sup>2</sup> |
|----------------------------------|-------------------------|---|---|
| Domestic Large Cap Equity        | 32.55%                  | 7.15%   | 5.80%   |
| Domestic Small Cap Equity        | 2.45%                   | 7.15%   | 6.59%   |
| Developed Int'l Large Cap Equity | 18.00%                  | 7.47%   | 6.44%   |
| Emerging Market Equity           | 7.00%                   | 8.11%   | 8.32%   |
| Core Bonds                       | 20.00%                  | 2.08%   | 2.27%   |
| High Yield Bonds                 | 7.50%                   | 4.61%   | 4.62%   |
| Bank Loans                       | 5.00%                   | 4.30%   | 4.43%   |
| Real Estate                      | 2.50%                   | 4.82%   | 4.54%   |
| Private Debt                     | 5.00%                   | 7.53%   | 6.63%   |
| <b>Total</b>                     | <b>100.00%</b>          | <b>5.89%</b>  | <b>5.26%</b>  |

Generally, the above are representative of “indexed” returns for securities that are publicly traded, returns net of fees for securities that are non-publicly traded and do not include any additional returns (“alpha”) from active management. Consideration of returns without alpha is consistent with the Actuarial Standard of Practice No. 27, Section 3.8.3.d,<sup>3</sup> which states:

“Investment Manager Performance - Anticipating superior (or inferior) investment manager performance may be unduly optimistic (or pessimistic). The actuary should not assume that superior or inferior returns will be achieved, net of investment expenses, from an active investment management strategy compared to a passive investment management strategy unless the actuary believes, based on relevant supporting data, that such superior or inferior returns represent a reasonable expectation over the measurement period.”

<sup>1</sup> The rates shown have been estimated by Segal by taking Meketa's nominal arithmetic returns and reducing by Meketa's assumed 2.80% inflation rate to develop the assumed real rate of return shown. These return assumptions are net of any applicable investment management expenses.

<sup>2</sup> These are based on the projected arithmetic returns provided by Meketa and five other investment advisory firms serving Segal's public sector retirement clients in California, as well as Segal's investment advisory division. These return assumptions are net of any applicable investment management expenses.

<sup>3</sup> The relevant section under the most recently revised ASOP No. 27 is Section 3.7.3.d and will be effective January 1, 2025.

The following are some observations about the returns provided above:

1. The investment consultants to our California public sector clients, as well as Segal's investment advisory division, have each provided us with their expected real rates of return for each asset class, over various future periods of time. However, in general, the returns available from investment consultants are projected over time periods that are shorter than the durations of a retirement plan's liabilities.
2. As discussed in the next section, the real rates of return provided this year by the investment consultants reflect a change in how investment expenses are reported.
3. Using a sample average of expected real rate of returns allows EBMUDERS' investment return assumption to reflect a broader range of capital market information and should help reduce year to year volatility in the investment return assumption.
4. Therefore, we recommend that the 5.26% portfolio net real rate of return be used in the determination of EBMUDERS' investment return assumption, but with some caution. This return is 0.55% higher than the 4.71% gross return that was used two years ago in the review of the recommended investment return assumption for the June 30, 2022 valuation.
5. The 0.55% increase in the portfolio net real rate of return since 2022 is due to changes in the real rate of return assumptions provided to us by the investment advisory firms (+0.43% under the 2021 asset allocation), changes in the EBMUDERS' target asset allocation (-0.07%) and the interaction effect between these changes (+0.19%). We believe the increase in the real rates of return provided to us by the investment advisory firms may be in part due to the very low returns earned in the 2021-2022 plan year, as well as the increase in the federal funds rate during 2022, and so should be used with caution in selecting a long-term investment return assumption.

## System expenses

For funding purposes, the real rate of return assumption for the portfolio needs to be adjusted for investment expenses expected to be paid from investment income. Current practice for EBMUDERS also adjusts for expected administrative expenses. In prior experience studies, we have adjusted the gross real rate of return developed using the target asset allocation by the administrative and investment expenses expected to be paid by EBMUDERS.

However, as prevailing practice by investment advisory firms is to provide us with the real rates of return net of expected investment expenses, especially for active portfolio management, we now need to make adjustments only for investment consulting fees, custodian fees and other miscellaneous investment expenses but excluding investment manager fees.

The following table provides these investment and administrative expenses in relation to the actuarial value of assets for the four years ending June 30, 2024.

## Investment and Administrative Expenses as a Percentage of Actuarial Value of Assets

| Year Ending June 30 | Actuarial Value of Assets <sup>1</sup> | Investment Expenses <sup>2,3</sup> | Administrative Expenses | Investment Expenses | Administrative Expenses | Total Expenses |
|---------------------|--|------------------------------------|-------------------------|---------------------|-------------------------|----------------|
| 2021                | \$1,914,278,306                        | \$508,000                          | \$1,922,000             | 0.03%               | 0.10%                   | 0.13%          |
| 2022                | 2,097,712,454                          | 123,000                            | 1,921,000               | 0.01%               | 0.09%                   | 0.10%          |
| 2023                | 2,216,123,725                          | 220,000                            | 2,273,000               | 0.01%               | 0.10%                   | 0.11%          |
| 2024                | 2,314,460,062                          | 202,000                            | 2,506,000               | 0.01%               | 0.11%                   | 0.12%          |

## Investment and Administrative Expenses Averages and Assumptions

| Averaging Period and Assumption                                   | Investment   | Administrative | Total        |
|---|--------------|----------------|--------------|
| Four-year average (2021 – 2024)                                   | 0.02%        | 0.10%          | 0.12%        |
| <b>Current assumption (including investment management fees)</b>  | <b>0.16%</b> | <b>0.09%</b>   | <b>0.25%</b> |
| <b>Proposed assumption (excluding investment management fees)</b> | <b>0.05%</b> | <b>0.10%</b>   | <b>0.15%</b> |

**Based on the above experience, we recommend reducing the investment and administrative expense component of the investment return assumption from 0.25% to 0.15%.**

Note related to investment expenses paid to active managers – As cited above, under Section 3.8.3.d of ASOP No. 27, the effect of an active investment management strategy should be considered “net of investment expenses...unless the actuary believes, based on relevant data, that such superior or inferior returns represent a reasonable expectation over the measurement period.”

We have not performed a detailed analysis to measure how much of the investment expenses paid to active managers might have been offset by additional returns (“alpha”) earned by that active management. For this study, we will continue to use the current approach that any “alpha” that may be identified would be treated as an increase in the risk adjustment and corresponding confidence level that are discussed in the next section. However, as discussed above, the real return assumptions provided by the investment advisory firms assume that active management will generate additional returns to cover the expense of such management, an assumption that is consistent with ASOP No. 27.

## Model change

The 5.26% expected real rate of return developed earlier in this report was based on expected arithmetic average returns. A retirement system using an expected arithmetic average return as

<sup>1</sup> As of beginning of plan year. In our prior analyses, we had used average market value of assets weighted by cash flow.

<sup>2</sup> Equals the sum of investment consulting fees, custodian fees and other miscellaneous investment expenses. Excludes investment manager fees.

<sup>3</sup> Net of securities lending expenses. Because we do not assume any additional net return for this program, we effectively assume that any securities lending expenses will be offset by related income.

the discount rate in a funding valuation is expected on average to have no surplus or asset shortfall relative to its expected obligations assuming all other actuarial assumptions are met in the future.<sup>1</sup> That is the basis used in Segal's previous experience studies for EBMUDERS.

Beginning with this study, in addition to no longer including an explicit adjustment for investment management fees, we are converting the portfolio's expected arithmetic average return to an expected geometric average return. A retirement system using an expected geometric average return as the discount rate in a funding valuation will, over long periods of time, have an equal likelihood of having a surplus or asset shortfall relative to its expected obligations assuming all actuarial assumptions are met in the future.<sup>2</sup> For any given asset portfolio, the expected geometric average return will be less than the expected arithmetic average return.<sup>3</sup>

## Risk adjustment

The real rate of return assumption for the portfolio is adjusted to reflect the potential risk of shortfalls in the return assumptions. EBMUDERS' asset allocation determines this portfolio risk, since risk levels are driven by the variability of returns for the various asset classes and the correlation of returns among those asset classes. This portfolio risk is incorporated into the real rate of return assumption through a risk adjustment.

The purpose of the risk adjustment (as measured by the corresponding confidence level) is to increase the likelihood of achieving the actuarial investment return assumption in the long term.<sup>4</sup> This is consistent with our experience that retirement plan fiduciaries would generally prefer that returns exceed the assumed rate more often than not.

Under either the arithmetic or geometric model, the confidence level associated with a particular risk adjustment represents a relative likelihood that future investment earnings would equal or exceed the assumed earnings over a 15-year period. The 15-year time horizon represents an approximation of the "duration" of the fund's liabilities, where the duration of a liability represents the sensitivity of that liability to interest rate variations.

For comparison purposes we first consider how the earlier model would look if used in this year's study. Two years ago, the Board adopted an investment return assumption of 6.75%. Under the model used in that economic assumptions study, that return implied a risk adjustment of 0.21%, corresponding to a 15-year confidence level of 53%, based on an annual portfolio return standard deviation of 12.50% provided by Meketa in 2022.

If we use the same 53% 15-year confidence level from our last study to set this year's risk adjustment and the current annual portfolio return standard deviation of 12.90% provided by Meketa, the corresponding risk adjustment would be 0.22% (the slightly higher standard deviation allows for a slightly higher risk adjustment). Together with the other investment return components (including for this comparison updated expected arithmetic average returns and the same expense adjustment as used in the prior study), this would result in an investment return

<sup>1</sup> The mathematical terminology for this is that the mean (or average) surplus or asset shortfall is expected to be zero.

<sup>2</sup> The mathematical terminology for this is that over time the median surplus or asset shortfall is expected to be zero.

<sup>3</sup> This is because the expected geometric average return reflects expected median outcomes, while the expected arithmetic average return reflects expected average or mean outcomes. Expected median outcomes are lower than expected average outcomes because they are less affected by the possibility of extraordinary ("outlier") favorable outcomes.

<sup>4</sup> This type of risk adjustment is referred to in the Actuarial Standards of Practice as a "margin for adverse deviation."

assumption of 7.29%, which is higher than the current assumption of 6.75%. This result leaves room for a potentially larger risk adjustment and confidence level in this year's study.

Based on the general practice of using one-quarter percentage point increments for economic assumptions, we evaluated the effect on the confidence level of other alternative investment return assumptions. We also considered that, as discussed above, the increase in the real rates of return provided by the investment consultants may reflect the very low returns earned in the 2021-2022 plan year, as well as the increase in the federal funds rate during 2022, and so could be overly optimistic for use in selecting a long-term investment return assumption. For that reason, for this comparison value we evaluated an investment return assumption of 6.75% which, together with the other investment return components, would produce a risk adjustment of 0.76% which corresponds to a confidence level of 59% under the model and expense adjustment used in prior studies. We believe this increase in confidence level is appropriate given the concerns stated.

As noted above, beginning with this study, in addition to no longer including an explicit adjustment for investment management fees, we are converting the portfolio's expected arithmetic average return to an expected geometric average return. While the expected geometric average return of a portfolio will be less than the expected arithmetic average return, the magnitude of this difference depends on the variability of the portfolio, as measured by its standard deviation. The annual portfolio standard deviation provided by Meketa is 12.90%, which produces a conversion factor to the expected return of 0.78%. This results in an expected geometric average real return of 4.48% (the expected arithmetic average real return of 5.26% reduced by 0.78%).

Together with the other investment return components (now excluding investment management expenses) and **prior to any risk adjustment**, this would result in a median expected (or geometric average return) assumption of 6.83%, which is higher than the current assumption of 6.75%. In applying this model to EBMUDERS for the first time, we again evaluated a net investment return assumption of 6.75% which, together with the other investment return components, would produce a risk adjustment of 0.08%, which reflects a confidence level of 51%.

## Recommended investment return assumption

The following table summarizes the components of the recommended investment return assumption developed in the previous discussion. For comparison purposes, we have also included similar values from the last study as well as the comparison values discussed above that apply the prior study's model to this year's information.

| Assumption Component                                 | June 30, 2024<br>Recommended Value | June 30, 2024<br>Comparison Values | June 30, 2022<br>Adopted Value |
|--|------------------------------------|------------------------------------|--------------------------------|
| Inflation  | 2.50%                              | 2.50%                              | 2.50%                          |
| Portfolio expected arithmetic real rate of return    | 5.26%                              | 5.26%                              | 4.71%                          |
| Adjustment to expected geometric real rate of return | (0.78)%                            | N/A                                | N/A                            |
| Expense adjustment                                   | (0.15)%                            | (0.25)%                            | (0.25)%                        |
| Risk adjustment                                      | (0.08)%                            | (0.76)%                            | (0.21)%                        |
| <b>Total</b>   | <b>6.75%</b>                       | <b>6.75%</b>                       | <b>6.75%</b>                   |
| <b>Confidence level</b>                              | <b>51%</b>                         | <b>59%</b>                         | <b>53%</b>                     |

**Based on this analysis, we recommend maintaining the investment return assumption at 6.75% per annum.**

The table below shows EBMUDERS' recommended investment return assumption and the corresponding risk adjustment and confidence level compared to the similar values for prior studies.

### Historical Investment Return Assumptions, Risk Adjustments and Confidence Levels based on Assumptions Adopted by the Board

| Years Ending<br>June 30 | Investment Return | Risk Adjustment | Corresponding<br>Confidence Level |
|-------------------------|-------------------|-----------------|-----------------------------------|
| 2012                    | 7.75%             | 0.10%           | 51%                               |
| 2014                    | 7.50%             | 0.09%           | 51%                               |
| 2016                    | 7.25%             | 0.44%           | 55%                               |
| 2018                    | 7.00%             | 0.12%           | 51%                               |
| 2020                    | 7.00%             | 0.05%           | 51%                               |
| 2022                    | 6.75%             | 0.21%           | 53%                               |
| 2024 (Comparison)       | 6.75%             | 0.76%           | 59%                               |
| 2024 (Recommended)      | 6.75%             | 0.08%           | 51%                               |

As we have discussed in prior experience and economic assumption studies, the risk adjustment model and associated confidence level is most useful as a means for comparing how EBMUDERS has positioned itself relative to risk over periods of time.<sup>1</sup> The use of either a 51% or 59% confidence level should be considered in context with other factors, including:

- As noted above, the confidence level is more of a relative measure than an absolute measure, and so can be reevaluated and reset for future comparisons. This is particularly true when comparing confidence levels developed using different models, as we are doing in this transitional year from one model to another.

<sup>1</sup> In particular, it would not be appropriate to use this type of risk adjustment as a measure of determining an investment return rate that is "risk-free."

- The confidence level is based on the standard deviation of the portfolio that is determined and provided to us by Meketa. The standard deviation is a statistical measure of the future volatility of the portfolio and so is itself based on assumptions about future portfolio volatility and can be considered somewhat of a “soft” number.
- We have not taken into account any additional returns (“alpha”) that might be earned on active management. This means that if active management generates enough alpha to cover its related expenses, this would increase returns. This aspect of Segal’s model is further evaluated below.
- As with any model, the results of the risk adjustment model should be evaluated for reasonableness and consistency. This is discussed in the later section on “Comparison with Other Public Retirement Systems.”

## Comparison with alternative model used to review investment return assumption

In previous studies, we have consistently reviewed investment return assumptions based on our prior model that incorporates expected arithmetic real returns for the different asset classes and for the entire portfolio as one component of that model.<sup>1</sup> The use of “forward looking expected arithmetic returns” is one of the approaches discussed for use in the Selection of Economic Assumptions for measuring Pension Obligations under Actuarial Standards of Practice (ASOP) No. 27.

Besides using forward looking expected arithmetic returns, ASOP No. 27 also discusses setting investment return assumptions using an alternative “forward looking expected geometric returns” approach, which is the model we have used in this study.<sup>2</sup> Even though as noted earlier expected geometric returns are lower than expected arithmetic returns, public retirement systems that have set investment return assumptions using this geometric approach have in practice adopted investment return assumptions that are comparable to those adopted by the Board for EBMUDERS under the arithmetic approach. This is because under the model used by those retirement systems and by Segal in this report, the investment return assumption is **not** reduced to anticipate future investment management expenses. However, for EBMUDERS, these two changes do not completely offset each other because the future investment management expenses are relatively low, while the standard deviation used to convert from an expected arithmetic return to a median geometric return is relatively high. That is why, as shown earlier, the same 6.75% assumption does not have the same confidence level under the two models (comparison values and recommended value).

In the interest of still having an alternative model for comparison, we evaluated the recommended 6.75% assumption based on the expected geometric return for the entire portfolio gross of investment management expenses, but using a fully stochastic approach and a different source for capital market assumptions. Under this alternative model, over a 15-year period, there is a 56% likelihood that future average geometric returns will meet or exceed

<sup>1</sup> Again, as discussed earlier in this section, if a retirement system uses the expected arithmetic average return as the discount rate in the funding valuation, that retirement system is expected to have no surplus or asset shortfall relative to its expected obligations assuming all actuarial assumptions are met in the future.

<sup>2</sup> As also noted earlier in slightly different terms, if a retirement system uses the expected geometric average return as the discount rate in the funding valuation, that retirement system is expected to have an asset value that generally converges to the median accumulated value as the time horizon lengthens assuming all actuarial assumptions are met in the future.

6.75%<sup>1</sup> developed using the capital market assumptions compiled by Horizon Actuarial Services based their most recent survey published in August 2024. This 56% likelihood of achieving a 6.75% return is higher than the corresponding likelihood of 43%<sup>2</sup> (for achieving a 6.75% return) that we observed in this comparison during the economic assumptions review in 2022.

## Comparing with other public retirement systems

One final test of the recommended investment return assumption is to compare it against those used by other public retirement systems, both in California and nationwide.

We note that an investment return of 6.75% or lower is becoming more common among California public sector retirement systems. Of the twenty 1937 Act CERL systems, six use a 7.00% investment return assumption, nine use 6.75%, three use 6.50%, and one uses 6.25%. The remaining 1937 Act CERL system currently uses a 7.25% investment return assumption. Furthermore, CalSTRS currently uses a 7.00% investment return assumption and CalPERS uses a 6.80% investment return assumption, while the San Jose and San Diego City retirement systems use investment return assumptions of 6.625% and 6.50%, respectively.

The following table compares EBMUDERS' recommended net investment return assumption against those of the 207 large public retirement funds in their 2023 fiscal year valuations based on information found in the Public Plans Database, which is produced in partnership with NASRA:<sup>3</sup>

### EBMUDERS' Investment Return vs. Public Plans Database<sup>4</sup> Investment Return Assumptions

| Assumption            | EBMUDERS | Public Plan Data<br>Low | Public Plan Data<br>Median | Public Plan Data<br>High |
|-----------------------|----------|-------------------------|----------------------------|--------------------------|
| Net investment return | 6.75%    | 4.31%                   | 7.00%                      | 8.25%                    |

The detailed survey results show that over 80% of the systems have an investment return assumption in the range of 6.75% to 7.50%. Also, over half of the systems have reduced their investment return assumption from 2017 to 2023. State systems outside of California tend to change their economic assumptions less frequently and so may lag behind emerging practices in this area.

<sup>1</sup> We performed this stochastic simulation using the capital market assumptions included in the 2024 survey prepared by Horizon Actuarial Services. That simulation was performed using 10,000 trial outcomes of future market returns, using assumptions from 20-year arithmetic returns, standard deviations and correlation matrix that were found in the 2024 survey that included responses from 26 investment advisors.

<sup>2</sup> The lower likelihood reflects the lower expected capital market return assumptions, etc., published by Horizon Actuarial Services in their 2022 survey.

<sup>3</sup> Among 228 large public retirement funds, the 2023 fiscal year investment return assumption was not available for 21 of the public retirement funds in the Public Plans Database as of September 2024.

<sup>4</sup> Public Plans Data website – Produced in partnership with the National Association of State Retirement Administrators (NASRA).

## C. Salary increase

Salary increases impact plan costs in two ways:

1. Increasing members' benefits (since benefits are a function of the members' highest average pay) and future normal cost collections; and
2. Increasing total active member payroll which in turn generates lower UAAL contribution rates as a percent of payroll.

These two impacts are discussed separately below.

As an employee progresses through his or her career, increases in pay are expected to come from three sources:

1. **Inflation:** Unless pay grows at least as fast as consumer prices grow, employees will experience a reduction in their standard of living. There may be times when pay increases lag or exceed inflation, but over the long term, labor market forces may require an employer to maintain its employees' standards of living.

**As discussed earlier in this report, we recommend maintaining the annual inflation assumption at 2.50%.** This inflation component is used as part of the salary increase assumption.

2. **Real “across-the-board” pay increases:** These increases are typically termed productivity increases since they are considered to be derived from the ability of an organization or an economy to produce goods and services in a more efficient manner. As that occurs, at least some portion of the value of these improvements can provide a source for pay increases. These increases are typically assumed to extend to all employees “across the board”. The State and Local Government Workers Employment Cost Index produced by the Department of Labor provides evidence that real “across-the-board” pay increases have averaged about 0.0% – 0.3% annually during the last ten to twenty years.

We also referred to the annual report on the financial status of the Social Security program published in May 2024. In that report, real “across-the-board” pay increases are forecast to be 1.14% per year under the intermediate assumptions.

The real pay increase assumption is generally considered a more “macroeconomic” assumption that is not necessarily based on individual plan experience. However, recent salary experience with public systems in California as well as anecdotal discussions with plans and plan sponsors indicate lower future real wage growth expectations for public sector employees. We note that for EBMUDERS' active members, the actual average inflation plus “across-the-board” increase (i.e., wage inflation) over the four-year period ending June 30, 2024 was 4.47%, which is higher than the change in CPI of 4.02% during that same period.

| Valuation Date           | Actual Average Increase <sup>1</sup> | Actual Change in CPI <sup>2</sup> |
|--------------------------|--------------------------------------|-----------------------------------|
| June 30, 2021            | 0.50%                                | 3.15%                             |
| June 30, 2022            | 8.67%                                | 6.80%                             |
| June 30, 2023            | 5.18%                                | 2.88%                             |
| June 30, 2024            | 3.53%                                | 3.24%                             |
| <b>Four-year average</b> | <b>4.47%</b>                         | <b>4.02%</b>                      |

**Based on all of the above information, we recommend maintaining the real “across-the-board” salary increase assumption at 0.50%. This means that the combined inflation and “across-the-board” salary increase assumption will remain at 3.00%.**

3. **Merit and promotion increases:** As the name implies, these increases come from an employee’s career advances. This form of pay increase differs from the previous two, since it is specific to the individual. For EBMUDERS, there are years from hire specific merit and promotion increase assumptions.

The annual merit and promotion increases are determined by measuring the actual increases received by members over the experience period, net of the inflationary and real “across-the-board” pay increases. This is accomplished by:

- a. Measuring each continuing member’s actual salary increase over each year of the experience period on a salary-weighted basis, with higher weights assigned to experience from members with larger salaries;
- b. Excluding any members with a decrease during any particular year;
- c. Categorizing these increases according to member demographics;
- d. Removing the wage inflation component from these increases (assumed to be equal to the increase in the members’ average salary during the year);
- e. Averaging these annual increases over the experience period; and
- f. Modifying current assumptions to reflect some portion of these measured increases reflective of their “credibility.”

To be consistent with the other economic assumptions, these merit and promotion assumptions should be used in combination with the total 3.00% assumed inflation and real “across-the-board” increases recommended in this study.

Note that beginning with this experience study, we are recommending separate merit and promotion increase assumptions for 1955/1980 Plan and 2013 Tier members.

Due to the high variability of the actual salary increases, we have also analyzed this assumption using data for the past eight years. We believe that when the experience from the current and prior study is combined, it provides a more reasonable representation of potential future merit and promotion salary increases over the long term.

The following table shows the 1955/1980 Plan members’ actual average merit and promotion increases by time from hire over the four-year period from July 1, 2020 through June 30, 2024. Due to the limited experience for 1955/1980 Plan members in the earlier

<sup>1</sup> Reflects the increase in average salary for members at the beginning of the year versus those at the end of the year. It does not reflect the average salary increases received by members who worked the full year.

<sup>2</sup> Based on the change in the June CPI for the San Francisco-Oakland-Hayward Area compared to the prior June CPI. (Note that for determining the annual retiree COLA increases, EBMUDERS uses the change in the annual average CPI for the San Francisco-Oakland-Hayward Area.)

time from hire categories, we are also showing the actual average increase for 1955/1980 Plan and 2013 Tier members combined over the current and prior four-year periods combined (for eight total years of experience). The current and proposed assumptions are also shown. The actual increases were reduced by the actual average inflation plus “across-the-board” increase (i.e., wage inflation, estimated as the increase in average salaries) for each year during the experience period (4.47% on average for the most recent four-year period and 4.16% on average for the most recent eight-year period).

### 1955/1980 Plan—Merit and Promotion Salary Increase Rates (%)

| Time from Hire (Years) | Current Assumption | Actual Average Increase (Last 4 Years, 1955/1980 Plan) | Actual Average Increase (Last 8 Years, 2013 Tier and 1955/1980 Plan) | Proposed Assumption |
|------------------------|--------------------|--|--|---------------------|
| Less than 1            | 6.25               | 1.81   | 6.62   | 6.25                |
| 1 – 2                  | 6.00               | 4.50   | 6.47   | 6.00                |
| 2 – 3                  | 5.00               | 3.67   | 5.69   | 5.00                |
| 3 – 4                  | 3.75               | 1.98   | 4.48   | 3.75                |
| 4 – 5                  | 2.50               | 1.48   | 2.99   | 2.50                |
| 5 – 6                  | 1.50               | 1.05   | 1.94   | 1.50                |
| 6 – 7                  | 1.25               | 1.73   | 1.42   | 1.25                |
| 7 – 8                  | 1.25               | 1.86   | 1.60   | 1.25                |
| 8 – 9                  | 1.00               | 1.33   | 1.38   | 1.25                |
| 9 – 10                 | 1.00               | 1.79   | 1.66   | 1.25                |
| 10 – 11                | 0.75               | 0.99   | 1.22   | 1.00                |
| 11 – 12                | 0.75               | 1.20   | 1.21   | 1.00                |
| 12 – 13                | 0.75               | 0.91   | 0.94   | 0.75                |
| 13 – 14                | 0.75               | 1.02   | 1.17   | 0.75                |
| 14 – 15                | 0.75               | 0.82   | 0.84   | 0.75                |
| 15 and over            | 0.75               | 0.75   | 0.85   | 0.75                |

We are not recommending changes to the merit and promotional salary increases for 1955/1980 Plan members for time from hire of less than seven years. This is because at those durations relatively limited experience is available for 1955/1980 Plan members, because most of the members within seven years of hire are 2013 Tier members.

The following table shows the 2013 Tier members’ actual average merit and promotion increases by time from hire over the four-year period from July 1, 2020 through June 30, 2024. Due to the limited experience for 2013 Tier members in the later time from hire categories, we are also showing the actual average increases for 1955/1980 Plan and 2013 Tier members combined over the current and prior four-year periods combined (for eight total years of experience). The current and proposed assumptions are also shown. The actual increases were reduced by the actual average inflation plus “across-the-board” increase (i.e., wage inflation, estimated as the increase in average salaries) for each year during the experience period (4.47% on average for the most recent four-year period and 4.16% on average for the most recent eight-year period).

## 2013 Tier—Merit and Promotion Salary Increase Rates (%)

| Time from Hire (Years) | Current Assumption | Actual Average Increase (Last 4 Years, 2013 Tier) | Actual Average Increase (Last 8 Years, 2013 Tier and 1955/1980 Plan) | Proposed Assumption |
|------------------------|--------------------|---|--|---------------------|
| Less than 1            | 6.25               | 6.81  | 6.62   | 6.50                |
| 1 – 2                  | 6.00               | 6.38  | 6.47   | 6.25                |
| 2 – 3                  | 5.00               | 5.51  | 5.69   | 5.25                |
| 3 – 4                  | 3.75               | 4.55  | 4.48   | 4.25                |
| 4 – 5                  | 2.50               | 3.00  | 2.99   | 2.75                |
| 5 – 6                  | 1.50               | 2.09  | 1.94   | 1.75                |
| 6 – 7                  | 1.25               | 1.24  | 1.42   | 1.25                |
| 7 – 8                  | 1.25               | 1.17  | 1.60   | 1.25                |
| 8 – 9                  | 1.00               | 1.29  | 1.38   | 1.25                |
| 9 – 10                 | 1.00               | 0.00 <sup>1</sup>                                 | 1.66   | 1.25                |
| 10 – 11                | 0.75               | 0.00  | 1.22   | 1.00                |
| 11 – 12                | 0.75               | 0.00  | 1.21   | 1.00                |
| 12 – 13                | 0.75               | 0.00  | 0.94   | 0.75                |
| 13 – 14                | 0.75               | 0.00  | 1.17   | 0.75                |
| 14 – 15                | 0.75               | 0.00  | 0.84   | 0.75                |
| 15 and over            | 0.75               | 0.00  | 0.85   | 0.75                |

We are recommending setting the merit and promotional salary increases for 2013 Tier members for time from hire of at least seven years equal to the recommended increases for 1955/1980 Plan members. This is because at those durations relatively limited experience is available for 2013 Tier members, because most of the members hired at least seven years ago are 1955/1980 Plan members.

**Based on this experience, we are proposing increases in the merit and promotion salary increases for 1955/1980 Plan members in some time from hire categories with seven or more years. We are also proposing increases in the merit and promotion salary increases for 2013 Tier members in most time from hire categories.**

Chart 1 and Chart 2 that follow later in the section compare the actual merit and promotion increase experience with the current and proposed assumptions for 1955/1980 Plan and 2013 Tier members, respectively.

### Active member payroll

Projected active member payrolls are used to develop the UAAL contribution rate. Future values are determined as a product of the number of employees in the workforce and the average pay for all employees. The average pay for all employees increases only by inflation and real “across-the-board” pay increases. The merit and promotion increases are not included, because this average pay is not specific to an individual.

<sup>1</sup> Four full years of experience are not available starting with this time from hire category.

Under the Board’s current practice, the UAAL contribution rate is developed by assuming that the number of active members will remain about the same, so that the total payroll for all active members will increase annually over the amortization periods at the same assumed rates of inflation plus real “across-the-board” salary increase assumptions as are used to project the members’ future benefits. Note again that this does not include the assumed merit and promotion increases, because longer service members are assumed to be replaced by shorter service members.

As part of reviewing the current practice, we have gone back to the prior valuations and summarized in the table below how the number of active members and their total payrolls have changed during the June 30, 2016 through June 30, 2023 valuations.

### Active Members and Total Payroll

| Year Ending<br>June 30                            | Number of<br>Active<br>Members | Total Payroll <sup>1</sup><br>(\$ in ‘000s) |
|---|--------------------------------|---|
| 2016  | 1,789                          | \$180,027                                   |
| 2017  | 1,802                          | 180,971                                     |
| 2018  | 1,828                          | 199,928                                     |
| 2019  | 1,847                          | 209,964                                     |
| 2020  | 1,903                          | 222,232                                     |
| 2021  | 1,896                          | 222,530                                     |
| 2022  | 1,895                          | 241,693                                     |
| 2023  | 1,955                          | 262,268                                     |
| <b>Average Compounded Annual Rate of Increase</b> |                                |   |
|   | <b>1.28%</b>                   | <b>5.52%</b>                                |

As can be observed from the above table, the average annual rate of increase in the payroll during the above period was 5.52% before accounting for the 1.28% average growth in the active workforce (and 4.19% after netting out the impact due to the growth in the active workforce).

**After considering the above factors and experience, consistent with the combined recommended inflation and real “across-the-board” salary increase assumptions, we recommend maintaining the payroll growth assumption at 3.00% annually.**

<sup>1</sup> Reflects the annualized monthly rate of pay for each member.

Chart 1: Merit and Promotion Salary Increase Rates  
1955/1980 Plan Members

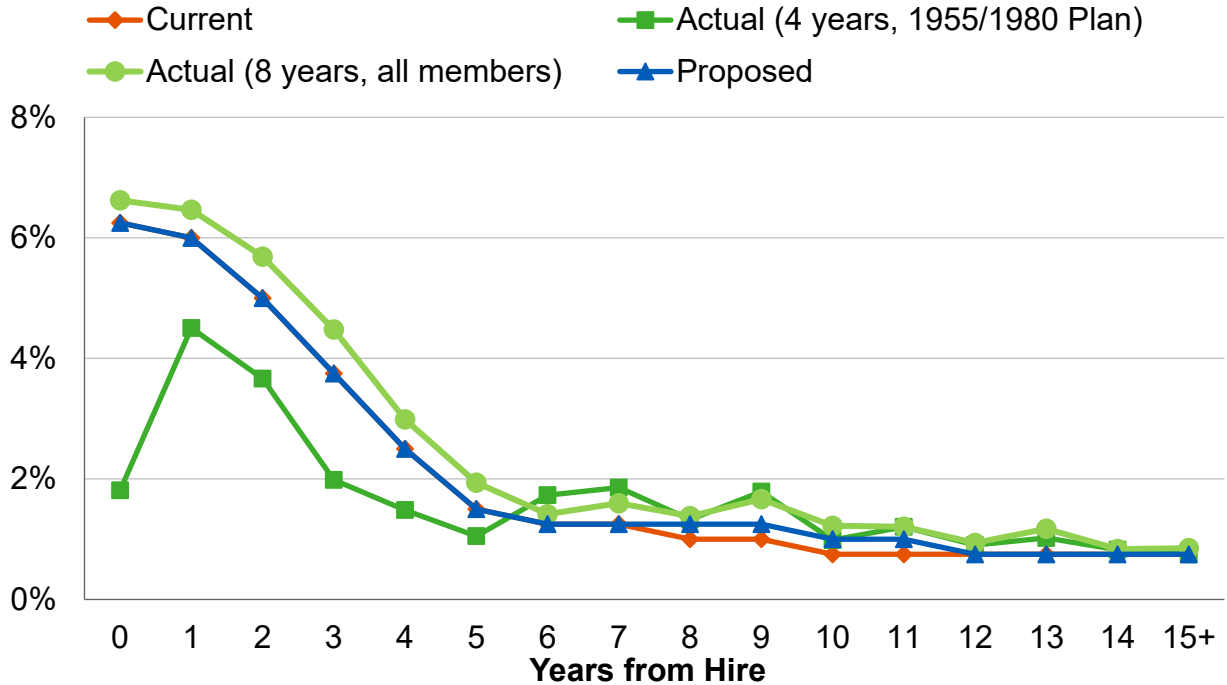
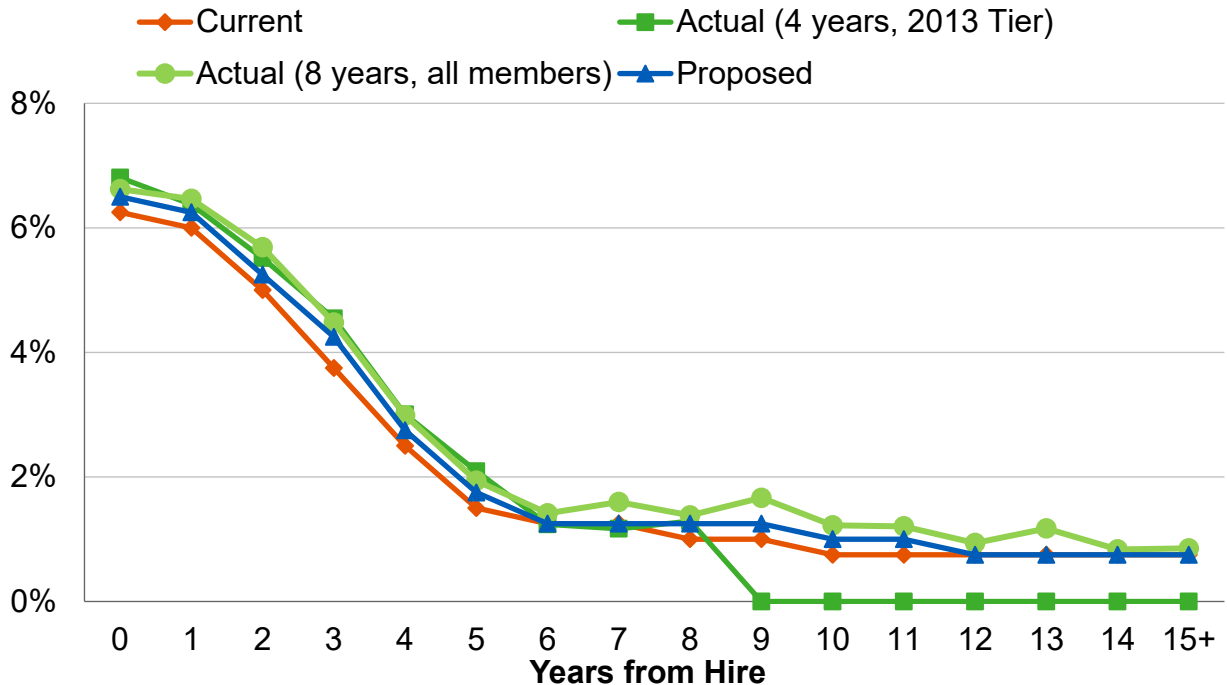


Chart 2: Merit and Promotion Salary Increase Rates  
2013 Tier Members



# Section 4: Demographic Assumptions

## A. Mortality rates - healthy

The “healthy” mortality rates project the life expectancy of a member who retires from service (i.e., who did not retire on a disability pension). Also, the “healthy” pre-retirement (employee) mortality rates project what proportion of members will die before retirement.

The Public Retirement Plans Mortality tables (Pub-2010) were published by the Retirement Plans Experience Committee (RPEC) of the SOA in 2019. These were the first published mortality tables based exclusively on public sector pension plan experience in the United States. Within the Pub-2010 family of mortality tables, there are separate tables by job categories of General, Safety and Teachers. Included with the mortality tables is the analysis prepared by RPEC that continues to observe that benefit amount for healthy retirees and salary for employees are the most significant predictors of mortality differences within the job categories. Therefore, Pub-2010 includes mortality rates developed on an “amount-weighted” basis, with higher credibility assigned to experience from annuitants and employees receiving larger benefits and salaries, respectively.

A generational mortality table provides dynamic projections of mortality experience for each cohort of retirees. For example, the mortality rate for someone who is 65 next year will be slightly less than for someone who is 65 this year. In general, using generational mortality anticipates increases in the cost of the plan over time as participants’ life expectancies are projected to increase and is now the established practice within the actuarial profession.

Periodically<sup>1</sup> RPEC publishes updates to their mortality improvement scales. The two-dimensional mortality improvement scale MP-2021 is the latest improvement scale available as of the date of this report.

**For the Pension Plan, we continue to recommend using the “amount-weighted” above-median version of the Pub-2010 mortality tables (adjusted for EBMUDERS experience as discussed herein).**

**For the Health Insurance Benefit Plan, we continue to recommend using the “headcount-weighted” above-median version of the Pub-2010 mortality tables (adjusted for EBMUDERS experience consistent with that for the Pension Plan).**

**We also continue to recommend that the mortality improvement scale be applied generationally where each future year has its own mortality table that reflects the forecasted improvements. Furthermore, we recommend that the mortality improvement scale be updated from MP-2020 to MP-2021.**

<sup>1</sup> We understand that RPEC generally publishes an update to their mortality improvement scale annually based on the newest mortality data available. However, the mortality data observed during 2020 was severely impacted by the COVID-19 pandemic and RPEC has elected to not release a new mortality improvement scale for 2022, 2023 and 2024. Therefore, the MP-2021 remains the most recent mortality improvement scale published.

In order to reflect more EBMUDERS experience in our analysis of the mortality assumption, we have used experience over a sixteen-year period by using data from the current experience study period (from July 1, 2020 through June 30, 2024 and the last three experience study periods (from July 1, 2016 through June 30, 2020; from July 1, 2012 through June 30, 2016; and from July 1, 2008 through June 30, 2012).

In 2008 the SOA published an article recommending that mortality assumptions include an adjustment for credibility. Under this approach, the number of deaths needed for full credibility for a headcount-weighted mortality table is just over 1,000,<sup>1</sup> where full credibility means a 90% confidence that the actual experience will be within 5% of the expected value. In our recommended assumptions, we have adjusted the Pub-2010 mortality tables to fit EBMUDERS' experience based on the partial credibility for the given retiree group.

## Post-retirement mortality (service retirements)

The current mortality tables used for post-retirement mortality are as follows:

- **Pension Plan:** Pub-2010 General Healthy Retiree Amount-Weighted Above-Median Mortality Tables (separate tables for males and females) with rates increased by 5% for males, projected generationally with the two-dimensional mortality improvement scale MP-2020.
- **Health Plan:** Pub-2010 General Healthy Retiree Headcount-Weighted Above-Median Mortality Tables (separate tables for males and females) with rates increased by 5% for males, projected generationally with the two-dimensional mortality improvement scale MP-2020.

The following table shows the observed benefit-weighted deaths for healthy retired members based on the actual experience during the sixteen years studied. Also shown are the expected benefit-weighted deaths under the current and proposed assumptions. This information is shown separately by gender. As shown in the table below, the proposed mortality tables have an actual to expected ratio of 99% after adjustments for partial credibility. In future years the ratios should remain around 99% as long as actual mortality improves at the same rates as anticipated by the generational mortality tables.

As discussed, we continue to recommend the use of generational mortality tables, which incorporate a more explicit assumption for future mortality improvement. Accordingly, the goal is to start with mortality tables that closely match the current experience (without a margin for future mortality improvement), and then reflect mortality improvement by projecting lower mortality rates in future years.

<sup>1</sup> The number of deaths needed for full credibility for an "amount-weighted" mortality table is generally higher and based on the dispersion of the benefit amount for a given retiree group.

## Healthy Retiree Mortality Experience – Benefit-Weighted (*\$ in millions*)

| Gender                   | Current<br>Expected<br>Weighted<br>Deaths | Actual<br>Weighted<br>Deaths | Proposed<br>Expected<br>Weighted<br>Deaths |
|--------------------------|---|------------------------------|--|
| Male                     | \$1.95                                    | \$1.95                       | \$1.94                                     |
| Female                   | 0.32                                      | 0.29                         | 0.32                                       |
| <b>Total</b>             | <b>\$2.27</b>                             | <b>\$2.24</b>                | <b>\$2.26</b>                              |
| <b>Actual / Expected</b> | <b>99%</b>                                |                              | <b>99%<sup>1</sup></b>                     |

### Notes:

1. Experience shown above is weighted by annual benefit amounts for deceased members.
2. Expected amounts under the current and proposed generational mortality tables are based on mortality rates from the base year projected with mortality improvements to the year the death occurred (or was expected to occur).
3. Results may not add due to rounding.

Based on standard statistical theory, the data used in our analysis is only partially credible under the recommended “amount-weighted” basis when dispersion of retirees’ benefit amounts is considered. Therefore, the proposed mortality tables reflect only a partial adjustment for actual EBMUDERS experience. In future experience studies, more data will be available which may further increase the credibility of the EBMUDERS experience.

For the purpose of setting the assumptions for the Health Plan, we have also provided in the table below the actual and expected deaths (without weighting by benefit amounts) using the headcount-weighted version of the Pub-2010 tables.

<sup>1</sup> If we use the benchmark Pub-2010 General table without any adjustment, the proposed actual to expected ratio would be 103%.

## Healthy Retiree Mortality Experience – Headcount-Weighted

| Gender                   | Current Expected Deaths | Actual Deaths | Proposed Expected Deaths |
|--------------------------|-------------------------|---------------|--------------------------|
| Male                     | 418                     | 436           | 417                      |
| Female                   | 93                      | 85            | 93                       |
| <b>Total</b>             | <b>511</b>              | <b>521</b>    | <b>510</b>               |
| <b>Actual / Expected</b> | <b>102%</b>             |               | <b>102%</b>              |

### Notes:

1. Experience shown above is weighted by headcounts for deceased members instead of by benefit amounts.
2. Expected deaths under the current and proposed generational mortality table are based on mortality rates from the base year projected with mortality improvements to the year the death occurred (or was expected to occur).
3. Results may not add due to rounding.

### We recommend updating the mortality tables used for post-retirement mortality to the following:

- **Pension Plan:** Pub-2010 General Healthy Retiree Amount-Weighted Above-Median Mortality Tables (separate tables for males and females) with rates increased by 5% for males, projected generationally with the two-dimensional mortality improvement scale MP-2021.
- **Health Plan:** Pub-2010 General Healthy Retiree Headcount-Weighted Above-Median Mortality Tables (separate tables for males and females) with rates increased by 5% for males, projected generationally with the two-dimensional mortality improvement scale MP-2021.

Chart 3 compares the actual to expected deaths on an amount-weighted basis for service retirement members over the sixteen-year period for the current and proposed assumptions.

Chart 4 compares the number of actual to expected deaths on a headcount-weighted basis for service retirement members over the sixteen-year period for the current and proposed assumptions for the Health Plan.

Chart 5 shows the life expectancies (i.e., expected future lifetime) under the current and proposed tables for service retirement members on an amount-weighted basis. Life expectancies under the current and proposed generational mortality rates are based on age as of 2024. In practice, assumed life expectancies will increase in future years in accordance with the mortality improvement scale.

## Beneficiary Mortality

The current mortality tables used for beneficiary mortality are as follows:

- **Pension Plan, all beneficiaries:** Pub-2010 Contingent Survivor Amount-Weighted Above-Median Mortality Tables (separate tables for males and females) with rates increased by 5%

for males and females, projected generationally with the two-dimensional mortality improvement scale MP-2020.

- **Health Plan, all beneficiaries:** Pub-2010 Contingent Survivor Headcount-Weighted Above-Median Mortality Tables (separate tables for males and females) with rates increased by 5% for males and females, projected generationally with the two-dimensional mortality improvement scale MP-2020.

In studying the mortality for the beneficiaries in our prior and the current studies, we reviewed the actual deaths compared to the expected deaths and recommended using the Pub-2010 Contingent Survivor mortality tables for all beneficiaries. The Pub-2010 Contingent Survivor mortality tables are developed based only on beneficiary data **after** the death of the member. This is consistent with the mortality experience that we have available for beneficiaries. The Pub-2010 Contingent Survivor mortality rates are comparable to EBMUDERS' actual mortality experience for beneficiaries.

The following table shows the observed benefit-weighted deaths for beneficiaries based on the actual experience during the sixteen years studied. Also shown are the expected benefit-weighted deaths under the current and proposed assumptions. This information is shown separately by gender. As shown in the table below, the proposed mortality table has an actual to expected ratio of 108% after adjustments for partial credibility. In future years the ratio should remain around 108% as long as actual mortality improves at the same rates as anticipated by the generational mortality tables.

### Beneficiary Mortality Experience – Benefit-Weighted (*\$ in thousands*)

| Gender                   | Current<br>Expected<br>Weighted<br>Deaths | Actual<br>Weighted<br>Deaths | Proposed<br>Expected<br>Weighted<br>Deaths |
|--------------------------|---|------------------------------|--|
| Male                     | \$16.36                                   | \$22.99                      | \$16.33                                    |
| Female                   | 505.75                                    | 541.10                       | 504.55                                     |
| <b>Total</b>             | <b>\$522.10</b>                           | <b>\$564.09</b>              | <b>\$520.87</b>                            |
| <b>Actual / Expected</b> | <b>108%</b>                               |                              | <b>108%<sup>1</sup></b>                    |

**Notes:**

1. Experience shown above is weighted by annual benefit amounts for deceased beneficiaries.
2. Expected amounts under the current and proposed generational mortality tables are based on mortality rates from the base year projected with mortality improvements to the year the death occurred (or was expected to occur).
3. Results may not add due to rounding.

<sup>1</sup> If we used the benchmark Pub-2010 Contingent Survivor table without any adjustment, the proposed actual to expected ratio would be 114%.

The proposed mortality tables reflect current experience to the extent that the experience is credible based on standard statistical theory. For EBMUDERS, there is less data available for beneficiaries, so it is given little credibility and the proposed tables are only slightly adjusted.

For the purpose of setting the assumptions for the Health Plan, we have also provided in the table below the actual and expected deaths (without weighting by benefit amounts) using the headcount-weighted version of the Pub-2010 tables.

### Beneficiary Mortality Experience – Headcount-Weighted

| Gender                   | Current<br>Expected<br>Deaths | Actual<br>Deaths | Proposed<br>Expected<br>Deaths |
|--------------------------|-------------------------------|------------------|--------------------------------|
| Male                     | 15                            | 20               | 15                             |
| Female                   | 205                           | 220              | 205                            |
| <b>Total</b>             | <b>221</b>                    | <b>240</b>       | <b>220</b>                     |
| <b>Actual / Expected</b> | <b>109%</b>                   |                  | <b>109%</b>                    |

**Notes:**

1. Experience shown above is weighted by headcounts for deceased members instead of by benefit amounts.
2. Expected deaths under the current and proposed generational mortality table are based on mortality rates from the base year projected with mortality improvements to the year the death occurred (or was expected to occur).
3. Results may not add due to rounding.

**We recommend updating the mortality tables used for beneficiary mortality to the following:**

- **Pension Plan:**
  - **Not in pay status at the valuation:** Pub-2010 General Healthy Retiree Amount-Weighted Above-Median Mortality Tables (separate tables for males and females) with rates increased by 5% for males, projected generationally with the two-dimensional mortality improvement scale MP-2021.
  - **In pay status at the valuation:** Pub-2010 Contingent Survivor Amount-Weighted Above-Median Mortality Tables (separate tables for males and females) with rates increased by 5% for males and females, projected generationally with the two-dimensional mortality improvement scale MP-2021.

- **Health Plan:**

- **Not in pay status at the valuation:** Pub-2010 General Healthy Retiree Headcount-Weighted Above-Median Mortality Tables (separate tables for males and females) with rates increased by 5% for males, projected generationally with the two-dimensional mortality improvement scale MP-2021.
- **In pay status at the valuation:** Pub-2010 Contingent Survivor Headcount-Weighted Above-Median Mortality Tables (separate tables for males and females) with rates increased by 5% for males and females, projected generationally with the two-dimensional mortality improvement scale MP-2021.

As noted above, we have continued to recommend the Pub-2010 Contingent Survivor mortality tables (with higher mortality rates) for beneficiaries **after** the death of the member, but the General Healthy Retirees tables (with lower mortality rates) for beneficiaries **before** the death of the member.

For the purposes of the actuarial valuations (for funding and financial reporting), when calculating the liability for the continuance to a beneficiary of a surviving member, we recommend that the General Healthy Retiree mortality tables be used for beneficiary mortality both before and after the expected death of the member increased by 5% for males and unadjusted for females. Upon the actual death of the member (i.e., for all beneficiaries in pay status as of the valuation date), we recommend for the purposes of the actuarial valuations that we use the Contingent Survivor mortality tables increased by 5% for males and females. We note that the use of different mortality tables (before and after the death of the member) has been found by the RPEC to be reasonable.<sup>1</sup>

## Pre-retirement mortality

The current mortality tables used for pre-retirement mortality are as follows:

- **Pension Plan:** Pub-2010 General Employee Amount-Weighted Above-Median Mortality Tables (separate tables for males and females), projected generationally with the two-dimensional mortality improvement scale MP-2020.
- **Health Plan:** Pub-2010 General Employee Headcount-Weighted Above-Median Mortality Tables (separate tables for males and females), projected generationally with the two-dimensional mortality improvement scale MP-2020.

The table below shows the observed salary-weighted deaths for active members based on the actual experience during the sixteen years studied. Also shown are the expected salary-weighted deaths under the current and proposed assumptions. This information is shown separately by gender. As shown in the table below, the proposed mortality tables have an actual to expected ratio of 64% after adjustments for partial credibility. In future years the ratios should remain around 64% as long as actual mortality improves at the same rates as anticipated by the generational mortality tables.

<sup>1</sup> Using the Contingent Survivor mortality tables both before and after the death of the member, as was recommended in the prior study, was also deemed reasonable by the RPEC.

## Pre-Retirement Mortality Experience – Salary-Weighted (*\$ in thousands*)

| Gender                   | Current<br>Expected<br>Weighted<br>Deaths | Actual<br>Weighted<br>Deaths | Proposed<br>Expected<br>Weighted<br>Deaths |
|--------------------------|---|------------------------------|--|
| Male                     | \$286.76                                  | \$146.82                     | \$286.61                                   |
| Female                   | 61.33                                     | 76.93                        | 61.30                                      |
| <b>Total</b>             | <b>\$348.10</b>                           | <b>\$223.75</b>              | <b>\$347.90</b>                            |
| <b>Actual / Expected</b> | <b>64%</b>                                |                              | <b>64%</b>                                 |

### Notes:

1. Experience shown above is weighted by salary for deceased members.
2. Expected amounts under the current and proposed generational mortality table are based on mortality rates from the base year projected with mortality improvements to the year the death occurred (or was expected to occur).
3. Results may not add due to rounding.

The proposed mortality tables reflect current experience to the extent that the experience is credible based on standard statistical theory. For EBMUDERS, there is less data available for actives (as the above experience was based on the salary of 24 actual versus 42 expected members who died during the past sixteen years), so it is given little credibility and the proposed tables are not adjusted.

For the purpose of setting the assumptions for the Health Plan, we have also provided in the table below the actual and expected deaths (without weighting by salary) using the headcount-weighted version of the Pub-2010 tables.

## Pre-Retirement Mortality Experience – Headcount-Weighted

| Gender                   | Current Expected Deaths | Actual Deaths | Proposed Expected Deaths |
|--------------------------|-------------------------|---------------|--------------------------|
| Male                     | 34                      | 15            | 34                       |
| Female                   | 8                       | 9             | 8                        |
| <b>Total</b>             | <b>42</b>               | <b>24</b>     | <b>42</b>                |
| <b>Actual / Expected</b> | <b>57%</b>              |               | <b>57%</b>               |

### Notes:

1. Experience shown above is weighted by headcounts for deceased members instead of by salary.
2. Expected deaths under the current and proposed generational mortality tables are based on mortality rates from the base year projected with mortality improvements to the year the death occurred (or was expected to occur).
3. Results may not add due to rounding.

### We recommend updating the mortality tables used for pre-retirement mortality to the following:

- **Pension Plan:** Pub-2010 General Employee Amount-Weighted Above-Median Mortality Tables (separate tables for males and females), projected generationally with the two-dimensional mortality improvement scale MP-2021.
- **Health Plan:** Pub-2010 General Employee Headcount-Weighted Above-Median Mortality Tables (separate tables for males and females), projected generationally with the two-dimensional mortality improvement scale MP-2021.

## Mortality table for optional forms of payment

For optional forms of payment, there are some administrative complications that we would need to resolve with EBMUDERS and its vendor maintaining the pension administration software before recommending a comparable generational scale to anticipate future mortality improvement. We will provide a recommendation to EBMUDERS for use in determining optional forms of payment after we have those discussions with EBMUDERS and its vendor.

Chart 3: Post-Retirement Benefit-Weighted Deaths (\$ in millions)  
 Service Retired Members (July 1, 2008 through June 30, 2024)

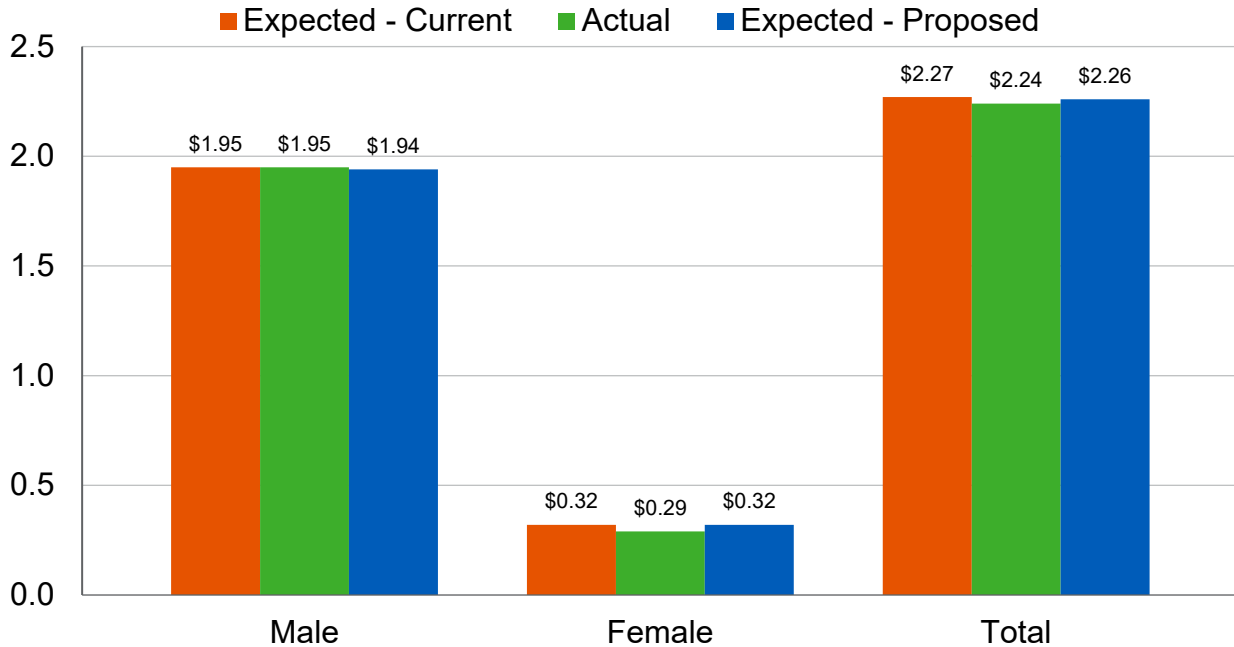


Chart 4: Post-Retirement Headcount-Weighted Deaths  
 Service Retired Members (July 1, 2008 through June 30, 2024)  
 For Health Plan

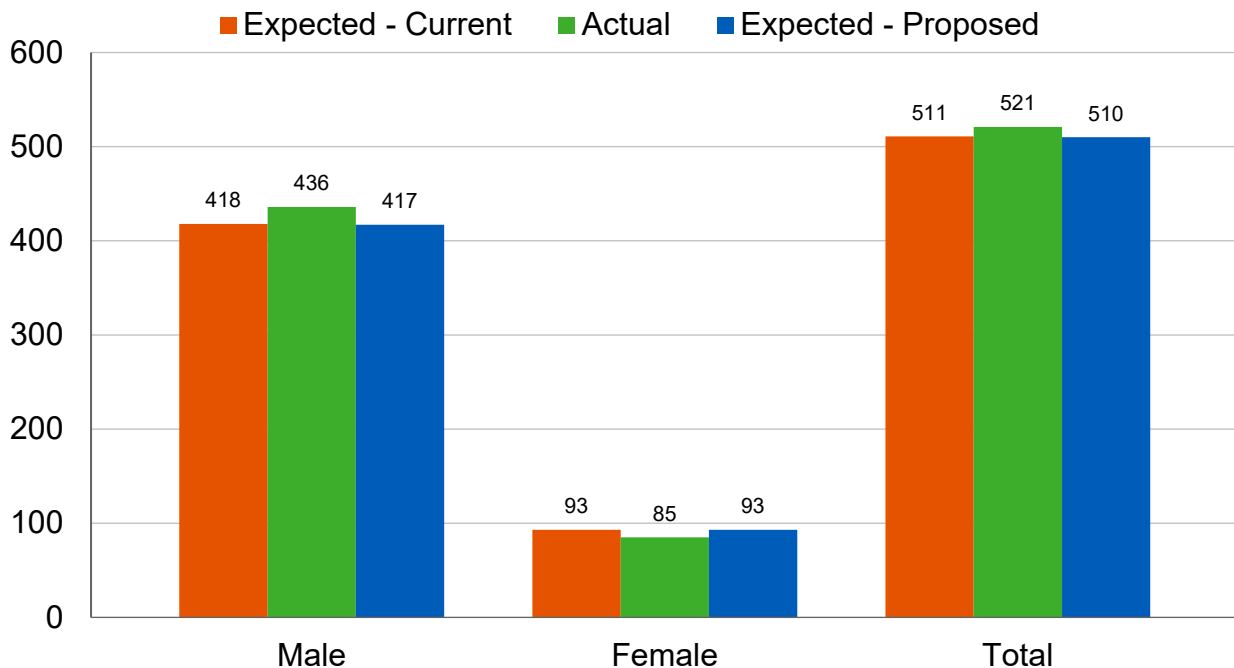
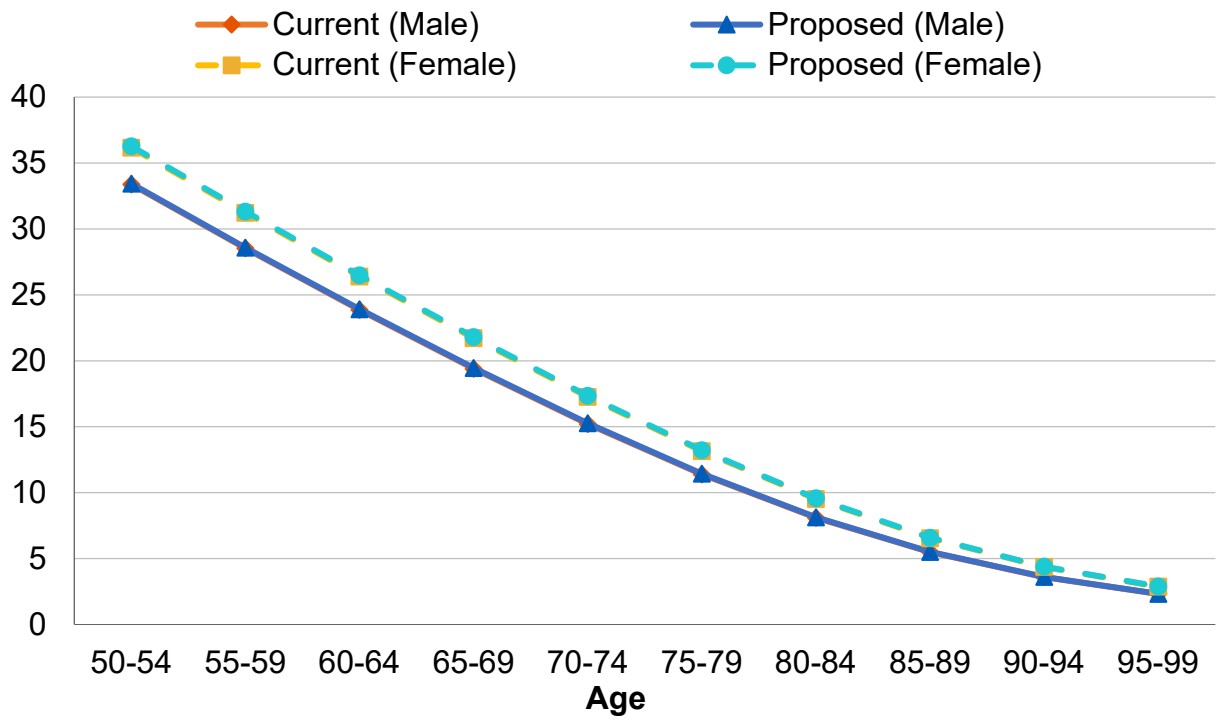


Chart 5: Benefit-Weighted Life Expectancies based on Age in 2024  
*Service Retired Members*



## B. Mortality rates - disabled

Since mortality rates for disabled members can vary from those of healthy members, a different mortality assumption is often used.

The current mortality tables used for disabled mortality are as follows:

- **Pension Plan:** Pub-2010 Non-Safety Disabled Retiree Amount-Weighted Mortality Tables (separate tables for males and females) with rates increased by 5% for males, projected generationally with the two-dimensional mortality improvement scale MP-2020.
- **Health Plan:** Pub-2010 Non-Safety Disabled Retiree Headcount-Weighted Mortality Tables (separate tables for males and females) with rates increased by 5% for males, projected generationally with the two-dimensional mortality improvement scale MP-2020.

The following table shows the observed benefit-weighted deaths for disabled retired members based on the actual experience during the sixteen years studied. Also shown are the expected benefit-weighted deaths under the current and proposed assumptions. This information is shown separately by gender. As shown in the table below, the proposed mortality tables have an actual to expected ratio of 106% after adjustments for partial credibility. In future years the ratios should remain around 106% as long as actual mortality improves at the same rates as anticipated by the generational mortality tables.

### Disabled Retiree Mortality Experience – Benefit-Weighted (\$ in thousands)

| Gender                   | Current Expected Weighted Deaths | Actual Weighted Deaths | Proposed Expected Weighted Deaths |
|--------------------------|----------------------------------|------------------------|-----------------------------------|
| Male                     | \$49.30                          | \$55.93                | \$49.23                           |
| Female                   | 21.53                            | 18.90                  | 21.51                             |
| <b>Total</b>             | <b>\$70.84</b>                   | <b>\$74.83</b>         | <b>\$70.74</b>                    |
| <b>Actual / Expected</b> | <b>106%</b>                      |                        | <b>106%<sup>1</sup></b>           |

**Notes:**

1. Experience shown above is weighted by annual benefit amounts for deceased members.
2. Expected amounts under the current and proposed generational mortality tables are based on mortality rates from the base year projected with mortality improvements to the year the death occurred (or was expected to occur).
3. Results may not add due to rounding.

Similar to mortality rates for service retirees, the proposed mortality tables reflect current experience to the extent that the experience is credible based on standard statistical theory. For EBMUDERS, there is less data available for disabled retirees, so it is given little credibility and the proposed tables are only slightly adjusted.

<sup>1</sup> If we use the benchmark Pub-2010 Non-Safety Disabled table without any adjustment, the proposed actual to expected ratio would be 109%.

For the purpose of setting the assumptions for the Health Plan, we have also provided in the table below the actual and expected deaths (without weighting by benefit amounts) and using the headcount-weighted version of the Pub-2010 tables.

### Disabled Retiree Mortality Experience – Headcount-Weighted

| Gender                   | Current Expected Deaths | Actual Deaths | Proposed Expected Deaths |
|--------------------------|-------------------------|---------------|--------------------------|
| Male                     | 27                      | 28            | 27                       |
| Female                   | 12                      | 10            | 12                       |
| <b>Total</b>             | <b>39</b>               | <b>38</b>     | <b>39</b>                |
| <b>Actual / Expected</b> | <b>97%</b>              |               | <b>97%</b>               |

#### Notes:

1. Experience shown above is weighted by headcounts for deceased members instead of by benefit amounts.
2. Expected deaths under the current and proposed generational mortality tables are based on mortality rates from the base year projected with mortality improvements to the year the death occurred (or was expected to occur).
3. Results may not add due to rounding.

#### We recommend updating the mortality tables used for disabled mortality to the following:

- **Pension Plan:** Pub-2010 Non-Safety Disabled Retiree Amount-Weighted Mortality Tables (separate tables for males and females) with rates increased by 5% for males, projected generationally with the two-dimensional mortality improvement scale MP-2021.
- **Health Plan:** Pub-2010 Non-Safety Disabled Retiree Headcount-Weighted Mortality Tables (separate tables for males and females) with rates increased by 5% for males, projected generationally with the two-dimensional mortality improvement scale MP-2021.

Chart 6 compares the actual to expected deaths on an amount-weighted basis for disabled members over the sixteen-year period for the current and proposed assumptions.

Chart 7 compares the number of actual to expected deaths on a headcount-weighted basis for disabled members over the sixteen-year period for the current and proposed assumptions for the Health Plan.

Chart 8 shows the life expectancies (i.e., expected future lifetime) under the current and proposed tables for disabled members on an amount-weighted basis. Life expectancies under the current and proposed generational mortality rates are based on age as of 2024. In practice, assumed life expectancies will increase in accordance with the mortality improvement scale.

Chart 6: Post-Retirement Benefit-Weighted Deaths (\$ in thousands)  
 Disabled Members (July 1, 2008 through June 30, 2024)

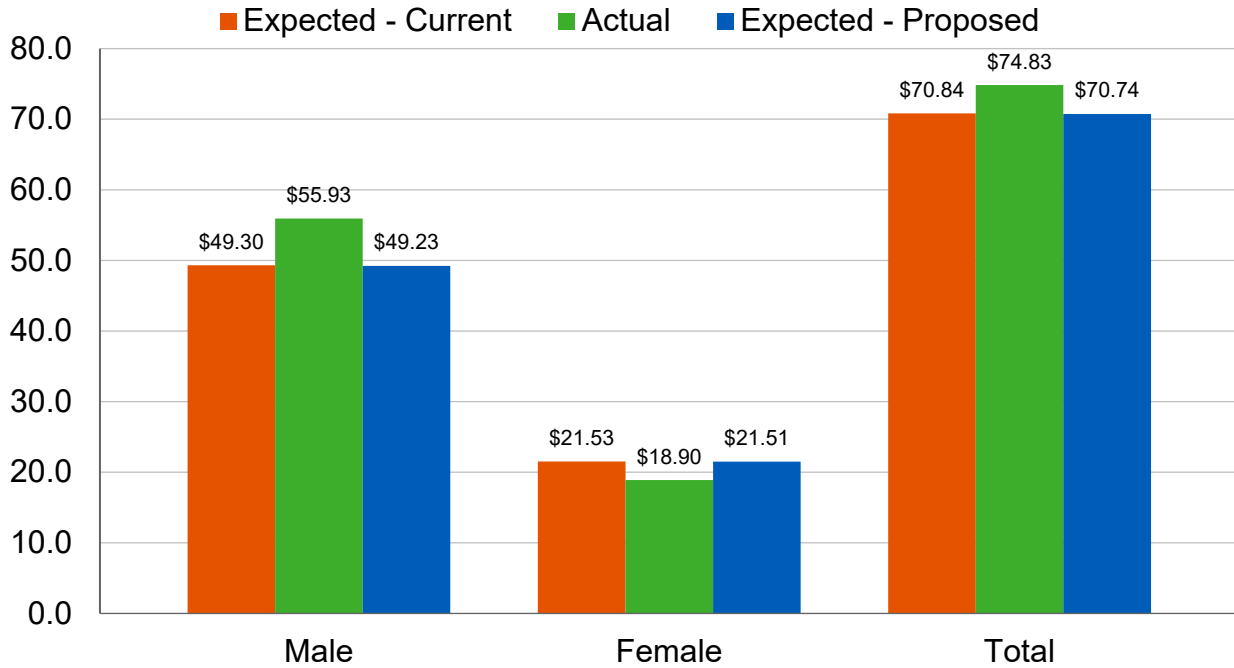


Chart 7: Post-Retirement Headcount-Weighted Deaths  
 Disabled Members (July 1, 2008 through June 30, 2024)  
 For Health Plan

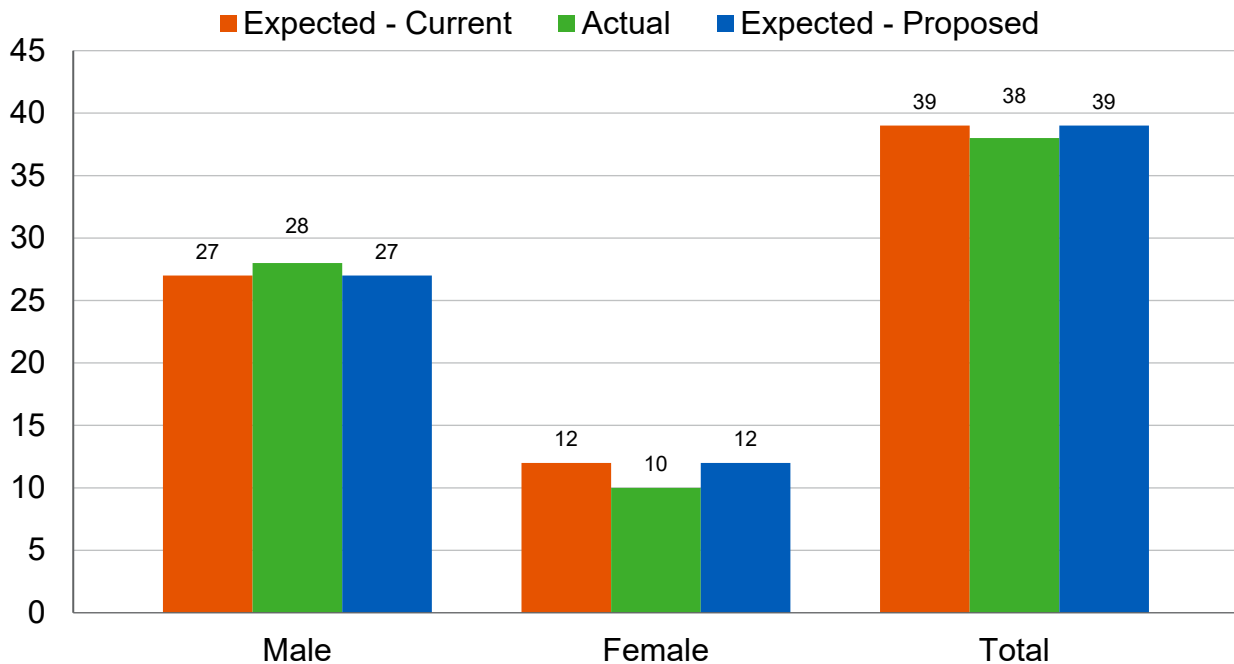
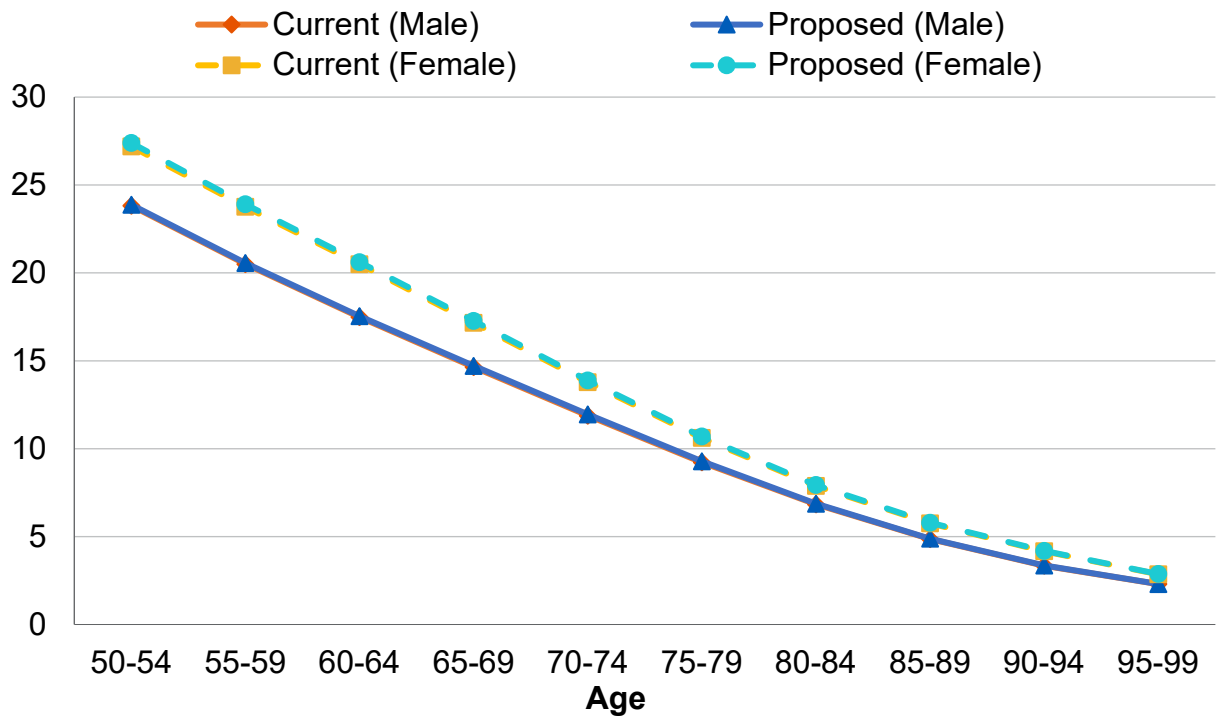


Chart 8: Benefit-Weighted Life Expectancies based on Age in 2024  
*Disabled Members*



## C. Disability incidence rates

When a member becomes disabled, he or she is generally entitled to a monthly benefit equal to 1/3 of their Final Compensation.

The following table shows the observed disability incidence rates based on the actual experience over the past four years. Also shown are the current assumed rates and the rates we propose.

Disability Incidence Rates (%)

| Age     | Current Rate <sup>1</sup> | Actual Rate | Proposed Rate <sup>1</sup> |
|---------|---------------------------|-------------|----------------------------|
| 20 – 24 | 0.000                     | 0.000       | 0.000                      |
| 25 – 29 | 0.000                     | 0.000       | 0.000                      |
| 30 – 34 | 0.010                     | 0.000       | 0.010                      |
| 35 – 39 | 0.030                     | 0.000       | 0.020                      |
| 40 – 44 | 0.120                     | 0.213       | 0.120                      |
| 45 – 49 | 0.170                     | 0.175       | 0.130                      |
| 50 – 54 | 0.170                     | 0.000       | 0.140                      |
| 55 – 59 | 0.190                     | 0.000       | 0.150                      |
| 60 – 64 | 0.240                     | 0.000       | 0.160                      |
| 65 – 69 | 0.320                     | 0.000       | 0.170                      |
| 70 – 74 | N/A                       | 0.000       | 0.170                      |

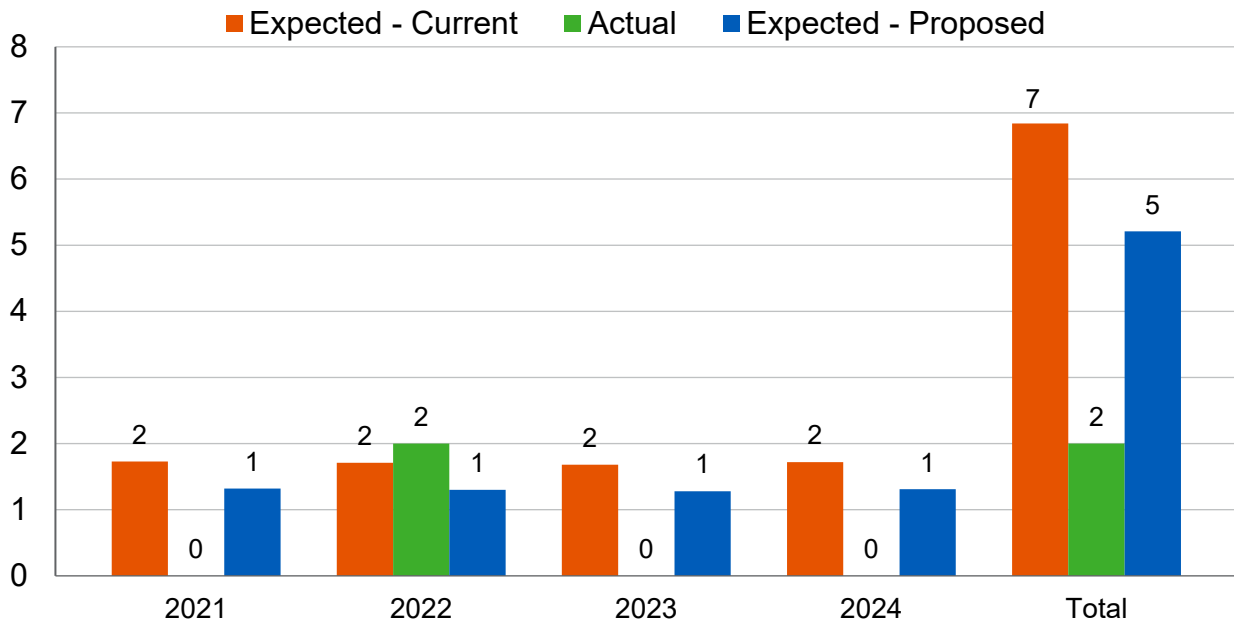
**Based upon this experience and the overall low incidence of disability, we recommend slightly decreasing the disability incidence rate assumption overall.**

Chart 9 compares the actual number of disabilities over the past four years to that expected under both the current and proposed assumptions.

Chart 10 compares the actual disability incidence rates with the current and proposed rates.

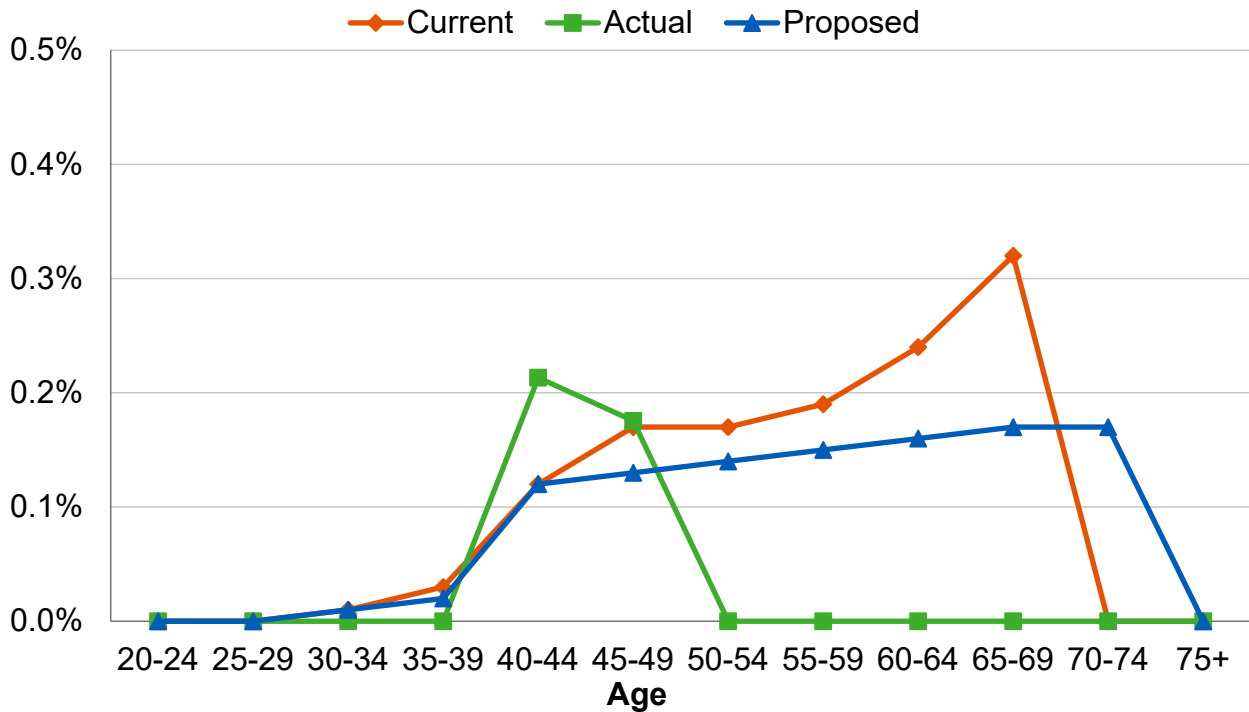
<sup>1</sup> At central age in the age range shown.

Chart 9: Actual Number of Disability Retirements Compared to Expected



Note: Results may not add due to rounding.

Chart 10: Disability Incidence Rates



## D. Termination rates

Termination rates include all terminations for reasons other than death, disability, or retirement. Under the current assumptions, members with less than five years of service are assumed to terminate based on years of service (i.e., a service-based assumption), and members with five or more years of service are assumed to terminate based on age (i.e., an age-based assumption). With this experience study, we are recommending termination rates based only on a function of the member's years of service. Also, we are introducing separate rates for 1955/1980 Plan and 2013 Tier members.

The following table shows the observed termination rates based on the actual experience over the past four years. We have also included eight years of experience in order to improve the credibility of EBMUDERS' termination experience and to aid in our transition to a service-based assumption for both the 1955/1980 Plan and 2013 Tier for all service categories. Also shown are the current assumed rates and the rates we propose. Please note that we have excluded any members that were eligible for retirement unless the member actually terminated. In addition, termination liability continues to be based on the greater of a refund of member contributions and the present value of a deferred vested retirement benefit.

## 1955/1980 Plan—Termination Rates (%)

| Years of Service | Current Rate <sup>1</sup> | Actual Rate<br>(Last 4 Years) | Actual Rate from<br>Current and Prior<br>Studies<br>(Last 8 Years) | Proposed Rate |
|------------------|---------------------------|-------------------------------|--|---------------|
| Less than 1      | 6.75                      | 16.00                         | 6.82   | 11.30         |
| 1 – 2            | 4.25                      | 7.69                          | 5.56   | 6.00          |
| 2 – 3            | 4.00                      | 8.82                          | 4.76   | 6.00          |
| 3 – 4            | 3.50                      | 2.56                          | 4.23   | 3.00          |
| 4 – 5            | 2.50                      | 0.00                          | 0.51   | 3.00          |
| 5 – 6            | 1.88                      | 6.25                          | 2.79   | 2.50          |
| 6 – 7            | 1.92                      | 3.92                          | 2.16   | 2.50          |
| 7 – 8            | 1.93                      | 2.99                          | 2.75   | 2.50          |
| 8 – 9            | 1.93                      | 3.92                          | 2.95   | 2.50          |
| 9 – 10           | 1.90                      | 1.79                          | 2.67   | 1.80          |
| 10 – 11          | 1.88                      | 1.80                          | 1.75   | 1.80          |
| 11 – 12          | 1.90                      | 2.65                          | 1.04   | 1.80          |
| 12 – 13          | 1.90                      | 0.92                          | 1.08   | 1.80          |
| 13 – 14          | 1.85                      | 1.83                          | 1.63   | 1.80          |
| 14 – 15          | 1.82                      | 0.00                          | 1.27   | 1.60          |
| 15 – 16          | 1.78                      | 1.52                          | 1.75   | 1.60          |
| 16 – 17          | 1.76                      | 3.64                          | 2.62   | 1.60          |
| 17 – 18          | 1.74                      | 1.10                          | 1.71   | 1.60          |
| 18 – 19          | 1.72                      | 2.50                          | 1.23   | 1.60          |
| 19 – 20          | 1.70                      | 0.00                          | 0.70   | 1.60          |
| 20 and over      | 1.60                      | 1.31                          | 1.18   | 1.60          |

<sup>1</sup> The current rates shown for 5 or more years of service are based on our current age-based rates applied to the last four years of exposures.

## 2013 Tier—Termination Rates (%)

| Years of Service | Current Rate <sup>1</sup> | Actual Rate (Last 4 Years) | Actual Rate from Current and Prior Studies (Last 8 Years) | Proposed Rate |
|------------------|---------------------------|----------------------------|---|---------------|
| Less than 1      | 6.75                      | 9.27                       | 8.74  | 8.00          |
| 1 – 2            | 4.25                      | 3.64                       | 3.65  | 4.00          |
| 2 – 3            | 4.00                      | 3.54                       | 3.70  | 3.75          |
| 3 – 4            | 3.50                      | 2.92                       | 2.72  | 3.25          |
| 4 – 5            | 2.50                      | 3.32                       | 2.87  | 3.00          |
| 5 – 6            | 2.02                      | 2.48                       | 2.11  | 2.70          |
| 6 – 7            | 2.00                      | 4.10                       | 3.64  | 2.60          |
| 7 – 8            | 1.98                      | 3.23                       | 3.23  | 2.50          |
| 8 – 9            | 1.96                      | 1.22                       | 1.22  | 2.30          |
| 9 – 10           | 1.95                      | 3.74                       | 3.74  | 2.20          |
| 10 – 11          | 1.90                      | 2.78                       | 2.78  | 2.10          |
| 11 – 12          | 1.75                      | 0.00                       | 0.00  | 2.00          |
| 12 – 13          | 0.00                      | 0.00                       | 0.00  | 1.90          |
| 13 – 14          | 0.00                      | 0.00                       | 0.00  | 1.80          |
| 14 – 15          | 0.00                      | 0.00                       | 0.00  | 1.70          |
| 15 – 16          | 0.00                      | 0.00                       | 0.00  | 1.60          |
| 16 – 17          | 0.00                      | 0.00                       | 0.00  | 1.60          |
| 17 – 18          | 0.00                      | 0.00                       | 0.00  | 1.60          |
| 18 – 19          | 0.00                      | 0.00                       | 0.00  | 1.60          |
| 19 – 20          | 0.00                      | 0.00                       | 0.00  | 1.60          |
| 20 and over      | 0.00                      | 0.00                       | 0.00  | 1.60          |

**Based upon the recent experience, we recommend increasing the termination rates overall, in particular for the 2013 Tier, and separating termination assumptions for 1955/1980 Plan and 2013 Tier members.**

**We also continue to recommend that all termination rates are zero for all members eligible to retire, as long as a retirement rate is assumed. That is, it is assumed that members eligible to retire at termination will retire rather than defer their benefit or withdraw their contributions.**

It is important to note that not every service category has enough exposures and/or decrements such that the results in that category are statistically credible even if we look at eight years' worth of experience. This is mainly the case at the highest service categories since most members in those categories are eligible to retire and so have been excluded from our review of this termination experience.

Chart 11 compares the number of actual to expected terminations over the past four years for the current and proposed assumptions for 1955/1980 Plan members.

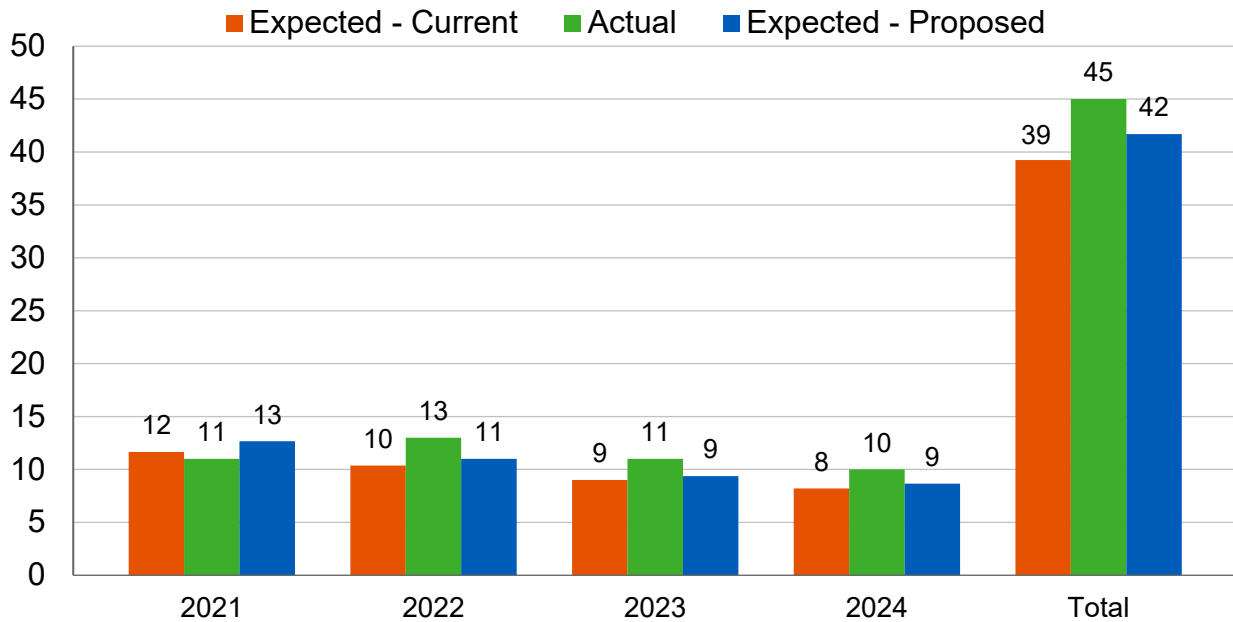
<sup>1</sup> The current rates shown for 5 or more years of service are based on our current age-based rates applied to the last four years of exposures.

Chart 12 compares the number of actual to expected terminations over the past four years for the current and proposed assumptions for 2013 Tier members.

Chart 13 compares the actual termination rates with the current and proposed rates for 1955/1980 Plan members.

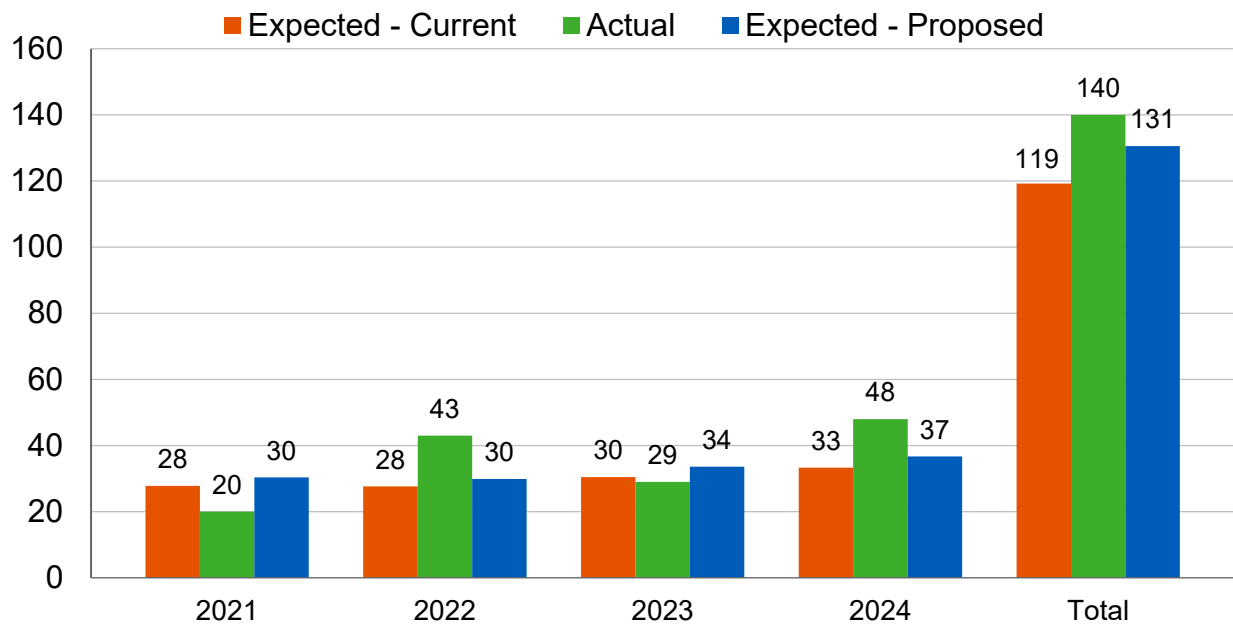
Chart 14 compares the actual termination rates with the current and proposed rates for 2013 Tier members.

Chart 11: Actual Number of Terminations Compared to Expected  
*1955/1980 Plan Members*



Note: Results may not add due to rounding.

Chart 12: Actual Number of Terminations Compared to Expected  
*2013 Tier Members*



Note: Results may not add due to rounding.

Chart 13: Termination Rates  
1955/1980 Plan Members

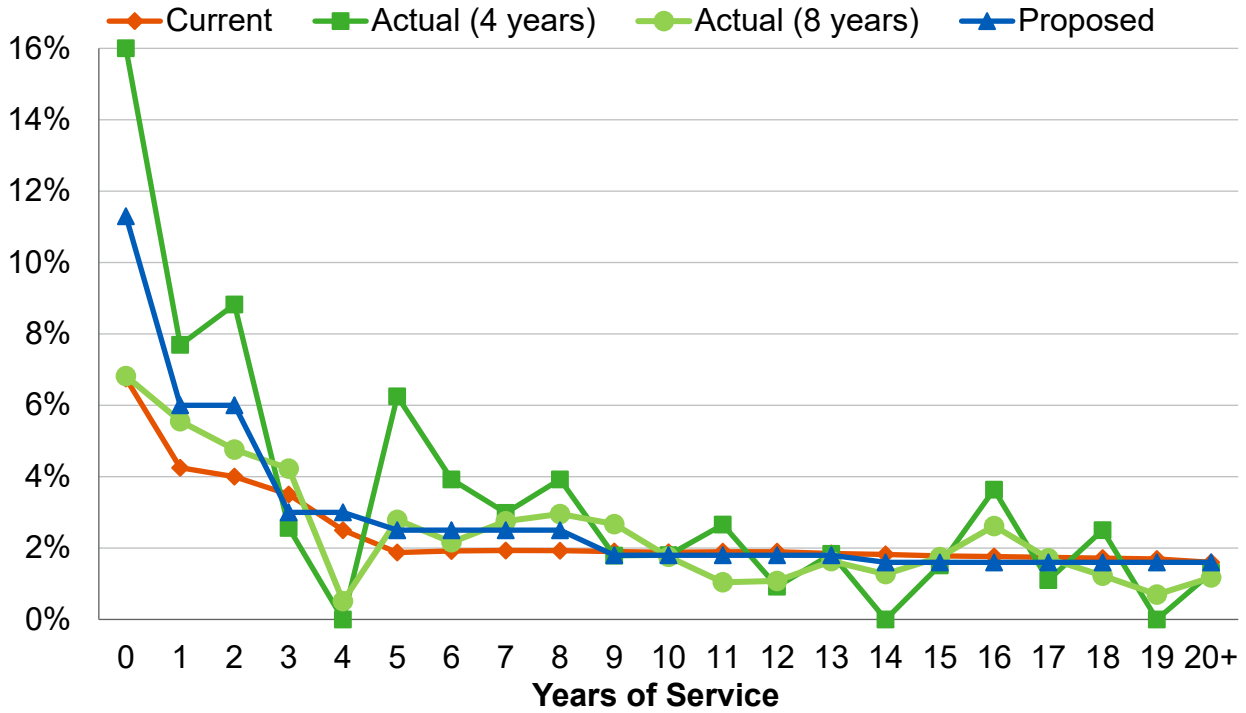
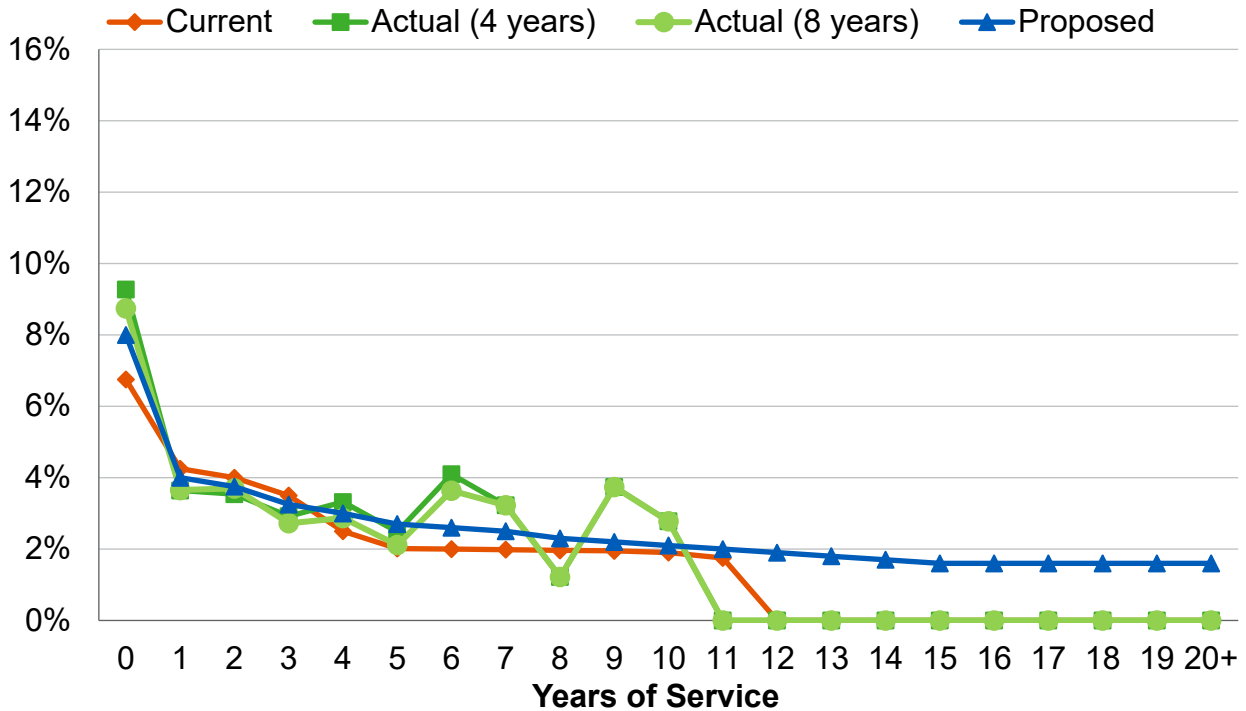


Chart 14: Termination Rates  
2013 Tier Members



## E. Retirement rates

The age at which a member retires from service (i.e., who did not retire on a disability pension) will affect both the amount of the benefits that will be paid to that member as well as the period over which funding must take place.

The following two tables show the observed service retirement rates for the 1955/1980 Plan based on the actual experience over the past four years. Experience is separated for those members who are eligible for an unreduced benefit<sup>1</sup> and for other members who are not eligible for an unreduced benefit. The observed service retirement rates were determined by comparing those members who actually retired from service to those eligible to retire from service. Also shown are the current assumed rates and the rates we propose. With this experience study, we recommend increasing the age at which all members would be expected to retire from age 70 to age 75. This is based on the experience observed at EBMUDERS and the assumptions we use at a number of our other county employees retirement systems.

### 1955/1980 Plan

#### Retirement Rates (%) – 1955/1980 Plan: Eligible for an Unreduced Benefit

| Age         | Current Rate | Actual Rate | Proposed Rate |
|-------------|--------------|-------------|---------------|
| 54          | 55.00        | 43.48       | 50.00         |
| 55          | 16.00        | 22.58       | 16.00         |
| 56          | 16.00        | 20.93       | 16.00         |
| 57          | 16.00        | 16.67       | 16.00         |
| 58          | 16.00        | 22.39       | 16.00         |
| 59          | 16.00        | 9.41        | 16.00         |
| 60          | 16.00        | 16.48       | 16.00         |
| 61          | 16.00        | 14.10       | 16.00         |
| 62          | 16.00        | 29.75       | 20.00         |
| 63          | 16.00        | 19.54       | 20.00         |
| 64          | 16.00        | 22.37       | 20.00         |
| 65          | 16.00        | 17.14       | 20.00         |
| 66          | 27.00        | 30.00       | 24.00         |
| 67          | 27.00        | 8.51        | 24.00         |
| 68          | 27.00        | 15.22       | 24.00         |
| 69          | 27.00        | 24.24       | 24.00         |
| 70          | 100.00       | 22.22       | 40.00         |
| 71          | 100.00       | 22.22       | 40.00         |
| 72          | 100.00       | 45.45       | 40.00         |
| 73          | 100.00       | 0.00        | 40.00         |
| 74          | 100.00       | 12.50       | 40.00         |
| 75 and over | 100.00       | 31.58       | 100.00        |

<sup>1</sup> For example, a 1955/1980 Plan member who is 54 years old with 30 or more years of service would be eligible to receive the full (“unreduced”) 2.60% per year of service accrual.

**Based on this experience, we recommend decreases in the retirement rates at certain ages and recommend increases in the retirement rates at other ages, for 1955/1980 Plan members eligible for an unreduced benefit. Overall, the proposed rates represent a decrease in the retirement rates.**

Chart 15 compares the number of actual to expected retirements over the past four years for the current and proposed assumptions, for 1955/1980 Plan members eligible for an unreduced benefit. Chart 18 compares the actual retirement rates for 1955/1980 Plan members eligible for an unreduced retirement with the current and proposed rates.

### Retirement Rates (%) – 1955/1980 Plan: Not Eligible for an Unreduced Benefit

| Age | Current Rate | Actual Rate | Proposed Rate |
|-----|--------------|-------------|---------------|
| 54  | 7.00         | 6.37        | 7.00          |
| 55  | 7.00         | 5.71        | 7.00          |
| 56  | 7.00         | 9.68        | 7.00          |
| 57  | 7.00         | 11.54       | 8.00          |
| 58  | 7.00         | 6.17        | 8.00          |
| 59  | 7.00         | 9.59        | 8.00          |
| 60  | 7.00         | 13.89       | 10.00         |
| 61  | 12.00        | 7.27        | 10.00         |

**Based on this experience, we recommend a decrease in the retirement rates at age 61 and recommend increases in the retirement rates at other ages, for 1955/1980 Plan members not eligible for an unreduced benefit. Overall, the proposed rates represent an increase in the retirement rates.**

Chart 16 compares the number of actual to expected retirements over the past four years for the current and proposed assumptions, for 1955/1980 Plan members not eligible for an unreduced benefit. Chart 19 compares the actual retirement rates for 1955/1980 Plan members not eligible for an unreduced retirement with the current and proposed rates.

### 2013 Tier

The following table shows the observed retirement rates for the 2013 Tier based on the actual experience over the past six years. (We used six years for the 2013 Tier to utilize the most experience available.) The observed service retirement rates were determined by comparing those members who actually retired from service to those eligible to retire from service. Also shown are the current assumed rates and the rates we propose. In setting our proposed assumptions, we have also looked at the assumptions from two of our other county employees retirement systems offering comparable benefits.

## Retirement Rates (%) – 2013 Tier

| Age         | Current Rate | Actual Rate | Proposed Rate |
|-------------|--------------|-------------|---------------|
| 52          | 1.75         | 0.00        | 2.00          |
| 53          | 1.75         | 0.00        | 2.00          |
| 54          | 2.75         | 0.00        | 2.00          |
| 55          | 4.75         | 0.00        | 3.00          |
| 56          | 5.75         | 0.00        | 3.00          |
| 57          | 5.75         | 0.00        | 4.00          |
| 58          | 5.75         | 0.00        | 4.00          |
| 59          | 7.75         | 7.14        | 6.00          |
| 60          | 7.75         | 4.55        | 6.00          |
| 61          | 10.25        | 0.00        | 6.00          |
| 62          | 18.00        | 0.00        | 10.00         |
| 63          | 15.00        | 5.56        | 10.00         |
| 64          | 9.00         | 7.14        | 10.00         |
| 65          | 23.75        | 0.00        | 20.00         |
| 66          | 23.75        | 16.67       | 20.00         |
| 67          | 32.50        | 11.11       | 20.00         |
| 68          | 35.00        | 0.00        | 20.00         |
| 69          | 38.75        | 0.00        | 20.00         |
| 70          | 100.00       | 50.00       | 35.00         |
| 71          | 100.00       | 100.00      | 35.00         |
| 72          | 100.00       | 0.00        | 35.00         |
| 73          | 100.00       | 0.00        | 35.00         |
| 74          | 100.00       | 0.00        | 35.00         |
| 75 and over | 100.00       | 0.00        | 100.00        |

**Based on this experience, we recommend decreases in the retirement rates at certain ages and recommend increases in the retirement rates at other ages, for 2013 Tier members. Overall, the proposed rates represent a decrease in the retirement rates.**

Chart 17 compares the number of actual to expected retirements over the past six years for the current and proposed assumptions, for 2013 Tier members. Chart 20 compares the actual retirement rates for 2013 Tier members with the current and proposed rates.

### Deferred vested members

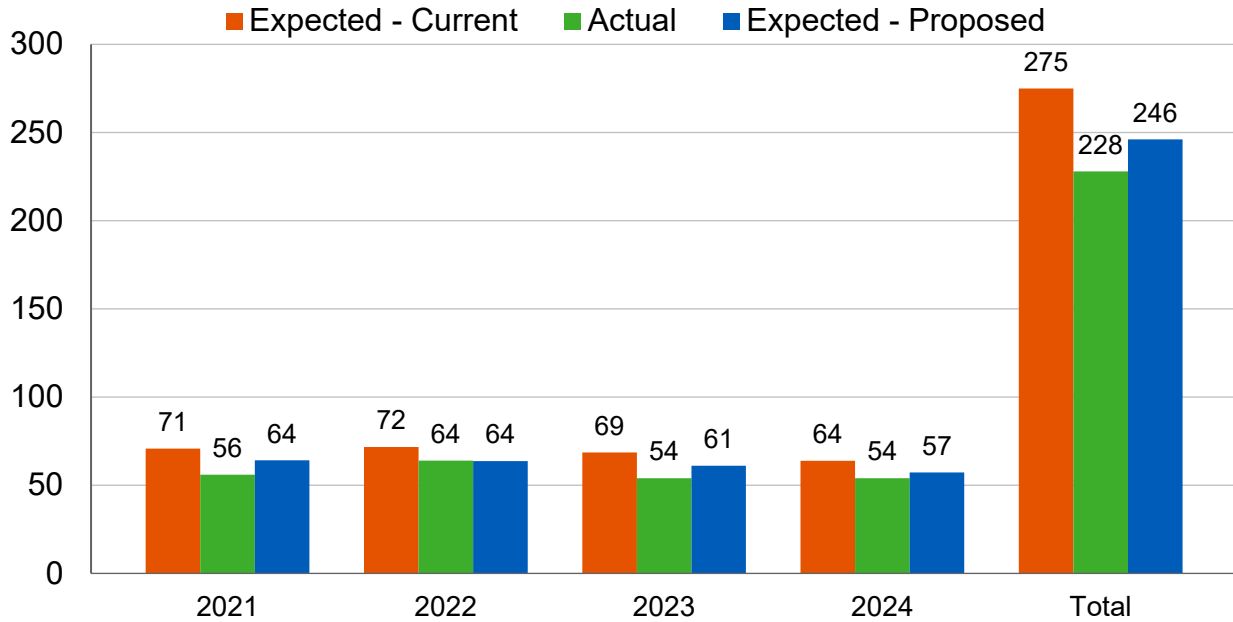
Under the current assumptions, deferred vested members are assumed to retire at age 59, regardless if the member went on to work at a reciprocal retirement system or not. The following table shows the observed deferred vested retirement ages based on the actual experience over the past four years, separately for those who went on to work at a reciprocal retirement system and those that did not. Also shown are the current assumed retirement ages and the retirement ages we propose.

## Deferred Vested Retirement Age

|                            | Reciprocal Members | Non-Reciprocal Members |
|----------------------------|--------------------|------------------------|
| Current assumption         | 59.0               | 59.0                   |
| Actual average age         | 59.7               | 58.9                   |
| <b>Proposed assumption</b> | <b>59.0</b>        | <b>59.0</b>            |

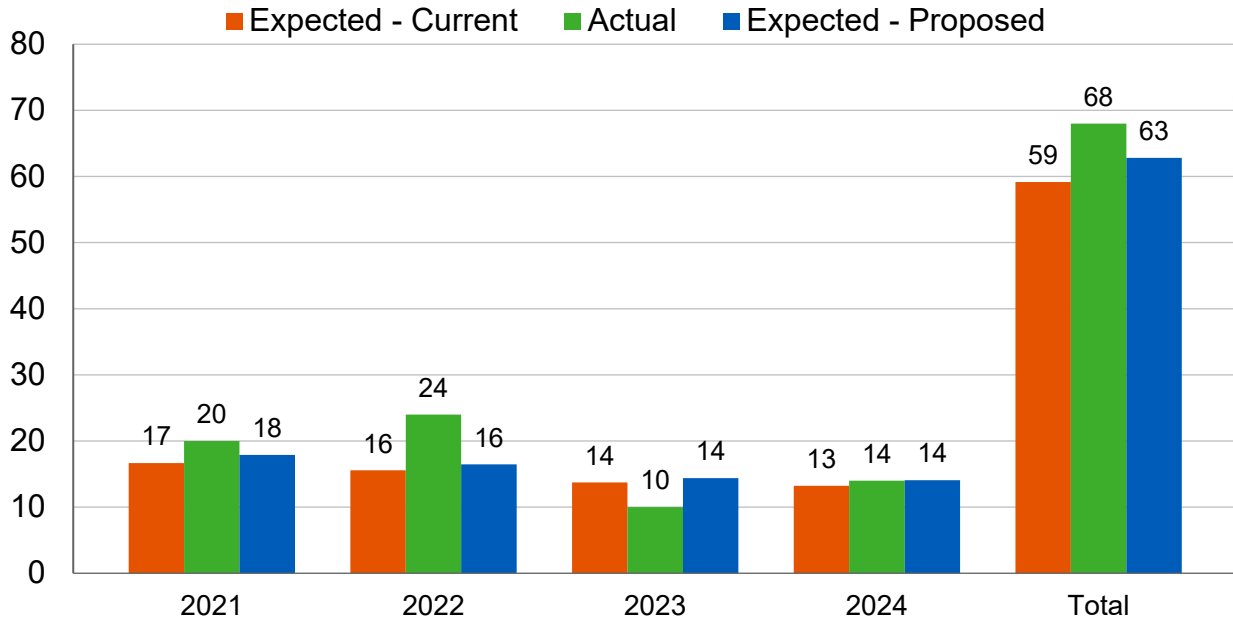
**Based on this experience, we recommend maintaining the deferred vested retirement age assumption at age 59 regardless of reciprocity status.**

Chart 15: Actual Number of Retirements Compared to Expected  
*1955/1980 Plan – Eligible for an Unreduced Benefit*



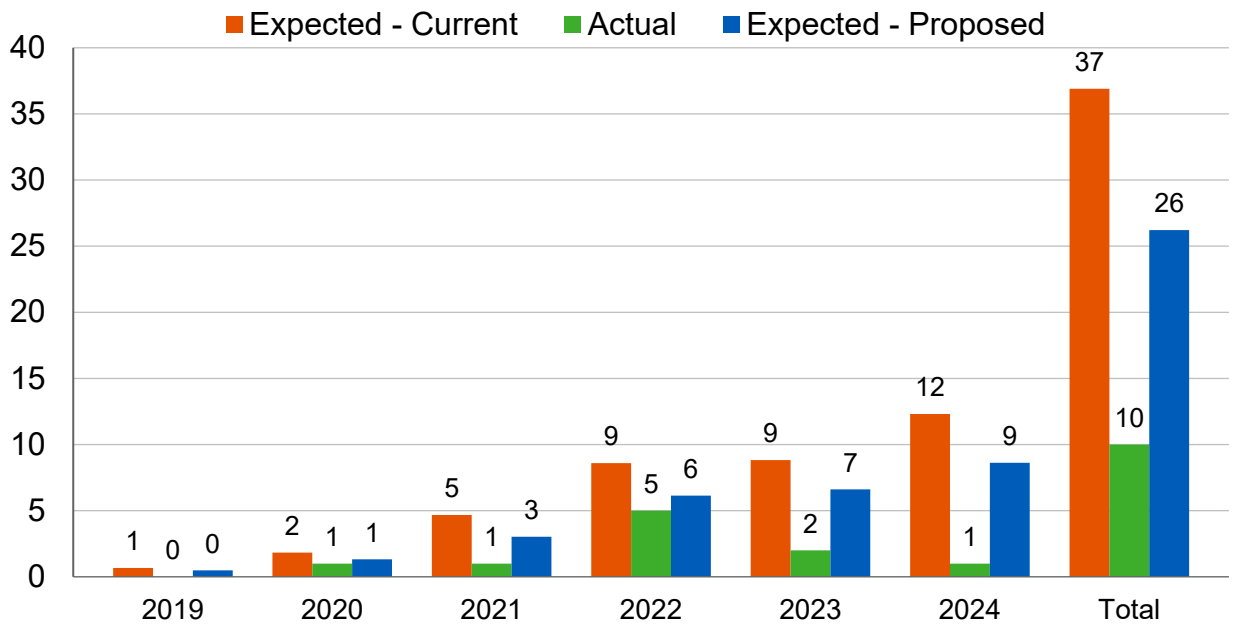
Note: Results may not add due to rounding.

Chart 16: Actual Number of Retirements Compared to Expected  
 1955/1980 Plan – Not Eligible for an Unreduced Benefit



Note: Results may not add due to rounding.

Chart 17: Actual Number of Retirements Compared to Expected  
 2013 Tier



Note: Results may not add due to rounding.

Chart 18: Retirement Rates  
 1955/1980 Plan – Eligible for an Unreduced Benefit

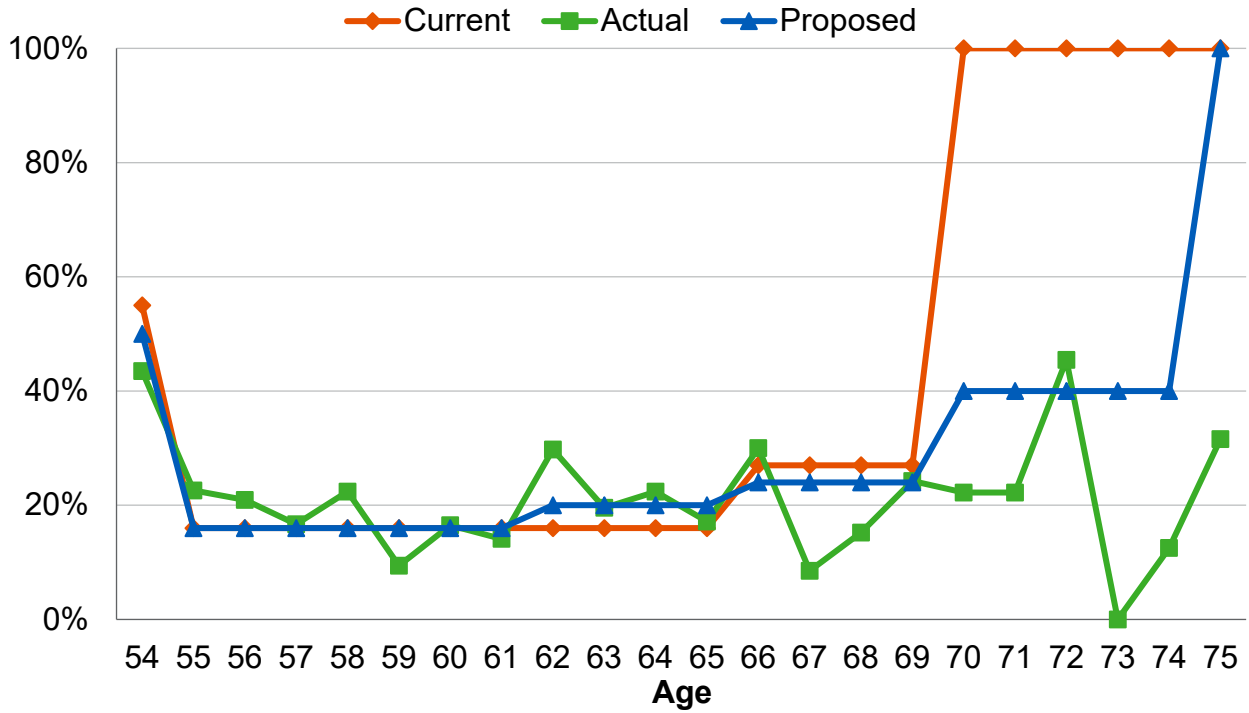


Chart 19: Retirement Rates  
 1955/1980 Plan – Not Eligible for an Unreduced Benefit

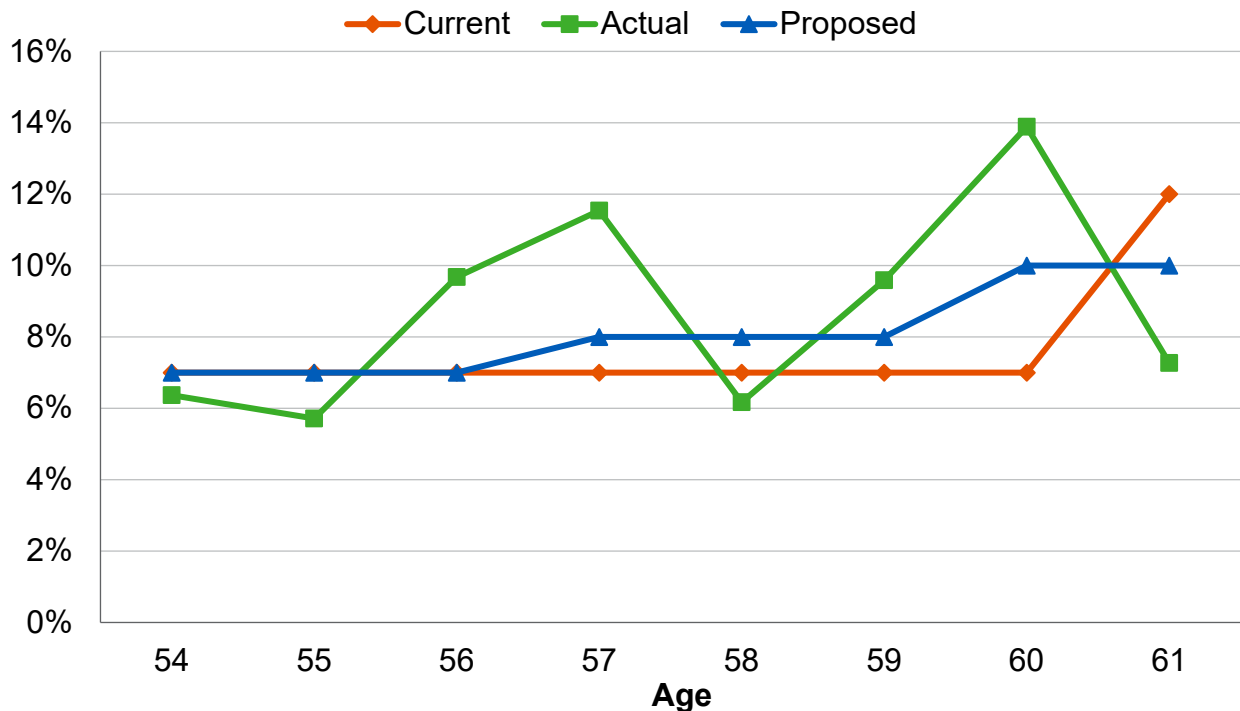
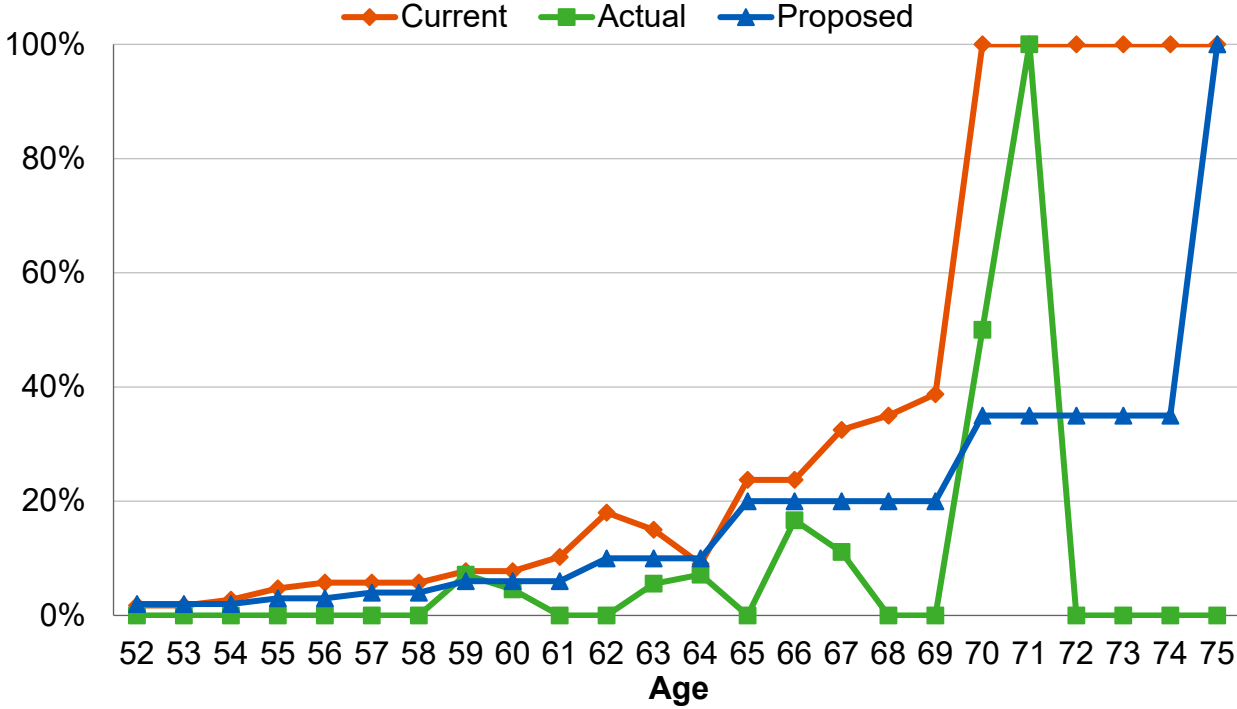


Chart 20: Retirement Rates  
 2013 Tier



# F. Miscellaneous assumptions and change in method

## Reciprocity

Under the current assumptions, a percentage of future deferred vested members are assumed to go on to work under a reciprocal retirement system. The following table shows the observed reciprocity percent based on the actual experience over the four-year and eight-year periods ending June 30, 2024. Also shown are the current and proposed assumptions.

Percent of Deferred Vested Members Covered under Reciprocal System

|                                   | Reciprocal Percent |
|-----------------------------------|--------------------|
| Current assumption                | 15%                |
| Actual percent (last four years)  | 16%                |
| Actual percent (last eight years) | 14%                |
| <b>Proposed assumption</b>        | <b>15%</b>         |

**We recommend keeping the reciprocal assumption level at 15%.** This recommendation takes into account the experience of only newly deferred vested members during the last eight valuations instead of all deferred vested members as of June 30, 2024 to better capture recent reciprocity trends. As noted in the last experience study report for the four-year period ending June 30, 2020, EBMUDERS made a refinement in the flagging of reciprocal members about eight years ago to only include outbound reciprocities (i.e., member who have left EBMUDERS to work for a reciprocal system), rather than capturing both outbound and inbound reciprocities. Accordingly, our experience lookback was limited to eight years in this case.

**In addition, we recommend that a 3.75% annual salary increase assumption be utilized to anticipate salary increases from the date of termination from EBMUDERS (or from the date of the last reported salary, if provided for current deferred vested reciprocal members) to the expected date of retirement for deferred vested members covered by a reciprocal retirement system.** This assumption is based on the ultimate 0.75% merit and promotion salary increase assumption for active members (for both the 1955/1980 Plan and 2013 Tier), together with the 2.50% inflation and 0.50% real “across-the-board” salary increase assumptions that are recommended earlier in *Section 3* of this report.

## Sick leave conversion

Active members who accrue sick leave hours may convert their accumulated unused hours<sup>1</sup> at retirement into service credit for use in the calculation of their retirement benefit. Currently, unused sick leave hours are reported in the membership data provided for the actuarial valuation after the hours are earned by the members, and an actuarial liability is included in the annual valuation to anticipate the conversion of these unused sick leave hours at retirement.

<sup>1</sup> Pursuant to EBMUDERS’ sick leave procedure, “when an employee’s sick leave accumulation reaches the maximum of 1,040 hours, hours otherwise accrued thereafter shall be accumulated without limit in a Service Extension Credit account. For the purpose of calculating retirement benefits, an employee’s period of service shall be supplemented at retirement by two hours for each hour of unused sick leave accumulated at date of retirement, PLUS two hours of each hour credited to the employee’s Service Extension Credit account, with the total rounded to the nearest whole day.”

In order to review the assumption for the amount of additional sick leave hours for each year of future employment that may be converted to service credit at retirement, we have observed over the four-year experience study period that the average active member with 11.2 years of service has accumulated 488 hours of unused sick leave. Based on EBMUDERS' sick leave conversion procedures, the 488 hours may be converted to about 0.47 years of service (based on 1,040 hours used for such conversion). When we divide the 0.47 years by the average active member's 11.2 years of service, sick leave is earned at the rate of about 0.042 (0.47 / 11.2) per year of service.

**Based on this information, we recommend increasing the current assumption that future benefit accruals increase at 1.0 year of service per year of employment plus 0.040 years of additional service (previously 0.038) to anticipate conversion of unused sick leave for each year of employment.** As previously directed by EBMUDERS, this assumption applies to active members in both the 1955/1980 Plan and the 2013 Tier.

## Percent married/domestic partnership

The value of a member's retirement, disability, or death benefit depends on the percentage of members who are assumed to have an eligible spouse or domestic partner.

The following table shows the observed percentage of members who retired during the four-year period ending June 30, 2024 who were reported with an eligible spouse or domestic partner at the time of retirement. Also shown are the current and proposed assumptions. This information is shown separately by the member's gender.

### New Retirees with Eligible Spouse or Domestic Partner

|                            | Male Member | Female Member |
|----------------------------|-------------|---------------|
| Current assumption         | 85%         | 60%           |
| Actual percent             | 83%         | 67%           |
| <b>Proposed assumption</b> | <b>85%</b>  | <b>65%</b>    |

**Based on this experience, we recommend maintaining the assumption for male members and increasing the assumption from 60% to 65% for female members.**

## Age and gender of spouse/domestic partner

Since the present value of the survivor's automatic continuance benefit is dependent on the survivor's age and gender, we must also have assumptions for the age and gender of the survivor. Based on the experience for members who retired during the current four-year period (results shown in the table below) and studies done for other retirement systems, **we recommend the following:**

- 1. We recommend maintaining the survivor gender assumption that male members have a female survivor, and female members have a male survivor.** We note that this assumption is consistent with the actual data for most members, even with the inclusion of domestic partners.

2. **We recommend maintaining the spouse age difference assumption that male retirees are two years older than their spouses/domestic partners and female retirees are three years younger than their spouses/domestic partners.** These assumptions will continue to be monitored in future experience studies.

### Member’s Age as Compared to Spouse’s/Domestic Partner’s Age

|                             | Male Retiree         | Female Retiree         |
|-----------------------------|----------------------|------------------------|
| Current assumption          | 2 years older        | 3 years younger        |
| Actual EBMUDERS’ experience | 1.8 years older      | 2.8 years younger      |
| <b>Proposed assumption</b>  | <b>2 years older</b> | <b>3 years younger</b> |

## Form of payment

Pursuant to Section 21 (“Optional Modification of Retirement Allowance”) of the EBMUDERS Ordinance, a member may elect to receive an optional form of benefit at retirement that is the actuarial equivalence of his or her unmodified retirement allowance in the form of a lesser retirement allowance payable throughout life, with one of the four options stipulated in the Ordinance. It has been EBMUDERS’ longstanding practice to use the current investment return and mortality assumptions in determining the actuarially equivalent optional forms of benefit.

Option 2 provides 100% continuance of the member’s modified allowance under this option, payable to the designated beneficiary upon the member’s death. Option 3 provides 50% continuance of the member’s modified allowance under that option; and Option 4 provides 25% of the member’s modified allowance under that option. Rather than a monthly benefit continuance option, Option 1 is a cash refund option that provides the balance of unused member contributions upon the member’s death to his or her beneficiary or estate. However, under each option, the surviving spouse/registered domestic partner, if any, is also entitled to receive 50% of the member’s unmodified allowance upon the member’s death. We understand that for this reason, a higher proportion of members chose an optional form of benefit at retirement, in comparison to the election percentages we have observed at many of the county employees retirement systems that we serve which do not have this additional benefit feature.

Over the four-year period ending June 30, 2024, service retired members elected the following options at retirement:

### Option Elected for New Service Retirements (July 1, 2020 – June 30, 2024)

| Option Elected              | Observed Election Percentage |
|-----------------------------|------------------------------|
| Unmodified or Option 1      | 58%                          |
| Option 2 (100% continuance) | 10%                          |
| Option 3 (50% continuance)  | 17%                          |
| Option 4 (25% continuance)  | 15%                          |
| <b>Total</b>                | <b>100%</b>                  |

In the prior four-year period ending June 30, 2020, service retired members elected the following options at retirement:

### Option Elected for New Service Retirements (July 1, 2016 – June 30, 2020)

| Option Elected              | Observed Election Percentage |
|-----------------------------|------------------------------|
| Unmodified or Option 1      | 52%                          |
| Option 2 (100% continuance) | 11%                          |
| Option 3 (50% continuance)  | 22%                          |
| Option 4 (25% continuance)  | 15%                          |
| <b>Total</b>                | <b>100%</b>                  |

While more retirees are electing an Unmodified or Option 1 benefit and fewer are electing an Option 3 benefit recently, the percentages electing each benefit option are more stable when considered over all (not just new) service retirees. We looked at all service retirees in each of the past four valuations, for the years ending June 30, 2021 through June 30, 2024, and observed that they had elected the following options:

### Option Elected for All Service Retirements (June 30, 2021 – June 30, 2024 Valuations)

| Option Elected              | Observed Election Percentage |
|-----------------------------|------------------------------|
| Unmodified or Option 1      | 53%                          |
| Option 2 (100% continuance) | 9%                           |
| Option 3 (50% continuance)  | 21%                          |
| Option 4 (25% continuance)  | 17%                          |
| <b>Total</b>                | <b>100%</b>                  |

**Based on this observation, we recommend adopting the following optional form election percentages for use in the June 30, 2024 valuation. When compared to the current assumptions, we are recommending an increase in the percentage assumption for Unmodified or Option 1 and a reduction in the percentage assumption for Option 4.**

### Current and Recommended Option Election Percentages

| Option Elected              | Current Election Percentage | Recommended Election Percentage |
|-----------------------------|-----------------------------|---------------------------------|
| Unmodified or Option 1      | 50%                         | 55%                             |
| Option 2 (100% continuance) | 10%                         | 10%                             |
| Option 3 (50% continuance)  | 20%                         | 20%                             |
| Option 4 (25% continuance)  | 20%                         | 15%                             |
| <b>Total</b>                | <b>100%</b>                 | <b>100%</b>                     |

## Change in methodology

With this experience study, we are recommending a technical change in the calculation of the total normal cost rate for the 2013 Tier. We note that this change does not impact the active member's total present value of benefits, only the allocation of that present value between prior service (actuarial accrued liability) and future service (normal costs).

As we pointed out in the last few valuations, the total normal cost rates for both the 1955/1980 Plan and the 2013 Tier have been developed assuming the normal cost dollar contribution amounts would increase at the rate of the total salary increase assumption. The dollar contribution amounts are then converted to a percent of payroll normal cost rate by dividing the dollar contribution amount by the payroll after limiting each individual employee's payroll by the appropriate compensation limit. There was an increase in the total normal cost rate for the 2013 Tier due to the changes in member demographics during two consecutive valuations as the average salary for continuing active 2013 Tier members increased by more than the increase in the CalPEPRA limit between those two valuations.

While this would have no impact on the calculation of the present value of future benefits, we recommend that starting with the June 30, 2024 valuation the normal cost rate for the 2013 Tier be calculated at the rate of the total salary increase assumption subject to the additional constraint that the resultant annual salary be no greater than the compensation limit for each year. This change would result in a more stable total normal cost rate in future valuations.

# G. Retiree health assumptions

## Retiree participation

The Health Insurance Benefit (HIB) is a reimbursement-based benefit that retirees can use towards coverage on an EBMUDERS-sponsored health plan, or other eligible expenses such as Medicare Part B premiums and premiums for other health plans. As a result, almost all retirees who are eligible for an HIB reimbursement participate in the program. Based on retirements during the most recent eight-year period from this year’s data, **we propose to maintain the 95% participation assumption for retirees who are eligible for the HIB.**

In addition, based on the same eight-year period, **we propose to maintain the 70% assumption for participation in a non-Medicare health plan sponsored by EBMUDERS.** This additional 70% participation assumption is needed for the GASB 74 and 75 accounting valuations. For GASB accounting purposes, OPEB benefits are required to include the “implicit subsidy”, which is the difference between the estimated age-adjusted costs of retiree coverage and the overall premium rate. Because the non-Medicare plans at EBMUDERS have blended rates based on the experience of active employees and retirees, there exists an age-related, implicit subsidy in the premium structure. Note, since the District only aims to pre-fund the explicit HIB reimbursements, the funding valuation, which develops the recommended employer contribution, does not incorporate the use of this additional 70% assumption.

### Overall HIB Participation and EBMUDERS Non-Medicare Health Plan Participation

| Retiree Participation      | HIB        | EBMUDERS Health Plan |
|----------------------------|------------|----------------------|
| Current assumption         | 95%        | 70%                  |
| Actual experience          | 95%        | 71%                  |
| <b>Proposed assumption</b> | <b>95%</b> | <b>70%</b>           |

For members who retire from vested terminated status, a separate participation assumption is used. Based on the same eight-year period, **we recommend an increase to the participation assumption for current vested terminated employees from 50% to 65% of the baseline assumptions shown above.** In other words, future participation by vested terminated members is assumed to be 65% of the participation by employees retiring directly from active service.

### HIB Participation for Vested Terminated Participants

| Vested Terminated Members  | HIB Participation |
|----------------------------|-------------------|
| Current assumption         | 50%               |
| Actual experience          | 65%               |
| <b>Proposed assumption</b> | <b>65%</b>        |

## Spousal coverage

In the prior valuation, 70% of males and 35% of females were assumed to have a spouse or domestic partner participating in the retiree health plan. When analyzing this year's data, we noticed a significant difference between the percentage of retirees receiving a two-person HIB subsidy versus those with two-person coverage in an EBMUDERS-sponsored health plan. As noted on the prior page, the GASB valuations require us to measure the implicit subsidies received by retirees and spouses who have coverage in an EBMUDERS non-Medicare health plan. Because the difference was observed to be significant, we propose separate assumptions for the HIB spousal subsidy versus spousal coverage in an EBMUDERS non-Medicare health plan. **Based on retirements during the most recent four-year period, we propose an increase to the HIB spousal subsidy assumption from 70% of males and 35% of females to 75% for males and 50% for females. In addition, we propose a decrease to the EBMUDERS non-Medicare health plan spousal coverage assumption from 70% of males and 35% of females to 50% for males and 30% for females.**

The following tables provide the observed percentage of retirees with HIB spousal subsidies and those with a spouse covered in an EBMUDERS non-Medicare health plan.

### HIB Spousal Subsidy

| Spousal Subsidy            | Male Member | Female Member |
|----------------------------|-------------|---------------|
| Current assumption         | 70%         | 35%           |
| Actual experience          | 75%         | 56%           |
| <b>Proposed assumption</b> | <b>75%</b>  | <b>50%</b>    |

### Spouse Coverage in EBMUDERS Non-Medicare Health Plan

| Spouse Coverage            | Male Member | Female Member |
|----------------------------|-------------|---------------|
| Current assumption         | 70%         | 35%           |
| Actual experience          | 40%         | 34%           |
| <b>Proposed assumption</b> | <b>50%</b>  | <b>30%</b>    |

# Covered spouse age difference

The following table shows the observed average spouse age difference for new retirees who receive a spousal HIB subsidy based on the actual experience over the past four years. Also shown are the current and proposed assumptions.

## Covered Spouse's Age Compared to the Member's Age

| Covered Spouse Age         | Male Member            | Female Member        |
|----------------------------|------------------------|----------------------|
| Current assumption         | 3 years younger        | 2 years older        |
| Actual experience          | 2 years younger        | 2 years older        |
| <b>Proposed assumption</b> | <b>2 years younger</b> | <b>2 years older</b> |

Based on plan experience over the most recent four-year period from this year's data, **we recommend decreasing the spouse age difference for a male retiree and maintaining the current assumption for a female retiree.**

# Section 5: Cost Impact

The tables below show the changes in the total normal cost, actuarial accrued liability, funded ratios, and contribution rates (employer, employee, total normal cost, and UAAL) for the Pension and Health Plans (and both plans combined) due to the recommended assumption changes, as if they were applied in the June 30, 2023 actuarial valuation. As shorthand, we will refer to the pre-retirement assumption and the 2013 Tier normal cost rate calculation methodology changes as “pre-retirement changes” and the post-retirement assumption changes as “post-retirement changes” below.

## Pension Plan

Change in Plan Liabilities, Contribution Rates and Funded Ratios  
Based on June 30, 2023 Actuarial Valuation  
(\$ in thousands)

| Component                                       | Current Assumptions | Effect of Pre-Retirement Changes (a) | Effect of Post-Retirement Changes (b) | Total Increase/ (Decrease) (a) + (b) | Proposed Assumptions |
|---|---------------------|--------------------------------------|---------------------------------------|--------------------------------------|----------------------|
| Total employer and employee normal cost         | \$62,315            | \$940                                | \$407                                 | \$1,347                              | \$63,662             |
| Total normal cost rate                          | 23.76%              | 0.25%                                | 0.15%                                 | 0.40%                                | 24.16%               |
| Actuarial accrued liability                     | \$2,994,429         | \$2,817                              | \$24,692                              | \$27,509                             | \$3,021,938          |
| UAAL contribution rate                          | 25.42%              | (0.04%)                              | 0.66%                                 | 0.62%                                | 26.04%               |
| Funded ratio on valuation value of assets basis | 75.2%               | (0.1%)                               | (0.6%)                                | (0.7%)                               | 74.5%                |

## Total Normal Cost Rates

| Tier            | Current Assumptions | Effect of Pre-Retirement Changes (a) | Effect of Post-Retirement Changes (b) | Total Increase/ (Decrease) (a) + (b) | Proposed Assumptions |
|-----------------|---------------------|--------------------------------------|---------------------------------------|--------------------------------------|----------------------|
| 1955/1980 Plan  | 27.83%              | 0.21% <sup>1</sup>                   | 0.19%                                 | 0.40%                                | 28.23%               |
| 2013 Tier       | 19.79%              | 0.29% <sup>2</sup>                   | 0.12%                                 | 0.41%                                | 20.20%               |
| <b>Combined</b> | <b>23.76%</b>       | <b>0.25%</b>                         | <b>0.15%</b>                          | <b>0.40%</b>                         | <b>24.16%</b>        |

Of the increase in the total normal cost rate for the 1955/1980 Plan, the primary cost drivers are higher salary increases, higher retirement rates, as well as the strengthening of the post-retirement mortality assumptions. Of the increase in the total normal cost rate for the 2013 Tier,

<sup>1</sup> The methodology change had no effect on the total normal cost for the 1955/1980 Plan, whose members are not PEPRA limited. The new assumptions increased the total normal cost for the 1955/1980 Plan overall.

<sup>2</sup> The methodology change increased the total normal cost for the 2013 Tier by 0.65%. The new assumptions decreased the total normal cost for the 2013 Tier overall.

the primary cost drivers are the change in methodology used to calculate the normal cost rate and the strengthening of the post-retirement mortality assumptions, offset somewhat by lowering the retirement rates.

### Contribution Rate Impact (% of Payroll)

#### *1955/1980 Plan members*

| Component                | Current Assumptions | Total Pre-Retirement and Post-Retirement Changes | Proposed Assumptions |
|--------------------------|---------------------|--|----------------------|
| <b>Total normal cost</b> | <b>27.83%</b>       | <b>+0.40%</b>                                    | <b>28.23%</b>        |
| • Employee normal cost   | 8.66%               | +0.00%   | 8.66%                |
| • Employer normal cost   | 19.17%              | +0.40%   | 19.57%               |
| UAAL rate                | 25.42%              | +0.62%   | 26.04%               |
| Total employer rate      | 44.59%              | +1.02%   | 45.61%               |

### Contribution Rate Impact (% of Payroll)

#### *2013 Tier members*

| Component                | Current Assumptions | Total Pre-Retirement and Post-Retirement Changes | Proposed Assumptions |
|--------------------------|---------------------|--|----------------------|
| <b>Total normal cost</b> | <b>19.79%</b>       | <b>+0.41%</b>                                    | <b>20.20%</b>        |
| • Employee normal cost   | 9.41%               | +0.69%   | 10.10%               |
| • Employer normal cost   | 10.38%              | -0.28%   | 10.10%               |
| UAAL rate                | 25.42%              | +0.62%   | 26.04%               |
| Total employer rate      | 35.80%              | +0.34%   | 36.14%               |

For the 2013 Tier, the 1% threshold required (see discussion below) before splitting the total normal cost rate on a 50/50 basis is reached using the changes recommended in this study.

### Contribution Rate Impact (% of Payroll)

#### *Combined*

| Component                | Current Assumptions | Total Pre-Retirement and Post-Retirement Changes | Proposed Assumptions |
|--------------------------|---------------------|--|----------------------|
| <b>Total normal cost</b> | <b>23.76%</b>       | <b>+0.40%</b>                                    | <b>24.16%</b>        |
| • Employee normal cost   | 9.04%               | +0.35%   | 9.39%                |
| • Employer normal cost   | 14.72%              | +0.05%   | 14.77%               |
| UAAL rate                | 25.42%              | +0.62%   | 26.04%               |
| Total employer rate      | 40.14%              | +0.67%   | 40.81%               |

Of the various assumption changes, the most significant rate increase is due to the updated post-retirement assumption changes.

# Discussion on 1955/1980 Plan Employee Contribution Rate and Development of Change in Employee and Employer Normal Cost Rates for the 2013 Tier for the Pension Plan

## 1955/1980 Plan

There would be no change in the total (Pension Plan plus HIB Plan) employee contribution rate for the 1955/1980 Plan members if the recommended assumption changes were implemented since the rate for these members has been set based on bargaining unit contract negotiations in 2013.

## 2013 Tier

On the other hand, pursuant to Section 7522.30(a) of the California Government Code, we understand that 2013 Tier members are required to contribute at least 50% of the total normal cost rate. Furthermore, Section 7522.30(d) states that the 2013 Tier employee contribution rate, “once established...shall not be adjusted on account of a change to the normal cost rate unless the normal cost rate increases or decreases by more than 1 percent of payroll above or below the normal cost rate in effect at the time the employee contribution rate is first established or, if later, the normal cost rate in effect at the time of the last adjustment to the employee contribution rate under this section.”

Effective with the June 30, 2020 valuation, the total normal cost rate was determined to be 18.81%, which was a change of more than 1% of payroll compared to the rate of 17.56% that was determined in the initial CalPEPRA valuation for 2013. The June 30, 2020 valuation was the first time since the initial CalPEPRA valuation that the change in the total normal cost rate exceeded the 1% of payroll threshold. Consequently, the employee contribution rate for the 2013 Tier members was increased from 8.75% to 9.41%, which was at least 50% of the total normal cost rate.

For the June 30, 2023 valuation, the 2013 Tier employee contribution rate remained at 9.41% for the Pension Plan, because the total normal cost rate of 19.79% for this tier remained within 1% of payroll of the new 18.81% rate noted. However, in that valuation, we pointed out in our report that any further increase in the total normal cost rate would likely cause the total normal cost rate to exceed the 1% threshold. If that threshold is crossed, the total normal cost rate will again be reapportioned so that the employee contribution rate is at least 50% of the total normal cost rate. In this scenario, since the employee contribution rate calculated as of June 30, 2023 is less than 50% of the total normal cost rate, the increase in the employee contribution rate calculated in this study can be interpreted as including two components: (1) an increase in order to “catch up to” paying 50% of the total normal cost rate calculated as of June 30, 2023 (in the absence of the 1% threshold required for a reallocation of the total normal cost rate between the employer and the employee), and (2) another increase due to the higher total normal cost rate arising from the changes in assumptions and methodology recommended in this study.

Specifically, when we remeasured the total normal cost rate as of June 30, 2023 using the new assumptions and methodology recommended in this report, we observed that the resulting total normal cost rate of 20.20% is more than 1% above the 18.81% rate established in the June 30, 2020 valuation. The new employee contribution rate of 10.10%, which is an increase of 0.69%, includes an increase of 0.49% in order to catch up to paying at least 50% of the total

normal cost rate as of June 30, 2023 as well as an increase of 0.20% from all assumption and methodology changes. The new employer normal cost rate includes a corresponding decrease of 0.49% from this catch-up and an increase of 0.21% from all assumption and methodology changes.

However, we caution that if the changes recommended herein are adopted by the Board, they will first be applied in the June 30, 2024 valuation in combination with the membership data and other information supplied by EBMUDERS to perform that valuation; and the final total normal cost rate will again be compared to the 18.81% threshold to determine the actual increase in the employer and employee contribution rates for the 2013 Tier.

# Health Plan

## Change in Plan Liabilities and Funded Ratios Based on June 30, 2023 Actuarial Valuation (*\$ in thousands*)

| Component                                       | Current Assumptions | Total Increase/<br>(Decrease) <sup>1</sup> | Proposed Assumptions |
|---|---------------------|--|----------------------|
| Total employer and employee normal cost         | \$2,214             | \$(2)                                      | \$2,212              |
| Actuarial accrued liability                     | \$131,627           | \$1,603                                    | \$133,230            |
| Funded ratio on valuation value of assets basis | 47.7%               | (0.6%)                                     | 47.1%                |

## Contribution Rate Impact (% of Payroll) *1955/1980 Plan members*

| Component                | Current Assumptions | Total Pre-Retirement and<br>Post-Retirement Changes | Proposed Assumptions |
|--------------------------|---------------------|---|----------------------|
| <b>Total normal cost</b> | <b>0.95%</b>        | <b>+0.06%</b>                                       | <b>1.01%</b>         |
| • Employee normal cost   | 0.09%               | +0.00%  | 0.09%                |
| • Employer normal cost   | 0.86%               | +0.06%  | 0.92%                |
| UAAL rate                | 3.57%               | +0.04%  | 3.61%                |
| Total employer rate      | 4.43%               | +0.10%  | 4.53%                |

## Contribution Rate Impact (% of Payroll) *2013 Tier members*

| Component                | Current Assumptions | Total Pre-Retirement and<br>Post-Retirement Changes | Proposed Assumptions |
|--------------------------|---------------------|---|----------------------|
| <b>Total normal cost</b> | <b>0.79%</b>        | <b>-0.06%</b>                                       | <b>0.73%</b>         |
| • Employee normal cost   | 0.09%               | +0.00%  | 0.09%                |
| • Employer normal cost   | 0.70%               | -0.06%  | 0.64%                |
| UAAL rate                | 3.57%               | +0.04%  | 3.61%                |
| Total employer rate      | 4.27%               | -0.02%  | 4.25%                |

<sup>1</sup> The total includes the impact of pre-retirement and post-retirement changes.

## Contribution Rate Impact (% of Payroll) *Combined*

| Component                | Current Assumptions | Total Pre-Retirement and Post-Retirement Changes | Proposed Assumptions |
|--------------------------|---------------------|--|----------------------|
| <b>Total normal cost</b> | <b>0.87%</b>        | <b>+0.00%</b>                                    | <b>0.87%</b>         |
| • Employee normal cost   | 0.09%               | +0.00%   | 0.09%                |
| • Employer normal cost   | 0.78%               | +0.00%   | 0.78%                |
| UAAL rate                | 3.57%               | +0.04%   | 3.61%                |
| Total employer rate      | 4.35%               | +0.04%   | 4.39%                |

## Pension Plan and Health Plan Combined

In total, for the two plans combined, the changes in this study would increase the employer contribution rate by 0.71% of payroll (\$1,862,135 if applied to the 2023 valuation<sup>1</sup>).

Similarly, for the two plans combined, the changes in this study would increase the employee contribution rate by 0.35% of payroll (\$917,954 if applied to the 2023 valuation<sup>1</sup>).

<sup>1</sup> Based on total payroll of \$262,272,600 as of June 30, 2023.

# Appendix A: Current Actuarial Assumptions

## Economic Assumptions

### Net Investment Return

6.75%, net of administrative and investment expenses. Expected administrative and investment expenses represent about 0.25% of the average Market Value of Assets.

### Employee Contribution Crediting Rate

6.75%, compounded semi-annually.

### Inflation

Increase of 2.50% per year.

### Cost of Living Adjustments (COLA)

Retiree COLA increases of 2.75% per year. For members with a sufficient COLA bank, withdrawals from the bank can be made to increase the retiree COLA up to 3.00% per year.

### Payroll Growth

Inflation of 2.50% per year plus “across-the-board” real salary increases of 0.50% per year.

### Increases in Internal Revenue Code Section 401(a)(17) Compensation Limit

Increase of 2.50% per year from the valuation date.

### Increase in California Government Code Section 7522.10 Compensation Limit

Increase of 2.50% per year from the valuation date.

## Salary Increases

The annual rate of compensation increase includes:

- Inflation at 2.50%, plus
- “Across-the-board” salary increases of 0.50% per year, plus
- The following merit and promotion increase rates:

### Merit and Promotion Increase Rates (%)

| Time from Hire (Years) | Rate |
|------------------------|------|
| Less than 1            | 6.25 |
| 1 – 2                  | 6.00 |
| 2 – 3                  | 5.00 |
| 3 – 4                  | 3.75 |
| 4 – 5                  | 2.50 |
| 5 – 6                  | 1.50 |
| 6 – 7                  | 1.25 |
| 7 – 8                  | 1.25 |
| 8 – 9                  | 1.00 |
| 9 – 10                 | 1.00 |
| 10 and over            | 0.75 |

## Demographic Assumptions

### Post-Retirement Mortality Rates

#### Healthy

- **Pension Plan:** Pub-2010 General Healthy Retiree Amount-Weighted Above-Median Mortality Tables (separate tables for males and females) with rates increased by 5% for males, projected generationally with the two-dimensional mortality improvement scale MP-2020
- **Health Plan:** Pub-2010 General Healthy Retiree Headcount-Weighted Above-Median Mortality Tables (separate tables for males and females) with rates increased by 5% for males, projected generationally with the two-dimensional mortality improvement scale MP-2020

#### Disabled

- **Pension Plan:** Pub-2010 Non-Safety Disabled Retiree Amount-Weighted Mortality Tables (separate tables for males and females) with rates increased by 5% for males, projected generationally with the two dimensional mortality improvement scale MP-2020
- **Health Plan:** Pub-2010 Non-Safety Disabled Retiree Headcount-Weighted Mortality Tables (separate tables for males and females) with rates increased by 5% for males, projected generationally with the two dimensional mortality improvement scale MP-2020

## Beneficiary

- **Pension Plan, all beneficiaries:** Pub-2010 General Contingent Survivor Amount-Weighted Above-Median Mortality Tables (separate tables for males and females) with rates increased by 5% for males and females, projected generationally with the two-dimensional mortality improvement scale MP-2020
- **Health Plan, all beneficiaries:** Pub-2010 General Contingent Survivor Headcount-Weighted Above-Median Mortality Tables (separate tables for males and females) with rates increased by 5% for males and females, projected generationally with the two-dimensional mortality improvement scale MP-2020

## Pre-Retirement Mortality Rates

- **Pension Plan:** Pub-2010 General Employee Amount-Weighted Above-Median Mortality Tables (separate tables for males and females), projected generationally with the two-dimensional mortality improvement scale MP-2020

### Pre-Retirement Mortality Rates (%) – Before Generational Projection from 2010

| Age | Male | Female |
|-----|------|--------|
| 20  | 0.04 | 0.01   |
| 25  | 0.02 | 0.01   |
| 30  | 0.03 | 0.01   |
| 35  | 0.04 | 0.02   |
| 40  | 0.06 | 0.03   |
| 45  | 0.09 | 0.05   |
| 50  | 0.13 | 0.08   |
| 55  | 0.19 | 0.11   |
| 60  | 0.28 | 0.17   |
| 65  | 0.41 | 0.27   |

- **Health Plan:** Pub-2010 General Employee Headcount-Weighted Above-Median Mortality Tables (separate tables for males and females), projected generationally with the two-dimensional mortality improvement scale MP-2020

### Pre-Retirement Mortality Rates (%) – Before Generational Projection from 2010

| Age | Male | Female |
|-----|------|--------|
| 20  | 0.04 | 0.01   |
| 25  | 0.03 | 0.01   |
| 30  | 0.04 | 0.02   |
| 35  | 0.05 | 0.02   |
| 40  | 0.06 | 0.04   |
| 45  | 0.09 | 0.05   |
| 50  | 0.14 | 0.08   |
| 55  | 0.20 | 0.12   |
| 60  | 0.29 | 0.18   |
| 65  | 0.42 | 0.28   |

## Disability Incidence Rates

### Disability Incidence Rates (%)

| Age | Rate  |
|-----|-------|
| 25  | 0.000 |
| 30  | 0.006 |
| 35  | 0.022 |
| 40  | 0.084 |
| 45  | 0.150 |
| 50  | 0.170 |
| 55  | 0.182 |
| 60  | 0.220 |
| 65  | 0.288 |

Disability rates are applicable after eight years of service.

## Termination Rates

### Termination Rates (%)

#### *Less than Five Years of Service*

| Years of Service | Rate |
|------------------|------|
| Less than 1      | 6.75 |
| 1 – 2            | 4.25 |
| 2 – 3            | 4.00 |
| 3 – 4            | 3.50 |
| 4 – 5            | 2.50 |

#### *Five or More Years of Service*

| Age | Rate |
|-----|------|
| 25  | 2.34 |
| 30  | 2.24 |
| 35  | 2.14 |
| 40  | 2.04 |
| 45  | 1.85 |
| 50  | 1.60 |
| 55  | 1.35 |
| 60  | 1.10 |

No termination is assumed after a member is eligible for retirement (as long as a retirement rate is assumed).

## Retirement Rates

### Retirement Rates (%)

| Age         | 1955/1980 Plan<br>Unreduced Pension <sup>1</sup> | 1955/1980 Plan<br>Reduced Pension | 2013 Tier |
|-------------|--|-----------------------------------|-----------|
| 52          | 0.00   | 0.00                              | 1.75      |
| 53          | 0.00   | 0.00                              | 1.75      |
| 54          | 55.00  | 7.00                              | 2.75      |
| 55          | 16.00  | 7.00                              | 4.75      |
| 56          | 16.00  | 7.00                              | 5.75      |
| 57          | 16.00  | 7.00                              | 5.75      |
| 58          | 16.00  | 7.00                              | 5.75      |
| 59          | 16.00  | 7.00                              | 7.75      |
| 60          | 16.00  | 7.00                              | 7.75      |
| 61          | 16.00  | 12.00                             | 10.25     |
| 62          | 16.00  | N/A <sup>2</sup>                  | 18.00     |
| 63          | 16.00  | N/A                               | 15.00     |
| 64          | 16.00  | N/A                               | 9.00      |
| 65          | 16.00  | N/A                               | 23.75     |
| 66          | 27.00  | N/A                               | 23.75     |
| 67          | 27.00  | N/A                               | 32.50     |
| 68          | 27.00  | N/A                               | 35.00     |
| 69          | 27.00  | N/A                               | 38.75     |
| 70 and over | 100.00   | N/A                               | 100.00    |

## Retirement Age for Inactive Vested Members

For current and future inactive vested members, the retirement age assumptions is 59.

1955/1980 Plan non-reciprocal members who are currently terminated with less than five years of service and are not vested are assumed to retire at age 65 if they decide to leave their contributions on deposit.

## Reciprocity

15% of members who terminate with a vested benefit are assumed to enter a reciprocal system. For reciprocals, 3.75% compensation increases are assumed per annum.

<sup>1</sup> For example, a 1955/1980 Plan member age 54 with 30 or more years of service would receive the full 2.60% per year of service accrual.

<sup>2</sup> For ages 62 and over, all 1955/1980 Plan members who are eligible for retirement receive the full 2.60% per year of service accrual.

# Future Benefit Accruals

1.0 year of service per year of employment, plus 0.038 years of additional service to anticipate conversion of unused sick leave for each year of employment. As directed by EBMUDERS, this assumption has been applied to active members in the 1955/1980 Plan and the 2013 Tier.

# Unknown Data for Members

Same as those exhibited by members with similar known characteristics. If not specified, members are assumed to be male.

# Percent Married/Domestic Partnership

For all active and inactive members, 85% of male members and 60% of female members are assumed to be married or in a domestic partnership at pre-retirement death or retirement.

# Age and Gender of Spouse/Domestic Partner

For all active and inactive members, male members are assumed to have a female spouse who is 2 years younger than the member and female members are assumed to have a male spouse who is 3 years older than the member.

Since birth dates for non-spouse/non-domestic partner contingent beneficiaries are not provided by EBMUDERS, the age differences noted above also apply to assumed contingent beneficiaries of retired members who chose an optional form of payment at retirement.

# Form of Payment

At retirement, members with spouses or domestic partners are assumed to elect the following form of payment (single members are assumed to elect the Unmodified option):

## Election Percentage

| Form of Payment             | Election Percentage |
|-----------------------------|---------------------|
| Unmodified or Option 1      | 50%                 |
| Option 2 (100% continuance) | 10%                 |
| Option 3 (50% continuance)  | 20%                 |
| Option 4 (25% continuance)  | 20%                 |

# Retiree Health Assumptions

## Retiree Participation

### Overall HIB Participation and EBMUDERS Non-Medicare Health Plan Participation

| Retiree Participation | HIB | EBMUDERS Health Plan |
|-----------------------|-----|----------------------|
| Current assumption    | 95% | 70%                  |

The difference between the 95% of all future retirees expected to be provided with an HIB subsidy and the 70% (i.e. equals 25%) is what we used to anticipate future retirees who receive reimbursement for medical expenses through the HIB plan without being enrolled in an EBMUDERS medical insurance plan.

For deferred vested members, we assume an election equal to 50% of the future retiree election percent.

## Spousal Coverage

For all active and inactive vested participants who elect to continue their health coverage at retirement, 70% males and 35% females are assumed to have an eligible spouse/domestic partner who also opts for coverage at that time.

## Covered Spouse Age Difference

For all active and inactive vested participants, male participants are assumed to have a female spouse/domestic partner who is 3 years younger than the participant, while female participants are assumed to have a male spouse/domestic partner who is 2 years older than the participant.

# Appendix B: Proposed Actuarial Assumptions

## Economic Assumptions

### Net Investment Return

6.75%, net of administrative and investment expenses. Expected administrative expenses and investment expenses represent about 0.15% of the beginning of year Actuarial Value of Assets.

### Employee Contribution Crediting Rate

6.75%, compounded semi-annually.

### Inflation

Increase of 2.50% per year.

### Cost of Living Adjustments (COLA)

Retiree COLA increases of 2.75% per year. For members with a sufficient COLA bank, withdrawals from the bank can be made to increase the retiree COLA up to 3.00% per year.

### Payroll Growth

Inflation of 2.50% per year plus “across-the-board” real salary increases of 0.50% per year.

### Increases in Internal Revenue Code Section 401(a)(17) Compensation Limit

Increase of 2.50% per year from the valuation date.

### Increase in California Government Code Section 7522.10 Compensation Limit

Increase of 2.50% per year from the valuation date.

## Salary Increases

The annual rate of compensation increase includes:

- Inflation at 2.50%, plus
- “Across-the-board” salary increases of 0.50% per year, plus
- The following merit and promotion increase rates:

### Merit and Promotion Increase Rates (%)

| Time from Hire (Years) | 1955/1980 Plan | 2013 Tier |
|------------------------|----------------|-----------|
| Less than 1            | 6.25           | 6.50      |
| 1 – 2                  | 6.00           | 6.25      |
| 2 – 3                  | 5.00           | 5.25      |
| 3 – 4                  | 3.75           | 4.25      |
| 4 – 5                  | 2.50           | 2.75      |
| 5 – 6                  | 1.50           | 1.75      |
| 6 – 7                  | 1.25           | 1.25      |
| 7 – 8                  | 1.25           | 1.25      |
| 8 – 9                  | 1.25           | 1.25      |
| 9 – 10                 | 1.25           | 1.25      |
| 10 – 11                | 1.00           | 1.00      |
| 11 – 12                | 1.00           | 1.00      |
| 12 – 13                | 0.75           | 0.75      |
| 13 – 14                | 0.75           | 0.75      |
| 14 – 15                | 0.75           | 0.75      |
| 15 and over            | 0.75           | 0.75      |

## Demographic Assumptions

### Post-Retirement Mortality Rates

#### Healthy

- **Pension Plan:** Pub-2010 General Healthy Retiree Amount-Weighted Above-Median Mortality Tables (separate tables for males and females) with rates increased by 5% for males, projected generationally with the two-dimensional mortality improvement scale MP-2021
- **Health Plan:** Pub-2010 General Healthy Retiree Headcount-Weighted Above-Median Mortality Tables (separate tables for males and females) with rates increased by 5% for males, projected generationally with the two-dimensional mortality improvement scale MP-2021

## Disabled

- **Pension Plan:** Pub-2010 Non-Safety Disabled Retiree Amount-Weighted Mortality Tables (separate tables for males and females) with rates increased by 5% for males, projected generationally with the two-dimensional mortality improvement scale MP-2021
- **Headcount Plan:** Pub-2010 Non-Safety Disabled Retiree Headcount-Weighted Mortality Tables (separate tables for males and females) with rates increased by 5% for males, projected generationally with the two-dimensional mortality improvement scale MP-2021

## Beneficiary

- **Pension Plan, not in pay status at the valuation:** Pub-2010 General Healthy Retiree Amount-Weighted Above-Median Mortality Tables (separate tables for males and females) with rates increased by 5% for males, projected generationally with the two-dimensional mortality improvement scale MP-2021
- **Pension Plan, in pay status at the valuation:** Pub-2010 General Contingent Survivor Amount-Weighted Above-Median Mortality Tables (separate tables for males and females) with rates increased by 5% for males and females, projected generationally with the two-dimensional mortality improvement scale MP-2021
- **Health Plan, not in pay status at the valuation:** Pub-2010 General Healthy Retiree Headcount-Weighted Above-Median Mortality Tables (separate tables for males and females) with rates increased by 5% for males, projected generationally with the two-dimensional mortality improvement scale MP-2021
- **Health Plan, in pay status at the valuation:** Pub-2010 General Contingent Survivor Headcount-Weighted Above-Median Mortality Tables (separate tables for males and females) with rates increased by 5% for males and females, projected generationally with the two-dimensional mortality improvement scale MP-2021

## Pre-Retirement Mortality Rates

- **Pension Plan:** Pub-2010 General Employee Amount-Weighted Above-Median Mortality Tables (separate tables for males and females), projected generationally with the two-dimensional mortality improvement scale MP-2021

### Pre-Retirement Mortality Rates (%) – Before Generational Projection from 2010

| Age | Male | Female |
|-----|------|--------|
| 20  | 0.04 | 0.01   |
| 25  | 0.02 | 0.01   |
| 30  | 0.03 | 0.01   |
| 35  | 0.04 | 0.02   |
| 40  | 0.06 | 0.03   |
| 45  | 0.09 | 0.05   |
| 50  | 0.13 | 0.08   |
| 55  | 0.19 | 0.11   |
| 60  | 0.28 | 0.17   |
| 65  | 0.41 | 0.27   |

- **Health Plan:** Pub-2010 General Employee Amount-Weighted Above-Median Mortality Tables (separate tables for males and females), projected generationally with the two-dimensional mortality improvement scale MP-2021

### Pre-Retirement Mortality Rates (%) – Before Generational Projection from 2010

| Age | Male | Female |
|-----|------|--------|
| 20  | 0.04 | 0.01   |
| 25  | 0.03 | 0.01   |
| 30  | 0.04 | 0.02   |
| 35  | 0.05 | 0.02   |
| 40  | 0.06 | 0.04   |
| 45  | 0.09 | 0.05   |
| 50  | 0.14 | 0.08   |
| 55  | 0.20 | 0.12   |
| 60  | 0.29 | 0.18   |
| 65  | 0.42 | 0.28   |

# Disability Incidence Rates

## Disability Incidence Rates (%)

| Age | Rate  |
|-----|-------|
| 25  | 0.000 |
| 30  | 0.006 |
| 35  | 0.016 |
| 40  | 0.080 |
| 45  | 0.126 |
| 50  | 0.136 |
| 55  | 0.146 |
| 60  | 0.156 |
| 65  | 0.166 |
| 70  | 0.170 |

Disability rates are applicable after eight years of service.

## Termination Rates

### Termination Rates (%)

| Years of Service | 1955/1980 Plan | 2013 Tier |
|------------------|----------------|-----------|
| Less than 1      | 11.30          | 8.00      |
| 1 – 2            | 6.00           | 4.00      |
| 2 – 3            | 6.00           | 3.75      |
| 3 – 4            | 3.00           | 3.25      |
| 4 – 5            | 3.00           | 3.00      |
| 5 – 6            | 2.50           | 2.70      |
| 6 – 7            | 2.50           | 2.60      |
| 7 – 8            | 2.50           | 2.50      |
| 8 – 9            | 2.50           | 2.30      |
| 9 – 10           | 1.80           | 2.20      |
| 10 – 11          | 1.80           | 2.10      |
| 11 – 12          | 1.80           | 2.00      |
| 12 – 13          | 1.80           | 1.90      |
| 13 – 14          | 1.80           | 1.80      |
| 14 – 15          | 1.60           | 1.70      |
| 15 – 16          | 1.60           | 1.60      |
| 16 – 17          | 1.60           | 1.60      |
| 17 – 18          | 1.60           | 1.60      |
| 18 – 19          | 1.60           | 1.60      |
| 19 – 20          | 1.60           | 1.60      |
| 20 and over      | 1.60           | 1.60      |

No termination is assumed after a member is eligible for retirement (as long as a retirement rate is assumed).

## Retirement Rates

### Retirement Rates (%)

| Age         | 1955/1980 Plan<br>Unreduced Pension <sup>1</sup> | 1955/1980 Plan<br>Reduced Pension | 2013 Tier |
|-------------|--|-----------------------------------|-----------|
| 52          | 0.00   | 0.00                              | 2.00      |
| 53          | 0.00   | 0.00                              | 2.00      |
| 54          | 50.00  | 7.00                              | 2.00      |
| 55          | 16.00  | 7.00                              | 3.00      |
| 56          | 16.00  | 7.00                              | 3.00      |
| 57          | 16.00  | 8.00                              | 4.00      |
| 58          | 16.00  | 8.00                              | 4.00      |
| 59          | 16.00  | 8.00                              | 6.00      |
| 60          | 16.00  | 10.00                             | 6.00      |
| 61          | 16.00  | 10.00                             | 6.00      |
| 62          | 20.00  | N/A <sup>2</sup>                  | 10.00     |
| 63          | 20.00  | N/A                               | 10.00     |
| 64          | 20.00  | N/A                               | 10.00     |
| 65          | 20.00  | N/A                               | 20.00     |
| 66          | 24.00  | N/A                               | 20.00     |
| 67          | 24.00  | N/A                               | 20.00     |
| 68          | 24.00  | N/A                               | 20.00     |
| 69          | 24.00  | N/A                               | 20.00     |
| 70          | 40.00  | N/A                               | 35.00     |
| 71          | 40.00  | N/A                               | 35.00     |
| 72          | 40.00  | N/A                               | 35.00     |
| 73          | 40.00  | N/A                               | 35.00     |
| 74          | 40.00  | N/A                               | 35.00     |
| 75 and over | 100.00   | N/A                               | 100.00    |

## Retirement Age for Inactive Vested Members

For current and future inactive vested members, the retirement age assumption is 59.

1955/1980 Plan non-reciprocal members who are currently terminated with less than five years of service and are not vested are assumed to retire at age 65 if they decide to leave their contributions on deposit.

<sup>1</sup> For example, a 1955/1980 Plan member age 54 with 30 or more years of service would receive the full 2.60% per year of service accrual.

<sup>2</sup> For ages 62 and over, all 1955/1980 Plan members who are eligible for retirement receive the full 2.60% per year of service accrual.

## Reciprocity

15% of members who terminate with a vested benefit are assumed to enter a reciprocal system. For reciprocals, 3.75% compensation increases are assumed per annum.

## Future Benefit Accruals

1.0 year of service per year of employment, plus 0.040 years of additional service to anticipate conversion of unused sick leave for each year of employment. As directed by EBMUDERS, this assumption has been applied to active members in the 1955/1980 Plan and the 2013 Tier.

## Unknown Data for Members

Same as those exhibited by members with similar known characteristics. If not specified, members are assumed to be male.

## Percent Married/Domestic Partnership

For all active and inactive members, 85% of male members and 65% female members are assumed to be married or with domestic partner at pre-retirement death or retirement.

## Age and Gender of Spouse/Domestic Partner

For all active and inactive members, male members are assumed to have a female spouse who is 2 years younger than the member and female members are assumed to have a male spouse who is 3 years older than the member.

Since birth dates for non-spouse/non-domestic partner contingent beneficiaries are not provided by EBMUDERS, the age differences noted above also apply to assumed contingent beneficiaries of retired members who chose an optional form of payment at retirement.

## Form of Payment

At retirement, members with spouses or domestic partners are assumed to elect the following form of payment (single members are assumed to elect the Unmodified option):

### Election Percentage

| Form of Payment             | Election Percentage |
|-----------------------------|---------------------|
| Unmodified or Option 1      | 55%                 |
| Option 2 (100% continuance) | 10%                 |
| Option 3 (50% continuance)  | 20%                 |
| Option 4 (25% continuance)  | 15%                 |

# Retiree Health Assumptions

## Retiree Participation

### Overall HIB Participation and EBMUDERS Non-Medicare Health Plan Participation

| Retiree Participation | HIB | EBMUDERS Health Plan |
|-----------------------|-----|----------------------|
| Proposed assumption   | 95% | 70%                  |

The difference between the 95% of all future retirees expected to be provided with an HIB subsidy and the 70% (i.e. equals 25%) is what we used to anticipate future retirees who receive reimbursement for medical expenses through the HIB plan without being enrolled in an EBMUD medical insurance plan.

For deferred vested members, we assume an election equal to 65% of the future retiree election percent.

## Spousal Coverage

For all active and inactive vested participants who elect to participate in the HIB plan after retirement, 75% males and 50% females are assumed to have an eligible spouse/domestic partner who also receives HIB subsidy at that time.

For all active and inactive vested participants who receive coverage under an EBMUDERS non-Medicare health plan at retirement, 50% males and 30% females are assumed to have an eligible spouse/domestic partner who also opts for coverage at that time.

## Covered Spouse Age Difference

For all active and inactive vested participants, male participants are assumed to have a female spouse/domestic partner who is 2 years younger than the participant, while female participants are assumed to have a male spouse/domestic partner who is 2 years older than the participant.


5902438v7/10419.112

## EAST BAY MUNICIPAL UTILITY DISTRICT

---

DATE: November 21, 2024

MEMO TO: Members of the Retirement Board

FROM: Sophia D. Skoda, Director of Finance 

SUBJECT: Meketa Performance and Economic Review

### SUMMARY

Under section III, part D of the Retirement System's Statement of Investment Policy and Procedures (the Investment Policy), the Retirement System's investment consultant is required to present quarterly performance reports to the Retirement Board. The attached report from the Retirement System's investment consultant, Meketa, provides information on portfolio performance through the third quarter of 2024.

### DISCUSSION

The Retirement System's portfolio had a market value of \$2.7 billion as of September 30, 2024 – up \$156 million from the previous quarter. The portfolio return was 6.2 percent for the quarter. Over a one-year period, the portfolio return was 23.2 percent, above the total plan benchmark return of 22.5 percent. The portfolio return remains above the plan benchmark by 0.4 percent over a 10-year period.

SDS:SGL

Attachment: Performance Report



# East Bay Municipal Utility District Employees' Retirement System

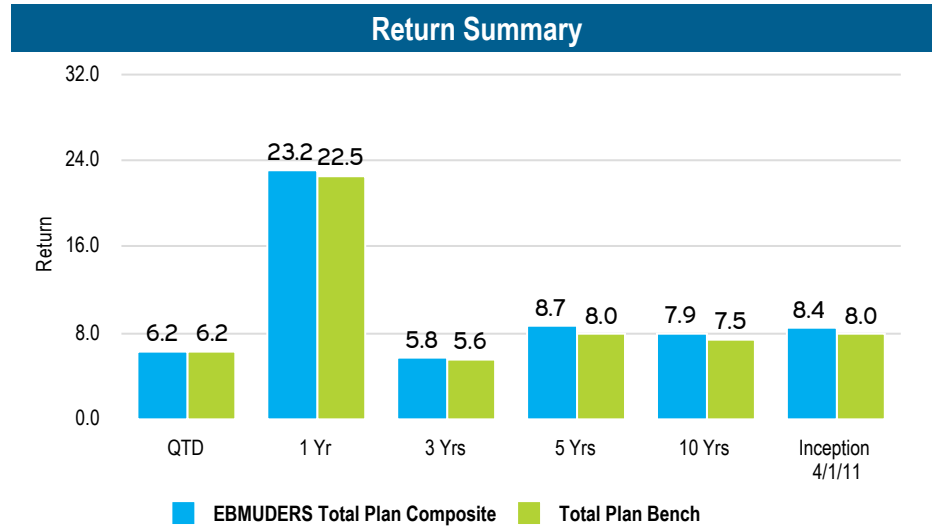
November 21, 2024

Q3 2024 Performance Report

1. Introduction
2. Economic and Market Update as of September 30, 2024
3. Third Quarter Performance Review
4. Manager Watch Screens
5. Manager Compliance Certification Responses
6. Appendix

# Introduction

### EBMUDERS Total Plan Composite | As of September 30, 2024



#### Summary of Cash Flows

|                                      | QTD             | 1 Yr            |
|--------------------------------------|-----------------|-----------------|
| <b>EBMUDERS Total Plan Composite</b> |                 |                 |
| Beginning Market Value               | \$2,505,029,208 | \$2,177,281,165 |
| Net Cash Flow                        | -\$4,360,000    | -\$25,342,658   |
| Net Investment Change                | \$156,202,166   | \$504,932,867   |
| Ending Market Value                  | \$2,656,871,374 | \$2,656,871,374 |

|  | 3 Mo (%) | 1 Yr (%) | 3 Yrs (%) | 5 Yrs (%) | 10 Yrs (%) | 20 Yrs (%) |
|--|----------|----------|-----------|-----------|------------|------------|
| <b>EBMUDERS Total Plan Composite - Net</b>   | 6.2      | 23.2     | 5.8       | 8.7       | 7.9        | --         |
| <b>EBMUDERS Total Plan Composite - Gross</b> | 6.2      | 23.3     | 5.9       | 8.8       | 8.1        | 7.6        |
| <i>Total Plan Bench</i>                      | 6.2      | 22.5     | 5.6       | 8.0       | 7.5        | 7.2        |
| InvMetrics Public DB > \$1B Median           | 4.8      | 17.6     | 4.6       | 8.1       | 7.2        | 7.1        |

Historical net returns for the Total Portfolio Aggregate are currently available from 2Q 2011.

EBMUDERS | As of September 30, 2024

|   | Market Value \$      | % of Portfolio | 3 Mo (%)    | YTD (%)     | 1 Yr (%)    | 3 Yrs (%)   | 5 Yrs (%)   | 10 Yrs (%)  | Inception (%) | Inception Date |
|---|----------------------|----------------|-------------|-------------|-------------|-------------|-------------|-------------|---------------|----------------|
| <b>EBMUDERS Total Plan Composite</b>    | <b>2,656,871,374</b> | <b>100.0</b>   | <b>6.2</b>  | <b>13.2</b> | <b>23.2</b> | <b>5.8</b>  | <b>8.7</b>  | <b>7.9</b>  | <b>8.4</b>    | <b>Apr-11</b>  |
| <i>Total Plan Bench</i>                 |                      |                | <i>6.2</i>  | <i>13.3</i> | <i>22.5</i> | <i>5.6</i>  | <i>8.0</i>  | <i>7.5</i>  | <i>8.0</i>    |                |
| <b>US Equity Composite</b>              | <b>1,003,015,282</b> | <b>37.8</b>    | <b>6.2</b>  | <b>20.6</b> | <b>35.2</b> | <b>10.3</b> | <b>15.2</b> | <b>13.0</b> | <b>13.2</b>   | <b>Apr-11</b>  |
| <i>Russell 3000 Hybrid</i>              |                      |                | <i>6.2</i>  | <i>20.6</i> | <i>35.2</i> | <i>10.3</i> | <i>15.3</i> | <i>12.8</i> | <i>13.1</i>   |                |
| <b>Non-US Equity Composite</b>          | <b>658,196,323</b>   | <b>24.8</b>    | <b>8.0</b>  | <b>14.2</b> | <b>25.4</b> | <b>4.5</b>  | <b>8.0</b>  | <b>5.2</b>  | <b>6.5</b>    | <b>Jul-95</b>  |
| <i>MSCI ACWI xUS (blend)</i>            |                      |                | <i>8.2</i>  | <i>14.7</i> | <i>26.0</i> | <i>4.7</i>  | <i>8.1</i>  | <i>5.7</i>  | <i>5.7</i>    |                |
| <b>Covered Calls Composite</b>          | <b>365,830,151</b>   | <b>13.8</b>    | <b>4.8</b>  | <b>13.8</b> | <b>21.2</b> | <b>7.9</b>  | <b>10.0</b> | <b>8.6</b>  | <b>9.5</b>    | <b>Feb-14</b>  |
| <i>Cboe S&amp;P 500 Buy Write Index</i> |                      |                | <i>5.5</i>  | <i>13.6</i> | <i>18.3</i> | <i>6.4</i>  | <i>6.6</i>  | <i>6.3</i>  | <i>6.7</i>    |                |
| <b>Real Estate Composite</b>            | <b>53,812,113</b>    | <b>2.0</b>     | <b>9.3</b>  | <b>6.0</b>  | <b>13.3</b> | <b>4.1</b>  | <b>5.2</b>  | <b>7.9</b>  | <b>5.9</b>    | <b>Jan-07</b>  |
| <i>NCREIF NPI Lag</i>                   |                      |                | <i>-0.3</i> | <i>-4.2</i> | <i>-5.5</i> | <i>2.3</i>  | <i>3.4</i>  | <i>6.1</i>  | <i>6.1</i>    |                |
| <b>Fixed Income Composite</b>           | <b>573,878,126</b>   | <b>21.6</b>    | <b>4.9</b>  | <b>5.0</b>  | <b>12.2</b> | <b>0.6</b>  | <b>1.6</b>  | <b>2.3</b>  | <b>2.9</b>    | <b>Apr-11</b>  |
| <i>Fixed Income Composite Bench</i>     |                      |                | <i>4.7</i>  | <i>4.9</i>  | <i>11.5</i> | <i>0.4</i>  | <i>1.5</i>  | <i>2.4</i>  | <i>2.8</i>    |                |
| <b>Cash Composite</b>                   | <b>2,139,380</b>     | <b>0.1</b>     | <b>1.3</b>  | <b>3.5</b>  | <b>4.5</b>  | <b>3.0</b>  | <b>2.3</b>  | <b>1.7</b>  | <b>1.3</b>    | <b>Aug-10</b>  |
| <i>FTSE 3 Month T-Bill</i>              |                      |                | <i>1.4</i>  | <i>4.2</i>  | <i>5.6</i>  | <i>3.6</i>  | <i>2.4</i>  | <i>1.7</i>  | <i>1.2</i>    |                |

# **Economic and Market Update**

## Data as of September 30, 2024

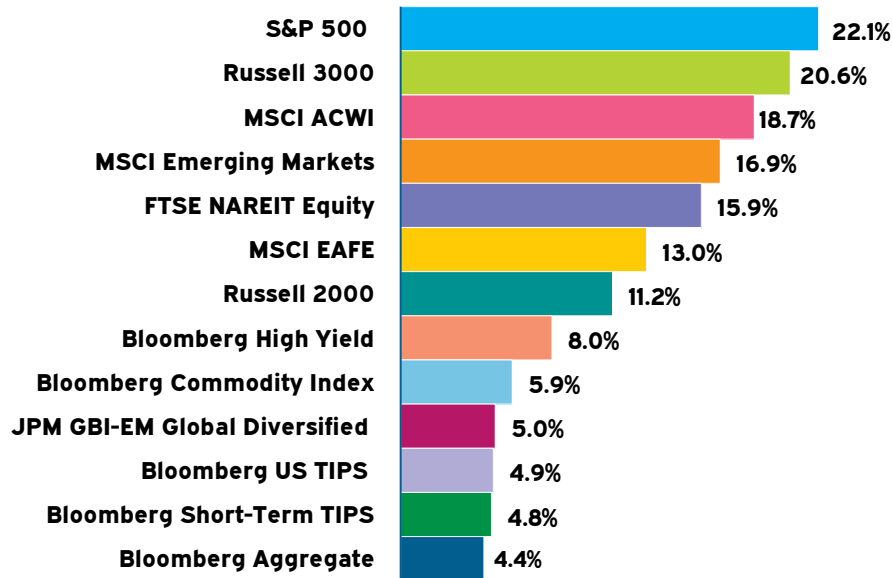
## Commentary

In the third quarter, stock and bond markets rallied despite heightened volatility. Central bank indications of future interest rate cuts given declining inflation pressures was a key driver of gains.

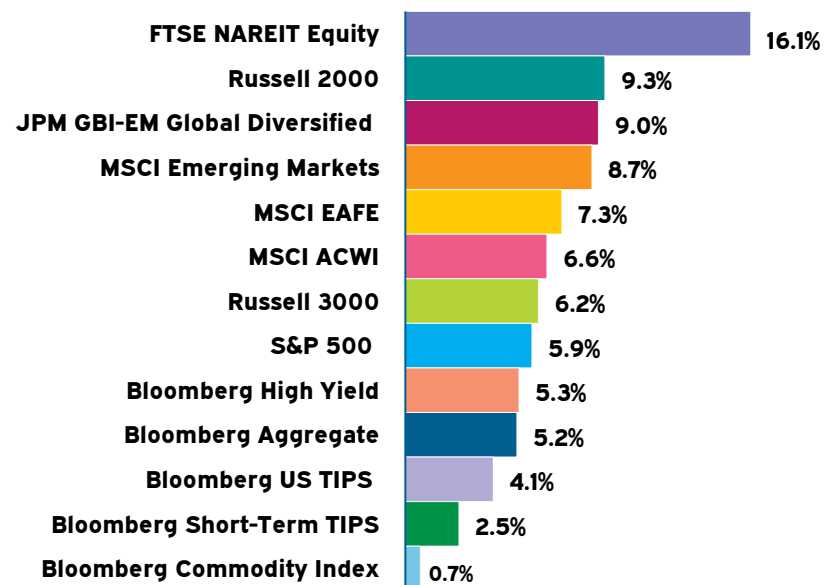
- In September, the Federal Reserve surprised many in the markets with a 50 basis point interest rate cut while the US economy and employment picture remains quite healthy.
- In the third quarter, US equities (Russell 3000) rose 6.2%. The US equity rally broadened, with value and small cap stocks outperforming large cap growth stocks, reversing the narrow leadership trend earlier this year.
- Emerging market stocks (+8.7%) outperformed developed market stocks in the third quarter; in non-US developed markets (+7.3%) value and small cap stocks also beat the broad market.
- After two years of piecemeal policy stimulus, China's policy makers rolled out a significant stimulus package to support equity prices, reduce bank reserve requirements and funding rates, and support current and future mortgage borrowers. In particular, bank loans for listed company share buybacks and purchases drove the MSCI China equity index to rally 23.9% in September and 23.5% for the entire third quarter.
- Fixed income markets also posted positive returns on expectations for additional policy rate cuts this year and next, as inflation pressures recede, and the economy slows.
- Looking ahead, the paths of inflation, labor markets, and monetary policy, China's slowing economy and potential policy stimulus benefits, increased geopolitical tensions, and the looming US election will be key factors.

### Index Returns<sup>1</sup>

#### YTD



#### Q3



→ Major markets finished the third quarter in positive territory despite several spikes in volatility. Falling inflation, resilient growth in the US, and dovish central banks supported stocks and bonds. Rate sensitive sectors, like REITs, particularly benefited from lower interest rates.

→ Year-to-date through September, all major asset classes were positive, led by US equities.

<sup>1</sup> Source: Bloomberg. Data is as of September 30, 2024.

### Domestic Equity Returns<sup>1</sup>

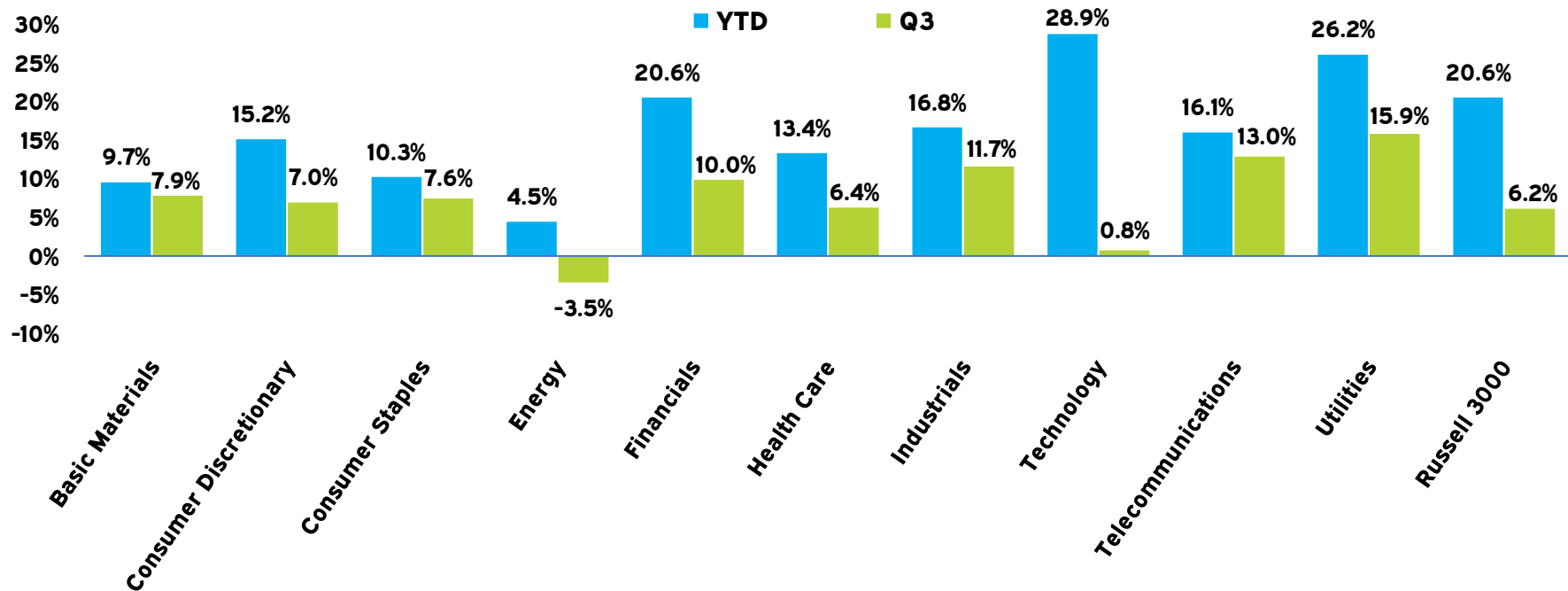
| Domestic Equity       | September (%) | Q3 (%) | YTD (%) | 1 YR (%) | 3 YR (%) | 5 YR (%) | 10 YR (%) |
|-----------------------|---------------|--------|---------|----------|----------|----------|-----------|
| S&P 500               | 2.1           | 5.9    | 22.1    | 36.4     | 11.9     | 16.0     | 13.4      |
| Russell 3000          | 2.1           | 6.2    | 20.6    | 35.2     | 10.3     | 15.3     | 12.8      |
| Russell 1000          | 2.1           | 6.1    | 21.2    | 35.7     | 10.8     | 15.6     | 13.1      |
| Russell 1000 Growth   | 2.8           | 3.2    | 24.5    | 42.2     | 12.0     | 19.7     | 16.5      |
| Russell 1000 Value    | 1.4           | 9.4    | 16.7    | 27.8     | 9.0      | 10.7     | 9.2       |
| Russell MidCap        | 2.2           | 9.2    | 14.6    | 29.3     | 5.7      | 11.3     | 10.2      |
| Russell MidCap Growth | 3.3           | 6.5    | 12.9    | 29.3     | 2.3      | 11.5     | 11.3      |
| Russell MidCap Value  | 1.9           | 10.1   | 15.1    | 29.0     | 7.4      | 10.3     | 8.9       |
| Russell 2000          | 0.7           | 9.3    | 11.2    | 26.8     | 1.8      | 9.4      | 8.8       |
| Russell 2000 Growth   | 1.3           | 8.4    | 13.2    | 27.7     | -0.4     | 8.8      | 8.9       |
| Russell 2000 Value    | 0.1           | 10.2   | 9.2     | 25.9     | 3.8      | 9.3      | 8.2       |

**US Equities: The Russell 3000 rose +6.2% in the third quarter, bringing the year-to-date results to +20.6%.**

- In the third quarter, the previously technology-driven stock rally broadened out as optimism grew over the potential for a “soft landing” of the US economy and as investors reexamined the future of AI-related stocks.
- In this environment, value outperformed growth across the capitalization spectrum and small cap stocks (Russell 2000: +9.3%) outperformed large cap stocks (Russell 1000: +6.1%).
- Despite the third quarter’s rally in value and small cap stocks, large cap growth stocks are the best performing asset class (R1000 Growth: +24.5%) for the year-to-date 2024 due to on-going enthusiasm for AI.

<sup>1</sup> Source: Bloomberg. Data is as of September 30, 2024.

### Russell 3000 Sector Returns<sup>1</sup>



- With the notable exception of energy stocks, all sectors posted positive returns in the third quarter.
- On the prospect of growing energy demand for cloud computing for AI, utilities were the best performing sector in the third quarter (+15.9%) followed by telecom (+13.0%) and industrials (+11.7%).
- All sectors feature positive returns for the year-to-date period. Technology stocks (+28.9%) continue to lead the broader market, followed by utilities (+26.2%), and financials (+20.6%).

<sup>1</sup> Source: Bloomberg. Data is as of September 30, 2024.

### Foreign Equity Returns<sup>1</sup>

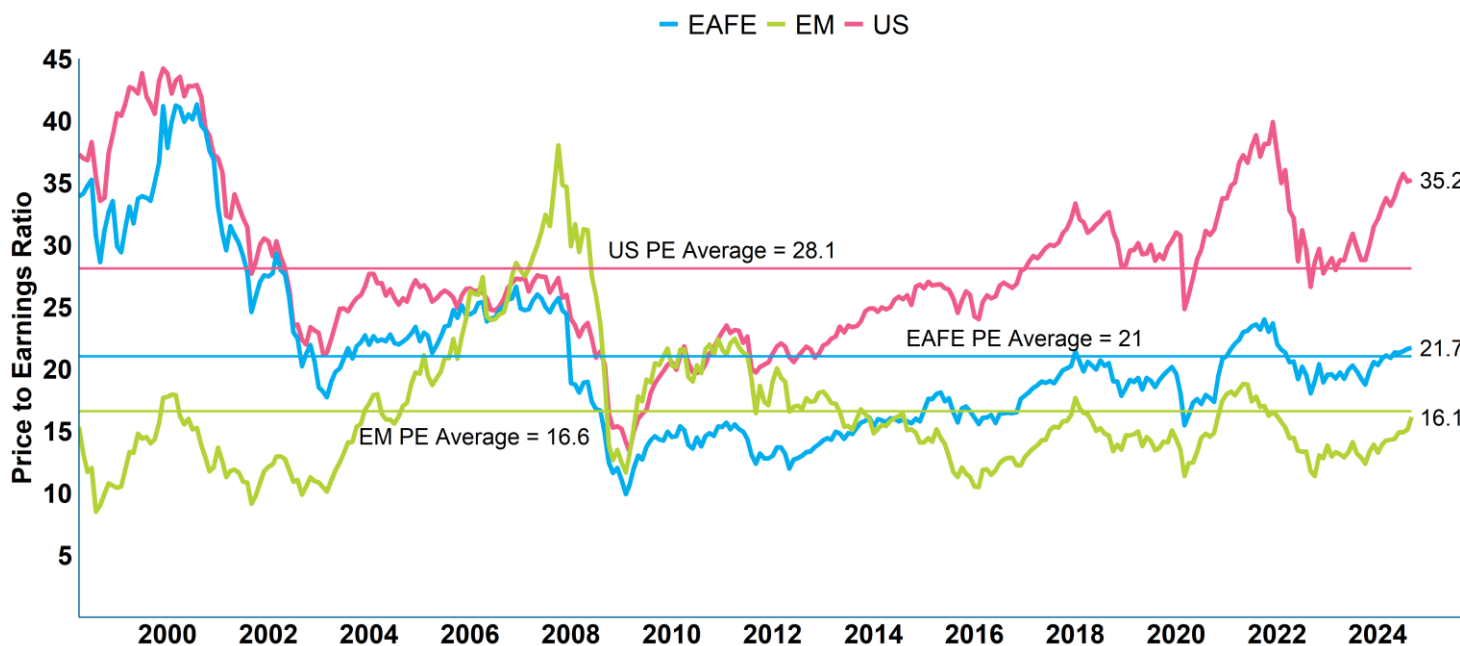
| Foreign Equity                         | September (%) | Q3 (%) | YTD (%) | 1 YR (%) | 3 YR (%) | 5 YR (%) | 10 YR (%) |
|--|---------------|--------|---------|----------|----------|----------|-----------|
| MSCI ACWI ex. US                       | 2.7           | 8.1    | 14.2    | 25.4     | 4.1      | 7.6      | 5.2       |
| MSCI EAFE                              | 0.9           | 7.3    | 13.0    | 24.8     | 5.5      | 8.2      | 5.7       |
| MSCI EAFE (Local Currency)             | -0.4          | 0.8    | 12.0    | 17.5     | 7.9      | 8.8      | 7.4       |
| MSCI EAFE Small Cap                    | 2.6           | 10.5   | 11.1    | 23.5     | -0.4     | 6.4      | 6.2       |
| MSCI Emerging Markets                  | 6.7           | 8.7    | 16.9    | 26.1     | 0.4      | 5.7      | 4.0       |
| MSCI Emerging Markets (Local Currency) | 5.6           | 6.6    | 18.3    | 25.0     | 2.9      | 7.4      | 6.5       |
| MSCI EM ex. China                      | 1.3           | 4.0    | 12.7    | 27.4     | 3.4      | 8.4      | 4.8       |
| MSCI China                             | 23.9          | 23.5   | 29.3    | 23.9     | -5.6     | 0.8      | 3.4       |

**Foreign Equity: Developed international equities (MSCI EAFE) rose +7.3% in the third quarter, while emerging market equities (MSCI Emerging Markets) gained 8.7%.**

- Non-US developed market stocks saw similar themes as the US, with value and small cap stocks outperforming large cap stocks in the third quarter, as investors anticipated further rate cuts from the European Central Bank and the Bank of England. Japan’s TOPIX index experienced an over 20% decline at the start of August due to the Bank of Japan’s (BoJ) unexpected rate increase and related pressures on the yen carry trade. It subsequently recovered, though, as the BoJ signaled that further rate increases were not likely.
- In late September, China announced significant stimulus measures to support asset prices resulting in Chinese stocks rallying +23.9% just in September. This led to emerging markets having the best quarterly results (+8.7%).
- The weakening US dollar further supported international stocks, particularly in developed markets.

<sup>1</sup> Source: Bloomberg. Data is as September 30, 2024.

**Equity Cyclically Adjusted P/E Ratios<sup>1</sup>**



- The broad global equity rally lifted stocks' cyclically adjusted price/earnings ratios over the quarter, with US stock valuations finishing well above their long-term 28.1 average.
- Non-US developed market valuations increased to slightly above their long-term average while emerging market stocks are now trading close to their long-term average given the strong recent gains.

<sup>1</sup> US Equity Cyclically Adjusted P/E on S&P 500 Index. Source: Robert Shiller, Yale University, and Meketa Investment Group. Developed and Emerging Market Equity (MSCI EAFE and EM Index) Cyclically Adjusted P/E Source: Bloomberg. Earnings figures represent the average of monthly "as reported" earnings over the previous ten years. Data is as of September 2024. The average line is the long-term average of the US, EM, and EAFE PE values from April 1998 to the recent month-end respectively.

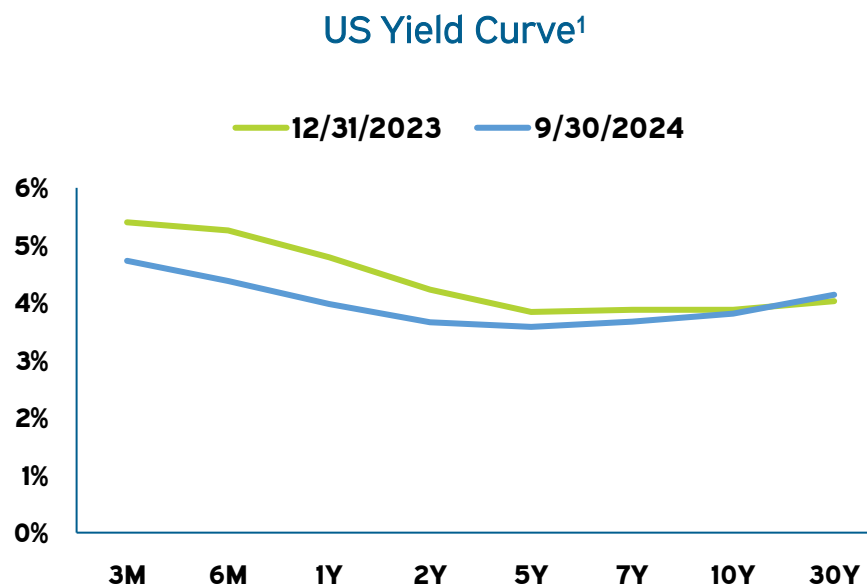
### Fixed Income Returns<sup>1</sup>

| Fixed Income                        | September (%) | QTD (%) | YTD (%) | 1 YR (%) | 3 YR (%) | 5 YR (%) | 10 YR (%) | Current Yield (%) | Duration (Years) |
|-------------------------------------|---------------|---------|---------|----------|----------|----------|-----------|-------------------|------------------|
| Bloomberg Universal                 | 1.4           | 5.2     | 4.9     | 12.1     | -1.0     | 0.7      | 2.1       | 4.5               | 6.0              |
| Bloomberg Aggregate                 | 1.3           | 5.2     | 4.4     | 11.6     | -1.4     | 0.3      | 1.8       | 4.2               | 6.2              |
| Bloomberg US TIPS                   | 1.5           | 4.1     | 4.9     | 9.8      | -0.6     | 2.6      | 2.5       | 3.8               | 6.9              |
| Bloomberg Short-term TIPS           | 1.0           | 2.5     | 4.8     | 7.5      | 2.5      | 3.6      | 2.4       | 3.9               | 2.4              |
| Bloomberg US Long Treasury          | 2.0           | 7.8     | 2.4     | 15.4     | -8.3     | -4.3     | 1.1       | 4.2               | 15.5             |
| Bloomberg High Yield                | 1.6           | 5.3     | 8.0     | 15.7     | 3.1      | 4.7      | 5.0       | 7.0               | 3.4              |
| JPM GBI-EM Global Diversified (USD) | 3.4           | 9.0     | 5.0     | 13.4     | 0.6      | 0.6      | 0.6       | --                | --               |

**Fixed Income: The Bloomberg Universal index rose 5.2% in the third quarter, bringing the year-to-date return into positive territory (+4.9%).**

- Fixed income indexes rose in the quarter as rates fell, driven by a continued decline in inflation. This and the weakening labor market led to the Fed cutting interest rates with more cuts expected.
- The broad US bond market (Bloomberg Aggregate) rose 5.2% over the quarter, with the broad TIPS market gaining 4.1%. The less interest rate sensitive short-term TIPS index increased 2.5%.
- Riskier bonds experienced volatility during the quarter but ultimately posted strong results as risk appetite remained strong. Emerging market debt gained 9.0% and high yield rose 5.3%.

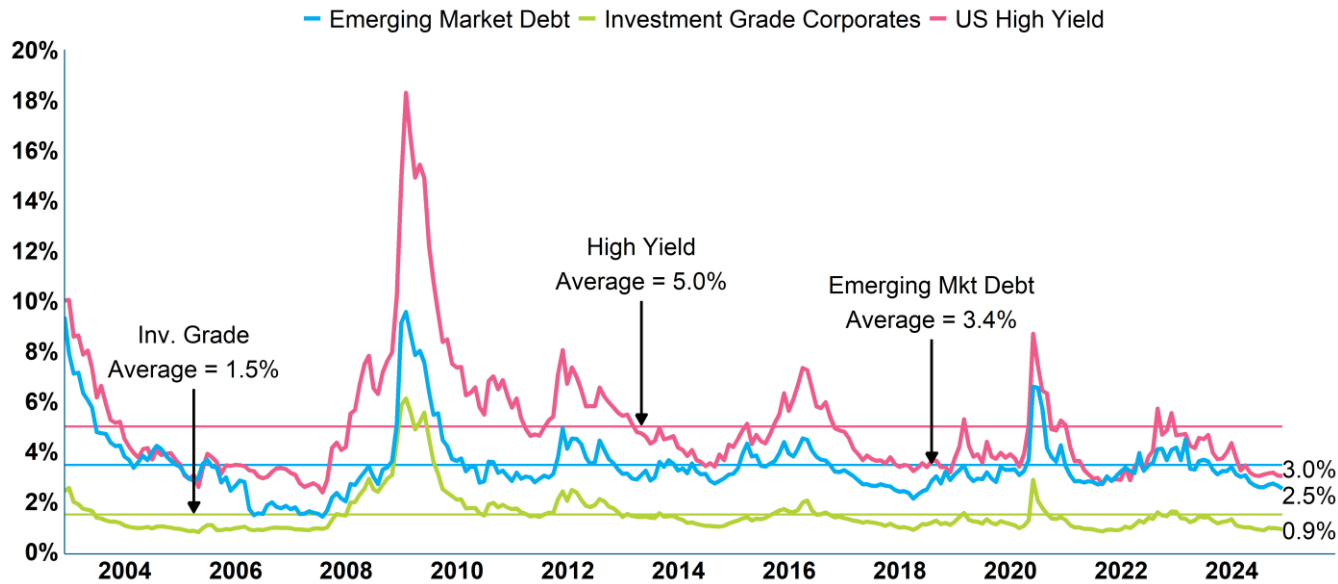
<sup>1</sup> Source: Bloomberg. Data is as of September 30, 2024. The yield and duration data from Bloomberg is defined as the index's yield to worst and modified duration, respectively. JPM GBI-EM data is from J.P. Morgan. Current yield and duration data is not available.



- US interest rates fell over the quarter as economic data continued to soften and the Fed started its rate cutting cycle.
- The more policy sensitive 2-year Treasury yield declined from 4.75% to 3.64% over the quarter, while the 10-year Treasury yield fell from 4.40% to 3.78% over the same period.
- Notably, the portion of the yield curve from 2-years to 10-years was no longer inverted at the end of September, given policy rate cuts and resilient growth. This trend could continue as the Fed likely continues to cut interest rates.

<sup>1</sup> Source: Bloomberg. Data is as of September 30, 2024.

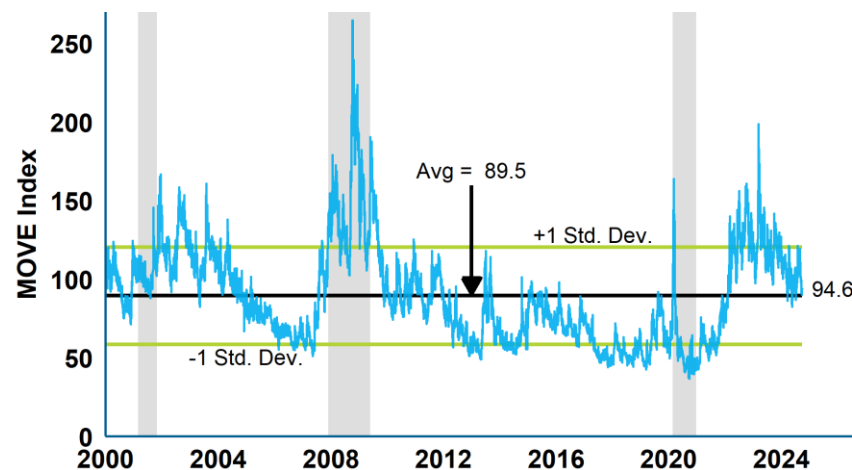
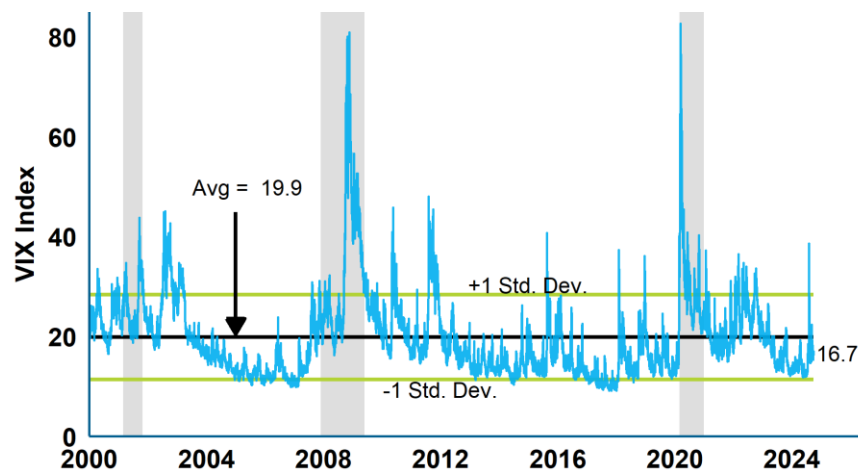
**Credit Spreads vs. US Treasury Bonds<sup>1</sup>**



- Spreads (the yield above a comparable maturity Treasury) widened significantly at the start of the quarter in the volatile environment but declined after, largely finishing where they started.
- All yield spreads remained below their respective long-run averages, particularly high yield.
- Although spreads are relatively tight, yields remain at above-average levels compared to the last two decades, particularly for short-term issues.

<sup>1</sup> Source: Bloomberg. Data is as September 30, 2024. Average lines denote the average of the investment grade, high yield, and emerging market spread values from September 2002 to the recent month-end, respectively.

### Equity and Fixed Income Volatility<sup>1</sup>



- In the third quarter, equity and bond market volatility experienced periods of elevation due to concerns over the US labor market, the unwinding of the yen-carry trade, and increased geopolitical tensions. Ultimately, both settled well below their respective peaks as additional economic data and the easing of monetary policy calmed investors.
- Volatility levels (VIX) in the stock market spiked above one standard deviation of its long-term average in early August but finished below the long-term average.
- Bond market volatility (MOVE) also fluctuated through the quarter. Uncertainty in the bond market remains above the long-run average as markets continue to reprice the pace of interest rate cuts.

<sup>1</sup> Equity Volatility – Source: FRED. Fixed Income Volatility – Source: Bloomberg. Implied volatility as measured using VIX Index for equity markets and the MOVE Index to measure interest rate volatility for fixed income markets. Data is as of September 2024. The average line indicated is the average of the VIX and MOVE values between January 2000 and September 2024.

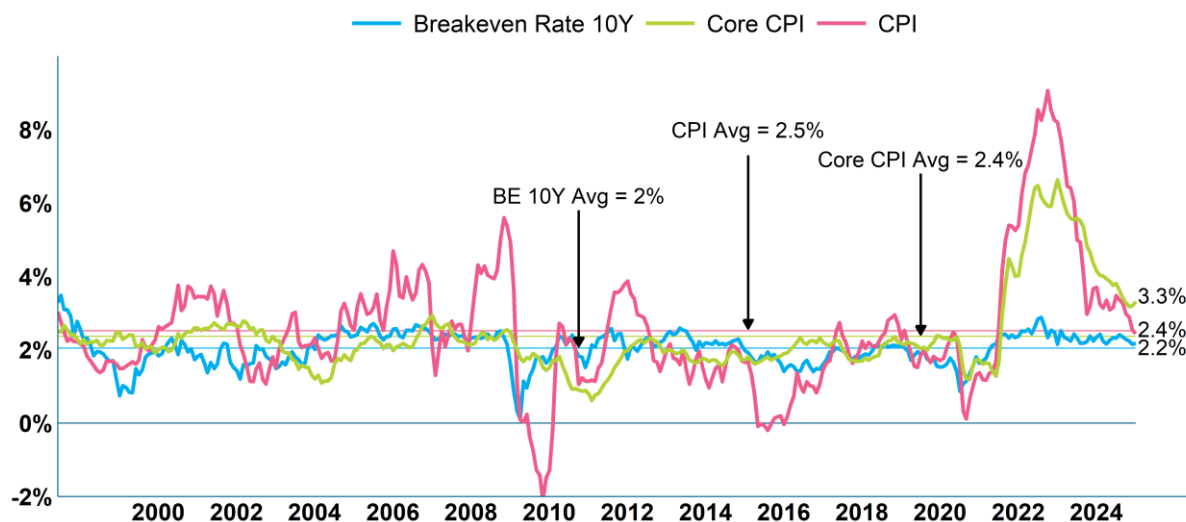
### Recent Market Strength: China<sup>1</sup>



- On September 24th, Chinese policy makers surprised markets with a suite of policy stimulus measures designed to support stock prices, banks, and mortgage borrowers.
- Banks were asked to extend loans to publicly traded companies for share purchases and buybacks, contributing to significant equity market gains in the last week of the quarter. These policies also contributed to increased foreign demand for Chinese shares.
- The banking sector benefited from a cut to the 1-year medium term lending rate and to their reserve requirement rate.
- Homeowners may also benefit from changes to downpayment minimums and mortgage rate reductions.
- Despite the recent gains in the stock market, questions remain about the ultimate impact of these policies on longer-term growth in China, as well as policy makers' commitment to continue supporting the economy.

<sup>1</sup> Source: Bloomberg. Data as of September 30, 2024.

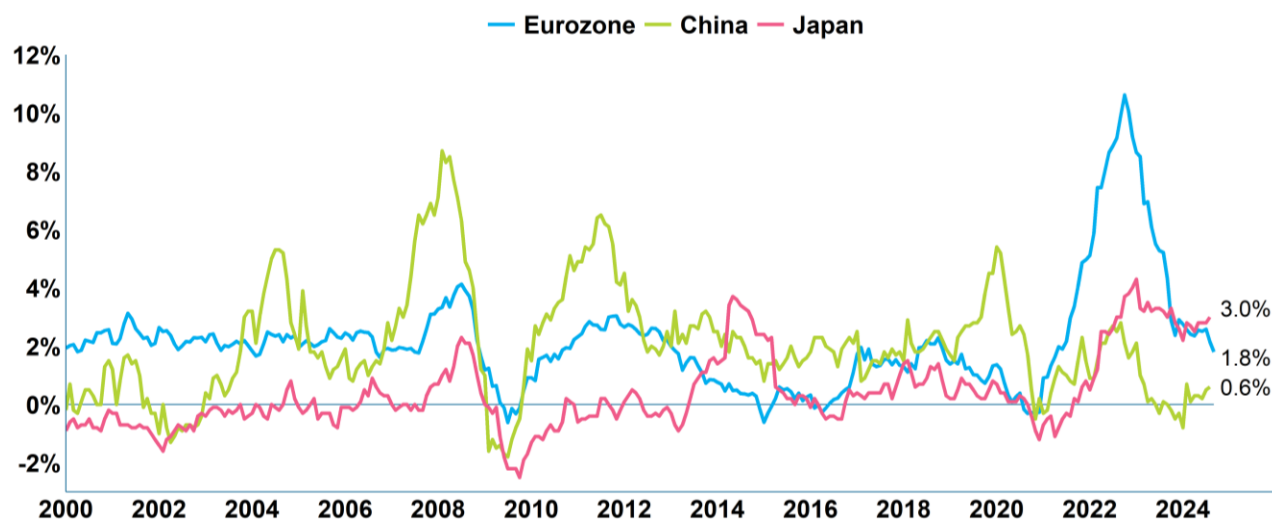
### US Ten-Year Breakeven Inflation and CPI<sup>1</sup>



- Over the quarter, year-over-year headline inflation continued to decline (3.0% to 2.4%) supporting the Fed's start to cutting policy rates. The 2.4% September level was the lowest since early 2021.
- Month-over-month inflation increased 0.2% each month over the quarter. Food and shelter costs saw monthly increases, while energy prices largely fell.
- Year-over-year core inflation (excluding food and energy) finished the quarter where it started (3.3%). Shelter (+4.9% YoY) and transportation (+8.5% YoY) remain key drivers of stickier core inflation.
- Inflation expectations (breakevens) have been relatively stable over the last several years. They remain below current inflation levels.

<sup>1</sup> Source: FRED. Data is as September 2024. The CPI and 10 Year Breakeven average lines denote the average values from February 1997 to the present month-end, respectively. Breakeven values represent month-end values for comparative purposes.

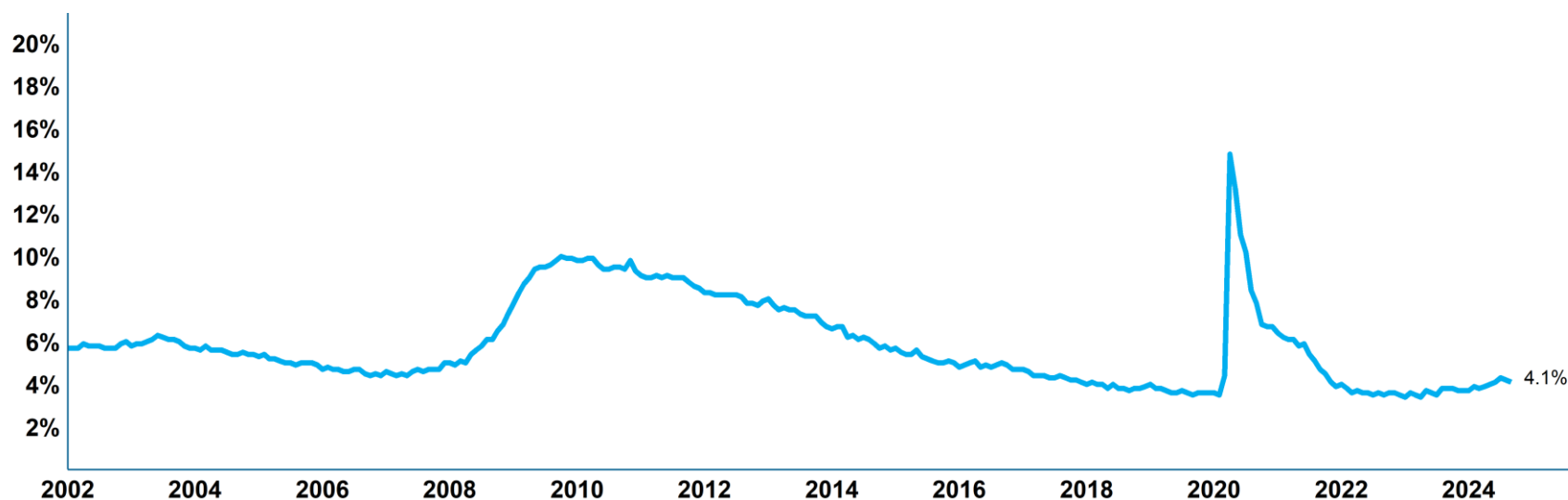
### Global Inflation (CPI Trailing Twelve Months)<sup>1</sup>



- In the eurozone, inflation fell from 2.5% to 1.8% over the quarter (a level below the US), potentially clearing the way for further rate cuts from the European Central Bank.
- By contrast, inflation in Japan recently increased (2.8% to 3.0%) due in part to higher food, electricity, and gas prices supporting the case for additional interest rate increases by the Bank of Japan.
- In China, inflation increased each of the last seven months, after declines late last year. Recent extreme weather has caused supply issues and contributed to higher prices. Inflation in China remains much lower than in other countries, due to weak consumer spending and as issues in the real estate sector continue to weigh on sentiment.

<sup>1</sup> Source: Bloomberg. Data is as of September 30, 2024, except Japan and China which are as of August 31, 2024.

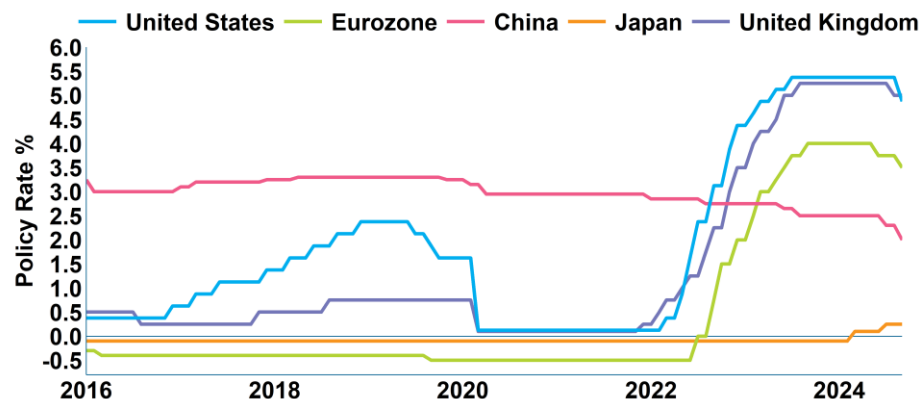
### US Unemployment<sup>1</sup>



- The US labor market has softened but remains relatively strong. After reaching 4.3% in July, the unemployment rate finished the quarter at the level it started (4.1%), with 6.8 million people looking for work.
- After job gains came in below expectations in July (114k versus 175k) and August (142k versus 165k), contributing to some of the market volatility, they finished strong in September, beating estimates (254k versus 150k). Food services (+69K) and healthcare (+45K) were the largest contributors to the September gains.
- Initial claims for unemployment remain relatively low and year-over-year wage gains remain strong (+4.0%). The number of job openings increased slightly (7.9 to 8.0 million) over the quarter.

<sup>1</sup> Source: FRED. Data is as of September 30, 2024.

### Policy Rates<sup>1</sup>



- In the US, the Fed reduced interest rates by 0.5% after holding them at a 5.25%-5.50% level for over a year. In their statement they highlighted that they would make additional interest rate cut decisions based on incoming data. Market participants are pricing in roughly two additional cuts in 2024.
- The Bank of England (BoE) and the European Central Bank (ECB) have both started cutting rates. The BoE made a 25 basis points interest rate cut in July while the ECB made two similar cuts in June and September.
- Inflation in Japan remains elevated, prompting Bank of Japan officials to raise the policy rate 0.15% to 0.25% over the quarter after decades at near-zero rates.
- China announced a broad based unexpected stimulus package that included lower interest rates, a reduction in bank reserve requirements, and liquidity for stock investors.

<sup>1</sup> Source: Bloomberg. Data is as of September, 2024. United States rate is the mid-point of the Federal Funds Target Rate range. Eurozone rate is the ECB Deposit Facility Announcement Rate. Japan rate is the Bank of Japan Unsecured Overnight Call Rate Expected. China rate is the China Central Bank 1-Year Medium Term Interest Rate. UK rate is the UK Bank of England Official Bank Rate.

### US Dollar vs. Broad Currencies<sup>1</sup>



- The US dollar weakened in the third quarter by 4.7% versus other major currencies, influenced by the decline in interest rates and expectations for slower growth.
- It remains at historically strong levels, though, given relatively stronger growth, higher interest rates, and on the prospects of other central banks, potentially easing policy faster than the Fed.
- Looking ahead, the track of policy rates across major central banks will be key for the path of the US dollar from here. If the US economy slows more than expected and the Fed relatedly lowers rates at a faster pace, we could see the dollar weaken further.

<sup>1</sup> Source: Bloomberg. Data as of September 30, 2024.

## Summary

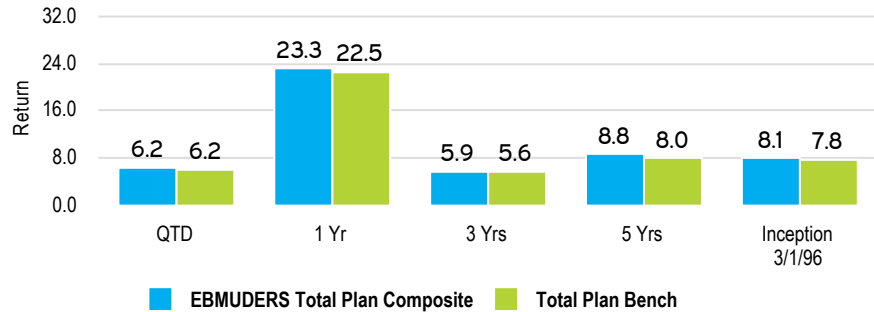
### Key Trends:

- According to the International Monetary Fund's (IMF) July report, global growth this year is expected to match the 2023 estimate at around 3.2% with most major economies predicted to avoid a recession.
- Key economic data in the US has largely weakened and come in below expectations, causing markets to expect an additional two rate cuts this year after the Fed's initial 0.5% reduction. Uncertainty remains regarding the timing and pace of interest rate cuts in the coming year.
- US consumers could feel pressure as certain components of inflation (e.g., shelter) remain high, borrowing costs stay elevated, and the job market may weaken further.
- A focus for US equities going forward will be whether earnings can remain resilient if growth slows. Also, the future paths of the large technology companies that have driven market gains will be important.
- We have started to see divergences in monetary policy. Some central banks, such as the Fed, European Central Bank, and the Bank of England, have started to cut interest rates and others, like the Bank of Japan, have increased interest rates. This disparity will likely influence capital flows and currencies.
- China appears to have shifted focus to more policy support for the economy/asset prices with a new suite of policy stimulus and signals for more support ahead. It is still not clear what the long-term impact of these policies will be on the economy and if policy makers will remain committed to these efforts.

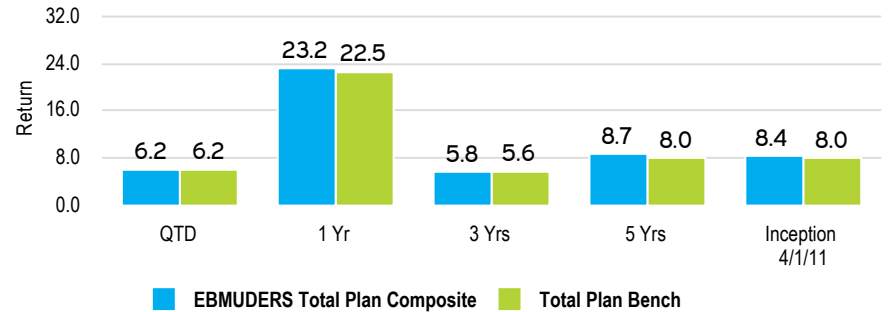
## **Third Quarter Performance Review**

### EBMUDERS Total Plan Composite | As of September 30, 2024

#### Trailing Performance - Gross

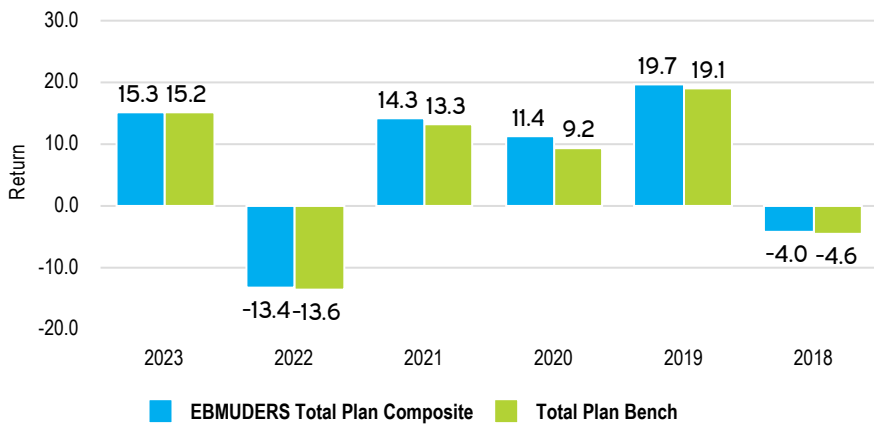


#### Trailing Performance - Net

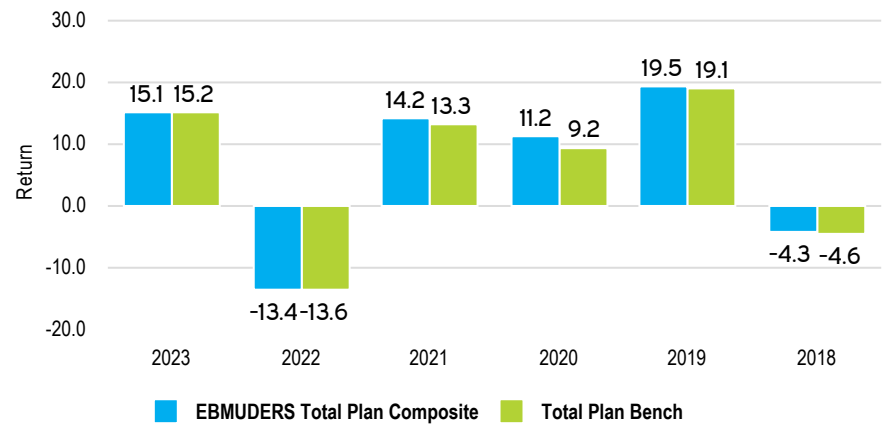


|                                      | 3 Mo (%) | 1 Yr (%) | 3 Yrs (%) | 5 Yrs (%) | 10 Yrs (%) | 2023 (%) | 2022 (%) | 2021 (%) | 2020 (%) | 2019 (%) | 2018 (%) |
|--------------------------------------|----------|----------|-----------|-----------|------------|----------|----------|----------|----------|----------|----------|
| <b>EBMUDERS Total Plan Composite</b> | 6.2      | 23.2     | 5.8       | 8.7       | 7.9        | 15.1     | -13.4    | 14.2     | 11.2     | 19.5     | -4.3     |
| <b>EBMUDERS Total Plan Composite</b> | 6.2      | 23.3     | 5.9       | 8.8       | 8.1        | 15.3     | -13.4    | 14.3     | 11.4     | 19.7     | -4.0     |
| <i>Total Plan Bench</i>              | 6.2      | 22.5     | 5.6       | 8.0       | 7.5        | 15.2     | -13.6    | 13.3     | 9.2      | 19.1     | -4.6     |
| InvMetrics Public DB > \$1B Median   | 4.8      | 17.6     | 4.6       | 8.1       | 7.2        | 11.4     | -10.4    | 15.8     | 11.7     | 17.3     | -3.2     |

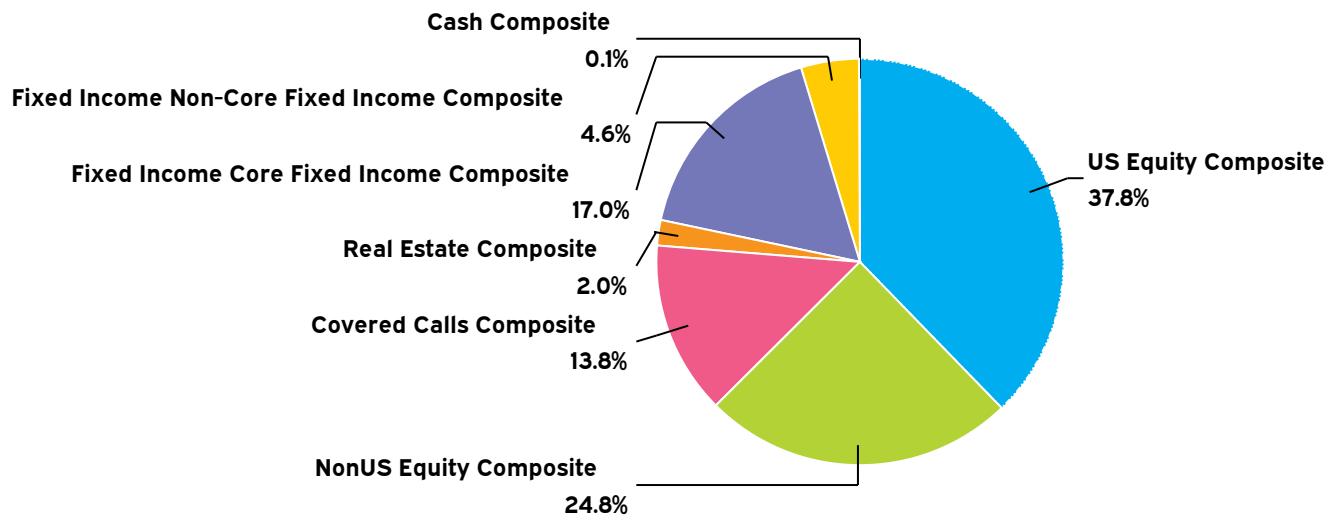
#### 12-month Performance - Gross



#### 12-month Performance - Net

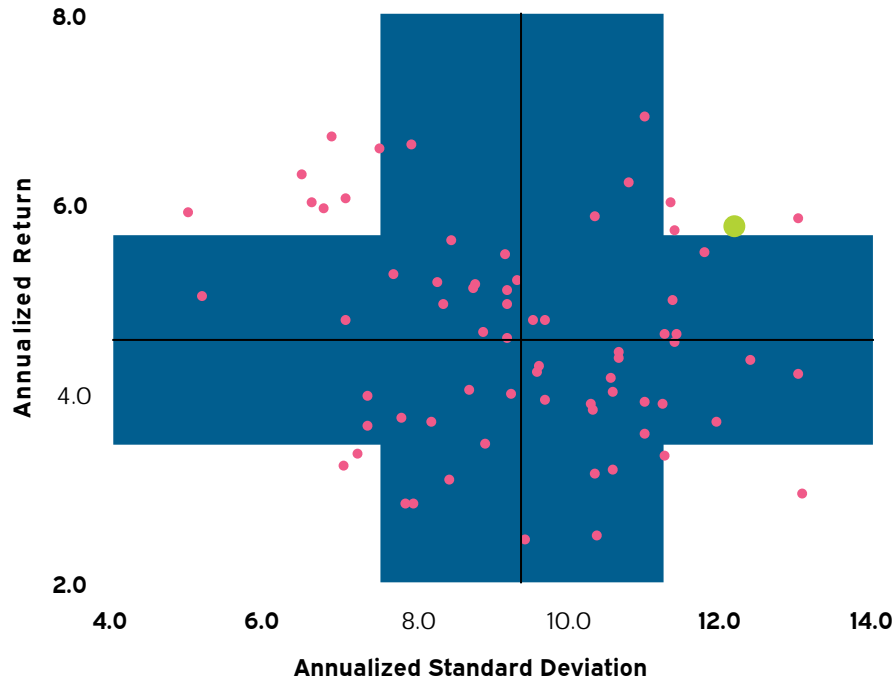


| Allocation vs. Targets and Policy |                        |                        |                  |                   |
|-----------------------------------|------------------------|------------------------|------------------|-------------------|
|                                   | Current Balance (\$)   | Current Allocation (%) | Policy Range (%) | Within IPS Range? |
| Domestic Equity                   | \$1,003,015,282        | 38                     | 20 - 30          | No                |
| International Equity              | \$658,196,323          | 25                     | 20 - 30          | Yes               |
| Covered Calls                     | \$365,830,151          | 14                     | 17 - 23          | No                |
| Real Estate                       | \$53,812,113           | 2                      | 3 - 7            | No                |
| Core Fixed Income                 | \$451,516,430          | 17                     | 17 - 23          | No                |
| Non-Core Fixed Income             | \$122,361,696          | 5                      | 3 - 7            | Yes               |
| Cash                              | \$2,139,380            | 0                      | 0 - 5            | Yes               |
| <b>Total</b>                      | <b>\$2,656,871,374</b> | <b>100</b>             |                  |                   |



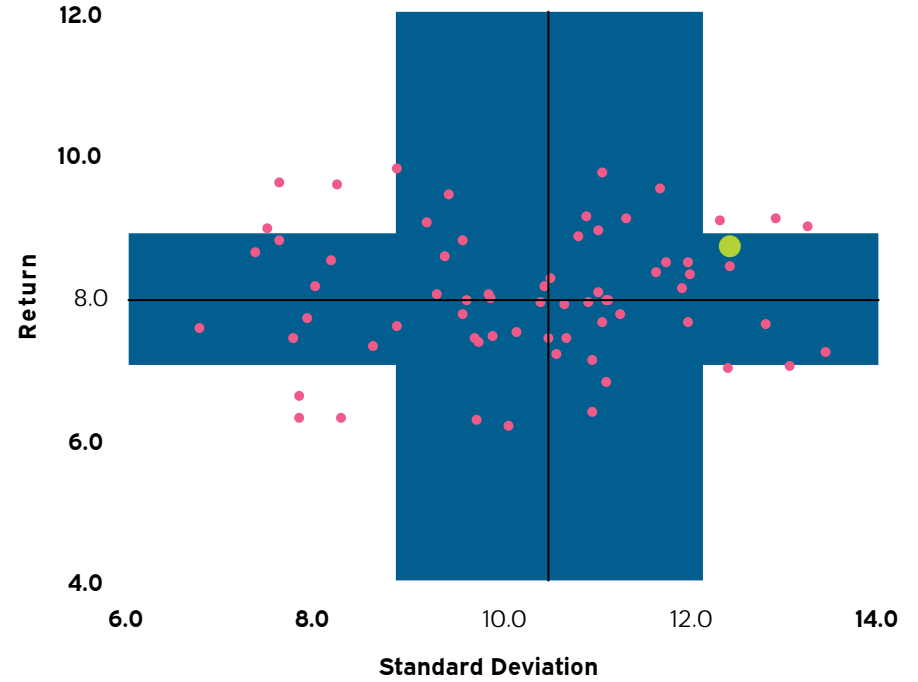
EBMUDERS | As of September 30, 2024

Annualized Return vs. Annualized Standard Deviation  
3 Years Ending September 30, 2024



- InvMetrics All Public DB Plans > \$1B
- EBMUDERS Total Plan Composite

Annualized Return vs. Annualized Standard Deviation  
5 Years Ending September 30, 2024



- InvMetrics All Public DB Plans > \$1B
- EBMUDERS Total Plan Composite

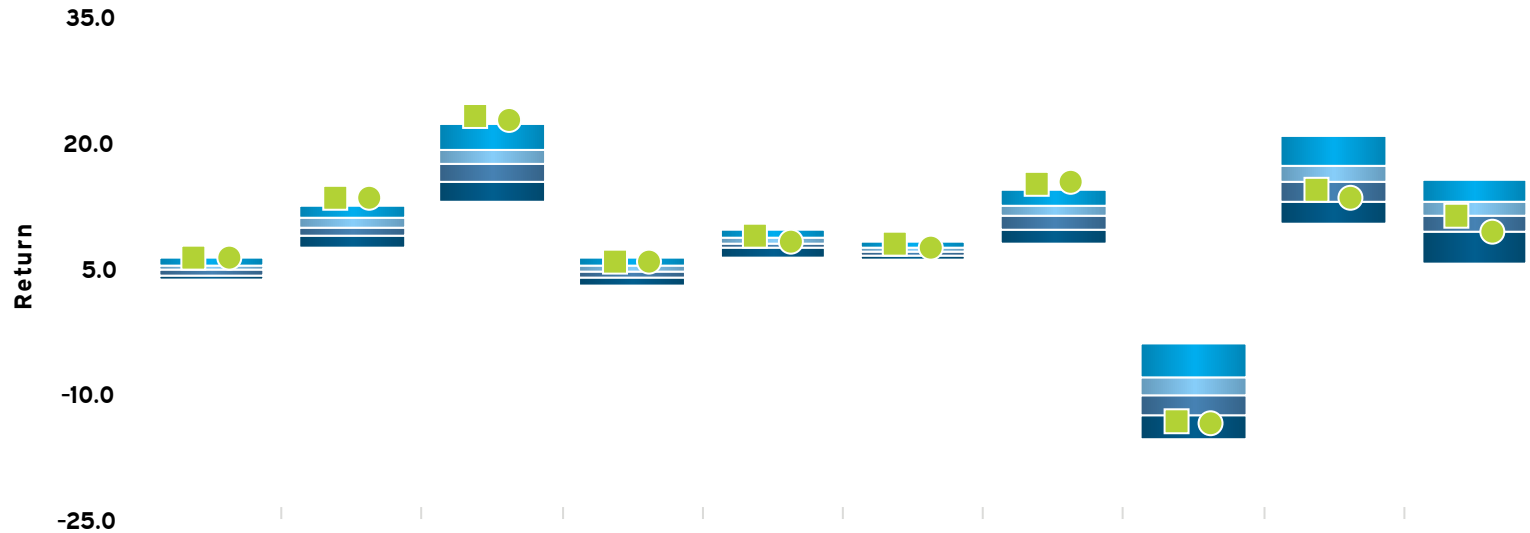
3 Years Ending September 30, 2024

|                               | Return | Standard Deviation | Sharpe Ratio |
|-------------------------------|--------|--------------------|--------------|
| EBMUDERS Total Plan Composite | 5.8    | 12.2               | 0.2          |
| Total Plan Bench              | 5.6    | 11.5               | 0.2          |

5 Years Ending September 30, 2024

|                               | Return | Standard Deviation | Sharpe Ratio |
|-------------------------------|--------|--------------------|--------------|
| EBMUDERS Total Plan Composite | 8.7    | 12.4               | 0.6          |
| Total Plan Bench              | 8.0    | 12.3               | 0.5          |

#### InvMetrics Public Plans > \$1B Return Comparison September 30, 2024



|                                 | QTD (%) | YTD (%)  | 1 Yr (%) | 3 Yrs (%) | 5 Yrs (%) | 10 Yrs (%) | 2023     | 2022       | 2021      | 2020      |
|---------------------------------|---------|----------|----------|-----------|-----------|------------|----------|------------|-----------|-----------|
| ■ EBMUDERS Total Plan Composite | 6.2 (3) | 13.2 (4) | 23.2 (4) | 5.8 (18)  | 8.7 (24)  | 7.9 (12)   | 15.1 (4) | -13.4 (84) | 14.2 (60) | 11.2 (49) |
| ● Total Plan Bench              | 6.2 (3) | 13.3 (4) | 22.5 (5) | 5.6 (20)  | 8.0 (43)  | 7.5 (24)   | 15.2 (4) | -13.6 (86) | 13.3 (72) | 9.2 (77)  |
| 5th Percentile                  | 6.1     | 12.4     | 22.2     | 6.3       | 9.6       | 8.1        | 14.3     | -4.1       | 20.7      | 15.5      |
| 1st Quartile                    | 5.3     | 10.9     | 19.1     | 5.2       | 8.6       | 7.4        | 12.4     | -8.0       | 17.2      | 13.0      |
| Median                          | 4.6     | 9.8      | 17.3     | 4.5       | 8.0       | 6.9        | 11.2     | -10.3      | 15.2      | 11.1      |
| 3rd Quartile                    | 4.2     | 8.8      | 15.2     | 3.7       | 7.4       | 6.4        | 9.6      | -12.6      | 13.0      | 9.3       |
| 95th Percentile                 | 3.7     | 7.5      | 12.7     | 2.8       | 6.3       | 5.8        | 7.8      | -15.4      | 10.3      | 5.4       |
| Population                      | 70      | 70       | 70       | 67        | 66        | 64         | 179      | 178        | 211       | 224       |

Parenteses contain percentile rankings.  
Calculation based on monthly periodicity.

|                                      | Market Value \$      | QTR (%)    | 1 Yr (%)    | 3 Yrs (%)   | 5 Yrs (%)   |
|--------------------------------------|----------------------|------------|-------------|-------------|-------------|
| <b>EBMUDERS Total Plan Composite</b> | <b>2,656,871,374</b> | <b>6.2</b> | <b>23.3</b> | <b>5.9</b>  | <b>8.8</b>  |
| <i>Total Plan Bench</i>              |                      | <i>6.2</i> | <i>22.5</i> | <i>5.6</i>  | <i>8.0</i>  |
| <b>US Equity Composite</b>           | <b>1,003,015,282</b> | <b>6.2</b> | <b>35.2</b> | <b>10.3</b> | <b>15.2</b> |
| <i>Russell 3000 Hybrid</i>           |                      | <i>6.2</i> | <i>35.2</i> | <i>10.3</i> | <i>15.3</i> |
| Northern Trust Russell 3000          | 1,002,195,816        | 6.2        | 35.2        | 10.3        | 15.3        |
| <i>Russell 3000 Index</i>            |                      | <i>6.2</i> | <i>35.2</i> | <i>10.3</i> | <i>15.3</i> |
| <b>Non US Equity Composite</b>       | <b>658,196,323</b>   | <b>8.0</b> | <b>25.4</b> | <b>4.5</b>  | <b>8.1</b>  |
| <i>MSCI ACWI xUS (blend)</i>         |                      | <i>8.2</i> | <i>26.0</i> | <i>4.7</i>  | <i>8.1</i>  |
| Northern Trust ACWI ex US            | 658,196,323          | 8.0        | 25.4        | 4.5         | 7.7         |
| <i>MSCI AC World ex USA index</i>    |                      | <i>8.2</i> | <i>26.0</i> | <i>4.7</i>  | <i>8.1</i>  |

### Manager Performance - Gross of Fees | As of September 30, 2024

|   | Market Value \$    | QTR (%)    | 1 Yr (%)    | 3 Yrs (%)  | 5 Yrs (%)   |
|---|--------------------|------------|-------------|------------|-------------|
| <b>Covered Calls Composite</b>          | <b>365,830,151</b> | <b>4.8</b> | <b>21.4</b> | <b>8.1</b> | <b>10.1</b> |
| <i>Cboe S&amp;P 500 Buy Write Index</i> |                    | <i>5.5</i> | <i>18.3</i> | <i>6.4</i> | <i>6.6</i>  |
| Parametric BXM                          | 177,232,457        | 4.1        | 18.0        | 7.8        | 9.4         |
| <i>Cboe S&amp;P 500 Buy Write Index</i> |                    | <i>5.5</i> | <i>18.3</i> | <i>6.4</i> | <i>6.6</i>  |
| Parametric Delta Shift                  | 188,416,693        | 4.8        | 27.0        | 9.8        | 13.9        |
| <i>Cboe S&amp;P 500 Buy Write Index</i> |                    | <i>5.5</i> | <i>18.3</i> | <i>6.4</i> | <i>6.6</i>  |
| Van Hulzen                              | 181,001            | 5.7        | 19.2        | 6.6        | 7.0         |
| <i>Cboe S&amp;P 500 Buy Write Index</i> |                    | <i>5.5</i> | <i>18.3</i> | <i>6.4</i> | <i>6.6</i>  |

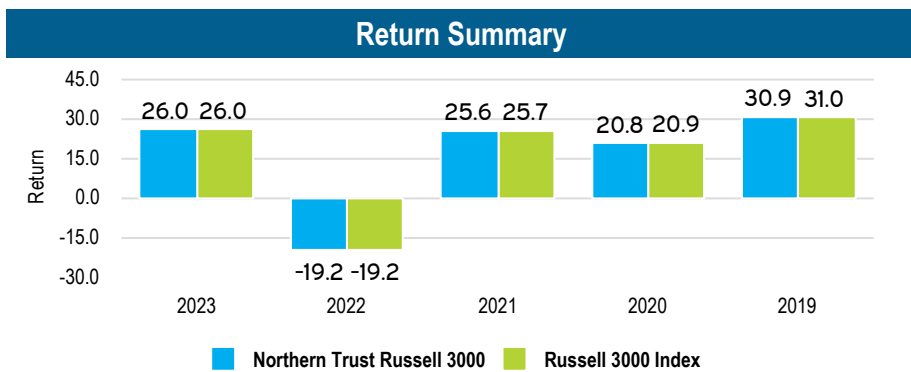
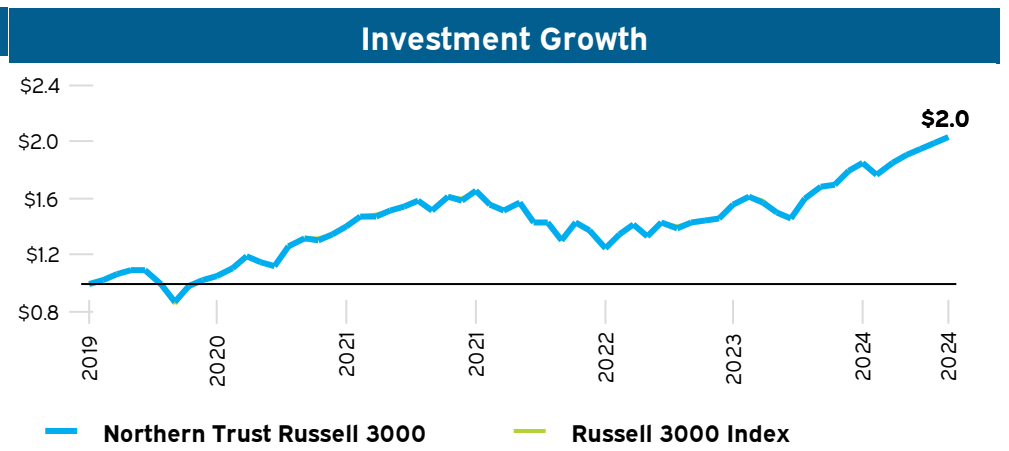
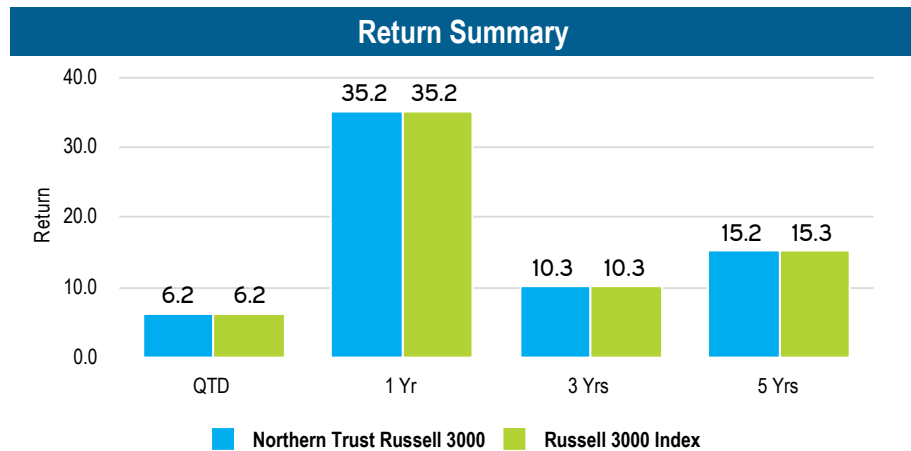
### Manager Performance - Gross of Fees | As of September 30, 2024

|  | Market Value \$    | QTR (%)    | 1 Yr (%)    | 3 Yrs (%)   | 5 Yrs (%)  |
|--|--------------------|------------|-------------|-------------|------------|
| <b>Core Fixed Income Composite</b>             | <b>451,516,430</b> | <b>5.7</b> | <b>13.0</b> | <b>-0.1</b> | <b>1.0</b> |
| <i>Fixed Income Core Composite Bench</i>       |                    | <i>4.7</i> | <i>10.5</i> | <i>-0.6</i> | <i>--</i>  |
| CS McKee                                       | 227,983,033        | 5.3        | 13.0        | -0.9        | 0.7        |
| <i>Blmbg. U.S. Aggregate Index</i>             |                    | <i>5.2</i> | <i>11.6</i> | <i>-1.4</i> | <i>0.3</i> |
| Garcia Hamilton                                | 223,533,397        | 6.1        | 13.1        | 0.6         | --         |
| <i>Blmbg. U.S. Aggregate Index</i>             |                    | <i>5.2</i> | <i>11.6</i> | <i>-1.4</i> | <i>0.3</i> |
| <b>Non-Core Fixed Income Composite</b>         | <b>122,361,696</b> | <b>2.4</b> | <b>10.1</b> | <b>4.5</b>  | <b>4.7</b> |
| <i>Fixed Income Non-Core Composite Bench</i>   |                    | <i>2.9</i> | <i>10.9</i> | <i>5.0</i>  | <i>4.6</i> |
| Mackay Shields (HY)                            | 63,387,250         | 3.2        | 11.9        | 5.5         | 5.9        |
| <i>ICE BofA ML US Corp Cash Pay BB-B 1-5Yr</i> |                    | <i>3.9</i> | <i>13.8</i> | <i>4.8</i>  | <i>4.7</i> |
| Federated Investment Counseling (Bank Loans)   | 58,974,446         | 1.6        | 8.4         | 3.5         | 3.4        |
| <i>60% CredSuisLevLoan/40% BBStGovCorp</i>     |                    | <i>1.9</i> | <i>8.1</i>  | <i>5.1</i>  | <i>4.4</i> |

### Manager Performance - Gross of Fees | As of September 30, 2024

|  | Market<br>Value \$ | QTR<br>(%)  | 1 Yr<br>(%) | 3 Yrs<br>(%) | 5 Yrs<br>(%) |
|--|--------------------|-------------|-------------|--------------|--------------|
| <b>Real Estate Composite</b>           | <b>53,812,113</b>  | <b>9.5</b>  | <b>14.0</b> | <b>4.6</b>   | <b>5.8</b>   |
| <i>Real Estate Composite Benchmark</i> |                    | <i>7.7</i>  | <i>13.5</i> | <i>4.3</i>   | <i>5.1</i>   |
| RREEF America II Lag                   | 53,588,843         | -0.9        | -8.1        | 2.4          | 3.7          |
| <i>NCREIF NPI Lag</i>                  |                    | <i>-0.3</i> | <i>-5.5</i> | <i>2.3</i>   | <i>3.4</i>   |
| CenterSquare                           | 223,270            | 18.9        | 38.6        | 6.3          | 7.0          |
| <i>FTSE NAREIT Equity REIT Index</i>   |                    | <i>16.1</i> | <i>34.7</i> | <i>5.1</i>   | <i>5.5</i>   |

| Statistics Summary                |       |      |                   |              |                |           |            |              |  |  |
|-----------------------------------|-------|------|-------------------|--------------|----------------|-----------|------------|--------------|--|--|
| 5 Years Ending September 30, 2024 |       |      |                   |              |                |           |            |              |  |  |
|                                   | Alpha | Beta | Information Ratio | Sharpe Ratio | Tracking Error | R-Squared | Up Capture | Down Capture |  |  |
| Northern Trust Russell 3000       | 0.0   | 1.0  | -0.4              | 0.7          | 0.1            | 1.0       | 99.8       | 99.8         |  |  |
| Russell 3000 Index                | 0.0   | 1.0  | -                 | 0.7          | 0.0            | 1.0       | 100.0      | 100.0        |  |  |

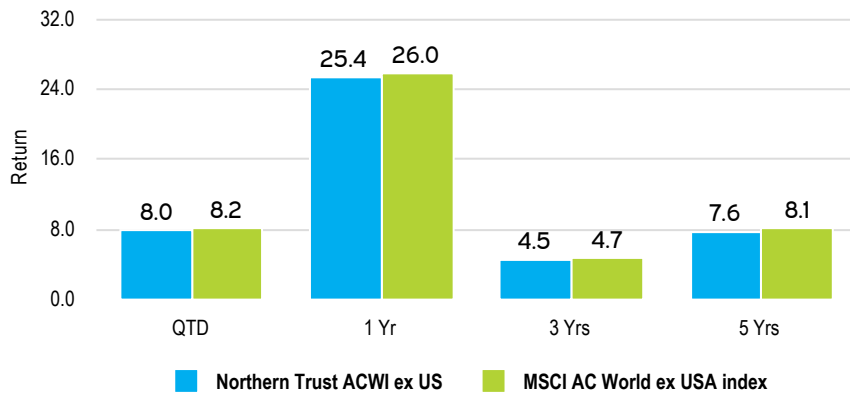


#### Statistics Summary

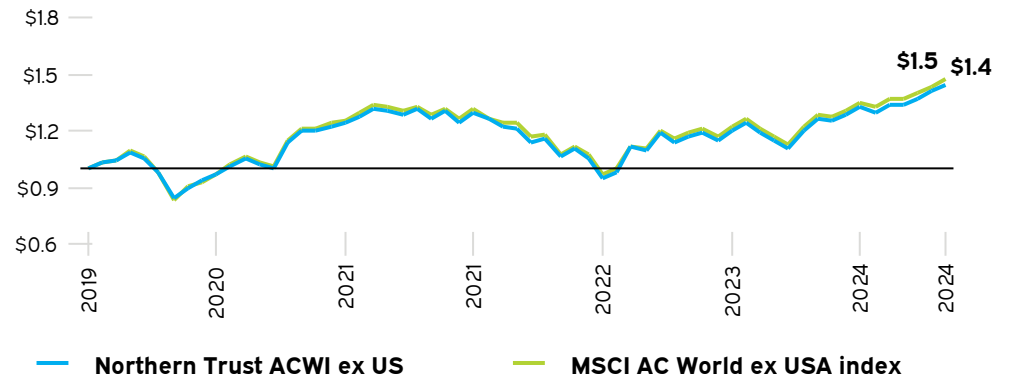
#### 5 Years Ending September 30, 2024

|                            | Alpha | Beta | Information Ratio | Sharpe Ratio | Tracking Error | R-Squared | Up Capture | Down Capture |
|----------------------------|-------|------|-------------------|--------------|----------------|-----------|------------|--------------|
| Northern Trust ACWI ex US  | -0.5  | 1.0  | -0.2              | 0.4          | 1.7            | 1.0       | 101.3      | 103.9        |
| MSCI AC World ex USA index | 0.0   | 1.0  | -                 | 0.4          | 0.0            | 1.0       | 100.0      | 100.0        |

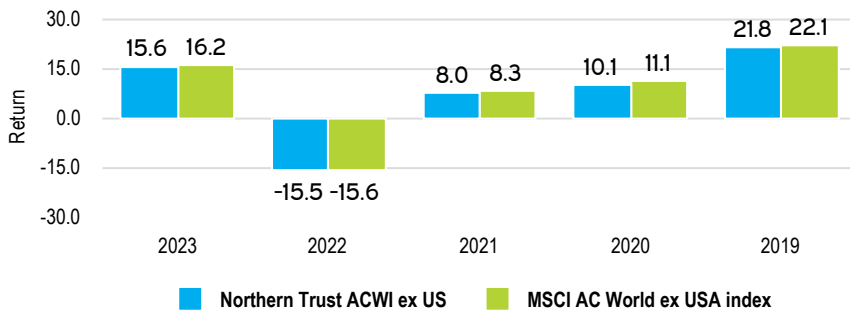
#### Return Summary



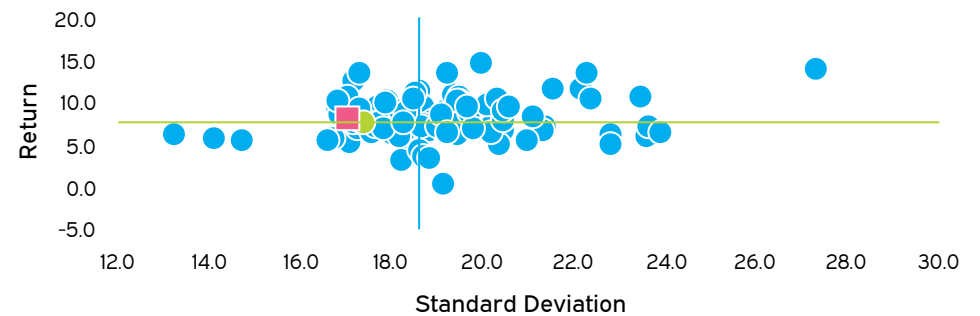
#### Investment Growth



#### Return Summary



#### Risk Reward

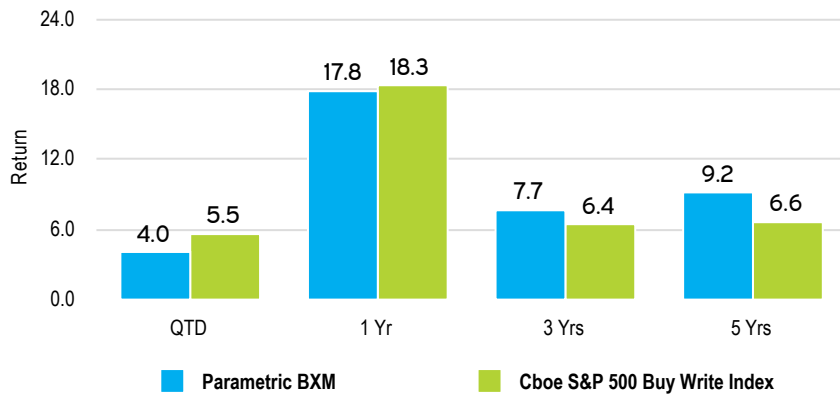


#### Statistics Summary

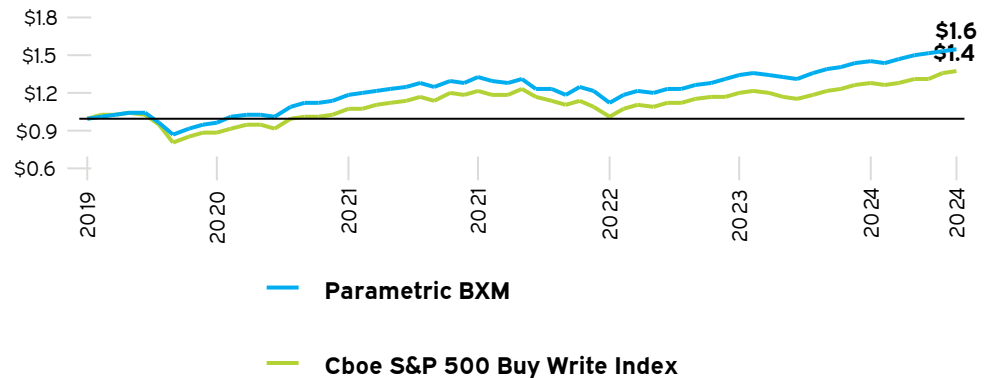
#### 5 Years Ending September 30, 2024

|                              | Alpha | Beta | Information Ratio | Sharpe Ratio | Tracking Error | R-Squared | Up Capture | Down Capture |
|------------------------------|-------|------|-------------------|--------------|----------------|-----------|------------|--------------|
| Parametric BXM               | 3.6   | 0.8  | 0.5               | 0.7          | 4.2            | 0.9       | 97.9       | 79.1         |
| Cboe S&P 500 Buy Write Index | 0.0   | 1.0  | -                 | 0.4          | 0.0            | 1.0       | 100.0      | 100.0        |

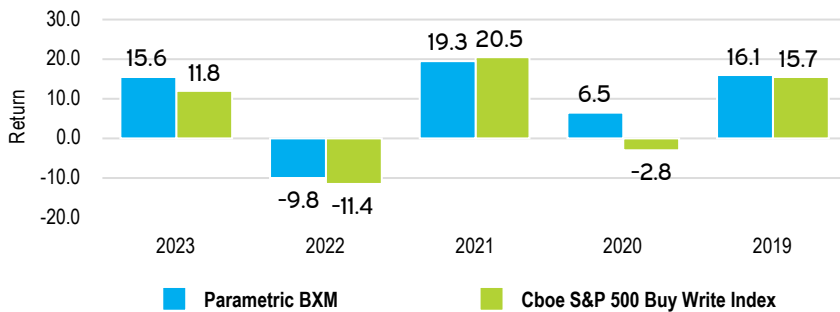
#### Return Summary



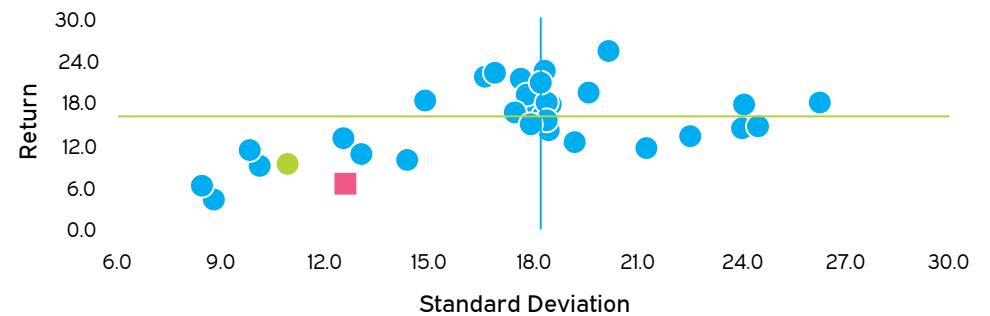
#### Investment Growth



#### Return Summary



#### Risk Reward

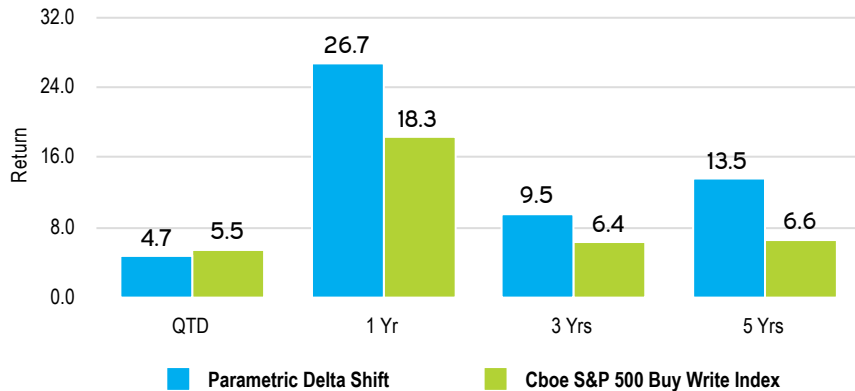


#### Statistics Summary

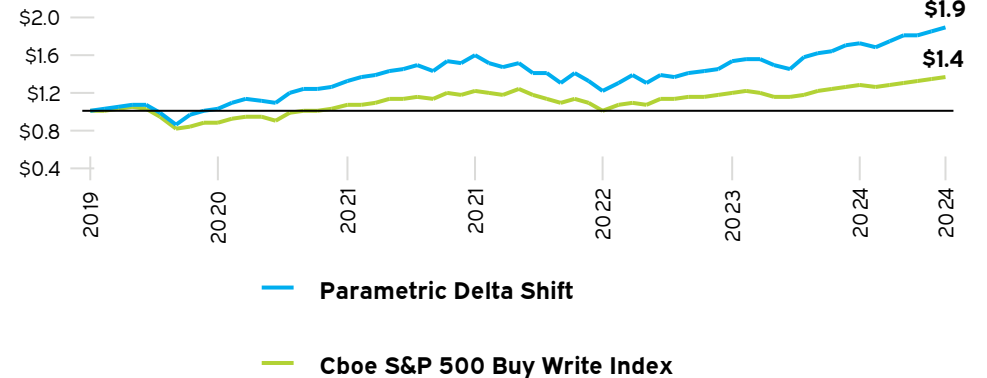
#### 5 Years Ending September 30, 2024

|                              | Alpha | Beta | Information Ratio | Sharpe Ratio | Tracking Error | R-Squared | Up Capture | Down Capture |
|------------------------------|-------|------|-------------------|--------------|----------------|-----------|------------|--------------|
| Parametric Delta Shift       | 5.8   | 1.2  | 0.9               | 0.7          | 7.4            | 0.8       | 150.4      | 125.0        |
| Cboe S&P 500 Buy Write Index | 0.0   | 1.0  | -                 | 0.4          | 0.0            | 1.0       | 100.0      | 100.0        |

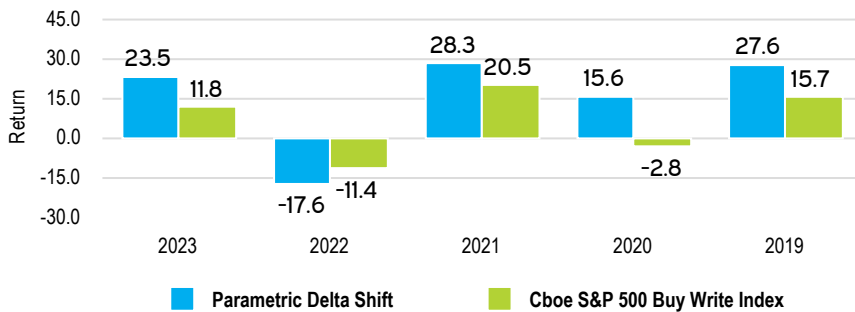
#### Return Summary



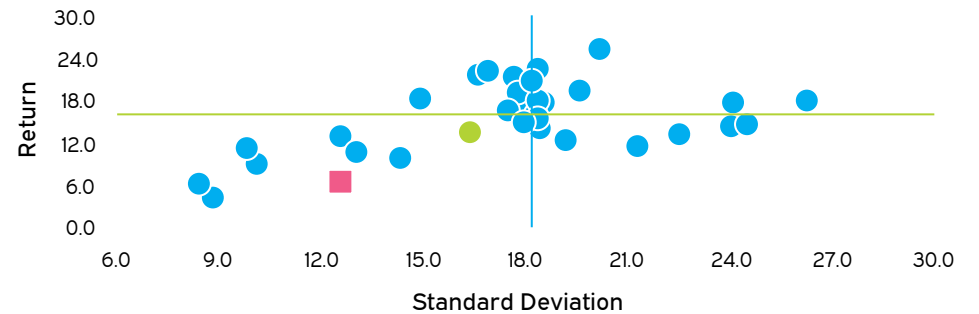
#### Investment Growth



#### Return Summary



#### Risk Reward

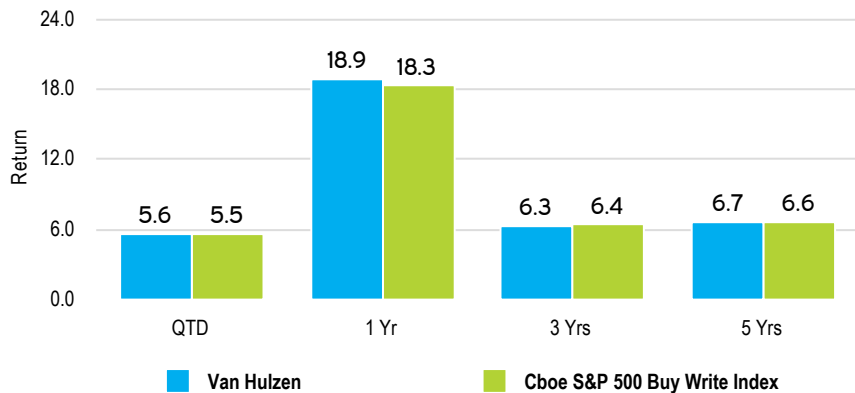


### Statistics Summary

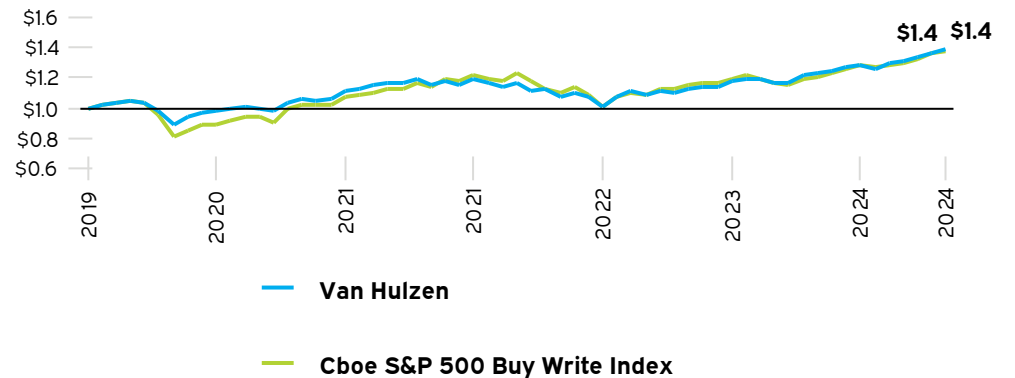
#### 5 Years Ending September 30, 2024

|                              | Alpha | Beta | Information Ratio | Sharpe Ratio | Tracking Error | R-Squared | Up Capture | Down Capture |
|------------------------------|-------|------|-------------------|--------------|----------------|-----------|------------|--------------|
| Van Hulzen                   | 1.9   | 0.7  | 0.0               | 0.5          | 5.4            | 0.8       | 84.5       | 77.5         |
| Cboe S&P 500 Buy Write Index | 0.0   | 1.0  | -                 | 0.4          | 0.0            | 1.0       | 100.0      | 100.0        |

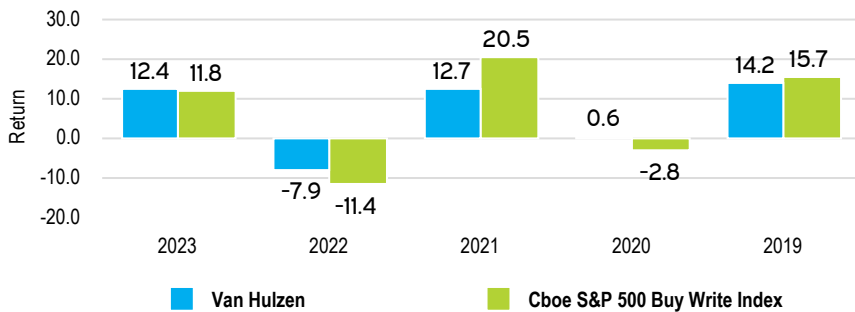
### Return Summary



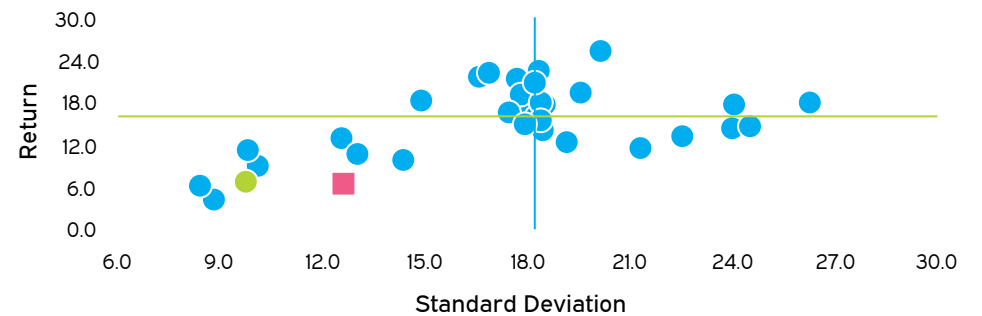
### Investment Growth



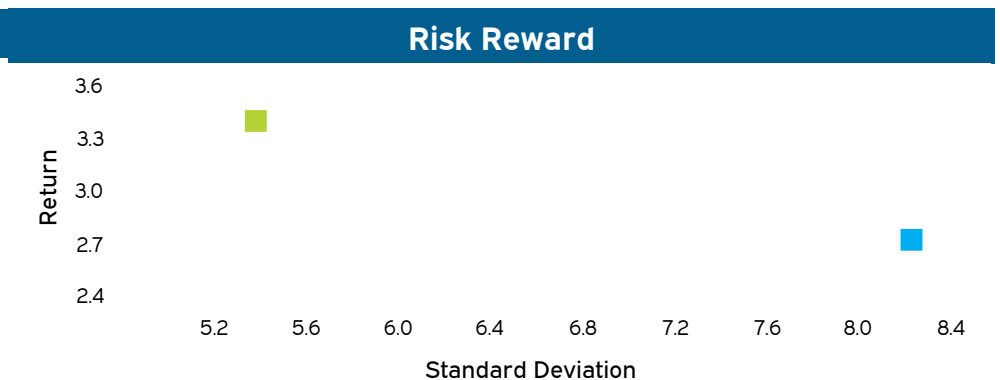
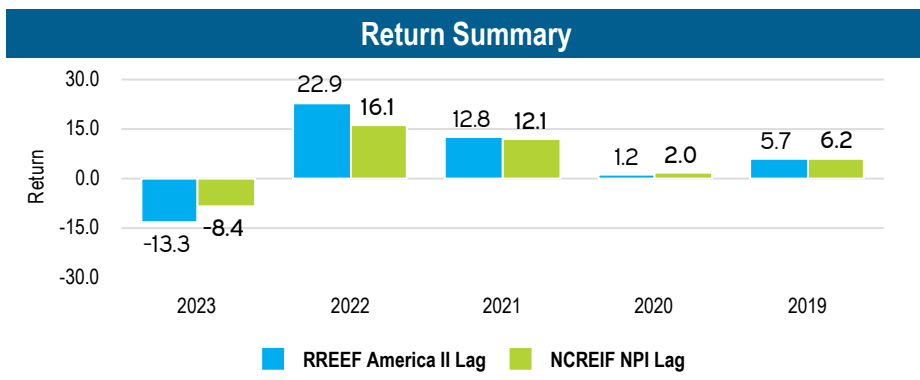
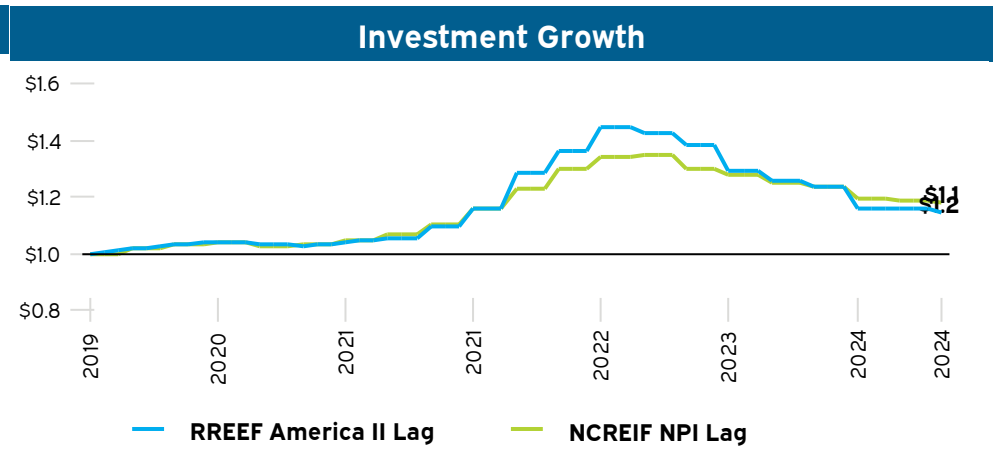
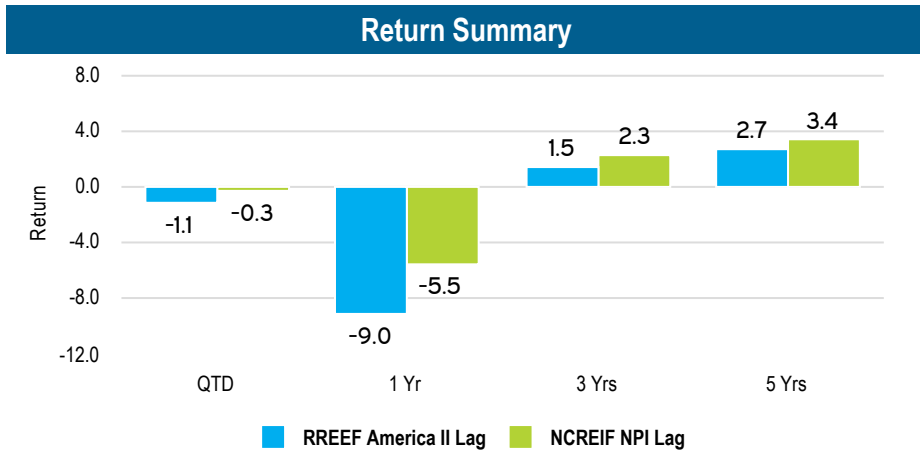
### Return Summary



### Risk Reward



| Statistics Summary                |       |      |                   |              |                |           |            |              |  |
|-----------------------------------|-------|------|-------------------|--------------|----------------|-----------|------------|--------------|--|
| 5 Years Ending September 30, 2024 |       |      |                   |              |                |           |            |              |  |
|                                   | Alpha | Beta | Information Ratio | Sharpe Ratio | Tracking Error | R-Squared | Up Capture | Down Capture |  |
| RREEF America II Lag              | -1.7  | 1.4  | -0.1              | 0.1          | 3.9            | 0.8       | 117.2      | 155.9        |  |
| NCREIF NPI Lag                    | 0.0   | 1.0  | -                 | 0.2          | 0.0            | 1.0       | 100.0      | 100.0        |  |

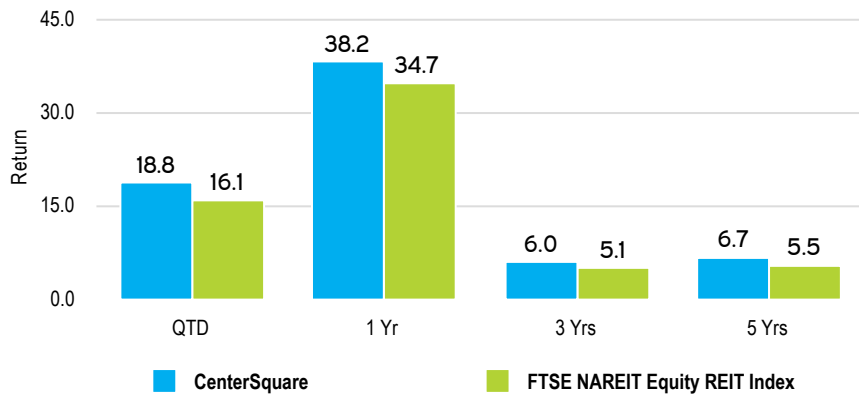


### Statistics Summary

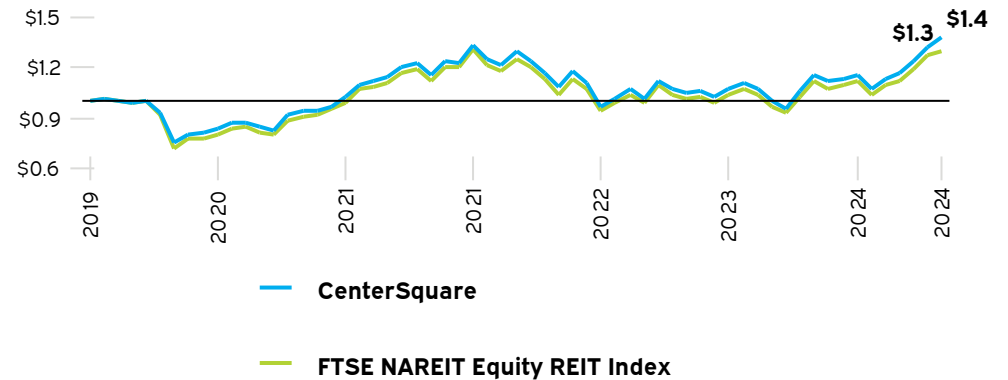
#### 5 Years Ending September 30, 2024

|                               | Alpha | Beta | Information Ratio | Sharpe Ratio | Tracking Error | R-Squared | Up Capture | Down Capture |
|-------------------------------|-------|------|-------------------|--------------|----------------|-----------|------------|--------------|
| CenterSquare                  | 1.2   | 1.0  | 0.6               | 0.3          | 1.8            | 1.0       | 101.1      | 97.5         |
| FTSE NAREIT Equity REIT Index | 0.0   | 1.0  | -                 | 0.3          | 0.0            | 1.0       | 100.0      | 100.0        |

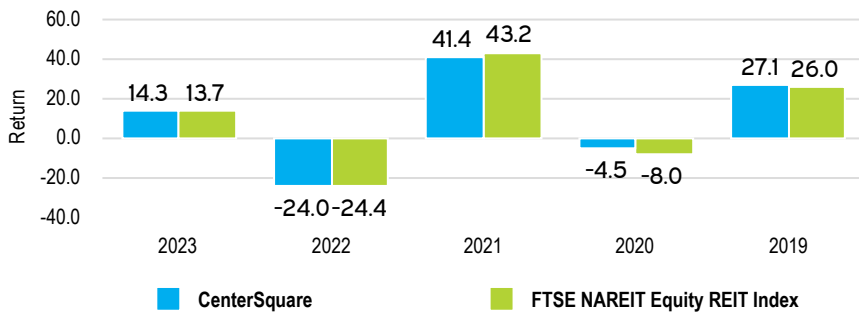
### Return Summary



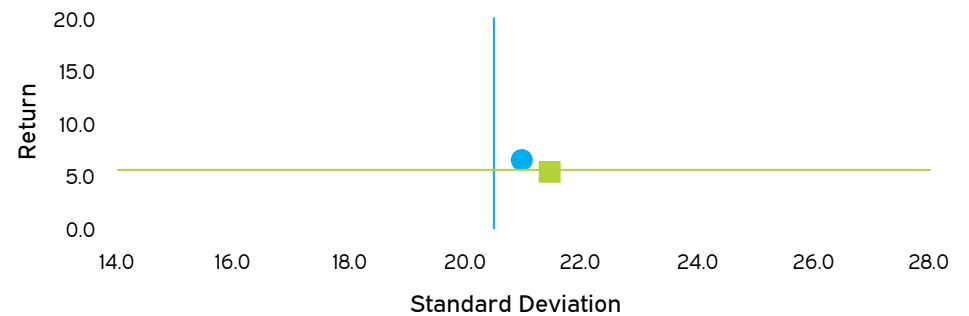
### Investment Growth



### Return Summary



### Risk Reward

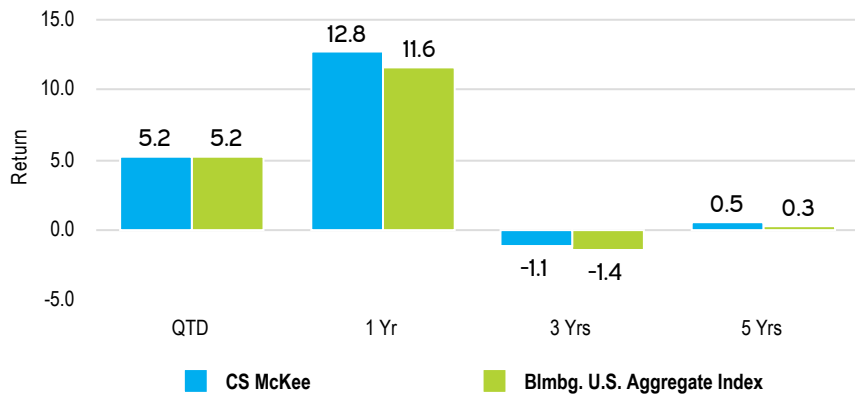


### Statistics Summary

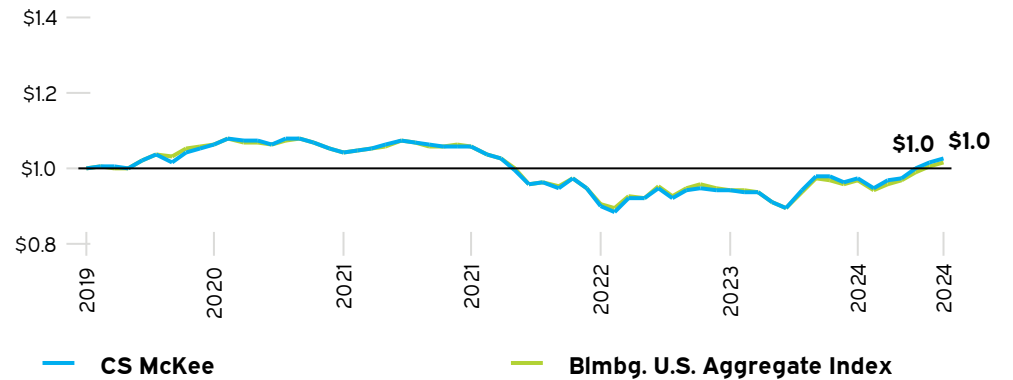
#### 5 Years Ending September 30, 2024

|                             | Alpha | Beta | Information Ratio | Sharpe Ratio | Tracking Error | R-Squared | Up Capture | Down Capture |
|-----------------------------|-------|------|-------------------|--------------|----------------|-----------|------------|--------------|
| CS McKee                    | 0.2   | 1.0  | 0.2               | -0.2         | 0.9            | 1.0       | 105.8      | 103.3        |
| Blmbg. U.S. Aggregate Index | 0.0   | 1.0  | -                 | -0.3         | 0.0            | 1.0       | 100.0      | 100.0        |

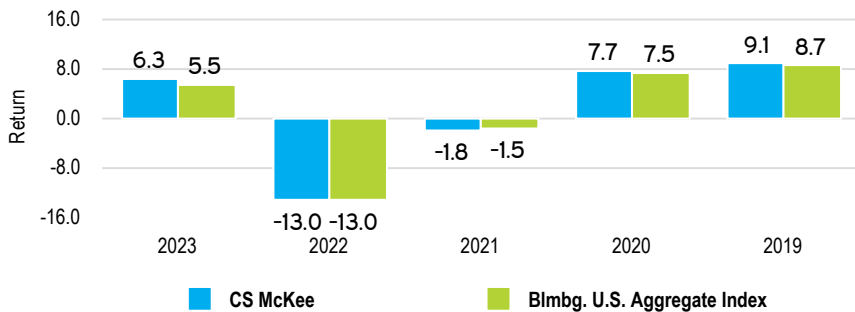
### Return Summary



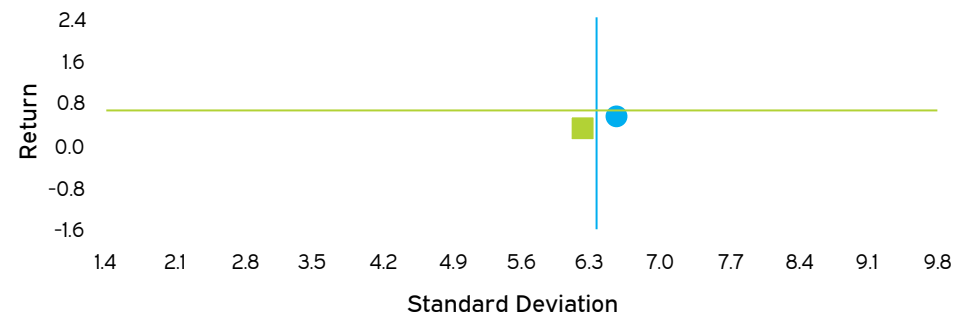
### Investment Growth



### Return Summary



### Risk Reward

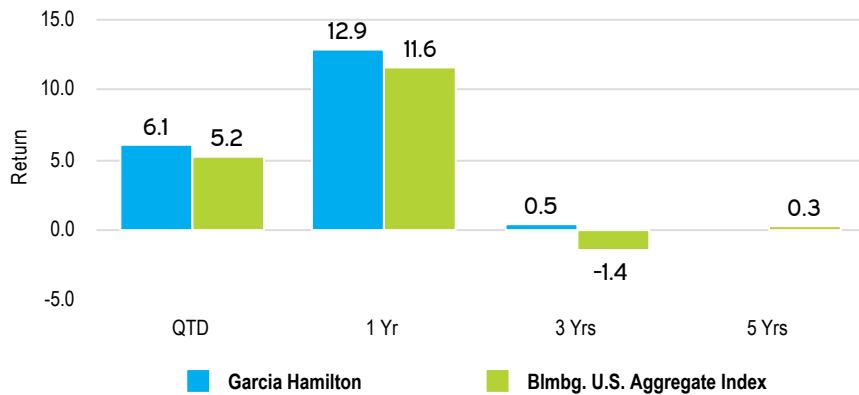


### Statistics Summary

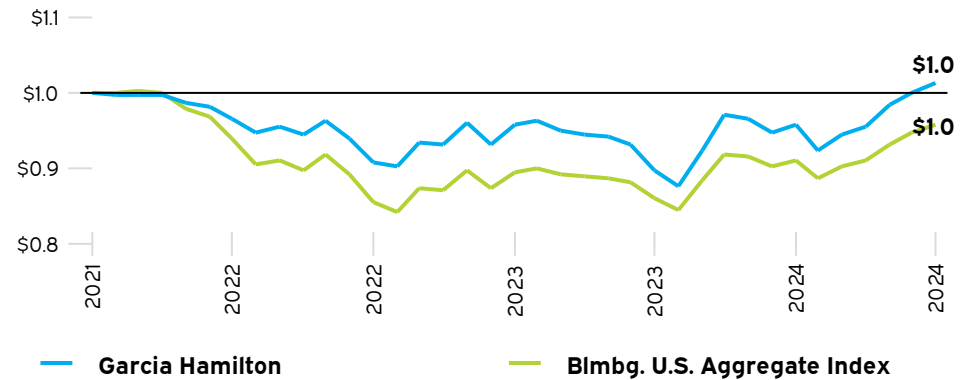
#### 3 Years Ending September 30, 2024

|                             | Alpha | Beta | Information Ratio | Sharpe Ratio | Tracking Error | R-Squared | Up Capture | Down Capture |
|-----------------------------|-------|------|-------------------|--------------|----------------|-----------|------------|--------------|
| Garcia Hamilton             | 1.9   | 1.0  | 0.9               | -0.3         | 2.2            | 0.9       | 112.0      | 94.1         |
| Blmbg. U.S. Aggregate Index | 0.0   | 1.0  | -                 | -0.6         | 0.0            | 1.0       | 100.0      | 100.0        |

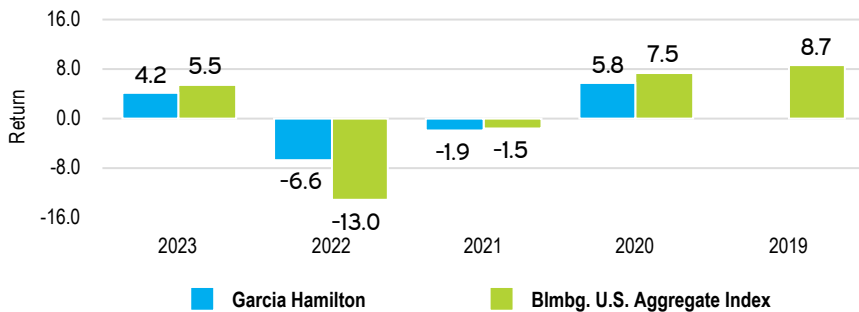
### Return Summary



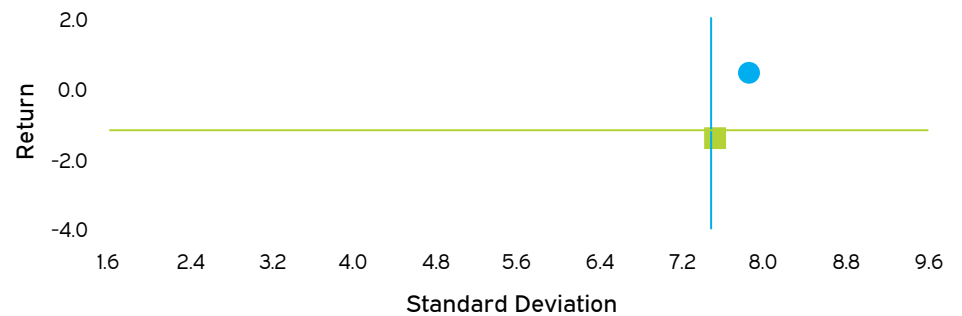
### Investment Growth



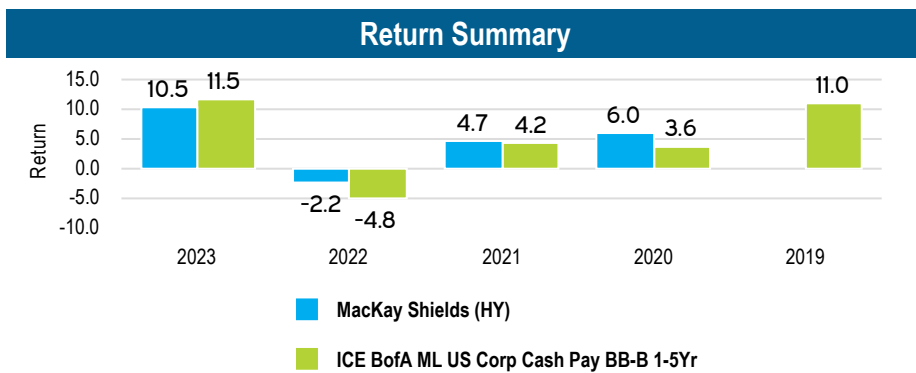
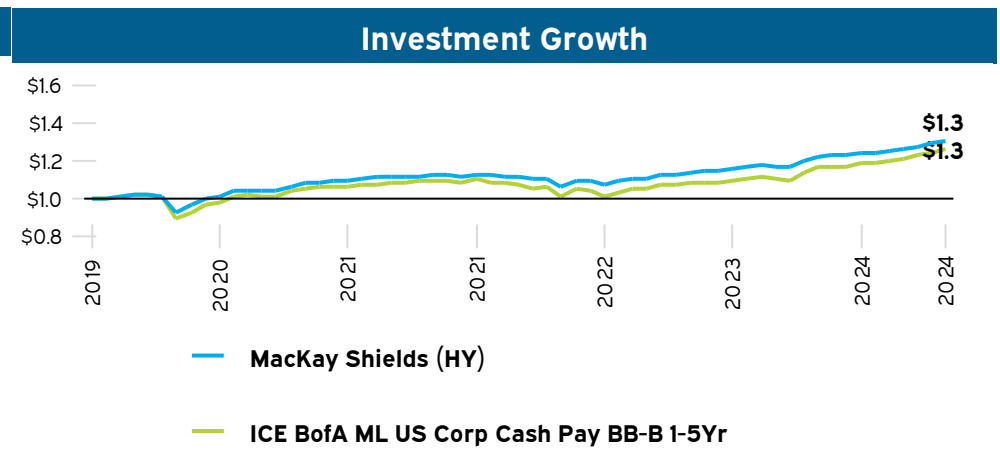
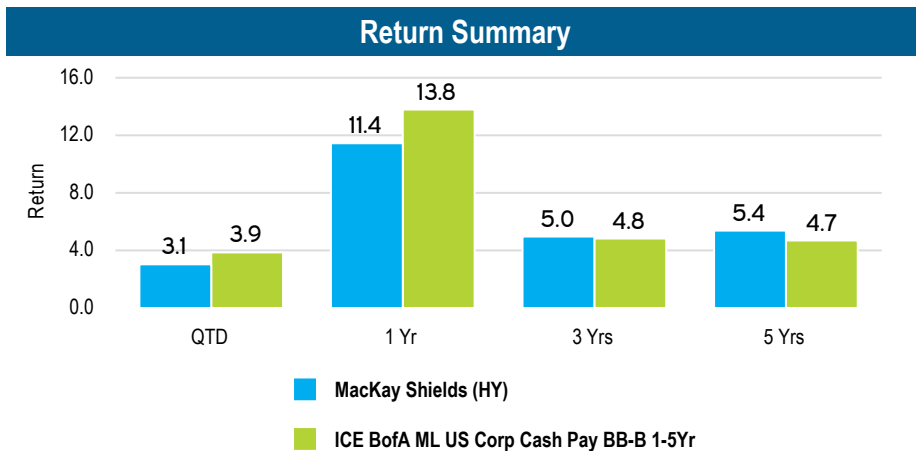
### Return Summary



### Risk Reward



| Statistics Summary                      |       |      |                   |              |                |           |            |              |  |
|---|-------|------|-------------------|--------------|----------------|-----------|------------|--------------|--|
| 5 Years Ending September 30, 2024       |       |      |                   |              |                |           |            |              |  |
|   | Alpha | Beta | Information Ratio | Sharpe Ratio | Tracking Error | R-Squared | Up Capture | Down Capture |  |
| Mackay Shields (HY)                     | 1.9   | 0.7  | 0.2               | 0.6          | 2.3            | 1.0       | 83.5       | 61.0         |  |
| ICE BofA ML US Corp Cash Pay BB-B 1-5Yr | 0.0   | 1.0  | -                 | 0.3          | 0.0            | 1.0       | 100.0      | 100.0        |  |

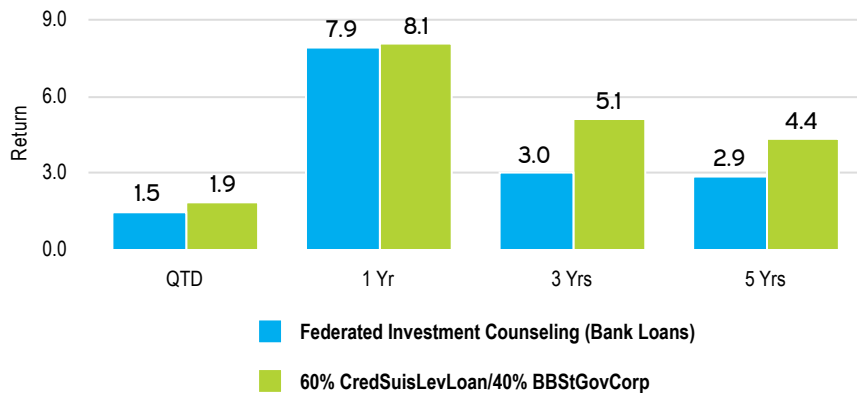


#### Statistics Summary

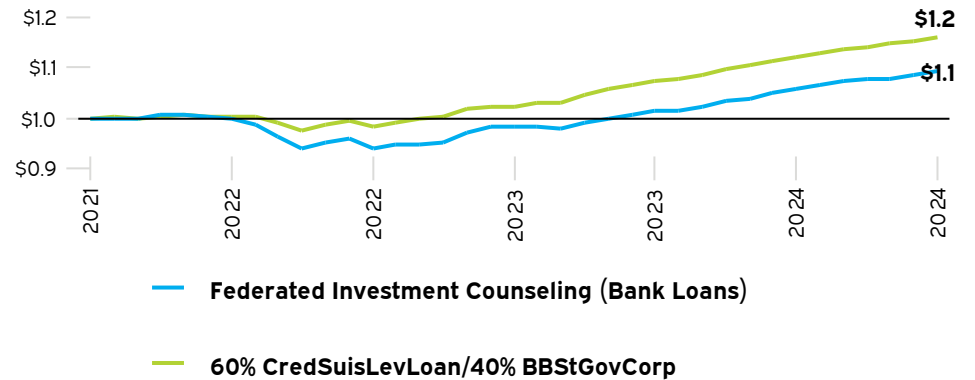
#### 3 Years Ending September 30, 2024

|  | Alpha | Beta | Information Ratio | Sharpe Ratio | Tracking Error | R-Squared | Up Capture | Down Capture |
|--|-------|------|-------------------|--------------|----------------|-----------|------------|--------------|
| Federated Investment Counseling (Bank Loans) | -3.7  | 1.4  | -1.3              | -0.1         | 1.5            | 0.9       | 89.2       | 183.5        |
| 60% CredSuisLevLoan/40% BBStGovCorp          | 0.0   | 1.0  | -                 | 0.7          | 0.0            | 1.0       | 100.0      | 100.0        |

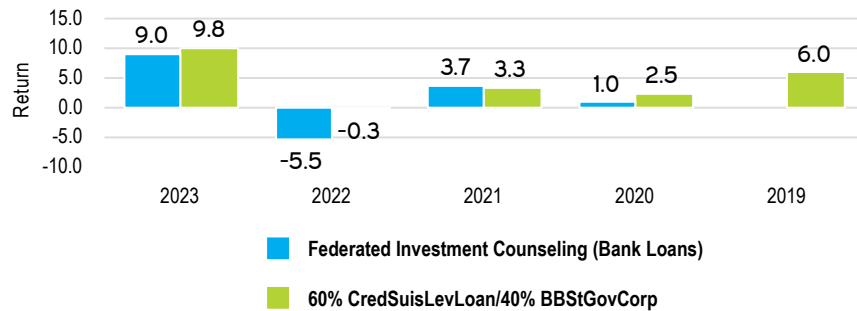
#### Return Summary



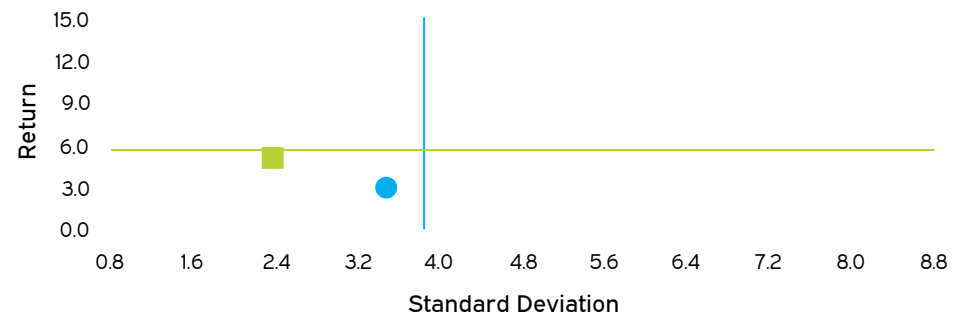
#### Investment Growth



#### Return Summary



#### Risk Reward



|   | Market<br>Value \$   | QTR<br>(%) | 1 Yr<br>(%) | 3 Yrs<br>(%) | 5 Yrs<br>(%) |
|---|----------------------|------------|-------------|--------------|--------------|
| <b>EBMUDERS Total Plan Composite</b>    | <b>2,656,871,374</b> | <b>6.2</b> | <b>23.2</b> | <b>5.8</b>   | <b>8.7</b>   |
| <i>Total Plan Bench</i>                 |                      | <i>6.2</i> | <i>22.5</i> | <i>5.6</i>   | <i>8.0</i>   |
| <b>US Equity Composite</b>              | <b>1,003,015,282</b> | <b>6.2</b> | <b>35.2</b> | <b>10.3</b>  | <b>15.2</b>  |
| <i>Russell 3000 Hybrid</i>              |                      | <i>6.2</i> | <i>35.2</i> | <i>10.3</i>  | <i>15.3</i>  |
| Northern Trust Russell 3000             | 1,002,195,816        | 6.2        | 35.2        | 10.3         | 15.2         |
| <i>Russell 3000 Index</i>               |                      | <i>6.2</i> | <i>35.2</i> | <i>10.3</i>  | <i>15.3</i>  |
| <b>Non US Equity Composite</b>          | <b>658,196,323</b>   | <b>8.0</b> | <b>25.4</b> | <b>4.5</b>   | <b>8.0</b>   |
| <i>MSCI ACWI xUS (blend)</i>            |                      | <i>8.2</i> | <i>26.0</i> | <i>4.7</i>   | <i>8.1</i>   |
| Northern Trust ACWI ex US               | 658,196,323          | 8.0        | 25.4        | 4.5          | 7.6          |
| <i>MSCI AC World ex USA index</i>       |                      | <i>8.2</i> | <i>26.0</i> | <i>4.7</i>   | <i>8.1</i>   |
| <b>Covered Calls Composite</b>          | <b>365,830,151</b>   | <b>4.8</b> | <b>21.2</b> | <b>7.9</b>   | <b>10.0</b>  |
| <i>Cboe S&amp;P 500 Buy Write Index</i> |                      | <i>5.5</i> | <i>18.3</i> | <i>6.4</i>   | <i>6.6</i>   |
| Parametric BXM                          | 177,232,457          | 4.0        | 17.8        | 7.7          | 9.2          |
| <i>Cboe S&amp;P 500 Buy Write Index</i> |                      | <i>5.5</i> | <i>18.3</i> | <i>6.4</i>   | <i>6.6</i>   |
| Parametric Delta Shift                  | 188,416,693          | 4.7        | 26.7        | 9.5          | 13.5         |
| <i>Cboe S&amp;P 500 Buy Write Index</i> |                      | <i>5.5</i> | <i>18.3</i> | <i>6.4</i>   | <i>6.6</i>   |
| Van Hulzen                              | 181,001              | 5.6        | 18.9        | 6.3          | 6.7          |
| <i>Cboe S&amp;P 500 Buy Write Index</i> |                      | <i>5.5</i> | <i>18.3</i> | <i>6.4</i>   | <i>6.6</i>   |

### Manager Performance - Net of Fees | As of September 30, 2024

|  | Market Value \$    | QTR (%)     | 1 Yr (%)    | 3 Yrs (%)   | 5 Yrs (%)  |
|--|--------------------|-------------|-------------|-------------|------------|
| <b>Core Fixed Income Composite</b>             | <b>451,516,430</b> | <b>5.7</b>  | <b>12.9</b> | <b>-0.3</b> | <b>0.9</b> |
| <i>Fixed Income Core Composite Bench</i>       |                    | <i>4.7</i>  | <i>10.5</i> | <i>-0.6</i> | <i>--</i>  |
| CS McKee                                       | 227,983,033        | 5.2         | 12.8        | -1.1        | 0.5        |
| <i>Blmbg. U.S. Aggregate Index</i>             |                    | <i>5.2</i>  | <i>11.6</i> | <i>-1.4</i> | <i>0.3</i> |
| Garcia Hamilton                                | 223,533,397        | 6.1         | 12.9        | 0.5         | --         |
| <i>Blmbg. U.S. Aggregate Index</i>             |                    | <i>5.2</i>  | <i>11.6</i> | <i>-1.4</i> | <i>0.3</i> |
| <b>Non-Core Fixed Income Composite</b>         | <b>122,361,696</b> | <b>2.3</b>  | <b>9.7</b>  | <b>4.1</b>  | <b>4.3</b> |
| <i>Fixed Income Non-Core Composite Bench</i>   |                    | <i>2.9</i>  | <i>10.9</i> | <i>5.0</i>  | <i>4.6</i> |
| Mackay Shields (HY)                            | 63,387,250         | 3.1         | 11.4        | 5.0         | 5.4        |
| <i>ICE BofA ML US Corp Cash Pay BB-B 1-5Yr</i> |                    | <i>3.9</i>  | <i>13.8</i> | <i>4.8</i>  | <i>4.7</i> |
| Federated Investment Counseling (Bank Loans)   | 58,974,446         | 1.5         | 7.9         | 3.0         | 2.9        |
| <i>60% CredSuisLevLoan/40% BBStGovCorp</i>     |                    | <i>1.9</i>  | <i>8.1</i>  | <i>5.1</i>  | <i>4.4</i> |
| <b>Real Estate Composite</b>                   | <b>53,812,113</b>  | <b>9.3</b>  | <b>13.3</b> | <b>4.1</b>  | <b>5.2</b> |
| <i>Real Estate Composite Benchmark</i>         |                    | <i>7.7</i>  | <i>13.5</i> | <i>4.3</i>  | <i>5.1</i> |
| RREEF America II Lag                           | 53,588,843         | -1.1        | -9.0        | 1.5         | 2.7        |
| <i>NCREIF NPI Lag</i>                          |                    | <i>-0.3</i> | <i>-5.5</i> | <i>2.3</i>  | <i>3.4</i> |
| CenterSquare                                   | 223,270            | 18.8        | 38.2        | 6.0         | 6.7        |
| <i>FTSE NAREIT Equity REIT Index</i>           |                    | <i>16.1</i> | <i>34.7</i> | <i>5.1</i>  | <i>5.5</i> |

|                            | Market Value \$  | QTR (%)    | 1 Yr (%)   | 3 Yrs (%)  | 5 Yrs (%)  |
|----------------------------|------------------|------------|------------|------------|------------|
| <b>Cash Composite</b>      | <b>2,139,380</b> | <b>1.3</b> | <b>4.5</b> | <b>3.0</b> | <b>2.3</b> |
| Cash LAIF                  | 2,139,380        | 1.3        | 4.5        | 3.0        | 2.3        |
| <i>FTSE 3 Month T-Bill</i> |                  | <i>1.4</i> | <i>5.6</i> | <i>3.6</i> | <i>2.4</i> |

### Benchmark History

| From Date                            | To Date    | Benchmark  |
|--------------------------------------|------------|--|
| <b>EBMUDERS Total Plan Composite</b> |            |  |
| 12/01/2019                           | Present    | 2.5% FTSE NAREIT Equity REIT Index, 25.0% Russell 3000 Index, 10.0% Blmbg. Intermed. U.S. Government/Credit, 10.0% Blmbg. U.S. Aggregate Index, 25.0% MSCI AC World ex USA index, 2.5% Morningstar LSTA U.S. Performing Loans, 20.0% Cboe S&P 500 Buy Write Index, 2.5% 60% CredSuisLevLoan/40% BBStGovCorp, 2.5% ICE BofA ML US Corp Cash Pay BB-B 1-5Yr                                  |
| 03/01/2019                           | 12/01/2019 | 2.5% FTSE NAREIT Equity REIT Index, 25.0% Russell 3000 Index, 5.0% Bloomberg U.S. Gov/Credit 1-3 Year Index, 15.0% Blmbg. U.S. Aggregate Index, 25.0% MSCI AC World ex USA index, 2.5% Morningstar LSTA U.S. Performing Loans, 20.0% Cboe S&P 500 Buy Write Index, 2.5% 60% CredSuisLevLoan/40% BBStGovCorp, 2.5% 50% BBG EM Hard Cur Agg: Sovereign/50% BBG EM USD Aggregate Corporate TR |
| 07/01/2018                           | 03/01/2019 | 2.5% FTSE NAREIT Equity REIT Index, 25.0% Russell 3000 Index, 5.0% Bloomberg U.S. Gov/Credit 1-3 Year Index, 15.0% Blmbg. U.S. Aggregate Index, 25.0% MSCI AC World ex USA index, 2.5% Morningstar LSTA U.S. Performing Loans, 2.5% Blmbg. U.S. High Yield 1-5 Yr Cash Pay 2%, 20.0% Cboe S&P 500 Buy Write Index, 2.5% NCREIF NPI Lag   |
| 04/01/2014                           | 07/01/2018 | 2.5% FTSE NAREIT Equity REIT Index, 40.0% Russell 3000 Index, 5.0% Bloomberg U.S. Gov/Credit 1-3 Year Index, 10.0% Blmbg. U.S. Aggregate Index, 15.0% MSCI AC World ex USA index, 2.5% Morningstar LSTA U.S. Performing Loans, 2.5% Blmbg. U.S. High Yield 1-5 Yr Cash Pay 2%, 20.0% Cboe S&P 500 Buy Write Index, 2.5% NCREIF NPI Lag   |
| 03/01/2014                           | 04/01/2014 | 2.5% FTSE NAREIT Equity REIT Index, 40.0% Russell 3000 Index, 15.0% Blmbg. U.S. Aggregate Index, 15.0% MSCI AC World ex USA index, 2.5% Morningstar LSTA U.S. Performing Loans, 2.5% Blmbg. U.S. High Yield 1-5 Yr Cash Pay 2%, 20.0% Cboe S&P 500 Buy Write Index, 2.5% NCREIF NPI Lag  |
| 11/01/2011                           | 03/01/2014 | 2.5% FTSE NAREIT Equity REIT Index, 50.0% Russell 3000 Index, 20.0% MSCI AC World ex USA index, 25.0% Blmbg. U.S. Universal Index, 2.5% NCREIF NPI Lag   |
| 01/01/2008                           | 11/01/2011 | 50.0% Russell 3000 Index, 20.0% MSCI AC World ex USA index, 25.0% Blmbg. U.S. Universal Index, 5.0% NCREIF NPI Lag   |
| 01/01/2007                           | 01/01/2008 | 50.0% Russell 3000 Index, 25.0% Blmbg. U.S. Aggregate Index, 20.0% MSCI AC World ex USA index, 5.0% NCREIF NPI Lag   |
| 10/01/2005                           | 01/01/2007 | 50.0% Russell 3000 Index, 25.0% Blmbg. U.S. Aggregate Index, 20.0% MSCI EAFE (Net), 5.0% NCREIF NPI Lag  |
| 04/01/2005                           | 10/01/2005 | 10.0% Russell 2000 Index, 30.0% S&P 500 Index, 10.0% S&P MidCap 400 Index, 25.0% Blmbg. U.S. Aggregate Index, 20.0% MSCI EAFE (Net), 5.0% NCREIF NPI Lag   |
| 09/01/1998                           | 04/01/2005 | 10.0% Russell 2000 Index, 33.0% S&P 500 Index, 10.0% S&P MidCap 400 Index, 30.0% Blmbg. U.S. Aggregate Index, 17.0% MSCI EAFE (Net)  |
| 07/01/1978                           | 09/01/1998 | 30.0% S&P 500 Index, 30.0% Blmbg. U.S. Aggregate Index, 5.0% FTSE 3 Month T-Bill, 15.0% MSCI EAFE (Net), 5.0% NCREIF NPI Lag, 15.0% Wilshire 5000 Total Market Index   |

| From Date   | To Date    | Benchmark  |
|---|------------|--|
| <b>Fixed Income Composite</b>                       |            |  |
| 02/01/2023  | Present    | 80.0% Blmbg. U.S. Aggregate Index, 10.0% 60% CredSuisLevLoan/40% BBStGovCorp, 10.0% ICE BofA ML US Corp Cash Pay BB-B 1-5Yr  |
| 12/01/2019  | 02/01/2023 | 40.0% Blmbg. Intermed. U.S. Government/Credit, 40.0% Blmbg. U.S. Aggregate Index, 10.0% 60% CredSuisLevLoan/40% BBStGovCorp, 10.0% ICE BofA ML US Corp Cash Pay BB-B 1-5Yr       |
| 03/01/2019  | 12/01/2019 | 20.0% Bloomberg U.S. Gov/Credit 1-3 Year Index, 60.0% Blmbg. U.S. Aggregate Index, 10.0% 60% CredSuisLevLoan/40% BBStGovCorp, 10.0% ICE BofA ML US Corp Cash Pay BB-B 1-5Yr      |
| 07/01/2018  | 03/01/2019 | 20.0% Bloomberg U.S. Gov/Credit 1-3 Year Index, 60.0% Blmbg. U.S. Aggregate Index, 10.0% Morningstar LSTA U.S. Performing Loans, 10.0% Blmbg. U.S. High Yield 1-5 Yr Cash Pay 2% |
| 04/01/2014  | 07/01/2018 | 25.0% Bloomberg U.S. Gov/Credit 1-3 Year Index, 50.0% Blmbg. U.S. Aggregate Index, 12.5% Morningstar LSTA U.S. Performing Loans, 12.5% Blmbg. U.S. High Yield 1-5 Yr Cash Pay 2% |
| 03/01/2014  | 04/01/2014 | 75.0% Blmbg. U.S. Aggregate Index, 12.5% Morningstar LSTA U.S. Performing Loans, 12.5% Blmbg. U.S. High Yield 1-5 Yr Cash Pay 2%   |
| 01/01/2008  | 03/01/2014 | 100.0% Blmbg. U.S. Universal Index   |
| 01/01/1976  | 01/01/2008 | 100.0% Blmbg. U.S. Aggregate Index   |
| <b>Fixed Income Core Fixed Income Composite</b>     |            |  |
| 12/01/2019  | Present    | 50.0% Blmbg. Intermed. U.S. Government/Credit, 50.0% Blmbg. U.S. Aggregate Index   |
| <b>Fixed Income Non-Core Fixed Income Composite</b> |            |  |
| 12/01/2019  | Present    | 50.0% 60% CredSuisLevLoan/40% BBStGovCorp, 50.0% ICE BofA ML US Corp Cash Pay BB-B 1-5Yr   |
| 03/01/2019  | 12/01/2019 | 50.0% Bloomberg U.S. Gov/Credit 1-3 Year Index, 25.0% 60% CredSuisLevLoan/40% BBStGovCorp, 25.0% ICE BofA ML US Corp Cash Pay BB-B 1-5Yr   |
| 03/01/2014  | 03/01/2019 | 50.0% Bloomberg U.S. Gov/Credit 1-3 Year Index, 25.0% Morningstar LSTA U.S. Performing Loans, 25.0% Blmbg. U.S. High Yield 1-5 Yr Cash Pay 2%                                    |
| <b>Real Estate Composite</b>                        |            |  |
| 11/01/2011  | Present    | 50.0% NCREIF NPI Lag, 50.0% FTSE NAREIT Equity REIT Index  |
| 10/01/1998  | 11/01/2011 | 100.0% NCREIF NPI Lag  |
| 04/01/1978  | 10/01/1998 | 100.0% NCREIF Property Index   |

| From Date              | To Date | Benchmark                   |
|------------------------|---------|-----------------------------|
| <b>Garcia Hamilton</b> |         |                             |
| 11/01/2019             | Present | Blmbg. U.S. Aggregate Index |

## **Manager Watch Screens**

### Performance Monitoring Summary

| Portfolio | Violation Type (Window) <sup>1</sup> | Date of Initial Violation | Correction Action(s) | Current Status |                                  |                             |   |
|-----------|--------------------------------------|---------------------------|----------------------|----------------|----------------------------------|-----------------------------|---|
|           |                                      |                           |                      | Current Status | Est. Beg. Date of Current Status | Months Since Est. Beg. Date | Performance Since Est. Beg. Date <sup>2,3</sup> |
| --        | --                                   | --                        | --                   | --             | --                               | --                          | --  |
| --        | --                                   | --                        | --                   | --             | --                               | --                          | --  |

→ No managers are currently on watch

<sup>1</sup> Defined as: Short-Term (12 months), Medium-Term (36 months), Long-Term (60 months).

<sup>2</sup> Annualized for periods greater than 12 months.

<sup>3</sup> Performance figures not yet available.

### Quantitative Compliance Monitoring per Watch Criteria

#### Active Management Criteria

- Active investment managers are expected to outperform their respective passive benchmarks related to both their asset class and investment style.
- Relative excess performance that falls below the red acceptable threshold stated in the Watch Criteria for six consecutive months may be a trigger for Watch status.

#### Passive Management Criteria

- Passive investment managers are expected to track the performance of their respective passive benchmarks related to both their asset class and their investment style.
- Tracking error is a measure of how closely a portfolio follows the index to which it is benchmarked.
- For short- and medium-term performance monitoring, a portfolio with tracking error that is above the red acceptable threshold stated in the Watch Criteria for six consecutive months may be a trigger for Watch status.
- For long-term performance monitoring, relative excess performance that falls below the red acceptable threshold stated in the Watch Criteria for six consecutive months may be a trigger for Watch status.

#### Quantitative Monitoring Results - Overall Status Summary

|                                | Prior Qtr Status | Current Qtr Status |
|--------------------------------|------------------|--------------------|
| Northern Trust – R3000         | Acceptable       | Acceptable         |
| Northern Trust – ACWixUS       | Acceptable       | Acceptable         |
| Parametric – BXM               | Acceptable       | Acceptable         |
| Parametric – Delta Shift       | Acceptable       | Acceptable         |
| CS McKee                       | Acceptable       | Acceptable         |
| Garcia Hamilton                | Acceptable       | Acceptable         |
| Mackay Shields – Short Term HY | Acceptable       | Acceptable         |
| Federated – Bank Loans         | Acceptable       | Acceptable         |

### Investment Performance Criteria by Asset Class

| Asset Class                   | Short-term<br>(rolling 12-month periods) | Medium-term<br>(rolling 36-month periods)  | Long-term<br>(60+ months)   |
|-------------------------------|--|--|---|
| Domestic Equity - Passive     | Tracking error > 0.30%                   | Tracking error > 0.25% for 6 consecutive months                                      | Fund annualized return < benchmark annualized return -0.40% for 6 consecutive months  |
| Non-US Equity - Passive       | Tracking error > 1.75%                   | Tracking error > 1.5% for 6 consecutive months                                       | Fund annualized return < benchmark annualized return - 0.50% for 6 consecutive months |
| Covered Calls - Active        | Fund return < benchmark return - 3.5%    | Fund annualized return < benchmark annualized return -1.75% for 6 consecutive months | VRR < 0.97 for 6 consecutive months   |
| Covered Calls - Replication   | Fund return < benchmark return - 3.5%    | Fund annualized return < benchmark annualized return -1.75% for 6 consecutive months | Fund annualized return < benchmark annualized return - 0.40% for 6 consecutive months |
| Fixed Income - Core – Active  | Fund return < benchmark return - 1.5%    | Fund annualized return < benchmark annualized return -1.0% for 6 consecutive months  | VRR < 0.98 for 6 consecutive months   |
| Fixed Income - Core – Passive | Tracking error > 0.25%                   | Tracking error > 0.20% for 6 consecutive months                                      | Fund annualized return < benchmark annualized return - 0.30% for 6 consecutive months |
| Fixed Income - Non-Core       | Fund return < benchmark return - 4.5%    | Fund annualized return < benchmark annualized return - 2.0% for 6 consecutive months | VRR < 0.97 for 6 consecutive months   |

All criteria are on an annualized basis.  
VRR – Value Relative Ratio – is calculated as: manager cumulative return / benchmark cumulative return.

| Manager Performance         |     |      |       |
|-----------------------------|-----|------|-------|
|                             | QTD | 1 Yr | 3 Yrs |
| Northern Trust Russell 3000 | 6.2 | 35.2 | 10.3  |
| Russell 3000 Index          | 6.2 | 35.2 | 10.3  |

#### Short-Term Criteria (rolling 12-month periods)

Tracking Error > 0.30% for 6 consecutive months

Current Status: **Acceptable**

#### Medium-Term Criteria (rolling 36-month periods)

Tracking Error > 0.25% for 6 consecutive months

Current Status: **Acceptable**

#### Long-Term Criteria (60+ months)

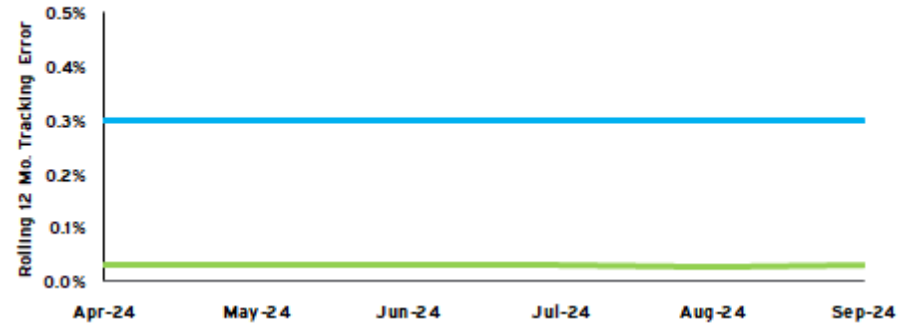
Fund annualized return < benchmark annualized return -0.40% for 6 consecutive months

Current Status: **Not available**

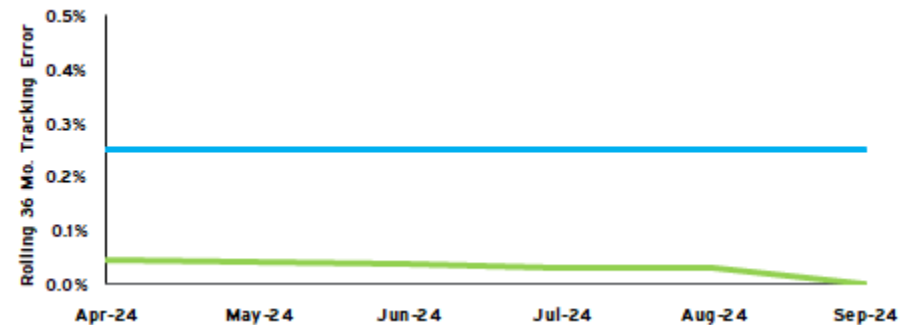
#### Overall Status:

**Acceptable**

#### Short-Term Performance Evaluation



#### Medium-Term Performance Evaluation



| Manager Performance        |     |      |       |
|----------------------------|-----|------|-------|
|                            | QTD | 1 Yr | 3 Yrs |
| Northern Trust ACWI ex US  | 8.0 | 25.4 | 4.5   |
| MSCI AC World ex USA index | 8.2 | 26.0 | 4.7   |

#### Short-Term Criteria (rolling 12-month periods)

Tracking Error > 1.75% for 6 consecutive months

Current Status: **Acceptable**

#### Medium-Term Criteria (rolling 36-month periods)

Tracking Error > 1.5% for 6 consecutive months

Current Status: **Acceptable**

#### Long-Term Criteria (60+ months)

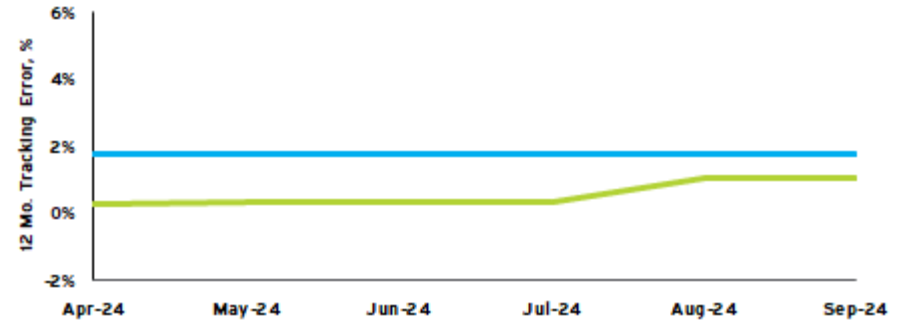
Fund annualized return < benchmark annualized return -0.50% for 6 consecutive months

Current Status: **Not available**

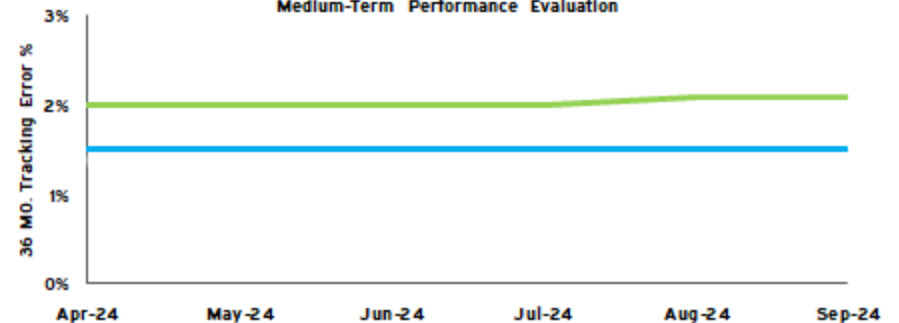
Overall Status:

**Acceptable**

Short-Term Performance Evaluation



Medium-Term Performance Evaluation



| Manager Performance          |     |      |       |       |
|------------------------------|-----|------|-------|-------|
|                              | QTD | 1 Yr | 3 Yrs | 5 Yrs |
| Parametric BXM               | 4.0 | 17.8 | 7.7   | 9.2   |
| Cboe S&P 500 Buy Write Index | 5.5 | 18.3 | 6.4   | 6.6   |

Overall Status:

**Acceptable**

#### Short-Term Criteria (rolling 12-month periods)

Fund return < benchmark return -3.5% for 6 consecutive months

Current Status: **Acceptable**

#### Medium-Term Criteria (rolling 36-month periods)

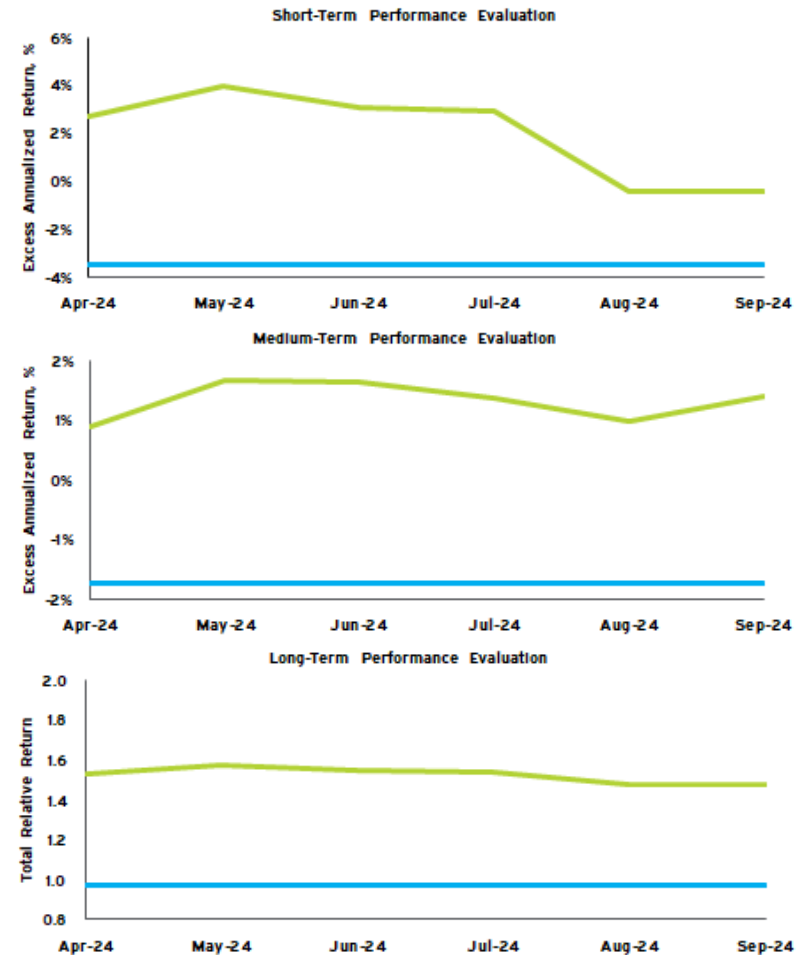
Fund annualized return < benchmark annualized return -1.75% for 6 consecutive months

Current Status: **Acceptable**

#### Long-Term Criteria (60+ months)

VRR < 0.97 for 6 consecutive months

Current Status: **Acceptable**



| Manager Performance          |     |      |       |           |
|------------------------------|-----|------|-------|-----------|
|                              | QTD | 1 Yr | 3 Yrs | 5 Yrs (%) |
| Parametric Delta Shift       | 4.7 | 26.7 | 9.5   | 13.5      |
| Cboe S&P 500 Buy Write Index | 5.5 | 18.3 | 6.4   | 6.6       |

Overall Status:

**Acceptable**

#### Short-Term Criteria (rolling 12-month periods)

Fund return < benchmark return -3.5% for 6 consecutive months

Current Status: **Acceptable**

#### Medium-Term Criteria (rolling 36-month periods)

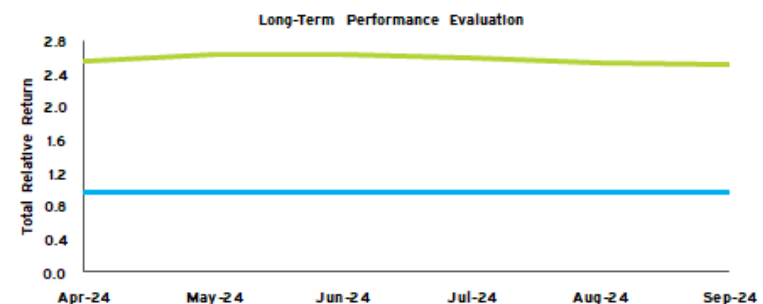
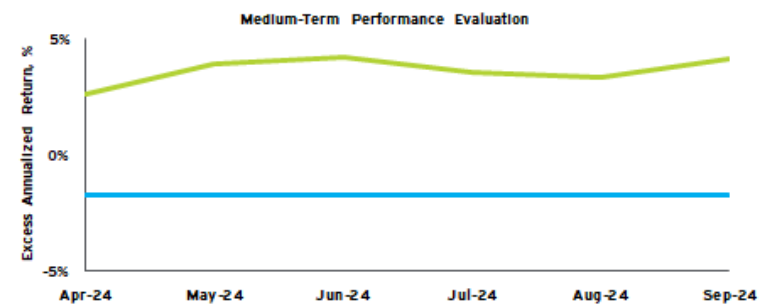
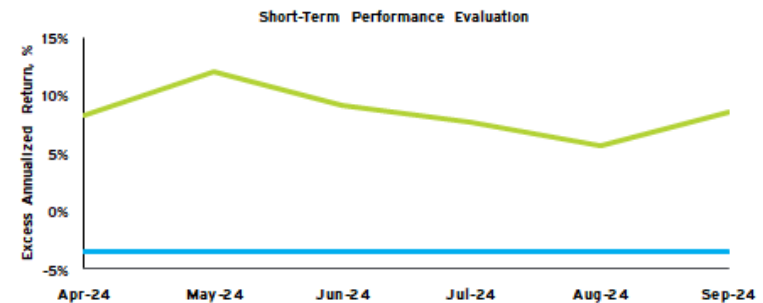
Fund annualized return < benchmark annualized return -1.75% for 6 consecutive months

Current Status: **Acceptable**

#### Long-Term Criteria (60+ months)

VRR < 0.97 for 6 consecutive months

Current Status: **Acceptable**



| Manager Performance         |     |      |       |       |
|-----------------------------|-----|------|-------|-------|
|                             | QTD | 1 Yr | 3 Yrs | 5 Yrs |
| CS McKee                    | 5.2 | 12.8 | -1.1  | 0.5   |
| Blmbg. U.S. Aggregate Index | 5.2 | 11.6 | -1.4  | 0.3   |

Overall Status:

**Acceptable**

### Short-Term Criteria (rolling 12-month periods)

Fund return < benchmark return -1.5% for 6 consecutive months

Current Status: **Acceptable**

### Medium-Term Criteria (rolling 36-month periods)

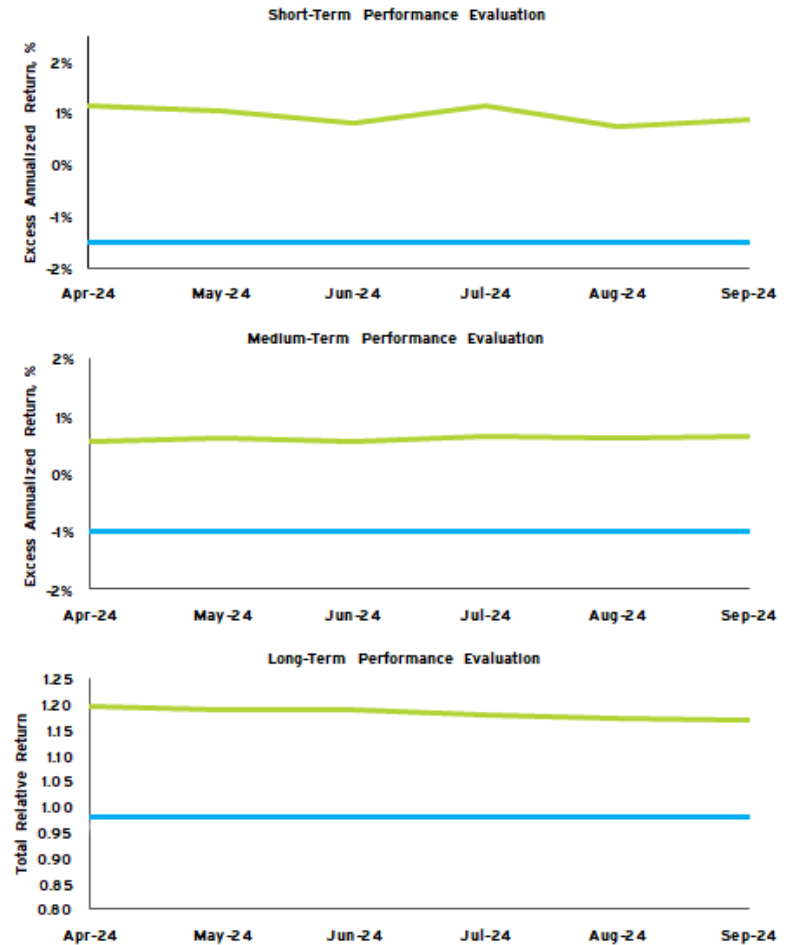
Fund annualized return < benchmark annualized return -1.0% for 6 consecutive months

Current Status: **Acceptable**

### Long-Term Criteria (60+ months)

VRR < 0.98 for 6 consecutive months

Current Status: **Acceptable**



### Manager Performance

|                             | QTD | 1 Yr | 3 Yrs |
|-----------------------------|-----|------|-------|
| Garcia Hamilton             | 6.1 | 12.9 | 0.5   |
| Blmbg. U.S. Aggregate Index | 5.2 | 11.6 | -1.4  |

#### Short-Term Criteria (rolling 12-month periods)

Fund return < benchmark return -1.5% for 6 consecutive months

Current Status: **Acceptable**

#### Medium-Term Criteria (rolling 36-month periods)

Fund annualized return < benchmark annualized return -1.0% for 6 consecutive months

Current Status: **Acceptable**

#### Long-Term Criteria (60+ months)

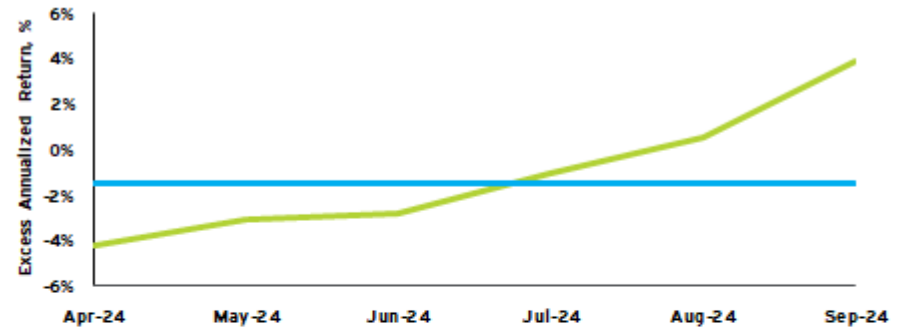
VRR < 0.98 for 6 consecutive months

Current Status: Not Applicable

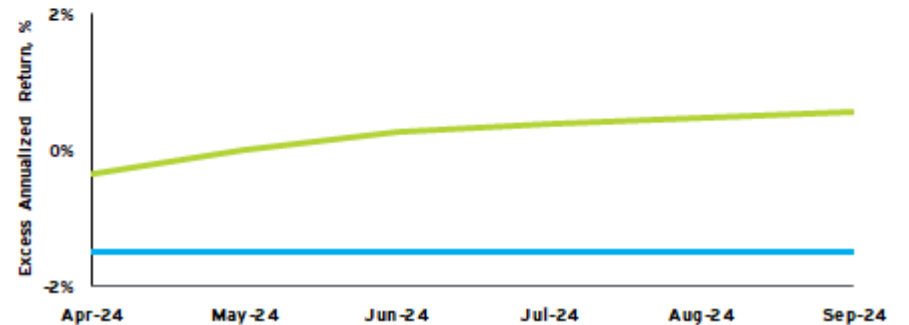
#### Overall Status:

**Acceptable**

Short-Term Performance Evaluation



Medium-Term Performance Evaluation



#### Manager Performance

|   | QTD | 1 Yr | 3 Yrs |
|---|-----|------|-------|
| MacKay Shields (HY)                     | 3.1 | 11.4 | 5.0   |
| ICE BofA ML US Corp Cash Pay BB-B 1-5Yr | 3.9 | 13.8 | 4.8   |

#### Short-Term Criteria (rolling 12-month periods)

Fund return < benchmark return -4.5% for 6 consecutive months

Current Status: **Acceptable**

#### Medium-Term Criteria (rolling 36-month periods)

Fund annualized return < benchmark annualized return -2.0% for 6 consecutive months

Current Status: **Acceptable**

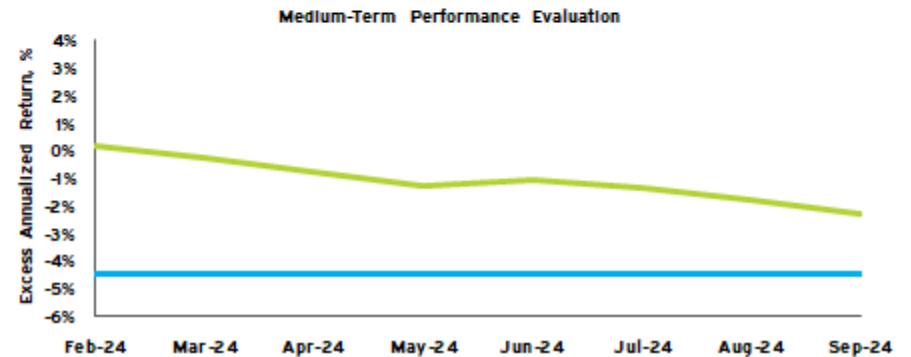
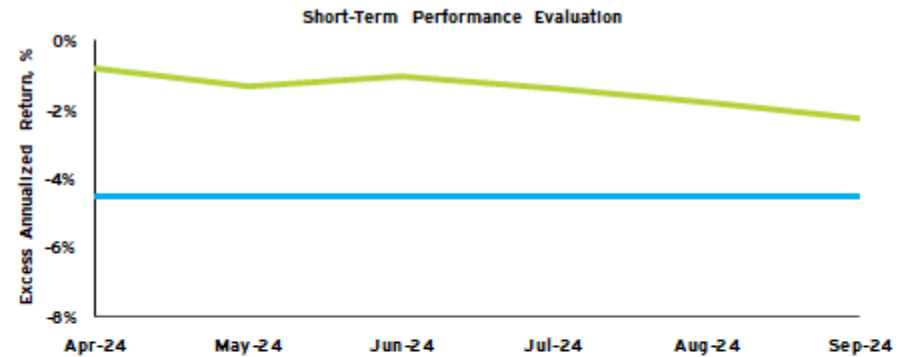
#### Long-Term Criteria (60+ months)

VRR < 0.97 for 6 consecutive months

Current Status: Not Applicable

#### Overall Status:

**Acceptable**



### Manager Performance

|  | QTD | 1 Yr | 3 Yrs |
|--|-----|------|-------|
| Federated Investment Counseling (Bank Loans) | 1.5 | 7.9  | 3.0   |
| 60% CredSuisLevLoan/40% BBStGovCorp          | 1.9 | 8.1  | 5.1   |

#### Short-Term Criteria (rolling 12-month periods)

Fund return < benchmark return -4.5% for 6 consecutive months

Current Status: **Acceptable**

#### Medium-Term Criteria (rolling 36-month periods)

Fund annualized return < benchmark annualized return -2.0% for 6 consecutive months

Current Status: **Acceptable**

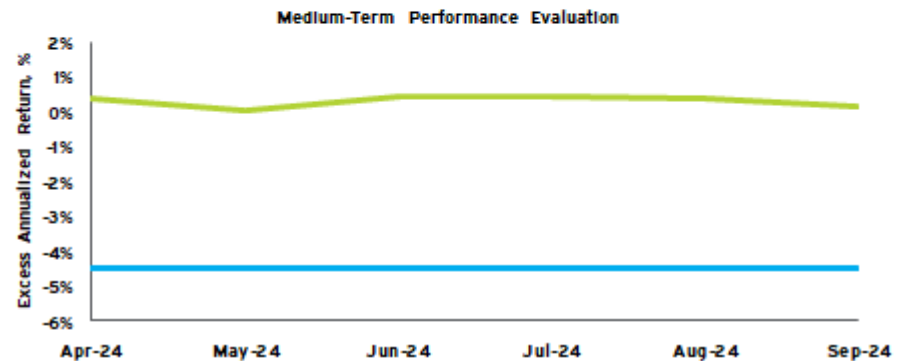
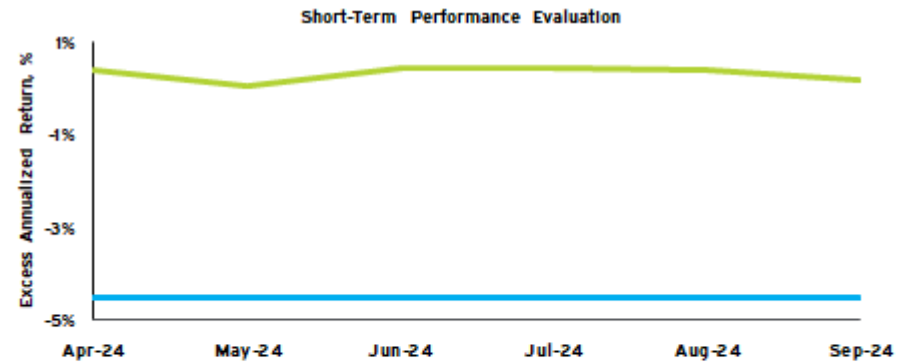
#### Long-Term Criteria (60+ months)

VRR < 0.97 for 6 consecutive months

Current Status: **Acceptable**

### Overall Status:

**Acceptable**



## **Manager Compliance Certification Responses**

### Manager Compliance Certification Responses

#### Qualitative Compliance Monitoring per EBMUDERS Investment Policy

Each of EBMUDERS managers is required to respond to a questionnaire on a quarterly basis to certify their compliance with EBMUDERS Investment Policy Statement and provide an update on specific qualitative indicators to be evaluated.

These indicators include:

- Compliance with the guidelines of 'Eligible Investments' for the manager's specific mandate
- Any litigation or governmental regulatory proceedings involving the firm/manager
- Changes to the manager's investment outlook, investment strategy, and/or portfolio structure
- Personnel changes to the investment team responsible for the EBMUDERS mandate
- Significant personnel changes at the management level of the firm
- Material client terminations
- Compliance with EBMUDERS current Investment Policy Statement

The manager's responses are rated based on the potential effects these factors could pose to the performance and management of the EBMUDERS portfolio.

Reasons for heightened concern triggering Watch status include, but are not limited to:

- Instability of key members of the portfolio management team and organization
- Changes in investment strategy and style
- Failure to comply with investment guidelines

A summary of manager responses as of the latest quarter-end is provided below.

### Manager Compliance Certification Responses

| Manager                   | Asset Class                  | Question 1<br>Compliance with 'Eligible Investments' for mandate | Question 2<br>Good standing as Registered Investment Advisor | Question 3<br>Litigation? | Question 4<br>Changes in manager's investment outlook, strategy, structure | Question 5<br>Investment team personnel changes | Question 6<br>Management level personnel changes | Question 7<br>Material business changes | Question 8<br>Compliance with IPS |
|---------------------------|------------------------------|--|--|---------------------------|--|---|--|---|-----------------------------------|
| Northern Trust R3000      | Domestic Equity – All Cap    | Yes  | Yes  | No                        | No   | Yes*  | Yes*   | No                                      | Yes                               |
| Northern Trust ACWI ex US | International Equity         | Yes  | Yes  | No                        | No   | Yes*  | Yes*   | No                                      | Yes                               |
| Parametric                | Covered Calls                | Yes  | Yes  | No                        | No   | No  | Yes*   | No                                      | Yes                               |
| CS McKee                  | Fixed Income – Core          | Yes  | Yes  | No                        | No   | No  | No   | No                                      | Yes                               |
| Garcia Hamilton           | Fixed Income – Core          | Yes  | Yes  | No                        | No   | No  | No   | Yes*                                    | Yes                               |
| Mackay Shields            | Fixed Income – Short-term HY | Yes  | Yes  | No                        | No   | No  | No   | No                                      | Yes                               |
| Federated                 | Fixed Income – Bank Loans    | Yes  | Yes  | No                        | No   | No  | No   | No                                      | Yes                               |
| RREEF                     | Real Estate                  | Yes  | Yes  | No                        | No   | No  | No   | No                                      | Yes                               |

■ no concern  
 ■ low concern  
 ■ high concern (Watch status)

\* see detailed manager response below

**Northern Trust – R3000 and ACWI ex US****Question 5: Have there been any personnel changes to the investment team responsible for the EBMUD portfolio during the quarter?**

- In September of 2024, Brent Reeder, Head of the Chicago-based Index Equity Portfolio management team, is no longer with the firm. As a result, Robert Anstine, Senior Portfolio Manager and Senior Vice President, is replacing Brent, effective October 2, 2024. Robert brings more than 22 years of industry experience, including more than 17 years at Northern Trust Asset Management to the role. Robert has focused primarily on the management of portfolios within Commodities and equity ETFs as well as managing equity index portfolios for large institutional clients, sub-advisory clients, and commingled funds.
- As you are aware, NTAM utilizes a team managed approach and thus the departure of one portfolio manager does not affect the management of your portfolio.

**Northern Trust – R3000 and ACWI ex US (cont.)****Question 6: Have there been any significant personnel changes at the management level of the Firm during the quarter?**

## → SENIOR MANAGEMENT CHANGES

→ As a result of the constantly changing landscape of asset management, we believe the occasional organizational changes are a natural progression and necessary in order to adapt to new market and regulatory environments. The most recent changes to senior personnel are the following:

## → 2024:

- October; Rob Anstine has been named Head of Equity Index, U.S. effective October 1, replacing Brent Reeder who left the firm.
- October; NTAM Global Product made the below senior management changes to drive strategy and execution in our areas of focus:
  - Patrick Finegan has joined NTAM as Head of Alternatives Product.
  - Chris Huemmer becomes Director of ETF & Funds Strategy reporting to Head of Global ETFs & Funds, Dave Abner.
  - Wendy Maveety has joined NTAM Global Product as Director of Product Operations, reporting to Global Head
- September; Jen Hoffenkamp has been named chief of staff for investments, reporting to Global CIO, Asset Management, Angelo Manioudakis. Additionally, Morten Olsen will now serve as head of customized fixed income, continuing to report to CIO of Global Fixed Income Chris Roth.
- September; Edgar Gonzalez has joined Northern Trust Asset Management as Head of Strategy, reporting to Archana Kumar, Global COO, Asset Management.
- September; Lyenda Delp will join NTAM as head of the Global Institutional Client Group, effective December 3, 2024. Lyenda, will report to Daniel Gamba, NTAM President.
- September; Darek Wojnar, senior advisor for registered funds, retired at the end of September.

**Northern Trust – R3000 and ACWI ex US (cont.)****Question 6: Have there been any significant personnel changes at the management level of the Firm during the quarter? (cont.)**

- August; Julie Moret, Head of Sustainable Investing Integration, has left the firm. Sheri Hawkins, Head of Investment Platform Services, Asset Management, will support the team more directly on an interim basis as the next phase of leadership is developed for Sustainable Investing.
- July; Paul Clark joined NTAM as Global Head of Stewardship, reporting to Sheri Hawkins, Head of Investment Platform Services.
- July; Colin Mooney joined NTAM as Digital Product Lead, Distribution, reporting to Archana Kumar, Global Chief Operating Officer, Asset Management.
- July; Xiangrong (Sharon) Jin, Ph.D., joined NTAM as Head of Product Strategy, reporting to Paula Kar Global Head of Product, Asset Management. Additionally, Brian Kelderhouse will be joining NTAM Global Product on August 1 as Head of Product Intelligence & Pricing, reporting to Sharon.
- July; Curt Nass has expanded his responsibilities and will serve as the Global Head of Trading for both Equities and Fixed Income.
- July; To further strive towards achieving our strategic goals and priorities, the following partners roles have been both expanded and elevated:
  - Hozaiifa Arsiwala joined the Wealth Client Group as Head of Custom SMAs.
  - Katie Colelli will serve as Global Head of NTAM Global Family Offices (GFO) and Co-Head of the Alternatives Initiative, transitioning from her previous role as Global Head of OCIO and GFO. In this newly created role, Katie will partner closely with Bob Morgan who will be named Co-Head of the Alternatives Initiative, in addition to his role as Head of 50 South Capital.
  - Lynne Kostakis will expand her responsibilities to serve as the Global Head of Client Strategy for both the Global Institutional Client Group and the Wealth Client Group.

**Parametric****Question 6: Have there been any significant personnel changes at the management level of the Firm during the quarter?**

→ Reuben Butler, Chief Administrative Officer, left Parametric to pursue other opportunities. Reuben's last day was July 30, 2024. Following his departure, Melissa Fell became CAO and reports to Ranjit Kapila, CO-President and COO, with a dotted line to Tom Lee, Co-President and CIO.

Garcia Hamilton

**Question 7: Have there been any material changes in your firm's business during the quarter?**

→ One client representing 1.13% of the Firm's total assets under management terminated relations due to the consolidation of managers.

**Required California AB 2833 Disclosure – RREEF AMERICA II**

Effective January 1, 2017 RREEF America REIT II, Inc. (“alternative investment vehicle”) is required to provide to the East Bay Municipal Utility District (“public investment fund” or “District”) specific information at least annually pursuant to Section 7514.7 of the California Government Code (“Section 7514.7”).

1. The fees and expenses that the public investment fund pays directly to the alternative investment vehicle, the fund manager, or related parties.
  - EBMUD: includes asset management, intermediate, and partnership fees – January 2023 – December 2023 = \$579,085.91
2. The public investment fund’s pro rata share of fees and expenses not included in paragraph (1) that are paid from the alternative investment vehicle to the fund manager or related parties.

\$0.00
3. The public investment fund’s pro rata share of carried interest distributed to the fund manager or related parties.

N/A
4. The public investment fund’s pro rata share of aggregate fees and expenses paid by all of the portfolio companies held within the alternative investment vehicle to the fund manager or related parties.
  - EBMUD: includes asset management, intermediate, and partnership fees – January 2023 – December 2023 = \$579,085.91
5. Any additional information described in subdivision (b) of Section 6254.26.

N/A
6. The gross and net rate of return of each alternative investment vehicle since inception.

Gross = 6.0%    Net = 5.2% (as of December 31, 2023)<sup>1</sup>
7. Any other information required to be collected pursuant to Section 7514.7.

N/A

<sup>1</sup>Please note that since inception returns provided represent the client’s time frame in the Fund, and not the returns of the Fund as a whole.

# Appendix

### Glossary of Terms

**Alpha:** The premium an investment earns above a set standard. This is usually measured in terms of a common index (i.e., how the stock performs independent of the market). An Alpha is usually generated by regressing a security's excess return on the S&P 500 excess return.

**Annualized Performance:** The annual rate of return that when compounded  $t$  times generates the same  $t$ -period holding return as actually occurred from period 1 to period  $t$ .

**Batting Average:** Percentage of periods a portfolio outperforms a given index.

**Beta:** The measure of an asset's risk in relation to the Market (for example, the S&P 500) or to an alternative benchmark or factors. Roughly speaking, a security with a Beta of 1.5 will have moved, on average, 1.5 times the market return.

**Bottom-up:** A management style that de-emphasizes the significance of economic and market cycles, focusing instead on the analysis of individual stocks.

**Dividend Discount Model:** A method to value the common stock of a company that is based on the present value of the expected future dividends.

**Growth Stocks:** Common stock of a company that has an opportunity to invest money and earn more than the opportunity cost of capital.

**Information Ratio:** The ratio of annualized expected residual return to residual risk. A central measurement for active management, value added is proportional to the square of the information ratio.

**R-Squared:** Square of the correlation coefficient. The proportion of the variability in one series that can be explained by the variability of one or more other series a regression model. A measure of the quality of fit. 100% R-square means perfect predictability.

**Standard Deviation:** The square root of the variance. A measure of dispersion of a set of data from its mean.

**Sharpe Ratio:** A measure of a portfolio's excess return relative to the total variability of the portfolio.

**Style Analysis:** A returns-based analysis using a multi-factor attribution model. The model calculates a product's average exposure to particular investment styles over time (i.e., the product's normal style benchmark).

**Top-down:** Investment style that begins with an assessment of the overall economic environment and makes a general asset allocation decision regarding various sectors of the financial markets and various industries.

**Tracking Error:** The standard deviation of the difference between the performance of a portfolio and an appropriate benchmark.

**Turnover:** For mutual funds, a measure of trading activity during the previous year, expressed as a percentage of the average total assets of the fund. A turnover rate of 25% means that the value of trades represented one-fourth of the assets of the fund.

**Value Stocks:** Stocks with low price/book ratios or price/earnings ratios. Historically, value stocks have enjoyed higher average returns than growth stocks (stocks with high price/book or P/E ratios) in a variety of countries.

**Definition of Benchmarks**

**BC Aggregate:** an index comprised of approximately 6,000 publicly traded investment-grade bonds including U.S. Government, mortgage-backed, corporate, and yankee bonds with an approximate average maturity of 10 years.

**BC High Yield:** covers the universe of fixed rate, non-investment grade debt. Eurobonds and debt issues from countries designated as emerging markets (e.g., Argentina, Brazil, Venezuela, etc.) are excluded, but Canadian and global bonds (SEC registered) of issuers in non-EMG countries are included. Original issue zeroes, step-up coupon structures, 144-As and pay-in-kind bonds (PIKs, as of October 1, 2009) are also included. Must be rated high-yield (Ba1/BB+ or lower) by at least two of the following ratings agencies: Moody's, S&P, Fitch. If only two of the three agencies rate the security, the lower rating is used to determine index eligibility. All issues must have at least one year to final maturity regardless of call features and have at least \$150 million par amount outstanding.

**BC Multiverse Non-US Hedged:** provides a broad-based measure of the international fixed-income bond market. The index represents the union of the BC Global Aggregate Index and the BC Global High Yield Index. In this sense, the term "Multiverse" refers to the concept of multiple universes in a single macro index.

**BC US Credit:** includes publicly issued U.S. corporate and foreign debentures and secured notes that which are rated investment grade or higher by Moody's Investor Services, Standard and Poor's Corporation, or Fitch Investor's Service, with all issues having at least one year to maturity and an outstanding par value of at least \$250 million. Issues must be publicly issued, dollar-denominated and non-convertible.

**BC US Government:** includes treasuries (i.e., public obligations of the U.S. Treasury that have remaining maturities of more than one year) and agencies (i.e., publicly issued debt of U.S. Government agencies, quasi-federal corporations, and corporate or foreign debt guaranteed by the U.S. Government).

**BC Universal:** includes market coverage by the Aggregate Bond Index fixed rate debt issues, which are rated investment grade or higher by Moody's Investor Services, Standard and Poor's Corporation, or Fitch Investor's Service, with all issues having at least one year to maturity and an outstanding par value of at least \$100 million) and includes exposures to high yield CMBS securities. All returns are market value weighted inclusive of accrued interest.

**Citigroup 3-Month Treasury Bills (T-bills):** tracks the performance of U.S. Treasury bills with 3-month maturity.

**MSCI ACWI x US ND:** comprises both developed and emerging markets less the United States. As of August 2008, the index consisted of 23 countries classified as developed markets and 25 classified as emerging markets. This series approximates the minimum possible dividend reinvestment. The dividend is reinvested after deduction of withholding tax, applying the rate to non-resident individuals who do not benefit from double taxation treaties. MSCI Barra uses withholding tax rates applicable to Luxembourg holding companies, as Luxembourg applies the highest rates.

**MSCI EAFE Free (Europe, Australasia, Far East) ND:** is a free float-adjusted market capitalization index that is designed to measure developed market equity performance, excluding the US & Canada. This series approximates the minimum possible dividend reinvestment. The dividend is reinvested after deduction of withholding tax, applying the rate to non-resident individuals who do not benefit from double taxation treaties. MSCI Barra uses withholding tax rates applicable to Luxembourg holding companies, as Luxembourg applies the highest rates.

**MSCI EM (Emerging Markets) GD:** is a free float-adjusted market capitalization index that is designed to measure equity market performance in the global emerging markets. This series approximates the maximum possible dividend reinvestment. The amount reinvested is the entire dividend distributed to individuals resident in the country of the company, but does not include tax credits.

**MSCI Europe** is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of the developed markets in Europe. As of June 2007, this index consisted of the following 16 developed market country indices: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

**MSCI Pacific** is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of the developed markets in the Pacific region. As of June 2007, this index consisted of the following 5 Developed Market countries: Australia, Hong Kong, Japan, New Zealand, and Singapore.

**NAREIT Index:** consists of all tax-qualified REITs listed on the New York Stock Exchange, American Stock Exchange, and the NASDAQ National Market System. The data is market weighted.

**NCREIF Property Index:** the NPI contains investment-grade, non-agricultural, income-producing properties which may be financed in excess of 5% gross market value; were acquired on behalf of tax exempt institutions; and are held in a fiduciary environment. Returns are gross of fees; including income, realized gains/losses, and appreciation/depreciation; and are market value weighted. Index is lagged one quarter.

**Russell 1000:** measures the performance of the 1,000 largest securities in the Russell 3000 Index. Russell 1000 is highly correlated with the S&P 500 Index and capitalization-weighted.

**Russell 1000 Growth:** measures the performance of those Russell 1000 securities with a greater-than-average growth orientation. Securities in this index tend to exhibit higher price-to-book and price-earnings ratios, lower dividend yields and higher forecasted growth values than the Value universe.

**Russell 1000 Value:** measures the performance of those Russell 1000 securities with a less-than-average growth orientation. Securities in this index tend to exhibit lower price-to-book and price-earnings ratios, higher dividend yields and lower forecasted growth values than the Growth universe.

**Russell 2000:** measures the performance of the 2,000 smallest companies in the Russell 3000 Index, which represents approximately 8% of the total market capitalization of the Russell 3000 Index.

**Russell 2000 Growth:** measures the performance of those Russell 2000 securities with a greater-than-average growth orientation. Securities in this index tend to exhibit higher price-to-book and price-to-earnings ratios.

**Russell 2000 Value:** measures the performance of those Russell 2000 securities with a less-than-average growth orientation. Securities in this index tend to exhibit lower price-to-book and price-to-earnings ratios.

**Russell 3000:** represents the largest 3,000 US companies based on total market capitalization, representing approximately 98% of the investable US equity market.

**Value Relative Ratio (VRR):** Performance metric used to evaluate long-term manager performance relative to a benchmark and to highlight compounded over/under performance data over a certain time frame. VRR is calculated by the growth of a dollar invested with the manager divided by the growth of a dollar invested in the benchmark for the same time period.

**Risk Metric Description – Rationale for Selection and Calculation Methodology****US Equity Markets**

Metric: P/E ratio = Price / "Normalized" earnings for the S&P 500 Index

To represent the price of US equity markets, we have chosen the S&P 500 index. This index has the longest published history of price, is well known, and also has reliable, long-term, published quarterly earnings. The price= $P$  of the P/E ratio is the current price of the market index (the average daily price of the most recent full month for the S&P 500 index). Equity markets are very volatile. Prices fluctuate significantly during normal times and extremely during periods of market stress or euphoria. Therefore, developing a measure of earnings power ( $E$ ) which is stable is vitally important, if the measure is to provide insight. While equity prices can and do double, or get cut in half, real earnings power does not change nearly as much. Therefore, we have selected a well known measure of real, stable earnings power developed by Yale Professor Robert Shiller known as the Shiller E-10. The calculation of E-10 is simply the average real annual earnings over the past 10 years. Over 10 years, the earnings shenanigans and boom and bust levels of earnings tend to even out (and often times get restated). Therefore, this earnings statistic gives a reasonably stable, slow-to-change estimate of average real earnings power for the index. Professor Shiller's data and calculation of the E-10 are available on his website at <http://www.econ.yale.edu/~shiller/data.htm>. We have used his data as the base for our calculations. Details of the theoretical justification behind the measure can be found in his book *Irrational Exuberance* [Princeton University Press 2000, Broadway Books 2001, 2nd ed., 2005].

**Developed Equity Markets Excluding the US**

Metric: P/E ratio = Price / "Normalized" earnings for the MSCI EAFE Index

To represent the price of non-US developed equity markets, we have chosen the MSCI EAFE index. This index has the longest published history of price for non-US developed equities. The price= $P$  of the P/E ratio is the current price of the market index (the average daily price of the most recent full month for the MSCI EAFE index). The price level of this index is available starting in December 1969. Again, for the reasons described above, we elected to use the Shiller E-10 as our measure of earnings ( $E$ ). Since 12/1972, a monthly price earnings ratio is available from MSCI. Using this quoted ratio, we have backed out the implied trailing-twelve month earnings of the EAFE index for each month from 12/1972 to the present. These annualized earnings are then inflation adjusted using CPI-U to represent real earnings in US dollar terms for each time period. The Shiller E-10 for the EAFE index (10 year average real earnings) is calculated in the same manner as detailed above.

However, we do not believe that the pricing and earnings history of the EAFE markets are long enough to be a reliable representation of pricing history for developed market equities outside of the US. Therefore, in constructing the Long-Term Average Historical P/E for developed ex-US equities for comparison purposes, we have elected to use the US equity market as a developed market proxy, from 1881 to 1982. This lowers the Long-Term Average Historical P/E considerably. We believe this methodology provides a more realistic historical comparison for a market with a relatively short history.

### **Emerging Market Equity Markets**

Metric: Ratio of Emerging Market P/E Ratio to Developed Market P/E Ratio

To represent the Emerging Markets P/E Ratio, we have chosen the MSCI Emerging Market Free Index, which has P/E data back to January 1995 on Bloomberg. To represent the Developed Markets PE Ratio, we have chosen the MSCI World Index, which also has data back to January 1995 on Bloomberg. Although there are issues with published, single time period P/E ratios, in which the denominator effect can cause large movements, we feel that the information contained in such movements will alert investors to market activity that they will want to interpret.

### **US Private Equity Markets**

Metrics: S&P LCD Average EBITDA Multiples Paid in LBOs and US Quarterly Deal Volume

The Average Purchase Price to EBITDA multiples paid in LBOs is published quarterly by S&P in their LCD study. This is the total price paid (both equity and debt) over the trailing-twelve month EBITDA (earnings before interest, taxes, depreciation and amortization) as calculated by S&P LCD. This is the relevant, high-level pricing metric that private equity managers use in assessing deals. Data is published monthly.

US quarterly deal volume for private equity is the total deal volume in \$ billions (both equity and debt) reported in the quarter by Thomson Reuters Buyouts. This metric gives a measure of the level of activity in the market. Data is published quarterly.

**US Private Real Estate Markets**

Metrics: US Cap Rates, Cap Rate Spreads, and Transactions as a % of Market Value

Real estate cap rates are a measure of the price paid in the market to acquire properties versus their annualized income generation before financing costs (NOI=net operating income). The data, published by NCREIF, describes completed and leased properties (core) on an unleveraged basis. We chose to use current value cap rates. These are capitalization rates from properties that were revalued during the quarter. This data relies on estimates of value and therefore tends to be lagging (estimated prices are slower to rise and slower to fall than transaction prices). The data is published quarterly.

Spreads between the cap rate (described above) and the 10-year nominal Treasury yield, indicate a measure of the cost of properties versus a current measure of the cost of financing.

Transactions as a % of Market Value Trailing-Four Quarters is a measure of property turnover activity in the NCREIF Universe. This quarterly metric is a measure of activity in the market.

**Credit Markets Fixed Income**

Metric: Spreads

The absolute level of spreads over treasuries and spread trends (widening / narrowing) are good indicators of credit risk in the fixed income markets. Spreads incorporate estimates of future default, but can also be driven by technical dislocations in the fixed income markets. Abnormally narrow spreads (relative to historical levels) indicate higher levels of valuation risk, wide spreads indicate lower levels of valuation risk and / or elevated default fears. Investment grade bond spreads are represented by the Barclays Capital US Corporate Investment Grade Index Intermediate Component. The high yield corporate bond spreads are represented by the Barclays Capital US Corporate High Yield Index.

**Measure of Equity Market Fear / Uncertainty**

Metric: VIX – Measure of implied option volatility for US equity markets

The VIX is a key measure of near-term volatility conveyed by implied volatility of S&P 500 index option prices. VIX increases with uncertainty and fear. Stocks and the VIX are negatively correlated. Volatility tends to spike when equity markets fall.

**Measure of Monetary Policy**

Metric: Yield Curve Slope

We calculate the yield curve slope as the 10 year treasury yield minus the 1 year treasury yield. When the yield curve slope is zero or negative, this is a signal to pay attention. A negative yield curve slope signals lower rates in the future, caused by a contraction in economic activity. Recessions are typically preceded by an inverted (negatively sloped) yield curve. A very steep yield curve (2 or greater) indicates a large difference between shorter-term interest rates (the 1 year rate) and longer-term rates (the 10 year rate). This can signal expansion in economic activity in the future, or merely higher future interest rates.

**Measures of US Inflation Expectations**

Metrics: Breakeven Inflation and Inflation Adjusted Commodity Prices

Inflation is a very important indicator impacting all assets and financial instruments. Breakeven inflation is calculated as the 10 year nominal treasury yield minus the 10 year real yield on US TIPS (treasury inflation protected securities). Abnormally low long-term inflation expectations are indicative of deflationary fears. A rapid rise in breakeven inflation indicates an acceleration in inflationary expectations as market participants sell nominal treasuries and buy TIPS. If breakeven inflation continues to rise quarter over quarter, this is a signal of inflationary worries rising, which may cause Fed action and / or dollar decline.

Commodity price movement (above the rate of inflation) is an indication of anticipated inflation caused by real global economic activity putting pressure on resource prices. We calculate this metric by adjusted in the Dow Jones UBS Commodity Index (formerly Dow Jones AIG Commodity Index) by US CPI-U. While rising commodity prices will not necessarily translate to higher US inflation, higher US inflation will likely show up in higher commodity prices, particularly if world economic activity is robust.

These two measures of anticipated inflation can, and often are, conflicting.

**Measures of US Treasury Bond Interest Rate Risk**

Metrics: 10-Year Treasury Forward-Looking Real Yield and 10-Year Treasury Duration

The expected annualized real yield of the 10 year US Treasury Bond is a measure of valuation risk for US Treasuries. A low real yield means investors will accept a low rate of expected return for the certainty of receiving their nominal cash flows. Meketa estimates the expected annualized real yield by subtracting an estimate of expected 10 year inflation (produced by the Survey of Professional Forecasters as collected by the Federal Reserve Bank of Philadelphia), from the 10 year Treasury constant maturity interest rate.

Duration for the 10-Year Treasury Bond is calculated based on the current yield and a price of 100. This is a measure of expected percentage movements in the price of the bond based on small movements in percentage yield. We make no attempt to account for convexity.

**Definition of "Extreme" Metric Readings**

A metric reading is defined as "extreme" if the metric reading is in the top or bottom decile of its historical readings. These "extreme" reading should cause the reader to pay attention. These metrics have reverted toward their mean values in the past.

**RISK METRICS DESCRIPTION – Meketa Market Sentiment Indicator****What is the Meketa Market Sentiment Indicator (MMSI)?**

The MMSI is a measure meant to gauge the market's sentiment regarding economic growth risk. Growth risk cuts across most financial assets, and is the largest risk exposure that most portfolios bear. The MMSI takes into account the momentum<sup>1</sup> (trend over time, positive or negative) of the economic growth risk exposure of publicly traded stocks and bonds, as a signal of the future direction of growth risk returns; either positive (risk seeking market sentiment), or negative (risk averse market sentiment).

---

<sup>1</sup> Momentum is defined as the persistence of relative performance. There is a significant amount of academic evidence indicating that positive momentum (e.g., strong performing stocks over the recent past continue to post strong performance into the near future) exists over near-to-intermediate holding periods. See, for example, "Understanding Momentum," *Financial Analysts Journal*, Scowcroft, Sefton, March, 2005.

**How do I read the Meketa Market Sentiment Indicator (MMSI) graph?**

Simply put, the MMSI is a color coded indicator that signals the market's sentiment regarding economic growth risk. It is read left to right chronologically. A green indicator on the MMSI indicates that the market's sentiment towards growth risk is positive. A gray indicator indicates that the market's sentiment towards growth risk is neutral or inconclusive. A red indicator indicates that the market's sentiment towards growth risk is negative. The black line on the graph is the level of the MMSI. The degree of the signal above or below the neutral reading is an indication the signal's current strength.

**How is the Meketa Market Sentiment Indicator (MMSI) Constructed?**

The MMSI is constructed from two sub-elements representing investor sentiment in stocks and bonds:

1. Stock return momentum: Return momentum for the S&P 500 Equity Index (trailing 12-months)
2. Bond yield spread momentum: Momentum of bond yield spreads (excess of the measured bond yield over the identical duration U.S. Treasury bond yield) for corporate bonds (trailing 12-months) for both investment grade bonds (75% weight) and high yield bonds (25% weight). The scale of this measure is adjusted to match that of the stock return momentum measure.

The black line reading on the graph is calculated as the average of the stock return momentum measure and the bonds spread momentum measure. The color reading on the graph is determined as follows:

1. If both stock return momentum and bond spread momentum are positive = GREEN (positive)
2. If one of the momentum indicators is positive, and the other negative = GRAY (inconclusive)
3. If both stock return momentum and bond spread momentum are negative = RED (negative)

**What does the Meketa Market Sentiment Indicator (MMSI) mean? Why might it be useful?**

There is strong evidence that time series momentum is significant and persistent.<sup>1</sup> In particular, across an extensive array of asset classes, the sign of the trailing 12-month return (positive or negative) is indicative of future returns (positive or negative) over the next 12 month period. The MMSI is constructed to measure this momentum in stocks and corporate bond spreads. A reading of green or red is agreement of both the equity and bond measures, indicating that it is likely that this trend (positive or negative) will continue over the next 12 months. When the measures disagree, the indicator turns gray. A gray reading does not necessarily mean a new trend is occurring, as the indicator may move back to green, or into the red from there. The level of the reading (black line) and the number of months at the red or green reading, gives the user additional information on which to form an opinion, and potentially take action.

---

<sup>1</sup> "Time Series Momentum" Moskowitz, Ooi, Pedersen, August 2010 <http://pages.stern.nyu.edu/~lpederse/papers/TimeSeriesMomentum.pdf>

THIS REPORT (THE "REPORT") HAS BEEN PREPARED FOR THE SOLE BENEFIT OF THE INTENDED RECIPIENT (THE "RECIPIENT").

SIGNIFICANT EVENTS MAY OCCUR (OR HAVE OCCURRED) AFTER THE DATE OF THIS REPORT, AND IT IS NOT OUR FUNCTION OR RESPONSIBILITY TO UPDATE THIS REPORT. THE INFORMATION CONTAINED HEREIN, INCLUDING ANY OPINIONS OR RECOMMENDATIONS, REPRESENTS OUR GOOD FAITH VIEWS AS OF THE DATE OF THIS REPORT AND IS SUBJECT TO CHANGE AT ANY TIME. ALL INVESTMENTS INVOLVE RISK, AND THERE CAN BE NO GUARANTEE THAT THE STRATEGIES, TACTICS, AND METHODS DISCUSSED HERE WILL BE SUCCESSFUL.

THE INFORMATION USED TO PREPARE THIS REPORT MAY HAVE BEEN OBTAINED FROM INVESTMENT MANAGERS, CUSTODIANS, AND OTHER EXTERNAL SOURCES. SOME OF THIS REPORT MAY HAVE BEEN PRODUCED WITH THE ASSISTANCE OF ARTIFICIAL INTELLIGENCE ("AI") TECHNOLOGY. WHILE WE HAVE EXERCISED REASONABLE CARE IN PREPARING THIS REPORT, WE CANNOT GUARANTEE THE ACCURACY, ADEQUACY, VALIDITY, RELIABILITY, AVAILABILITY, OR COMPLETENESS OF ANY INFORMATION CONTAINED HEREIN, WHETHER OBTAINED EXTERNALLY OR PRODUCED BY THE AI.

THE RECIPIENT SHOULD BE AWARE THAT THIS REPORT MAY INCLUDE AI-GENERATED CONTENT THAT MAY NOT HAVE CONSIDERED ALL RISK FACTORS. THE RECIPIENT IS ADVISED TO CONSULT WITH THEIR MEKETA ADVISOR OR ANOTHER PROFESSIONAL ADVISOR BEFORE MAKING ANY FINANCIAL DECISIONS OR TAKING ANY ACTION BASED ON THE CONTENT OF THIS REPORT. WE BELIEVE THE INFORMATION TO BE FACTUAL AND UP TO DATE BUT DO NOT ASSUME ANY RESPONSIBILITY FOR ERRORS OR OMISSIONS IN THE CONTENT PRODUCED. UNDER NO CIRCUMSTANCES SHALL WE BE LIABLE FOR ANY SPECIAL, DIRECT, INDIRECT, CONSEQUENTIAL, OR INCIDENTAL DAMAGES OR ANY DAMAGES WHATSOEVER, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE, OR OTHER TORT, ARISING OUT OF OR IN CONNECTION WITH THE USE OF THIS CONTENT. IT IS IMPORTANT FOR THE RECIPIENT TO CRITICALLY EVALUATE THE INFORMATION PROVIDED.

CERTAIN INFORMATION CONTAINED IN THIS REPORT MAY CONSTITUTE "FORWARD-LOOKING STATEMENTS," WHICH CAN BE IDENTIFIED BY THE USE OF TERMINOLOGY SUCH AS "MAY," "WILL," "SHOULD," "EXPECT," "AIM," "ANTICIPATE," "TARGET," "PROJECT," "ESTIMATE," "INTEND," "CONTINUE," OR "BELIEVE," OR THE NEGATIVES THEREOF OR OTHER VARIATIONS THEREON OR COMPARABLE TERMINOLOGY. ANY FORWARD-LOOKING STATEMENTS, FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS IN THIS REPORT ARE BASED UPON CURRENT ASSUMPTIONS. CHANGES TO ANY ASSUMPTIONS MAY HAVE A MATERIAL IMPACT ON FORWARD-LOOKING STATEMENTS, FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS. ACTUAL RESULTS MAY THEREFORE BE MATERIALLY DIFFERENT FROM ANY FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS IN THIS REPORT.

PERFORMANCE DATA CONTAINED HEREIN REPRESENT PAST PERFORMANCE. PAST PERFORMANCE IS NO GUARANTEE OF FUTURE RESULTS.

## EAST BAY MUNICIPAL UTILITY DISTRICT

---

DATE: November 21, 2024

MEMO TO: Members of the Retirement Board

FROM: Sophia D. Skoda, Director of Finance *SDS*

SUBJECT: Presentation of Retirement System Audited Financial Report

### SUMMARY

Each year staff prepares an audited financial report for the Retirement System and presents the report to the Retirement Board. Attached to this memo are the Letter of Transmittal, Basic Financial Statements, and Supplementary Information for the Retirement System for the year ending June 30, 2024. The report has been audited by Lance, Soll & Lunghard, LLP, the Retirement System's Independent Auditor. The opinion of the Independent Auditor is included in the report.

Attachments: Letter of Transmittal: Financial Report of the EBMUDERS  
EBMUDERS Financial Statements and Supplementary Information

November 21, 2024

The Retirement Board  
East Bay Municipal Utility District Employees' Retirement System  
375 Eleventh Street  
Oakland, CA 94607

**Letter of Transmittal: Financial Report of the East Bay Municipal Utility District Employees' Retirement System for the Year Ended June 30, 2024**

Dear Board Members:

The financial report of the Employees' Retirement System (Retirement System) for the year ended June 30, 2024, is transmitted herewith as required by Section 9 of the Ordinance establishing the Retirement System. This report consists of the Basic Financial Statements and Supplementary Information for the year ended June 30, 2024 (with the Independent Auditors' report therein) as examined and accompanied by the opinion of Lance, Soll & Lunghard, LLP (LSL CPAs and Advisors).

The Retirement System's net assets as of June 30, 2024 were \$2,517.03 million, an increase of \$261.72 million (11.60 percent) during the year. As detailed in the Meketa Investment Group report to the Retirement System Board on September 19, 2024, the gross investment return for Fiscal Year (FY) 2024 was 12.6 percent and the annualized gross investment return for the five years ending June 30, 2024 was 7.7 percent, or 0.95 percent more than the 6.75 percent actuarial assumed investment rate of return.

During FY 2024, the Retirement Board approved a cost-of-living adjustment (COLA) benefit of 3.00 percent, effective July 1, 2024.

**Review of Schedule and Charts**

Chart 1: Membership Activity

As of June 30, 2024, the number of active members (including terminated vested employees) increased by 19 to a total of 2,381, while the number of members receiving retirement, disability retirement, or survivor benefits increased by 75 to 2,176 people. This represents an average increase of 2.00 percent per year over the last 10 years for active members and an average increase of 3.81 percent per year over the last 10 years for retired members and survivors.

Chart 2: Service, Disability, Death and Health Benefits Paid to Retired Members

During FY 2024, \$157.77 million was paid to retired members and beneficiaries, an increase of 5.81 percent from FY 2023. Pension benefit payments increased by 6.13 percent while health insurance benefit payments increased by 1.22 percent.

### Chart 3: Contributions Received

During FY 2024, District and member contributions (net of members' refunds) were \$117.34 million and \$22.61 million, respectively, for a total of \$139.95 million, an increase of 9.40 percent from FY 2023. The District's \$117.34 million contribution was 83.85 percent of the total amount contributed to the Plan, an increase of \$10.82 million from FY 2023. The District adopted FY 2024 contribution rates at the staff recommended levels, 48.48 percent for the 1980 Plan and 39.21 percent for the 2013 Plan. For the 1980 Plan, the employee contribution rate remained unchanged at 8.75 percent. For the 2013 Plan, the employee contribution rate remained unchanged at 9.50 percent. The 2013 Plan employee contribution rate is set at 50 percent of the total normal cost rate and would only be adjusted if a change in assumptions would result in an adjustment to the normal rate of more than 1 percent of payroll.

### Chart 4: Sources of Funds

FY 2024 Retirement System revenue came from three sources: District contributions, Members contributions net of refunds, and net investment income or losses. The District and Member contributions increased in FY 2024 due to the increases in the total number of members and overall payroll. Gross investment income or loss includes interest, dividends, earnings from real estate investments and net realized and unrealized gains or losses on investments and varies from year to year. To help maintain stable contribution rates, investment returns (or losses) are amortized equally over a 5-year period. Since July 1, 2021 changes in the Unfunded Actuarial Accrued Liability (UAAL) resulting from plan changes are amortized over separate decreasing 15-year periods, assumption changes are amortized over separate decreasing 20-year periods, and experience gains/losses are amortized over separate decreasing 20-year periods.

### Chart 5: Net Pension Liability (NPL) and Funded Ratio

The Net Pension Liability is the Plan's liability determined in accordance with GASB 67 and 68 less the fiduciary net position. The June 30, 2024 NPL is based on actuarial valuations measured as of June 30, 2023. During the year ended June 30, 2024, the NPL decreased by \$30.13 million primarily due to the approximate return on the market value of assets for the Pension Plan of 10.75 percent during 2022/2023 that was more than the assumption of 6.75 percent used in the June 30, 2023 valuation (that gain was about \$80 million for the Pension Plan), offset somewhat by higher than expected salary increases for continuing active members (that loss was about \$21 million) and higher than expected cost of living adjustment increases for payees (that loss was about \$35 million). As of the June 30, 2024 reporting date (June 30, 2023 Measurement Date), the Net Pension Liability is \$800.29 million.

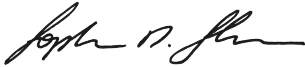
### Chart 6: Net OPEB Liability (NOL) and Funded Ratio

The Net OPEB Liability is the Plan's liability determined in accordance with GASB 74 and 75. The June 30, 2024 NOL is based on actuarial valuations measured as of June 30, 2023. During the year ended June 30, 2024, the NOL increased by \$4.72 million primarily due to larger than expected premium increases. The premium increases had very little impact on the plan's fixed future explicit subsidies but resulted in a higher liability attributable to future implicit subsidies. The liability loss from the premium experience contributed to the change in the blended discount

The Retirement Board  
November 21, 2024  
Page 3

rate, from 5.35 percent to 5.23 percent, which also increased the NOL. The increase in liability from these assumption changes was partially offset by an investment gain, exceeding the expected return, roughly \$2 million. As of the June 30, 2024 reporting date (June 30, 2023 Measurement Date), the Net OPEB Liability is \$132.38 million.

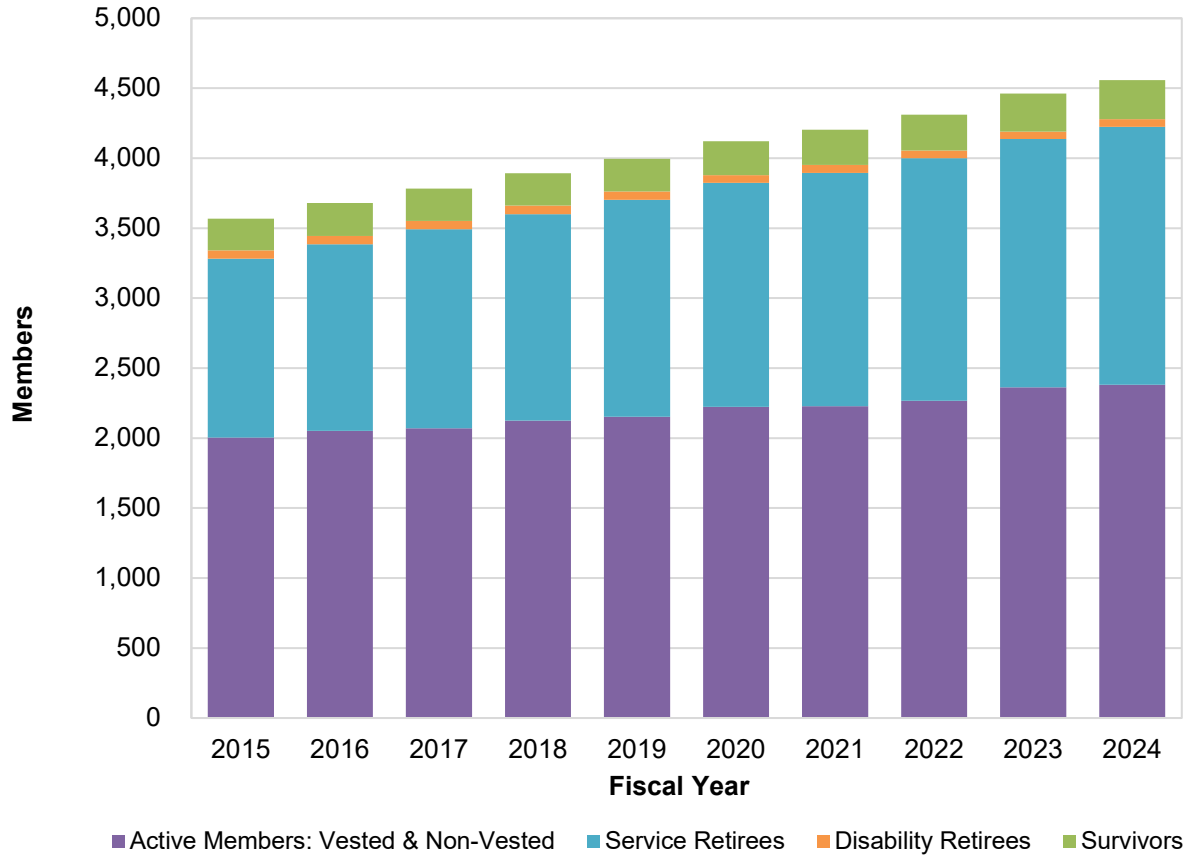
Respectfully submitted,



Sophia D. Skoda  
Director of Finance – East Bay Municipal Utility District  
Treasurer – Employees' Retirement System

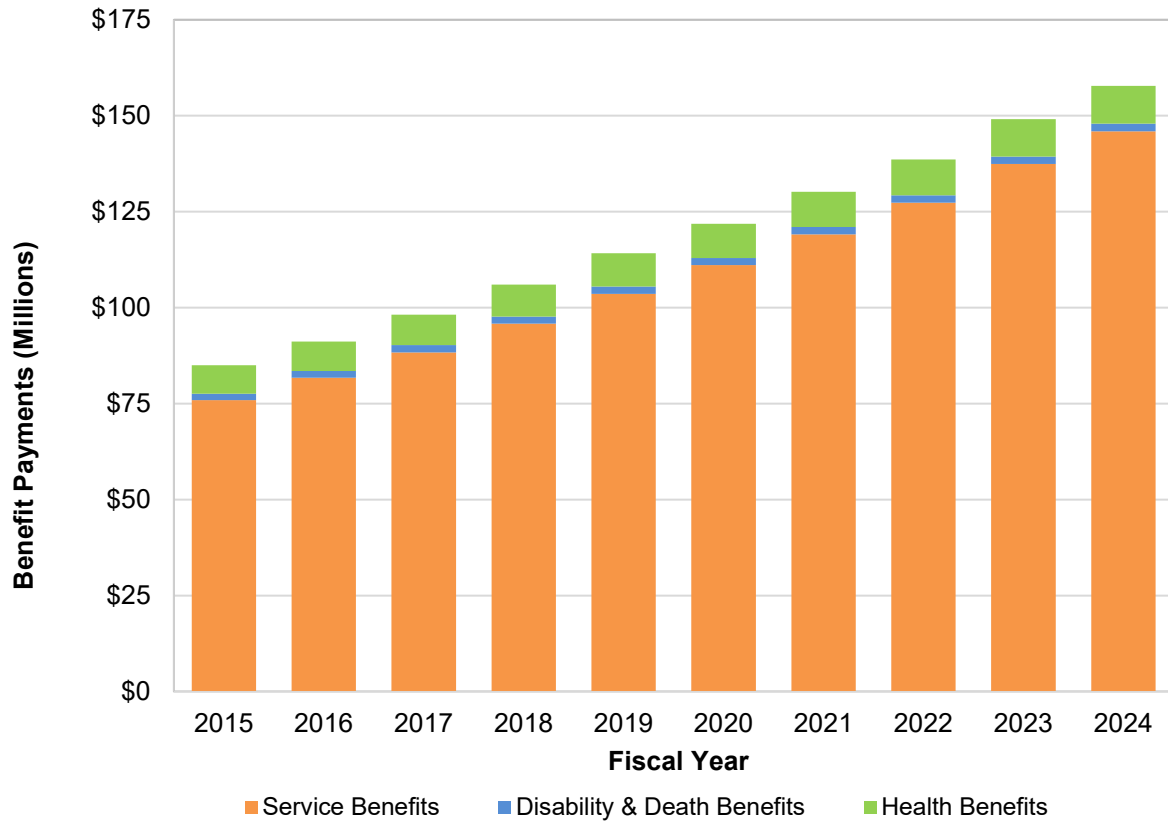
DG:WH:yc

**Chart 1:  
 Membership Activity**



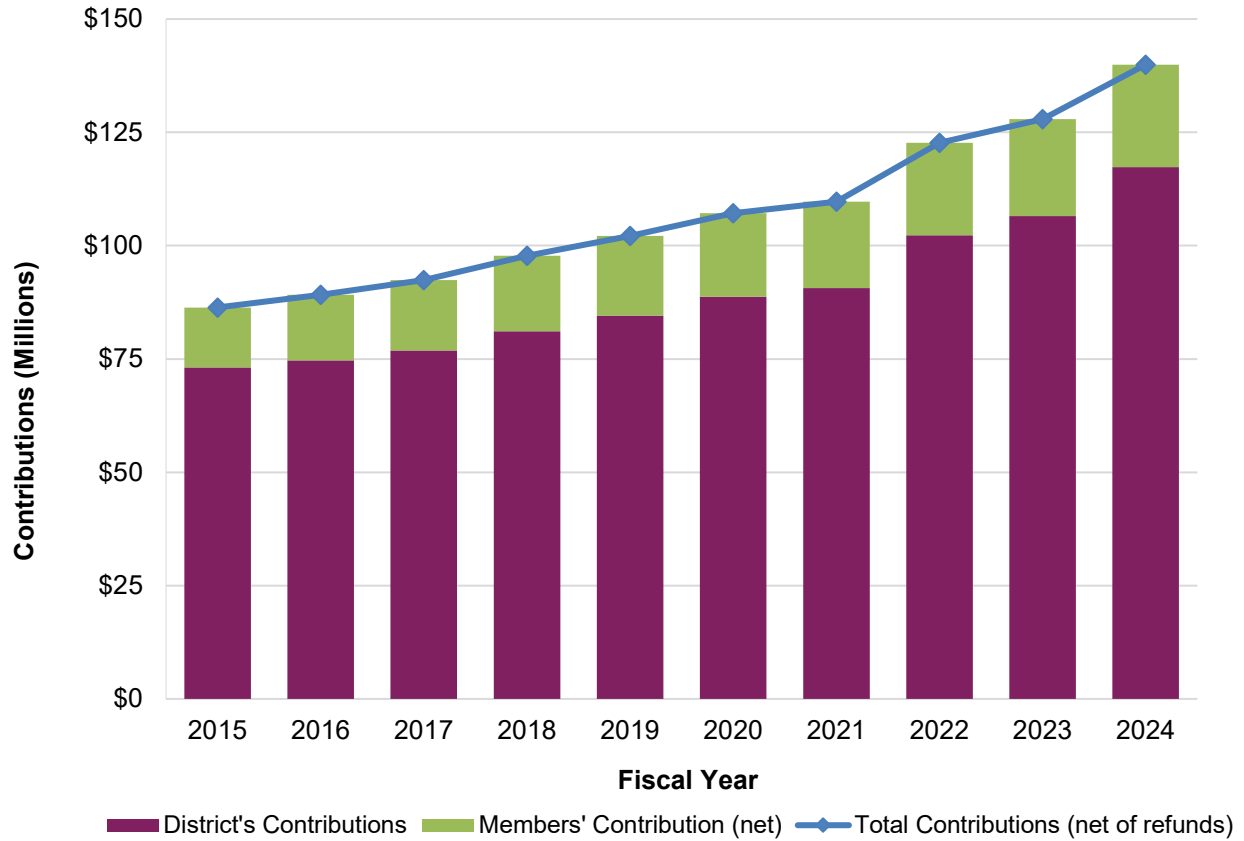
| <b>Membership Activity</b>    |              |              |              |              |              |              |              |              |              |              |
|-------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| <b>Fiscal Year</b>            | <b>2015</b>  | <b>2016</b>  | <b>2017</b>  | <b>2018</b>  | <b>2019</b>  | <b>2020</b>  | <b>2021</b>  | <b>2022</b>  | <b>2023</b>  | <b>2024</b>  |
| Active: Vested and Non-Vested | 2,004        | 2,051        | 2,070        | 2,126        | 2,152        | 2,224        | 2,228        | 2,267        | 2,362        | 2,381        |
| Service Retirees              | 1,278        | 1,335        | 1,422        | 1,474        | 1,550        | 1,600        | 1,667        | 1,733        | 1,775        | 1,844        |
| Disability Retirees           | 59           | 59           | 60           | 62           | 61           | 56           | 56           | 56           | 53           | 53           |
| Survivors                     | 226          | 236          | 230          | 230          | 232          | 242          | 252          | 254          | 273          | 279          |
| <b>Total</b>                  | <b>3,567</b> | <b>3,681</b> | <b>3,782</b> | <b>3,892</b> | <b>3,995</b> | <b>4,122</b> | <b>4,203</b> | <b>4,310</b> | <b>4,463</b> | <b>4,557</b> |

**Chart 2:  
 Service, Disability, Death & Health Benefits  
 Paid to Retired Members**



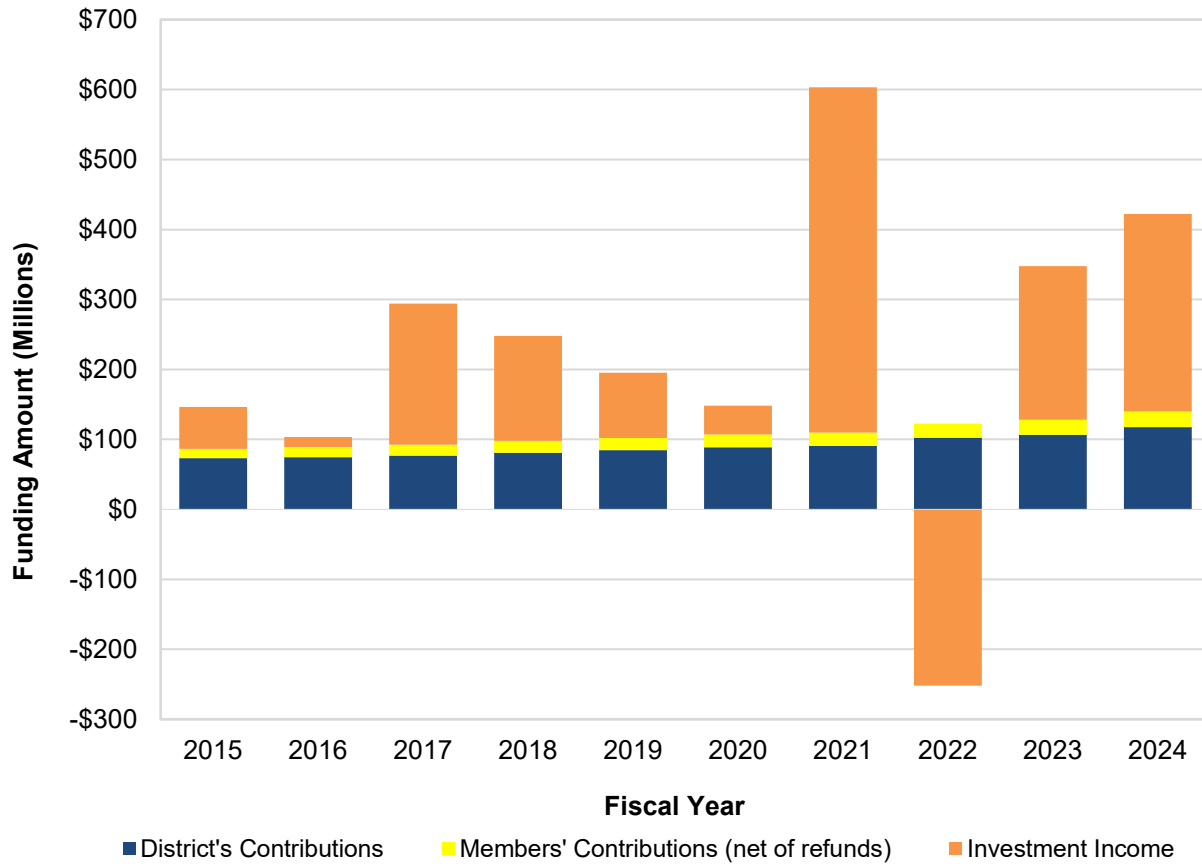
| <b>Service, Disability, Death, and Health Benefits (in \$ millions)</b> |              |              |              |               |               |               |               |               |               |               |
|---|--------------|--------------|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>Fiscal Year</b>  | <b>2015</b>  | <b>2016</b>  | <b>2017</b>  | <b>2018</b>   | <b>2019</b>   | <b>2020</b>   | <b>2021</b>   | <b>2022</b>   | <b>2023</b>   | <b>2024</b>   |
| Service Benefits  | 75.88        | 81.77        | 88.32        | 95.81         | 103.56        | 111.07        | 119.13        | 127.38        | 137.47        | 145.95        |
| Disability and Death Benefits   | 1.71         | 1.70         | 1.92         | 1.86          | 1.96          | 1.86          | 1.85          | 1.86          | 1.93          | 2.00          |
| Health Benefits   | 7.39         | 7.68         | 7.91         | 8.31          | 8.65          | 8.96          | 9.22          | 9.34          | 9.70          | 9.82          |
| <b>Total</b>  | <b>84.98</b> | <b>91.15</b> | <b>98.15</b> | <b>105.98</b> | <b>114.17</b> | <b>121.89</b> | <b>130.20</b> | <b>138.58</b> | <b>149.10</b> | <b>157.77</b> |

**Chart 3:  
 Contributions Received**



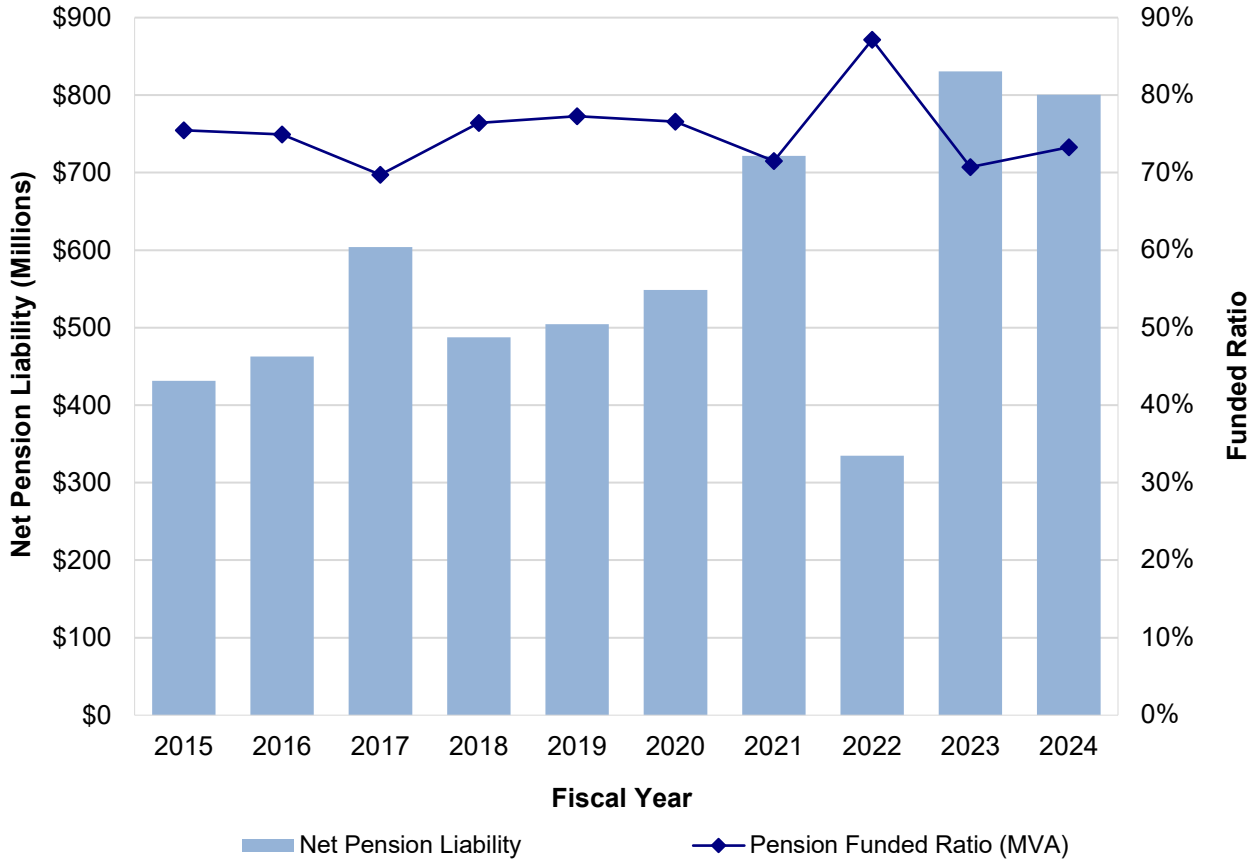
| <b>Contributions Received (in \$ millions)</b> |             |             |             |             |             |             |             |             |             |             |
|--|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| <b>Fiscal Year</b>                             | <b>2015</b> | <b>2016</b> | <b>2017</b> | <b>2018</b> | <b>2019</b> | <b>2020</b> | <b>2021</b> | <b>2022</b> | <b>2023</b> | <b>2024</b> |
| District Contributions                         | 73.14       | 74.67       | 76.86       | 81.10       | 84.55       | 88.73       | 90.62       | 102.28      | 106.52      | 117.34      |
| Members Contributions (net)                    | 13.22       | 14.51       | 15.55       | 16.68       | 17.60       | 18.42       | 19.06       | 20.43       | 21.40       | 22.61       |
| Total Contributions (net of refunds)           | 86.36       | 89.18       | 92.41       | 97.78       | 102.15      | 107.15      | 109.68      | 122.71      | 127.92      | 139.95      |

**Chart 4:  
 Sources of Funds**



| <b>Total Source of Funds (in \$ millions)</b> |             |             |             |             |             |             |             |             |             |             |
|---|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| <b>Fiscal Year</b>                            | <b>2015</b> | <b>2016</b> | <b>2017</b> | <b>2018</b> | <b>2019</b> | <b>2020</b> | <b>2021</b> | <b>2022</b> | <b>2023</b> | <b>2024</b> |
| Investment Income/(loss)                      | 60.23       | 14.20       | 201.68      | 150.35      | 93.25       | 40.86       | 493.55      | (252.00)    | 219.63      | 282.05      |
| Members Contributions (net of refunds)        | 13.22       | 14.51       | 15.55       | 16.68       | 17.60       | 18.42       | 19.06       | 20.43       | 21.40       | 22.61       |
| District Contributions                        | 73.14       | 74.67       | 76.86       | 81.10       | 84.55       | 88.73       | 90.62       | 102.28      | 106.52      | 117.34      |

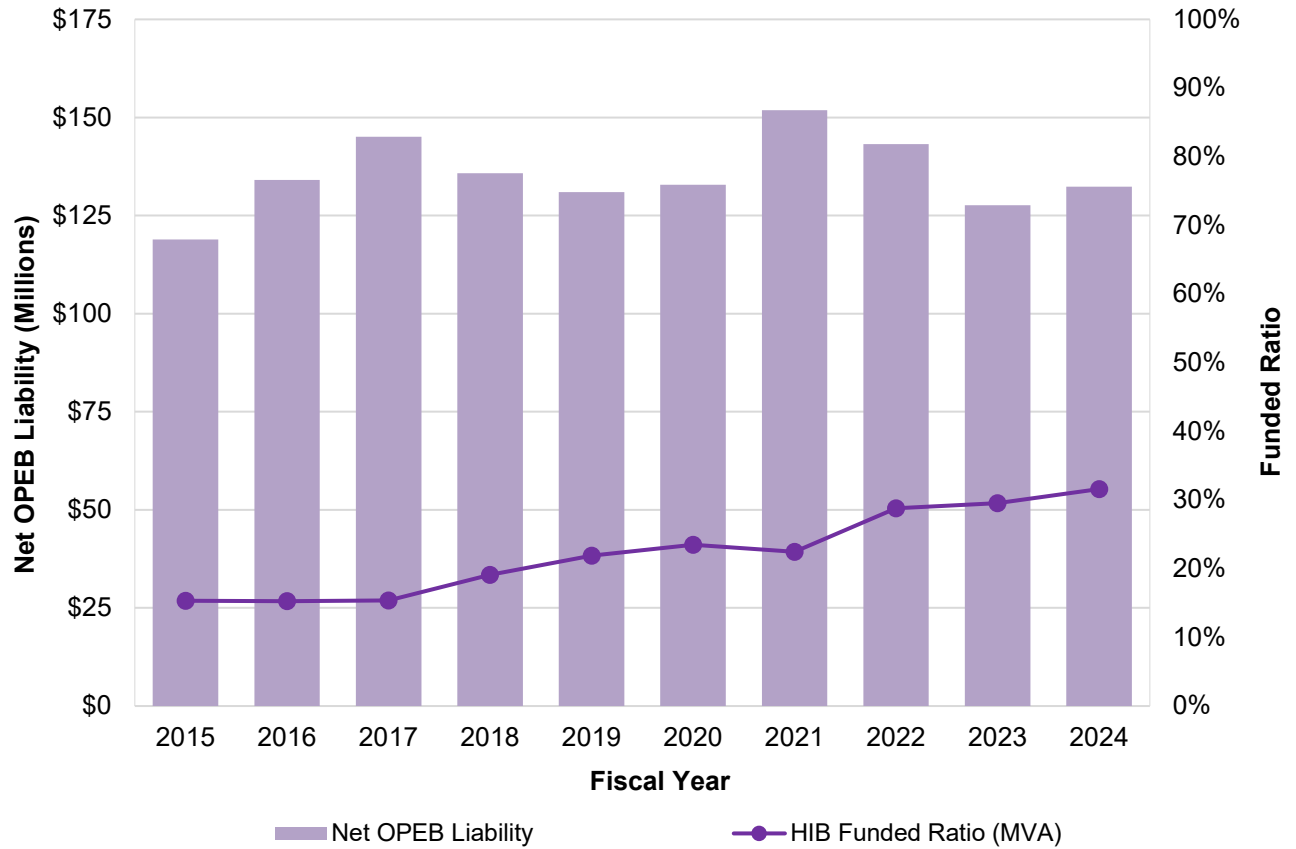
**Chart 5:  
 Net Pension Liability & Funded Ratio**



| <b>Net Pension Liability (in \$ millions) and Funded Ratio</b> |             |             |             |             |             |             |             |             |             |             |
|--|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| <b>Fiscal Year (Reporting Year)</b>                            | <b>2015</b> | <b>2016</b> | <b>2017</b> | <b>2018</b> | <b>2019</b> | <b>2020</b> | <b>2021</b> | <b>2022</b> | <b>2023</b> | <b>2024</b> |
| Net Pension Liability <sup>(1)</sup>                           | 431.32      | 462.86      | 604.09      | 487.46      | 504.50      | 548.65      | 721.65      | 334.85      | 830.42      | 800.29      |
| Pension Funded Ratio   | 75.5%       | 74.9%       | 69.7%       | 76.4%       | 77.3%       | 76.6%       | 71.5%       | 87.2%       | 70.7%       | 73.3%       |

<sup>(1)</sup> NPL is calculated in accordance with GASB 67/68. The NPL is the difference between Total Pension Liability and Fiduciary Net Position of the Pension Plan.

**Chart 6:  
 Net OPEB Liability & Funded Ratio**



| Net OPEB Liability (in \$ millions) and Funded Ratio |        |        |        |        |        |        |        |        |        |        |
|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Fiscal Year (Reporting Year)                         | 2015   | 2016   | 2017   | 2018   | 2019   | 2020   | 2021   | 2022   | 2023   | 2024   |
| Net OPEB Liability <sup>(1)</sup>                    | 118.92 | 134.06 | 145.09 | 135.81 | 131.01 | 132.87 | 151.84 | 143.18 | 127.66 | 132.38 |
| HIB Funded Ratio                                     | 15.3%  | 15.3%  | 15.4%  | 19.1%  | 21.9%  | 23.5%  | 22.5%  | 28.8%  | 29.6%  | 31.6%  |

<sup>(1)</sup> NOL is calculated in accordance with GASB 74/75. The NOL is the difference between Total OPEB Liability and Fiduciary Net Position of the HIB Plan.



EAST BAY MUNICIPAL UTILITY DISTRICT  
EMPLOYEES' RETIREMENT SYSTEM  
(A COMPONENT UNIT OF THE EAST BAY MUNICIPAL  
UTILITY DISTRICT)

FOR THE YEAR ENDED JUNE 30, 2024

FINANCIAL STATEMENTS AND  
SUPPLEMENTARY INFORMATION

Focused  
on YOU



EAST BAY MUNICIPAL UTILITY DISTRICT  
EMPLOYEES' RETIREMENT SYSTEM

(A Component Unit of the East Bay Municipal Utility District)

Financial Statements and Supplementary Information

For the Year Ended June 30, 2024

Table of Contents

|  | <u>Page</u> |
|--|-------------|
| <b>Independent Auditors' Report</b> .....  | 1           |
| <b>Management's Discussion and Analysis</b> .....  | 4           |
| <b>Basic Financial Statements:</b>   |             |
| Statement of Fiduciary Net Position as of June 30, 2024.....   | 12          |
| Statement of Changes in Fiduciary Net Position for the Year Ended June 30, 2024 .....  | 13          |
| Notes to Basic Financial Statements .....  | 14          |
| <b>Required Supplementary Information:</b>   |             |
| Schedule of Changes in Employer's Net Pension Liability – Pension Plan.....  | 34          |
| Schedule of Employer's Net Pension Liability – Pension Plan .....  | 35          |
| Schedule of Employer's Contributions – Pension Plan.....   | 36          |
| Schedule of Investment Returns – Pension Plan .....  | 36          |
| Schedule of Changes in Employer's Net OPEB Liability –<br>Post-Employment Healthcare Plan.....   | 37          |
| Schedule of Employer's Net OPEB Liability – Post-Employment Healthcare Plan .....  | 38          |
| Schedule of Employer's Contributions – Post-Employment Healthcare Plan.....  | 38          |
| Notes to Required Supplementary Information.....   | 39          |
| <b>Independent Auditors' Report on Internal Control Over Financial Reporting and on<br/>Compliance and Other Matters Based on an Audit of Financial Statements<br/>Performed in Accordance with <i>Government Auditing Standards</i></b> ..... | 41          |



## INDEPENDENT AUDITORS' REPORT

To the Board of Directors  
East Bay Municipal Utility District Employees' Retirement System  
Oakland, California

### Report on the Audit of the Financial Statements

#### **Opinion**

We have audited the accompanying financial statements of the East Bay Municipal Utility District Employees' Retirement System (the System), a component unit of the East Bay Municipal Utility District (the District), as of and for the year ended June 30, 2024, and the related notes to the financial statements, as listed in the table of contents.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the System, as of June 30, 2024, and the respective changes in financial position thereof for the year then ended in accordance with accounting principles generally accepted in the United States of America.

#### **Basis for Opinion**

We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of the System and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

#### **Emphasis of Matter**

##### *Component Unit Reporting*

As discussed in Note 1, the financial statements of the System are intended to present the financial position, the changes in financial position, of the District that is attributable to the transactions of the System. They do not purport to, and do not, present fairly the financial position of the District, as of June 30, 2024, the changes in its financial position, for the year then ended in accordance with accounting principles generally accepted in the United States of America. Our opinion is not modified with respect to this matter.

#### **Responsibilities of Management for the Financial Statements**

Management is responsible for the preparation and fair presentation of the financial statements in accordance with accounting principles generally accepted in the United States of America, and for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the System's ability to continue as a going concern for twelve months beyond the financial statement date, including any currently known information that may raise substantial doubt shortly thereafter.



To the Board of Directors  
East Bay Municipal Utility District Employees' Retirement System  
Oakland, California

### ***Auditor's Responsibilities for the Audit of the Financial Statements***

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinions. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with generally accepted auditing standards and *Government Auditing Standards* will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.

In performing an audit in accordance with generally accepted auditing standards and *Government Auditing Standards*, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the System's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the System's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control-related matters that we identified during the audit.

### ***Required Supplementary Information***

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis, and the required pension and other postemployment benefits schedules, as listed on the table of contents, be presented to supplement the basic financial statements. Such information is the responsibility of management and, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.



To the Board of Directors  
East Bay Municipal Utility District Employees' Retirement System  
Oakland, California

***Summarized Comparative Information***

We have previously audited the financial statements of the System for the year ended June 30, 2023, and expressed an unmodified audit opinion on those financial statements in our report dated October 5, 2023. In our opinion, the summarized comparative information presented herein as of and for the year ended June 30, 2023, is consistent, in all material respects, with the audited financial statements from which it has been derived.

***Other Reporting Required by Government Auditing Standards***

In accordance with *Government Auditing Standards*, we have also issued our report dated October 29, 2024, on our consideration of the District's internal control over the System's financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the District's internal control over the System's financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the District's internal control over the System's financial reporting and compliance.

*Lance, Solt & Loughard, LLP*

Brea, California  
October 29, 2024

**EAST BAY MUNICIPAL UTILITY DISTRICT  
EMPLOYEES' RETIREMENT SYSTEM**  
(A Component Unit of the East Bay Municipal Utility District)

Management's Discussion and Analysis

(Dollars in thousands)

June 30, 2024

This section presents management's analysis of the East Bay Municipal Utility District Employees' Retirement System's (the System) financial condition and activities as of and for the year ended June 30, 2024. Management's Discussion and Analysis (MD&A) is intended to serve as an introduction to the System's basic financial statements. The MD&A represents management's examination and analysis of the System's financial condition and performance.

This information should be read in conjunction with the audited financial statements that follow this section. The information in the MD&A is presented under the following headings:

- Organization and Business
- Overview of the Financial Statements
- Financial Analysis: *Financial Highlights*
- Financial Analysis: *Financial Condition*
- Factors Impacting Future Periods
- Request for Information

**Organization and Business**

The East Bay Municipal Utility District (the District) is the sponsoring agency of the System and provides for its funding. The System is accounted for on a flow of economic resources measurement focus, using the accrual basis of accounting. Under this method, all assets and deferred outflows, all liabilities and deferred inflows associated with operations are included on the Statement of Fiduciary Net Position, and revenues are recorded when earned and expenses are recorded at the time liabilities are incurred.

The System administers a single-employer, contributory, defined benefit pension plan (the Plan) which provides retirement, disability, survivorship, and postemployment healthcare benefits for eligible directors, officers, and employees of the District. The Plan is administered by a retirement board composed of three members appointed by the District's board of directors, two members elected by and from the active membership of the Plan, and a nonvoting member elected by the retirees of the Plan. Retirement Ordinance Number 40 assigns the authority to establish Plan benefit provisions to the District's board of directors.

All regular full-time employees of the District are members of the Plan. In accordance with the ordinance governing the Plan, eligible employees become members on the first day they are physically on the job. Plan defined benefits vest in part with members after completion of five years of continuous, full-time employment.

For additional information, please see the notes to the basic financial statements.

**EAST BAY MUNICIPAL UTILITY DISTRICT  
EMPLOYEES' RETIREMENT SYSTEM**  
(A Component Unit of the East Bay Municipal Utility District)

Management's Discussion and Analysis

(Dollars in thousands)

June 30, 2024

**Overview of the Financial Statements**

The basic financial statements include a *statement of fiduciary net position*, a *statement of changes in fiduciary net position*, and *notes to basic financial statements*. The report also contains other required supplementary information in addition to the financial statements.

The system's financial statements include:

The *Statement of Fiduciary Net Position and the Statement of Changes in Fiduciary Net Position* report information to assist readers in determining whether the System's finances as a whole are better off or worse off as a result of the year's activities. These two statements report the net assets of the System and changes in them, respectively.

The *Statement of Fiduciary Net Position* presents information on all assets and liabilities of the System, with the difference between the two reported as net position. Over time, increases or decreases in net position may serve as a useful indicator of whether the financial position of the System is improving or deteriorating.

The *Statement of Changes in Fiduciary Net Position* presents the results of the System's activities over the course of the fiscal year and information as to how the *net position* changed during the year. This statement measures the results of the System's investment performance as well as the System's income from contributions and expenses, including the payment of benefits, refunds of contributions, and administrative and investment expense. All changes in net position are reported during the period the underlying event giving rise to the change occurs, regardless of the timing of the related cash flows. Thus, revenues and expenses are reported in this statement for some items that will result in cash flows in future fiscal periods.

The *Notes to the Basic Financial Statements* provide additional information that is essential to a full understanding of the data provided in the basic financial statements. Effective fiscal year 2017, GASB 74 – *Financial Reporting for Postemployment Benefit Plans other than Pension Plans*, requires the System to disclose additional information regarding post-employment health insurance benefits (the OPEB Plan). These disclosures can be found in Note 7. The notes to the basic financial statements can be found on pages 14 to 33 of this report.

*Other Information.* In addition to the financial statements and accompanying notes, this report also presents certain *required supplementary information* concerning the District's contributions and the System's progress in funding its obligation to provide pension and postemployment healthcare benefits to the employees of the District. The required supplementary information can be found on page 34 to 40 of this report.

**EAST BAY MUNICIPAL UTILITY DISTRICT  
EMPLOYEES' RETIREMENT SYSTEM**  
(A Component Unit of the East Bay Municipal Utility District)

Management's Discussion and Analysis

(Dollars in thousands)

June 30, 2024

**Financial Analysis: Financial Highlights**

- The total assets of the System exceeded the total liabilities by \$2,517,031 as of June 30, 2024 (Table 1). All of the net assets are available to meet the System's ongoing obligations to Plan participants and their beneficiaries.
- The net position increased by \$261,724 or 11.60% during the fiscal year ended June 30, 2024, compared to the increase of \$196,384 or 9.54% of the prior year. The net investment income of \$282,051, District contributions of \$117,342 and employee contributions of \$23,877 were offset in part by the cost of pension, health insurance benefits, refunds of contributions, and administrative expenses of \$161,546.
- As of June 30, 2024, 21.8% of the System's investments were in fixed income securities, 28.3% were in domestic equities, 24.3% were in international equities, 20.6% were in covered calls, 4.7% were in real estate, and 0.1% were in cash and cash equivalents. As of June 30, 2023, 23.4% of the System's investments were in fixed income securities, 26.3% were in domestic equities, 24.3% were in international equities, 20.5% were in covered calls, 5.4% were in real estate, and 0.2% were in cash and cash equivalents.
- The Plan's funding objective is to meet long-term benefit obligations through contributions and investment income. As of June 30, 2023, the date of the last actuarial valuation, the Pension Plan's funded ratio was 75.20% and the Post-employment Health Care plan funded ratio was 47.70%.
- During the fiscal year ended June 30, 2024, combined District and employee contributions increased by \$12,608 or 9.80% to \$141,219 (Table 2). For the 1980 Plan, the District's contribution rate increased from 47.16% in the prior year to 48.48% and the employees' contribution rate remained unchanged at 8.75%. For the 2013 Plan, the District's contribution rate increased from 37.84% in the prior year to 39.21% and the employees' contribution rate remained unchanged at 9.50%.
- Retirement, Disability, and Survivor Pension Benefits Paid increased by \$8,550 or 6.13% to \$147,947 (Table 3), due to largely to a 3.00% cost-of-living adjustment to monthly benefit payments and a net increase in the number of retirees and beneficiaries.
- Health Insurance Benefits increased by \$119, or 1.23%, to \$9,824 (Table 3), primarily due to the increase in the number of retirees receiving health benefits.
- Refunds of Contributions to terminated employees or deceased employees' beneficiaries increased by \$585 or 85.53%, to \$1,269 (Table 3).
- Administrative expenses (not including Investment Advisors' Fees or Custodial Asset Management Fees) increased by \$233, or 10.25%, to \$2,506 (Table 3).
- Based on GASB Statement No. 96—Subscription-Based Information Technology Arrangements (SBITA), the implementation costs before the commencement of the subscription term are capitalized. During the fiscal year 2023, the System initiated the implementation of a new retirement management system (known as Pension Gold) to replace the existing system. Pension Gold currently is scheduled to be put into operation in the third quarter of fiscal year 2026. As of June 30, 2024, and June 30, 2023, \$4,240 and \$1,692, respectively, have been expended for this software implementation which is reported as a capital asset in the Statements of Plan Net Position.

**EAST BAY MUNICIPAL UTILITY DISTRICT  
EMPLOYEES' RETIREMENT SYSTEM**  
(A Component Unit of the East Bay Municipal Utility District)

Management's Discussion and Analysis

(Dollars in thousands)

June 30, 2024

**Financial Analysis: Financial Condition**

During the year ended June 30, 2024, the System's net position increased by \$261,724 compared to an increase of \$196,384 in 2023.

The System's financial condition reflects an increase of \$156,221 in the projected benefit obligation as of the June 30, 2023 valuation, versus the previous actuarial report of June 30, 2022. Due to an increase in investment returns and an increase in District and employee contributions, the market value of assets as of June 30, 2023, increased by \$196,384, year-over-year. Each year a cost-of-living adjustment (COLA) is applied to monthly pension benefit payments. The COLA is calculated under a methodology that incorporates the change in the Consumer Price Index for the local area and the System's funded ratio. The COLA applied on July 1, 2023 was 3.00%.

The funded ratio for Unfunded Actuarial Accrued Liability (UAAL) of the Pension and health Insurance Benefit plans combined decreased from 74.70% to 74.00% as of the June 30, 2023 actuarial report versus the previous actuarial report of June 30, 2022. The component Plans of Pension and Health Insurance Benefit changed from 76.10% to 75.20% and 44.00% to 47.70% funded, respectively, as of June 30, 2022 and June 30, 2023.

(Table 1)

**Net Position**

Years ended June 30, 2024 and 2023

|                           | <b>2024</b>         | <b>2023</b>         | <b>Variance</b>   | <b>%</b>      |
|---------------------------|---------------------|---------------------|-------------------|---------------|
| Other assets              | \$ 148,717          | \$ 118,338          | \$ 30,379         | 25.67%        |
| Investments at fair value | 2,476,947           | 2,219,004           | 257,943           | 11.62%        |
| Capital Asset             | 4,240               | 1,692               | 2,548             | 150.59%       |
| Total assets              | 2,629,904           | 2,339,034           | 290,870           | 12.44%        |
| Total liabilities         | 112,873             | 83,727              | 29,146            | 34.81%        |
| Net position              | <u>\$ 2,517,031</u> | <u>\$ 2,255,307</u> | <u>\$ 261,724</u> | <u>11.60%</u> |

(Table 1)

**Net Position**

Years ended June 30, 2023 and 2022

|                           | <b>2023</b>         | <b>2022</b>         | <b>Variance</b>   | <b>%</b>     |
|---------------------------|---------------------|---------------------|-------------------|--------------|
| Other assets              | \$ 118,338          | \$ 136,616          | \$ (18,278)       | (13.38)%     |
| Investments at fair value | 2,219,004           | 2,026,714           | 192,290           | 9.49%        |
| Capital Asset             | 1,692               | -                   | 1,692             | 0.00%        |
| Total assets              | 2,339,034           | 2,163,330           | 175,704           | 8.12%        |
| Total liabilities         | 83,727              | 104,407             | (20,680)          | (19.81)%     |
| Net position              | <u>\$ 2,255,307</u> | <u>\$ 2,058,923</u> | <u>\$ 196,384</u> | <u>9.54%</u> |

**EAST BAY MUNICIPAL UTILITY DISTRICT  
EMPLOYEES' RETIREMENT SYSTEM**  
(A Component Unit of the East Bay Municipal Utility District)

Management's Discussion and Analysis

(Dollars in thousands)

June 30, 2024

The financial reserves needed to fund retirement and health benefits are accumulated through the collection of employer and employee contributions and through investment earnings. As Table 2 shows, the System experienced net investment gain for 2024.

**(Table 2)**

**Additions to Net Position**

Years ended June 30, 2024 and 2023

|                        | <u>2024</u>       | <u>2023</u>       | <u>Variance</u>  | <u>%</u>     |
|------------------------|-------------------|-------------------|------------------|--------------|
| Employer contributions | \$ 117,342        | \$ 106,523        | \$ 10,819        | 10.16%       |
| Members' contributions | 23,877            | 22,088            | 1,789            | 8.10%        |
| Total contributions    | <u>141,219</u>    | <u>128,611</u>    | <u>12,608</u>    | <u>9.80%</u> |
| Net investment gain*   | <u>282,051</u>    | <u>219,832</u>    | <u>62,219</u>    |              |
| Total additions, net   | <u>\$ 423,270</u> | <u>\$ 348,443</u> | <u>\$ 74,827</u> |              |

\* Net of investment expenses and net of securities lending transactions of \$3,404 for June 30, 2024, and \$3,423 for June 30, 2023.

**(Table 2)**

**Additions to Net Position**

Years ended June 30, 2023 and 2022

|                                   | <u>2023</u>       | <u>2022</u>         | <u>Variance</u>   | <u>%</u>     |
|-----------------------------------|-------------------|---------------------|-------------------|--------------|
| Employer contributions            | \$ 106,523        | \$ 102,285          | \$ 4,238          | 4.14%        |
| Members' contributions            | 22,088            | 21,127              | 961               | 4.55%        |
| Total contributions               | <u>128,611</u>    | <u>123,412</u>      | <u>5,199</u>      | <u>4.21%</u> |
| Net investment gain/(loss)*       | <u>219,832</u>    | <u>(252,009)</u>    | <u>471,841</u>    |              |
| Total additions/(deductions), net | <u>\$ 348,443</u> | <u>\$ (128,597)</u> | <u>\$ 477,040</u> |              |

\* Net of investment expenses and net of securities lending transactions of \$3,423 for June 30, 2023, and \$3,363 for June 30, 2022.

**EAST BAY MUNICIPAL UTILITY DISTRICT  
EMPLOYEES' RETIREMENT SYSTEM**  
(A Component Unit of the East Bay Municipal Utility District)

Management's Discussion and Analysis

(Dollars in thousands)

June 30, 2024

As summarized in Table 3, the Plan provides retirement, disability, survivor, and health insurance benefits to qualified members and their beneficiaries. The Plan must also provide refunds of employee contributions with interest to terminated employees who do not choose to remain or are not vested.

**(Table 3)**

**Deductions in Net Position**

Years ended June 30, 2024 and 2023

|                          | <u>2024</u>       | <u>2023</u>       | <u>Variance</u> | <u>%</u>     |
|--------------------------|-------------------|-------------------|-----------------|--------------|
| Pension benefits paid    | \$ 147,947        | \$ 139,397        | \$ 8,550        | 6.13%        |
| Health insurance         |                   |                   |                 |              |
| benefits paid            | 9,824             | 9,705             | 119             | 1.23%        |
| Refunds of contributions | 1,269             | 684               | 585             | 85.53%       |
| Administrative expenses  | 2,506             | 2,273             | 233             | 10.25%       |
| Total deductions         | <u>\$ 161,546</u> | <u>\$ 152,059</u> | <u>\$ 9,487</u> | <u>6.24%</u> |

**(Table 3)**

**Deductions in Net Position**

Years ended June 30, 2023 and 2022

|                          | <u>2023</u>       | <u>2022</u>       | <u>Variance</u>  | <u>%</u>     |
|--------------------------|-------------------|-------------------|------------------|--------------|
| Pension benefits paid    | \$ 139,397        | \$ 129,241        | \$ 10,156        | 7.86%        |
| Health insurance         |                   |                   |                  |              |
| benefits paid            | 9,705             | 9,341             | 364              | 3.90%        |
| Refunds of contributions | 684               | 699               | (15)             | (2.15)%      |
| Administrative expenses  | 2,273             | 1,921             | 352              | 18.32%       |
| Total deductions         | <u>\$ 152,059</u> | <u>\$ 141,202</u> | <u>\$ 10,857</u> | <u>7.69%</u> |

**EAST BAY MUNICIPAL UTILITY DISTRICT  
EMPLOYEES' RETIREMENT SYSTEM**  
(A Component Unit of the East Bay Municipal Utility District)

Management's Discussion and Analysis

(Dollars in thousands)

June 30, 2024

Beginning fiscal year 2014, the District is required to present the past 10 years of the Net Pension Liability (NPL) for the Employees' Retirement System pension plan (excluding Other Post-Employment Benefits) as it becomes available. The District has provided the past three fiscal years from 2022 through 2024 in the footnotes and the past ten fiscal years from 2015 through 2024 in the Required Supplemental Information. The NPL measured as of June 30, 2023 and 2022 have been determined from the actuarial valuations as of June 30, 2023 and 2022 respectively. As summarized in Table 4, the NPL decreased by \$30,132 from \$830,419 as of June 30, 2023 to \$800,287 as of June 30, 2024 primarily due to the approximate return on the market value of assets for the Pension Plan of 10.75% during 2022/2023 that was more than the assumption of 6.75% used in the June 30, 2023 valuation (that gain was about \$80 million for the Pension Plan), offset somewhat by higher than expected salary increases for continuing active members (that loss was about \$21 million) and higher than expected cost of living adjustment increases for payees (that loss was about \$35 million).

**(Table 4)**

**Net Pension Liability**

Years ended June 30, 2024 and 2023

|  | <u>2024</u> | <u>2023</u> | <u>Variance</u> | <u>%</u> |
|--|-------------|-------------|-----------------|----------|
| Net Pension Liability  | \$ 800,287  | \$ 830,419  | \$ (30,132)     | (3.63)%  |
| Plan net position as a percentage of Total Pension Liability | 73.27%      | 70.72%      | 2.55%           | 3.61%    |

**(Table 4)**

**Net Pension Liability**

Years ended June 30, 2023 and 2022

|  | <u>2023</u> | <u>2022</u> | <u>Variance</u> | <u>%</u> |
|--|-------------|-------------|-----------------|----------|
| Net Pension Liability  | \$ 830,419  | \$ 334,851  | \$ 495,568      | 148.00%  |
| Plan net position as a percentage of Total Pension Liability | 70.72%      | 87.15%      | (16.43)%        | (18.85)% |

**EAST BAY MUNICIPAL UTILITY DISTRICT  
EMPLOYEES' RETIREMENT SYSTEM**  
(A Component Unit of the East Bay Municipal Utility District)

Management's Discussion and Analysis

(Dollars in thousands)

June 30, 2024

Beginning fiscal year 2017, the District is required to present the past 10 years of the Net OPEB Liability (NOL) for the Employees' Retirement System health benefit plan as it becomes available. The District has provided the past three fiscal years from 2022 through 2024 in the footnotes and the past nine fiscal years from 2016 through 2024 in the Required Supplemental Information. The NOL measured as of June 30, 2023 and 2022 have been determined from the actuarial valuations as of June 30, 2023 and 2022 respectively. As summarized in Table 5, the NOL increased by \$4,723 from \$127,658 as of June 30, 2023 to \$132,381 as of June 30, 2024 primarily due to larger than expected premium increases. The premium increases had very little impact on the plan's fixed future explicit subsidies but resulted in a higher liability attributable to future implicit subsidies. The liability loss from the premium experience contributed to the change in the blended discount rate, from 5.35% to 5.23%, which also increased the NOL. The increase in liability from these assumption changes was partially offset by an investment gain, exceeding the expected return, roughly \$2 million.

**(Table 5)**

**Net OPEB Liability**

Years ended June 30, 2024 and 2023

|   | <b>2024</b> | <b>2023</b> | <b>Variance</b> | <b>%</b> |
|---|-------------|-------------|-----------------|----------|
| Net OPEB Liability  | \$ 132,381  | \$ 127,658  | \$ 4,723        | 3.70%    |
| Plan net position as a percentage of Total OPEB Liability | 31.60%      | 29.56%      | 2.04%           | 6.90%    |

**(Table 5)**

**Net OPEB Liability**

Years ended June 30, 2023 and 2022

|   | <b>2023</b> | <b>2022</b> | <b>Variance</b> | <b>%</b> |
|---|-------------|-------------|-----------------|----------|
| Net OPEB Liability  | \$ 127,658  | \$ 143,176  | \$ (15,518)     | (10.84)% |
| Plan net position as a percentage of Total OPEB Liability | 29.56%      | 28.82%      | 0.74%           | 2.57%    |

**Request for Information**

This financial report is designed to provide viewers with a general overview of the East Bay Municipal Utility District Employees' Retirement System's finances and demonstrate the District's accountability for the monies it manages. If you have any questions about this report or need additional information, please contact: Controller, Accounting Division MS #402, P.O. Box 24055, Oakland, California 94623-1055.

**EAST BAY MUNICIPAL UTILITY DISTRICT  
EMPLOYEES' RETIREMENT SYSTEM  
(A Component Unit of the East Bay Municipal Utility District)**

**Statement of Fiduciary Net Position  
June 30, 2024  
(With summarized comparative financial information as of June 30, 2023)  
(Dollars in Thousands)**

|  | <b>2024</b>                      |   |                     | <b>2023<br/>Total</b> |
|--|----------------------------------|---|---------------------|-----------------------|
|  | <b>Pension Plan<br/>benefits</b> | <b>Post-<br/>employment<br/>healthcare<br/>benefits</b> | <b>Total</b>        |                       |
| <b>Assets:</b>   |                                  |   |                     |                       |
| Cash and cash equivalents, at fair value<br>(Note 5)                                       | \$ 27,985                        | \$ 806  | \$ 28,791           | \$ 27,677             |
| Invested securities lending collateral   | 103,576                          | 2,985   | 106,561             | 77,906                |
| Prepaid expenses   | -                                | 598   | 598                 | 575                   |
| Receivables:   |                                  |   |                     |                       |
| Brokers, securities sold   | 2,010                            | 58  | 2,068               | 2,854                 |
| Employer   | 4,129                            | 493   | 4,622               | 3,705                 |
| Plan members   | 962                              | -   | 962                 | 788                   |
| Interest, dividends and recoverable taxes  | 4,972                            | 143   | 5,115               | 4,833                 |
| <b>Total Receivables</b>   | <b>12,073</b>                    | <b>694</b>  | <b>12,767</b>       | <b>12,180</b>         |
| Investments, at fair value (Note 5):   |                                  |   |                     |                       |
| U.S. government obligations  | 329,066                          | 9,483   | 338,549             | 316,624               |
| Domestic corporate bonds   | 174,918                          | 5,041   | 179,959             | 180,262               |
| International bonds  | 14,200                           | 409   | 14,609              | 18,808                |
| Domestic stocks  | 1,178,448                        | 33,960  | 1,212,408           | 1,033,186             |
| International stocks   | 595,407                          | 17,158  | 612,565             | 548,124               |
| Real estate  | 115,528                          | 3,329   | 118,857             | 122,000               |
| <b>Total Investments</b>   | <b>2,407,567</b>                 | <b>69,380</b>   | <b>2,476,947</b>    | <b>2,219,004</b>      |
| Capital assets:  |                                  |   |                     |                       |
| Subscription Asset In-Progress (note 9)  | 4,121                            | 119   | 4,240               | 1,692                 |
| <b>Total Assets</b>  | <b>2,555,322</b>                 | <b>74,582</b>   | <b>2,629,904</b>    | <b>2,339,034</b>      |
| <b>Liabilities:</b>  |                                  |   |                     |                       |
| Accounts payable and accrued expenses  | 2,694                            | 78  | 2,772               | 3,225                 |
| Payables to brokers, securities purchased  | 3,441                            | 99  | 3,540               | 2,597                 |
| Securities lending collateral (Note 2B)  | 103,576                          | 2,985   | 106,561             | 77,905                |
| <b>Total Liabilities</b>   | <b>109,711</b>                   | <b>3,162</b>  | <b>112,873</b>      | <b>83,727</b>         |
| <b>Net Position:</b>   |                                  |   |                     |                       |
| Net position restricted for pension benefits<br>and post-employment healthcare<br>benefits | 2,445,611                        | 71,420  | 2,517,031           | 2,255,307             |
| <b>Total Net Position</b>  | <b>\$ 2,445,611</b>              | <b>\$ 71,420</b>  | <b>\$ 2,517,031</b> | <b>\$ 2,255,307</b>   |

**EAST BAY MUNICIPAL UTILITY DISTRICT  
EMPLOYEES' RETIREMENT SYSTEM  
(A Component Unit of the East Bay Municipal Utility District)**

**Statement of Changes in Fiduciary Net Position  
For the Year Ended June 30, 2024  
(With summarized comparative financial information for the year ended June 30, 2023)  
(Dollars in Thousands)**

|   | 2024                     |   |                     | 2023<br>Total       |
|---|--------------------------|---|---------------------|---------------------|
|   | Pension<br>Plan benefits | Post-<br>employment<br>healthcare<br>benefits | Total               |                     |
| <b>Additions:</b>   |                          |   |                     |                     |
| Contributions:  |                          |   |                     |                     |
| Employers   | \$ 105,111               | \$ 12,231                                     | \$ 117,342          | \$ 106,523          |
| Plan members  | 23,637                   | 240   | 23,877              | 22,088              |
| <b>Total Contributions</b>  | <b>128,748</b>           | <b>12,471</b>                                 | <b>141,219</b>      | <b>128,611</b>      |
| <b>Investment Income:</b>   |                          |   |                     |                     |
| From Investment Activities  |                          |   |                     |                     |
| Net appreciation (depreciation)<br>in fair value investments:                 |                          |   |                     |                     |
| Traded securities   | 248,070                  | 6,942   | 255,012             | 193,008             |
| Real estate   | (7,753)                  | (217)   | (7,970)             | (5,111)             |
| Interest  | 24,718                   | 692   | 25,410              | 21,206              |
| Dividends   | 10,139                   | 284   | 10,423              | 11,243              |
| Real estate operating income, net   | 2,510                    | 70  | 2,580               | 2,909               |
| <b>Total Investment Income</b>  | <b>277,684</b>           | <b>7,771</b>                                  | <b>285,455</b>      | <b>223,255</b>      |
| Less:   |                          |   |                     |                     |
| Investment expense  | (3,489)                  | (98)  | (3,587)             | (3,549)             |
| <b>Net Income from Investment Activities</b>                                  | <b>274,195</b>           | <b>7,673</b>                                  | <b>281,868</b>      | <b>219,706</b>      |
| From Security Lending Activities  |                          |   |                     |                     |
| Security lending income   | 5,912                    | 165   | 6,077               | 3,195               |
| Borrowers' rebates and other agent fees on<br>securities lending transactions | (5,732)                  | (162)   | (5,894)             | (3,069)             |
| <b>Security Lending Activities</b>  | <b>180</b>               | <b>3</b>                                      | <b>183</b>          | <b>126</b>          |
| <b>Net Investment Income</b>  | <b>274,375</b>           | <b>7,676</b>                                  | <b>282,051</b>      | <b>219,832</b>      |
| <b>Total Additions, net</b>   | <b>403,123</b>           | <b>20,147</b>                                 | <b>423,270</b>      | <b>348,443</b>      |
| <b>Deductions:</b>  |                          |   |                     |                     |
| Benefits paid (Notes 1C - 1E)   | 147,947                  | 9,824   | 157,771             | 149,102             |
| Refunds of contributions (Note 4)   | 1,269                    | -   | 1,269               | 684                 |
| Administrative expenses   | 2,438                    | 68  | 2,506               | 2,273               |
| <b>Total Deductions</b>   | <b>151,654</b>           | <b>9,892</b>                                  | <b>161,546</b>      | <b>152,059</b>      |
| <b>Changes in Net Position</b>  | <b>251,469</b>           | <b>10,255</b>                                 | <b>261,724</b>      | <b>196,384</b>      |
| <b>Net Position - Beginning of the Year</b>                                   | <b>2,194,142</b>         | <b>61,165</b>                                 | <b>2,255,307</b>    | <b>2,058,923</b>    |
| <b>Net Position - End of the Year</b>   | <b>\$ 2,445,611</b>      | <b>\$ 71,420</b>                              | <b>\$ 2,517,031</b> | <b>\$ 2,255,307</b> |

**EAST BAY MUNICIPAL UTILITY DISTRICT  
EMPLOYEES' RETIREMENT SYSTEM**  
(A Component Unit of the East Bay Municipal Utility District)

Notes To Basic Financial Statements  
(Dollars in Thousands)  
For the Year Ended June 30, 2024

**NOTE 1 – PLAN DESCRIPTION**

**A. General**

The East Bay Municipal Utility District (the District) Employees' Retirement System (the System) was established in 1937 to administer a single-employer, contributory, defined benefit pension plan (the Pension Plan). The System provides retirement, disability, survivorship, and post-employment health insurance benefits (the OPEB Plan) for eligible directors, officers, and employees of the District. The Pension Plan and the OPEB Plan together are referred to as the Plan. The System is administered by a Retirement Board composed of three members appointed by the Board of Directors of the District, two members elected by and from the active membership, and one non-voting member elected by and from the retired membership of the System. Retirement Ordinance No. 40 (Ordinance) assigns the authority to establish Plan benefit provisions to the District's Board of Directors.

The System is exempt from the regulations of the Employee Retirement Income Security Act of 1974. The System is also exempt from federal income taxes and California franchise taxes.

The System is an integral part of the District and the District appoints the majority of the retirement board of the System and provides for its funding. Accordingly, the System's operations have been reported as a Pension and Other Employee Benefit Trust Fund in the District's basic financial statements.

**B. Membership**

All regular full-time employees of the District are members of the Plan in addition to certain job share and intermittent employees. In accordance with the ordinance governing the System, eligible employees become members on the first day they are physically on the job. Members become vested in the Plan after five years of continuous full-time employment. Vested members who terminate employment may elect a refund of their contributions or leave them in the Plan until eligible to receive benefits.

The Retirement Board shall semi-annually declare the rate of interest for the preceding six (6) months to be credited on accumulated contributions of members, which rate shall be based upon criteria to be established by the Retirement Board. In accordance with Retirement Board Rule B-9, the annual rate of interest credited to member contributions will be the lesser of the actuarially assumed rate of interest or the five (5) year average rate of return on Retirement System Investments.

For the period ending June 30, 2023, the actuarially assumed rate of interest was 6.75% and the five-year average rate of return as of June 30, 2023, was 6.4%. Therefore, under Board Resolution No. 6997, the System declared that the interest credited to the balance of member contributions effective June 30, 2023, will be at the annual rate of 6.4%. Interest was credited at a semi-annual rate of 3.2% for the six months ended December 31, 2023.

For the period ending December 31, 2023, the actuarially assumed rate of interest was 6.75% and the five-year average rate of return as of December 31, 2023, was 8.8%. Therefore, the Board Resolution No. 7007, declares that the interest credited to the balance of member contributions effective June 30, 2024 will be at the annual rate of 6.75%. Interest was credited at a semi-annual rate of 3.375% for the six months ended June 30, 2024.

**EAST BAY MUNICIPAL UTILITY DISTRICT  
EMPLOYEES' RETIREMENT SYSTEM**  
(A Component Unit of the East Bay Municipal Utility District)

Notes To Basic Financial Statements  
(Dollars in Thousands)  
For the Year Ended June 30, 2024

**NOTE 1 – PLAN DESCRIPTION (CONTINUED)**

Membership in the Pension Plan consisted of the following as of June 30, 2023, the date of the latest actuarial valuation:

|   |       |
|---|-------|
| Retirees and beneficiaries receiving benefits                         | 2,117 |
| Terminated plan members entitled to<br>but not yet receiving benefits | 381   |
| Active plan members   | 1,955 |
| Total   | 4,453 |

**C. Retirement Benefits and Allowances**

Within the Pension Plan, there are two tiers in effect currently, the 1980 Plan and the 2013 Plan. Employees who became Members of the Retirement System prior to January 1, 2013, or who have reciprocal membership prior to January 1, 2013, are in the 1980 Plan (1980 Plan Members). Employees who became Members on or after January 1, 2013, or who have reciprocal membership after January 1, 2013 are in the 2013 Plan (2013 Plan Members).

1980 Plan Members may elect voluntary reduced service retirement upon attaining the age of 54 and completing 5 years of continuous full-time employment. Members may elect voluntary unreduced service retirement upon attaining the age of 62 and completing 5 years of continuous full-time employment or age 65 without restriction. Members who continue to work upon attaining the normal retirement age of 65 continue to contribute to the Plan, and at the time they retire, computation of their retirement allowance is based upon their compensation and length of service as of the date of retirement. Service retirement allowances are computed by formulas specified in the Ordinance and are based on date of employment, length of employment, age at date of retirement, and compensation earned during employment.

2013 Plan Members may elect voluntary reduced service upon attaining the age of 52 and completing 5 years of continuous full-time employment. Members may elect voluntary unreduced service retirement upon attaining the age of 67 and completing 5 years of continuous full-time employment. Members who continue to work upon attaining the normal retirement age of 67 continue to contribute to the Plan, and at the time they retire, computation of their allowance is based upon their compensation and length of service as of the date of retirement. Service retirement allowances are computed by formulas specified in the Ordinance and are based on length of service, age at retirement, and compensation earned during employment.

**D. Disability and Death Benefits and Allowances**

Members may receive disability retirement benefits prior to age 65 if the member is determined to be physically or mentally incapacitated, provided the member has 8 or more years of continuous full-time employment. The allowance for disability retirement is computed by a formula specified in the Ordinance and is based upon compensation earnable during employment, years of continuous service, and date upon which the retiring individual became a member. There is a guaranteed minimum disability benefit equal to the greater of one-third of terminal compensation (final average salary) or the retirement allowance, based on the disability formula.

Death benefits are payable to the estate or beneficiary of a member who dies before retirement. Survivorship benefits are payable to the spouse of a member who dies after retirement, or who was eligible but had not retired from service, provided the spouse was married to the member at the date of retirement and for at least one year prior to the member's death.

**EAST BAY MUNICIPAL UTILITY DISTRICT  
EMPLOYEES' RETIREMENT SYSTEM**  
(A Component Unit of the East Bay Municipal Utility District)

Notes To Basic Financial Statements  
(Dollars in Thousands)  
For the Year Ended June 30, 2024

**NOTE 1 – PLAN DESCRIPTION (CONTINUED)**

**E. Post-Employment Healthcare Benefits**

Post-employment healthcare and similar benefit allowances are provided to Members who retire from the District or to their surviving spouses. As of June 30, 2023, there were 1,870 participants receiving these health care benefits.

Effective July 1, 1996, a 20-year vesting schedule for full benefits was implemented for all new participants. Eligible participants are reimbursed up to \$450 per month for service members and up to \$550 for members with a spouse or registered domestic partner for any combined health, dental, or long- term care insurance premiums paid by the participant or his/her surviving spouse. Effective July 1, 1999, retirees may be reimbursed up to the designated maximum for the combined health insurance premiums for themselves, their current spouses, or registered domestic partners. The benefits were funded entirely by the District on an actuarial basis up until June 17, 2002. Effective June 18, 2002, a portion of the post-employment healthcare benefit costs is recovered through employee contributions. The actual benefits paid in cash to retirees were \$9,824 and \$9,705 for the years ended June 30, 2024 and 2023, respectively.

Membership in the OPEB Plan consisted of the following as of June 30, 2023, the measurement date of the latest actuarial valuation:

|   |       |
|---|-------|
| Retirees and beneficiaries receiving benefits                         | 1,870 |
| Terminated plan members entitled to<br>but not yet receiving benefits | 381   |
| Active plan members   | 1,955 |
| Total   | 4,206 |

**NOTE 2 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**

**A. Basis of Accounting and Presentation**

The System's activities are accounted for on a flow of economic resources measurement focus, using the accrual basis of accounting. Plan member contributions are recognized in the period in which the contributions are due. Employer contributions to the Plan are recognized when due and the employer has made a formal commitment to provide the contributions. Benefits, refunds, and other liabilities are recognized when due and payable in accordance with the terms of the Plan.

The basic financial statements include partial prior year comparative information. A complete presentation of the prior year information can be found in the System's financial statements for the year ended June 30, 2023.

**B. Investments and Fair Value Measurements**

Investments are reported at fair value. Securities and bonds traded on a national or international exchange are valued at the last reported sales price at current exchange rates. Investments that have no quoted market price are reported at estimated fair value, which is determined based on yields equivalent for such securities or for securities of comparable maturity, quality, and type as obtained from market makers. Measurement of the fair value of real estate investments is estimated by the investment managers and reflects both internal and independent appraisals of real estate properties.

**EAST BAY MUNICIPAL UTILITY DISTRICT  
EMPLOYEES' RETIREMENT SYSTEM**  
(A Component Unit of the East Bay Municipal Utility District)

Notes To Basic Financial Statements  
(Dollars in Thousands)  
For the Year Ended June 30, 2024

**NOTE 2 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)**

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The System categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The fair value hierarchy categorizes the inputs to valuation techniques used to measure fair value into three levels based on the extent to which inputs used in measuring fair value are observable in the market.

Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities.

Level 2 inputs are inputs – other than quoted prices included within level 1 – that are observable for an asset or liability, either directly or indirectly.

Level 3 inputs are unobservable inputs for an asset or liability.

If the fair value of an asset or liability is measured using inputs from more than one level of the fair value hierarchy, the measurement is considered to be based on the lowest priority level input that is significant to the entire measurement.

The System presents in the Statements of Changes in Fiduciary Net Position the net change in the fair value of its investments, which consists of the realized gains or losses and the unrealized appreciation (depreciation) on those investments. Purchases and sales of securities are recorded on a trade-date basis. Interest income is recorded on the accrual basis. Dividends are recorded on the ex-dividend date.

Each of the financial instruments invested in by the System represents a potential concentration of credit risk. However, as the portfolio and the components of the various instruments are diversified and issuers of securities are dispersed throughout many industries and geographical locations, the concentrations of credit risk are limited.

The System invests in a combination of stocks, bonds, fixed income securities, real estate, and other investment securities. These investments are exposed to various risks, such as interest rate and market risks. Due to the level of risk associated with certain investment securities, it is at least reasonably possible that changes in the values of investment securities will occur in the near term and those such changes could materially affect the amounts reported in the Statement of Fiduciary Net Position.

Retirement Board policies permit the System to use investments of the Plan to enter into securities lending transactions, which are loans of securities to broker-dealers and other entities for collateral with a simultaneous agreement to return collateral for the same securities in the future. The System's securities custodian is an agent in lending the Plan's securities for cash collateral, U.S. government securities, and irrevocable letters of credit of 102% for domestic securities and 105% for international securities lent.

As of June 30, 2024, the System had no credit risk exposure to borrowers because the amounts the System owed the borrowers exceeded the amounts the borrowers owed the System. Contracts with the lending agent require them to indemnify the System under certain circumstances if the borrowers fail to return the securities (and if the collateral is inadequate to replace the securities lent) or fail to pay the System for income distributions by the securities issuers while the securities are on loan. The risk of any loss of collateral or investment of cash collateral (including a loss of income or principal, or loss of market value thereon) lies with the System, except for losses resulting from negligence or intentional misconduct of the agent in performing the duties allocated under the securities lending agreement with respect to collateral. During the year ended June 30, 2024, there were no violations of legal or contractual provisions, and no borrower or lending agent default losses known to the securities lending agent.

**EAST BAY MUNICIPAL UTILITY DISTRICT  
EMPLOYEES' RETIREMENT SYSTEM**  
(A Component Unit of the East Bay Municipal Utility District)

Notes To Basic Financial Statements  
(Dollars in Thousands)  
For the Year Ended June 30, 2024

**NOTE 2 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)**

In lending securities, cash collateral is invested in the lending agent's short-term investment pool, which as of June 30, 2024, had a weighted average maturity of 22 days. The relationship between the maturities of the investment pool and the System's loans is affected by the maturities of the securities loans made by other entities that use the agent's pool, which the System cannot determine. Cash collateral may also be invested separately in term loans, in which case the maturity of the collateral investment generally matches the term of the loan. Noncash collateral cannot be pledged or sold unless the borrower defaults. All securities loans can be terminated on demand by either the lender or the borrower, although the average term of overall loans for the System was approximately 308 days. There are no dividends or coupon payments owing on the securities lent. Cash received as collateral on securities lending transactions is reported as an asset of the System with a corresponding liability.

As of June 30, 2024, the fair value of securities on loan was \$103,733. The total cash and noncash collateral held by the System's custodian to secure these securities on loan was valued at \$106,561 (all cash collateral).

**C. Allocation of Income and Expenses**

Contributions and benefit expenses are booked against the separate trusts as incurred. The recognition of investment income/loss is based on a pro rata share of total income/loss allocated quarterly on the basis of net position held in trust for pension benefits and post-employment healthcare benefits of the previous quarter. General expenses of the trust are allocated consistent with investment income/loss based on asset balances of the previous quarter.

**D. Use of Estimates**

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

**NOTE 3 – CONTRIBUTION INFORMATION**

The System is funded by contributions from its members and from the District. District contribution rates (provided as a percentage of covered compensation) are recommended by the Retirement Board, and employee contribution rates are established by the Board of Directors pursuant to the Retirement Ordinance, giving consideration to actuarial recommendations and prospective changes in factors which affect funding. Each member contributes based upon a percentage of their covered compensation. For the 1980 Plan Members, the contribution rate was 8.75% effective April 18, 2016. For the 2013 Plan Members, the contribution rate was 9.50% effective July 1, 2021. The District's contribution is based upon the aggregate amount of members' covered compensation, at an actuarially determined rate.

The individual entry age normal method is used to determine the normal cost for other post-employment benefits (OPEB) and service cost for pension, and the OPEB unfunded actuarial accrued liability (past service liability) is amortized as a level percentage of future payroll over 30 years open period.

**EAST BAY MUNICIPAL UTILITY DISTRICT  
EMPLOYEES' RETIREMENT SYSTEM**  
(A Component Unit of the East Bay Municipal Utility District)

Notes To Basic Financial Statements  
(Dollars in Thousands)  
For the Year Ended June 30, 2024

**NOTE 3 – CONTRIBUTION INFORMATION (CONTINUED)**

District adopted contribution rates for the year ended June 30, 2024 are as follows:

1980 Plan:

|                                   |        |
|-----------------------------------|--------|
| Pension plan:                     |        |
| Employer service cost             | 19.24% |
| Toward unfunded pension liability | 24.49% |

Other post-employment benefits:

|                                      |       |
|--------------------------------------|-------|
| Employer normal cost                 | 0.99% |
| Unfunded actuarial accrued liability | 3.76% |

2013 Plan:

|                                   |        |
|-----------------------------------|--------|
| Pension plan:                     |        |
| Employer service cost             | 10.20% |
| Toward unfunded pension liability | 24.49% |

Other post-employment benefits:

|                                      |       |
|--------------------------------------|-------|
| Employer normal cost                 | 0.76% |
| Unfunded actuarial accrued liability | 3.76% |

District adopted contribution rates for the year ended June 30, 2025 are as follows:

1980 Plan:

|                                   |        |
|-----------------------------------|--------|
| Pension plan:                     |        |
| Employer service cost             | 19.17% |
| Toward unfunded pension liability | 25.42% |

Other post-employment benefits:

|                                      |       |
|--------------------------------------|-------|
| Employer normal cost                 | 0.86% |
| Unfunded actuarial accrued liability | 3.57% |

2013 Plan:

|                                   |        |
|-----------------------------------|--------|
| Pension plan:                     |        |
| Employer service cost             | 10.38% |
| Toward unfunded pension liability | 25.42% |

Other post-employment benefits:

|                                      |       |
|--------------------------------------|-------|
| Employer normal cost                 | 0.70% |
| Unfunded actuarial accrued liability | 3.57% |

**EAST BAY MUNICIPAL UTILITY DISTRICT  
EMPLOYEES' RETIREMENT SYSTEM**  
(A Component Unit of the East Bay Municipal Utility District)

Notes To Basic Financial Statements  
(Dollars in Thousands)  
For the Year Ended June 30, 2024

**NOTE 3 – CONTRIBUTION INFORMATION (CONTINUED)**

Contributions for the years ended June 30, 2024, and June 30, 2023, based on the June 30, 2023, actuarial valuation (latest available and includes amounts for post-employment healthcare benefits), were as follows:

|                        | 2024       |                            |            | 2023       |
|------------------------|------------|----------------------------|------------|------------|
|                        | Pension    | Healthcare<br>Benefit Plan | Total      |            |
| Regular contributions: |            |                            |            |            |
| District contributions | \$ 105,111 | \$ 12,231                  | \$ 117,342 | \$ 106,523 |
| Member contributions   | 23,613     | 240                        | 23,853     | 22,017     |
|                        | 128,724    | 12,471                     | 141,195    | 128,540    |
| Other contributions:   |            |                            |            |            |
| Member buybacks        | 24         | -                          | 24         | 71         |
|                        | \$ 128,748 | \$ 12,471                  | \$ 141,219 | \$ 128,611 |

Regular District and member contributions in fiscal year 2024 represent an aggregate of 44.07% and 8.97% of covered payroll, respectively. The District's contributions include amounts for post-employment healthcare benefits at a rate of 4.59% of covered payroll. The actual payroll for the District employees covered by the Plan for the year ended June 30, 2024, was \$266,278 which was 91.08% of the total District payroll of \$292,365.

The total District contributions of \$117,342 is comprised of the normal cost of \$45,939 and the unfunded actuarial accrued liability of \$71,403.

Regular District and member contributions in fiscal year 2023 represent an aggregate of 43.03% and 8.89% of covered payroll, respectively. The District's contributions include amounts for post-employment healthcare benefits at a rate of 4.70% of covered payroll. The actual payroll for the District employees covered by the Plan for the year ended June 30, 2023, was \$247,569 which was 89.73% of the total District payroll of \$275,899.

The total District contributions of \$106,523 is comprised of the normal cost of \$40,734 and the unfunded actuarial accrued liability of \$65,789.

Member buyback contributions relate to prior years' service credits for Plan participants. The Plan was amended in 1998 for limited temporary construction workers and in 2003 for intermittent employees to allow current members, who previously worked for the District in a status which did not qualify for membership in the System, to establish retirement service credit for prior service with payments over a period of two to eight years.

**Public Employees' Pension Reform Act (PEPRA)**

Assembly Bill 340 (AB 340) created the Public Employees' Pension Reform Act (PEPRA) that implemented new benefit formulas and final compensation periods. PEPRA also implemented new contribution requirements for employees hired on or after January 1, 2013, who meet the definition of a new member under PEPRA. In the System, Members covered under PEPRA are 2013 Plan Members.

**EAST BAY MUNICIPAL UTILITY DISTRICT  
EMPLOYEES' RETIREMENT SYSTEM**  
(A Component Unit of the East Bay Municipal Utility District)

Notes To Basic Financial Statements  
(Dollars in Thousands)  
For the Year Ended June 30, 2024

**NOTE 3 – CONTRIBUTION INFORMATION (CONTINUED)**

The table below provides the details of the 2013 Plan provisions in accordance with PEPRA.

|   |                                   |
|---|-----------------------------------|
| Benefit Formula   | 2.5% at Age 67                    |
| Final Compensation Period                                       | Average of last 3 years           |
| Employer Normal Cost Contribution Rate as a percentage payroll  | 10.20% of Reportable Compensation |
| Member Normal Cost Contribution Rate as a percentage of payroll | 9.41% of Reportable Compensation  |

The employer contribution rate listed above was in effect as of June 30, 2024. In accordance with the provisions of PEPRA, the member contribution rate shown above was originally set at 50 percent of the expected total normal cost rate for the benefits that will apply to new members on January 1, 2013. Under PEPRA, the member contributions rate is adjusted when the normal cost deviates by 1% or more from the original PEPRA valuation in 2013. The member contribution rate was last adjusted on July 1, 2021. The total normal cost rate for 2013 Plan Members for fiscal year 2024 is 19.61% of payroll.

**NOTE 4 – CONTRIBUTION REFUNDS**

When a member's District service is terminated, except by death or retirement, and prior to five years of continuous full-time employment, the amount of that member's accumulated contributions, plus interest, is refunded and membership is terminated. After a member has completed five years of continuous full-time employment, upon termination, except death or retirement, the member has the option of (a) ceasing to be a member and receiving the amount of his accumulated contributions, plus interest, or (b) remaining as a member and leaving his accumulated contributions, plus interest, in the Plan. After termination, a member cannot make additional contributions to the Plan.

If a member with fewer than five years of employment terminates employment and within six months becomes a member of the California Public Employees' Retirement System or another reciprocal retirement system, the individual may elect to remain a member, leaving their accumulated contributions, plus interest, in the Plan.

**NOTE 5 – CASH AND INVESTMENTS**

**A. Authorized Investment Strategy**

The System's Statement of Investment Policy and Procedures authorizes the System to invest in financial instruments in four broad investment categories: equity, fixed income, real estate, and covered calls. These financial instruments can include, but are not limited to, corporate bonds, commercial paper, U.S. government securities, common and preferred stock, real estate investment trusts, and mutual funds. Fixed income investments may include futures and options contracts in order to provide added flexibility in managing the fixed income portfolio. The following is a summary of the System's Statement of Investment Policy and Procedures adopted by the System on January 20, 2022.

**EAST BAY MUNICIPAL UTILITY DISTRICT  
EMPLOYEES' RETIREMENT SYSTEM**  
(A Component Unit of the East Bay Municipal Utility District)

Notes To Basic Financial Statements  
(Dollars in Thousands)  
For the Year Ended June 30, 2024

**NOTE 5 – CASH AND INVESTMENTS (CONTINUED)**

The Retirement Board is authorized to designate multiple investment managers to manage the assets under their supervision subject to the laws of the State of California and the investment guidelines established by the Retirement Board. Allocation of assets to the investment managers are determined by the Retirement Board to accommodate changing conditions and laws.

In March 15, 2018, the System adopted an updated asset allocation, which is shown in the table below.

|                       |     |
|-----------------------|-----|
| US Equity             | 25% |
| Non-US Equity         | 25% |
| Core Fixed-Income     | 20% |
| Non-Core Fixed Income | 5%  |
| Covered Calls         | 20% |
| Real Estate           | 5%  |

The Director of Finance is authorized to transfer assets as provided in the System's Statement of Investment Policy and Procedures. The Director of Finance is further authorized to withdraw assets from assigned managers as necessary to efficiently meet operating needs.

The core fixed income target allocation (20% of the total portfolio) will primarily consist of U.S. denominated fixed income securities.

The non-core fixed income target allocation (5% of the total portfolio) will primarily consist of U.S. denominated fixed income securities. It is expected that this allocation may have a material allocation to below investment grade securities.

The domestic equity allocation target (25% of the total portfolio) will consist of the allocation to securities that corresponds to the weight of securities within the Russell 3000 Index.

The covered calls target allocation (20% of the total portfolio) may consist of a combination of Chicago Board Options Exchange S&P 500 BuyWrite Index (the "BXM Index") replication strategy and/or active non-replication strategies and their underlying domestic equity portfolios.

The international equity target allocation (25% of the total portfolio) will consist of an allocation to non-US equity securities benchmarked to the MSCI ACWI xUS Index.

The real estate target allocation (5% of the total portfolio) will consist of either equity (ownership) and/or fixed income participation in commercial, industrial, or residential properties. Investments may include interests in mortgages pools secured by loans of underlying properties.

The asset allocation does allow for the fact that at any time equity and fixed income managers may have transactional cash on hand and the District will maintain enough cash as working capital to effectively meet cash flow demands on the system. However, there is no specific allocation for cash as all investable cash is allocated to specific investment mandates.

At the May 23, 2024 Retirement Board meeting, the Retirement Board took action to adopt new investment portfolio asset allocations for the System. The updated allocations will be as follows: 35% US Equity, 25% Non-US Equity, 2.5% Real Estate, 20% Core Fixed-Income, 7.5% High Yield Fixed Income, 5% Bank Loans and 5% Private Credit. The portfolio transition will take place in stages throughout the next two years with the goal of full transition by July 2026.

**EAST BAY MUNICIPAL UTILITY DISTRICT  
EMPLOYEES' RETIREMENT SYSTEM**  
(A Component Unit of the East Bay Municipal Utility District)

Notes To Basic Financial Statements  
(Dollars in Thousands)  
For the Year Ended June 30, 2024

**NOTE 5 – CASH AND INVESTMENTS (CONTINUED)**

**B. Financial Statement Presentation**

Total cash and investments at fair value as of June 30, 2024, consisted of the following:

|  | 2024         |                                   |              | 2023         |
|--|--------------|-----------------------------------|--------------|--------------|
|  | Pension Plan | Post-<br>Employment<br>Healthcare | Total        |              |
|  | Benefits     | Benefits                          |              |              |
| Cash and cash equivalents              | \$ 27,985    | \$ 806                            | \$ 28,791    | \$ 27,677    |
| Invested securities lending collateral | 103,576      | 2,985                             | 106,561      | 77,906       |
| Investments                            | 2,407,567    | 69,380                            | 2,476,947    | 2,219,004    |
| Total cash and investments             | \$ 2,539,128 | \$ 73,171                         | \$ 2,612,299 | \$ 2,324,587 |

**C. Fair Value Hierarchy**

The System categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure fair value of the assets. Level 1 inputs are quoted prices in an active market for identical assets; Level 2 inputs are significant other observable inputs; and Level 3 inputs are significant unobservable inputs. The California Local Agency Investment Fund is exempt from classification for fair value hierarchy.

The following is a summary of the fair value hierarchy of investments held by the System as of June 30, 2024:

| Investment Type   | Level 1    | Level 2    | Level 3    | Total        |
|---|------------|------------|------------|--------------|
| <b>Investments by Fair Value:</b>                       |            |            |            |              |
| Asset Backed Securities                                 | \$ -       | \$ 9,228   | \$ 1,325   | \$ 10,553    |
| Equity Securities                                       | 502,797    | -          | 74         | 502,871      |
| Bank Loans  | -          | 8,116      | -          | 8,116        |
| Commercial Mortgage-Backed Securities                   | -          | 4,212      | -          | 4,212        |
| Corporate Bonds   | -          | 126,625    | -          | 126,625      |
| Corporate Convertible Bonds                             | -          | 250        | -          | 250          |
| Government Agencies                                     | -          | 22,493     | -          | 22,493       |
| Government Bonds  | -          | 122,938    | -          | 122,938      |
| Government Mortgage Backed Securities                   | -          | 193,119    | -          | 193,119      |
| Other Fixed Income                                      | -          | 7,771      | -          | 7,771        |
| Real Estate-Partnerships                                | -          | -          | 118,857    | 118,857      |
| Total Investments at Fair Value                         | \$ 502,797 | \$ 494,752 | \$ 120,256 | 1,117,805    |
| <b>Investments Not Subject to Fair Value Hierarchy:</b> |            |            |            |              |
| Comingled Funds and Other                               |            |            |            | 1,359,142    |
| Total Investments at Fair Value                         |            |            |            | 2,476,947    |
| Invested Securities Lending Collateral                  |            |            |            | 106,561      |
| <b>Cash and Cash Equivalents:</b>                       |            |            |            |              |
| California Local Agency Investment Fund                 |            |            |            | 3,517        |
| Cash & Short-term Investments                           |            |            |            | 25,274       |
| Total System Cash and Investments                       |            |            |            | \$ 2,612,299 |

**EAST BAY MUNICIPAL UTILITY DISTRICT  
EMPLOYEES' RETIREMENT SYSTEM**  
(A Component Unit of the East Bay Municipal Utility District)

Notes To Basic Financial Statements  
(Dollars in Thousands)  
For the Year Ended June 30, 2024

**NOTE 5 – CASH AND INVESTMENTS (CONTINUED)**

Investments classified in Level 1 of the fair value hierarchy, valued at \$502,797 are valued using quoted prices in active markets. \$494,752 of investments classified in Level 2 of the fair value hierarchy, are valued using matrix pricing techniques maintained by various pricing vendors. Matrix pricing is used to value securities based on the securities' relationship to benchmark quoted prices. Investments totaling \$120,256 classified in Level 3 of the fair value hierarchy are valued using appraisals and estimates by investment managers. Fair value is defined as the quoted market value on the last trading day of the period. These prices are obtained from various pricing sources by our custodian bank.

**D. Interest Rate Risk**

For fixed income investments, interest rate risk is the risk that changes in market rates will adversely affect the fair value of an investment. Normally, the longer the maturity of a fixed income investment, the greater the sensitivity of its fair value to changes in market interest rates.

Information about the sensitivity of the fair values of the System's investments (including investments held by bond trustees) to market interest rate fluctuations is provided by the following table that shows the distribution of the System's investments by maturity or earliest call date:

| Investment Type                       | Less than 12<br>Months | 12 to 72<br>Months | 72 to 120<br>Months | More than 120<br>Months | Maturity not<br>Determined | Total               |
|---------------------------------------|------------------------|--------------------|---------------------|-------------------------|----------------------------|---------------------|
| Asset Backed securities               | \$ 3                   | \$ 8,572           | \$ 1,042            | \$ 936                  | \$ -                       | \$ 10,553           |
| Equity Securities                     | 502,871                | -                  | -                   | -                       | -                          | 502,871             |
| Bank Loans                            | -                      | 5,793              | 2,323               | -                       | -                          | 8,116               |
| Commercial Mortgage-Backed Securities | 246                    | -                  | -                   | 3,966                   | -                          | 4,212               |
| Corporate Bonds                       | 6,719                  | 71,864             | 30,596              | 17,446                  | -                          | 126,625             |
| Corporate Convertible Bonds           | -                      | 250                | -                   | -                       | -                          | 250                 |
| Government Agencies                   | -                      | 4,359              | 12,360              | 5,774                   | -                          | 22,493              |
| Government Bonds                      | 2,350                  | 1,500              | 75,252              | 43,836                  | -                          | 122,938             |
| Government Mortgage Backed Securities | -                      | 270                | 1,391               | 191,458                 | -                          | 193,119             |
| Other Fixed Income                    | 1,755                  | 6,016              | -                   | -                       | -                          | 7,771               |
| Real Estate-Partnerships              | -                      | -                  | -                   | -                       | 118,857                    | 118,857             |
| Comingled Funds and Other             | -                      | -                  | -                   | -                       | 1,359,142                  | 1,359,142           |
| Total System Investments              | <u>\$ 513,944</u>      | <u>\$ 98,624</u>   | <u>\$ 122,964</u>   | <u>\$ 263,416</u>       | <u>\$ 1,477,999</u>        | <u>\$ 2,476,947</u> |

The System's investments include the following investments that are highly sensitive to interest rate fluctuations to a greater degree than already indicated above:

| Highly Sensitive Investments            | Fair Value at<br>Year End |
|---|---------------------------|
| Government Mortgage - Backed Securities | \$ 193,119                |
| Commercial Mortgage - Backed Securities | 4,212                     |

**EAST BAY MUNICIPAL UTILITY DISTRICT  
EMPLOYEES' RETIREMENT SYSTEM**  
(A Component Unit of the East Bay Municipal Utility District)

Notes To Basic Financial Statements  
(Dollars in Thousands)  
For the Year Ended June 30, 2024

**NOTE 5 – CASH AND INVESTMENTS (CONTINUED)**

The System is a participant in the Local Agency Investment Fund (LAIF), which is regulated by California Government Code §16429 under the oversight of the Treasurer of the State of California. The value of the pool shares in LAIF is determined on an amortized cost basis, which is different from the fair value of its position in the pool. The System's investments with LAIF at June 30, 2024 and 2023 included a portion of the pool funds invested in Structured Notes and Asset-Backed Securities. These investments included the following:

- Structured Notes are debt securities (other than asset-backed securities) whose cash-flow characteristics (coupon rate, redemption amount, or stated maturity) depend upon one or more indices and/or that have embedded forwards or options.
- Asset-Backed Securities, the bulk of which are mortgage-backed securities, entitle their purchasers to receive a share of the cash flows from a pool of assets, such as principal and interest repayments from a pool of mortgages (such as Collateralized Mortgage Obligations) or credit card receivables.

As of June 30, 2024 and 2023, the System had investments of \$3,517 and \$4,302, respectively, invested in LAIF, which had invested 3.00% and 2.78% of the pooled investment funds in Structured Notes and Asset-Backed Securities. The LAIF fair value factor of 0.996316042 and 0.984828499 as of June 30, 2024 and 2023, respectively, was used to calculate the fair value of the investments in LAIF.

**E. Foreign Currency Risk**

Foreign currency risk is the risk that changes in foreign exchange rates will adversely affect the fair values of an investment or deposit. Presented below in US dollars is the fair market value of the System's foreign investments at June 30, 2024:

| Foreign Currency | Market Value |
|------------------|--------------|
| Danish Krone     | \$ 56        |
| Euro             | 21           |

The Fund's investment policy permits investments in Non-US Equity of up to 25%. The Fund's current position is 0.003%.

**F. Credit Risk**

For fixed income investments, credit risk is the risk that an issuer of an investment will not fulfill its obligation to the holder of the investment. This is measured by the assignment of a rating by a nationally recognized statistical rating organization to the fixed income investments. Presented below is the actual rating as of June 30, 2024, for each investment type as provided by Moody's or Standard and Poor's, displayed by using Moody's ratings scale.

| Investment Type                         | Aaa        | Aa       | A         | Baa       | Ba        | B         | Caa      | U.S. Government |              | Total        |
|---|------------|----------|-----------|-----------|-----------|-----------|----------|-----------------|--------------|--------------|
|   |            |          |           |           |           |           |          | Guranteed       | Not Rated    |              |
| Asset Backed Securities                 | \$ 6,850   | \$ -     | \$ -      | \$ -      | \$ -      | \$ -      | \$ -     | \$ -            | \$ 3,703     | \$ 10,553    |
| Equity Securities                       | -          | -        | -         | -         | -         | -         | -        | -               | 502,871      | 502,871      |
| Bank Loans                              | -          | -        | -         | 110       | 3,044     | 4,189     | 217      | -               | 556          | 8,116        |
| Commercial Mortgage - Backed Securities | 3,062      | -        | -         | 352       | -         | -         | -        | -               | 798          | 4,212        |
| Corporate Bonds                         | 1,990      | 8,323    | 51,125    | 16,797    | 22,750    | 21,795    | 2,737    | -               | 1,108        | 126,625      |
| Corporate Convertible Bonds             | -          | -        | -         | -         | -         | -         | -        | -               | 250          | 250          |
| Government Agencies                     | 22,318     | -        | -         | -         | 175       | -         | -        | -               | -            | 22,493       |
| Government Bonds                        | 122,938    | -        | -         | -         | -         | -         | -        | -               | -            | 122,938      |
| Government Mortgage - Backed Securities | -          | -        | -         | -         | -         | -         | -        | 193,019         | 100          | 193,119      |
| Other Fixed Income                      | -          | -        | -         | -         | -         | -         | -        | -               | 7,771        | 7,771        |
| Real Estate - Partnerships              | -          | -        | -         | -         | -         | -         | -        | -               | 118,857      | 118,857      |
| Comingled Funds and Other               | -          | -        | -         | -         | -         | -         | -        | -               | 1,359,142    | 1,359,142    |
| Total System Investments                | \$ 157,158 | \$ 8,323 | \$ 51,125 | \$ 17,259 | \$ 25,969 | \$ 25,984 | \$ 2,954 | \$ 193,019      | \$ 1,995,156 | \$ 2,476,947 |

**EAST BAY MUNICIPAL UTILITY DISTRICT  
EMPLOYEES' RETIREMENT SYSTEM**  
(A Component Unit of the East Bay Municipal Utility District)

Notes To Basic Financial Statements  
(Dollars in Thousands)  
For the Year Ended June 30, 2024

**NOTE 5 – CASH AND INVESTMENTS (CONTINUED)**

**G. Concentration Risk**

As of June 30, 2024, and June 30, 2023, the District did not have investments in any one organization exceeding 5% of the System's investments.

The District held demand deposits (overdrafts) amounting to \$4,478 and \$3,681 on behalf of the System as of June 30, 2024 and 2023, respectively. The financial institution which holds these deposits is required by state law to maintain collateral pools against all public deposits they hold.

**H. Custodial Credit Risk**

Custodial credit risk for cash on deposits is the risk that, in the event of the failure of a depository financial institution, a government will not be able to recover its deposits or will not be able to recover collateral securities that are in the possession of an outside party. The custodial credit risk for investments is the risk that, in the event of the failure of the counterparty (e.g. broker-dealer) to a transaction, the System will not be able to recover the value of its investment or collateral securities that are in the possession of another party.

California Law requires banks and savings and loan institutions to pledge government securities with a market value of 110% of the System's cash on deposit, or first trust deed mortgage notes with a market value of 150% of the deposit, as collateral for these deposits. Under California Law this collateral is held in a separate investment pool by another institution in the System's name and places the System ahead of general creditors of the institution.

The System invests in individual investments and in investment pools. Individual investments are evidenced by specific identifiable securities instruments, or by an electronic entry registering the owner in the records of the institution issuing the security, called the book entry system. In order to increase security, the System employs the Trust Department of a bank or trustee as the custodian of certain System investments, regardless of their form.

The System's brokers/dealers held \$0 as of June 30, 2024 and 2023, in cash exposed to custodial credit risk.

**NOTE 6 – NET PENSION LIABILITY**

The net pension liability (the Plan's liability determined in accordance with GASB 67 less the fiduciary net position) as of June 30 is as shown below:

|                                | 2024         | 2023         |
|--------------------------------|--------------|--------------|
| Total Pension Liability        | \$ 2,994,429 | \$ 2,835,771 |
| Plan Fiduciary Net Position    | (2,194,142)  | (2,005,352)  |
| Employer Net Pension Liability | \$ 800,287   | \$ 830,419   |

|  |            |            |
|--|------------|------------|
| Plan Fiduciary Net Position as a             |            |            |
| Percentage of Total Pension Liability        | 73.27%     | 70.72%     |
| Covered Payroll                              | \$ 246,231 | \$ 233,940 |
| Liability as a Percentage of Covered Payroll | 325.02%    | 354.97%    |

The actuarial assumptions used in the June 30, 2023 valuation were based on the July 1, 2016 through June 30, 2020 Actuarial Experience Study report dated November 12, 2020 and the June 30, 2022 Economic Assumptions Review report dated November 8, 2022. Actuarial valuation of the ongoing System involves estimates of the reported amounts and assumptions about the probability of occurrence of events far into the future. Examples include assumptions about future employment mortality and future salary increases. Amounts determined regarding

**EAST BAY MUNICIPAL UTILITY DISTRICT  
EMPLOYEES' RETIREMENT SYSTEM**  
(A Component Unit of the East Bay Municipal Utility District)

Notes To Basic Financial Statements  
(Dollars in Thousands)  
For the Year Ended June 30, 2024

**NOTE 6 – NET PENSION LIABILITY (CONTINUED)**

The net pension liability are subject to continual revision as actual results are compared with past expectations and new estimates are made about the future. The Schedule of Employers' net pension liability presents multi-year trend information about whether the plan fiduciary net positions are increasing or decreasing over time relative to the total pension liability. These schedules are presented in the Required Supplementary Information section. The net pension liability was measured as of June 30, 2023 and 2022, while the total pension liability was determined based upon the results of the actuarial valuations as of June 30, 2023 and 2022, respectively.

A summary of the actuarial assumptions as of the latest actuarial valuation is shown below:

|                                     |   |
|-------------------------------------|---|
| Valuation date                      | June 30, 2023   |
| Actuarial cost method               | Entry Age Normal Cost Method  |
| Amortization method                 | Level percent of payroll  |
| Remaining amortization period       | Prior to July 1, 2011, the UAAL from plan changes, assumption changes, and experience gains/losses were amortized over separate decreasing 30-year amortization periods. On or after July 1, 2011, any new UAAL resulting from plan changes are amortized over separate decreasing 15-year periods; assumption and method changes are amortized over separate decreasing 25-year periods (prior to July 1, 2021); and experience gains/losses are amortized over separate decreasing 20-year periods. On or after July 1, 2021, assumption and method changes are amortized over separate decreasing 20-year periods.   |
| Assets valuation method             | Market value of assets less unrecognized returns in each last five years. Unrecognized return is equal to the difference between the actual market return and the expected return on the market value, and is recognized over a five year period, further adjusted, if necessary, to be within 30% of the market value.   |
| Actuarial assumptions:              |   |
| Net Investment Return               | 6.75%, net of Pension Plan investment expense, including inflation  |
| Average projected salary increases* | Ranges from 3.75% to 9.25% based on years of service  |
| Inflation rate                      | 2.50%   |
| Cost-of-living adjustments          | 2.75% per annum   |
| Mortality                           | Pre-retirement: Pub-2010 General Employee Amount-Weighted Above-Median Mortality Tables, projected generationally with the two-dimensional mortality improvement scale MP-2020.<br>Post-retirement:<br><i>Healthy Members</i> - Pub-2010 General Healthy Retiree Amount-Weighted Above-Median Mortality Tables with rates increased by 5% for males, projected generationally with the two-dimensional mortality improvement scale MP-2020.<br><i>Disabled Members</i> - Pub-2010 Non-Safety Disabled Retiree Amount-Weighted Mortality Tables with rates increased by 5% for males, projected generationally with the two-dimensional mortality improvement scale MP-2020.<br><i>Beneficiaries</i> - Pub-2010 Contingent Survivor Amount-Weighted Above-Median Mortality Tables with rates increased by 5% for males and females, projected generationally with the two-dimensional mortality improvement scale MP-2020. |

\*Includes inflation of 2.50% plus across the board salary increase of 0.50% plus merit and promotional increases.

**EAST BAY MUNICIPAL UTILITY DISTRICT  
EMPLOYEES' RETIREMENT SYSTEM**  
(A Component Unit of the East Bay Municipal Utility District)

Notes To Basic Financial Statements  
(Dollars in Thousands)  
For the Year Ended June 30, 2024

**NOTE 6 – NET PENSION LIABILITY (CONTINUED)**

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimates ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighing the expected future real rates of return by the target asset allocation percentage and by adding expected inflation.

The target allocation and projected arithmetic real rates of return, after deducting inflation, but before investment expenses, used in the derivation of the long-term expected investment rate of return assumption for each major asset class are summarized below:

| Asset Class                                 | Target Allocation | Long-Term<br>Expected Arithmetic<br>Real Rate of Return |
|---|-------------------|---|
| Domestic Large Cap Equity                   | 21.75%            | 5.60%   |
| Domestic Small Cap Equity                   | 3.25%             | 6.63%   |
| Developed International<br>Large Cap Equity | 17.50%            | 6.39%   |
| Emerging Market Equity                      | 7.50%             | 8.34%   |
| Core Bond                                   | 20.00%            | 0.59%   |
| High-Yield Bond                             | 2.50%             | 3.22%   |
| Bank Loan                                   | 2.50%             | 2.76%   |
| Real Estate                                 | 5.00%             | 5.00%   |
| Covered Calls                               | 20.00%            | 5.07%   |
| Total                                       | <u>100.00%</u>    |   |

The discount rates used to measure the total pension liability was 6.75% as of June 30, 2023, and June 30, 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. For this purpose, only employer contributions that are intended to fund benefits of current plan members and their beneficiaries are included. Projected employer contributions that are intended to fund the service costs of future plan members and their beneficiaries, as well as projected contributions from future plan members, are not included. Based on those assumptions, the Pension Plan's fiduciary net position 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 total pension liability as of both June 30, 2023 and June 30, 2022.

In accordance with GASB 67 regarding the disclosure of the sensitivity of the net pension liability to changes in the discount rate, the following table presents the net pension liability of the Plan as of June 30, 2023, calculated using the discount rate of 6.75% as well as what the Plan's net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (5.75%) or 1- percentage-point higher (7.75%) than the current rate:

|                       | 1% Decrease<br>(5.75%) | Current Discount<br>(6.75%) | 1% Increase<br>(7.75%) |
|-----------------------|------------------------|-----------------------------|------------------------|
| Net Pension Liability | \$ 1,190,976           | \$ 800,287                  | \$ 477,233             |

**EAST BAY MUNICIPAL UTILITY DISTRICT  
EMPLOYEES' RETIREMENT SYSTEM**  
(A Component Unit of the East Bay Municipal Utility District)

Notes To Basic Financial Statements  
(Dollars in Thousands)  
For the Year Ended June 30, 2024

**NOTE 7 – NET OPEB LIABILITY**

The net OPEB liability (The Plan's liability determined according to GASB 74) as of June 30, is shown below:

|                             | 2023       | 2022       |
|-----------------------------|------------|------------|
| Total OPEB Liability        | \$ 193,546 | \$ 181,229 |
| Plan Fiduciary Net Position | (61,165)   | (53,571)   |
| Employer Net OPEB Liability | \$ 132,381 | \$ 127,658 |

|                                    |        |        |
|------------------------------------|--------|--------|
| Plan Fiduciary Net Position as a   |        |        |
| Percentage of Total OPEB Liability | 31.60% | 29.56% |

The actuarial assumptions used in the June 30, 2023 valuation were based on the July 1, 2016 through June 30, 2020 Actuarial Experience Study report dated November 12, 2020, the June 30, 2022 Economic Assumptions Review report dated November 8, 2022, and the Retiree Health assumptions letter dated January 12, 2023. They are the same as the assumptions used in the June 30, 2023 funding actuarial valuation except the discount rate is calculated as a blend of the investment return on plan assets and municipal bond rate in accordance with GASB 74, and implicit subsidy benefit payments are based on the age-based costs. The net OPEB liability is measured as of June 30, 2023 and 2022 and is not adjusted or rolled forward to the June 30, 2024 and 2023 reporting dates.

**EAST BAY MUNICIPAL UTILITY DISTRICT  
EMPLOYEES' RETIREMENT SYSTEM**  
(A Component Unit of the East Bay Municipal Utility District)

Notes To Basic Financial Statements  
(Dollars in Thousands)  
For the Year Ended June 30, 2024

**NOTE 7 – NET OPEB LIABILITY (CONTINUED)**

A summary of the actuarial assumptions as of the latest actuarial valuation is shown below:

|                                     |   |
|-------------------------------------|---|
| Valuation date                      | June 30, 2023   |
| Actuarial cost method               | Entry Age Normal Cost Method  |
| Amortization method                 | Level percent of payroll  |
| Remaining amortization period       | Plan changes, assumption changes, and experience gains/losses prior to July 1, 2011 are amortized over separate decreasing 30-year amortization periods. On or after July 1, 2011, plan changes are amortized over separate decreasing 15-year periods; assumption changes are amortized over separate decreasing 25-year periods; and experience gains/losses and retiree health assumption changes are amortized over separate decreasing 20-year periods. The amortization methodology described above was first applied beginning with the June 30, 2021 valuation, which determined the ADC for fiscal year ending June 30, 2022.  |
| Assets valuation method             | Market value of assets less unrecognized returns in each of the last five years. Unrecognized return is equal to the difference between the actual market return and the expected return on the market value, and is recognized over a five year period, further adjusted, if necessary, to be within 30% of the market value.  |
| Actuarial assumptions:              |   |
| Net Investment Return               | 5.23%, net of OPEB Plan investment expense, including inflation   |
| Average projected salary increases* | Ranges from 3.75% to 9.25% based on years of service  |
| Inflation rate                      | 2.50%   |
| Health Care Trend                   | Non-Medicare: 7.375% graded down to 4.50% over 12 years<br>Medicare: 6.375% graded down to 4.50% over 8 years   |
| HIB increases                       | 0.00%   |
| Mortality                           | <i>Pre-Retirement- Pub-2010 General Employee Headcount-Weighted Above-Median Mortality Tables, projected generationally with the two-dimensional mortality improvement scale MP-2020.</i><br><i>Post-Retirement Healthy Members- Pub-2010 General Healthy Retiree Headcount-Weighted Above-Median Mortality Tables with rates increased by 5% for males, projected generationally with the two-dimensional mortality improvement scale MP-2020.</i><br><i>Post-Retirement Disabled Members- Pub-2010 Non-Safety Disabled Retiree Headcount-Weighted Mortality Tables with rates increased by 5% for males, projected generationally with the two-dimensional mortality improvement scale MP-2020.</i><br><i>Beneficiaries- Pub-2010 Contingent Survivor Headcount-Weighted Above-Median Mortality Tables with rates increased by 5% for males and females, projected generationally with the two-dimensional mortality improvement scale MP-2020.</i> |

\*Includes inflation of 2.50% plus across the board salary increase of 0.50% plus merit and promotional increases.

**EAST BAY MUNICIPAL UTILITY DISTRICT  
EMPLOYEES' RETIREMENT SYSTEM**  
(A Component Unit of the East Bay Municipal Utility District)

Notes To Basic Financial Statements  
(Dollars in Thousands)  
For the Year Ended June 30, 2024

**NOTE 7 – NET OPEB LIABILITY (CONTINUED)**

The long-term expected rate of return on OPEB plan investments was determined using a building-block method in which best-estimates ranges of expected future real rates of return (expected returns, net of OPEB plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighing the expected future real rates of return by the target asset allocation percentage and by adding expected inflation and subtracting expected investment expenses and a risk margin.

The target allocation and projected arithmetic real rates of return, after deducting inflation, but before investment expenses, used in the derivation of the long-term expected investment rate of return assumption for each major asset class are summarized below:

| Asset Class                                 | Target Allocation | Long-Term<br>Expected<br>Arithmetic Real<br>Rate of Return |
|---|-------------------|--|
| Domestic Large Cap Equity                   | 21.75%            | 5.60%  |
| Domestic Small Cap Equity                   | 3.25%             | 6.63%  |
| Developed International Large<br>Cap Equity | 17.50%            | 6.39%  |
| Emerging Market Equity                      | 7.50%             | 8.34%  |
| Core Bond                                   | 20.00%            | 0.59%  |
| High-Yield Bonds                            | 2.50%             | 3.22%  |
| Bank Loans                                  | 2.50%             | 2.76%  |
| Real Estate                                 | 5.00%             | 5.00%  |
| Covered Calls                               | 20.00%            | 5.07%  |
| <b>Total</b>                                | <b>100.00%</b>    |  |

The municipal bond rates used to determine the blended discount rate, as discussed below, were 3.65% and 3.54% which are based on the 20-year municipal bond rate for the Bond Buyer 20-Bond GO Index as of June 30, 2023 and June 30, 2022, respectively.

The discount rates used to measure the total OPEB liability were 5.23% and 5.35% as of June 30, 2023 and June 30, 2022, respectively. 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 for the \$450/\$550 HIB Subsidy excluding the implicit subsidy that will continue to be paid on a pay-as-you-go basis. For this purpose, only employer contributions that are intended to fund benefits of current plan members and their beneficiaries are included. Projected employer contributions that are intended to fund the service costs of future plan members and their beneficiaries, as well as projected contributions from future plan members, are not included. Only the implicit subsidies for current members were included as employer contributions since the employer is funding the implicit subsidy on a pay-as-you-go basis.

Based on those assumptions, the OPEB Plan's fiduciary net position was projected to be sufficient to make projected future benefit payments for current plan members through June 30, 2048. Payments after that date would be funded by employer assets. Therefore, the long-term expected rate of return on OPEB Plan investments (6.75%) was applied to periods of projected benefit payments through June 30, 2048, and the 20-year municipal bond rate (3.65%) was applied to periods after June 30, 2048, to determine the total OPEB liability.

**EAST BAY MUNICIPAL UTILITY DISTRICT  
EMPLOYEES' RETIREMENT SYSTEM**  
(A Component Unit of the East Bay Municipal Utility District)

Notes To Basic Financial Statements  
(Dollars in Thousands)  
For the Year Ended June 30, 2024

**NOTE 7 – NET OPEB LIABILITY (CONTINUED)**

In accordance with GASB 74 regarding the disclosure of the sensitivity of the net OPEB liability to changes in the discount rate, the following table presents the net OPEB liability of the Plan as of June 30, 2023, calculated using the discount rate of 5.23% as well as what the Plan's net OPEB liability would be if it were calculated using a discount rate that is 1-percentage-point lower (4.23%) or 1-percentage-point higher (6.23%) than the current rate:

|                    | 1% Decrease<br>(4.23%) | Current Discount<br>(5.23%) | 1% Increase<br>(6.23%) |
|--------------------|------------------------|-----------------------------|------------------------|
| Net OPEB Liability | \$ 152,405             | \$ 132,381                  | \$ 115,294             |

Additionally, in accordance with GASB 74 regarding disclosure of the sensitivity of the net OPEB liability to changes in the trend rate (only applied to implicit subsidy and not the \$450/\$550 cash subsidy), the following table presents the net OPEB liability of the Plan as of June 30, 2023, calculated using the current trend rates as well as what the Plan's net OPEB liability would be if it were calculated using a trend rate that is 1-percentage-point lower or 1 - percentage-point higher than the current rate:

|                    | 1% Decrease | Current Trend | 1% Increase |
|--------------------|-------------|---------------|-------------|
| Net OPEB Liability | \$ 128,362  | \$ 132,381    | \$ 137,020  |

**NOTE 8 – BENEFIT GUARANTY**

**A. Pension Plan**

The District may, at any time, change or repeal the ordinance governing the Plan. The District's obligations to those members receiving or eligible for a retirement allowance prior to such change or repeal shall continue in full force. The District is obligated to those members neither receiving nor eligible for a retirement allowance at the time of such change or repeal. This allowance will be a retirement allowance at retirement age equal to the actuarial equivalent of the accumulated value of the member's contributions standing to the member's credit at the date of retirement and the accumulated value of the District's contribution for current service to the date of such change or repeal, increased by the accumulation of interest to date of retirement.

**B. Postemployment Healthcare Benefits**

In addition to retirement benefits, the District provides postemployment health benefits assistance (administered by the Employees' Retirement System) for employees who retire from the District or their surviving spouses. As of June 30, 2023 (date of latest actuarial valuation), there were 1,870 participants receiving these health care benefits.

Effective July 1, 1996, a 20-year vesting schedule for full benefits was implemented for all new participants. Effective January 1, 1999, retired members who had separated from the District prior to their retirement who has at least 5 years of service also became eligible for the postemployment health benefits based on the same sliding scale. The scale provides for 25% of healthcare benefits for service from 5 through 10 years, 50% of healthcare benefits for service from 10 through 15 years, 75% of healthcare benefits for service from 15 through 20 years, and 100% of healthcare benefits for service of 20 years or more. Effective July 1, 2003, the District reimbursed up to \$450 per month (\$550 per month effective July 1, 2004, for membership of a spouse or registered domestic partner) for any health, dental, or long-term care insurance premiums paid by the retiree for themselves, current spouse, or domestic partner, or any health, dental, or long-term care insurance premiums paid by the eligible surviving spouse of a retiree. These benefits are paid from a separate post-employment healthcare benefits fund which up until June 17, 2002, was advance funded entirely by the District on an actuarially determined basis. Cash reimbursement of these benefits totaled \$9,824 for the year ended June 30, 2024 and \$9,705 for the year ended June 30, 2023. Effective June 18, 2002, a portion of the postemployment healthcare benefits costs is recovered through employee contributions.

**EAST BAY MUNICIPAL UTILITY DISTRICT  
EMPLOYEES' RETIREMENT SYSTEM**  
(A Component Unit of the East Bay Municipal Utility District)

Notes To Basic Financial Statements  
(Dollars in Thousands)  
For the Year Ended June 30, 2024

**NOTE 8 – BENEFIT GUARANTY (CONTINUED)**

Through June 30, 1999, the medical premium subsidy was not a vested benefit and the District reserved the right to modify or terminate the benefit at any time. If the medical subsidy were terminated, assets accumulated from contributions made for the subsidy would be used to provide other pension benefits. Effective July 1, 1999, the medical premium subsidy became a vested benefit to a maximum of \$200 per month, was changed effective October 1, 2000, to a maximum of \$250 per month, and was changed effective July 1, 2002, to a maximum of \$400 per month per month, and was changed effective July 1, 2003, to a maximum of \$450 per month, and was changed again effective July 1, 2004, to a maximum of \$450 per month and \$550 per month for membership of a spouse or registered domestic partner.

**NOTE 9 – SUBSCRIPTION-BASED INFORMATION TECHNOLOGY AGREEMENTS (SBITA)**

The System implemented GASB Statement No. 96 in the fiscal year ended June 30, 2023, which records the value of a right-to-use subscription asset. The System has recorded a subscription in progress under their assets for \$4,240 and \$1,692 as of June 30, 2024 and June 30, 2023, respectively, as part of their Pension Gold Version 4 software implementation. The SBITA activity is as of fiscal year 2024 as the full software has not been implemented. The System is currently making progress payments as phases of the implementation are completed and it's currently scheduled to be fully implemented by the third quarter of fiscal year 2026.

**NOTE 10 – RELATED PARTY TRANSACTIONS**

The District provides the System with accounting, treasury, and other administrative services, which are reimbursed by the System on a monthly basis. Total reimbursements in fiscal years 2024 and 2023 were \$1,924 and \$1,749 respectively.

**EAST BAY MUNICIPAL UTILITY DISTRICT  
EMPLOYEES' RETIREMENT SYSTEM**  
(A Component Unit of the East Bay Municipal Utility District)

Required Supplementary Information  
(Dollars in thousands)  
For the Year Ended June 30, 2024

**(1) Pension Plan**

Schedule of Changes in Employer's Net Pension Liability:

| Reporting Date  | 2024                | 2023                | 2022                | 2021                | 2020                | 2019                | 2018                | 2017                | 2016                | 2015                |
|---|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Measurement Date  | 2023                | 2022                | 2021                | 2020                | 2019                | 2018                | 2017                | 2016                | 2015                | 2014                |
| <b>Total Pension Liability</b>                                |                     |                     |                     |                     |                     |                     |                     |                     |                     |                     |
| Service cost  | \$ 56,378           | \$ 51,706           | \$ 52,212           | \$ 46,124           | \$ 44,710           | \$ 40,636           | \$ 41,106           | \$ 37,828           | \$ 36,791           | \$ 34,987           |
| Interest  | 190,492             | 181,464             | 176,878             | 163,114             | 154,896             | 149,324             | 144,392             | 138,135             | 131,595             | 127,558             |
| Differences between expected and actual experience            | 51,869              | 54,807              | (37,465)            | (6,199)             | 25,974              | 48,581              | (22,641)            | 5,278               | (1,390)             | 438                 |
| Changes of assumptions  | -                   | 72,120              | -                   | 104,814             | -                   | 12,484              | -                   | 52,596              | -                   | 18,421              |
| Benefit payments, including refunds of employee contributions | (140,081)           | (129,940)           | (121,249)           | (113,388)           | (105,785)           | (98,062)            | (90,705)            | (83,886)            | (77,790)            | (71,232)            |
| <b>Net change in total pension liability</b>                  | <b>158,658</b>      | <b>230,157</b>      | <b>70,376</b>       | <b>194,465</b>      | <b>119,795</b>      | <b>152,963</b>      | <b>72,152</b>       | <b>149,951</b>      | <b>89,206</b>       | <b>110,172</b>      |
| <b>Total pension liability - beginning</b>                    | <b>2,835,771</b>    | <b>2,605,614</b>    | <b>2,535,238</b>    | <b>2,340,773</b>    | <b>2,220,978</b>    | <b>2,068,015</b>    | <b>1,995,863</b>    | <b>1,845,912</b>    | <b>1,756,706</b>    | <b>1,646,534</b>    |
| <b>Total pension liability - ending (a)</b>                   | <b>\$ 2,994,429</b> | <b>\$ 2,835,771</b> | <b>\$ 2,605,614</b> | <b>\$ 2,535,238</b> | <b>\$ 2,340,773</b> | <b>\$ 2,220,978</b> | <b>\$ 2,068,015</b> | <b>\$ 1,995,863</b> | <b>\$ 1,845,912</b> | <b>\$ 1,756,706</b> |
| <b>Plan fiduciary net position</b>                            |                     |                     |                     |                     |                     |                     |                     |                     |                     |                     |
| Contributions - employer                                      | \$ 95,103           | \$ 91,393           | \$ 79,252           | \$ 77,645           | \$ 74,033           | \$ 71,221           | \$ 67,096           | \$ 65,218           | \$ 64,177           | \$ 61,660           |
| Contributions - employee                                      | 21,865              | 20,915              | 19,136              | 18,690              | 17,681              | 16,860              | 15,820              | 14,741              | 13,260              | 11,963              |
| Net investment income   | 214,117             | (245,904)           | 481,909             | 39,973              | 91,194              | 147,424             | 197,977             | 13,934              | 59,288              | 216,601             |
| Benefit payments, including refunds of employee contributions | (140,081)           | (129,940)           | (121,249)           | (113,388)           | (105,785)           | (98,062)            | (90,705)            | (83,886)            | (77,790)            | (71,232)            |
| Administrative expense  | (2,214)             | (1,875)             | (1,876)             | (1,453)             | (1,477)             | (1,521)             | (1,403)             | (1,289)             | (1,269)             | (1,233)             |
| <b>Net change in plan fiduciary net position</b>              | <b>188,790</b>      | <b>(265,411)</b>    | <b>457,172</b>      | <b>21,467</b>       | <b>75,646</b>       | <b>135,922</b>      | <b>188,785</b>      | <b>8,718</b>        | <b>57,666</b>       | <b>217,759</b>      |
| <b>Plan fiduciary net position - beginning</b>                | <b>2,005,352</b>    | <b>2,270,763</b>    | <b>1,813,591</b>    | <b>1,792,124</b>    | <b>1,716,478</b>    | <b>1,580,556</b>    | <b>1,391,771</b>    | <b>1,383,053</b>    | <b>1,325,387</b>    | <b>1,107,628</b>    |
| <b>Plan fiduciary net position - ending (b)</b>               | <b>\$ 2,194,142</b> | <b>\$ 2,005,352</b> | <b>\$ 2,270,763</b> | <b>\$ 1,813,591</b> | <b>\$ 1,792,124</b> | <b>\$ 1,716,478</b> | <b>\$ 1,580,556</b> | <b>\$ 1,391,771</b> | <b>\$ 1,383,053</b> | <b>\$ 1,325,387</b> |
| <b>Plan's net pension liability - ending (a) - (b)</b>        | <b>\$ 800,287</b>   | <b>\$ 830,419</b>   | <b>\$ 334,851</b>   | <b>\$ 721,647</b>   | <b>\$ 548,649</b>   | <b>\$ 504,500</b>   | <b>\$ 487,459</b>   | <b>\$ 604,092</b>   | <b>\$ 462,859</b>   | <b>\$ 431,319</b>   |

**EAST BAY MUNICIPAL UTILITY DISTRICT  
EMPLOYEES' RETIREMENT SYSTEM**  
(A Component Unit of the East Bay Municipal Utility District)

Required Supplementary Information  
(Dollars in thousands)  
For the Year Ended June 30, 2024

**(2) Pension Plan**

Schedule of Employer's Net Pension Liability:

| <b>Reporting Date</b>  | <b>2024</b>        | <b>2023</b>        | <b>2022</b>        | <b>2021</b>        | <b>2020</b>        |
|--|--------------------|--------------------|--------------------|--------------------|--------------------|
| <i>Measurement Date</i>  | <i>2023</i>        | <i>2022</i>        | <i>2021</i>        | <i>2020</i>        | <i>2019</i>        |
| Total Pension Liability  | \$ 2,994,429       | \$ 2,835,771       | \$ 2,605,614       | \$ 2,535,238       | \$ 2,340,773       |
| Plan fiduciary net position  | <u>(2,194,142)</u> | <u>(2,005,352)</u> | <u>(2,270,763)</u> | <u>(1,813,591)</u> | <u>(1,792,124)</u> |
| Net pension liability  | <u>\$ 800,287</u>  | <u>\$ 830,419</u>  | <u>\$ 334,851</u>  | <u>\$ 721,647</u>  | <u>\$ 548,649</u>  |
| Plan fiduciary net position as a percentage of total pension liability | 73.27%             | 70.72%             | 87.15%             | 71.54%             | 76.56%             |
| Covered payroll*   | \$ 246,231         | \$ 233,940         | \$ 221,809         | \$ 215,110         | \$ 203,541         |
| Plan net pension liability as a percentage of covered payroll          | 325.02%            | 354.97%            | 150.96%            | 335.48%            | 269.55%            |
| <b>Reporting Date</b>  | <b>2019</b>        | <b>2018</b>        | <b>2017</b>        | <b>2016</b>        | <b>2015</b>        |
| <i>Measurement Date</i>  | <i>2018</i>        | <i>2017</i>        | <i>2016</i>        | <i>2015</i>        | <i>2014</i>        |
| Total Pension Liability  | \$ 2,220,978       | \$ 2,068,015       | \$ 1,995,863       | \$ 1,845,912       | \$ 1,756,706       |
| Plan fiduciary net position  | <u>(1,716,478)</u> | <u>(1,580,556)</u> | <u>(1,391,771)</u> | <u>(1,383,053)</u> | <u>(1,325,387)</u> |
| Net pension liability  | <u>\$ 504,500</u>  | <u>\$ 487,459</u>  | <u>\$ 604,092</u>  | <u>\$ 462,859</u>  | <u>\$ 431,319</u>  |
| Plan fiduciary net position as a percentage of total pension liability | 77.28%             | 76.43%             | 69.73%             | 74.93%             | 75.45%             |
| Covered payroll*   | \$ 193,717         | \$ 182,032         | \$ 174,586         | \$ 166,886         | \$ 159,513         |
| Plan net pension liability as a percentage of covered payroll          | 260.43%            | 267.79%            | 346.01%            | 277.35%            | 270.40%            |

\*In accordance with GASB 82, the covered payroll amounts are defined as the payroll on which contributions to a pension plan are based. The covered payroll amounts for fiscal year 2014 through fiscal year 2016, were updated to adopt the provisions of GASB 82.

**EAST BAY MUNICIPAL UTILITY DISTRICT  
EMPLOYEES' RETIREMENT SYSTEM**  
(A Component Unit of the East Bay Municipal Utility District)

Required Supplementary Information  
(Dollars in thousands)  
For the Year Ended June 30, 2024

**(3) Pension Plan**

Schedule of Employer's Contributions:

| Year ended<br>June 30 | Actuarially<br>determined<br>contributions | Contributions in<br>relation to the<br>actuarially<br>determined<br>contributions | Contributions<br>deficiency<br>(excess) | Covered<br>payroll* | Contributions as<br>a percentage of<br>covered payroll |
|-----------------------|--|---|---|---------------------|--|
| 2015                  | \$ 64,177                                  | \$ 64,177   | \$ -                                    | \$ 166,886          | 38.46%   |
| 2016                  | 65,218                                     | 65,218  | -                                       | 174,586             | 37.36%   |
| 2017                  | 67,096                                     | 67,096  | -                                       | 182,032             | 36.86%   |
| 2018                  | 71,221                                     | 71,221  | -                                       | 193,717             | 36.77%   |
| 2019                  | 74,033                                     | 74,033  | -                                       | 203,541             | 36.37%   |
| 2020                  | 77,645                                     | 77,645  | -                                       | 215,110             | 36.10%   |
| 2021                  | 79,252                                     | 79,252  | -                                       | 221,809             | 35.73%   |
| 2022                  | 91,393                                     | 91,393  | -                                       | 233,940             | 39.07%   |
| 2023                  | 95,103                                     | 95,103  | -                                       | 246,231             | 38.62%   |
| 2024                  | 105,111                                    | 105,111   | -                                       | 266,278             | 39.47%   |

\*Derived by dividing the contributions in relation to the actuarial determined contributions by the contributions as a percentage of covered employee payroll. These amounts may be different from the actual payroll of the District. In accordance with GASB 82, the covered payroll is defined as the payroll on which contributions to the pension plan are based. These amounts may be different from the actual payroll of the District. The actuarially determined contributions for the fiscal year ended June 30, 2024 are based on the reporting date. Years preceding fiscal year ended June 30, 2024 are based on the measurement date.

**(4) Pension Plan**

Schedule of Investment Returns:

| <i>Reporting Date</i>   | 2024   | 2023   | 2022    | 2021   | 2020  | 2019  | 2018  | 2017   | 2016  | 2015  |
|---|--------|--------|---------|--------|-------|-------|-------|--------|-------|-------|
| Annual money weighted rate of return, net of investment expense | 12.74% | 10.96% | -10.81% | 26.85% | 2.27% | 5.37% | 9.29% | 14.46% | 0.91% | 4.40% |

**EAST BAY MUNICIPAL UTILITY DISTRICT  
EMPLOYEES' RETIREMENT SYSTEM**  
(A Component Unit of the East Bay Municipal Utility District)

Required Supplementary Information  
(Dollars in thousands)  
For the Year Ended June 30, 2024

**(5) Post-Employment Healthcare Plan**

Schedule of Changes in Employer's Net OPEB Liability:

| Reporting Date                                      | 2024              | 2023              | 2022              | 2021              | 2020              | 2019              | 2018              | 2017              | 2016              |
|---|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Measurement Date                                    | 2023              | 2022              | 2021              | 2020              | 2019              | 2018              | 2017              | 2016              | 2015              |
| <b>Total OPEB Liability</b>                         |                   |                   |                   |                   |                   |                   |                   |                   |                   |
| Service cost  | \$ 5,088          | \$ 6,725          | \$ 5,538          | \$ 4,864          | \$ 4,692          | \$ 4,827          | \$ 5,276          | \$ 4,514          | \$ 4,460          |
| Interest  | 9,646             | 8,061             | 8,608             | 9,042             | 9,332             | 9,265             | 8,797             | 9,374             | 9,159             |
| Differences between expected and actual experience  | (438)             | 5,102             | (4,383)           | 704               | (2,783)           | (3,299)           | (1,711)           | (3,286)           | (309)             |
| Changes of assumptions                              | 10,206            | (28,016)          | 7,163             | 18,913            | 5,753             | (527)             | (6,107)           | 12,471            | -                 |
| Benefity payments - cash*                           | -                 | -                 | -                 | -                 | -                 | -                 | -                 | (7,685)           | (7,394)           |
| Benefit payments- estimated implicit subsidy        | (12,185)          | (11,778)          | (11,644)          | (11,382)          | (11,052)          | (10,390)          | (9,804)           | (2,164)           | (2,241)           |
| <b>Net change in total OPEB liability</b>           | <b>12,317</b>     | <b>(19,906)</b>   | <b>5,282</b>      | <b>22,141</b>     | <b>5,942</b>      | <b>(124)</b>      | <b>(3,549)</b>    | <b>13,224</b>     | <b>3,675</b>      |
| <b>Total OPEB liability - beginning</b>             | <b>181,229</b>    | <b>201,135</b>    | <b>195,853</b>    | <b>173,712</b>    | <b>167,770</b>    | <b>167,894</b>    | <b>171,443</b>    | <b>158,219</b>    | <b>154,544</b>    |
| <b>Total OPEB liability - ending (a)</b>            | <b>\$ 193,546</b> | <b>\$ 181,229</b> | <b>\$ 201,135</b> | <b>\$ 195,853</b> | <b>\$ 173,712</b> | <b>\$ 167,770</b> | <b>\$ 167,894</b> | <b>\$ 171,443</b> | <b>\$ 158,219</b> |
| <b>Plan fiduciary net position</b>                  |                   |                   |                   |                   |                   |                   |                   |                   |                   |
| Employer contributions - cash                       | \$ 11,420         | \$ 10,892         | \$ 11,372         | \$ 11,089         | \$ 10,518         | \$ 9,875          | \$ 9,764          | \$ 9,454          | \$ 8,964          |
| Employer contributions - estimated implicit subsidy | -                 | -                 | -                 | -                 | -                 | -                 | -                 | 2,164             | 2,241             |
| Employee contributions - total                      | 11,420            | 10,892            | 11,372            | 11,089            | 10,518            | 9,875             | 9,764             | 11,618            | 11,205            |
| Employee contributions                              | 223               | 212               | 200               | 195               | 184               | 219               | 198               | 184               | 167               |
| Net investment income                               | 5,715             | (6,105)           | 11,638            | 890               | 2,060             | 2,925             | 3,706             | 271               | 938               |
| Benefity payments - cash*                           | -                 | -                 | -                 | -                 | -                 | -                 | -                 | (7,685)           | (7,394)           |
| Benefit payments- estimated implicit subsidy        | (12,185)          | (11,778)          | (11,644)          | (11,382)          | (11,052)          | (10,390)          | (9,804)           | (2,164)           | (2,241)           |
| Administrative expense                              | (59)              | (46)              | (46)              | (34)              | (33)              | (30)              | (26)              | (22)              | (20)              |
| Other   | 2,480             | 2,437             | 2,421             | 2,419             | 2,402             | 2,075             | 1,892             | -                 | -                 |
| <b>Net change in plan fiduciary net position</b>    | <b>7,594</b>      | <b>(4,388)</b>    | <b>13,941</b>     | <b>3,177</b>      | <b>4,079</b>      | <b>4,674</b>      | <b>5,730</b>      | <b>2,202</b>      | <b>2,655</b>      |
| <b>Plan fiduciary net position - beginning</b>      | <b>53,571</b>     | <b>57,959</b>     | <b>44,018</b>     | <b>40,841</b>     | <b>36,762</b>     | <b>32,088</b>     | <b>26,358</b>     | <b>24,156</b>     | <b>21,501</b>     |
| <b>Plan fiduciary net position - ending (b)</b>     | <b>\$ 61,165</b>  | <b>\$ 53,571</b>  | <b>\$ 57,959</b>  | <b>\$ 44,018</b>  | <b>\$ 40,841</b>  | <b>\$ 36,762</b>  | <b>\$ 32,088</b>  | <b>\$ 26,358</b>  | <b>\$ 24,156</b>  |
| <b>Plan's net OPEB liability - ending (a) - (b)</b> | <b>\$ 132,381</b> | <b>\$ 127,658</b> | <b>\$ 143,176</b> | <b>\$ 151,835</b> | <b>\$ 132,871</b> | <b>\$ 131,008</b> | <b>\$ 135,806</b> | <b>\$ 145,085</b> | <b>\$ 134,063</b> |

\*Benefit Payments and Employer Contributions - cash and estimated implicit subsidy report together starting fiscal year 2018.

Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

**EAST BAY MUNICIPAL UTILITY DISTRICT  
EMPLOYEES' RETIREMENT SYSTEM**  
(A Component Unit of the East Bay Municipal Utility District)

Required Supplementary Information  
(Dollars in thousands)  
For the Year Ended June 30, 2024

**(6) Post-Employment Healthcare Plan**

Schedule of Employer's Net OPEB Liability:

| Reporting Date   | 2024              | 2023              | 2022              | 2021              | 2020              | 2019              | 2018              | 2017              | 2016              |
|--|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Measurement Date   | 2023              | 2022              | 2021              | 2020              | 2019              | 2018              | 2017              | 2016              | 2015              |
| Total OPEB Liability   | \$ 193,546        | \$ 181,229        | \$ 201,135        | \$ 195,853        | \$ 173,712        | \$ 167,770        | \$ 167,894        | \$ 171,443        | \$ 158,219        |
| Plan fiduciary net position  | (61,165)          | (53,571)          | (57,959)          | (44,018)          | (40,841)          | (36,762)          | (32,088)          | (26,358)          | (24,156)          |
| Net OPEB liability   | <u>\$ 132,381</u> | <u>\$ 127,658</u> | <u>\$ 143,176</u> | <u>\$ 151,835</u> | <u>\$ 132,871</u> | <u>\$ 131,008</u> | <u>\$ 135,806</u> | <u>\$ 145,085</u> | <u>\$ 134,063</u> |
| Plan fiduciary net position as a percentage of total OPEB liability        | 31.60%            | 29.56%            | 28.82%            | 22.48%            | 23.51%            | 21.91%            | 19.11%            | 15.37%            | 15.27%            |
| Covered payroll plan net OPEB liability as a percentage of covered payroll | \$ 246,231        | \$ 233,940        | \$ 221,809        | \$ 215,110        | \$ 203,541        | \$ 193,717        | \$ 182,032        | \$ 174,586        | \$ 166,886        |
|  | 53.76%            | 54.57%            | 64.55%            | 70.58%            | 65.28%            | 67.63%            | 74.61%            | 83.10%            | 80.33%            |

Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

**(7) Post-Employment Healthcare Plan**

Schedule of Employer's Contributions:

| Year ended<br>June 30 | Actuarially<br>determined<br>contributions | Contributions in<br>relation to the<br>actuarially<br>determined<br>contributions | Contributions<br>deficiency<br>(excess) | Covered<br>payroll* | Contributions as a<br>percentage of<br>covered payroll |
|-----------------------|--|---|---|---------------------|--|
| 2015                  | \$ 8,964                                   | \$ 8,964  | \$ -                                    | \$ 166,886          | 5.37%  |
| 2016                  | 9,454                                      | 9,454   | -                                       | 174,586             | 5.42%  |
| 2017                  | 9,764                                      | 9,764   | -                                       | 182,032             | 5.36%  |
| 2018                  | 9,875                                      | 9,875   | -                                       | 193,717             | 5.10%  |
| 2019                  | 10,518                                     | 10,518  | -                                       | 203,541             | 5.17%  |
| 2020                  | 11,089                                     | 11,089  | -                                       | 215,110             | 5.16%  |
| 2021                  | 11,372                                     | 11,372  | -                                       | 221,809             | 5.13%  |
| 2022                  | 10,892                                     | 10,892  | -                                       | 233,940             | 4.66%  |
| 2023                  | 11,420                                     | 11,420  | -                                       | 246,231             | 4.64%  |
| 2024                  | 12,231                                     | 12,231  | -                                       | 266,278             | 4.59%  |

\*Derived by dividing the contributions in relation to the actuarial determined contributions by the contributions as a percentage of covered payroll. These amounts may be different from the actual payroll of the District. In accordance with GASB 82, the covered payroll is defined as the payroll on which contributions to the pension plan are based. These amounts may be different from the actual payroll of the District. The actuarially determined contributions for the fiscal year ended June 30, 2024 are based on the reporting date. Years preceding fiscal year ended June 30, 2024 are based on the measurement date.

**EAST BAY MUNICIPAL UTILITY DISTRICT  
EMPLOYEES' RETIREMENT SYSTEM**  
(A Component Unit of the East Bay Municipal Utility District)

Notes to Required Supplementary Information  
(Dollars in thousands)  
For the Year Ended June 30, 2024

The pension-related information presented in the required supplementary schedules was determined as part of the Pension actuarial valuation at the date indicated. Additional information as of the latest Pension actuarial valuation is as follows:

|                                     |   |
|-------------------------------------|---|
| Valuation date                      | June 30, 2021   |
| Actuarial cost method               | Entry Age Normal Cost Method  |
| Amortization method                 | Level percent of payroll  |
| Remaining amortization period       | Plan changes, assumption changes, and experience gains/losses prior to July 1, 2011 are amortized over separate decreasing 30-year amortization periods. On or after July 1, 2011, plan changes are amortized over separate decreasing 15-year periods; assumptions changes are amortized over separate decreasing 25 year periods (prior to July 1, 2021); and experience gains/losses are amortized over separate decreasing 20 year periods. On or after July 1, 2021, assumption or method changes are amortized over separate decreasing 20-year periods.  |
| Assets valuation method             | Market value of assets less unrecognized returns in each last five years. Unrecognized return is equal to the difference between the actual market return and the expected return on the market value, and is recognized over a five year period, further adjusted, if necessary, to be within 30% of the market value.   |
| Actuarial assumptions:              |   |
| Investment Rate of Return           | 7.00%, net of Pension Plan investment expense, including inflation  |
| Average projected salary increases* | Ranges from 4.00% to 9.50% based on years of service  |
| Inflation rate                      | 2.75%   |
| Cost-of-living adjustments          | 2.75% per annum   |
| Mortality                           | <i>Pre-retirement:</i> Pub-2010 General Employee Amount-Weighted Above-Median Mortality Tables, projected generationally with the two-dimensional mortality improvement scale MP-2020.<br><i>Post-retirement:</i><br><i>Healthy Members</i> - Pub-2010 General Healthy Retiree Amount-Weighted Above-Median Mortality Tables with rates increased by 5% for males, projected generationally with the two-dimensional mortality improvement scale MP-2020.<br><i>Disabled Members</i> - Pub-2010 Non-Safety Disabled Retiree Amount-Weighted Mortality Tables with rates increased by 5% for males, projected generationally with the two-dimensional mortality improvement scale MP-2020.<br><i>Beneficiaries</i> - Pub-2010 Contingent Survivor Amount-Weighted Above-Median Mortality Tables with rates increased by 5% for males and females, projected generationally with the two-dimensional mortality improvement scale MP-2020. |

\*Includes inflation of 2.75% plus across the board salary increases of 0.50% plus merit and promotional increases.

**EAST BAY MUNICIPAL UTILITY DISTRICT  
EMPLOYEES' RETIREMENT SYSTEM**  
(A Component Unit of the East Bay Municipal Utility District)

Notes to Required Supplementary Information  
(Dollars in thousands)  
For the Year Ended June 30, 2024

The OPEB-related information presented in the required supplementary schedules was determined as part of the OPEB actuarial valuation at the date indicated. Additional information as of the latest OPEB actuarial valuation is as follows:

|                                     |  |
|-------------------------------------|--|
| Valuation date                      | June 30, 2021  |
| Actuarial cost method               | Entry Age Normal Cost Method   |
| Amortization method                 | Level percent of payroll   |
| Remaining amortization period       | Plan changes, assumption changes, and experience gains/losses prior to July 1, 2011 are amortized over separate decreasing 30-year amortization periods. On or after July 1, 2011, plan changes are amortized over separate decreasing 15-year periods; assumption changes are amortized over separate decreasing 25-year periods; and experience gains/losses and retiree health assumption changes are amortized over separate decreasing 20-year periods. The amortization methodology described above corresponds to that used in the June 30, 2020 valuation, which determined the ADC for the fiscal year ending June 30, 2022.  |
| Assets valuation method             | Market value of assets less unrecognized returns in each of the last five years. Unrecognized return is equal to the difference between the actual market return and the expected return on the market value, and is recognized over a five year period, further adjusted, if necessary, to be within 30% of the market value.   |
| Actuarial assumptions:              |  |
| Investment Rate of Return           | 7.00%, net of OPEB Plan investment expense, including inflation  |
| Average projected salary increases* | Ranges from 4.00% to 9.50% based on years of service   |
| Inflation rate                      | 2.75%  |
| Health care trend                   | Non-Medicare: 7.375% graded down to 4.50% over 12 years<br>Medicare: 6.375% graded down to 4.50% over 8 years  |
| HIB increases                       | 0.00%  |
| Mortality                           | <i>Pre-retirement:</i> Pub-2010 General Employee Headcount-Weighted Above-Median Mortality Tables, projected generationally with the two-dimensional mortality improvement scale MP-2020.<br><i>Post-Retirement Healthy Members</i> - Pub-2010 General Healthy Retiree Headcount-Weighted Above-Median Mortality Tables with rates increased by 5% for males, projected generationally with the two-dimensional mortality improvement scale MP-2020.<br><i>Post-Retirement Disabled Members</i> - Pub-2010 Non-Safety Disabled Retiree Headcount-Weighted Mortality Tables with rates increased by 5% for males, projected generationally with the two-dimensional mortality improvement scale MP-2020.<br><i>Beneficiaries</i> - Pub-2010 Contingent Survivor Headcount-Weighted Above-Median Mortality Tables with rates increased by 5% for males and females, projected generationally with the two-dimensional mortality improvement scale MP-2020. |

\*Includes inflation of 2.75% plus across the board salary increases of 0.50% plus merit and promotional increases.



INDEPENDENT AUDITORS' REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING AND ON COMPLIANCE AND OTHER MATTERS BASED ON AN AUDIT OF FINANCIAL STATEMENTS PERFORMED IN ACCORDANCE WITH *GOVERNMENT AUDITING STANDARDS*

To the Board of Directors  
East Bay Municipal Utility District Employees' Retirement System  
Oakland, California

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of the East Bay Municipal Utility District Employees' Retirement System (the System), component unit of East Bay Municipal Utility District (the District), as of and for the year ended June 30, 2024, and the related notes to the financial statements, which collectively comprise the System's basic financial statements, and have issued our report thereon dated October 29, 2024.

### Report on Internal Control over Financial Reporting

In planning and performing our audit of the financial statements, we considered the District's internal control over the System's financial reporting (internal control) as a basis for designing audit procedures that are appropriate in the circumstances for the purpose of expressing our opinions on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the District's internal control. Accordingly, we do not express an opinion on the effectiveness of the District's internal control over the System.

*A deficiency in internal control* exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements, on a timely basis. A *material weakness* is a deficiency, or a combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected, on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or, significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses or significant deficiencies may exist that were not identified.

### Report on Compliance and Other Matters

As part of obtaining reasonable assurance about whether the System's financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the financial statements. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.



To the Board of Directors  
East Bay Municipal Utility District Employees' Retirement System  
Oakland, California

**Purpose of This Report**

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the entity's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the entity's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

*Lance, Soll & Lughard, LLP*


Brea, California  
October 29, 2024

## EAST BAY MUNICIPAL UTILITY DISTRICT

---

DATE: November 21, 2024

MEMO TO: Members of the Retirement Board

FROM: Sophia D. Skoda, Director of Finance 

SUBJECT: Portfolio Transition Update

### SUMMARY

The Retirement System's investment consultant, Meketa, will provide an update on the progress made on the portfolio transition plan.

### DISCUSSION

The attached memo from Meketa provides a detailed update on the transition plan approved by the Retirement Board at the July 19, 2024 meeting following the completion of the Asset Allocation Study in May 2024. This update will cover a quick review of Stage 0 and an update on the current stage, Stage 1. Stage 0 consisted of the selection of a transition manager and the transition to new indices for the Retirement System's bank loan and high yield strategies. Stage 1, the current stage, involves the launch of the Requests for Proposals (RFPs) for new high yield and bank loans managers as well as the full redemption of the real estate and covered calls mandates managed by CenterSquare and Van Hulzen respectively, with those funds moving to the U.S. public equities Northern Trust Asset Management Russell 3000 mandate. The asset reallocation has already taken place, while the manager searches are currently ongoing.

As a reminder, the portfolio transition will cover up to five stages. Further details are available in the Appendix to the attached memo.

SDS:SGL

Attachment: Memo – Transition Update as of November 2024

## MEMORANDUM

**TO:** East Bay Municipal Utility District Employees' Retirement System ("EBMUDERS")  
**FROM:** Meketa Investment Group, Inc ("Meketa")  
**DATE:** November 21, 2024  
**RE:** EBMUDERS Evolving Policy Plan – Transition Update as of November 2024

---

### Summary

At the July 18, 2024, Retirement Board Meeting, the Board voted to approve the Evolving Policy Plan as presented by Staff and the Meketa team. The Evolving Policy Plan pertains to the planned transition of the Total Portfolio to the recently approved long-term strategic allocation policy targets.

The Meketa team is pleased to announce that the transition is moving forward according to the Evolving Policy Plan's timeline and tasks within Stage 0 of that plan are complete. The new target allocations from Stage 1 are now in effect (as of October 1, 2024) and the primary activity in Stage 1 (High Yield and Bank Loans manager searches) are in progress.

### Detail and Update – Stage 0

Stage 0 represented the initial transition phase. During this stage, there were not any allocation (i.e., dollars/assets) changes, however, two important administrative tasks were completed by Staff and Meketa:

1. Contracted with Northern Trust Transition Management in order to transition assets from Covered Calls manager Van Hulzen and REITs manager CenterSquare. These assets were allocated to the passive Russell 3000 Index strategy managed by Northern Trust Asset Management. More detail on this transition is provided in a separate memorandum.
2. Two of EBMUDERS's current non-core fixed income managers had their benchmarks shifted to more standardized indices. For both Mackay Shields (High Yield) and Federated (Bank Loans), Q3 2024 was a transition period for any portfolio modifications that needed to be executed prior to their new benchmarks being in place to start Q4 2024.

### Detail and Update – Stage 1

Stage 1 is characterized by two activities:

1. **New policy targets in effect as of October 1, 2024.** These new targets decrease the allocations to Covered Calls by (6%) and REITs by (2.5%), with a commensurate 8.5% increase to US

Equity. At this point, REITs are no longer in the policy portfolio. The transition activity at the end of Q3 2024 (Stage 0) prepared the EBMUDERS portfolio to be in-line with the new target allocations to begin Q4 2024.

2. **Manager searches for High Yield and Bank Loans managers.** Both of these segments will experience increased allocations over future stages, necessitating one additional manager in each segment in order to increase the diversification and reduce manager concentration risks. Details of this process are discussed in a separate memorandum.

### Conclusion

The Evolving Policy Plan is moving forward as scheduled. Stage 0 has been completed, and Stage 1 is currently in progress. As discussed when the Evolving Policy Plan was first presented, the proposed timeline may be shifted over time as activities unfold. Currently, there is the possibility Stage 2 may be brought forward by one quarter if Stage 1 continues to proceed without any issues. The Meketa team continues to work with Staff to maintain momentum on the transition and will continue to provide relevant updates to the Board.

## APPENDIX

The primary contents of the original Evolving Policy Plan memorandum (as presented in July 2024) are provided below. The following tables has been modified with red font to highlight stages that are no longer in effect.

### Evolving Policy Plan

| Policy Allocations               |                 |                             |                           |
|----------------------------------|-----------------|-----------------------------|---------------------------|
|                                  | Stage 0         | Stage 1                     | Stage 2                   |
|                                  | Starting Policy | Current Policy<br>10/1/2024 | Approximately<br>7/1/2025 |
| <b>US Equity</b>                 | 25.0%           | 33.5%                       | 35.0%                     |
| <b>Non-US Equity</b>             | 25.0%           | 25.0%                       | 25.0%                     |
| <b>Covered Calls</b>             | 20.0%           | 14.0%                       | 7.5%                      |
| <b>REITS</b>                     | 2.5%            | 0.0%                        | 0.0%                      |
| <b>Core Private Real Estate</b>  | 2.5%            | 2.5%                        | 2.5%                      |
| <b>Investment Grade Bonds</b>    | 20.0%           | 20.0%                       | 20.0%                     |
| <b>High Yield Bonds</b>          | 2.5%            | 2.5%                        | 5.0%                      |
| <b>Bank Loans</b>                | 2.5%            | 2.5%                        | 5.0%                      |
| <b>Private Debt</b>              | 0.0%            | 0.0%                        | 0.0%                      |
| <b>TOTAL</b>                     | 100.0%          | 100.0%                      | 100.0%                    |
| <b>Expected Long-term Return</b> | 8.0%            | 8.1%                        | 8.1%                      |
| <b>Expected Volatility</b>       | 13.1%           | 13.2%                       | 13.2%                     |

| Change from Prior Period        |                 |                             |                           |
|---------------------------------|-----------------|-----------------------------|---------------------------|
|                                 | Stage 0         | Stage 1                     | Stage 2                   |
|                                 | Starting Policy | Current Policy<br>10/1/2024 | Approximately<br>7/1/2025 |
| <b>US Equity</b>                | ---             | 8.5%                        | 1.5%                      |
| <b>Non-US Equity</b>            | ---             | ---                         | ---                       |
| <b>Covered Calls</b>            | ---             | -6.0%                       | -6.5%                     |
| <b>REITS</b>                    | ---             | -2.5%                       | ---                       |
| <b>Core Private Real Estate</b> | ---             | ---                         | ---                       |
| <b>Investment Grade Bonds</b>   | ---             | ---                         | ---                       |
| <b>High Yield Bonds</b>         | ---             | ---                         | 2.5%                      |
| <b>Bank Loans</b>               | ---             | ---                         | 2.5%                      |
| <b>Private Debt</b>             | ---             | ---                         | ---                       |

## Evolving Policy Plan (continued)

| <b>Policy Allocations</b>        |                                   |                                   |                                   |
|----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
|                                  | <b>Stage 3</b>                    | <b>Stage 4</b>                    | <b>Stage 5</b>                    |
|                                  | <i>Approximately<br/>1/1/2026</i> | <i>Approximately<br/>4/1/2026</i> | <i>Approximately<br/>7/1/2026</i> |
| <b>US Equity</b>                 | <b>35.0%</b>                      | <b>35.0%</b>                      | <b>35.0%</b>                      |
| <b>Non-US Equity</b>             | <b>25.0%</b>                      | <b>25.0%</b>                      | <b>25.0%</b>                      |
| <b>Covered Calls</b>             | <b>5.0%</b>                       | <b>2.5%</b>                       | <b>0.0%</b>                       |
| <b>REITS</b>                     | <b>0.0%</b>                       | <b>0.0%</b>                       | <b>0.0%</b>                       |
| <b>Core Private Real Estate</b>  | <b>2.5%</b>                       | <b>2.5%</b>                       | <b>2.5%</b>                       |
| <b>Investment Grade Bonds</b>    | <b>20.0%</b>                      | <b>20.0%</b>                      | <b>20.0%</b>                      |
| <b>High Yield Bonds</b>          | <b>7.5%</b>                       | <b>7.5%</b>                       | <b>7.5%</b>                       |
| <b>Bank Loans</b>                | <b>5.0%</b>                       | <b>5.0%</b>                       | <b>5.0%</b>                       |
| <b>Private Debt</b>              | <b>0.0%</b>                       | <b>2.5%</b>                       | <b>5.0%</b>                       |
| <b>TOTAL</b>                     | <b>100.0%</b>                     | <b>100.0%</b>                     | <b>100.0%</b>                     |
| <b>Expected Long-term Return</b> | <b>8.1%</b>                       | <b>8.1%</b>                       | <b>8.2%</b>                       |
| <b>Expected Volatility</b>       | <b>13.2%</b>                      | <b>13.0%</b>                      | <b>12.9%</b>                      |

| <b>Change from Prior Period</b> |                                   |                                   |                                   |
|---------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
|                                 | <b>Stage 3</b>                    | <b>Stage 4</b>                    | <b>Stage 5</b>                    |
|                                 | <i>Approximately<br/>1/1/2026</i> | <i>Approximately<br/>4/1/2026</i> | <i>Approximately<br/>7/1/2026</i> |
| <b>US Equity</b>                | ---                               | ---                               | ---                               |
| <b>Non-US Equity</b>            | ---                               | ---                               | ---                               |
| <b>Covered Calls</b>            | <b>-2.5%</b>                      | <b>-2.5%</b>                      | <b>-2.5%</b>                      |
| <b>REITS</b>                    | ---                               | ---                               | ---                               |
| <b>Core Private Real Estate</b> | ---                               | ---                               | ---                               |
| <b>Investment Grade Bonds</b>   | ---                               | ---                               | ---                               |
| <b>High Yield Bonds</b>         | <b>2.5%</b>                       | ---                               | ---                               |
| <b>Bank Loans</b>               | ---                               | ---                               | ---                               |
| <b>Private Debt</b>             | ---                               | <b>2.5%</b>                       | <b>2.5%</b>                       |

## Description of Stages

### Stage 0 (Q3 2024)

- Stage 0 represents the initial transition phase. During this stage, there are not any allocation (i.e., dollars/assets) changes, however, two important administrative tasks will be completed by Staff and Meketa:
1. In order to assist in the future transition of assets, Meketa and Staff will work with Northern Trust's Transition Management ("NTTM") group to prepare for and plan the impending transitions. Meketa recently reviewed the transition manager universe in early-2024, and NTTM exists as a suitable vendor for the transition activity that EBMUDERS will embark on. Considering EBMUDER's current relationship with Northern Trust as the plan's custodian bank and passive equity asset manager, the relative attractiveness of NTTM as a transition manager is further improved.
  2. As discussed in a separate memorandum, two of EBMUDERS's current non-core fixed income managers will see their benchmarks shifted to more standardized indices. For both Mackay Shields (High Yield) and Federated (Bank Loans), Q3 2024 will exist as a transition period for any portfolio modifications that need to be executed prior to their new benchmarks being in place to start Q4 2024.

### Stage 1 – In Effect (10/1/2024)

- Stage 1 will contain both actual portfolio transition activity as well as concurrent manager searches:
- At the end of Q3 2024, assets will be shifted from Covered Calls (by 6.0%) and REITS (by 2.5%) to fund the higher US Equity allocation (increased by 8.5% during this stage). It is expected that Van Hulzen will be redeemed in full as part of this transition. Depending on market and cash flow movements between now and the end of Q3, this may result in a higher amount redeemed from the Covered Calls asset class than the 6.0% that is earmarked for Stage 1. As of May 31, 2024, Van Hulzen managed approximately 6.5% of the Total Portfolio. Additionally, this stage will represent the full redemption of the REITS mandate managed by CenterSquare (as of May 31, 2024, this mandate equated to 2.5% of the Total Portfolio).
- In order to prepare for the larger allocations to High Yield and Bank Loans, manager searches for two new managers (one for High Yield and one for Bank Loans) will commence at the beginning of Q4 2024.


| Stage 2<br><i>(approximately 7/1/2025)</i>   |
|--|
| <ul style="list-style-type: none"> <li>- Stage 2 will see an additional drawdown of the Covered Calls asset class which will fund an additional allocation to US Equity as well as the new High Yield and Bank Loans managers (which are anticipated to be selected in the first half of 2025).</li> <li>- Moreover, Stage 2 will also see the launch of a Private Debt RFP. If desired, additional education on this asset class will be provided.</li> </ul>   |
| Stage 3<br><i>(approximately 1/1/2026)</i>   |
| <ul style="list-style-type: none"> <li>- Stage 3 will see an additional allocation to High Yield (funded by an additional redemption from Covered Calls) as well as the selection of Private Debt manager(s).</li> <li>- It is expected that EBMUDERS will utilize 1-2 evergreen funds for the Private Debt allocation. Evergreen funds are open-ended and similar to those used in Core Private Real Estate.</li> </ul>   |
| Stage 4<br><i>(approximately 4/1/2026)</i>   |
| <ul style="list-style-type: none"> <li>- While the Private Debt manager(s) are expected to be selected in Stage 3, it is unlikely that they will be funded during that stage. Stage 4 (and Stage 5) represent reasonable estimates for when capital will actually be called by the Private Debt managers. Given the lack of control that EBMUDERS (and any other private fund investors) have with respect to the timing of contributions to private markets mandates, the timing of this stage may vary. Moreover, if the Private Debt managers are capable of taking the entire allocation by EBMUDERS in one funding, Stage 5 will not be needed.</li> <li>- Funding will come from an additional redemption from Covered Calls.</li> </ul> |
| Stage 5<br><i>(approximately 7/1/2026)</i>   |
| <ul style="list-style-type: none"> <li>- Stage 5 represents a tentative stage that may not be needed. As indicated in Stage 4, funding will come from Covered Calls and will be transitioned to Private Debt.</li> <li>- <b>At the completion of this Stage, EBMUDERS will have reached the new long-term strategic allocation policy targets.</b></li> </ul>  |

**EAST BAY MUNICIPAL UTILITY DISTRICT**

---

DATE: November 21, 2024

MEMO TO: Members of the Retirement Board

FROM: Sophia D. Skoda, Director of Finance 

SUBJECT: Portfolio Transition – High Yield and Bank Loan Manager Search Update

**SUMMARY**

The Retirement System’s investment consultant, Meketa, will provide an update on the progress made on the search for high yield and bank loans managers.

**DISCUSSION**

The attached memo from Meketa will provide an update on the search for high yield and bank loans managers to manage the new allocation as outlined in Stage 2 of the Evolving Transition Plan.

Meketa, on behalf of the Retirement System, posted the Requests for Proposals (RFPs) for the manager searches on November 15, 2024. Once the new managers are selected, the Retirement System will move into Stage 2 involving the liquidation of one of the Retirement System’s two remaining covered calls mandates and using those assets to fund the new high yield and bank loans managers. Meketa has posted the RFPs on their website and has sent it directly to individual high-performing firms. The intent is to complete the search and fund the new mandates by then end of Fiscal Year 2025.

SDS:SGL

Attachment: Memo – Transition Update High Yield and Bank Loans Manager Search

## MEMORANDUM

**TO:** East Bay Municipal Utility District Employees' Retirement System ("EBMUDERS")  
**FROM:** Meketa Investment Group, Inc ("Meketa")  
**DATE:** November 21, 2024  
**RE:** High Yield and Bank Loans Manager Search Process/Timeline

---

### Discussion

At the completion of the 2024 Asset-Liability Study, the Board selected new long-term strategic allocation policy targets. With this new portfolio construct, the allocation to Bank Loans increased from 2.5% to 5.0%, and the allocation to High Yield increased from 2.5% to 7.5%. Based on the Evolving Policy Plan, these targets are expected to be achieved by the end of calendar year 2025, if not sooner.

Given the meaningful increase in allocation size to these two segments, Meketa recommended that EBMUDERS conduct manager searches for both mandates in order to construct manager line-ups that consist of two managers in each segment (currently EBMUDERS utilizes one manager per segment). This memo summarizes the preliminary timeline for the search and selection process.

### RFP

During the month of October, Meketa and Staff developed separate RFPs for both High Yield and Bank Loans manager searches. These RFPs were customized for the potential mandates with EBMUDERS, including specific questions related to ESG and DEI topics.

The RFP was publicly released on November 13, 2024. In addition to the public release, both of EBMUDERS's current managers (MacKay Shields and Federated) were asked to respond. This request was implemented in order to ensure their competitiveness across all facets compared to the broader universe of potential managers. Meketa considers it best practices to review the current manager line-up anytime that new potential managers are hired within a segment, particularly if a given allocation consists of only one manager and/or the allocation size is projected to increase in size. Both of these attributes are true for the High Yield and Bank Loans allocations within the EBMUDERS portfolio.

### Review Process

The deadline for RFP submissions is December 9, 2024. Meketa will conduct an initial review of the responses with the goal of narrowing the universe of potential firms down to a more reasonable number. At this point, Staff will be involved in the review of the subset of firms in order to collectively land at a recommended finalist group for the Board to interview. It is anticipated that the Board will interview 2-3 managers per segment. Full details of the review process will be provided to the Board during the finalist interview process.

**Board Interview Process**


Meketa and Staff expect to bring finalists to the EBMUDERS Retirement Board meeting on January 23, 2025. For both the High Yield and Bank Loans searches, the Board should expect to interview 2-3 managers. The number of managers will depend on Meketa's and Staff's review of the existing managers in comparison to potential alternatives. Should MacKay Shields and/or Federated fail to be competitive compared to other submissions, they will be invited to present to the Board as part of a competitive interview process to determine whether to retain or terminate their contracts. Should MacKay Shields or Federated remain appropriate for the EBMUDERS portfolio (based on Meketa's and Staff's review), they will not be required to present to the Board and thus only two managers (per segment) will present to the Board to determine the selection of one firm per segment.

**Conclusion**

The preceding section highlights the current plan/timeline for the High Yield and Bank Loans manager search process. This process can be modified by the Board, if desired. In particular, the proposed process for interviewing the existing managers (MacKay Shields and Federated) can be changed to reflect the Board's preferences.

**EAST BAY MUNICIPAL UTILITY DISTRICT**

---

DATE: November 21, 2024  
MEMO TO: Members of the Retirement Board  
FROM: Sophia D. Skoda, Director of Finance   
SUBJECT: Portfolio Transition Stage 1 Review

**SUMMARY**

The Retirement System's investment consultant, Meketa, will provide an analysis of Northern Trust Transition Management's (NTTM) Stage 1 portfolio transition.

**DISCUSSION**

The transition plan was approved by the Retirement Board at the July 19, 2024 meeting and is expected to span five stages across two years. At the end of September, staff and NTTM initiated the first significant portfolio transition as part of Stage 1 of the Evolving Transition Plan. During this stage, both the Van Hulzen and CenterSquare accounts were liquidated and the proceeds were transferred to the Russell 3000 account. The attached memo provides details on how the transition was accomplished and a review of NTTM's performance.

SDS:SGL

Attachment: Memo – Portfolio Transition Stage 1 Review

## MEMORANDUM

**TO:** East Bay Municipal Utility District Employees' Retirement System ("EBMUDERS")  
**FROM:** Meketa Investment Group, Inc ("Meketa")  
**DATE:** November 21, 2024  
**RE:** September 2024 Covered Calls and REITs Transition Review

---

### Overview

During latter half of September 2024, two EBMUDERS accounts were liquidated (Van Hulzen, Covered Calls, and CenterSquare, REITs) with the proceeds reallocated to the passive Russell 3000 Index fund managed by Northern Trust Asset Management ("NTAM"). This was a relatively unique transition in that there were multiple parties and events involved.

- Van Hulzen directly liquidated their holdings, converting the portfolio to cash.
- EBMUDERS Staff executed purchase orders (original + true-up) for the Russell 3000 Index fund in the amount equal to the Van Hulzen proceeds.
- Northern Trust Transition Management ("NTTM") liquidated the CenterSquare REITs portfolio to cash and executed subsequent purchases (original + true-up) of the Russell 3000 Index fund in the amount equal to the CenterSquare proceeds.

From Meketa's perspective, this represents a mixture of a standard rebalancing and a standard transition process. During a standard transition process, the transition manager would assume control of the legacy accounts and convert them directly to the new target portfolio. After discussions between Meketa, Staff, NTTM, VanHulzen, and CenterSquare, the plan that was executed was chosen based on estimated efficiencies and cost savings. In total, \$173 million was transitioned from the Van Hulzen account and \$75 million was transitioned from the CenterSquare account. At the conclusion, both of the Van Hulzen and CenterSquare accounts were terminated.

Meketa, Staff, and NTTM were in constant communication during the month of September in order to plan, execute, and monitor the transition activity. The transition largely occurred on 9/24 and 9/25. From Meketa's perspective, the transition was highly successful. It resulted in de minimis costs, time out of the market, and shifted the portfolio towards the new policy target allocations on the timeline stated in the Evolving Policy Plan.

NTTM has provided a post-trade summary of the portion of the transition that they executed. Given the breakout of activities/responsibilities discussed above, it is important to note that this post-trade summary only examines the transition of the CenterSquare REITs portfolio to cash. The subsequent purchase of units in the Russell 3000 Index fund were effectively executed at no-cost given the commingled fund structure and scale of that fund.

### NTTM Transition Results

NTTM converted the CenterSquare REITs account to cash with a coinciding purchase of the Russell 3000 Index fund on 9/24 and a true-up purchase of the same fund on 9/25. The total value of this transition was \$75,418,025 (inclusive of \$281,344 of existing cash). The table below (also provided in the NTTM Post-Trade Analysis) summarizes the costs associated with the redemption of the REITs portfolio. As discussed earlier, the costs associated with the purchase of the Russell 3000 Index fund are de minimis and are not explicitly shown given the commingled fund structure.

|                             | Actual Cost (\$) | Pre-Trade Estimate (\$) | Actual Costs (bps) |
|-----------------------------|------------------|-------------------------|--------------------|
| <b>Explicit Costs</b>       |                  |                         |                    |
| Commission                  | 11,450           | 11,450                  | 1.5                |
| Taxes & Fees                | 2,089            | 597                     | 0.3                |
| <b>Total Explicit Costs</b> | <b>13,539</b>    | <b>12,046</b>           | <b>1.8</b>         |
| <b>Implicit Costs</b>       |                  |                         |                    |
| Spread                      | 247              | 425                     | 0.0                |
| Market Impact               | 546              | 937                     | 0.1                |
| <b>Total Implicit Costs</b> | <b>793</b>       | <b>1,362</b>            | <b>0.1</b>         |
| <b>Total Trading Costs</b>  | <b>14,332</b>    | <b>13,408</b>           | <b>1.9</b>         |
| <b>Opportunity Costs</b>    | <b>-840</b>      | <b>12,909</b>           | <b>-0.1</b>        |
| <b>Total Costs</b>          | <b>13,492</b>    | <b>26,317</b>           | <b>1.8</b>         |

As highlighted above, the cost to redeem from CenterSquare was \$13,492 (or 1.8 bps), inclusive of opportunity costs (i.e., time out of the market). This is roughly half of the pre-trade estimate, primarily due to an accretive opportunity cost (-\$890) compared to the pre-trade estimate of \$12,909.


From Meketa's perspective, all elements of the transition were successful, including the explicit management by NTTM that is detailed in the table above.

## EAST BAY MUNICIPAL UTILITY DISTRICT

---

DATE: November 21, 2024

MEMO TO: Members of the Retirement Board

FROM: Sophia D. Skoda, Director of Finance 

SUBJECT: Annual Report on Proxy Voting

### SUMMARY

Proxy voting on behalf of the Retirement System's assets is done by two parties. Voting on behalf of equity shares held in actively managed accounts is conducted by Glass, Lewis & Co (Glass Lewis), and voting for shares held within passively managed commingled funds is conducted by Northern Trust Asset Management (NTAM). The Retirement System has additional assets, such as bonds and bank loans, which are not subject to proxy voting.

The following three attachments related to proxy voting will be presented at the November 21, 2024 Retirement Board Meeting:

- The Retirement System's General Investment Consultant, Meketa Investment Group, Inc., will present an overview of proxy voting results for the 2024 proxy voting season.
- Glass Lewis will present an overview of their proxy voting activity for the Retirement System's actively managed funds.
- NTAM will present an overview of their proxy voting for the Retirement System's domestic and international passive index strategies.

SDS:SGL

Attachments: EBMUDERS Proxy Voting Results Highlights Memorandum  
Glass Lewis Presentation  
Northern Trust Asset Management Presentation

## MEMORANDUM

**TO:** East Bay Municipal Utility District Employees' Retirement System ("EBMUDERS")  
**FROM:** Meketa Investment Group ("Meketa")  
**DATE:** November 21, 2024  
**RE:** EBMUDERS Proxy Voting Results Highlights: July 1, 2023 – June 30, 2024

---

This report is the sixth annual overview of EBMUDERS' proxy voting results. In 2017, EBMUDERS revised its approach to proxy voting to have Glass Lewis vote proxies according to the Glass Lewis Public Plan Policy for its securities held in EBMUDERS' separately managed accounts, which represent actively managed equities. Northern Trust Asset Management (NTAM) votes EBMUDERS' proxies in accordance with the NTAM proxy voting policy for commingled funds, which hold EBMUDERS passively managed securities. As EBMUDERS continues to shift assets from active equity to passive equity, the number of EBMUDERS actively managed accounts drops significantly. With the recent asset allocation decisions, it is anticipated that EBMUDERS equities will all be passively managed by mid-to-end of 2026 leaving no actively managed equities for Glass Lewis proxy voting services after this point. As Meketa and staff look at opportunities for ERS engagement we will be reviewing other services offered by Glass Lewis.

Please find below Meketa's highlights from the 2023-2024 proxy voting season. For the sixth year in a row, Glass Lewis conducted additional analysis to provide EBMUDERS with a coherent summary of all votes. The analysis includes a comparison of how Glass Lewis and Northern Trust voted on proposals where Glass Lewis voted on behalf of an active EBMUDERS equity manager that was also held in EBMUDERS' passive equity accounts and voted on by NTAM.

### EBMUDERS 2023-24 Proxy Season Highlights

- EBMUDERS' 69,103 proxies were voted during the July 1, 2023 – June 30, 2024, year. Overall NTAM voted 61,922 proxies, and Glass Lewis voted 7,181 proxies for EBMUDERS, of which 6,811 were the same proxies as those voted on by NTAM.
- Glass Lewis and NTAM both voted for EBMUDERS on 6,811 proposals that were the same proposals, where EBMUDERS active managers held securities that were also held in EBMUDERS passive equity accounts voted by NTAM- Russell 3000 and MSCI ACWI ex-US. This overlap accounted for 95% of the proposals voted by Glass Lewis, nearly the same percent as last year.
- Glass Lewis and NTAM voted differently on 1,698 proposals, or 25% of the 6,811 proposals that they both voted on behalf of EBMUDERS, compared to 25% last year. This was a small share (2.5%) of the total 69,103 proposals voted this proxy season by EBMUDERS.
- Glass Lewis and NTAM voted differently on 23% (1,442) of the management proposals that they both voted on behalf of EBMUDERS – down slightly from 24% in the prior year. **For management proposals, the noticeable differences (97%) were a result of higher levels of votes against under the Glass Lewis Public Pension Policy than the NTAM** (on issues including excessive auditor tenure;

insufficient gender diversity and/or disclosure; insufficient sustainability/human rights policies; insufficient ESG disclosures; Pay-for-Performance disconnect and/or concerning pay practices).

→ The difference between Glass Lewis and NTAM in voting on EBMUDERS shareholder proposals of 48% (256 out of 534) was up from 43% in 2022-2023. **For shareholder proposals, the noticeable differences were from higher support levels under the GL Public Pension Policy than NTAM** for independent chair, political spending disclosures, special meetings/written consents, human rights disclosures, gender/racial pay equity reports, director resignation policy, severance agreements.

### NTAM Voting Results Compared to Largest Asset Managers

In the report "Voting 2023" ShareAction compared the voting results of 69 of the largest global asset managers for the previous proxy season. NTAM ranked 33<sup>rd</sup> out of 69, outranking the three largest passive managers globally, all US based: BlackRock ranked 63<sup>rd</sup>, SSGA ranked 58<sup>th</sup> and Vanguard ranked 68<sup>th</sup>. For 2023, 2022, 2021 and 2020, NTAM's rank stayed out of the bottom 10 worst performers, where they ranked in 2019.

*SB/mp*



# GLASS LEWIS

## EBMUD – Employees’ Retirement System

Presenter:

Matt Seufert – Senior Director, Client Services

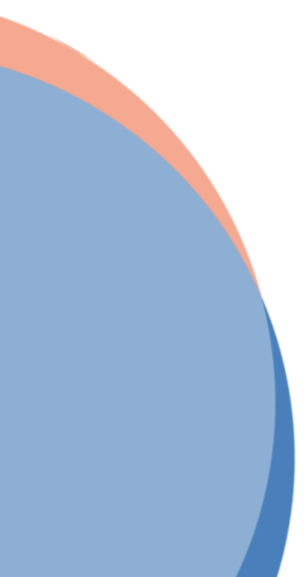

November 2024

# Agenda

---

- EBMUDERS 2023-2024 Voting Summary
  - Voting Summary
  - Public Pension vs NTAM Policy
  - Policy Comparisons
- Appendix
  - 2024 U.S. Proxy Season Trends
  - 2023-2024 Voting Activity Reports

**Our Mission:** To partner with our customers in driving value creation through solutions that promote good governance and stewardship.



# EBMUDERS 2023-2024 Voting Summary

# 2023-2024 Voting Summary

---

## 2023-2024 Volumes

- 533 Meetings across 11 Countries, 1,105 Ballots, 7,181 Proposals

## Management Proposals

- Lower support levels in current versus prior period (73% vs 75%) due to strengthened requirements around gender diversity, sustainability and social responsibility
- **Main rationales driving AGAINST votes:** Excessive auditor tenure; Insufficient gender diversity and/or disclosure; Insufficient sustainability/human rights policies; Insufficient climate targets and/or disclosure; Overboarding

## Shareholder Proposals

- Lower overall support levels in current versus prior period (64% vs 67%) due to more prescriptive requests, lack of materiality and rise in anti-ESG proposals
- Support by Proposal Category
  - **Environmental (43%):** Report/Action on Climate Change; Environmental Report; Reporting/Reducing GHG Emissions
  - **Social (50%):** Political Spending and Lobbying; Charitable Contributions; Human Capital Management; Compliance with International Human Rights Standards; Racial Equity Audit
  - **Governance (87%):** Approval of Golden Parachutes; Right to Call a Special Meeting; Right to Act by Written Consent

# GL Public Pension\* vs NTAM Policy

---

## 2023-2024 Volumes

- 95% of proposals (6,811 out of 7,181) voted by Glass Lewis were also voted by NTAM

## Management Proposals

- Differences on 23% of proposals (1,442 out of 6,277) versus 24% in the prior period
- 96% of the differences (1,388 of 1,442) were a result of higher Against votes under the GL Public Pension Policy
- **Main rationales driving difference in AGAINST votes:** Excessive auditor tenure; Insufficient gender diversity and/or disclosure; Insufficient sustainability/human rights policies; Insufficient ESG disclosures; Pay-for-performance disconnect and/or concerning pay practices

## Shareholder Proposals

- Differences on 48% of proposals (256 out of 534) versus 43% in the prior period
- 86% of the differences (220 out of 256) resulted from higher FOR votes under the GL Public Pension Policy
- **Main rationales driving difference in FOR votes:** Independent chair; Political spending disclosures; Special meetings/written consents; Human rights disclosures; Gender/Racial pay equity reports; Director resignation policy; Severance agreements


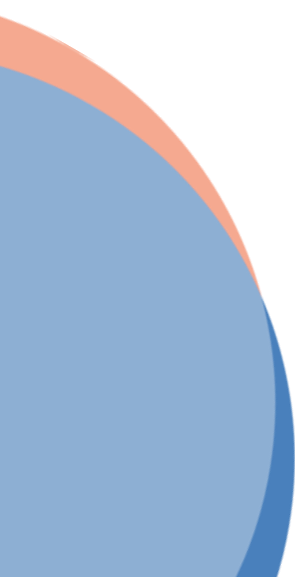
\*GL Public Pension Policy is currently used by EBMUDERS

# Comparison of Support Levels by Policy

| Proposal Type          | Glass Lewis Policies |       |      |         |            | NTAM |
|------------------------|----------------------|-------|------|---------|------------|------|
|                        | Public Pension*      | House | ESG  | Climate | CG Focused |      |
| Audit/Financials       | 33%                  | 100%  | 33%  | 33%     | 100%       | 99%  |
| Board Related          | 79%                  | 94%   | 80%  | 78%     | 98%        | 98%  |
| Capital Management     | 98%                  | 98%   | 98%  | 98%     | 98%        | 100% |
| Company Statutes       | 83%                  | 83%   | 81%  | 83%     | 55%        | 98%  |
| Compensation           | 86%                  | 90%   | 74%  | 72%     | 97%        | 94%  |
| M&A                    | 100%                 | 100%  | 100% | 100%    | 100%       | 100% |
| Meeting Administration | 87%                  | 87%   | 87%  | 87%     | 91%        | 81%  |
| SHP: Environment       | 43%                  | 18%   | 50%  | 34%     | 0%         | 23%  |
| SHP: Social            | 50%                  | 29%   | 45%  | 34%     | 0%         | 27%  |
| SHP: Governance        | 88%                  | 53%   | 65%  | 52%     | 24%        | 32%  |

\*GL Public Pension Policy is currently used by EBMUDERS

Orange indicates areas with material differences between Public Pension and NTAM policies



# Appendix: 2024 U.S. Proxy Season Trends; 2023-2024 Voting Activity Reports

---

# 2024 U.S. Proxy Season Trends

## United States

### Governance & Oversight

- 39 directors failed to receive majority support in the Russell 3000 which was the same as 2023
  - Suggests smaller companies are improving governance practices, receiving less opposition
  - Yet, plurality voting remain commonplace, some companies require majority-opposed directors to resign, most resignations are rejected so few directors leave their board positions
- Audit concerns remain approximately 2.5x higher than 2022 with companies that went public following the SPAC and IPO boom being particularly prone to audit-related issues
  - Expanding remit of audit committees may be contributing to increased audit concerns, as these committees are increasingly tasked with new risk oversight duties, such as cybersecurity
- Board skills disclosure continued to improve with approximately two-thirds (67%) of Russell 1000 companies disclosing a board skills matrix, a notable 16% increase from last year

# 2024 U.S. Proxy Season Trends

## United States

### Compensation

- Increased levels of shareholder support for say-on-pay proposals
  - 89.9% average shareholder support (89.0% in 2023)
  - 227 proposals with weak majority support, 37 proposals failed to receive majority support
- S&P 500 CEO pay rebounded from last year's dip to drive growth in the overall market
  - Median CEO pay among S&P 500 companies grew 6.2%, overall pace of growth slowed in the U.S.
- Pace of mega-granting slowed
  - Nine companies granted awards of more than \$50 million versus 17 in 2023 and 35 in 2022
  - Broadcom provided largest mega-grant, received more than 60% support despite the excessive grant
- Support of equity plans improved
  - 13 equity plan proposals failed, down from the 17 proposals last year, still above the norm of typically less than ten failed proposals each proxy season
  - 17.6% of proposals (or 151 proposals) passed with significant opposition, nearly flat with last year's level of 18.9% (or 159 proposals)

# 2024 U.S. Proxy Season Trends

## United States

### Shareholder Proposals

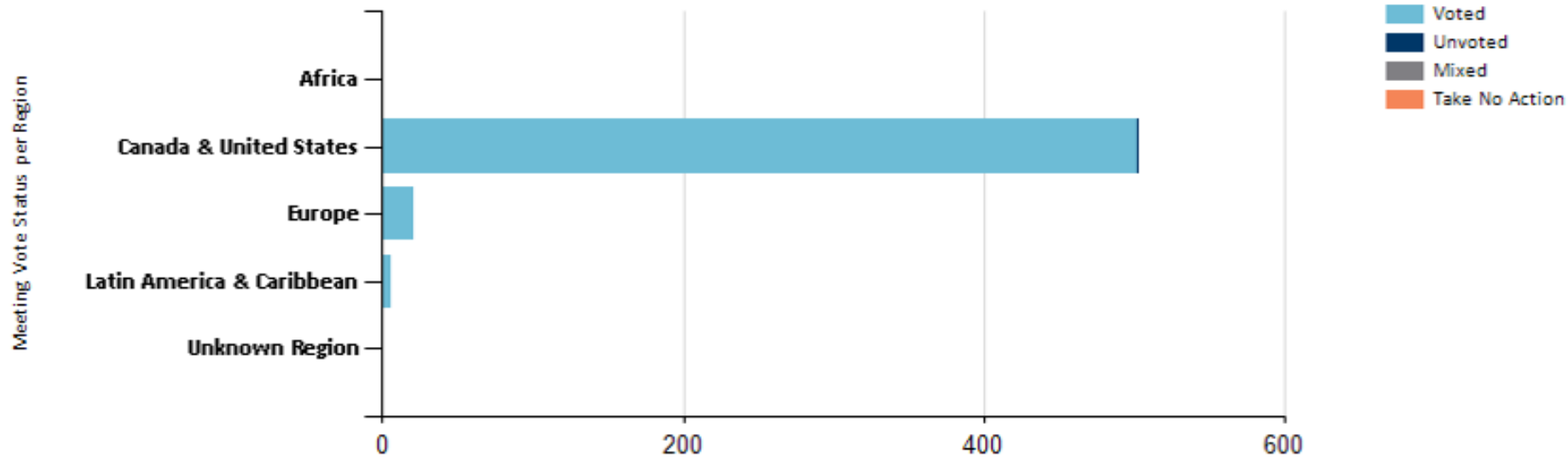
- Only slightly more proposals in 2024 (1.7% growth, relative to 12% in 2023 and 30% in 2022)
- Overall average support remained consistent year-over-year (23.1% in 2023 vs. 22.9% in 2024)
- Significant rise in the number of majority supported proposals (up 57%)
  - Although more proposals were approved by shareholders, there was a significant decrease in the proportion of environmental and social proposals that received majority support (30% in 2023 vs. 9% in 2024)
  - No majority-supported compensation-related proposals in 2024 (4 in 2023)
- Possible explanations for lower support of environmental and social proposals
  - ESG backlash; Significantly more anti-ESG proposals; More prescriptive/narrow asks; Less board support
- Number of anti-ESG proposals continues to rise, shareholder support for these proposals remains low
  - Only three of the 94 anti-ESG proposals submitted in 2024 received above 10% support, and anti-ESG proposals represented over 80% of the proposals that received under 3% support in the first half of this year

# Voting Statistics - Meetings

## Meeting Statistics Report

From 7/1/2023 to 6/30/2024

Meetings by Region & Vote Status



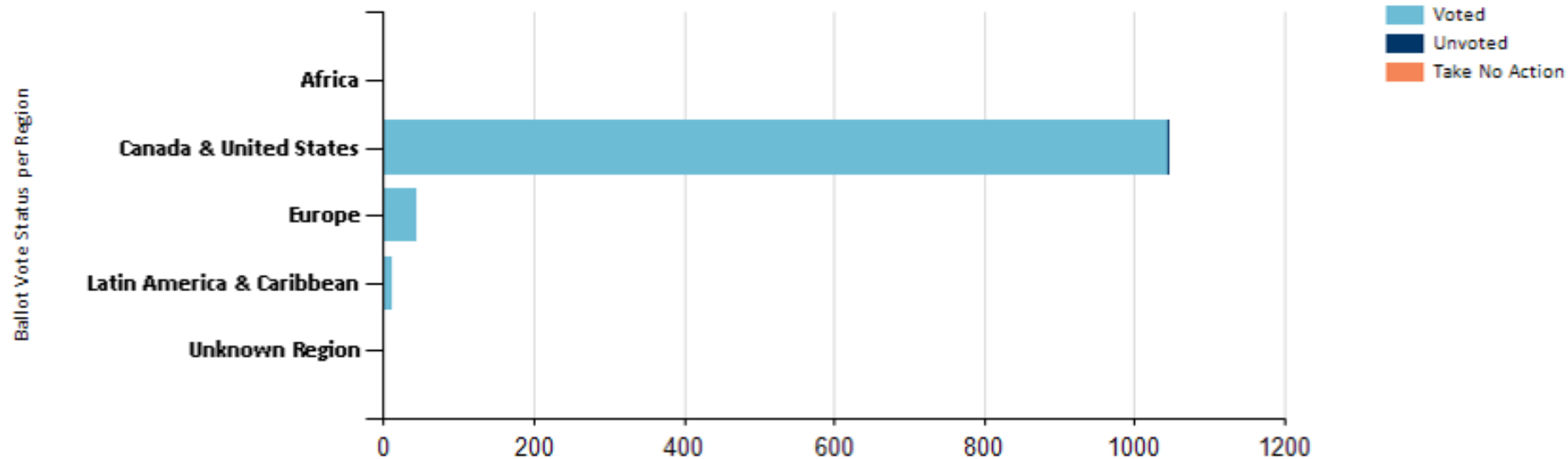
| Region                | Country Of Origin | Voted | Unvoted | Mixed | Take No Action | Total |
|-----------------------|-------------------|-------|---------|-------|----------------|-------|
| Total for all Regions |                   | 533   | 0       | 0     | 0              | 533   |

# Voting Statistics - Ballots

## Ballot Statistics Report

From 7/1/2023 to 6/30/2024

Ballots by Region & Vote Status



| Region                | Country Of Origin | Voted | Unvoted | Take No Action | Total |
|-----------------------|-------------------|-------|---------|----------------|-------|
| Total for all Regions |                   | 1105  | 0       | 0              | 1105  |

# Voting Statistics - Proposals

## Proposal Statistics Report

From 7/1/2023 to 6/30/2024

|                | Mgmt Proposals | SHP Proposals | Total Proposals |
|----------------|----------------|---------------|-----------------|
| For            | 4991           | 353           | 5344            |
| Against        | 1558           | 184           | 1742            |
| Abstain        | 7              | 1             | 8               |
| 1 Year         | 61             | 0             | 61              |
| 2 Years        | 0              | 0             | 0               |
| 3 Years        | 0              | 0             | 0               |
| Mixed          | 15             | 11            | 26              |
| Take No Action | 0              | 0             | 0               |
| Unvoted        | 0              | 0             | 0               |
| <b>Totals</b>  | <b>6632</b>    | <b>549</b>    | <b>7181</b>     |

Management Proposals – Votes Cast



Shareholder Proposals – Votes Cast

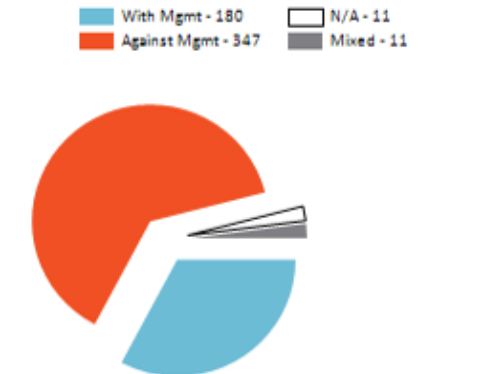


|                    | Mgmt Proposals | SHP Proposals | Total Proposals |
|--------------------|----------------|---------------|-----------------|
| With Management    | 5032           | 180           | 5212            |
| Against Management | 1584           | 347           | 1931            |
| N/A                | 1              | 11            | 12              |
| Mixed              | 15             | 11            | 26              |
| Take No Action     | 0              | 0             | 0               |
| Unvoted            | 0              | 0             | 0               |
| <b>Totals</b>      | <b>6632</b>    | <b>549</b>    | <b>7181</b>     |

Management Proposals – Votes versus Management



Shareholder Proposals – Votes versus Management



# Voting Statistics - Proposal Categories

## Proposal Category Report

From 7/1/2023 to 6/30/2024

### Proposal Categories - All Votes

| Proposal Category Type      | For         | Against     | Abstain  | Take No Action | Unvoted  | Mixed     | 1 Year    | 2 Years  | 3 Years  | Total       |
|-----------------------------|-------------|-------------|----------|----------------|----------|-----------|-----------|----------|----------|-------------|
| <b>Totals</b>               | <b>5344</b> | <b>1742</b> | <b>8</b> | <b>0</b>       | <b>0</b> | <b>26</b> | <b>61</b> | <b>0</b> | <b>0</b> | <b>7181</b> |
| Audit/Financials            | 178         | 366         | 0        | 0              | 0        | 1         | 0         | 0        | 0        | 545         |
| Board Related               | 4110        | 1080        | 3        | 0              | 0        | 12        | 0         | 0        | 0        | 5205        |
| Capital Management          | 56          | 1           | 0        | 0              | 0        | 0         | 0         | 0        | 0        | 57          |
| Changes to Company Statutes | 48          | 6           | 4        | 0              | 0        | 0         | 0         | 0        | 0        | 58          |
| Compensation                | 564         | 102         | 0        | 0              | 0        | 2         | 61        | 0        | 0        | 729         |
| M&A                         | 15          | 0           | 0        | 0              | 0        | 0         | 0         | 0        | 0        | 15          |
| Meeting Administration      | 20          | 3           | 0        | 0              | 0        | 0         | 0         | 0        | 0        | 23          |
| SHP: Compensation           | 63          | 7           | 0        | 0              | 0        | 1         | 0         | 0        | 0        | 71          |
| SHP: Environment            | 40          | 52          | 0        | 0              | 0        | 0         | 0         | 0        | 0        | 92          |
| SHP: Governance             | 134         | 14          | 0        | 0              | 0        | 6         | 0         | 0        | 0        | 154         |
| SHP: Misc                   | 5           | 9           | 0        | 0              | 0        | 1         | 0         | 0        | 0        | 15          |
| SHP: Social                 | 111         | 102         | 1        | 0              | 0        | 3         | 0         | 0        | 0        | 217         |



GLASS LEWIS

---

Institutional Investors | [GROW@glasslewis.com](mailto:GROW@glasslewis.com)

Corporate Website | [Glasslewis.com](https://Glasslewis.com)

Email | [Info@glasslewis.com](mailto:Info@glasslewis.com)

Social |  [@glasslewis](https://twitter.com/glasslewis)

 [Glass, Lewis & Co.](https://www.linkedin.com/company/glass-lewis-co)

# East Bay Municipal Utility District



Prepared by: Northern Trust Asset Management

November 21, 2024

**IMPORTANT INFORMATION:** For One-on-One Use with Institutional Investors Only. Not For Retail Use. This information is intended for one-on-one use with current or prospective clients. This information is confidential and may not be duplicated in any form or disseminated without prior consent.



NORTHERN TRUST

# TABLE OF CONTENTS

- Proxy Voting Choice Vision
- East Bay MUD Voting Summary
- Appendix
  - *Engagement*
  - *NTAM Stewardship Overview*

# PRESENTER BIOGRAPHIES



## **Chermaine Fullinck | Director, Public Funds**

Chermaine Fullinck is a Director of Public Funds & Taft-Hartley Plans for the Institutional Group at Northern Trust Asset Management. In his role, Chermaine will deliver investment solutions, including equity, fixed income, and alternative asset classes, for these institutional segments in the West region.

He has over 20 years of financial industry experience, a majority of it developing business and managing client relationships with institutional investment programs across the United States.

Most recently, Chermaine spent 10 years as a Regional Director and Vice President for Dimensional Fund Advisors (DFA), where he was responsible for developing and strengthening relationships with institutional investors. Prior to joining Dimensional, Chermaine served as an associate relationship manager with Fischer, Francis, Trees & Watts, assisting with client coverage for all US-based clients. Before that, he was part of an investment team at Libra Group charged with launching an alternative asset management business for Libra's family office. In addition, he spent time at CRT Capital Group LLC as a senior analyst and Investment Committee member for CRT's fund of hedge funds business.

Chermaine earned his bachelor's degree in economics from the University of Alaska-Fairbanks in 1999, and currently holds FINRA Series 7 and 66 licenses.



## **Catherine Moyer | Head of North American Stewardship**

Prior to joining Northern Trust, Catherine's work experience includes Institutional Shareholder Services, the Consumer Financial Protection Bureau, the Millennium Challenge Corporation, CT Corporation (a segment of Wolters Kluwer's legal services), and the World Bank. Over 11 years of experience in governance, proxy voting, stewardship and international development, and 5 years of experience in ethics management.

She holds an M.P.P. from the University of Maryland College Park, an M.S. from George Mason University, and an M.A. from the University of Malta.

# EAST BAY MUNICIPAL UTILITY DISTRICT

## **COLLECTIVE INVESTMENTS**

---

Northern Trust Collective Russell 3000 Index Fund – Lending

Inception: July 1, 2018

Market Value: \$1,002,192,446.88

Northern Trust Collective All Country World Index (ACWI) ex-US Fund – Lending

Inception: July 1, 2018

Market Value: \$658,196,259.66

Market values as of 09/30/2024

# Proxy Voting Choice Vision


---

# PROXY VOTING CHOICE PLATFORM

## OUR VISION:

Northern Trust Asset Management (NTAM) is pleased to introduce Proxy Voting Choice: the ability for investors in institutional pooled investments to exercise more direct control over how their votes are cast. We understand that investor opinions vary greatly – and we're proud to provide investors in select funds with the ability to align their votes with their unique goals and values. To bring the power of choice to investors, NTAM is partnering with a leading provider of technology solutions for the financial services industry. By offering Proxy Voting Choice at scale, we believe we can efficiently and effectively expand opportunities for clients to participate in corporate governance decisions for more purposeful proxy engagement.

## MENU OF POLICY GUIDELINES:



### KEY HIGHLIGHTS

- Participating in Proxy Voting Choice is completely voluntary
- There is no defined enrollment period – clients can change their guideline selection at any time
- Clients do not have to re-submit their respective choice every annual proxy voting season if their preferences remain the same
- Fund participants do not incur any additional fees by participating in Proxy Voting Choice



### LINKS TO AVAILABLE GUIDELINES

Northern Trust Custom Policy:

- [NT Guidelines Description](#)

ISS Socially Responsible Investor (SRI):

- [US Securities](#)
- [Global Securities](#)

ISS Taft Hartley:

- [US Securities](#)
- [Global Securities](#)

ISS Board Aligned:

- [US Securities](#)
- [Global Securities](#)



Please remember that all investments carry some level of risk, including the potential loss of principal invested.

Northern Trust Asset Management is composed of Northern Trust Investments, Inc. Northern Trust Global Investments Limited, Northern Trust Fund Managers (Ireland) Limited, Northern Trust Global Investments Japan, K.K, NT Global Advisors, Inc., 50 South Capital Advisors, LLC, Northern Trust Asset Management Australia Pty Ltd, and investment personnel of The Northern Trust Company of Hong Kong Limited and The Northern Trust Company.

# East Bay MUD Voting Summary

---



# NT COLLECTIVE ALL COUNTRY WORLD EX-US INDEX FUND - LENDING

Reporting Period: 07/01/2023 to 06/30/2024

## Meeting Overview

| Category   | Number | Percentage |
|--|--------|------------|
| Number of votable meetings   | 3,831  |            |
| Number of meetings voted   | 3,796  | 99.09%     |
| Number of meetings with at least 1 vote Against, Withhold or Abstain | 1,927  | 50.30%     |

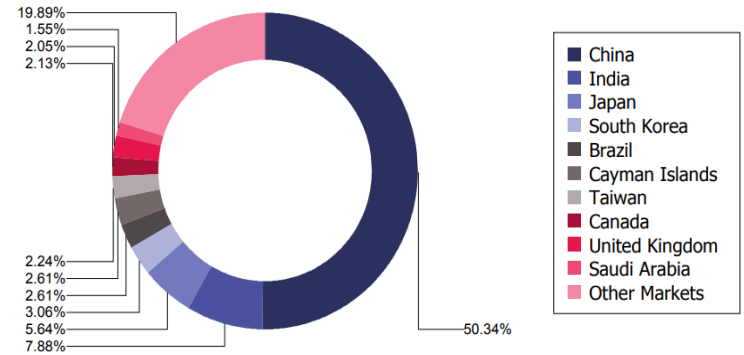
## Ballot Overview

| Category                  | Number | Percentage |
|---------------------------|--------|------------|
| Number of votable ballots | 3,852  |            |
| Number of ballots voted   | 3,815  | 99.04%     |

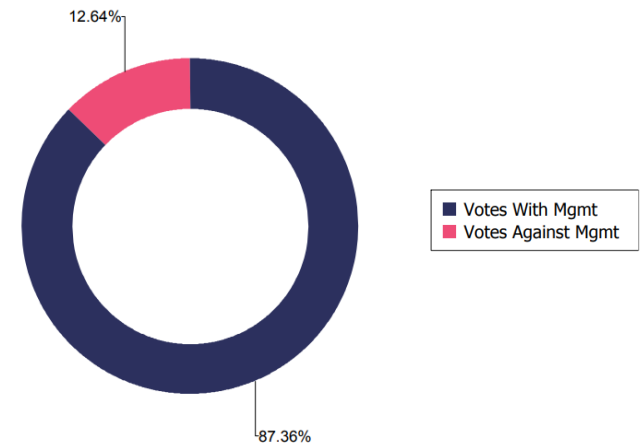
## Proposal Overview

| Category                                    | Number | Percentage |
|---|--------|------------|
| Number of votable items                     | 37,278 |            |
| Number of items voted                       | 36,872 | 98.91%     |
| Number of votes FOR                         | 31,537 | 85.53%     |
| Number of votes AGAINST                     | 4,794  | 13.00%     |
| Number of votes ABSTAIN                     | 516    | 1.40%      |
| Number of votes WITHHOLD                    | 22     | 0.06%      |
| Number of votes on MSOP Frequency 1 Year    | 3      | 0.01%      |
| Number of votes on MSOP Frequency 2 Years   | 0      | 0.00%      |
| Number of votes on MSOP Frequency 3 Years   | 0      | 0.00%      |
| Number of votes With Policy                 | 36,860 | 99.97%     |
| Number of votes Against Policy              | 12     | 0.03%      |
| Number of votes With Mgmt                   | 32,211 | 87.36%     |
| Number of votes Against Mgmt                | 4,661  | 12.64%     |
| Number of votes on MSOP (exclude frequency) | 883    | 2.39%      |
| Number of votes on Shareholder Proposals    | 1,478  | 4.01%      |

## Meetings by Market



## Alignment with Management



# NT COLLECTIVE ALL COUNTRY WORLD EX-US INDEX FUND - LENDING

Reporting Period: 07/01/2023 to 06/30/2024

## Votes Cast on Management Proposal Categories



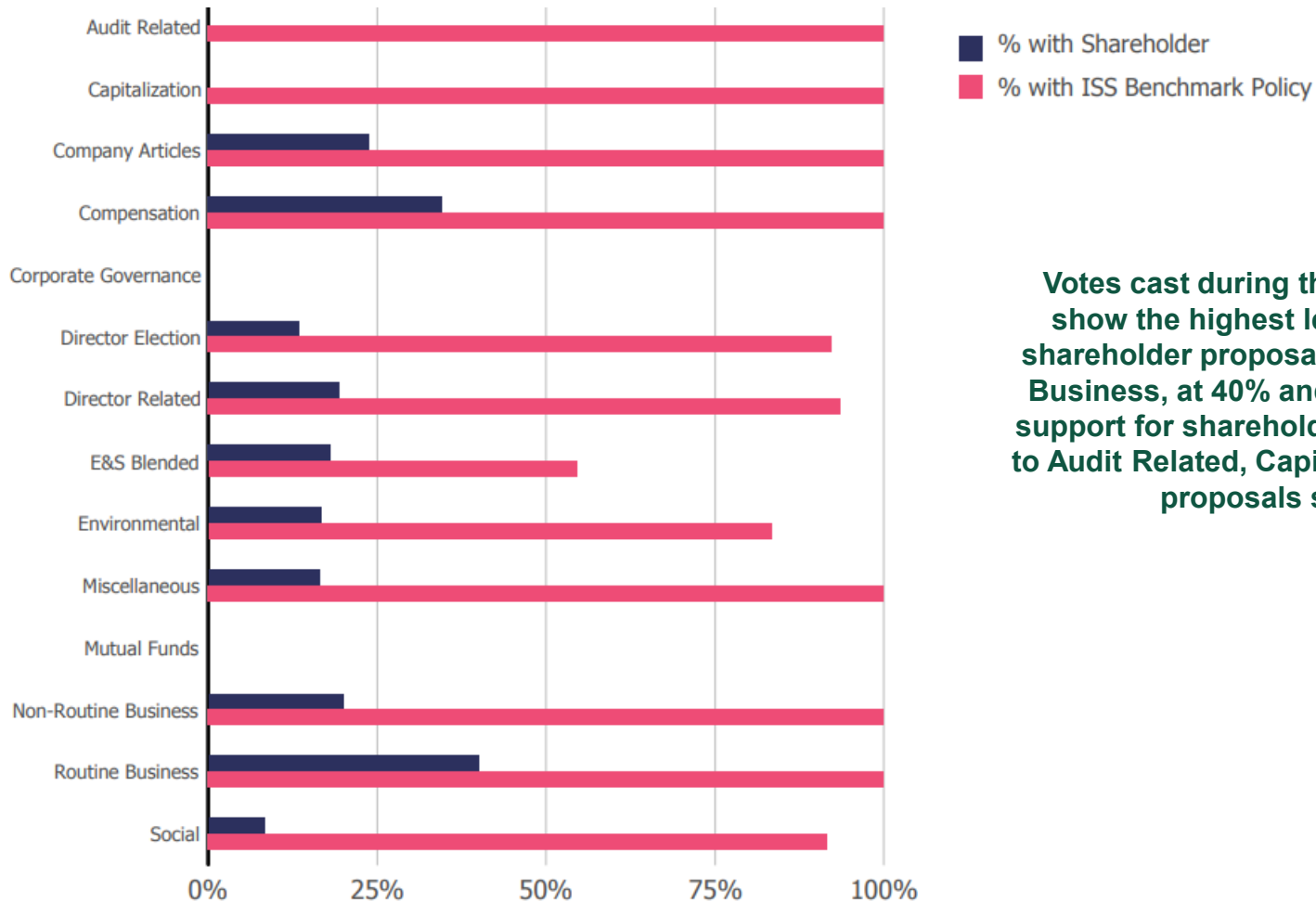
**Votes cast during the reporting period were least in line with management on Strategic Transactions matters, where only 72% of votes followed management recommendations.**

*Northern Trust may choose not to vote proxies in certain situations or for certain accounts either where it deems the cost of doing so to be prohibitive or where the exercise of voting rights could restrict the ability of an account's portfolio manager to freely trade the security in question. For example, in accordance with local law or business practices, many foreign companies prevent the sales of shares that have been voted for a certain period beginning prior to the shareholder meeting and ending on the day following the meeting ("share blocking"). Due to these restrictions, Northern Trust must balance the benefits to its clients of voting proxies against the potentially serious portfolio management consequences of a reduced flexibility to sell the underlying shares at the most advantageous time.*

# NT COLLECTIVE ALL COUNTRY WORLD EX-US INDEX FUND - LENDING

Reporting Period: 07/01/2023 to 06/30/2024

## Votes Cast on Shareholder Proposal Categories

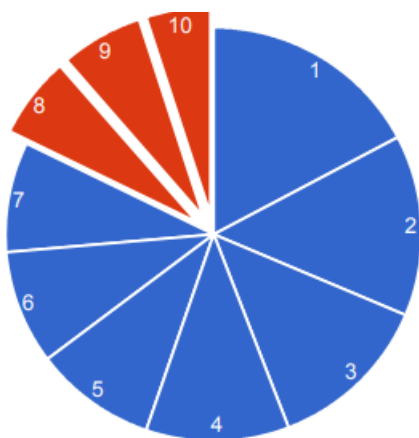


Votes cast during the reporting period show the highest level of support for shareholder proposals related to Routine Business, at 40% and the lowest level of support for shareholder proposals related to Audit Related, Capitalization, with 0% of proposals supported.

# NT COLLECTIVE ALL COUNTRY WORLD EX-US INDEX FUND - LENDING

Reporting Period: 07/01/2023 to 06/30/2024

## Portfolio Risk by ISS Governance QualityScore



**18%**<sup>2</sup> of the companies within your portfolio that held meetings during the reporting period are high risk, falling within the ISS Governance QualityScore range of **10** through **8**.

## Largest Portfolio Positions with High Governance Risk

The table below highlights the top 15 largest positions for those companies deemed high-risk, as indicated by an ISS Governance QualityScore between 8 and 10. Companies are only shown if they held a meeting during the reporting period.

| Company                             | Ticker | Estimated Position Value (USD) <sup>1</sup> | ISS Governance QualityScore | Board Structure | Compensation/Remuneration | Shareholder Rights & Takeover Defenses | Audit & Risk Oversight |
|-------------------------------------|--------|---|-----------------------------|-----------------|---------------------------|--|------------------------|
| Tencent Holdings Limited            | 700    | 103.4 M                                     | 10                          | 5               | 10                        | 4                                      | 2                      |
| AstraZeneca PLC                     | AZN    | 67.8 M                                      | 8                           | 3               | 9                         | 1                                      | 5                      |
| LVMH Moët Hennessy Louis Vuitton SE | MC     | 55.5 M                                      | 9                           | 8               | 10                        | 7                                      | 5                      |
| Toyota Motor Corp.                  | 7203   | 51.8 M                                      | 9                           | 10              | 1                         | 4                                      | 1                      |
| NetEase, Inc.                       | 9999   | 46.9 M                                      | 9                           | 5               | 10                        | 1                                      | 2                      |
| Meltuan                             | 3690   | 35.3 M                                      | 10                          | 4               | 9                         | 10                                     | 1                      |
| Investor AB                         | INVE.B | 34.0 M                                      | 9                           | 9               | 8                         | 8                                      | 5                      |
| China Petroleum & Chemical Corp.    | 386    | 30.2 M                                      | 8                           | 7               | 5                         | 9                                      | 3                      |
| China Petroleum & Chemical Corp.    | 386    | 30.2 M                                      | 8                           | 7               | 5                         | 9                                      | 3                      |
| Shopify Inc.                        | SHOP   | 29.4 M                                      | 10                          | 8               | 10                        | 10                                     | 7                      |
| Reliance Industries Ltd.            | 500325 | 22.6 M                                      | 9                           | 10              | 7                         | 1                                      | 9                      |
| GSK Plc                             | GSK    | 22.3 M                                      | 9                           | 5               | 9                         | 1                                      | 10                     |
| Sagax AB                            | SAGA.B | 21.1 M                                      | 10                          | 10              | 8                         | 8                                      | 8                      |
| Hermes International SCA            | RMS    | 20.4 M                                      | 9                           | 8               | 8                         | 10                                     | 6                      |
| Brookfield Corporation              | BN     | 20.2 M                                      | 9                           | 7               | 7                         | 10                                     | 8                      |

ISS Governance QualityScore is a data driven scoring and screening solution designed to identify governance risk within companies. ISS Governance QualityScore is derived from publicly disclosed data on the company's governance practices. Scores indicate decile rank relevant to index or region. For more information on ISS Governance QualityScore, visit <https://www.issgovernance.com/solutions/iss-analytics/qualityscore/>.

<sup>1</sup> Estimated values are based on shares held on record date for the company's most recently held meeting during the reporting period.

<sup>2</sup> Percentages based on the universe of holdings within the ISS Governance QualityScore coverage universe.

# NT Collective Russell 3000

Reporting Period: 07/01/2023 to 06/30/2024

## Meeting Overview

| Category   | Number | Percentage |
|--|--------|------------|
| Number of votable meetings   | 2,681  |            |
| Number of meetings voted   | 2,681  | 100.00%    |
| Number of meetings with at least 1 vote Against, Withhold or Abstain | 1,248  | 46.55%     |

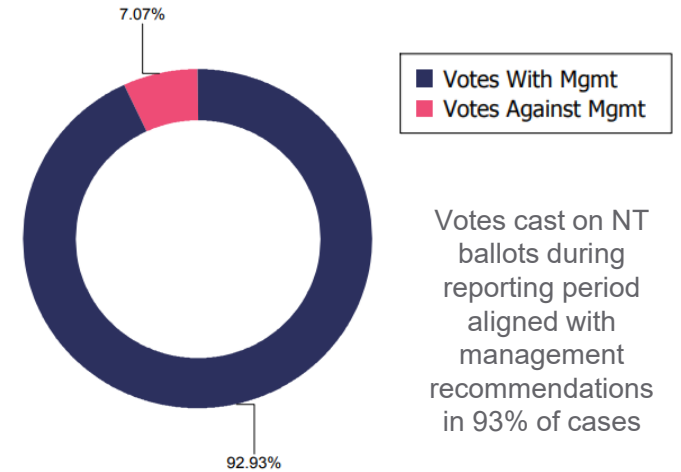
## Ballot Overview

| Category                  | Number | Percentage |
|---------------------------|--------|------------|
| Number of votable ballots | 3,333  |            |
| Number of ballots voted   | 3,333  | 100.00%    |

## Proposal Overview

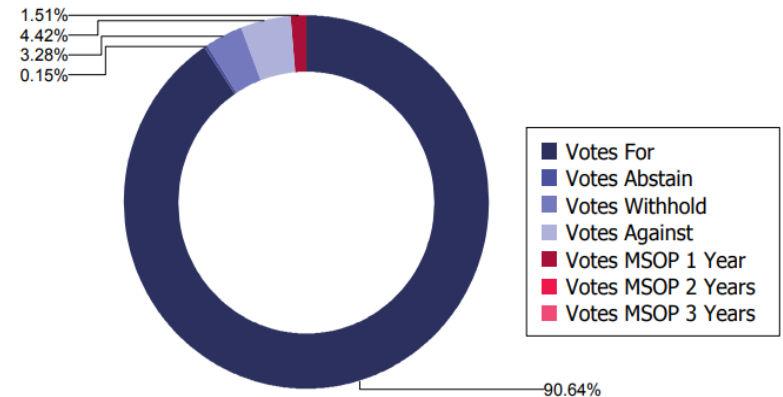
| Category                                    | Number | Percentage |
|---|--------|------------|
| Number of votable items                     | 25,156 |            |
| Number of items voted                       | 25,020 | 99.46%     |
| Number of votes FOR                         | 22,679 | 90.64%     |
| Number of votes AGAINST                     | 1,107  | 4.42%      |
| Number of votes ABSTAIN                     | 37     | 0.15%      |
| Number of votes WITHHOLD                    | 820    | 3.28%      |
| Number of votes on MSOP Frequency 1 Year    | 377    | 1.51%      |
| Number of votes on MSOP Frequency 2 Years   | 0      | 0.00%      |
| Number of votes on MSOP Frequency 3 Years   | 0      | 0.00%      |
| Number of votes With Policy                 | 24,743 | 98.89%     |
| Number of votes Against Policy              | 277    | 1.11%      |
| Number of votes With Mgmt                   | 23,250 | 92.93%     |
| Number of votes Against Mgmt                | 1,770  | 7.07%      |
| Number of votes on MSOP (exclude frequency) | 2,307  | 9.22%      |
| Number of votes on Shareholder Proposals    | 634    | 2.53%      |

## Alignment with Management



Votes cast on NT ballots during reporting period aligned with management recommendations in 93% of cases

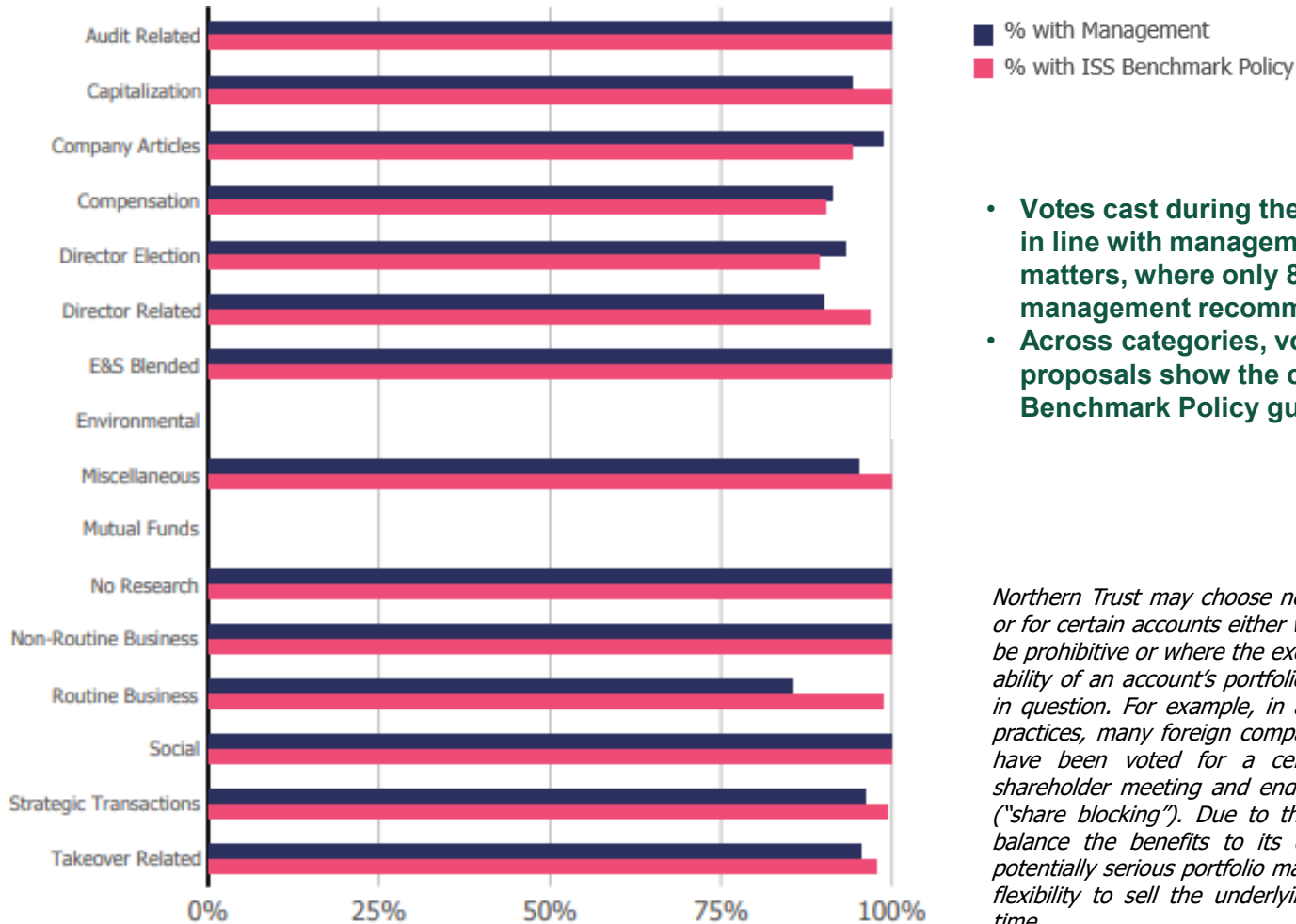
## Votes Cast Statistics



# NT Collective Russell 3000

Reporting Period: 07/01/2023 to 06/30/2024

## Votes Cast on Management Proposal Categories



- **Votes cast during the reporting period were least in line with management on Routine Business matters, where only 85% of votes followed management recommendations.**
- **Across categories, votes cast on management proposals show the closest alignment to the ISS Benchmark Policy guidelines.**

*Northern Trust may choose not to vote proxies in certain situations or for certain accounts either where it deems the cost of doing so to be prohibitive or where the exercise of voting rights could restrict the ability of an account's portfolio manager to freely trade the security in question. For example, in accordance with local law or business practices, many foreign companies prevent the sales of shares that have been voted for a certain period beginning prior to the shareholder meeting and ending on the day following the meeting ("share blocking"). Due to these restrictions, Northern Trust must balance the benefits to its clients of voting proxies against the potentially serious portfolio management consequences of a reduced flexibility to sell the underlying shares at the most advantageous time.*

# NT Collective Russell 3000

Reporting Period: 07/01/2023 to 06/30/2024

## Votes Cast on Shareholder Proposal Categories

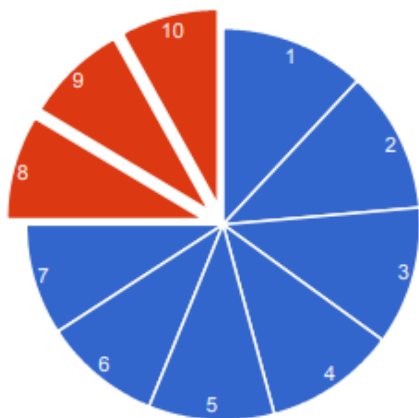


- **Votes cast during the reporting period show the highest level of support for shareholder proposals related to Corporate Governance, at 54% and the lowest level of support for shareholder proposals related to Company Articles, with 7% of proposals supported.**
- **Across categories, votes cast on shareholder proposals show the closest alignment to the ISS Benchmark Policy guidelines.**

# NT Collective Russell 3000

Reporting Period: 07/01/2023 to 06/30/2024

## Portfolio Risk by ISS Governance QualityScore



25%<sup>2</sup> of the companies within your portfolio that held meetings during the reporting period are high risk, falling within the ISS Governance QualityScore range of 10 through 8.

## Largest Portfolio Positions with High Governance Risk

The table below highlights the top 15 largest positions for those companies deemed high-risk, as indicated by an ISS Governance QualityScore between 8 and 10. Companies are only shown if they held a meeting during the reporting period.

| Company                             | Ticker | Estimated Position Value (USD) <sup>1</sup> | ISS Governance QualityScore | Board Structure | Compensation/Remuneration | Shareholder Rights & Takeover Defenses | Audit & Risk Oversight |
|-------------------------------------|--------|---|-----------------------------|-----------------|---------------------------|--|------------------------|
| Alphabet Inc.                       | GOOGL  | 1.3 B                                       | 10                          | 8               | 10                        | 10                                     | 9                      |
| Amazon.com, Inc.                    | AMZN   | 1.1 B                                       | 9                           | 9               | 10                        | 3                                      | 5                      |
| Meta Platforms, Inc.                | META   | 977.5 M                                     | 10                          | 10              | 10                        | 10                                     | 9                      |
| Berkshire Hathaway Inc.             | BRK.B  | 735.4 M                                     | 10                          | 10              | 10                        | 10                                     | 10                     |
| Tesla, Inc.                         | TSLA   | 426.0 M                                     | 10                          | 9               | 10                        | 9                                      | 7                      |
| NVIDIA Corporation                  | NVDA   | 207.4 M                                     | 8                           | 10              | 4                         | 6                                      | 7                      |
| Netflix, Inc.                       | NFLX   | 203.4 M                                     | 9                           | 9               | 9                         | 6                                      | 10                     |
| Salesforce, Inc.                    | CRM    | 167.0 M                                     | 9                           | 7               | 10                        | 2                                      | 1                      |
| Oracle Corporation                  | ORCL   | 138.8 M                                     | 10                          | 10              | 10                        | 5                                      | 10                     |
| Texas Instruments Incorporated      | TXN    | 111.6 M                                     | 8                           | 9               | 8                         | 6                                      | 10                     |
| Uber Technologies, Inc.             | UBER   | 111.0 M                                     | 8                           | 9               | 9                         | 7                                      | 4                      |
| Comcast Corporation                 | CMCSA  | 88.1 M                                      | 10                          | 9               | 8                         | 10                                     | 6                      |
| BlackRock, Inc.                     | BLK    | 79.1 M                                      | 9                           | 8               | 10                        | 1                                      | 7                      |
| Vertex Pharmaceuticals Incorporated | VRTX   | 78.9 M                                      | 8                           | 6               | 8                         | 6                                      | 9                      |
| Morgan Stanley                      | MS     | 70.5 M                                      | 9                           | 6               | 10                        | 7                                      | 7                      |

ISS Governance QualityScore is a data driven scoring and screening solution designed to identify governance risk within companies. ISS Governance QualityScore is derived from publicly disclosed data on the company's governance practices. Scores indicate decile rank relevant to index or region. For more information on ISS Governance QualityScore, visit <https://www.issgovernance.com/solutions/iss-analytics/qualityscore/>.

<sup>1</sup> Estimated values are based on shares held on record date for the company's most recently held meeting during the reporting period

<sup>2</sup> Percentages based on the universe of holdings within the ISS Governance QualityScore coverage universe.

# Appendix

---

ASSET MANAGEMENT

# Engagement

---

**Sustainable Investing at Northern Trust**

# Labor Rights

---

Poor labor practices can lead to decreased employee moral which can increase turnover, lower productivity, and in extreme cases result in reputational damage. Altogether, these risks can ultimately affect profitability.

Companies that neglect labor rights may face legal liabilities, regulatory fines, and costly litigation, particularly in regions with stringent labor laws.

Additionally, negative public sentiment and activism can impact brand value, leading to decreased customer loyalty and potential boycotts. Alternatively, companies that prioritize fair labor practices can see stronger employee engagement, attracting top talent and improving overall human capital management which is tied to profitability.

Investors are increasingly considering labor rights in their investment process, as companies with strong policies and programs are perceived as lower-risk and more competitive.

Q2 2024

---

## Starbucks Commitments to Labor Rights

### THE CHALLENGE

Starbucks Corporation engages in the production and retailing of specialty coffee primarily within the US. Starbucks faces heightened reputational risk and increased costs from its strained labor relations. In 2023, NTAM engaged with the company's board and management on this issue and also supported the successful shareholder proposal which led to the company's publishing of its Human Rights Impacts Assessment and a Freedom of Association & Collective Bargaining Rights Assessment. In 2024, we requested additional engagements with the company to discuss the reports' findings and continue dialogue with management due to the ongoing labor-related challenges.

### WHAT WE DID

During two separate engagements in the first quarter of 2024, we expressed our desire to see progress in the company's implementation of recommendations in the Freedom of Association & Collective Bargaining Rights Assessment, which suggested that Starbucks "develop supporting statements, materials, and training related to the Global Human Rights Statement." We also discussed one of the report's forward-looking statements, which stated that "this issue will not resolve without Starbucks engaging constructively with the union."

### THE OUTCOME

Starbucks responded with two commitments. As part of the new Environmental, Partner, and Community Impact Committee's first year goals, the board planned to refine their Global Human Rights statement and training, led by the committee chair, Director Beth Ford. Secondly, they planned to prioritize reaching labor agreements through proactive outreach and negotiations. During Q1, we noted progress in the latter following the withdrawal of SOC's proxy contest and the company's joint press release with Workers United union, who announced that both parties agreed to "begin discussions on a foundational framework to achieve bargaining agreements." During Q2, we noted Starbucks demonstrated progress in reducing its legal risks due to its successful Supreme Court case against the National Labor Relations Board. The Stewardship Team will continue monitoring risks and engaging with the company throughout the year.

---

The case studies presented are intended to illustrate Stewardship\* efforts undertaken by Northern Trust. They do not necessarily represent experiences of other clients nor do they indicate future performance. Individual results may vary, and not all Stewardship efforts are successful.

\*Stewardship is investors exercising their voice and ownership rights over current or potential investees/issuers, policy makers, service providers and other stakeholders – often collaboratively – in an effort to maximize overall long-term value.



# Climate Risk

---

Our Annual Capital Market Assumptions have for four years in a row identified climate change as an investment risk. Scientists have connected increasing human reliance on fossil fuels over the past 100 years with higher average global temperatures and more severe weather events including drought, wildfires and flooding. To address climate change, governments and investors are encouraging companies to transition to “greener” ways of doing business, in particular by reducing their reliance on fossil fuels. We recognize that the green transition heightens investment risk over the long-term, as we expect that some companies will struggle to adjust.

While all companies have a role to play in the climate transition, we prioritize companies within certain industries or of a particular size and scope of operations that have been deemed “climate priorities.” These are companies that are targets of the Climate Action 100+ of which we are a signatory member, utilities responsible for power generation, and companies in the materials and industrials sectors which have higher carbon intensity profiles.

## Q2 2024

---

### Shell Say on Climate Vote

#### THE CHALLENGE

Shell, headquartered in the UK, is one of the world's largest integrated oil and gas companies. Since Shell first presented a say on climate vote in 2021, the following changes to their decarbonisation strategy have occurred, including:

- A target for 45% reduction in net carbon intensity by 2035 has been discontinued;
- The existing target to reduce the net carbon intensity from sold products by 2030 has been revised downward, from 20% to 15-20%.

At Shell's 2024 Annual General Meeting (AGM) there were two climate-related resolutions: the management proposal to approve Shell's Energy Transition Strategy ('Say on Climate') and a shareholder resolution requesting the company align their medium-term emissions reduction targets with the goals of the Paris Agreement.

#### WHAT WE DID

In Q2 2024, NTAM engaged Shell ahead of the AGM to discuss their updated climate strategy and their response to the shareholder proposal. We sought clarification on Shell's assertion that their strategy was Paris-aligned and encouraged greater transparency regarding their climate risk strategy in the medium term, reflecting our concerns as long-term investors.

#### THE OUTCOME

Following discussion with Shell, we determined that a vote against the management 'Say on Climate' was appropriate as, following the removal of their 2035 target, investors are left with less insight into their medium-term plans. We also voted in favour of the shareholder resolution to encourage greater disclosure by Shell. The 'Say on Climate' resolution received support of 78%, while the shareholder resolution received support of 19%. We will continue to engage Shell on their energy transition strategy and disclosures.

---

The case studies presented are intended to illustrate Stewardship\* efforts undertaken by Northern Trust. They do not necessarily represent experiences of other clients nor do they indicate future performance. Individual results may vary, and not all Stewardship efforts are successful.

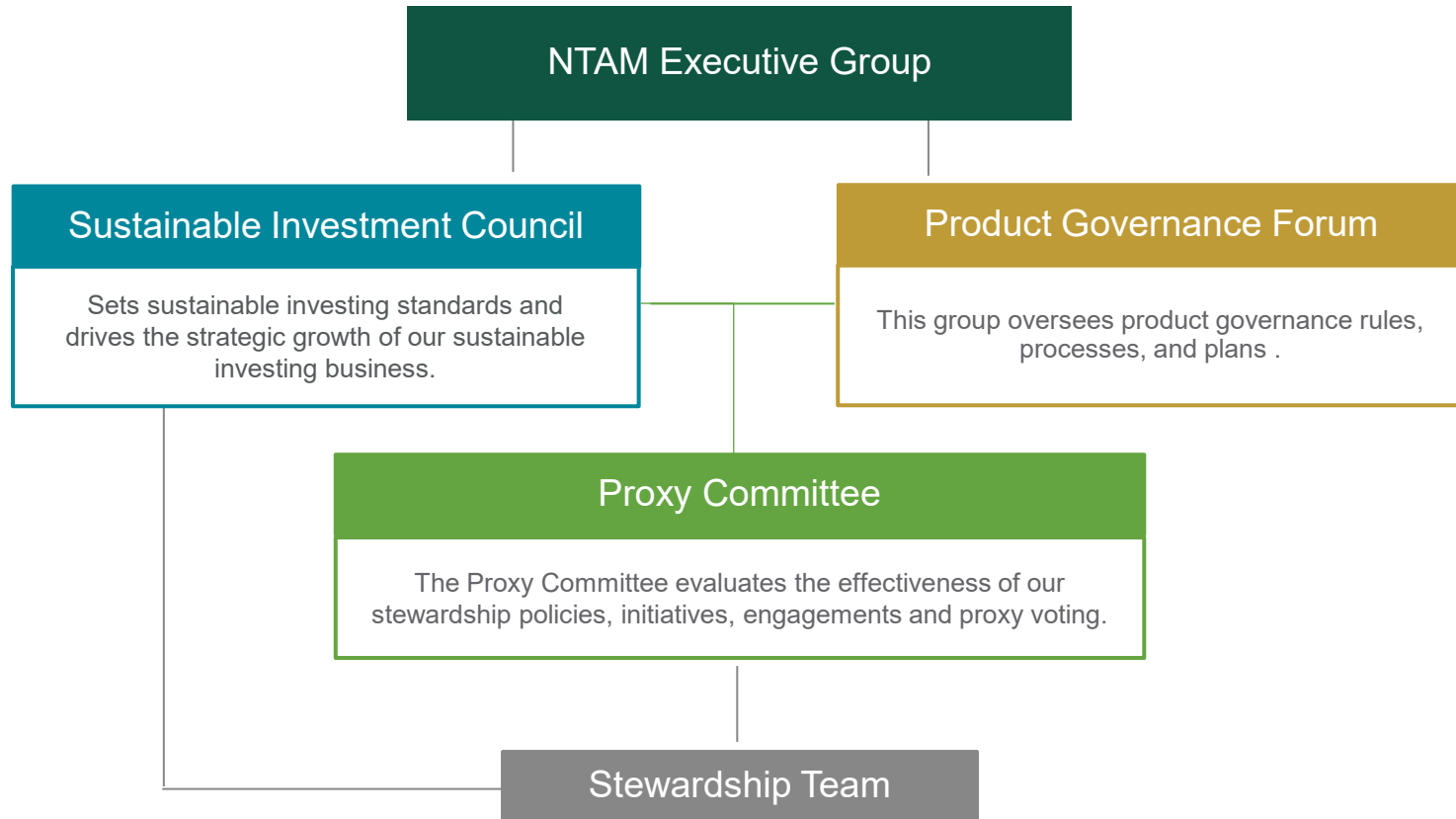
\*Stewardship is investors exercising their voice and ownership rights over current or potential investees/issuers, policy makers, service providers and other stakeholders – often collaboratively – in an effort to maximize overall long-term value.



# NTAM Stewardship Overview

---

# STEWARDSHIP INTERNAL GOVERNANCE STRUCTURE



# SUSTAINABLE INVESTING & STEWARDSHIP TEAM

## Sheri B. Hawkins, CFA

Head of Investment Platform Services  
Executive Sponsor for Sustainable Investing & Stewardship

### SUSTAINABLE INVESTING & STEWARDSHIP TEAM

#### Patrick Hurless

Director, Business Enablement for  
Sustainable Investing & Stewardship

#### Paul L. Clark

Global Head of Stewardship

#### PORTFOLIO INTEGRATION & RESEARCH

##### Jay Eisenhardt

Director of Sustainable  
Integration

##### Ankur Gupta, CFA

ESG Research Analyst

##### Nicholas Chalmers

ESG Research Analyst

##### New Open Role

ESG Research Analyst

#### CLIENT ENGAGEMENT

##### Emily Lawrence

Director of Sustainable  
Investing Client Engagement,  
North America

##### Valeria Dinershteyn, CFA

Director of Sustainable  
Investing Client Engagement,  
EMEA

##### Hannah Pelfresne

Sustainable Investing  
Specialist

##### Ivan Rumynin

Sustainable Investing  
Specialist

#### STEWARDSHIP SPECIALIST

##### Catherine Moyer

Head of North America  
Stewardship

##### Philip Vernardis

Head of EMEA  
Stewardship

##### Amandeep Singh

Proxy & Engagement  
Specialist

##### Harsh Rakesh Bassi

Proxy & Engagement  
Specialist

##### Wally Escobar

Proxy & Engagement  
Specialist

##### Paul Britton

Proxy & Engagement  
Specialist

##### Armin Ghafouri

Proxy & Engagement  
Specialist

All data as of June 30, 2024. There is no guarantee that team structures and employees will remain the same. They are subject to changes without notice.

# STEWARDSHIP TEAM GOVERNANCE AND RESOURCES

## PROXY COMMITTEE

**Catherine Moyer (Interim Chair)**  
Head of North America Stewardship

## PROXY COMMITTEE

**Guido Baltussen,**  
Quant Equity

**Emily Lawrence**  
Director of Sustainable Investing  
Client Engagement, North America

**John A. Ferguson,**  
FIA CIO

**Peter Zymali, CFP**  
Senior Vice President,  
Senior Portfolio Manager

**Jake Weaver, CFA, CPA**  
Head of Index Equity

**Milan Vidojevic**  
Quant Equity

**Michael J. Towle, CFA**  
Vice President, Investment  
Research

**Sally Nolan Giegerich**  
WM National Portfolio Advisor

**Eric Williams**  
Senior Vice President, Senior Portfolio  
Manager Fixed Income

**Paula McManus**  
Senior Relationship Manager,  
NTAM EMEA

## STEWARDSHIP TEAM

**Catherine Moyer**  
Head of North America  
Stewardship

**Amandeep Singh**  
Proxy & Engagement  
Specialist

**Harsh Rakesh Bassi**  
Proxy & Engagement  
Specialist

**Wally Escobar**  
Proxy & Engagement  
Specialist

**Paul Britton**  
Proxy & Engagement  
Specialist

**Armin Ghafouri**  
Proxy & Engagement  
Specialist

**Philip Vernardis**  
Head of EMEA  
Stewardship

All data as of June 30, 2024. There is no guarantee that team structures and employees will remain the same. They are subject to changes without notice.

# STEWARDSHIP OVERVIEW



## WHO WE ARE

Global investment manager and corporate citizen

**Long-term significant shareholder in more than 10,000 companies globally.**

**Top performing U.S. index asset manager for environmental resolutions<sup>1</sup>**

*ShareAction "Voting Matters, 2023," published 1/11/2024. NTAM ranked 33rd overall globally & 2nd among U.S. asset managers*

**8 of 14 PRI Assessment Metrics at or Above Median<sup>2</sup>  
12 of 14 PRI Assessment Metrics at three stars or higher<sup>2</sup>**

*2023 PRI report published 12/15/2023*



## WHAT WE DO

Driving positive change through voting and engagement

- **Identify long-term material ESG risks** that have the potential to pose challenges to shareholder value.
- **Encourage sustainable business practices** by regularly engaging with companies in our portfolio.
- **Promote higher industry standards** by promoting transparency and improvements in ESG reporting.

<sup>1</sup>Source: Northern Trust, ShareAction. Data is as of December 31, 2023, unless otherwise stated. Please see important information on page 33 for more information about our rankings and awards.

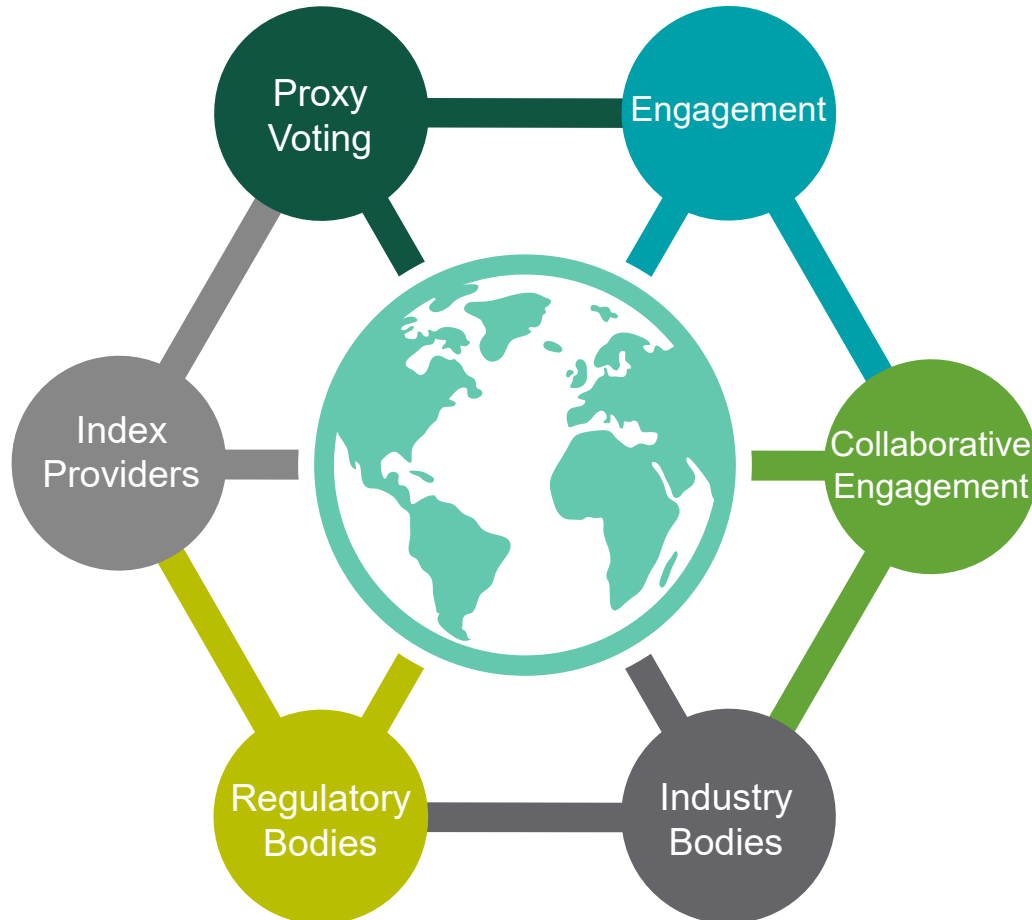
<sup>2</sup>For the full Northern Trust PRI Transparency Report, visit [www.unpri.org](https://www.unpri.org). Assessment methodology can be found at <https://www.unpri.org/reporting-and-assessment/how-investors-are-assessed-on-their-reporting/3066.article>. Past performance is not indicative of future results.

# STEWARDSHIP OVERVIEW



## HOW WE DRIVE CHANGE

We leverage our influence by engaging across the ecosystem



# INTEGRATED SUSTAINABLE INVESTMENT & STEWARDSHIP PROGRAM

*To implement this approach, our sustainability and stewardship specialists work in tandem with investment management teams to identify investment and engagement opportunities.*

## 1. Analyze

We seek out relevant environmental, social and governance (ESG) topics and issues — those that are financially material and industry specific — that can shape short- and long-term results.

## 2. Measure

We use all tools at our disposal , including:

- External best-in-class<sup>1</sup> ESG data sets
- Proprietary research and analytics
- Custom exclusionary screens
- and decades of experience

in order to select the key performance indicators to measure how well publicly traded companies are performing.



## 3. Monitor

We continuously assess the sustainability performance of the securities we select for our ESG portfolios by using:

- Proprietary ESG Vector Score
- Custom exclusionary criteria
- Industry specific frameworks

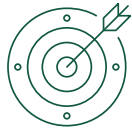
## 4. Engage

This active ownership approach applies to all companies we invest in — whether the investment strategy is actively managed or indexed.

Output from our engagements is used to inform investment and proxy voting decisions with the aim of delivering positive long-term investment outcomes.

<sup>1</sup>Best-in-class ESG is industry terminology referring to an investment approach that selects companies that are leaders in implementing ESG.

# A YEAR OF STEWARDSHIP



**4,505**

Total engagement themes <sup>1</sup>

**146,715**

Management and shareholder resolutions voted on 4,505



**27,672**

Resolutions voted against management



**16,010**

Shareholder meetings where we voted

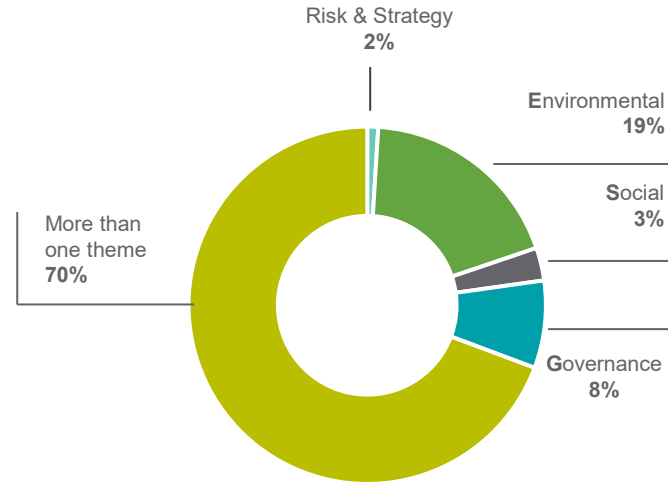


**63%**

Of shareholder meetings where we voted against management at least once



## Themes of Direct Engagement



Based on 183 direct engagements by NTAM.

## Voting Matters 2023 Report <sup>2</sup>

**69%**

of environmental shareholder resolutions based on ShareAction's Voting Matters 2023 report

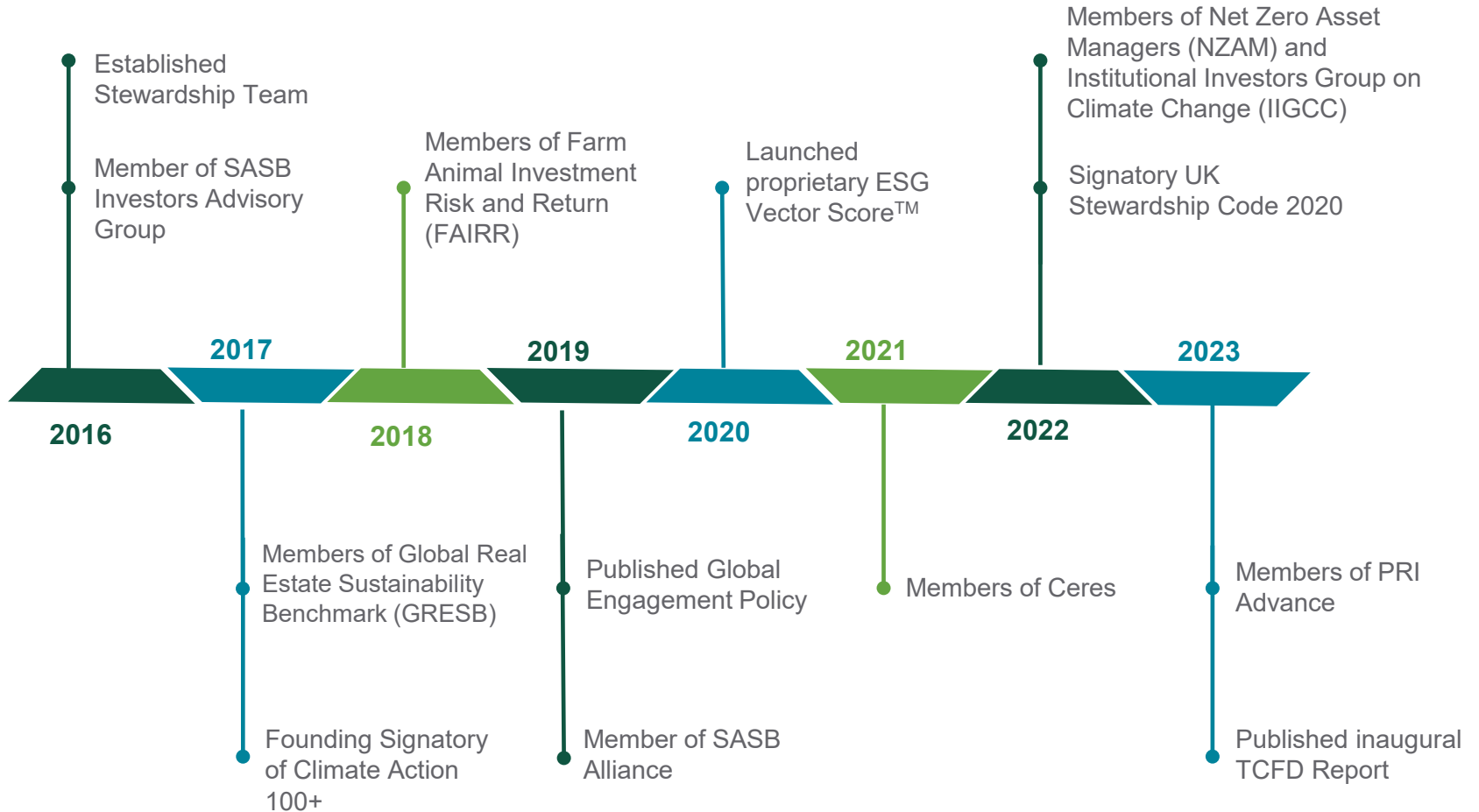
**93%**

of lobbying shareholder resolutions based on ShareAction's Voting Matters 2023 report

<sup>1</sup> Source: NTAM 2023 Stewardship Report, data as of Dec' 2023. An engagement is defined as a meeting or call with an investee company. Individual engagements may have covered one or more themes and multiple engagements may occur with the same company. In 2023, NTAM engaged on 610 themes and EOS engaged on 3,895 themes on NTAM's behalf, leading to a total of 4,505 themes discussed. NTAM-led engagements capture those performed individually or in collaboration with other investors. NTAM engaged with 160 companies in 2023; EOS engaged with 905 companies. <sup>2</sup> Source: Northern Trust, ShareAction. Data is as of December 31, 2023, unless otherwise stated.

# OUR STEWARDSHIP JOURNEY

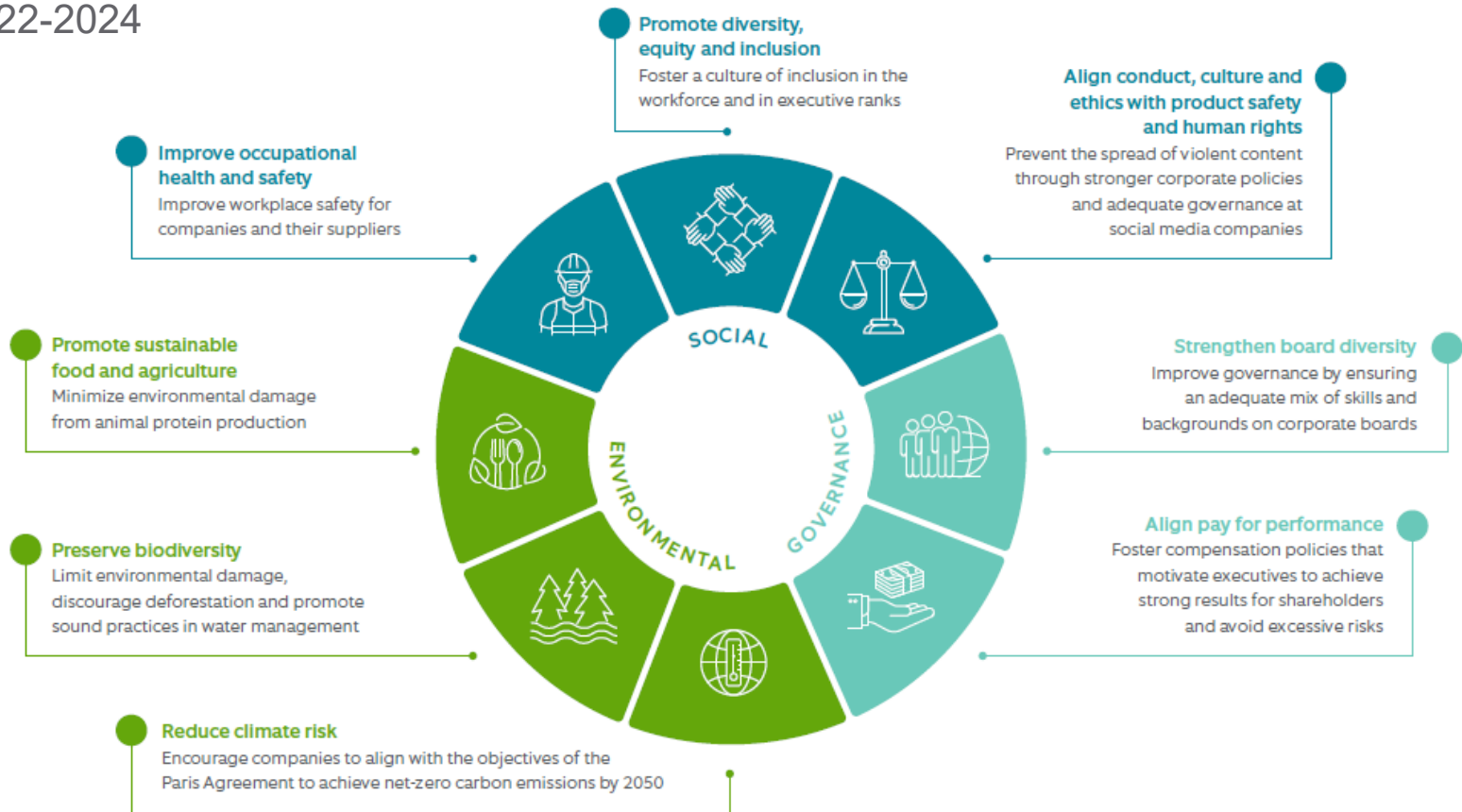
Overview of Stewardship Team's key milestones



# ENGAGEMENT PRIORITIES

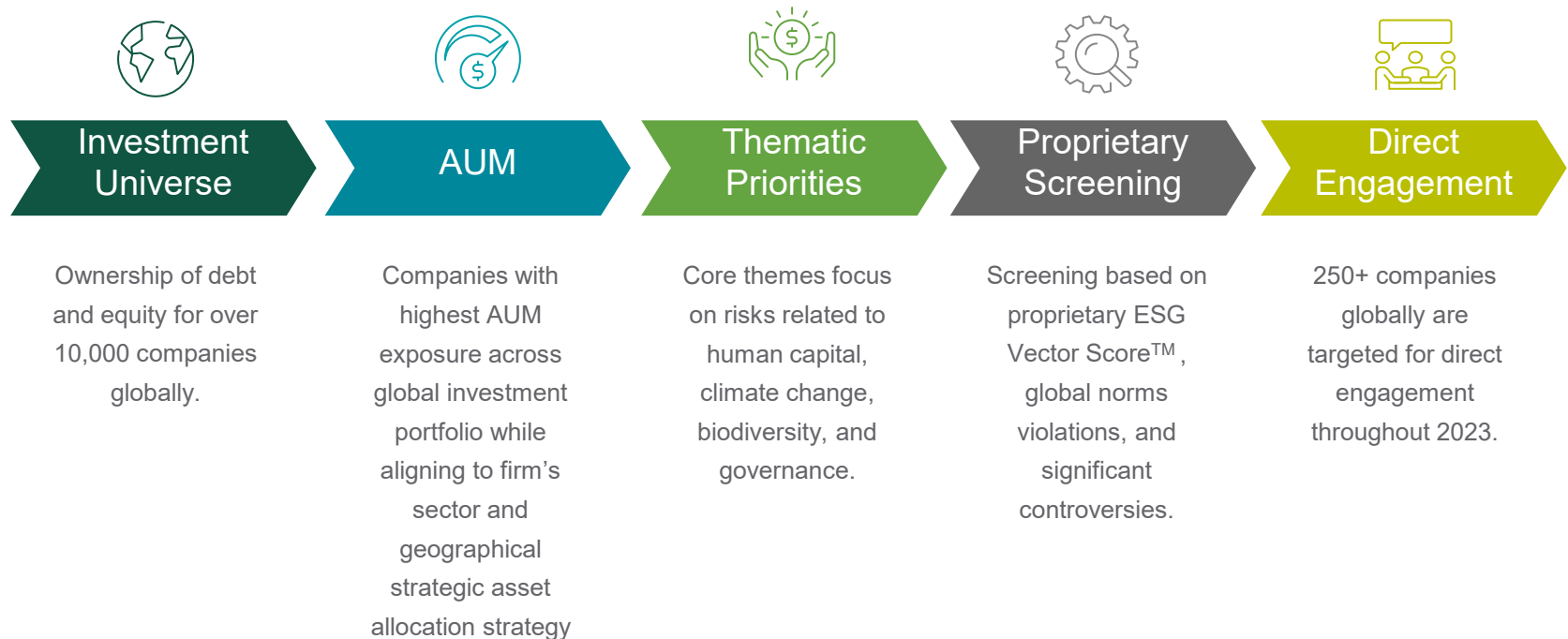
*We identify the activities that pose the greatest threats or opportunities related to sustainability and focus on where we can make the greatest difference.*

## Engagement Priorities 2022-2024



# ENGAGEMENT PRIORITIZATION PROCESS

*We identify the activities that pose the greatest threats or opportunities related to sustainability and focus on where we can make the greatest difference.*




# STEWARDSHIP INTEGRATION OF VECTOR SCORE™

*In 2023 we made use of the vector score for its second full year.*



## ESG Vector Score™

A measurement that assesses publicly traded companies in the context of financially relevant ESG related criteria that could impact their operating performance

 **Magnitude**

ESG issues that are reasonably likely to impact financial performance

 **Direction**

Forward-looking risk assessment framework

## Key Benefits

**Transparency**


Enables more intentional and transparent integration of ESG considerations into investment processes and stewardship.

**Precision**

Provides a consistent, transparent methodology to gain greater clarity when building and managing sustainable portfolios.

**Clarity**

Offers more precision in identifying ESG-related business risks that could impact a company's operating performance.



Stability  
+ Strength

---

Opportunity

We're referred to as the stable institution that people trust — but trust and stability doesn't mean tired and stationary.

Quite the contrary; trust and stability mean we operate from a position of strength.

And with strength comes the ability to identify, create and seize opportunities for our clients.

# IMPORTANT INFORMATION

## ***About Sustainable Investing***

At Northern Trust Asset Management (“NTAM”), we define Sustainable Investing as encompassing all of NTAM’s investment strategies and accounts that utilize values based and norms based screens, best-in-class and ESG integration, or thematic investing that may focus on a specific ESG issue such as climate risk. NTAM’s Sustainable Investing includes portfolios designed by NTAM as well as those portfolios managed to client-defined methodologies or screens. As the data, analytical models and aforementioned portfolio construction tools available in the marketplace have evolved over time, so too has NTAM. NTAM’s Sustainable Investing encompasses strategies and client assets managed in accordance with client specified responsible investing terms (historically referred to as Socially Responsible), as well as portfolios that leverage contemporary approaches and datasets, including ESG analytics and ESG thematic investing.

## ***About the Rankings and Awards shown below***

Past performance is not indicative of future results.

**ShareAction** report “**Voting Matters,**” 1/11/2024. Northern Trust Asset Management ranked 33rd overall globally and 2nd among U.S. Index asset managers. ShareAction ranked asset managers from IPE’s 2023 top 500 asset managers based on the following criteria: largest 35 asset managers based on AUM, next largest 34 European asset managers based on AUM, next largest 10 U.K. asset managers based on AUM.

**PRI Assessment Metrics:** 2023 PRI report published 12/15/2023. Investors that report on their responsible investment activities through the PRI’s Reporting Framework receive a private Assessment Report. This report shows year-on-year progress and broad scoring bands per module or asset class/sub-strategy. The scoring methodology for the 2024 Reporting Framework has an overall focus on: signatories’ responsible investment implementation across their overall investment processes, rather than looking only at their investment in ESG products; how specific responsible investment practices are implemented, for example the percentage of AUM covered; how sophisticated the responsible investment practices are for the majority of AUM; consistency, including how group policies are applied in different asset classes or sub-categories, or how policies are implemented by external managers or service providers; having more clarity on the timeframe of practices carried out. For more information please visit: <https://www.unpri.org/reporting-and-assessment/how-investors-are-assessed-on-their-reporting/3066.article>

# IMPORTANT INFORMATION

This document may not be edited, altered, revised, paraphrased, or otherwise modified without the prior written permission of Northern Trust Asset Management (NTAM). The information contained herein is intended for use with current or prospective clients of Northern Trust Investments, Inc (NTI) or its affiliates. The information is not intended for distribution or use by any person in any jurisdiction where such distribution would be contrary to local law or regulation. NTAM and its affiliates may have positions in and may effect transactions in the markets, contracts and related investments different than described in this information. This information is obtained from sources believed to be reliable, its accuracy and completeness are not guaranteed, and is subject to change. Information does not constitute a recommendation of any investment strategy, is not intended as investment advice and does not take into account all the circumstances of each investor.

This report is provided for informational purposes only and is not intended to be, and should not be construed as, an offer, solicitation or recommendation with respect to any transaction and should not be treated as legal advice, investment advice or tax advice. Recipients should not rely upon this information as a substitute for obtaining specific legal or tax advice from their own professional legal or tax advisors. References to specific securities and their issuers are for illustrative purposes only and are not intended and should not be interpreted as recommendations to purchase or sell such securities. Indices and trademarks are the property of their respective owners. Information is subject to change based on market or other conditions.

All securities investing and trading activities risk the loss of capital. Each portfolio is subject to substantial risks including market risks, strategy risks, advisor risk, and risks with respect to its investment in other structures. There can be no assurance that any portfolio investment objectives will be achieved, or that any investment will achieve profits or avoid incurring substantial losses. No investment strategy or risk management technique can guarantee returns or eliminate risk in any market environment. Risk controls and models do not promise any level of performance or guarantee against loss of principal. Any discussion of risk management is intended to describe NTAM's efforts to monitor and manage risk but does not imply low risk.

An Environmental, Social and Governance (ESG) strategy's use of ESG factors and screening process may screen out certain companies and industries and/or affect exposures to certain companies or industries. An ESG strategy utilizes ESG analytics as a risk mitigation tool not as an alpha driver and may cause the strategy to forego certain investment opportunities. Investors can integrate ESG data to create a more holistic view of risks and opportunities — resulting in more informed investment decisions and resilient portfolios.

**Past performance is not a guarantee of future results.** Performance returns and the principal value of an investment will fluctuate. Performance returns contained herein are subject to revision by NTAM. Comparative indices shown are provided as an indication of the performance of a particular segment of the capital markets and/or alternative strategies in general. Index performance returns do not reflect any management fees, transaction costs or expenses. It is not possible to invest directly in any index. Net performance returns are reduced by investment management fees and other expenses relating to the management of the account. Gross performance returns contained herein include reinvestment of dividends and other earnings, transaction costs, and all fees and expenses other than investment management fees, unless indicated otherwise. For additional information on fees, please refer to Part 2a of the Form ADV or consult an NTI representative.

Forward-looking statements and assumptions are NTAM's current estimates or expectations of future events or future results based upon proprietary research and should not be construed as an estimate or promise of results that a portfolio may achieve. Actual results could differ materially from the results indicated by this information.

# IMPORTANT INFORMATION

This information is intended for purposes of NTI and/or its affiliates marketing as providers of the products and services described herein and not to provide any fiduciary investment advice within the meaning of Section 3(21) of the Employee Retirement Income Security Act of 1974, as amended (ERISA). NTI and/or its affiliates are not undertaking to provide a recommendation or give investment advice in a fiduciary capacity to the recipient of these materials, which are for marketing purposes and are not intended to serve as a primary basis for investment decisions. NTI and/or its affiliates may receive fees and other compensation in connection with the products and services described herein as well as for custody, fund administration, transfer agent, investment operations outsourcing, and other services rendered to various proprietary and third-party investment products and firms that may be the subject of or become associated with the services described herein.

Northern Trust Asset Management is composed of Northern Trust Investments, Inc. Northern Trust Global Investments Limited, Northern Trust Fund Managers (Ireland) Limited, Northern Trust Global Investments Japan, K.K, NT Global Advisors, Inc., 50 South Capital Advisors, LLC, Northern Trust Asset Management Australia Pty Ltd, and investment personnel of The Northern Trust Company of Hong Kong Limited and The Northern Trust Company.

Northern Trust Collective Russell 3000 Index Fund – Lending and Northern Trust Collective All Country World Index (ACWI) ex-US Fund – Lending are collective trust funds for which Northern Trust Investments, Inc. serves as trustee. The fund is not a mutual fund and is privately offered. Prospectuses are not required, and fees and expenses are not available in local publications. Information on fees and expenses can be obtained from Northern Trust Investments, Inc. Principal value and investment return will fluctuate, so that a participant's units when redeemed may be worth more or less than the original investment. Fund participants and potential participants are strongly encouraged to review the fund's declaration of trust and fund declaration for additional information regarding the operation and investment objectives of the fund.

Environmental, Social and Governance (ESG) investing involves certain risks because the methodology of an underlying index selects and assigns weights to securities of issuers for nonfinancial reasons, a fund may underperform the broader equity market or other funds that do not utilize ESG criteria when selecting investments. The companies selected by an index provider as demonstrating ESG characteristics may not be the same companies selected by other index providers that use similar ESG screens. In addition, companies selected by an index provider may not exhibit positive or favorable ESG characteristics. Regulatory changes or interpretations regarding the definitions and/or use of ESG criteria could have a material adverse effect on a fund's ability to invest in accordance with its investment policies and/or achieve its investment objective.

**NOT FDIC INSURED | MAY LOSE VALUE | NO BANK GUARANTEE**

© 2024 Northern Trust Corporation. Head Office: 50 South La Salle Street, Chicago, Illinois 60603 U.S.A.




**NORTHERN  
TRUST**

## EAST BAY MUNICIPAL UTILITY DISTRICT

---

DATE: November 21, 2024

MEMO TO: Members of the Retirement Board

FROM: Sophia D. Skoda, Director of Finance 

SUBJECT: CEM Benchmarking Survey Results for 2023

### SUMMARY

For the seventh year, the Retirement System participated in the CEM Benchmarking survey. CEM Benchmarking provides benchmark analysis for pension funds with a primary focus on investment performance. Participants receive a high-level report comparing their performance data to benchmarks. The 2023 report provides a similar picture to prior years showing that the Retirement System is small, has a reliance on growth assets, and is very low cost.

### DISCUSSION

Staff provided data to CEM Benchmarking on the Retirement System portfolio for calendar year 2023. The benchmarks are based upon 145 U.S. pension funds of differing types, including 43 public funds. The funds vary in size with a median of \$9.4 billion in assets, down from \$10.2 billion in 2022 due to the inclusion of more small public pension funds. The Retirement System is among the smallest (at \$2.4 billion, it is slightly above the 10<sup>th</sup> percentile of \$1.1 billion).

The benchmarking analysis is based upon a comparison of the Retirement System to the entire U.S. pension fund database. The results of the report summarized below show generally strong results relative to the systems surveyed:

- The Retirement System's net total return, including investment costs, was 15.1 percent which is better than the U.S. median of 9.8 percent. The Retirement System's return was better due to a greater allocation to growth assets, which had a solid year.
- The Retirement System's "policy return" was 15.1 percent, the same as its net total return, and was higher than the U.S. median of 10.9 percent. This is the return that CEM Benchmarking calculates could have been earned by passively indexing investments based on the Retirement System's investment policy mix. As stated above, the Retirement System's return was better due to a greater allocation to growth asset that had strong returns.
- The "net value added" provided by active management was 0.0 percent, above the -0.7 percent U.S. median. This is the difference between the net total return and the "policy return."
- Total investment cost in 2023 was 18.3 basis points (bps), well below the median of 55.9 bps, and virtually identical to the 18.6 bps paid in 2022

- The Retirement System's asset risk, a measure of price volatility, was 11.3 percent compared to the 9.8 percent U.S. median, and its asset-liability risk was 12.0 percent compared to the 10.8 percent U.S. median. As in the past, this can be explained by the fact that covered calls are categorized by CEM as equity rather than as a separate asset class. In addition, as a public pension plan, the Retirement System's discount rate and mandate call for a higher allocation to growth assets compared to many corporate pension plans. Finally, many plans have a larger allocation to private investments, which appear less volatile due to less frequent valuations and smoothed appraisal values.

SDS:SGL

Attachment: CEM Benchmarking Survey Results

# CEM Defined Benefit Survey Results

2023 Investment Benchmarking Analysis for  
East Bay Municipal Utility District



## CEM presents your 2023 benchmarking results!

We are pleased to present the 33rd edition of the annual CEM Investment Benchmarking results.

In this complimentary PDF report, you will find comparisons of your fund's 2023 investment returns, net value added, policy risk, and costs to the U.S. universe. The report also contains insights into some of the drivers of cost differences such as asset mix and implementation style.

New this year:

- We introduced a new section on the survey called 'Deal Terms', which gives plans the option to define contractual fee terms for each mandate as agreed upon with the manager. This allows for better mandate comparisons and reconciliation of reported fees with manager deal terms, allowing for a richer benchmarking analysis overall.

As always, the comprehensive peer-based benchmarking analysis is available through the online CEM Dashboard, for which you can request a demo. See page 7 for more details.

Feel free to contact us if you have any questions, comments, or want to discuss your results. Our team is here to help you get the most out of benchmarking.

Thank you for your participation. We look forward to working with you again next year.

Jim Stamper - Director, Client Coverage

Copyright ©2024 by CEM Benchmarking Inc. (CEM). Although the information in this report has been based upon and obtained from sources we believe to be reliable, CEM does not guarantee its accuracy or completeness. The information contained herein is proprietary and confidential and may not be disclosed to third parties without the express written mutual consent of both CEM and East Bay Municipal Utility District.

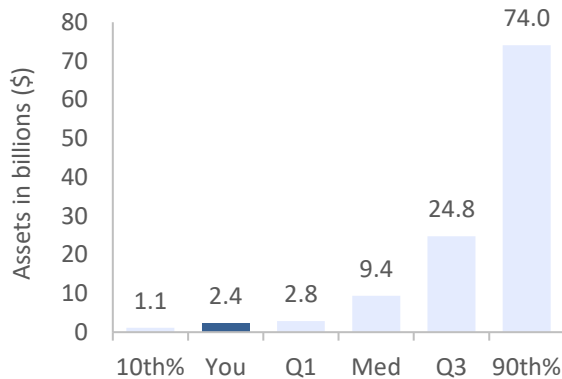
# Table of Contents

|   |    |
|---|----|
| <b>Executive summary</b>                                      | 4  |
| <b>The benchmarking database</b>                              |    |
| CEM's global benchmarking database                            | 9  |
| Characteristics of the U.S. survey universe                   | 10 |
| <b>Returns, value added and risk</b>                          |    |
| Net returns, policy returns and net value added               | 12 |
| Policy asset mix  | 13 |
| Calculation of your policy return and net value added         | 15 |
| Returns and value added by asset class                        | 16 |
| The correlation between net returns and policy returns        | 17 |
| Risk analysis   | 18 |
| <b>Cost and cost effectiveness</b>                            |    |
| Your 2023 investment costs                                    | 20 |
| Total investment cost   | 21 |
| Implementation style  | 22 |
| Comparison of asset management costs by asset class           | 23 |
| Comparison of oversight, custodial and other investment costs | 25 |
| Cost effectiveness - Does paying more get you more?           | 26 |
| <b>Plan data</b>  |    |
| Investment and plan structures                                | 28 |
| 2023 Valuation assumptions                                    | 29 |
| <b>Appendices</b>   |    |
| Appendix A - Glossary of terms                                | 31 |
| Appendix B - Data quality                                     | 32 |
| Appendix C - Your data  | 33 |

# 1

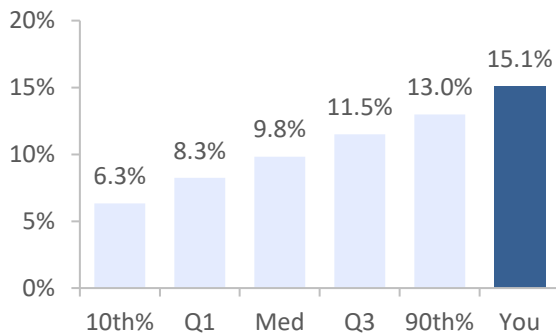
## Executive summary

### Participating U.S. funds by assets



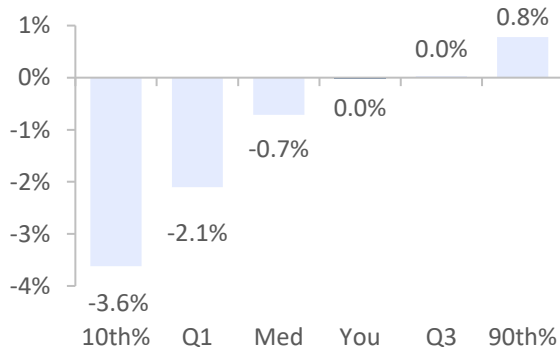
The primary comparisons in this report are to the U.S. universe. It is comprised of 145 funds with plan size ranging between \$290 million and \$479.3 billion. The median fund was \$9.4 billion which compares to your fund's \$2.4 billion.

### Net total return



Your fund's 2023 net total return was 15.1%. This was above the U.S. median of 9.8%.

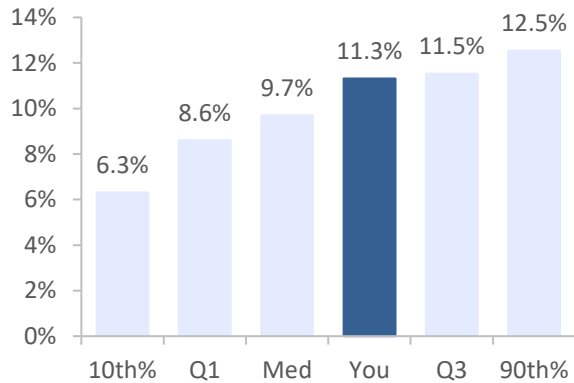
### Net value added



Net value added measures the value produced over what could have been earned by using passive management. It equals net total return minus policy return.

Your 2023 net value added was 0.0%. This was above the U.S. median of -0.7%.

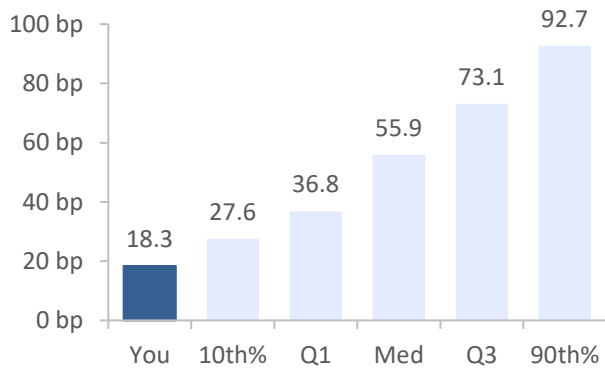
### Asset risk



Your asset risk was 11.3%. This was above the U.S. median of 9.7%.

Asset risk is the expected standard deviation of your policy return. It is based on the historical variance of, and covariance between, the asset classes in your policy mix.

### Total investment costs



Your fund's total investment cost was 18.3 bps. This was below the U.S. median of 55.9 bps.

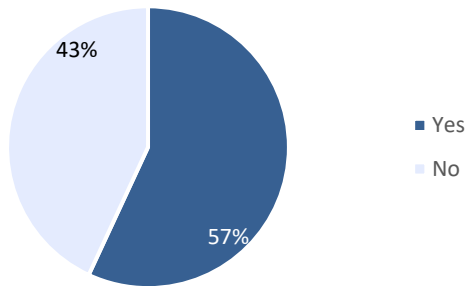
Total investment costs used in this analysis exclude transaction costs and private asset performance fees.

Comparisons of total investment cost must be interpreted with caution because differences are often due to differences in size and asset mix. To help you truly understand your costs and performance, CEM offers peer-based benchmarking analysis which adjusts for these factors. For more details, see page 7.

## Two portfolio approach in the U.S. universe

An overview of funds using the two portfolio approach is shown below. More in-depth analysis on this approach is available through the online CEM Dashboard. See page 7 for more details.

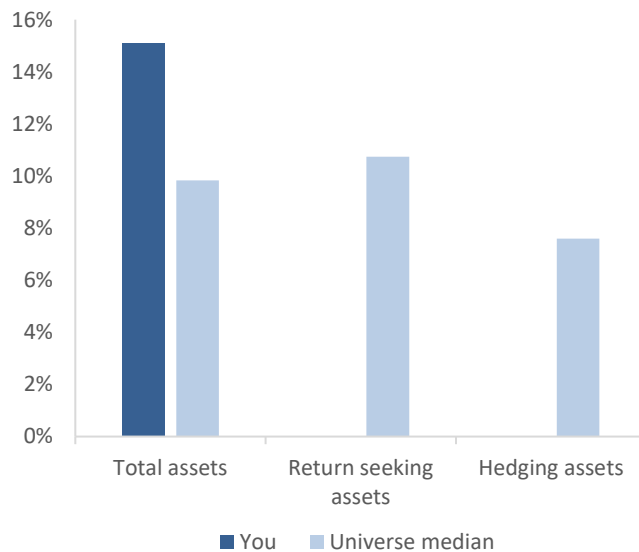
**% of U.S. universe using a two portfolio approach**



57% of funds in the U.S. universe, separate their assets into liability-hedging and return-seeking portfolios. Your fund does not.

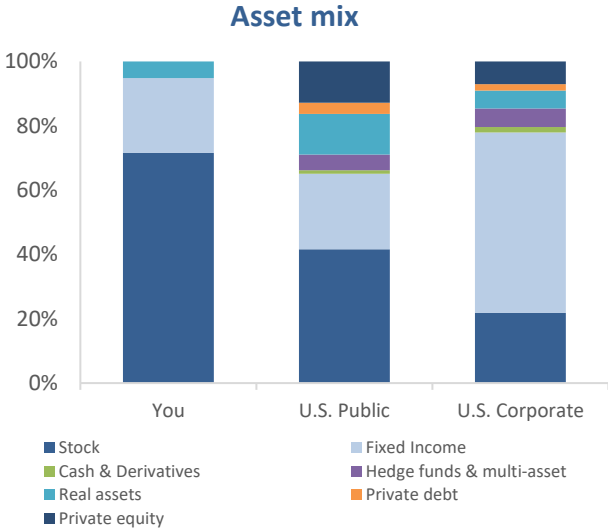
Of those that do, 25% indicated that their liability-hedging portfolio includes assets outside of core bonds, such as high-yield bonds or private credit.

**Net return by portfolio**



The U.S. universe median net return for 2023 on return-seeking assets was 10.7% and on liability-hedging assets was 7.6%.

# Asset mix in the U.S. universe



Asset mix differences are a significant driver of cost. Plans having a higher allocation to alternative asset classes (private assets and hedge funds) have higher costs than plans with relatively lower allocation to the same.

Allocations can vary widely between public and corporate plans as well as small- and large-sized plans. A comparison of your asset mix against the average public and corporate plans is shown on the left.

## Asset mix-adjusted benchmark cost against a similarly sized peer group is the most relevant comparison for costs.

**An example of your proposed peer group:**

17 peers, median size of \$2,360 million versus your \$2,360 million.

- Air Products & Chemicals, Inc
- Arlington County
- Corning Incorporated
- E&Y (IDBRP)
- East Bay Municipal Utility District
- Eaton Corporation
- Educational Employees - Fairfax County Virginia
- FM Global
- Hoffman La Roche Inc.
- Los Angeles County Metropolitan Transit
- Michelin North America Inc.
- Nestle USA, Inc.
- Novartis
- Paramount Global
- Saint-Gobain Corporation Master Trust
- Siemens Corp
- Strategic Investment Group

Comparisons of cost position without adjusting for differences in asset mix and economies of scale are flawed.

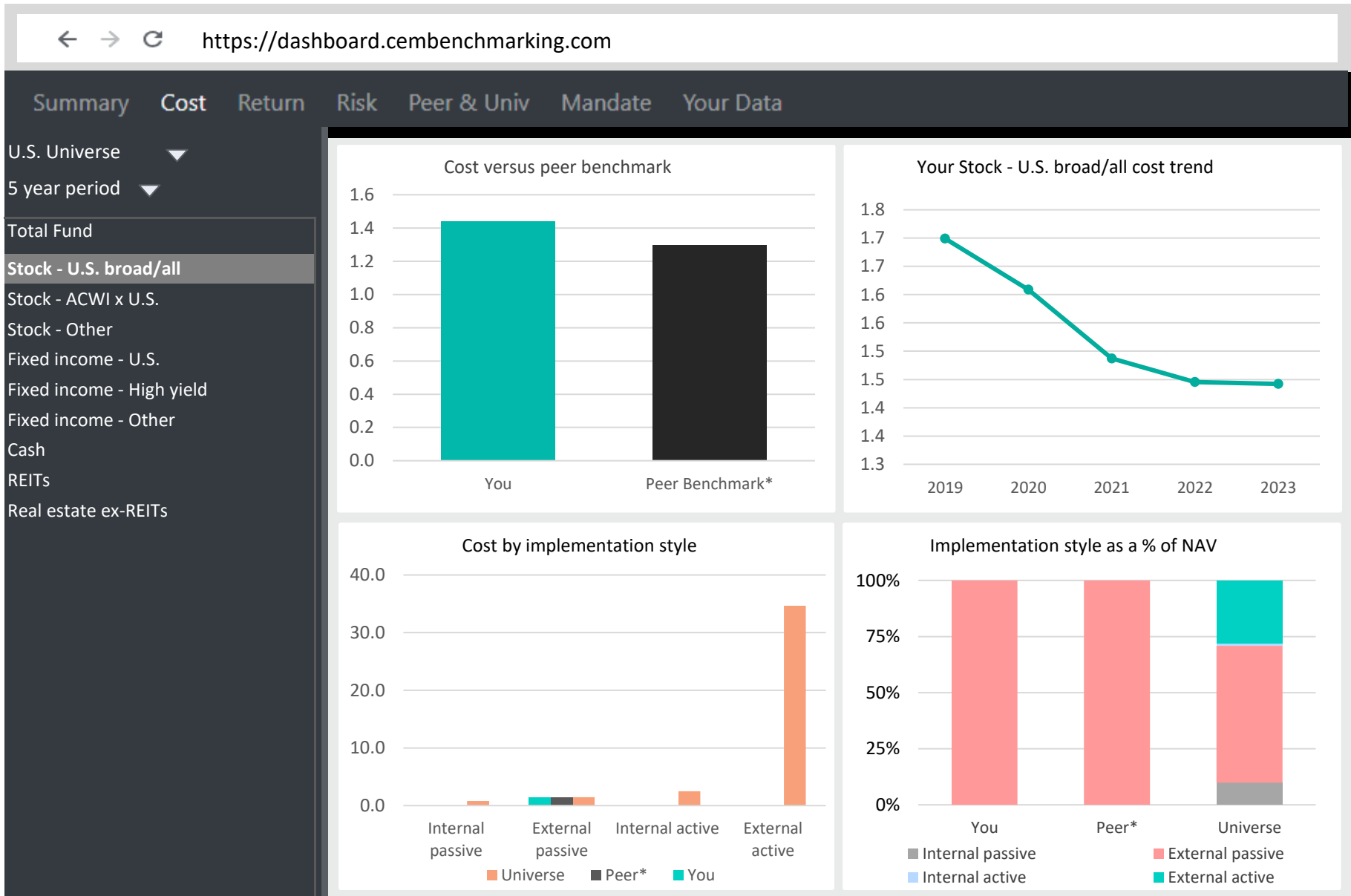
CEM builds a benchmark cost for you against a relevant-sized peer group by taking into account your asset mix differences. This benchmark cost analysis is available through the online CEM Dashboard.

To learn more about how our premium benchmarking service can help you, contact:

[Jim Stamper | jim@cembenchmarking.com](mailto:jim@cembenchmarking.com)

|  | This report | Dashboard |
|--|-------------|-----------|
| Comparisons against relevant peers                             | X           | ✓         |
| Total plan benchmark & reasons why you're different from peers | X           | ✓         |
| Asset class benchmarks   | X           | ✓         |
| Cost distributions by line item for all implementation styles  | X           | ✓         |
| Net return & net value added trends                            | X           | ✓         |
| Cost trend and drivers of changes in cost                      | X           | ✓         |

## Example of the analyses available in the dashboard for your Stock - U.S. broad/all



\*Custom, peer-based benchmark and the reasons why you're different from the benchmark are available in your dashboard. This is simply an example.

# 2

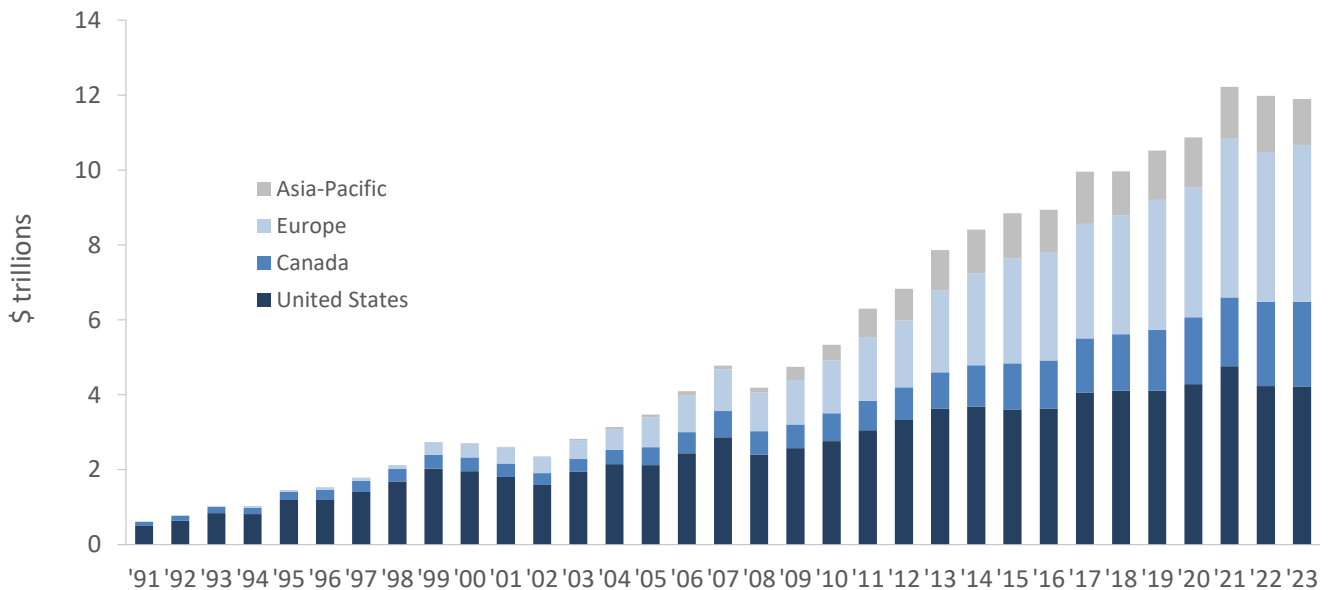
## The benchmarking database

### CEM's global benchmarking database

CEM has been providing cost benchmarking solutions since 1991. The 2023 survey universe is comprised of 250 funds representing \$11.9 trillion in assets. The breakdown by region is as follows:

- 145 U.S. pension funds with aggregate assets of \$4.2 trillion.
- 65 Canadian pension funds with aggregate assets of \$2.3 trillion.
- 30 European pension funds with aggregate assets of \$4.2 trillion. Included are funds from the Netherlands, Norway, Sweden, Finland, Denmark, the UK, and Ireland.
- 10 Asia-Pacific and Gulf pension funds with aggregate assets of \$1.2 trillion.

Global CEM Benchmarking database

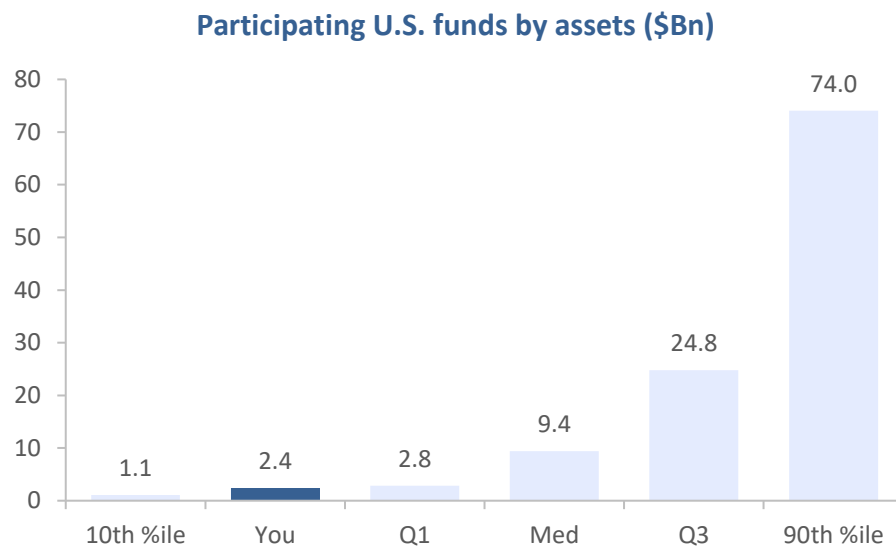


## Characteristics of the U.S. survey universe

In this report, your fund's results are compared to the 2023 U.S. survey universe.

The U.S. universe is comprised of 145 pension funds:

- Combined the funds had aggregate assets of \$4.2 trillion.
- The funds range in size between \$290 million and \$479 billion.
- The median size was \$9.4 billion (versus your \$2.4 billion).
- 92 are corporate funds, 43 are public, and 10 are other.
- The median membership was 55,517 members (versus your 4,453 members). The median assets per member was \$129,255 (versus your \$529,982).



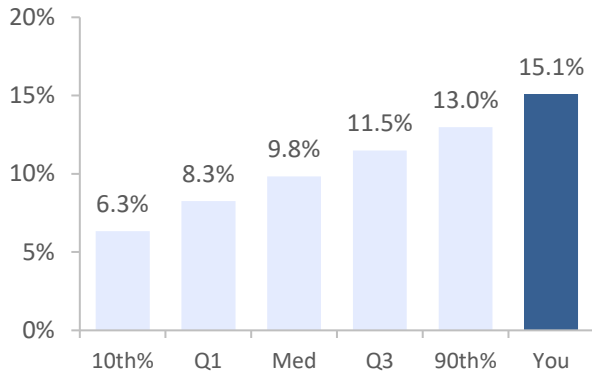
# 3

## Returns, value added and risk

- 12 Net returns, policy returns and net value added
- 13 Policy asset mix
- 15 Calculation of your policy return and net value added
- 16 Returns and value added by asset class
- 17 The correlation between net returns and policy returns
- 18 Risk analysis

## Net returns, policy returns and net value added

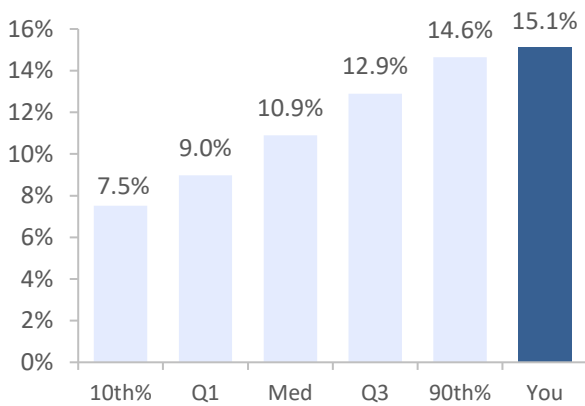
### Net total fund return



Your 2023 net total fund return was 15.1%. This was above the U.S. median of 9.8%.

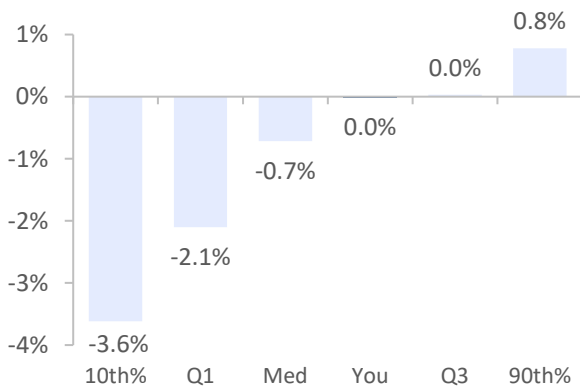
Net return is a good indicator of a fund's performance. However, comparisons of total return do not help you understand the reasons behind relative performance. Therefore, we separate total return into its more meaningful components: policy return and net value added.

### Policy return



Policy return is the return you could have earned passively by indexing your investments according to your policy mix. Your 2023 policy return was 15.1%. This is above the U.S. median of 10.9%.

### Net value added



Your 2023 net value added was 0.0%. This was above the U.S. median of -0.7%.

## Policy asset mix

Differences in policy return are caused by differences in policy asset mix. Policy asset mix is a fund's long-term asset mix policy or target asset weights. Policy weights are usually established by an investment committee or board and are determined by long-term considerations, such as liability structure, risk tolerance and long-term capital market expectations.

| 2023 Policy asset mix by asset class |              |              |
|--------------------------------------|--------------|--------------|
| Asset Class                          | Your Fund    | U.S. Average |
| <b>Stock</b>                         |              |              |
| Employer stock                       | 0.0%         | 0.1%         |
| U.S. broad/all                       | 25.0%        | 4.3%         |
| U.S. large cap                       | 0.0%         | 6.1%         |
| U.S. mid cap                         | 0.0%         | 0.3%         |
| U.S. small cap                       | 0.0%         | 1.0%         |
| EAFE                                 | 0.0%         | 2.9%         |
| Emerging                             | 0.0%         | 1.2%         |
| Global                               | 0.0%         | 10.2%        |
| Other                                | 20.0%        | 0.8%         |
| ACWI x U.S.                          | 25.0%        | 3.9%         |
| <b>Stock - Total</b>                 | <b>70.0%</b> | <b>30.8%</b> |
| <b>Fixed Income</b>                  |              |              |
| U.S.                                 | 20.0%        | 9.5%         |
| U.S. gov't                           | 0.0%         | 2.5%         |
| U.S. credits                         | 0.0%         | 3.0%         |
| EAFE                                 | 0.0%         | 0.0%         |
| Emerging                             | 0.0%         | 0.6%         |
| Global                               | 0.0%         | 0.7%         |
| Inflation indexed                    | 0.0%         | 1.1%         |
| High yield                           | 2.5%         | 1.0%         |
| Public mortgages                     | 0.0%         | 0.1%         |
| Other                                | 2.5%         | 2.1%         |
| Cash                                 | 0.0%         | 0.1%         |
| Long bonds                           | 0.0%         | 22.2%        |
| Bundled LDI                          | 0.0%         | 3.7%         |
| Convertibles                         | 0.0%         | 0.1%         |
| <b>Fixed income - Total</b>          | <b>25.0%</b> | <b>46.9%</b> |
| <b>Real Assets</b>                   |              |              |
| Commodities                          | 0.0%         | 0.2%         |
| Infrastructure                       | 0.0%         | 0.8%         |
| REITs                                | 2.5%         | 0.5%         |
| Natural resources                    | 0.0%         | 0.5%         |
| Real estate ex-REITs                 | 2.5%         | 5.8%         |
| Other listed real assets             | 0.0%         | 0.1%         |
| Other real assets                    | 0.0%         | 0.2%         |
| <b>Real assets - Total</b>           | <b>5.0%</b>  | <b>8.0%</b>  |

*continued on next page*

| 2023 Policy asset mix by asset class |           |              |
|--------------------------------------|-----------|--------------|
| Asset Class                          | Your Fund | U.S. Average |
| Hedge funds                          | 0.0%      | 3.3%         |
| Risk parity                          | 0.0%      | 0.5%         |
| Funded TAA                           | 0.0%      | 0.4%         |
| Private Equity                       |           |              |
| Private equity - Diversified         | 0.0%      | 6.5%         |
| Venture capital                      | 0.0%      | 0.3%         |
| LBO                                  | 0.0%      | 1.0%         |
| Private equity - Other               | 0.0%      | 0.2%         |
| Private equity - Total               | 0.0%      | 8.0%         |
| Private Debt                         |           |              |
| Private mortgages                    | 0.0%      | 0.0%         |
| Private credit                       | 0.0%      | 2.0%         |
| Private debt - Total                 | 0.0%      | 2.1%         |
| Total                                | 100.0%    | 100.0%       |

## Calculation of your policy return and net value added

| Calculation of 2023 policy return and value added for East Bay Municipal Utility District |               |            |   |                  |                 |
|---|---------------|------------|---|------------------|-----------------|
| Asset class   | Policy weight | Net return | Benchmark description   | Benchmark return | Net value added |
| <b>Stock</b>  |               |            |   |                  |                 |
| U.S. broad/all  | 25.0%         | 26.0%      | Russell 3000  | 26.0%            | 0.0%            |
| ACWI x U.S.   | 25.0%         | 15.7%      | MSCI ACWI xUS gross   | 16.2%            | -0.5%           |
| Other   | 20.0%         | 17.1%      | CBOE BXM  | 11.8%            | 5.3%            |
| <b>Fixed Income</b>   |               |            |   |                  |                 |
| U.S.  | 20.0%         | 5.2%       | BBg US Aggregate Index+BBg US Intremediate Gov/Cred (\$weighted)  | 4.3%             | 0.9%            |
| High yield  | 2.5%          | 10.5%      | <small>*2.5% ICE BofA Merrill Lynch U.S. Corporates, Cash Pay, BB-B Rated 1-5 Years Index, 1.5% Credit Suisse Leveraged Loan Index, 1% BBg Short Term Gov/Credit Index* (Sweighted)</small> | 11.5%            | -1.0%           |
| Other   | 2.5%          | 9.0%       | 60% CredSuisLevLoan/40% BBStGovCorp   | 9.8%             | -0.8%           |
| Cash  |               | 4.8%       | US 90 day T bill  | 5.0%             | -0.2%           |
| REITs   | 2.5%          | 14.3%      | Your REIT benchmark   | 13.7%            | 0.6%            |
| Real estate ex-REITs  | 2.5%          | -13.3%     | NCREIF NPI Mo 1 Qtr Lag   | -8.3%            | -5.0%           |
| <b>Total</b>  | <b>100.0%</b> |            |   |                  |                 |
| Net total fund return   |               |            |   |                  | 15.1%           |
| Policy return   |               |            |   |                  | 15.1%           |
| Net value added (Net return - policy return)  |               |            |   |                  | 0.0%            |

Your 2023 net value added was 0.0%. This was determined by subtracting your policy return of 15.1% from your net return of 15.1%.

- Policy return is the return a fund would have earned if it had passively implemented its policy mix through its benchmark indices. Your policy return equals the sum of your policy weights multiplied by your benchmarks for each asset class.
- Net value added equals your net return minus your policy return. It primarily reflects the contribution of active management.

## Returns and value added by asset class

The table below compares your fund's net returns, benchmark returns and net value added by asset class to the U.S. median.

| 2023 Returns and net value added by asset class |                         |                    |                              |             |                    |                                |
|---|-------------------------|--------------------|------------------------------|-------------|--------------------|--------------------------------|
| Asset class                                     | Your fund               |                    |                              | U.S. median |                    |                                |
|   | Net return <sup>1</sup> | Bench- mark return | Net value added <sup>2</sup> | Net return  | Bench- mark return | Net value added <sup>2 3</sup> |
| <b>Stock</b>                                    |                         |                    |                              |             |                    |                                |
| U.S. broad/all                                  | 26.0                    | 26.0               | 0.0                          | 26.0        | 26.0               | 0.0                            |
| ACWI x U.S.                                     | 15.7                    | 16.2               | -0.5                         | 16.8        | 15.6               | 0.7                            |
| Other   | 17.1                    | 11.8               | 5.3                          | 15.0        | 15.1               | -0.3                           |
| <b>Total Stock</b>                              | <b>19.9</b>             | <b>18.4</b>        | <b>1.5</b>                   | <b>20.9</b> | <b>21.6</b>        | <b>-0.1</b>                    |
| <b>Fixed Income</b>                             |                         |                    |                              |             |                    |                                |
| U.S.  | 5.2                     | 4.3                | 0.9                          | 6.1         | 5.5                | 0.3                            |
| High yield                                      | 10.5                    | 11.5               | -1.0                         | 12.7        | 13.4               | -0.6                           |
| Other   | 9.0                     | 9.8                | -0.8                         | 9.3         | 10.1               | 0.2                            |
| Cash  | 4.8                     | 5.0                | -0.2                         | 5.1         | 5.0                | 0.1                            |
| <b>Total Fixed Income</b>                       | <b>6.2</b>              | <b>5.6</b>         | <b>0.6</b>                   | <b>7.8</b>  | <b>7.1</b>         | <b>0.3</b>                     |
| <b>REITs</b>                                    | <b>14.3</b>             | <b>13.7</b>        | <b>0.6</b>                   | <b>11.4</b> | <b>10.9</b>        | <b>0.8</b>                     |
| Real estate ex-REITs                            | -13.3                   | -8.3               | -5.0                         | -10.3       | -11.8              | 0.1                            |

1. Net return shown on this page equals the asset-weighted average of internal passive, internal active, external passive and external active actual returns for each asset class.
2. Net value added equals net return minus benchmark return. Net returns are calculated as reported gross return minus management fees, internal costs and performance fees for public assets.
3. Median net return minus benchmark return will not total median net value added because the median fund is not the same for each part.

## The correlation between net returns and policy returns

The primary reason for differences in total fund return is usually differences in asset mix policy. But asset mix policy matters more in some years than others. This plot of net return versus policy return demonstrates the extent to which investment policy explained differences in investment returns in 2023.

Net return versus policy return - 2023

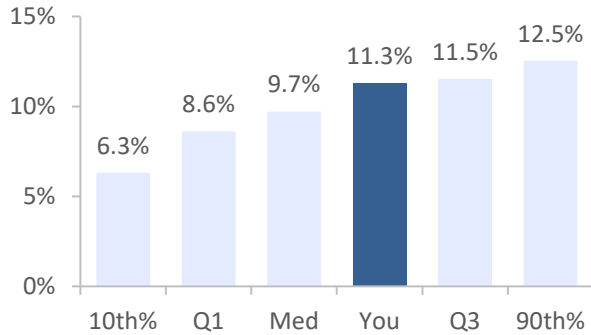


Generally, in any given year, the greater the difference between stock and bond returns, the more differences in net return can be explained by differences in policy return.

## Risk analysis

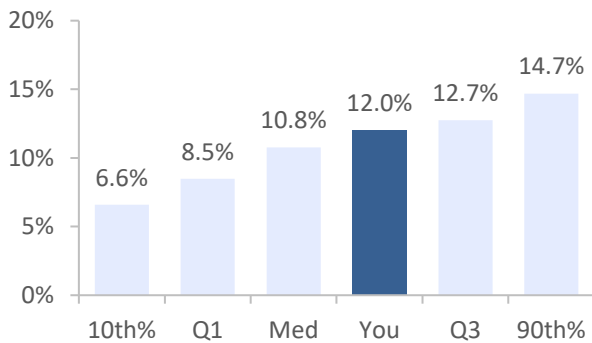
When assessing returns and value added it is important to also consider investment risk. Two important risk measures are asset risk and asset-liability risk.

### Asset risk



Asset risk is the expected volatility of your plan's policy returns. Your asset risk at the end of 2023 was 11.3%, which was above the U.S. median of 9.7%.

### Asset-liability risk



Your asset-liability risk was 12.0%. This was above the U.S. median of 10.8%.

Asset-liability risk is the expected volatility of funded status caused by market factors. It is a function of the expected standard deviations of your asset risk, your marked-to-market liabilities and the correlation between the two.

In calculating risk levels, CEM does not use your specific policy benchmarks. Standard asset class proxies are used for each given asset class.

# 4

## Cost and cost effectiveness

- 20 Your 2023 investment costs
- 21 Total investment cost
- 22 Implementation style
- 23 Comparison of asset management costs by asset class
- 25 Comparison of oversight, custodial and other investment costs
- 26 Cost effectiveness - Does paying more get you more?

## Your 2023 investment costs

Your 2023 total investment cost was 18.3 basis points. It is comprised of asset management fees and costs plus oversight, custodial and other costs. It excludes transaction costs, private asset performance fees and non-investment pension costs such as actuarial costs and benefit administration.

| Your 2023 investment management costs in \$000's                                       |                    |        |                  |         |                 |             |                         |       |                    |
|--|--------------------|--------|------------------|---------|-----------------|-------------|-------------------------|-------|--------------------|
| Asset Category   | Internal & Co-Inv. |        | External Passive |         | External Active |             |                         | Total |                    |
|  | Passive            | Active | Monitoring Fees  | & Other | Base Fees       | Under-lying | Perf. Fees <sup>1</sup> |       | Monitoring & Other |
| Stocks   |                    |        |                  |         |                 |             |                         |       |                    |
| U.S. broad/all   |                    |        | 83               |         |                 |             |                         |       | 83                 |
| ACWI x U.S.  |                    |        | 210              |         |                 |             |                         |       | 210                |
| Other  |                    |        |                  |         | 1,127           |             |                         |       | 1,127              |
| Fixed Income   |                    |        |                  |         |                 |             |                         |       |                    |
| U.S.   |                    |        |                  |         | 666             |             |                         |       | 666                |
| High yield   |                    |        |                  |         | 233             |             |                         |       | 233                |
| Other  |                    |        |                  |         | 264             |             |                         |       | 264                |
| Real Assets  |                    |        |                  |         |                 |             |                         |       |                    |
| REITs  |                    |        |                  |         | 159             |             | 83                      |       | 242                |
| Real estate ex-REITs   |                    |        |                  |         | 579             |             |                         |       | 579                |
| Total asset management costs excluding private asset performance fees                  |                    |        |                  |         |                 |             |                         |       | 3,404              |
| Your 2023 oversight, custodial & other asset related costs (\$000s) <sup>2</sup>       |                    |        |                  |         |                 |             |                         |       |                    |
| Oversight of the fund*   |                    |        |                  |         |                 |             |                         |       | 310                |
| Custodial  |                    |        |                  |         |                 |             |                         |       | 137                |
| Consulting and performance measurement   |                    |        |                  |         |                 |             |                         |       | 184                |
| Audit  |                    |        |                  |         |                 |             |                         |       | 8                  |
| Other  |                    |        |                  |         |                 |             |                         |       | 19                 |
| Total oversight, custodial & other asset related costs                                 |                    |        |                  |         |                 |             |                         |       | 658                |
| Total investment cost (excluding private asset performance fees and transaction costs) |                    |        |                  |         |                 |             |                         |       | 4,063              |
|  |                    |        |                  |         |                 |             |                         |       | 18.3 bp            |

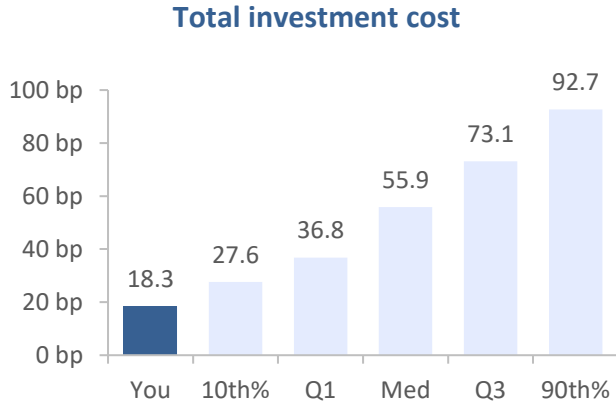
1. Total cost excludes carry/performance fees for infrastructure, natural resources, real estate, and private assets. Performance fees are included for all other asset classes.

2. Excludes non-investment costs, such as PBGC premiums, actuarial fees, and preparing checks for retirees.

\* CEM-imputed costs applied. Refer to Appendix C.

## Total investment cost

Your plan's total investment cost, excluding transaction costs and private asset performance fees, was \$4.1 million or 18.3 bps. This was below the U.S. median of 55.9 bps.



Your total investment cost consists of asset management costs and oversight, custodial and other costs. A breakdown of these costs can be found on page 20.

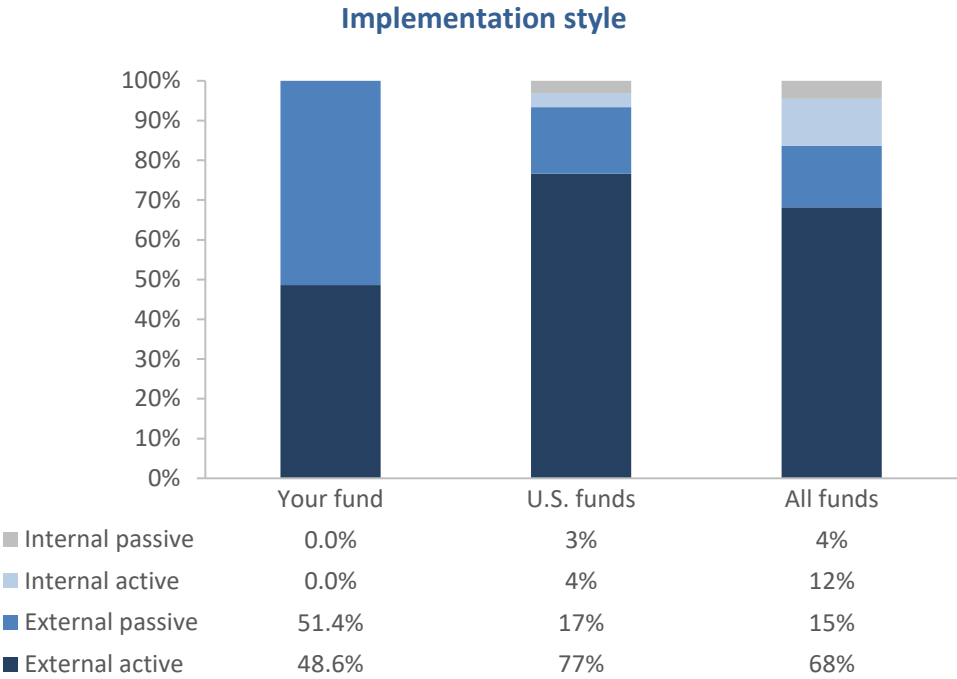
Total investment cost excludes transaction costs, private asset performance fees and actuarial costs.

Comparisons of total investment cost must be interpreted with caution because differences are often due to differences in size and asset mix. To help you truly understand your costs and performance, CEM offers peer-based benchmarking analysis which adjusts for these factors. For more details, see page 7.

# Implementation style

One reason why funds are high (or low) cost compared to their benchmark cost is differences in implementation style. Implementation style is defined as the way in which you implement your asset allocation. It includes internal, external, active, passive and fund-of-funds styles.

- Internal: managed by in-house investment managers.
- External: managed by outside or external investment managers.
- Passive: managed with the aim of replicating an index, immunizing liabilities, etc.
- Active: managed with the intention of outperforming an index.



The greatest cost impact is usually caused by differences in the use of either:

- External active management – External active management tends to be much more expensive than either passive or internal management. Your fund was 49% externally actively managed. This was below the U.S. average of 77%.
- Fund of funds usage - Fund of funds tend to be the most expensive type of external active management because costs include the management fee of the fund of fund manager plus the management fees to the managers of each of the underlying funds invested in by the fund of fund manager. Your fund used fund of funds for 0% of its hedge funds, real estate and private equity investments. This was less than the U.S. universe average of 15%.

## Comparison of asset management costs by asset class

Comparisons of your costs to the universe must be interpreted with caution, given the breadth of the universe, which encompasses funds with widely varying size and asset mix. Peer-based analysis is needed to truly understand where you are paying more and where you are paying less on a comparable basis. For more details, see page 7.

| 2023 Asset management costs in basis points |           |        |          |        |    |                  |              |        |          |        |       |                  |  |
|---|-----------|--------|----------|--------|----|------------------|--------------|--------|----------|--------|-------|------------------|--|
| Asset class                                 | Your fund |        |          |        |    |                  | U.S. average |        |          |        |       |                  |  |
|   | Internal  |        | External |        |    |                  | Internal     |        | External |        |       |                  |  |
|   | Passive   | Active | Passive  | Active | LP | FoF <sup>1</sup> | Passive      | Active | Passive  | Active | LP    | FoF <sup>1</sup> |  |
| <b>Stock</b>                                |           |        |          |        |    |                  |              |        |          |        |       |                  |  |
| Employer stock                              |           |        |          |        |    |                  | 0.0          |        | 5.7      | 1.0    |       |                  |  |
| U.S. broad/all                              |           |        | 1.4      |        |    |                  | 1.8          | 5.4    | 2.5      | 46.8   |       |                  |  |
| U.S. large cap                              |           |        |          |        |    |                  | 1.7          | 14.0   | 1.4      | 46.5   |       |                  |  |
| U.S. mid cap                                |           |        |          |        |    |                  | 1.9          | 37.5   | 2.9      | 55.7   |       |                  |  |
| U.S. small cap                              |           |        |          |        |    |                  | 3.3          | 39.0   | 3.6      | 68.6   |       |                  |  |
| EAFE  |           |        |          |        |    |                  | 3.4          | 36.9   | 4.7      | 71.2   |       |                  |  |
| ACWI x U.S.                                 |           |        | 3.9      |        |    |                  | 5.3          | 45.6   | 5.1      | 48.3   |       |                  |  |
| Emerging                                    |           |        |          |        |    |                  | 5.7          | 40.6   | 10.0     | 61.6   |       |                  |  |
| Global                                      |           |        |          |        |    |                  | 1.8          | 27.5   | 3.5      | 53.9   |       |                  |  |
| Other                                       |           |        |          | 24.6   |    |                  | 2.0          | 6.5    | 3.3      | 112.5  |       |                  |  |
| <b>Fixed Income</b>                         |           |        |          |        |    |                  |              |        |          |        |       |                  |  |
| U.S.  |           |        |          | 16.3   |    |                  | 2.0          | 5.9    | 4.5      | 19.6   |       |                  |  |
| U.S. gov't                                  |           |        |          |        |    |                  | 1.4          | 5.3    | 3.3      | 6.4    |       |                  |  |
| U.S. credits                                |           |        |          |        |    |                  |              | 7.8    | 2.6      | 19.8   |       |                  |  |
| Long bonds                                  |           |        |          |        |    |                  | 0.9          | 9.2    | 4.8      | 16.8   |       |                  |  |
| EAFE  |           |        |          |        |    |                  |              |        |          | 23.0   |       |                  |  |
| Emerging                                    |           |        |          |        |    |                  | 0.6          | 61.3   | 9.0      | 50.1   |       |                  |  |
| Global                                      |           |        |          |        |    |                  |              | 1.9    | 5.8      | 35.8   |       |                  |  |
| Global gov't                                |           |        |          |        |    |                  |              |        |          |        |       |                  |  |
| Global credit                               |           |        |          |        |    |                  |              |        |          |        |       |                  |  |
| Inflation indexed                           |           |        |          |        |    |                  | 1.4          | 1.9    | 1.7      | 21.5   |       |                  |  |
| High yield                                  |           |        |          | 41.2   |    |                  |              | 14.8   | 12.1     | 40.0   |       |                  |  |
| Public mortgages                            |           |        |          |        |    |                  |              | 13.9   |          | 39.4   |       |                  |  |
| Absolute return bonds                       |           |        |          |        |    |                  |              |        |          |        |       |                  |  |
| Bundled LDI                                 |           |        |          |        |    |                  |              | 3.9    | 7.2      | 16.3   |       |                  |  |
| Convertibles                                |           |        |          |        |    |                  |              |        | 0.0      | 56.3   |       |                  |  |
| Other                                       |           |        |          | 49.3   |    |                  | 0.0          | 16.2   | 7.0      | 54.6   |       |                  |  |
| Cash  |           |        |          | 0.0    |    |                  |              | 5.2    |          | 27.2   |       |                  |  |
| <b>Commodities</b>                          |           |        |          |        |    |                  | 3.4          | 6.3    |          | 94.6   |       |                  |  |
| Infrastructure <sup>2</sup>                 |           |        |          |        |    |                  |              | 24.9   |          | 73.1   | 139.1 | 182.4            |  |
| Natural resources <sup>2</sup>              |           |        |          |        |    |                  |              | 20.0   |          | 63.6   | 126.2 | 207.0            |  |
| REITs                                       |           |        |          | 40.3   |    |                  | 11.9         | 10.9   | 5.9      | 54.7   |       |                  |  |
| Real estate ex-REITs <sup>2</sup>           |           |        |          | 90.5   |    |                  |              | 20.6   |          | 83.0   | 150.1 | 125.9            |  |
| Other listed real assets <sup>2</sup>       |           |        |          |        |    |                  | 2.0          |        | 26.7     | 57.3   |       |                  |  |
| Other real assets <sup>2</sup>              |           |        |          |        |    |                  |              | 12.7   |          | 203.2  | 112.9 |                  |  |

*continued on next page*

## 2023 Asset management costs in basis points

| Asset class                               | Your fund |        |                  |          |        |      | U.S. average |        |                  |          |        |       |                  |
|---|-----------|--------|------------------|----------|--------|------|--------------|--------|------------------|----------|--------|-------|------------------|
|   | Internal  |        |                  | External |        |      | Internal     |        |                  | External |        |       |                  |
|   | Passive   | Active | FoF <sup>1</sup> | Passive  | Active | LP   | Passive      | Active | FoF <sup>1</sup> | Passive  | Active | LP    | FoF <sup>1</sup> |
| Hedge funds Total*                        |           |        |                  |          |        |      |              |        |                  | 245.7    |        |       | 267.5            |
| • Base fees top layer                     |           |        |                  |          |        |      |              |        |                  | 128.4    |        |       | 60.5             |
| • Perf. Fees top layer                    |           |        |                  |          |        |      |              |        |                  | 114.9    |        |       | 16.3             |
| • Underlying base & perf                  |           |        |                  |          |        |      |              |        |                  |          |        |       | 190.0            |
| Risk parity                               |           |        |                  |          |        |      |              | 12.2   |                  |          | 41.5   |       |                  |
| Funded TAA                                |           |        |                  |          |        |      |              | 29.7   |                  |          | 96.4   |       |                  |
| Private equity - Diversified <sup>2</sup> |           |        |                  |          |        |      |              | 19.5   |                  |          |        | 156.9 | 182.2            |
| Venture capital <sup>2</sup>              |           |        |                  |          |        |      |              |        |                  |          |        | 151.9 | 181.5            |
| LBO <sup>2</sup>                          |           |        |                  |          |        |      |              |        |                  |          |        | 148.9 | 172.1            |
| Private equity - Other <sup>2</sup>       |           |        |                  |          |        |      |              | 13.8   |                  |          |        | 122.4 | 120.0            |
| Private mortgages <sup>2</sup>            |           |        |                  |          |        |      |              | 11.7   |                  |          | 58.6   |       |                  |
| Private credit <sup>2</sup>               |           |        |                  |          |        |      |              | 18.4   |                  |          | 88.1   | 120.3 | 157.7            |
| Total before overlays                     |           |        |                  |          |        | 15.4 |              |        |                  |          |        |       | 53.7             |
| Overlay management costs                  |           |        |                  |          |        |      |              |        |                  |          |        |       | 0.9              |
| Total direct investment management cost   |           |        |                  |          |        | 15.4 |              |        |                  |          |        |       | 54.1             |

1. FoF stands for Fund of Funds. Fund of funds costs include management fees paid to the fund of fund's manager plus fees paid to the manager of each of the underlying funds selected by the fund of funds manager.

2. External performance fees are excluded from private asset costs. Costs are as a percentage of the amount fees are based on; usually the committed amount during the commitment period, and unreturned invested capital afterwards.

\* Averages will not add to the total because internal costs of oversight and selection are not shown.

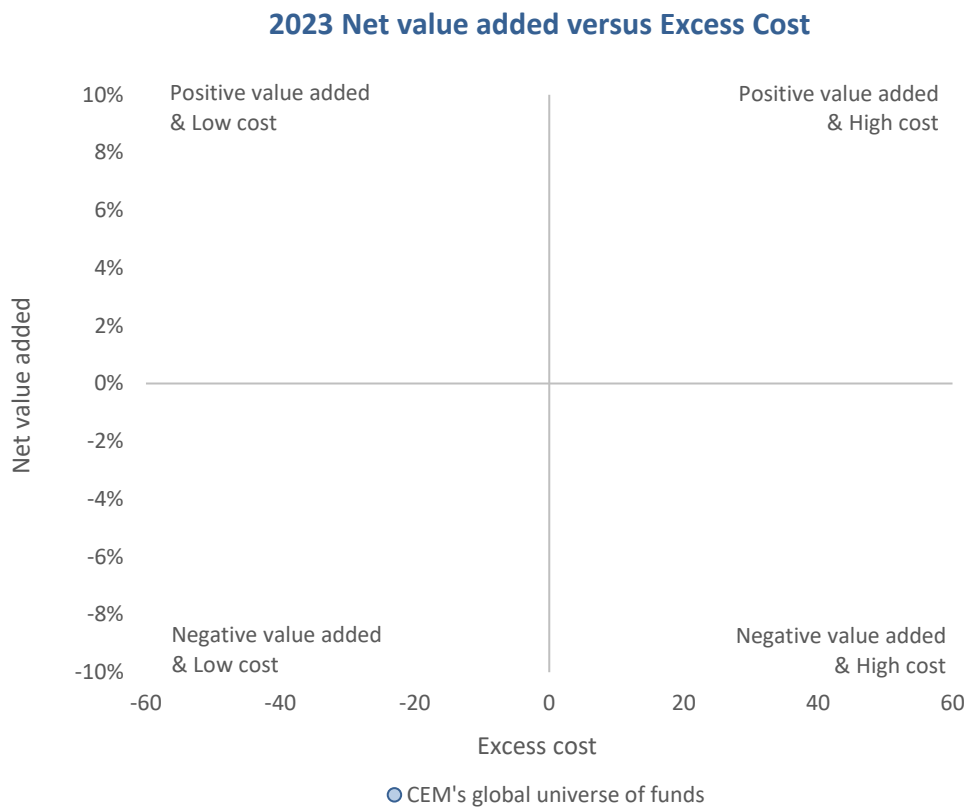
# Comparison of oversight, custodial and other investment costs

| Oversight, custodial & other costs  | You     | U.S. average |
|-------------------------------------|---------|--------------|
| Oversight                           | 1.4 bps | 1.6 bps      |
| Custodial                           | 0.6 bps | 1.0 bps      |
| Consulting, performance measurement | 0.8 bps | 1.4 bps      |
| Audit                               | 0.0 bps | 0.3 bps      |
| Other                               | 0.1 bps | 1.4 bps      |
| Total                               | 3.0 bps | 5.8 bps      |

## Cost effectiveness - Does paying more get you more?

Being high or low cost is neither good nor bad. The more important question is, are you receiving sufficient value for your excess cost? CEM's premium benchmarking provides insight into this question by combining value added and excess cost. The scatter chart below shows the snapshot of the 2023 cost effectiveness across all survey participants.

In an ideal world, the more you pay (i.e., the higher your excess cost) the more you would get (i.e., the higher your value added). If this were true, you would see an upward sloping trend in this scatter chart. Clearly, this is not the case. Our research over the past 33 years shows no consistent relationship between excess costs and the net value added they achieve.



# 5

## Plan data

- 28 Investment and plan structures
- 29 2023 Valuation assumptions

## Investment and plan structures

### Type of plans

|           | # funds with data | Flat benefit | Career average | Final average | Other (or multiple) |
|-----------|-------------------|--------------|----------------|---------------|---------------------|
| Your fund | 1                 | -            | -              | Yes           | -                   |
| U.S.      | 135               | 13%          | 13%            | 81%           | 24%                 |

### Plan liabilities

#### LDI Management

|   | Your fund | U.S. |
|---|-----------|------|
| Do you separate your assets into liability-hedging and return-seeking portfolios?   | No        | 57%  |
| If yes, does your liability-hedging portfolio include assets that are not core bonds, such as high yield bonds or private credit? | --        | 25%  |

#### Indexation of retired members' benefits

To what extent are your retired members' benefits indexed to inflation?

|           | Average contractual <sup>1</sup> indexation as % of CPI | % of Funds with contr. indexation > 0 where indexation is subject to a cap |
|-----------|---|--|
| Your fund | 100%  | -  |
| U.S.      | 19%   | 97%  |

1. Several funds had contractual inflation protection subject to caps (ranging from 2% to 8%). Most of these funds have had close to 100% inflation protection during the last 5 years of low inflation and this is how we have recorded their inflation protection. However, in high inflation environments, we will have grossly overestimated their true inflation protection.

#### Plan membership

|           | # of Funds with data | Average # members | % Active | % Retired | % Other | Avg Assets per Member |
|-----------|----------------------|-------------------|----------|-----------|---------|-----------------------|
| Your fund | 1                    | 4,453             | 44%      | 48%       | 9%      | 529,982               |
| U.S.      | 136                  | 171,392           | 40%      | 38%       | 22%     | 172,683               |

#### Actuarial fees

|           | # of Funds with data | Average Fees (\$000s) | % of Total assets |
|-----------|----------------------|-----------------------|-------------------|
| Your fund | 1                    | 241                   | 1.1bp             |
| U.S.      | 131                  | 868                   | 1.8bp             |

#### Other plan data - Plan liabilities

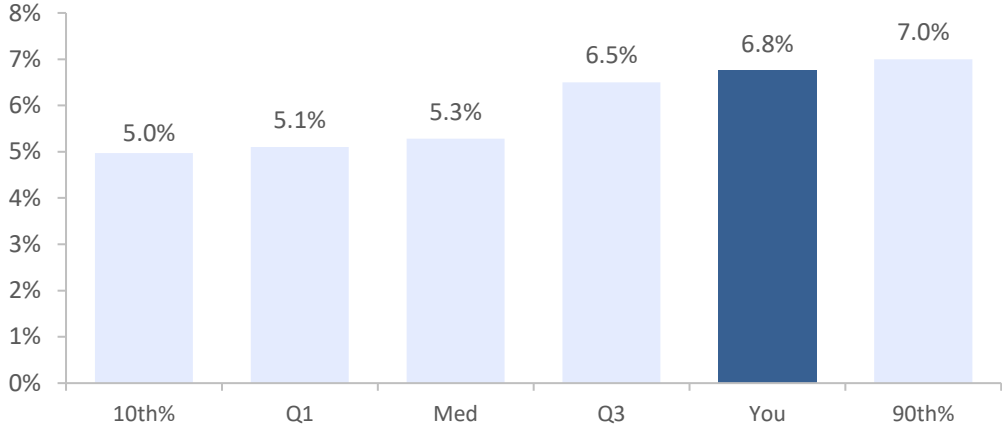
What % of the plan's liabilities are in respect to retired members?

|           | # of Funds with data | % Plan liabilities for retired members |
|-----------|----------------------|--|
| Your fund | 1                    | 56%                                    |
| U.S.      | 112                  | 56%                                    |

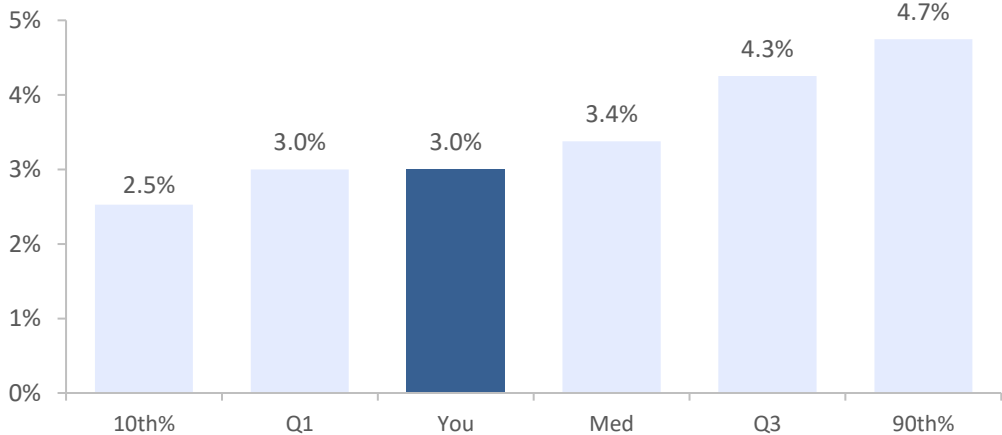
# 2023 Valuation assumptions

Actuarial assumptions for funding purposes during 2023.

### Liability discount rate



### Salary progression rate



# 6

## Appendices

- 31 Appendix A - Glossary of terms
- 32 Appendix B - Data quality
- 33 Appendix C - Your data

## Appendix A - Glossary of terms

**Average** - All averages are fund weighted (i.e., each fund is given equal weight, regardless of size).

**Benchmark cost** - Can be thought of as the predicted operating cost for a fund given its asset mix and size. It is included in CEM's premium benchmarking service.

**Benchmark return** - Rate of return on an index of investable assets (such as the S&P500) designated as the benchmark portfolio against which the fund measures its own performance for that asset class.

**Category benchmarks** - Policy-weighted average of passive and active benchmarks given for each asset class.

**Direct investment management costs** -

a) For externally managed assets, it is the sum of all investment management fees, participation fees, commitment and carrying fees and should include all hidden fees netted from commingled asset pools.

b) For internally managed assets, it is the costs directly traceable to internally managed investments and should include: compensation and benefits of investment employees and support staff, related overhead (office rent, telephone, computer systems, etc.) and associated costs (conference, research, travel, subscriptions and memberships, etc.).

**Excess cost** - Difference between actual cost and benchmark cost.

**Oversight, custodial and other costs**, the sum of:

a) Oversight costs which are (i) the salaries and benefits of executives and their assistants and clerical staff, carrying out duties directly associated with the oversight of plan assets, (ii) fees/salaries of Board of Trustees or Investment Committee based on the amount of time spent in this capacity, and (iii) office overhead (rent, utilities, telephone, office, computer systems, etc.) and associated costs (travel, subscriptions, memberships, etc.) all of which should be allocated on a pro rata governance and administration.

b) Custodial costs before any reductions relating to securities lending. Note that custodial costs for preparing benefit checks or relating to other asset pools should not be included.

c) Consulting and performance.

d) Audit and other measurements costs.

**Operating costs** - Sum of overlay, direct investment management and oversight, custodial and other costs.

**Overlay** - Derivative-based program, that is unfunded other than margin requirements.

**Passive** - Assets managed passively, i.e., indexed to broad capital market benchmarks or dedicated to matching a specific set of liabilities.

**Policy mix** - Reflects long term policy or target asset weights. Policy mix is often established by an investment committee or board and is determined by such long-term considerations as liability structure, risk tolerance and long-term capital markets prospects. If asset mix policy is expressed in ranges, our default is the midpoint of those ranges.

**Policy return** - The return a fund would have earned if it had passively implemented its policy mix through its benchmark indices. Policy return equals the sum of policy weights multiplied by benchmarks for each asset class.

**Value Added** - Difference between actual return and policy return.

## Appendix B - Data quality

We recognize that the value of the information contained in these reports is only as good as the quality of the data we receive. Our procedures for checking and improving the data include:

- **Constant improvement in survey clarity** - Years of feedback from survey participants has led to improved definitions and survey clarity.
- **Client confirmation** - Each participant received a complete summary of their respective data for confirmation prior to their data being included in our database. Your data is summarized in Appendix C (which begins on the following page).
- **Automated & manual checks** - We compare responses to norms for the survey universe and to each sponsor's prior year data when available. This typically results in questions that we email back to each survey respondent and follow up on by phone.

In addition, the quality of our data continues to improve as the universe of participants grows. Our confidence in the results improves with universe size as unbiased errors tend to average themselves out.

## Appendix C - Your data

Your data is summarized on the following pages. As discussed with you or the person who provided the data for your fund during the data confirmation process, there may be changes to your original survey responses for the following reasons:

- 1. Returns not available** - We requested that you enter no value if full year returns for an asset class were unavailable. The default for an unavailable return is to set it equal to your benchmark return for the same asset class, thereby effectively neutralizing that asset class when determining your in-category value added.
- 2. Costs not given** - The costs of non-traditional assets and real estate are often buried in commingled funds and may not be worth the effort to obtain if their asset value is immaterial relative to your total fund. Therefore, if you report assets but do not report costs/fees we impute a figure using industry data. See the last page of Appendix C for any CEM-imputed costs used for your fund.

## Appendix C - Your Data

East Bay Municipal Utility District

| Plan info   | 2023  | 2022  |
|---|---|---|
| Contact   | Sophia Skoda  | Sophia Skoda  |
| Type of fund (corporate, public, other)                                 | Public  | Public  |
| Total fund size (Millions)  | 2,360   | 2,072   |
| Are assets provided year end or average?                                | Year End  | Year End  |
| Total return for year ended   | 15.1%   | -13.4%  |
| Is the return net or gross?   | Net of manager fees   | Net of all investment costs   |
| Do you have costs for selecting and monitoring external managers?       | No  | No  |
| Total fund policy or benchmark return                                   | 15.1%   | -13.6%  |
| Was your effective asset mix different from your physical asset mix?    |   | No  |
| Ancillary data  | 2023  | 2022  |
| What is your hedging policy for:<br>Foreign non-U.S. Holdings?          |   |   |
| What were your actuarial fees in 000s?                                  | 241.3   | 191.5   |
| How many plan members/beneficiaries do you have:                        |   |   |
| Active - accruing benefits  | 1,955   | 1,895   |
| Active - not accruing benefits  | 0   | 0   |
| Retired - receiving benefits  | 2,117   | 2,048   |
| Inactive - entitled to future benefits                                  | 381   | 360   |
| What type of plans do you have?   | Final Average   | Final Average   |
| To what extent are your retired members' benefits indexed to inflation? |   |   |
| Contractual %   | 100.0%  | 100.0%  |
| If the indexation is subject to a cap, describe the cap                 | 3% (<85%) or 5% (>=85%)<br>funding level on a Projected<br>Benefit Obligation basis | 3% (<85%) or 5% (>=85%)<br>funding level on a Projected<br>Benefit Obligation basis |
| What % of the plan's liabilities pertain to retired members?            | 56%   | 65%   |
| Most recent actuarial assumptions:                                      |   |   |
| Discount rate   | 6.8%  | 6.8%  |
| Expected rate of return on assets                                       | 6.8%  | 6.8%  |
| Salary increase rate  | 3.0%  | 3.0%  |

## Appendix C - Your data: Policy weights and benchmarks

### East Bay Municipal Utility District

| Asset class               | Year | Policy weight | Benchmark description  | Return |
|---------------------------|------|---------------|--|--------|
| Stock - U.S. broad/all    | 2023 | 25.0          | Russell 3000   | 26.0   |
|                           | 2022 | 25.0          | Russell 3000   | -19.2  |
|                           | 2021 | 25.0          | Russell 3000   | 25.7   |
| Stock - ACWI x U.S.       | 2023 | 25.0          | MSCI ACWI xUS gross  | 16.2   |
|                           | 2022 | 25.0          | MSCI ACWI xUS gross  | -15.6  |
|                           | 2021 | 25.0          | MSCI ACWI xUS gross  | 8.3    |
| Stock - Other             | 2023 | 20.0          | CBOE BXM   | 11.8   |
|                           | 2022 | 20.0          | CBOE BXM   | -11.4  |
|                           | 2021 | 20.0          | CBOE BXM   | 20.3   |
| Fixed income - U.S.       | 2023 | 20.0          | BBg US Aggregate Index+BBg US Intremediate Gov/Cred (\$weighted)   | 4.3    |
|                           | 2022 | 20.0          | BBg US Aggregate Index+BBg US Intremediate Gov/Cred (\$weighted)   | -10.5  |
|                           | 2021 | 20.0          | BBg US Aggregate Index+BBg US Intremediate Gov/Cred (\$weighted)   | -1.5   |
| Fixed income - High yield | 2023 | 2.5           | <small>*2.5% ICE BofA Merrill Lynch U.S. Corporates, Cash Pay, BB-B Rated 1-5 Years Index, 1.5% Credit Suisse Leveraged Loan Index, 1% BBg Short Term Gov/Credit Index* (\$weighted)</small> | 11.5   |
|                           | 2022 | 2.5           | <small>*2.5% ICE BofA Merrill Lynch U.S. Corporates, Cash Pay, BB-B Rated 1-5 Years Index, 1.5% Credit Suisse Leveraged Loan Index, 1% BBg Short Term Gov/Credit Index* (\$weighted)</small> | -4.8   |
|                           | 2021 | 5.0           | <small>*2.5% ICE BofA Merrill Lynch U.S. Corporates, Cash Pay, BB-B Rated 1-5 Years Index, 1.5% Credit Suisse Leveraged Loan Index, 1% BBg Short Term Gov/Credit Index* (\$weighted)</small> | 4.2    |
| Fixed income - Other      | 2023 | 2.5           | 60% CredSuisLevLoan/40% BBStGovCorp  | 9.8    |
|                           | 2022 | 2.5           | 60% CredSuisLevLoan/40% BBStGovCorp  | -0.3   |
|                           | 2021 | 0.0           |  |        |
| Cash                      | 2023 | 0.0           | US 90 day T bill   | 5.0    |
|                           | 2022 | 0.0           | US 90 day T bill   | 1.5    |
|                           | 2021 | 0.0           | US 90 day T bill   | 0.1    |
| REITs                     | 2023 | 2.5           | Your REIT benchmark  | 13.7   |
|                           | 2022 | 2.5           | Your REIT benchmark  | -24.4  |
|                           | 2021 | 2.5           | Your REIT benchmark  | 43.2   |
| Real estate ex-REITs      | 2023 | 2.5           | NCREIF NPI Mo 1 Qtr Lag  | -8.3   |
|                           | 2022 | 2.5           | NCREIF NPI Mo 1 Qtr Lag  | 16.4   |
|                           | 2021 | 2.5           | NCREIF Property Index  | 12.3   |

## Appendix C Data Summary - Assets, Returns and Costs: Public Market

East Bay Municipal Utility District

| Asset Class/Style                            | Year            | Asset (\$millions) | Net Return | Cost (\$000)     |           |           |       | Cost (bps)       |           |           |       |      |
|--|-----------------|--------------------|------------|------------------|-----------|-----------|-------|------------------|-----------|-----------|-------|------|
|  |                 |                    |            | Internal & Other | Base Fees | Perf Fees | Total | Internal & Other | Base Fees | Perf Fees | Total |      |
| Stock - U.S. broad/all<br>External passive   | 2023            | 637.3              | 26.00      |                  | 83        |           | 83    |                  | 1.4       |           | 1.4   |      |
|  | 2022            | 515.8              | -19.20     |                  | 83        |           | 83    |                  | 1.4       |           | 1.4   |      |
|  | 2021            | 637.5              | 25.60      |                  | 89        |           | 89    |                  | 1.5       |           | 1.5   |      |
|  | 2020            | 559.0              | 20.80      |                  | 85        |           | 85    |                  | 1.6       |           | 1.6   |      |
|  | 2019            | 502.4              | 30.90      |                  | 75        |           | 75    |                  | 1.7       |           | 1.7   |      |
| Stock - ACWI x U.S.<br>External passive      | 2023            | 576.1              | 15.70      |                  | 210       |           | 210   |                  | 3.9       |           | 3.9   |      |
|  | 2022            | 498.0              | -15.50     |                  | 206       |           | 206   |                  | 3.8       |           | 3.8   |      |
|  | 2021            | 589.0              | 9.00       |                  | 180       |           | 180   |                  | 3.7       |           | 3.7   |      |
|  | 2020            | 392.5              | 10.10      |                  | 67        |           | 67    |                  | 2.3       |           | 2.3   |      |
|  | 2019            | 184.2              | 21.80      |                  | 74        |           | 74    |                  | 4.4       |           | 4.4   |      |
|  | External active | 2023               |            |                  |           |           |       |                  |           |           |       |      |
|  |                 | 2022               |            |                  |           |           |       |                  |           |           |       |      |
|  |                 | 2021               |            | 9.00             |           | 599       |       | 599              |           | 70.5      |       | 70.5 |
|  |                 | 2020               | 169.9      | 17.94            |           | 1,095     |       | 1,095            |           | 49.9      |       | 49.9 |
| 2019   | 269.0           | 21.60              |            | 1,555            |           | 1,555     |       | 63.3             |           | 63.3      |       |      |
| Stock - Other<br>External active             | 2023            | 475.6              | 17.10      |                  | 1,127     |           | 1,127 |                  | 24.6      |           | 24.6  |      |
|  | 2022            | 439.3              | -12.00     |                  | 1,056     |           | 1,056 |                  | 22.3      |           | 22.3  |      |
|  | 2021            | 506.5              | 20.70      |                  | 1,122     |           | 1,122 |                  | 24.2      |           | 24.2  |      |
|  | 2020            | 419.6              | 7.90       |                  | 946       |           | 946   |                  | 23.1      |           | 23.1  |      |
|  | 2019            | 398.5              | 19.20      |                  | 989       |           | 989   |                  | 27.0      |           | 27.0  |      |
| Fixed income - U.S.<br>External active       | 2023            | 430.8              | 5.20       |                  | 666       |           | 666   |                  | 16.3      |           | 16.3  |      |
|  | 2022            | 386.2              | -9.50      |                  | 616       |           | 616   |                  | 15.2      |           | 15.2  |      |
|  | 2021            | 427.4              | -1.70      |                  | 648       |           | 648   |                  | 15.9      |           | 15.9  |      |
|  | 2020            | 387.3              | 7.09       |                  | 633       |           | 633   |                  | 16.5      |           | 16.5  |      |
|  | 2019            | 380.9              | 8.40       |                  | 568       |           | 568   |                  | 17.6      |           | 17.6  |      |
| Fixed income - High yield<br>External active | 2023            | 59.5               | 10.50      |                  | 233       |           | 233   |                  | 41.2      |           | 41.2  |      |
|  | 2022            | 53.7               | -1.80      |                  | 223       |           | 223   |                  | 41.1      |           | 41.1  |      |
|  | 2021            | 54.6               | 4.70       |                  | 212       |           | 212   |                  | 41.2      |           | 41.2  |      |
|  | 2020            | 48.2               | 6.60       |                  | 403       |           | 403   |                  | 58.3      |           | 58.3  |      |
|  | 2019            | 89.9               | 8.50       |                  | 413       |           | 413   |                  | 68.1      |           | 68.1  |      |
| Fixed income - Other<br>External active      | 2023            | 55.8               | 9.00       |                  | 264       |           | 264   |                  | 49.3      |           | 49.3  |      |
|  | 2022            | 51.2               | -5.00      |                  | 192       |           | 192   |                  | 36.5      |           | 36.5  |      |
|  | 2021            | 53.9               | 3.40       |                  | 242       |           | 242   |                  | 89.9      |           | 89.9  |      |
| Cash<br>External active                      | 2023            | 2.1                | 4.80       |                  | 0         |           | 0     |                  | -         |           | -     |      |
|  | 2022            | 3.3                | 0.80       |                  | 0         |           | 0     |                  | -         |           | -     |      |
|  | 2021            | 13.7               | 0.50       |                  |           |           |       |                  |           |           |       |      |
|  | 2020            | 45.0               | 1.50       |                  | 0         |           | 0     |                  | -         |           | -     |      |
|  | 2019            | 14.3               | 2.50       |                  | 0         |           | 0     |                  | -         |           | -     |      |
| REITs<br>External active                     | 2023            | 64.0               | 14.30      |                  | 159       | 83        | 242   |                  | 26.5      | 13.8      | 40.3  |      |
|  | 2022            | 55.9               | -23.80     |                  | 209       | 104       | 313   |                  | 33.6      | 16.7      | 50.2  |      |
|  | 2021            | 68.5               | 41.40      |                  | 169       | 70        | 239   |                  | 28.1      | 11.7      | 39.8  |      |
|  | 2020            | 51.7               | -4.20      |                  | 130       | 218       | 348   |                  | 26.5      | 44.3      | 70.8  |      |
|  | 2019            | 46.6               | 27.20      |                  | 149       | 152       | 301   |                  | 31.6      | 32.4      | 64.0  |      |

## Appendix C Data Summary - Assets, Returns and Costs: Hedge Funds and Private Market

East Bay Municipal Utility District

| Asset Class/Style    | Year | Asset<br>(\$millions) | Fee basis<br>(\$millions) | Net<br>Return | Cost (\$000)        |              |              |                 |            |            |
|----------------------|------|-----------------------|---------------------------|---------------|---------------------|--------------|--------------|-----------------|------------|------------|
|                      |      |                       |                           |               | Internal<br>& Other | Base<br>Fees | Perf<br>Fees | Underlying fees |            | Total      |
|                      |      |                       |                           |               |                     |              | Base         | Perf            | excl. perf | incl. perf |
| Real estate ex-REITs |      |                       |                           |               |                     |              |              |                 |            |            |
| External active      | 2023 | 59                    | 59                        | -13.30        |                     | 579          | 0            |                 | 579        | 579        |
|                      | 2022 | 69                    | 69                        | 24.10         |                     | 640          | 0            |                 | 640        | 640        |
|                      | 2021 | 56                    | 56                        | 12.80         |                     | 510          | 0            |                 | 510        | 510        |
|                      | 2020 | 50                    | 50                        | 2.20          |                     | 474          | 0            |                 | 474        | 474        |
|                      | 2019 | 54                    | 54                        | 5.70          |                     | 443          | 0            |                 | 443        | 443        |

1. External Active' style is alternatively named 'Fund (Evergreen, Core)' on the survey. This category typically includes core funds having perpetual or undefined lifetimes and operated by an external manager who invests in opportunities where a large part of expected return is income or yield. They are often described as core or core+ investments. Include funds-of-one and separately managed accounts (SMAs) if they are operated by an external manager.

## Appendix C Data Summary - Costs in bps: Hedge Funds and Private Market

East Bay Municipal Utility District

| Asset Class/Style    | Year | Cost on NAV (bps) |           |           |                      |      |                             | Cost on fee basis (bps) |           |           |                      |      |                             |       |       |
|----------------------|------|-------------------|-----------|-----------|----------------------|------|-----------------------------|-------------------------|-----------|-----------|----------------------|------|-----------------------------|-------|-------|
|                      |      | Internal & Other  | Base Fees | Perf Fees | Underlying fees Base | Perf | Total excl. perf incl. perf | Internal & Other        | Base Fees | Perf Fees | Underlying fees Base | Perf | Total excl. perf incl. perf |       |       |
| Real estate ex-REITs |      |                   |           |           |                      |      |                             |                         |           |           |                      |      |                             |       |       |
| External active      | 2023 |                   | 90.5      | -         |                      |      | 90.5                        | 90.5                    |           | 90.5      | -                    |      |                             | 90.5  | 90.5  |
|                      | 2022 |                   | 102.3     | -         |                      |      | 102.3                       | 102.3                   |           | 102.3     | -                    |      |                             | 102.3 | 102.3 |
|                      | 2021 |                   | 96.3      | -         |                      |      | 96.3                        | 96.3                    |           | 96.3      | -                    |      |                             | 96.3  | 96.3  |
|                      | 2020 |                   | 91.4      | -         |                      |      | 91.4                        | 91.4                    |           | 91.4      | -                    |      |                             | 91.4  | 91.4  |
|                      | 2019 |                   | 163.9     | -         |                      |      | 163.9                       | 163.9                   |           | 163.9     | -                    |      |                             | 163.9 | 163.9 |

## Appendix C - Data summary: Oversight, custodial and other costs

### East Bay Municipal Utility District

| Oversight, custodial and other costs      |      |       |       |
|---|------|-------|-------|
|   |      | 000s  | bps   |
| Oversight of the fund assets <sup>1</sup> | 2023 | 310.3 | 1.4bp |
|   | 2022 | 315.8 | 1.4bp |
|   | 2021 | 319.4 | 1.4bp |
| Custodial total                           | 2023 | 137.2 | 0.6bp |
|   | 2022 | 139.2 | 0.6bp |
|   | 2021 | 268.7 | 1.2bp |
| Consulting / performance measurement      | 2023 | 184.4 | 0.8bp |
|   | 2022 | 181.9 | 0.8bp |
|   | 2021 | 179.4 | 0.8bp |
| Audit                                     | 2023 | 7.8   | 0.0bp |
|   | 2022 | 7.6   | 0.0bp |
|   | 2021 | 7.5   | 0.0bp |
| Other (legal etc)                         | 2023 | 18.7  | 0.1bp |
|   | 2022 | 18.6  | 0.1bp |
| Total                                     | 2023 | 658.3 | 3.0bp |
|   | 2022 | 663.0 | 3.0bp |
|   | 2021 | 775.0 | 3.4bp |

1. Oversight includes the salaries and benefits of executives and their staff responsible for overseeing the entire fund or multiple asset classes and the fees / salaries of the board or investment committee. All costs associated with the above including fees / salaries, travel, director's insurance and attributed overhead should be included.

| Summary of total investment costs <sup>2</sup> |      |         |        |
|--|------|---------|--------|
|  |      | 000s    | bps    |
| Investment management costs                    | 2023 | 3,404.4 | 15.4bp |
|  | 2022 | 3,327.9 | 14.9bp |
|  | 2021 | 3,841.1 | 17.0bp |
| Oversight, custodial & other costs             | 2023 | 658.3   | 3.0bp  |
|  | 2022 | 663.0   | 3.0bp  |
|  | 2021 | 775.0   | 3.4bp  |
| Total  | 2023 | 4,062.7 | 18.3bp |
|  | 2022 | 3,990.9 | 17.8bp |
|  | 2021 | 4,616.1 | 20.4bp |

2. Total investment cost excludes transaction costs and performance fees for private assets.

## Appendix C - Data Summary: Comments

### East Bay Municipal Utility District

As discussed with you during the data confirmation process, the following enrichments and footnotes are applicable to your data:

- 2023 - Oversight: A CEM-imputed cost of 1.4 bps was applied to oversight because it was not provided.
- 2022 - Oversight: A CEM-imputed cost of 1.4 bps was applied to oversight because it was not provided.
- 2021 - Oversight: A CEM-imputed cost of 1.4 bps was applied to oversight because it was not provided.
- 2020 - Oversight: A CEM-imputed cost of 1.4 bps was applied to oversight because it was not provided.
- 2019 - Oversight: A CEM-imputed cost of 1.4 bps was applied to oversight because it was not provided.

**EAST BAY MUNICIPAL UTILITY DISTRICT**

---

DATE: November 21, 2024

MEMO TO: Retirement Board

THROUGH: Cindy Charan, Director of Human Resources *Cindy S. Charan*

FROM: Lisa Sorani, Manager of Employee Services *Lisa Sorani*

SUBJECT: Benefit Plan Renewals for Calendar Year 2025

**SUMMARY**

The annual open enrollment period for active employees and retirees ran from October 21, 2024 through November 8, 2024.

**DISCUSSION**

For retirees, the District offers health and dental coverage through group insurance contracts with several carriers. These contracts are subject to annual renewal each January 1. Early retirees, those under age 65 and not yet enrolled in Medicare, are covered by the same health plans as active employees. Once retirees turn age 65, they are required to enroll in Medicare Parts A and B, and transition to Medicare Advantage health plans. The table below shows the percentage change in premium rates for the health plans from 2024 to 2025.

| <b>Active Employee Health Plans</b>  | <b>Percent Premium Increase/Decrease</b> |
|--|--|
| <i>Note: Early Retirees (under age 65) also participate on these Medical Plans</i> |  |
| Kaiser   | +4.3%                                    |
| Kaiser CDHP (high deductible plan)   | +4.3%                                    |
| ACWA/JPIA Anthem Blue Cross Classic  | +10.0%                                   |
| ACWA/JPIA Anthem Blue Cross CDHP   | +10.0%                                   |
| Sutter Health Plus HMO   | +14.2%                                   |
| Sutter Health Plus CDHP  | +14.2%                                   |

| <b>Retiree Health Plans</b>  | <b>Percent Premium Increase/Decrease</b> |
|--|--|
| <i>Note: Early Retirees (under age 65) are covered on Employee Medical Plans</i> |  |
| Kaiser Sr. Advantage High  | +10.5%*                                  |
| Kaiser Sr. Advantage Low   | +14.4%*                                  |
| United Health Care   | +24.25%*                                 |
| Delta Dental Retiree Delta Care DHMO   | 0%                                       |
| Delta Dental Retiree Delta Premier PPO   | -2.0%                                    |

\*rates shown are for Medicare Only families. Families with members both over and under age 65 pay mixed rates that use the pre-65 rate for those dependents not Medicare eligible.

District Medical

The main factors driving the rate changes this year are similar to those in 2023. This includes:

- Impact of COVID-19: During the pandemic, there was an increase in mental health conditions and alcohol-related disorders and patients under-utilized routine health care services such as primary care visits, preventive visits, and screenings due to COVID-19 anxiety. Deferral of care, which started to be realized in 2023, continues to contribute to rising patient awareness and increase in care volume, particularly in outpatient services.
- Inflation: Hospital price inflation continued in 2024 but is slowing.
- Pharmacy and High-Cost Claims: Inflationary impact of pharmaceutical pricing on existing drugs and new specialty drugs, combined with high-cost health care claims, continue to result in increases in healthcare premiums.
- Federal Government Impacts: All retiree Medicare advantage plans experienced high premium increases due to changes from the federal government. The Inflation Reduction Act (IRA), which allowed Medicare to directly negotiate with drug manufacturers to create lower out-of-pocket costs for patients, reduced insurer revenue. Changes in the Center for Medicare Services (CMS) reimbursement rates also reduced insurer revenue from the Medicare Advantage plans. CalPERS Medicare plan premiums are rising 22.25 percent overall for 2025.

Kaiser's trend for Northern California HMO premiums decreased slightly from 8.71 percent in 2024 to 8.64 percent for 2025. The experience period used for the renewal is February 2023 to January 2024. During this renewal period, the overall per member/per month claims cost also had a small decrease of 1.4 percent. There were five high-cost claims over the pooling point of \$375,000. The Kaiser Senior Advantage plans continue to be community-rated as Kaiser does not maintain group specific utilization for Medicare members. Currently, there are 1,455 employees enrolled in the Kaiser HMO plan for 2024.

The Sutter Health Plus (SHP) overall increase for both HMO and CDHP 2025 plans is 14.2 percent. In contrast to the Kaiser renewal, the SHP renewal is based on the enrolled membership and annual trend and not the group's utilization or claims experience. The same annual trend of 6.8 percent had been used for 2024, 2023 and 2022. Their trend for 2025 increased to 7.9 percent. The initial increase for SHP was 17 percent, and this was negotiated through review with SHP and District benefit brokers to the 14.2 percent. Currently, there are 85 employees enrolled in the SHP HMO plan for 2024.

The Anthem Blue Cross PPO will increase 10 percent and United Healthcare (UHC) Medicare Advantage plan also through ACWAJPIA will increase 24.25 percent for the 2025 plan year. The 24.25 percent UHC increase for 2025 comes after only a 1.9 percent increase last year and is

related to the same Inflation Reduction Act changes noted above. Where possible, ACWA/JPIA continues to use reserves to bring down the healthcare renewal costs. Currently, there are 261 employees enrolled in Anthem Blue Cross PPO plan for 2024.

The District continues to offer the high deductible (CDHP) health plans with a Health Savings Account (HSA) to management, confidential, and all other non-represented employees. Retirees who are enrolled in a CDHP at retirement can continue their coverage in these plans in retirement up to age 65. These plans have lower premium rates than the core plans. The District funds the HSA for those employees enrolled in a CDHP through Sutter and Anthem Blue Cross since the District saves money for employees who elect the CDHP. The funding is equal to the value of the plan deductible. A small plan design change was made to the Kaiser CDHP to allow for greater savings between the HMO and CDHP plans. For 2025, the HSA contributions will be made for all three CDHP plans. Currently, there are 18 employees and 5 early retirees enrolled in Anthem Blue Cross CDHP; 2 employees and 1 early retiree enrolled in SHP CDHP; and 1 early retiree enrolled in Kaiser CDHP for 2024. HSA account balances belong to the employee, and the account continues to belong to the employee once they transition to retirement and is used to cover healthcare expenses in retirement.

#### District Dental

In the self-funded retiree dental plan, the funding rate to the pool of money from where dental claims are paid will decrease by 2.16 percent for 2025. There continues to be no change in the administrative service fee for both active and retiree dental PPO plans extended through December 31, 2026. The second retiree dental plan, Delta Dental Delta Care DHMO, is maintained as a fully-insured plan and the plan again received a rate pass through December 31, 2026.

Premium rates for all benefit plans for active employees and retirees are outlined in the attached rate charts.

CRC:LS

Attachments: 1. EBMUD Employee and Retiree Under Age 65 Health Plan Premium Rates  
2. EBMUD Retiree 65+ Health Plan and Dental Premium Rates

**ATTACHMENT 1**

**EBMUD EMPLOYEE and RETIREE UNDER AGE 65 HEALTH PLAN PREMIUM RATES  
January 1, 2025**

| <b>KAISER</b>      | <b>2024 Rates</b> | <b>2025 Rates</b> | <b>% Change</b> |
|--------------------|-------------------|-------------------|-----------------|
| <b>KAISER HMO</b>  |                   |                   |                 |
| Single             | \$931.22          | \$971.29          | 4.30%           |
| Double             | \$1,862.44        | \$1,942.58        | 4.30%           |
| Family             | \$2,635.35        | \$2,748.76        | 4.30%           |
| <b>KAISER CDHP</b> |                   |                   |                 |
| Single             | \$824.49          | \$791.97          | -3.94%          |
| Double             | \$1,648.99        | \$1,583.95        | -3.94%          |
| Family             | \$2,333.32        | \$2,241.28        | -3.94%          |

| <b>SUTTER HEALTH PLUS</b>      | <b>2024 Rates</b> | <b>2025 Rates</b> | <b>% Change</b> |
|--------------------------------|-------------------|-------------------|-----------------|
| <b>SUTTER HEALTH PLUS HMO</b>  |                   |                   |                 |
| Single                         | \$977.00          | \$1,115.80        | 14.21%          |
| Double                         | \$1,954.00        | \$2,231.60        | 14.21%          |
| Family                         | \$2,764.90        | \$3,157.70        | 14.21%          |
| <b>SUTTER HEALTH PLUS CDHP</b> |                   |                   |                 |
| Single                         | \$770.80          | \$880.30          | 14.21%          |
| Double                         | \$1,541.60        | \$1,760.60        | 14.21%          |
| Family                         | \$2,181.40        | \$2,491.30        | 14.21%          |

| <b>ANTHEM BLUE CROSS</b>      | <b>2024 Rates</b> | <b>2025 Rates</b> | <b>% Change</b> |
|-------------------------------|-------------------|-------------------|-----------------|
| <b>ANTHEM BLUE CROSS PPO</b>  |                   |                   |                 |
| Single                        | \$981.81          | \$1,079.99        | 10.00%          |
| Double                        | \$1,963.62        | \$2,159.98        | 10.00%          |
| Family                        | \$2,601.80        | \$2,861.97        | 10.00%          |
| <b>ANTHEM BLUE CROSS CDHP</b> |                   |                   |                 |
| Single                        | \$785.46          | \$864.01          | 10.00%          |
| Double                        | \$1,570.92        | \$1,728.02        | 10.00%          |
| Family                        | \$2,081.47        | \$2,289.63        | 10.00%          |

| <b>DELTA DENTAL</b> | <b>2024 Rates</b> | <b>2025 Rates</b> | <b>% Change</b> |
|---------------------|-------------------|-------------------|-----------------|
| <b>DELTA DENTAL</b> |                   |                   |                 |
| Single              | \$73.38           | \$73.77           | 0.53%           |
| Double              | \$146.74          | \$147.51          | 0.52%           |
| Family              | \$205.46          | \$206.54          | 0.53%           |

| <b>VISION SERVICE PLAN</b>           | <b>2024 Rates</b> | <b>2025 Rates</b> | <b>% Change</b> |
|--------------------------------------|-------------------|-------------------|-----------------|
| <b>VISION SERVICE PLAN - ACTIVES</b> |                   |                   |                 |
| Composite                            | \$16.65           | \$16.65           | 0.00%           |
| <b>VISION SERVICE PLAN - COBRA</b>   |                   |                   |                 |
| Single                               | \$7.53            | \$7.53            | 0.00%           |
| Double                               | \$15.05           | \$15.05           | 0.00%           |
| Family                               | \$21.07           | \$21.07           | 0.00%           |

**ATTACHMENT 2**

**EBMUD RETIREE 65+ HEALTH PLAN & DENTAL PREMIUM RATES  
January 1, 2025**

| <b>KAISER</b>                             | <b>2024 Rates</b> | <b>2025 Rates</b> | <b>% Change</b> |
|---|-------------------|-------------------|-----------------|
| <b>Sr Adv - HIGH OPTION PLAN</b>          |                   |                   |                 |
| Single                                    | \$304.56          | \$339.24          | 11.39%          |
| Double (1Sr. Adv + 1 < 65)                | \$1,235.78        | \$1,310.53        | 6.05%           |
| Couple (both with Senior Advantage)       | \$609.12          | \$678.48          | 11.39%          |
| Family (1 Sr. Adv + 1 <65 + dep(s) <65)   | \$2,008.69        | \$2,116.70        | 5.38%           |
| Couple (both Sr Adv) + dep(s) < 65        | \$1,382.03        | \$1,484.65        | 7.43%           |
| <b>Sr Adv - LOW OPTION PLAN</b>           |                   |                   |                 |
| Single                                    | \$245.71          | \$282.42          | 14.94%          |
| Double (Sub. Sr. Adv + 1 < 65)            | \$1,176.93        | \$1,253.71        | 6.52%           |
| Couple (both with Senior Advantage)       | \$491.42          | \$564.84          | 14.94%          |
| Family (Sub Sr. Adv + 1 <65 + dep(s) <65) | \$1,949.84        | \$2,059.89        | 5.64%           |
| Couple (both Sr Adv) + dep(s) < 65        | \$1,264.33        | \$1,371.02        | 8.44%           |

| <b>UNITED HEALTH CARE</b>                        | <b>2024 Rates</b> | <b>2025 Rates</b> | <b>% Change</b> |
|--|-------------------|-------------------|-----------------|
| <b>UNITED HEALTHCARE MEDICARE ADVANTAGE PLAN</b> |                   |                   |                 |
| Single (with Medicare)                           | \$412.45          | \$512.45          | 24.25%          |
| Double (both with Medicare)                      | \$824.90          | \$1,024.90        | 24.25%          |
| Family (All Medicare Eligible)                   | \$1,237.35        | \$1,537.35        | 24.25%          |

| <b>UNITED HEALTH CARE Mixed Medicare*</b>           | <b>2024 Rates</b> | <b>2025 Rates</b> | <b>% Change</b> |
|---|-------------------|-------------------|-----------------|
| <b>UNITED HEALTHCARE/Anthem Mixed Medicare Plan</b> |                   |                   |                 |
| Single (Retiree >65 with Medicare)                  | \$412.45          | \$512.45          | 24.25%          |
| Double (1>65 with Medicare + Child)                 | \$1,050.63        | \$1,214.44        | 15.59%          |
| Double (1>65 with Medicare + Spouse <65)            | \$1,394.26        | \$1,592.44        | 14.21%          |
| Double (Couple>65 with Medicare)                    | \$824.90          | \$1,024.90        | 24.25%          |
| Family (1>65 with Medicare + 1 <65 + dep(s))        | \$2,032.44        | \$2,294.43        | 12.89%          |
| Family (Couple >65 with Medicare + dep(s))          | \$1,463.08        | \$1,726.89        | 18.03%          |

| <b>DELTA DENTAL</b>  | <b>2024 Rates</b> | <b>2025 Rates</b> | <b>% Change</b> |
|----------------------|-------------------|-------------------|-----------------|
| <b>DELTA PREMIER</b> |                   |                   |                 |
| Retiree              | \$37.41           | \$36.66           | -2.00%          |
| Retiree + 1          | \$67.32           | \$65.98           | -1.99%          |
| Retiree + 2 or more  | \$95.40           | \$93.50           | -1.99%          |
| <b>DELTA CARE</b>    |                   |                   |                 |
| Retiree              | \$30.71           | \$30.71           | 0.00%           |
| Retiree + 1          | \$51.50           | \$51.50           | 0.00%           |
| Retiree + 2 or more  | \$75.86           | \$75.86           | 0.00%           |

\*NOTE: Retirees/spouses age 65+ required to have Medicare Part A and Part B

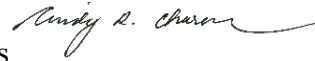
## EAST BAY MUNICIPAL UTILITY DISTRICT

---

DATE: November 21, 2024

MEMO TO: Members of the Retirement Board

THROUGH: Cindy Charan, Director of Human Resources



FROM: Konana Gregory, Human Resources Analyst II



SUBJECT: Disability Earnings Income Verification for 2024

### BACKGROUND

Section 18(c) of the Retirement Ordinance and related Board Rule C-21 provide that Members who retire on disability and have not attained Normal Retirement Age, currently age sixty-five, are required to report their “outside earnings” to the Retirement System that are in excess of their “earnings safeguard.” Their “earnings safeguard” is defined as their final monthly salary inflated by wage increases minus their retirement allowance.

### SUMMARY

Rule C-21 provides that Disability Retired Members whose earnings exceed their earnings safeguard in any quarter must notify the Retirement Board Secretary before the end of that quarter so any necessary adjustment to the retirement allowance can be made. The Rule provides for staff to verify outside earnings through the State Employment Development Department (EDD) Reports for Disability Retired Members based in California. Ordinance Section 18 - SAFEGUARDS ON DISABILITY RETIREMENT includes language regarding verification of earnings for Disability Retired members who do not reside in California.

Each calendar year a cover letter is sent to disability retirees who are under age 65, notifying them of their quarterly “earnings safeguard.” The letter also requests verification of earnings. To confirm the compliance of in-state Disability Retired Members’, staff verifies earnings through EDD earnings reports. Twenty disability retirees were reviewed, and it was concluded that no in-state Members’ earnings exceeded the allowed earnings safeguards.

Disability Income Earnings Verification for 2024

Retirement Board Meeting

November 21, 2024

Page 2 of 2

In previous years, documentation was requested from Disability Retired members but was not required. Retirement Services has started enforcing the Ordinance language related to Disability Retired Members who do not reside in California. Ordinance Section 18 - SAFEGUARDS ON DISABILITY RETIREMENT states: *“Disability Retired members who do not reside in California will be required to submit satisfactory documentation upon request by the Secretary including, but not limited to, copies of annual filed State and Federal Income Tax Returns along with the W-2 or 1099 forms, and/or of annual Social Security Earnings Statements mailed to them by the Social Security Administration. Should any Disability Retired Member fail to submit the required documents upon request by the Secretary as required by this Rule, his or her retirement allowance shall be discontinued by the Secretary until the Member submits the requested documents, and should such failure continue for one year, his or her entire retirement allowance may be cancelled by the Retirement Board in accordance with Section 18(e) of the Retirement Ordinance.”*

The notice that was sent to the 6 impacted retirees notified them that we were now requiring tax documents annually in compliance with Ordinance language. We provided a November 1, 2024 deadline for EBMUD to receive the required documents and reminded members that their retirement benefit would be suspended if documentation was not received. We also sent a reminder letter by certified mail extending that deadline to the end of the year. In compliance with the terms of the EBMUD ordinance, Retirement Services staff will suspend the retirement benefits for those who do not respond by this deadline. Those who provide the required documentation after suspension will have their benefit reinstated. Those who fail to respond for one year will have their benefit cancelled.


CC:LS:vw

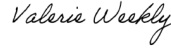
## EAST BAY MUNICIPAL UTILITY DISTRICT

---

DATE: November 21, 2024

MEMO TO: Members of the Retirement Board

THROUGH: Cindy Charan, Director of Human Resources 

FROM: Valerie Weekly, Principal Management Analyst, Retirement 

SUBJECT: PensionGold (LRS) Implementation Project Update

### **SUMMARY**

This memo provides ongoing status updates for the PensionGold (LRS) implementation project.

### **DISCUSSION**

#### **PROJECT SPONSOR UPDATE**

HR Management is making strides in the following areas to build capacity and ensure that the project has the staffing support it needs:

- Emma Sebastian joined the HR department as Information Services Administrator II as of October 21, 2024. Emma will be the Product Owner for the HRIS project. Valerie Weekly will continue to act as Product Owner for the Pension Project as Emma settles into her new role and important decisions are made about the course of the HRIS project.
- HR, Finance and ISD are collaborating on the development of possible paths for the HRIS project.
- The Steering Committee approved filling two vacant resources for the HRIS project.
- Engagement with an external consultant specializing in large technology transitions and implementations.
- A technology vendor who keeps our Peoplesoft payroll system up to date for all tax and other payroll related compliance items updated has announced they are closing creating new urgency to move quickly forward on the HRIS project.

#### **PRODUCT OWNER UPDATE**

The Project, Payroll and Retirement Service teams have started testing Software Deliverable Three: Payroll and Retirement Benefits COLA.

#### **KEY TASKS**

- Retest vendor solutions for issues identified in Software Deliverable Two.

- Creation of data files from scanned images. This effort is essential to fill gaps in the data housed in PeopleSoft.
- Progress has been made on items surrounding the 401(h)/HIB configuration and customization and benefit changes for new Board of Directors, which were recently adopted.
- Future-state business process design regarding reinstatement, service purchase, plan-to-plan transfers and employer-reporting.

**ACTIVE RISKS AND BUILDING STAFFING CAPACITY**

- The need for the HRIS Analyst II and IS Administrator positions continue to be acute. The recruitment for the HRIS Analyst II should begin in December.

CC:vw