EAST BAY MUNICIPAL UTILITY DISTRICT

DATE: January 23, 2025

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 – 1/23/2025

A regular meeting of the Retirement Board will convene at 9:00 a.m. on Thursday, January 23, 2025. 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 January 23, 2025 meeting, and the Minutes for the November 21, 2024 regular meeting. The package also includes the following: **(1) CONSENT items**: Approval of Minutes of the Retirement Board – Regular Meeting of November 21, 2024, Ratifying and Approving Investment Transactions by Retirement Fund Managers for October 2024 and November 2024, Ratifying and Approving the Short-Term Investment Transactions for October 2024 and November 2024, Approving Treasurer's Statement of Receipts and Disbursements for October 2024 and November 2024; (2) **ACTION items**: Adopt Valuation Report; **INFORMATION items:** Announce 2025 Retirement Board Election Timeline, Performance Report and Economic Review, Update on Proxy Voting, Update on Portfolio Transition Plan, December 2024 LRS Pension Gold Implementation Update; **(4) REPORTS FROM THE RETIREMENT BOARD:**

CC:ls

Enclosure

AGENDA

EBMUD EMPLOYEES' RETIREMENT SYSTEM
January 23, 2025

A regular meeting of the Retirement Board will convene at 9:00 a.m. on Thursday, January 23, 2025. 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, and Emily Klare

****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 November 21, 2024

2. Ratifying and Approving Investment Transactions by Retirement Fund Managers for October 2024 and November 2024

3. Ratifying and Approving Short-Term Investment Transactions for October 2024 and November 2024

4. Approving Treasurer's Statement of Receipts and Disbursements for October 2024 and November 2024

ACTION:

5. Adopt Valuation Report – S. Skoda

INFORMATION:

6. Announce 2025 Retirement Board Election Timeline - C. Charan

7. Performance Report and Economic Review – S. Skoda

8. Update on Proxy Voting – S. Skoda

9. Update on Portfolio Transition Plan – S. Skoda

10. December 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 March 20, 2025.

Retirement Board Meetings

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

APPENDIX

Retirement Board Meeting
Thursday, January 23, 2025
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

You are invited to a Zoom webinar.
When: Jan 23, 2025 09:00 AM Pacific Time (US and Canada)
Topic: January 23, 2025 - EBMUD Retirement Board Meeting

Please click the link below to join the webinar:
https://ebmud.zoom.us/j/88475110311
Or One tap mobile :
+16699006833,,88475110311# US (San Jose)
+16694449171,,88475110311# US
Or Telephone:
Dial(for higher quality, dial a number based on your current location):
+1 669 900 6833 US (San Jose)
Webinar ID: 884 7511 0311
International numbers available: https://ebmud.zoom.us/u/kvSNj9YR

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
November 21, 2024

A regular meeting of the Retirement Board convened at 9:05 a.m. on Thursday, November 21, 2024. This meeting was conducted with Retirement Board Members physically present in the Administration **Training Resource Center**, 375 Eleventh Street, Oakland, California. This location served as the physical location for members of the public who wished to attend the meeting in person.

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:

Present: Jae Park, Clifford Chan, April Chan, Max Fefer and Elizabeth Grassetti. Marguarite Young joined at 9:10 a.m.

Lisa Sorani noted that staff who is running the meeting is doing so remotely and pointed out that it is very important for us to use our microphones and make sure that we are clear when requesting navigation for the Retirement Board packet.

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.

Diane Eggering, Accounting Tech for EBMUD and representative for Local 2019. Diane thanks staff for arranging for the tables for the audience. She looks forward to hearing about the Health benefit rates, which is, item number 14.

There were no other public comments.

REGULAR BUSINESS MEETING

CONSENT CALENDAR:

Clifford Chan moved to approve items 1-4 of the Consent Calendar and April Chan seconded the motion. Max Fefer asking if Max's recommended changes were made and staff confirmed. The motion passed 4-1 by the following vote AYES (A. Chan, C. Chan, M. Fefer, and J. Park), NOES (none), ABSTAIN (M. Young), ABSENT (none)

ACTION:

1. Declare Interest Rate Credited to Members – C. Charan

Valerie Weekly presented, outlining the methodology for determining the annual interest credited to member accounts. The resolution declares the interest rate of 6.75%, and the rated credited to members' accounts will be prorated semi-annually to 3.375%. Max Fefer moved the item; April Chan seconded that motion. The motion passed 5-0 by the following vote AYES (A. Chan, M. Young, C. Chan, M. Fefer, and J. Park), NOES (none), ABSTAIN (none), ABSENT (none)

2. Adopt Actuarial Experience Study Review – S. Skoda

Sophia Skoda introduced the item and Andy Yeung, Dirk Adamson and Emily Klare of Segal presented. Andy Yeung reminded the Board that experience studies were conducted every 4(four) years, while the economic assumptions are reviewed every 2(two) years, but Segal recommended conducting full studies every 4(four) years. The intent of the study is to illustrate how the assumptions are holding up. Segal will also provide the summary of any recommendations.

If the assumptions were to be approved by the board today, they wouldn't be adopted until we implement the June 30, 2024 valuation for Fiscal Year 2026.

Segal's role is to make recommendations to the assumptions, based on actuarial standards of practice. The detailed report refers to them generally as the actuarial standards of practice, two of which are applicable, setting of the economic assumptions and setting of demographic assumptions. Economic assumptions are the assumptions used to anticipate how the assets will grow from one year to the next, such as investment return, inflation and cost of living adjustments. This experience study reviewed the investment return assumptions under a different model called the Geometric Average. The new model did not indicate any needed changes. Demographic assumptions include mortality and retirement rates. Going forward Segal will use a different set of demographic and salary increase assumptions for the 2013 Tier employees than the 1955/1980 employees.

Segal is recommending an update to the mortality tables to use the most up to date available. Segal also changed the projections to increase life expectancy for beneficiaries where the member is living longer when compared to those of members who have passed. Segal has also lowered the disability projections based on actual experience. The termination rate increased, and members are retiring from District at a slower pace. Future retirement rates will be lower for both tiers. Clifford Chan asked if members are retiring later in life? Andy responded they are retiring later. Members have an increased amount of sick leave at time of retirement. Segal reviewed the percentage of males married. No recommended changes for males, but there are recommending changes for females. There are a greater proportion of employees hitting the pensionable salary cap now 1 of every 5 members. Taking this into account will stabilize contributions.

Max Fefer asked if the two big factors that employees are retiring later and living longer? Andy responded that it is primarily the change in the mortality tables for the beneficiaries the change in the amount of members that have a spouse at time of retirement but for 2013 Tier employees the change is mostly due to change in the methodology. The methodology develops the normal cost using the compensation cap in the development of normal cost instead of at the end of the

process. If the new assumptions had been applied to the 2023 valuations, we would have recommended an increase to the 2013 Tier employee contribution rate as the normal cost would have risen more than 1% from the last time the rate was set. More members are leaving and then coming back to retirement and are getting the HIB benefit. The HIB information assumes the current level of benefits. The experience study shows no need to change the inflation assumption but recommends updating assumptions to reflect changes in salary increases and the rate of retirement.

Max Fefer moved adoption of the actuarial experience study, which was seconded by Clifford Chan. The motion passed 5-0 by the following vote AYES (A. Chan, M. Young, C. Chan, M. Fefer, and J. Park), NOES (none), ABSTAIN (none), ABSENT (none)

Meeting break 10:22-10:36am.

INFORMATION:

3. Performance Report and Economic Review – S. Skoda

Colin Bebe from Meketa presented. Very strong 2024 builds off of very strong 2023. YTD S&P 500 is up 22% with ACWI up 19%. Fixed Income is up 4.4%. The Equity markets are seeing more breadth. There was a decline in US dollar has been increasing, which has been a headwind for foreign markets. Fixed income had a 4% return, yet potentially higher inflation and tariffs. %. Q4 returns have not been great, but due to a strong Q3, the overall year will be strong. The US yield curve long term yields stayed pretty much the same, but short-term yields have dropped due to drops in Fed 30-year bond by about 4.6 Slide 148 total portfolio return is strong across the board for the quarter. Ranked in top 12% and EBMUDERS has no dedicated investment staff, nor the resources of larger boards. Slide 171 on the left side is risk return versus peers over 3 years, and over 5 years on the right. In a comparison of peers, we fall in the top quartile over all periods.

4. Present Audited Financial Statements – S. Skoda

David Glasser presented. It is a report on the District's financial condition. It does not say if bad or good, it is just an accurate statement for board and public to review. The auditor gave the report a clean opinion. The auditors rely heavily on information provided by Segal.

5. Update on Portfolio Transition Plan – S. Skoda

Sophia Skoda – introduced Colin Beebe. The transition away from Van Hulzen and Reits is on track. Will be conducting a manager search for high yield and bank loans. We are currently on schedule but hope to report ahead of schedule during next update.

6. Update on High-Yield and Bank Search – S. Skoda

This item was presented by Colin Beebe. They will need feedback on the interview process from the Board. They sent out/publicly released an RFP on November 13 with a due date of December 9, which has received 16 responses so far. Intent is to bring 2-3 finalists per mandate. Asked if the Board would like to review the current managers if they believe that they are not as competitive than the Board would like. Max Fefer asked whether the ESG questions were standard Meketa questions or developed specifically the System? Colin responded that it was a little of both, staff was involved in the development process.

7. Review of Stage 1 of Portfolio Transition – S. Skoda

This was presented by Colin Beebe. This is a unique process but is cost effective for EBMUD. Van Hulzen's transition process involved selling equities, buying back calls, and purchasing the Russell 3000 index fund. Northern Trust liquidated the Center Square account, resulting in low transaction costs.

8. Annual Proxy Voting Update – S. Skoda

Sophia introduced the item and Sarah Bernstein presented. Matt from Glass Lewis presented. The was a 5% increase in shareholder proposals. They saw an overall increase in support. We are considering increasing what other proxy voting is available to you by using Northern Trust. They have a service for proxy voting that was not available a year ago. About 10% was voted by Glass Lewis while 90% was voted by Northern Trust. There is an overlap between the two. The results of Glass Lewis voting reflect a 2% drop in management because there has been strengthened requirements around gender diversity, sustainability and social responsibility. There was lower support in ESG 64% compared to prior of 67. 95% of proposal votes by Glass Lewis were also voted by NTAM.

Northern Trust discussed Proxy Voting Trust Choice, which is non pass thru voting. It allows for the election into a different set of guidelines. It is a voluntary choice. If you do not like guidelines, you can opt in or out. Why consider this change? Views on issues such as auditor tenure, or specific topics that are environmentally or socially themed can be quite different. They decided to offer four choices, NT customer, ISS Socially Responsible, ISS Taft Hartly, ISS board aligned. More information was requested for this topic. This would come back to board in January.

9. CEM Benchmarking Update – S. Skoda

Steven Goodman-Leibof presented. EBMUDERS is considered a small, and low cost compared to pension systems across the country. Marguarite Young commented that low-cost was not always a good place to be. Our largest out-performer was the covered call portfolio. Our portfolio looks a risker because we are investing for the long-term. Fees have decreased because staff has done a good job of negotiating fees.

10. Announce 2025 Retiree Health Benefit Rates – C. Charan

This item was presented by Lisa Sorani. A similar report was provided to the Board of Directors regarding all health plans.

11. Status of Disability Earnings Income Verification for 2024 - C. Charan

This item was presented by Valerie Weekly. The Retirement team used the same process for evaluating earnings of retirees with a disability retirement who reside in California. The Retirement Ordinance states staff should require the provision of Federal and State tax filings to document earnings for retirees living outside of California. Since this is the first year implementing this Ordinance language, staff will provide several reminders and calls to unresponsive retirees before suspending their benefit.

12. October 2024 LRS Pension Gold Implementation Update - C. Charan

Lisa Sorani introduced Emma Sebastian, new Product Owner for the HRIS Replacement Project. Lisa Sorani presented the Project Sponsor report on the Pension Project and a new Payroll

replacement project. Marguarite Young recommended an update for the Leg/HR Committee. Valerie Weekly presented an update on the Pension Project. The team is approaching the end of testing for Deliverable 3, Payroll and COLA. Issues identified in Deliverable 2 went back to LRS correction and will be retested. We are making process on getting paper documents into a format to load to Pension Gold. Have started working on several new business practices. Staffing continues to be a risk.

REPORTS FROM THE RETIREMENT BOARD:
NONE

ITEMS TO BE CALENDARED:
NONE

MEETING ADJOURNMENT: Mtg adjourned at 12:04pm

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

_____
President

ATTEST:

_____
Secretary

1/23/2025

EAST BAY MUNICIPAL UTILITY DISTRICT

DATE: January 23, 2025

MEMO TO: Members of the Retirement Board

FROM: Sophia D. Skoda, Director of Finance

SUBJECT: Investment Transactions by Retirement Fund Managers for October 2024 and November 2024

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

SDS:RLH:SGL

Attachment: Investment Transactions by Retirement Fund Managers

R.B. RESOLUTION NO. _____

RATIFYING AND APPROVING INVESTMENT TRANSACTIONS BY FUND MANAGERS FOR OCTOBER 2024 AND NOVEMBER 2024

Introduced by: ; Seconded by:

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 October 2024 and November 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

1/23/2025

INVESTMENT TRANSACTIONS BY RETIREMENT FUND MANAGERS

October 2024

	PURCHASES	SALES	PORTFOLIO VALUE
FIXED INCOME			
C.S. McKee	$20,174,009	$20,232,993	$222,095,410
Federated Bank Loans	$450,000	$0	$58,979,911
Garcia Hamilton Associates	$9,935,551	$8,720,602	$215,650,527
Mackay Shields - HY	$3,106,283	$83,063	$63,267,906
TOTAL	**$33,665,842**	**$29,036,658**	**$559,993,754**
DOMESTIC EQUITY			
Russell 3000 Index Fund	$0	$10,156,000	$984,829,624
Total Domestic Equity	**$0**	**$10,156,000**	**$984,829,624**
COVERED CALLS			
Parametric (BXM)	$5,840,401	$5,523,057	$177,443,968
Parametric (Delta-Shift)	$148,747	$89,194	$187,888,517
Van Hulzen	$0	$0	$181,787
Total Covered Calls	**$5,989,148**	**$5,612,251**	**$365,514,272**
INTERNATIONAL EQUITY			
ACWI Index fund	$0	$0	$624,244,621
Global Transition	$0	$0	$799,211
Total International Equity	**$0**	**$0**	**$625,043,831**
REAL ESTATE EQUITY			
RREEF America II	$0	$0	$53,590,003
CenterSquare	$0	$0	$234,532
Total Real Estate	**$0**	**$0**	**$53,824,535**
TOTAL ALL FUND MANAGERS	**$39,654,991**	**$44,804,910**	**$2,589,206,017**

November 2024

	PURCHASES	SALES	PORTFOLIO VALUE
FIXED INCOME			
C.S. McKee	$47,015,450	$43,654,100	$224,777,551
Federated Bank Loans	$748,691	$0	$59,641,933
Garcia Hamilton Associates	$1,226,910	$0	$218,611,365
Mackay Shields - HY	$931,904	$400,215	$63,849,022
TOTAL	**$49,922,955**	**$44,054,315**	**$566,879,871**
DOMESTIC EQUITY			
Russell 3000 Index Fund	$0	$0	$1,050,264,931
Total Domestic Equity	**$0**	**$0**	**$1,050,264,931**
COVERED CALLS			
Parametric (BXM)	$5,727,699	$5,675,797	$184,519,462
Parametric (Delta-Shift)	$828,957	$398,742	$196,110,981
Van Hulzen	$0	$0	$182,493
Total Covered Calls	**$6,556,656**	**$6,074,540**	**$380,812,936**
INTERNATIONAL EQUITY			
ACWI Index fund	$0	$0	$621,355,114
Global Transition	$0	$0	$779,770
Total International Equity	**$0**	**$0**	**$622,134,885**
REAL ESTATE EQUITY			
RREEF America II	$0	$0	$52,793,186
CenterSquare	$0	$0	$235,443
Total Real Estate	**$0**	**$0**	**$53,028,629**
TOTAL ALL FUND MANAGERS	**$56,479,611**	**$50,128,854**	**$2,673,121,251**

Prepared By: Sherry Sarcos
Sherry Sarcos, Accounting Technician

Date: 12/20/2024

EAST BAY MUNICIPAL UTILITY DISTRICT

DATE: January 23, 2025

MEMO TO: Members of the Retirement Board

FROM: Sophia D. Skoda, Director of Finance

SUBJECT: Short Term Investment Transactions for October 2024 and November 2024

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

SDS:RLH:SGL

Attachments: Short Term Investment Transactions October 2024
Short Term Investment Transactions November 2024

R.B. RESOLUTION NO. _____

RATIFYING AND APPROVING SHORT TERM INVESTMENT TRANSACTIONS BY THE TREASURER FOR OCTOBER 2024 AND NOVEMBER 2024

Introduced by: ; Seconded by:

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 October 2024 and November 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 October 2024 and November 2024 are hereby ratified and approved.

_____
President

ATTEST:

_____
Secretary

1/23/2025

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

	COST/ FACE VALUE	DESCRIPTION	DATE OF PURCHASE	DATE OF SALE/MATURITY	YIELD (%)
$	5,591,000.00	Local Agency Investment Fund	11-Oct-24		4.518
$	119,572.40	Local Agency Investment Fund	15-Oct-24		4.518
$	5,570,000.00	Local Agency Investment Fund	25-Oct-24		4.518
$	10,156,000.00	Local Agency Investment Fund	25-Oct-24		4.518
$	(14,437,000.00)	Local Agency Investment Fund		31-Oct-24	4.518
$	**6,999,572.40**	Net Activity for Month			

$	2,139,380.09	Beginning Balance
	6,999,572.40	Net Activity for Month
$	**9,138,952.49**	Ending Balance

SUBMITTED BY David Glasser DATE 12/20/2024

David Glasser
Controller

Robert L. Hannay
Treasury Mgr.

Leanne Maloney
Acting Acct. Sys. Supv.

prepared by Ssarcos

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

	COST/ FACE VALUE	DESCRIPTION	DATE OF PURCHASE	DATE OF SALE/MATURITY	YIELD (%)
$	502,000.00	Local Agency Investment Fund	5-Nov-24		4.477
$	5,546,000.00	Local Agency Investment Fund	7-Nov-24		4.477
$	5,523,000.00	Local Agency Investment Fund	21-Nov-24		4.477
$	(14,459,000.00)	Local Agency Investment Fund		27-Nov-24	4.477
$	**(2,888,000.00)**	Net Activity for Month			

$	9,138,952.49	Beginning Balance
	(2,888,000.00)	Net Activity for Month
$	**6,250,952.49**	Ending Balance

SUBMITTED BY David Glasser DATE 12/20/2024

David Glasser
Controller

Robert L. Hannay
Treasury Mgr.

Leanne Maloney
Acting Acct. Sys. Supv.

prepared by Ssarcos

EAST BAY MUNICIPAL UTILITY DISTRICT

DATE: January 23, 2025

MEMO TO: Members of the Retirement Board

FROM: Sophia D. Skoda, Director of Finance

SUBJECT: Treasurer's Statement of Receipts and Disbursements for October 2024 and November 2024

SUMMARY

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

SDS:RLH:SGL

Attachments: Statement of Receipts and Disbursements October 2024
Statement of Receipts and Disbursements November 2024

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

CASH BALANCE at September 30, 2024			$ 6,299,693.17
Receipts			
Employees' Contributions	$	1,866,888.96	
District Contributions		9,408,886.98	
LAIF Redemptions		14,437,000.00	
Northern Trust Redemptions		10,156,000.00	
Refunds and Commission Recapture		65,523.00	
TOTAL Receipts			35,934,298.94
Disbursements			
Checks/Wires Issued:			
Service Retirement Allowances	$	12,682,735.13	
Disability Retirement Allowances		164,868.41	
Health Insurance Benefit		1,125,626.51	
Payments to Retiree's Resigned/Deceased		111,775.04	
LAIF Deposits		21,317,000.00	
Administrative Cost		316,376.29	
TOTAL Disbursements			(35,718,381.38)
CASH BALANCE at October 31, 2024			$ 6,515,610.73
LAIF			9,138,952.49
LAIF and CASH BALANCE at October 31, 2024			$ 15,654,563.22
Domestic Equity			
Russell 3000 Index Fund	$	984,829,623.79	
Subtotal Domestic Equity		984,829,623.79	
Covered Calls			
Parametric (BXM)	$	177,443,968.18	
Parametric (Delta-Shift)		187,888,517.14	
Van Hulzen		181,787.15	
Subtotal Covered Calls		365,514,272.47	
International Equity			
ACWI Index fund	$	624,244,620.68	
Global Transition		799,210.78	
Subtotal International Equity		625,043,831.46	
Real Estate			
RREEF America REIT II	$	53,590,002.91	
Center Square		234,532.11	
Subtotal Real Estate		53,824,535.02	
Fixed Income			
CS Mckee	$	222,095,409.50	
Federated Bank Loans		58,979,911.46	
Garcia Hamilton Associates		215,650,527.45	
Mackay Shields-High Yield		63,267,906.05	
Subtotal Fixed Income		559,993,754.46	
Total for Domestic and International Equities			2,589,206,017.20
MARKET VALUE of ASSETS at October 31, 2024			$ 2,604,860,580.42

Respectfully submitted,

David Glasser

David Glasser
Controller

Robert L. Hannay
Treasury Mgr.

Leanne Maloney

Leanne Maloney
Acting Acct. Sys. Supv.

prepared by Ssarcos

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

CASH BALANCE at October 31, 2024			$ 6,515,610.73
Receipts			
Employees' Contributions	$	1,765,833.38	
District Contributions		9,430,429.54	
LAIF Redemptions		14,459,000.00	
Northern Trust Redemptions		502,000.00	
Refunds and Commission Recapture		61,265.68	
TOTAL Receipts			26,218,528.60
Disbursements			
Checks/Wires Issued:			
Service Retirement Allowances	$	12,699,466.28	
Disability Retirement Allowances		164,868.41	
Health Insurance Benefit		1,004,393.51	
Payments to Retiree's Resigned/Deceased		37,031.89	
LAIF Deposits		11,571,000.00	
Administrative Cost		401,507.21	
TOTAL Disbursements			(25,878,267.30)
CASH BALANCE at November 30, 2024			$ 6,855,872.03
LAIF			6,250,952.49
LAIF and CASH BALANCE at November 30, 2024			$ 13,106,824.52
Domestic Equity			
Russell 3000 Index Fund	$	1,050,264,930.84	
Subtotal Domestic Equity		1,050,264,930.84	
Covered Calls			
Parametric (BXM)	$	184,519,462.36	
Parametric (Delta-Shift)		196,110,980.50	
Van Hulzen		182,493.19	
Subtotal Covered Calls		380,812,936.05	
International Equity			
ACWI Index fund	$	621,355,114.39	
Global Transition		779,770.16	
Subtotal International Equity		622,134,884.55	
Real Estate			
RREEF America REIT II	$	52,793,185.73	
Center Square		235,443.21	
Subtotal Real Estate		53,028,628.94	
Fixed Income			
CS Mckee	$	224,777,550.56	
Federated Bank Loans		59,641,933.44	
Garcia Hamilton Associates		218,611,364.73	
Mackay Shields-High Yield		63,849,022.01	
Subtotal Fixed Income		566,879,870.74	
Total for Domestic and International Equities			2,673,121,251.12
MARKET VALUE of ASSETS at November 30, 2024			$ 2,686,228,075.64

Respectfully submitted,

David Glasser

David Glasser
Controller

Robert L. Hannay
Treasury Mgr.

Leanne Maloney

Leanne Maloney
Acting Acct. Sys. Supv.

prepared by Ssarcos

EAST BAY MUNICIPAL UTILITY DISTRICT

DATE: January 23, 2025

MEMO TO: Members of the Retirement Board

FROM: Sophia D. Skoda, Director of Finance

SUBJECT: Adopt the Actuarial Valuations of the Retirement System as of June 30, 2024, and Adopt the Fiscal Year 2026 Employer Contribution Rates for the Pension and the Health Insurance Benefit Plans

RECOMMENDATION

Adopt the Actuarial Valuations of the Retirement System as of June 30, 2024 prepared by the Retirement System's actuary. In addition, recommend to the District Board to set Retirement System Contribution Rates for Fiscal Year 2026 (FY 2026) equal to the actuarially determined rates presented in the Actuarial Valuations.

DISCUSSION

Each year the Retirement System's actuary, Segal, prepares Actuarial Valuations for the pension and Health Insurance Benefit (HIB) plans and presents them to the Retirement Board. The Retirement System relies upon these reports to set the contribution rates for the following fiscal year. The Pension Valuation, HIB Valuation, supplemental exhibits, and two related accounting reports are attached to this memo.

Changes from the Previous Year

The valuation value of the combined pension and HIB assets increased from $2.3 billion on June 30, 2023 to $2.5 billion on June 30, 2024, representing growth of 6.3%. While the Plan's market value rose 11.6%, the smoothing of investment returns (above or below those expected) over a five year period caused the valuation value of assets (VVA) to increase to a lesser degree than the market value. The combined pension and HIB Unfunded Actuarial Accrued Liability (UAAL) increased from $812 million as of June 30, 2023 to $817 million as of June 30, 2024. The largest factors in the growth in the unfunded liability are the assumption changes adopted at the November 2024 meeting, higher-than-assumed salary increases, and higher-than-assumed retiree cost of living allowances (COLA). Between June 30, 2023 and June 30, 2024, the pension funded ratio on a VVA basis rose from 75.2% to 76.1% while the HIB funded ratio increased from 47.7% to 51.8%. The combined pension and HIB funded ratio increased from 74.0% to 75.1% over this time period.

Contribution Rates
The Actuarial Valuations provide the actuarially determined employer contribution rates for both the 1955/1980 and 2013 pension plan tiers and the HIB plan for FY 2026. These rates are presented below along with the rates adopted by the Retirement Board for FY 2025.

Actuarially Determined Contribution Rates				
	FY 2026 (Recommended)		FY 2025 (Adopted)	
Employer	**1955/1980 Plan**	**2013 Tier**	**1955/1980 Plan**	**2013 Tier**
Pension	45.43%	35.93%	44.59%	35.80%
HIB	4.43%	4.22%	4.43%	4.27%
Total	**49.86%**	**40.15%**	**49.02%**	**40.07%**
Member				
Pension	8.66%	10.08%	8.66%	9.41%
HIB	0.09%	0.09%	0.09%	0.09%
Total	**8.75%**	**10.17%**	**8.75%**	**9.50%**

Recommended Employee Contribution Rates
The employee contribution rates are set based on a different methodology for the 1955/1980 Plan and the 2013 Tier. For members of the 1955/1980 Plan, the employee contribution rate is set in the Memoranda of Understanding (MOUs) between the District and its employee unions. For members of the 2013 Tier, the employee rate is calculated based on requirements in the California Public Employees' Pension Reform Act (PEPRA).

Under the MOUs, the 1955/1980 Plan employee contribution rate is currently set at 8.75% of payroll. Included in this contribution rate is a 0.09% contribution to the HIB plan. The employee contribution rate for the 1955/1980 Plan remains unchanged for FY 2025.

PEPRA requires employees hired on or after January 1, 2013 to contribute at least 50% of the total Normal Cost to their pension plan. Once the employee contribution rate is set, it is not adjusted until the total Normal Cost rate deviates more than 1% (of payroll) from the last established rate. The rate was last changed in FY 2022 as part of the FY 2020 Valuation, when the total Normal Cost rate increased to 18.81% and the employee contribution rate increased to 9.41%. In this valuation (FY 2024), the total Normal Cost rate for the 2013 Tier has increased to 20.16%. Because this represents an increase of greater than 1%, the employee contribution rate will increase to 50% of the Normal Cost at 10.08%. 2013 Tier members also contribute 0.09% to the HIB plan.

Recommended Employer Contribution Rates
The FY 2026 actuarially determined employer contribution rates for the pension and HIB plans in the FY 2024 Valuations represent an increase in the rates from those adopted in FY 2025.

The table below provides: 1) the currently adopted FY 2025 rates, 2) the FY 2026 actuarially determined rates, which are the same as 3) the FY 2026 recommended District contribution rates. The increases in the actuarially determined contribution rates are largely due to changes to

actuarial assumptions and methodology, higher than expected salary increases for active employees, and higher than assumed cost of living adjustments for retirees.

	Recommended Rates (Same as Actuarially Determined Rates)		**Adopted Rates**	
	FY 2026		**FY 2025**	
Employer	**1955/1980 Plan**	**2013 Tier**	**1955/1980 Plan**	**2013 Tier**
Pension	45.43%	35.93%	44.59%	35.80%
HIB	4.43%	4.22%	4.43%	4.27%
Total	**49.86%**	**40.15%**	**49.02%**	**40.07%**

Representatives from Segal will attend the meeting to review the attached reports and answer any questions.

SDS:RLH:SGL

Attachments: Supplemental Exhibits
Actuarial Valuation and Review of Pension Plan
HIB Review of Contribution Rates and Funding Status
GASB 67 Actuarial Valuation for the Pension Plan
GASB 74 Actuarial Valuation for the HIB Plan

R. B. RESOLUTION NO. _____

ACCEPTING RETIREMENT SYSTEM ACTUARIAL VALUATIONS AND RECOMMENDING THE ADOPTION OF PENSION AND HEALTH INSURANCE BENEFIT EMPLOYER AND 2013 TIER EMPLOYEE CONTRIBUTION RATES FOR FISCAL YEAR 2026 BY THE BOARD OF DIRECTORS

Introduced by: ; Seconded by:

WHEREAS, pursuant to Section 22 of the Ordinance No. 40, as amended, the Board of Directors shall cause to be made an actuarial valuation of the assets and liabilities of the pension and Health Insurance Benefit (HIB) funds and, on the basis of such investigation and valuation, shall make revisions to the contribution rates to the Retirement System at least once in each two-year period; and

WHEREAS, state law as established under the Public Employees' Pension Reform Act (PEPRA) requires employees who joined the system on or after January 1, 2013 (the 2013 Tier) to contribute at least 50 percent of the Normal Cost rate; and

WHEREAS, PEPRA further requires that the 2013 Tier employee contribution rate be adjusted if the total Normal Cost rate changes by more than one percent of payroll from the rate used to set the previous employee contribution rate; and

WHEREAS, the Retirement System's actuary, Segal, has prepared actuarial valuations for the pension plan and the HIB plan and has additionally prepared supplementary documentation based on measurement data through June 30, 2024; and

WHEREAS, Segal has determined in the actuarial valuations that the funded ratios of the pension plan and HIB plan are below one-hundred percent as of June 30, 2024, leading to unfunded liabilities in each plan; and

WHEREAS, the actuarial valuations have set forth recommended employer contribution rates for the coming fiscal year beginning July 1, 2025; and

WHEREAS, a portion of the actuarially recommended employer contribution rates is intended to pay down the unfunded liabilities of each plan over time; and

WHEREAS, the pension actuarial valuation has determined that the 2013 Tier Normal Cost rate has increased by more than one percent of payroll from the rate used to set the previous 2013 Tier employee contribution rate, requiring an adjustment to the following year 2013 Tier employee contribution rate;

WHEREAS, the Retirement Board recommends that the Board of Directors adopt the employer contribution rates for Fiscal Year 2026 that, on a total percent of payroll basis, are greater than the employer contribution rates currently in effect for Fiscal Year 2025 in order to provide annual funding for the employer normal cost and unfunded liabilities as recommended in the actuarial valuations referenced in this resolution; and

WHEREAS, the Retirement Board recommends the Board of Directors adopt the 2013 Tier employee contribution rate provided in the pension valuation in order to comply with state law under PEPRA;

NOW, THEREFORE, BE IT RESOLVED that the Retirement Board accepts the actuarial valuations as of June 30, 2024 for the pension plan and HIB plan prepared by the Retirement System's actuary, Segal; and

BE IT FURTHER RESOLVED that the Retirement Board hereby recommends that the Board of Directors adopt the employer contribution rates provided below for the Fiscal Year beginning July 1, 2025 and ending June 30, 2026 (Fiscal Year 2026); and

Employer Contribution Rates for Fiscal Year 2026		
	1955/1980 Plan	**2013 Tier**
Pension	45.43%	35.93%
HIB	4.43%	4.22%
Total	**49.86%**	**40.15%**

BE IT FURTHER RESOLVED that the Retirement Board hereby recommends that the Board of Directors adopt a 2013 Tier employee contribution rate for the pension plan of ten and eight hundredths of one percent (10.08%) for the Fiscal Year beginning July 1, 2025 and ending June 30, 2026.

_____

President

ATTEST:

_____

Secretary

1/23/2025

East Bay Municipal Utility District Employees' Retirement System

Actuarial Valuation Overview

As of June 30, 2024

January 23, 2025 / Andy Yeung / Emily Klare / Dirk Adamsen

Segal

Agenda

Overview of an Actuarial Valuation

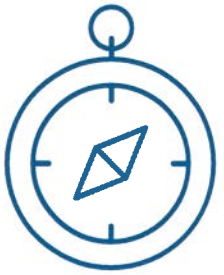
Pension Plan Valuation Highlights

Retiree Health Valuation Highlights

Overview of an Actuarial Valuation

The Actuarial Valuation

A plan's funding GPS



A financial check-up serving as roadmap and guide

- Where we are and where we are going

Establishes how far along the plan is

- Funding position – assets, liabilities, and unfunded liability

Determines the next steps towards the ultimate goal

- Employer and employee contribution rates

Every once in a while, the unexpected can cause "rerouting"

- Experience studies with potential assumption changes

Actuarial Valuation Fundamentals

What is the actuarial valuation used for?

Primary

- **Contribution requirements**
- **Funded status**

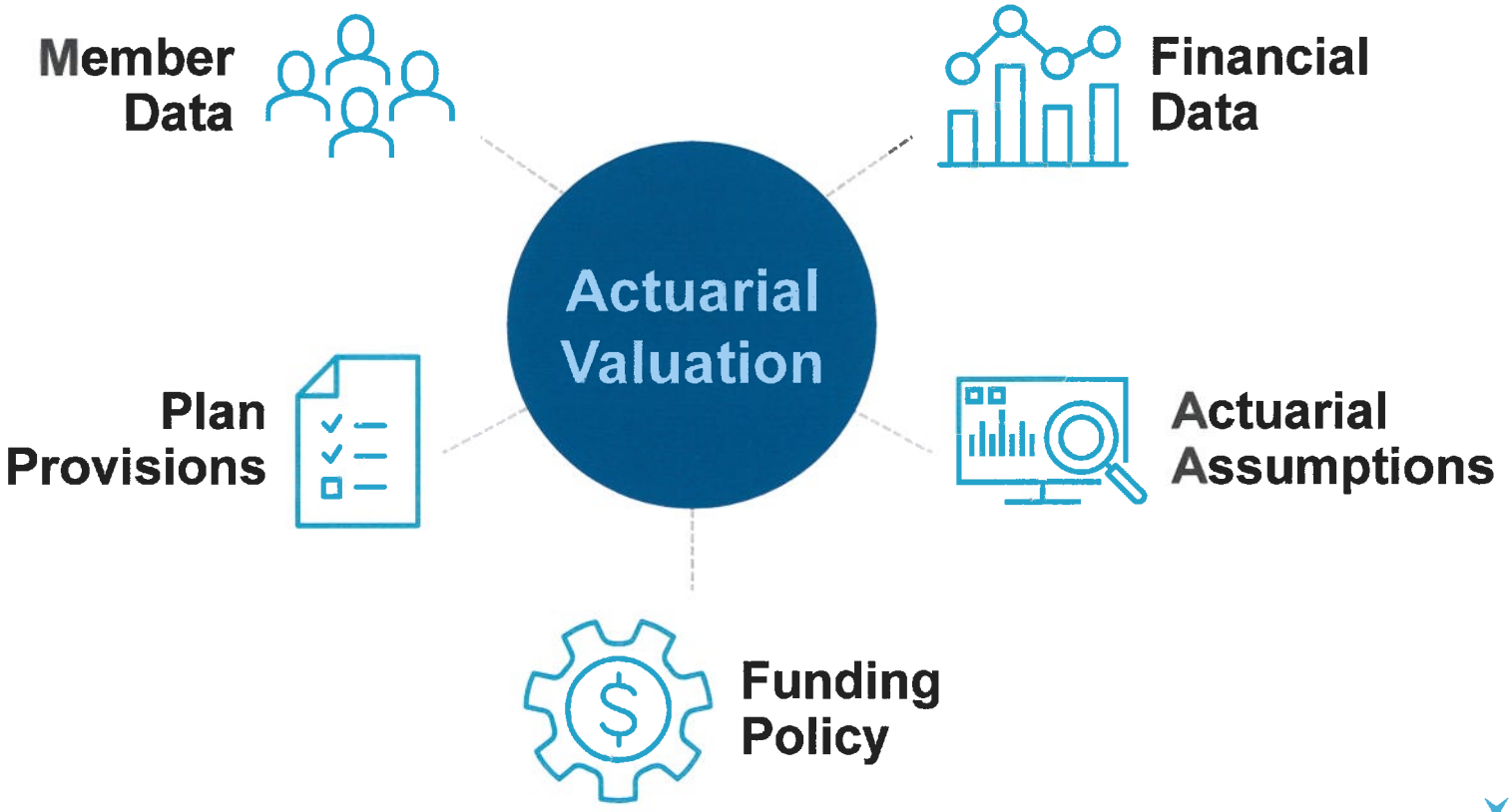
- **Analysis of demographic experience**
- **Analysis of financial experience**
- **Basis for pricing plan changes**

Secondary

Note: Disclosure requirements are provided separately in the GASB 67 (pension) and 74 (retiree health) valuations.

Preparing an Actuarial Valuation

What goes into an actuarial valuation?



Actuarial Funding Policy

Three core components

Actuarial cost (funding) method allocates present value of member's projected benefits to years of service: past, current and future

- Defines normal cost and actuarial accrued liability (AAL)
- EBMUDERS uses the **entry age method**
  - Provides for most stable contribution rates as a percent of payroll

Actuarial Funding Policy

Three core components

Asset smoothing method assigns a value to assets that manages short term volatility while tracking market value

- Defines the unfunded actuarial accrued liability (UAAL)
- Market value gains and losses recognized over 5 years
- 30% "market value corridor"

Amortization policy sets contributions to systematically pay off UAAL

- Includes structure, periods and pattern of payments
- Experience gains/losses & assumption changes (since July 1, 2021) are amortized over separate, decreasing 20-year periods

Pension Plan Valuation Highlights

Summary of Valuation Results

Average Employer Contribution Rate	Average Member Contribution Rate	Valuation Value Investment Return
40.2%	**9.4%**	**7.1%**
39.8% prior year	9.1% prior year	12.4% market value

Funded Ratio on Valuation Basis	Unfunded Liability on Valuation Basis	Funded Ratio on Market Basis	Unfunded Liability on Market Basis
76.1%	**$752M**	**77.8%**	**$698M**
75.2% prior year	$743M prior year	73.3% prior year	$800M prior year

Changes in the Valuation

Assumption and methodology changes

- Implemented changes adopted by the Board in November 2024
  - Increased UAAL by $25 million and increased employer contribution rate by 0.7%
  - Increased average member contribution rate by 0.4%
    - No change in 1955/1980 Plan member rate
    - Increase of 0.7% in 2013 Tier member rate

Investment return experience

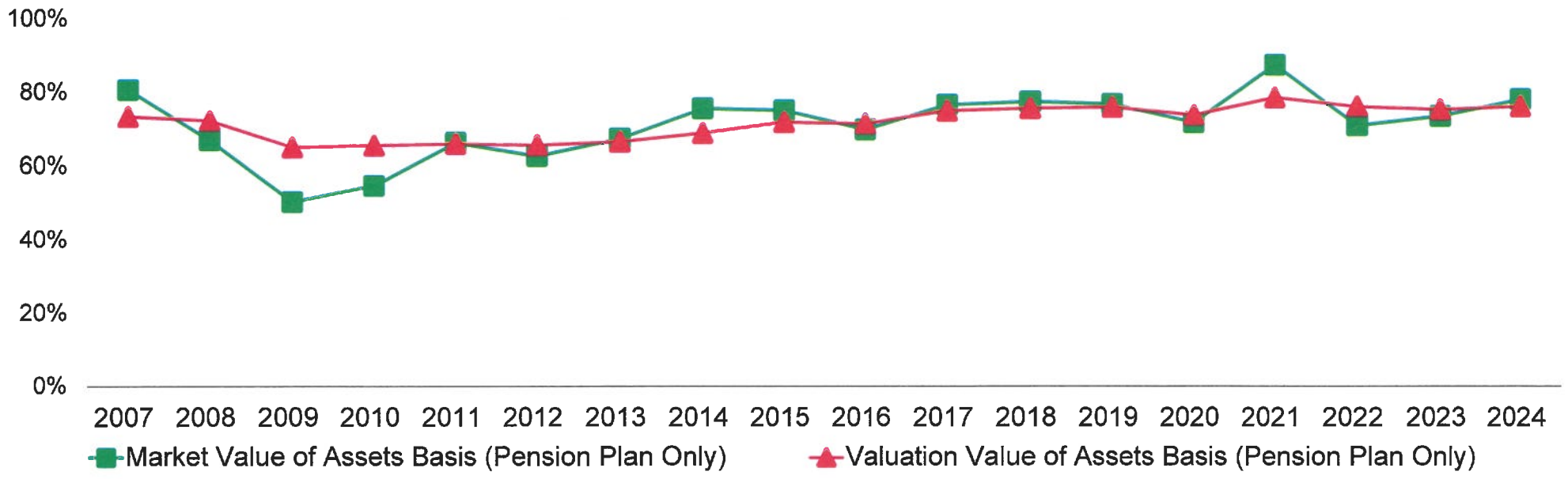
- Return of 7.1% (after asset smoothing), resulted in a gain
  - Decreased UAAL by $9 million
  - Decreased employer contribution rate by 0.23%

Funded Ratio

Single point-in-time measurement, snapshot of funding progress

Market Basis: 77.8%
Increase from 73.3% in prior year

Valuation Basis: 76.1%
Increase from 75.2% in prior year



Unfunded Actuarial Accrued Liability

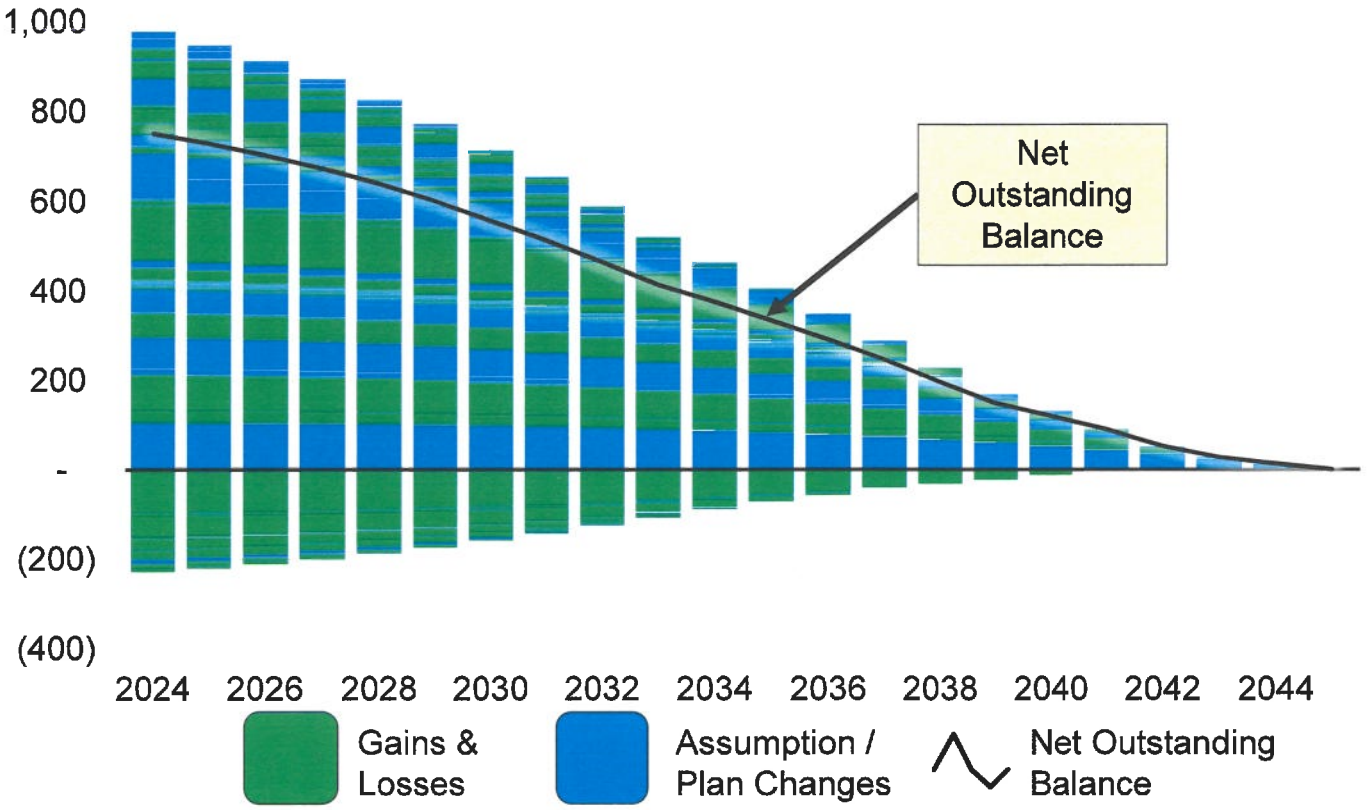
Actuarial accrued liability minus valuation value of assets ($ in millions)

1. UAAL as of June 30, 2023	**$743**
2. Total normal cost	60
3. Expected total contributions	(125)
4. Interest	46
5. Expected UAAL at end of year	**$724**
6. Changes due to:	
a. Investment return after asset smoothing	$(9)
b. One-year delay in implementing prior year rates	3
c. Individual salary experience	3
d. COLA experience for retirees and beneficiaries	7
e. Other demographic experience	(1)
f. Change in actuarial assumptions	25
g. Total changes	**$28**
7. UAAL as of June 30, 2024	**$752**

Projection of UAAL Balances

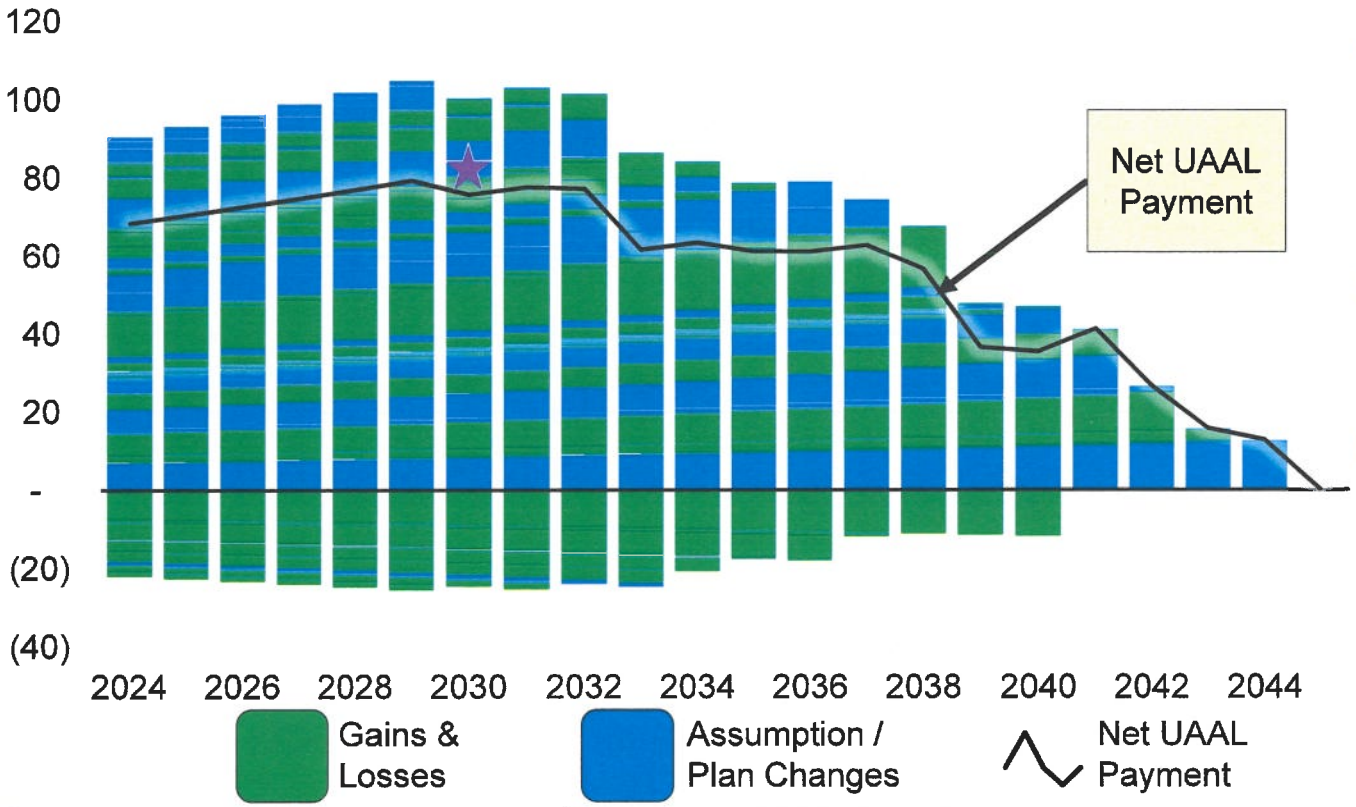
Net outstanding balance of $752 million in net UAAL

- Amortization layers by source
- Shows when each layer is paid off
- Net outstanding balance at future valuation dates



Projection of UAAL Payments

Annual payments to amortize $752 million in net UAAL



- Payment on amortization layer by source
- Progression of payments over time
- Net payment at future valuation dates

★The UAAL contributions begin to fluctuate in 2030. The Board could consider a leveling adjustment in the future.

Average Employer Contribution Rate

1955/1980 Plan and 2013 Tier combined ($ in millions)

	Contribution Rate	Estimated Annual Amount
1. Average employer contribution as of June 30, 2023	**39.75%**	**$108.7**
2. Changes due to:		
a. Investment return after asset smoothing	(0.23)%	(0.6)
b. One-year delay in implementing prior year rates	0.07%	0.2
c. Individual salary experience	0.09%	0.2
d. Total payroll growth experience	(0.30)%	(0.8)
e. COLA experience for retirees and beneficiaries	0.17%	0.4
f. Other demographic experience	(0.05)%	(0.1)
g. Change in actuarial assumptions and methodology	0.70%	1.9
h. Total change	**0.45%**	**$1.2**
3. Average employer contribution as of June 30, 2024	**40.20%**	**$109.9**

Average Member Contribution Rate

$ in millions

- Members only pay normal cost component
  - No change in 1955/1980 Plan member contribution
  - Increase in 2013 Tier member contribution due to reaching the "1% threshold"
    - **June 30, 2023 Valuation:** 2013 Tier member rate unchanged at 9.41%
      - Total normal cost of 19.79% was within 1% of the total normal cost of 18.81% in the 2020 valuation
    - **June 30, 2024 Valuation:** 2013 Tier member contribution rate increased to 10.08%
      - Total normal cost of 20.16% exceeds the 1% threshold from the 2020 rate

	Contribution Rate	Estimated Annual Amount
1. Average member contribution as of June 30, 2023	**9.07%**	**$24.8**
2. Change in demographics and assumptions/methodology	0.37%	1.0
3. Average member contribution as of June 30, 2024	**9.44%**	**$25.8**

Investment Experience

For year ending June 30, 2024

Market value of assets earned 12.44%

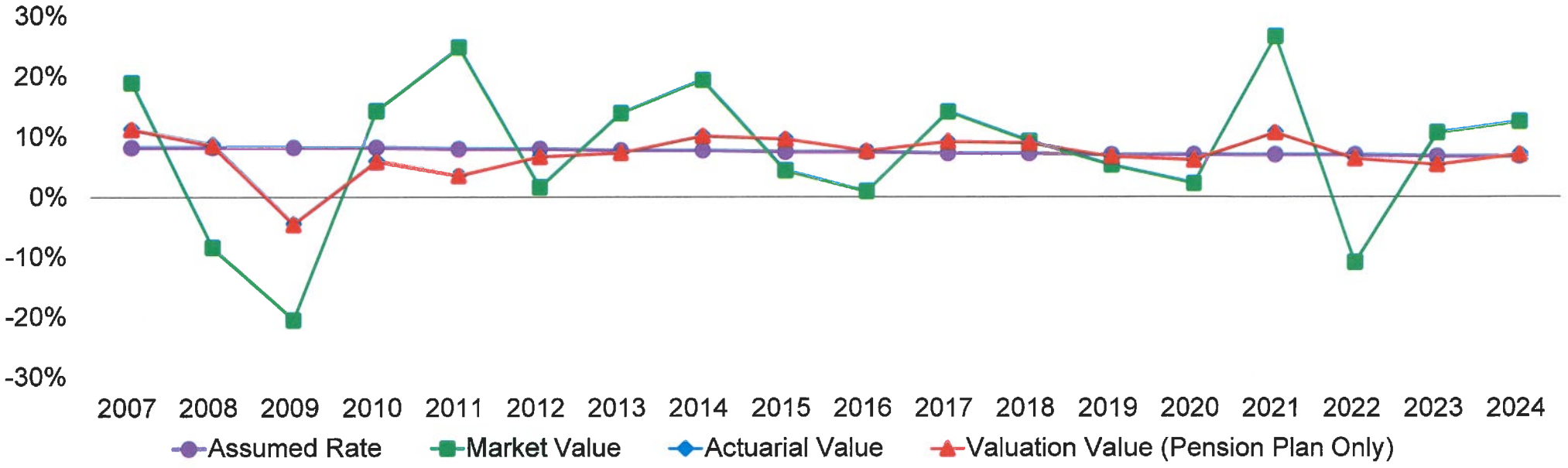
- Valuation ("smoothed") value of assets earned 7.15%
  - Greater than 6.75% assumption
  - Includes partial recognition of prior gains/losses through asset smoothing method
- Net deferred gain of $55.8 million
  - 2.2% of market value of assets
  - Will be recognized over next four years in the asset smoothing method

Determination of Actuarial & Valuation Assets

As of June 30, 2024

Step	Actual Return	Expected Return	Investment Gain/(Loss)	Percent Deferred	Amount
1. Market value of assets (MVA)					**$2,517,031,000**
a. Pension Plan					2,445,611,000
b. HIB Plan					71,420,000
2. Calculation of deferred return					
a. Year ended June 30, 2020	$39,376,000	$127,791,930	$(88,415,930)	0%	$0
b. Year ended June 30, 2021	491,625,000	129,314,710	362,310,290	20%	72,462,058
c. Year ended June 30, 2022	(253,930,000)	162,455,125	(416,385,125)	40%	(166,554,050)
d. Year ended June 30, 2023	217,559,000	138,262,646	79,296,354	60%	47,577,813
e. Year ended June 30, 2024	279,545,000	151,631,764	127,913,236	80%	102,330,589
f. Total deferred return					**$55,816,410**
3. Actuarial value of assets (AVA)					**$2,461,214,590**
4. AVA as a percentage of MVA					97.8%
5. Valuation value of Pension assets					**$2,391,378,364**

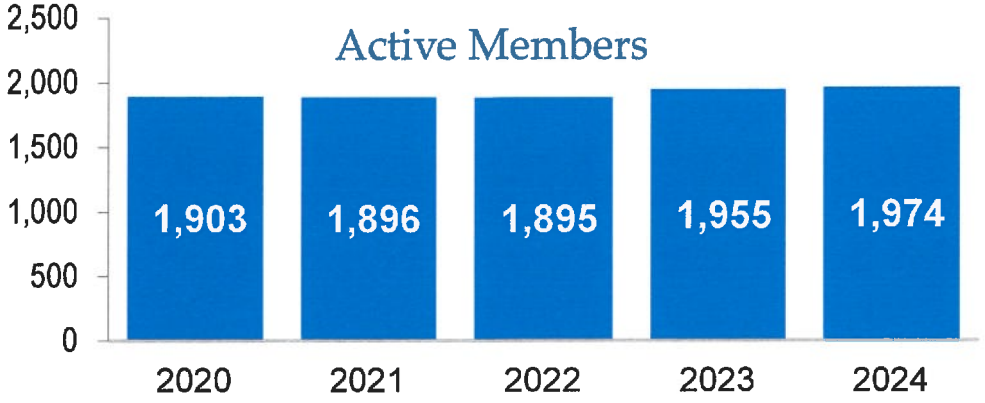
Historical Investment Returns

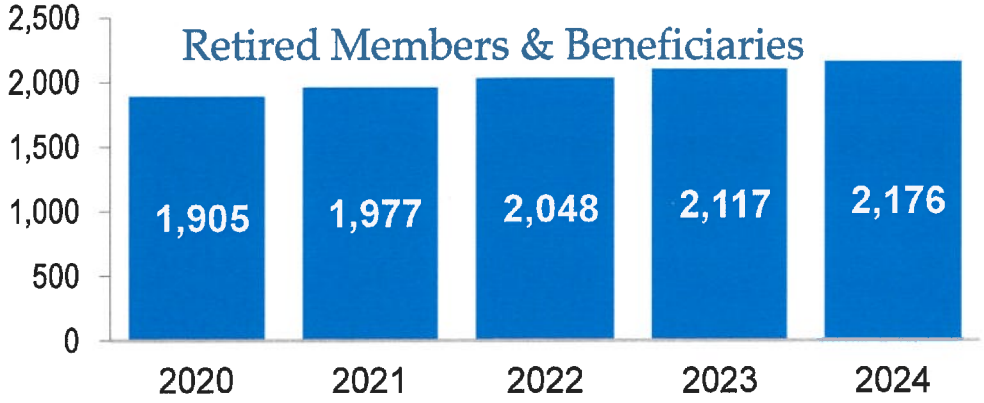


Geometric Average Return	Market Value	Actuarial Value	Valuation Value
Most recent 5-year average	7.46%	7.16%	7.16%
Most recent 10-year average	7.07%	7.81%	7.82%
Most recent 15-year average	9.51%	7.46%	7.46%

Membership Demographics

As of June 30, 2024 & June 30, 2023





Active Members	2024	2023
Count	1,974	1,955
Average age	46.9	47.1
Average service	10.9	11.0
Average compensation	$138,515	$134,155

Retired Members & Beneficiaries	2024	2023
Count	2,176	2,117
Average age	71.7	71.4
Average monthly benefit	$5,930	$5,752

Inactive Members	2024	2023
Count	407	381

Retiree Health Valuation Highlights

Summary of Valuation Results

Health Insurance Benefit (HIB)

Average Employer Contribution Rate

4.3%

4.3% prior year

Member Contribution Rate

0.09%

Funded Ratio on Valuation Basis

51.8%

47.7% prior year

Unfunded Liability on Valuation Basis

$65M

$69M prior year

Funded Ratio on Market Basis

53.0%

46.5% prior year

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

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East Bay Municipal Utility District Employees' Retirement System

Actuarial Valuation and Review of Pension Plan and Health Insurance Benefit Plan as of June 30, 2024

Supplemental Exhibits

Segal

180 Howard Street
Suite 1100
San Francisco, CA 94105-6147
segalco.com
T 415.263.8200

January 14, 2025

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

Re: June 30, 2024 actuarial valuations – supplemental exhibits

Dear Sophia:

Enclosed please find two exhibits that provide supplemental information to the June 30, 2024 actuarial valuations for the Pension and Health Insurance Benefit (HIB) Plans.

Exhibit A provides a summary of the funding valuation results for both the Pension and HIB Plans. In particular, for the HIB Plan, this information is based on our HIB funding valuation report dated January 14, 2025 that includes a maximum monthly benefit of $450 ($550 benefit for a retiree with a spouse or EBMUD domestic partner). It does not include the accounting liability for the "implicit subsidy" associated with the pooling of the health care premium rate for actives and retirees under age 65.

In Exhibit B, we have included a comparison of the historical Projected Benefit Obligations with the market value of assets for both Plans. We look forward to discussing this information with you and the Board.

Sincerely,

Segal

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

Emily Klare, ASA, MAAA, EA
Senior Actuary

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

DNA/jl

Exhibit A

Summary of Significant Valuation Results for the Funding Valuations

Category	June 30, 2024	June 30, 2023	Change
1. Total membership			
a. Active members	1,974	1,955	1.0%
b. Pensioners and beneficiaries	2,176	2,117	2.8%
2. Valuation salary[1]			
a. Total projected compensation	$273,428,306	$262,272,600	4.3%
b. Average projected compensation	138,515	134,155	3.2%
3. Total System assets			
a. Valuation value of Pension Plan assets	$2,391,378,364	$2,251,690,803	6.2%
b. Valuation value of HIB Plan assets	69,836,226	62,769,259	11.3%
c. Total valuation value (actuarial value)	**$2,461,214,590**	**$2,314,460,062**	**6.3%**
d. Market value of Pension Plan assets	$2,445,611,000	$2,194,142,000	11.5%
e. Market value of HIB Plan assets	71,420,000	61,165,000	16.8%
f. Total market value	**$2,517,031,000**	**$2,255,307,000**	**11.6%**
4. Unfunded actuarial accrued liability (UAAL) and funding ratio[2]			
a. Pension Plan UAAL	$752,349,976	$742,738,347	1.3%
b. Pension Plan funded ratio	76.1%	75.2%	0.9%
c. HIB Plan UAAL	$64,920,252	$68,858,196	-5.7%
d. HIB Plan funded ratio	51.8%	47.7%	4.1%
e. Pension Plan and HIB Plan UAAL	$817,270,228	$811,596,543	0.7%
f. Pension Plan and HIB Plan funded ratio	75.1%	74.0%	1.1%

Note: The HIB information is based on our HIB funding valuation report that includes a maximum monthly benefit of $450 ($550 for a retiree with a spouse or EBMUD domestic partner). It does not include the accounting liability for the "implicit subsidy" associated with the pooling of the health care premium rate for actives and retirees under age 65.

[1] Projected payroll.
[2] Based on valuation value of assets.

Summary of Significant Valuation Results

Category	June 30, 2024	June 30, 2023	Change
5. Projected benefit obligation (PBO) and funded ratio[1]			
a. Pension Plan PBO	$3,067,277,000	$2,926,665,000	4.8%
b. Pension Plan funded ratio	79.7%	75.0%	4.7%
c. HIB Plan PBO	$142,381,000	$138,464,000	2.8%
d. HIB Plan funded ratio	50.2%	44.2%	6.0%
e. Pension Plan and HIB Plan PBO	$3,209,658,000	$3,065,129,000	4.7%
f. Pension Plan and HIB Plan funded ratio	78.4%	73.6%	4.8%

Budget Items[2]	FY 2025–2026 1955/1980 Plan	FY 2025–2026 2013 Tier	FY 2025–2026 Combined[3]	FY 2024–2025 1955/1980 Plan	FY 2024–2025 2013 Tier	FY 2024–2025 Combined[3]	Difference 1955/1980 Plan	Difference 2013 Tier	Difference Combined[3]
A. Pension Plan									
1. Total normal cost	28.24%	20.16%	23.79%	27.83%	19.79%	23.40%	0.41%	0.37%	0.39%
2. Employee contributions	8.66%[4]	10.08%	9.44%	8.66%[4]	9.41%	9.07%	0.00%	0.67%	0.37%
3. Employer normal cost (A1 – A2)	19.58%	10.08%	14.35%	19.17%	10.38%	14.33%	0.41%	-0.30%	0.02%
4. UAAL (paid by employer)	25.85%	25.85%	25.85%	25.42%	25.42%	25.42%	0.43%	0.43%	0.43%
5. Total employer contribution (A3 + A4)	**45.43%**	**35.93%**	**40.20%**	**44.59%**	**35.80%**	**39.75%**	**0.84%**	**0.13%**	**0.45%**
B. HIB Plan									
1. Total normal cost	0.97%	0.76%	0.85%	0.95%	0.79%	0.86%	0.02%	-0.03%	-0.01%
2. Employee contributions	0.09%	0.09%	0.09%	0.09%	0.09%	0.09%	0.00%	0.00%	0.00%
3. Employer normal cost (B1 – B2)	0.88%	0.67%	0.76%	0.86%	0.70%	0.77%	0.02%	-0.03%	-0.01%
4. UAAL (paid by employer)	3.55%	3.55%	3.55%	3.57%	3.57%	3.57%	-0.02%	-0.02%	-0.02%
5. Total employer contribution (B3 + B4)	**4.43%**	**4.22%**	**4.31%**	**4.43%**	**4.27%**	**4.34%**	**0.00%**	**-0.05%**	**-0.03%**
C. Total contribution									
1. Employee contribution (A2 + B2)	8.75%	10.17%	9.53%	8.75%	9.50%	9.16%	0.00%	0.67%	0.37%
2. Employer contribution (A5 + B5)	49.86%	40.15%	44.51%	49.02%	40.07%	44.09%	0.84%	0.08%	0.42%

[1] Based on market value of assets.
[2] Contribution rates, payable at the end of each pay period, are expressed as a percentage of projected payroll.
[3] Aggregated based on June 30, 2024 projected annual payroll.
[4] The rate of 8.66% payable during fiscal years 2024/2025 and 2025/2026 is calculated by taking the total employee rate payable beginning April 18, 2016 (i.e., 8.75%), less the HIB employee contribution rate of 0.09%.

Comparison of Projected Benefit Obligation with the Market Value of Assets

($ in thousands)

Actuarial Valuation Date	Projected Benefit Obligation	Market Value of Assets	Funded Ratio
06/30/2002	$749,113	$536,449	71.6%
06/30/2003	880,054	545,527	62.0%
06/30/2004	928,434	640,641	69.0%
06/30/2005	999,231	694,590	69.5%
06/30/2006	1,068,966	763,455	71.4%
06/30/2007	1,160,325	911,104	78.5%
06/30/2008	1,289,236	838,614	65.0%
06/30/2009	1,366,207	668,750	48.9%
06/30/2010	1,444,258	769,052	53.2%
06/30/2011	1,498,879	968,239	64.6%
06/30/2012	1,606,973	986,972	61.4%
06/30/2013	1,699,340	1,124,328	66.2%
06/30/2014	1,815,349	1,346,888	74.2%
06/30/2015	1,907,462	1,407,209	73.8%
06/30/2016	2,061,202	1,418,129	68.8%
06/30/2017	2,137,483	1,612,644	75.4%
06/30/2018	2,292,859	1,753,240	76.5%
06/30/2019	2,413,489	1,832,965	75.9%
06/30/2020	2,607,362	1,857,609	71.2%
06/30/2021	2,675,737	2,328,722	87.0%
06/30/2022	2,908,908	2,058,923	70.8%
06/30/2023	3,065,129	2,255,307	73.6%
06/30/2024	3,209,658	2,517,031	78.4%

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East Bay Municipal Utility District Employees' Retirement System

Pension Plan Actuarial Valuation and Review as of June 30, 2024

Segal

Segal

180 Howard Street
Suite 1100
San Francisco, CA 94105-6147
segalco.com
T 415.263.8200

January 14, 2025

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

Dear Sophia:

We are pleased to submit this Actuarial Valuation and Review as of June 30, 2024 for only the Pension Plan. The Review of Contribution Rates and Funding Status for the Health Insurance Benefit (HIB) Plan is provided in a separate report. This report summarizes the actuarial data used in the valuation, analyzes the preceding year's experience, and establishes the funding requirements for fiscal year 2025/2026.

This report was prepared in accordance with generally accepted actuarial principles and practices at the request of the Retirement Board to assist in administering the Plan. The census information and financial information on which our calculations were based was prepared by the East Bay Municipal Utility District Employees' Retirement System (EBMUDERS). That assistance is gratefully acknowledged.

Segal does not audit the data provided. The accuracy and comprehensiveness of the data is the responsibility of those supplying the data. To the extent we can, however, Segal does review the data for reasonableness and consistency. Based on our review of the data, we have no reason to doubt the substantial accuracy of the information on which we have based this report and we have no reason to believe there are facts or circumstances that would affect the validity of these results.

The measurements shown in this actuarial valuation may not be applicable for other purposes. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements; and changes in plan provisions or applicable law.

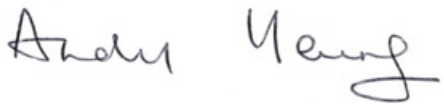
The actuarial calculations were directed under the supervision of Andy Yeung, ASA, MAAA, FCA, EA. We are members of the American Academy of Actuaries and we meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. To the best of our knowledge, the information supplied in this actuarial valuation is complete and accurate. The assumptions used in this actuarial valuation were selected by the Retirement Board based upon our analysis and recommendations. In our opinion, the assumptions are reasonable and take into account the experience of the Plan and reasonable expectations. In addition, in our opinion, the combined effect of these assumptions is expected to have no significant bias.

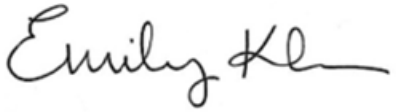
Segal makes no representation or warranty as to the future status of the Plan and does not guarantee any particular result. This document does not constitute legal, tax, accounting or investment advice or create or imply a fiduciary relationship. The Board is encouraged to discuss any issues raised in 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 at your next meeting and to answering any questions.

Sincerely,

Segal





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

Emily Klare, ASA, MAAA, EA
Senior Actuary

BTS/jl

Table of Contents

Table of Contents

Section 1: Actuarial Valuation Summary

Purpose and basis

This report has been prepared by Segal to present a Pension Plan valuation of the East Bay Municipal Utility District Employees' Retirement System ("the System") as of June 30, 2024. The valuation was performed to determine whether the assets and contribution rates are sufficient to provide the prescribed benefits.

The contribution requirements presented in this report are based on:

- The benefit provisions of the Plan, as administered by the Retirement Board;
- The characteristics of covered active members, inactive members, and retired members and beneficiaries as of June 30, 2024, provided by EBMUDERS;
- The assets of the Plan as of June 30, 2024, provided by EBMUDERS;
- Economic assumptions regarding future salary increases and investment earnings adopted by the Retirement Board for the June 30, 2024 valuation;
- Other actuarial assumptions regarding employee terminations, retirement, death, etc. adopted by the Retirement Board for the June 30, 2024 valuation; and
- The funding policy adopted by the Retirement Board.

One of the general goals of an actuarial valuation is to establish contributions which fully fund the System's liabilities, and which, as a percentage of payroll, remain as level as possible for each generation of active members. Annual actuarial valuations measure the progress toward this goal, as well as test the adequacy of the contribution rates.

In preparing this valuation, we have employed generally accepted actuarial methods and assumptions to evaluate the System's liabilities and future contribution requirements. Our calculations are based upon member data and financial information provided to us by the System's staff. This information has not been audited by us, but it has been reviewed and found to be consistent, both internally and with information from the prior year.

The contribution requirements are determined as a percentage of payroll. The System's employer rates provide for both normal cost and a contribution to amortize any unfunded or overfunded actuarial accrued liabilities. In this valuation, we have applied the funding

policy last reviewed and adopted by the Retirement Board on September 22, 2022. Details of the funding policy are provided in *Section 4, Exhibit 1* starting on page 66.

A schedule of current amortization balances and payments many be found in *Section 3, Exhibit G* starting on page 54. A graphical projection of the UAAL amortization balances and payments has been included in *Section 3, Exhibit H* starting on page 56. In the aggregate, the total payment from all the UAAL layers was the same as amortizing the entire UAAL over a period of about 14 years.

The rates calculated in this report may be adopted by the Retirement Board for the fiscal year that extends from July 1, 2025 through June 30, 2026.

Valuation highlights

Funding measures

1. The results of this valuation reflect the changes in the economic and non-economic actuarial assumptions as well as the methodology used to calculate the normal cost rate for the 2013 Tier as recommended by Segal and adopted by the Board for the June 30, 2024 valuation. These changes were documented in our Actuarial Experience Study Report (dated November 13, 2024) and are also outlined in *Section 4, Exhibit 1* of this report. These changes resulted in an increase in the combined (1955/1980 Plan and 2013 Tier) employer contribution rate of 0.70% of payroll, and employee contribution rate of 0.37% of payroll. (The increase in the 2013 Tier employee rate is 0.67% of payroll.) These changes increased the UAAL by $25.3 million.

2. The funded ratio (the ratio of valuation value of assets to the actuarial accrued liability) increased from 75.2% to 76.1%. This ratio is one measure of funding status, and its history is a measure of funding progress. Using the market value of assets, the funded ratio increased from 73.3% to 77.8%. These measurements are not necessarily appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the Plan's benefit obligation or the need for, or the amount of, future contributions. A history of the Plan's funded ratios is provided in *Section 2, Subsection G* on pages 35 and 36.

   In addition to the type of funded ratios noted above, Section 33 of the Employees' Retirement System Ordinance ("Ordinance") references a funded ratio based on the ratio of the market value of assets to the projected benefit obligation (PBO) for purposes of determining post-retirement cost-of-living adjustments (COLA). As noted in the plan provisions section of this report (*Section 4, Exhibit 2*), the basic minimum COLA benefit is the lesser of 3% and the actual change in the cost-of-living index. Any excess of the actual change in the cost-of-living index over 3% is accumulated in individual retiree COLA banks, and withdrawals from the bank are made in years when the index increases less than 3%. However, increases of up to 5% are granted in years when the Retirement Board determines that the System is more than 85% funded on a PBO basis. In those years when the System is more than 85% funded and the cost-of-living index exceeds 5%, any excess cost-of-living over 5% is accumulated in the COLA bank. Furthermore, effective October 1, 2000, in those years when the system is more than 85% funded on a PBO basis and the cost-of-living is less than 4%, withdrawals from the bank are made to allow cost-of-living increases up to 4%.

   For the June 30, 2024 Pension Plan and HIB Plan valuations, we note that the funded ratio on the PBO (and market value) basis is 78.4% for both plans combined, as shown in the Supplemental Exhibits report dated January 14, 2025.

3. The unfunded actuarial accrued liability (the difference between the actuarial accrued liability and the valuation value of assets) increased from $742.7 million to $752.3 million. The increase in unfunded actuarial accrued liability (UAAL) is primarily due to changes in actuarial assumptions and methodology, higher than expected salary increases for continuing actives, higher than expected cost-of-living adjustments (COLA), and the anticipated one-year delay in implementing the higher contribution rates

calculated in the prior valuation, offset somewhat by an investment return on the valuation value (i.e., after asset smoothing) greater than the assumed rate of 6.75% used in the June 30, 2023 valuation. A reconciliation of the System's UAAL from the prior year is provided in *Section 2, Subsection E* on page 29.

A schedule of the current UAAL amortization balances and payments may be found in *Section 3, Exhibit G* starting on page 54. A graphical projection of the UAAL amortization balances and payments is provided in *Section 3, Exhibit H* starting on page 56.

Actuarial experience

4. The net actuarial loss of $3.0 million, or 0.10% of actuarial accrued liability, is due to a contribution experience loss of $2.7 million (or 0.09% of the AAL) and a net experience loss from sources other than investments and contributions of $9.2 million (0.29% of the AAL), offset somewhat by an investment gain of $8.9 million (0.28% of the AAL), prior to reflection of assumption and methodology changes, if applicable. The loss from sources other than investment and contribution experience was primarily due to higher than expected salary increases for continuing actives and higher than expected cost-of-living adjustment (COLA) increases for payees, offset somewhat by miscellaneous actuarial gains.
5. The rate of return on the market value of assets was 12.44% for the year ending June 30, 2024. The return on the valuation value of assets was 7.15% for the same period after recognizing a portion of this year's investment gains and a portion of prior years' investment gains and losses. This resulted in an actuarial gain when measured against the assumed rate of return of 6.75% used in the June 30, 2023 valuation. This actuarial investment gain (after asset smoothing) decreased the average employer contribution rate by 0.23% of payroll.

Contributions

6. The aggregate employer rate (if paid at the end of each pay period) calculated in this valuation has increased from 39.75% to 40.20% of payroll. This increase is primarily due to changes in actuarial assumptions and methodology, higher than expected salary increases for continuing actives, higher than expected COLA increases for current retirees and beneficiaries, and the anticipated one-year delay in implementing the higher contribution rates calculated in the prior valuation, offset somewhat by an investment return on the valuation value (i.e., after asset smoothing) greater than the 6.75% used in the June 30, 2023 valuation and higher than expected growth in the total payroll used to amortize the prior year's UAAL contribution amounts. A complete reconciliation of the System's aggregate employer rate is provided in *Section 2, Subsection F* on page 32.
7. There was an increase in the total normal cost rates for both the 1955/1980 Plan and 2013 Tier due to changes in actuarial assumptions and methodology. The portion of the total normal cost paid by 1955/1980 Plan employees remained level at 8.66% since that rate has been set based on bargaining unit contract negotiations in 2013.

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 as determined in the 2023 valuation remained within 1% of payroll of the total normal cost rate of 18.81% for this tier as determined in the 2020 valuation. (We note that the 2020 valuation was the first time since the initial 2013 CalPEPRA valuation that the change in the total normal rate exceeded the 1% of payroll threshold.)

For the June 30, 2024 valuation, there was an increase in the total normal cost rate for the 2013 Tier to 20.16% due to changes in the assumptions and methodology. As 20.16% has exceeded the 1% of payroll threshold compared to the 18.81%, there is a need to allocate 10.08% (at least 50% of the total normal cost rate) to be paid by the 2013 Tier employees.

8. The aggregate member rate calculated in this valuation has increased from 9.07% to 9.44% of payroll due to the increase in the 2013 Tier employee rate. A complete reconciliation of the System's aggregate member rate is provided in *Section 2, Subsection F* on page 33.

9. Segal strongly recommends an actuarial funding method that targets 100% funding of the actuarial accrued liability. Generally, this implies payments that are ultimately at least enough to cover normal cost, interest on the UAAL and the principal balance. The funding policy adopted by the Retirement Board meets this standard.

Future expectations

10. The total unrecognized net investment **gain** as of June 30, 2024 is $55.8 million as compared to an unrecognized net investment **loss** of $59.2 million in the previous valuation. This net deferred gain of $55.8 million will be recognized in the determination of the actuarial value of assets for funding purposes in the next few years as shown in *Section 2, Subsection B* on page 22.

    The net deferred gain of $55.8 million represent about 2.2% of the market value of assets. Unless offset by future investment losses or other unfavorable experience, the recognition of the $55.8 million net market gain is expected to have an impact on the System's future funded ratio and contribution rate requirements. This potential impact may be illustrated as follows:

    a. If the Pension Plan portion of the net deferred gain was recognized immediately in the valuation value of assets, the funded percentage would increase from 76.1% to 77.8%.

        For comparison purposes, if the Pension Plan portion of the net deferred loss in the June 30, 2023 valuation had been recognized immediately, the funded percentage would have decreased from 75.2% to 73.3%.

    b. If the Pension Plan portion of the net deferred gain was recognized immediately in the valuation value of assets, the average employer contribution rate would decrease from 40.20% to about 38.8% of payroll.

        For comparison purposes, if the Pension Plan portion of the net deferred loss in the June 30, 2023 valuation had been recognized immediately, the average employer contribution rate would have increased from 40.14% to about 41.7% of payroll.

Risk

11. It is important to note that this actuarial valuation is based on plan assets as of June 30, 2024. The Plan's funded status does not reflect short-term fluctuations of the market, but rather is based on the market values on the last day of the plan year. Moreover, this actuarial valuation does not include any possible short-term or long-term impacts on mortality of the covered population that may emerge after June 30, 2024. Segal is available to prepare projections of potential outcomes of market conditions and other demographic experience upon request.

12. Because the actuarial valuation results are dependent on a given set of assumptions, there is a risk that emerging results may differ significantly as actual experience proves to be different from the assumptions. This potential divergence may have a significant impact on the future financial condition of the plan. We prepared a standalone Risk Assessment report for the Pension Plan dated April 29, 2021 by using membership and financial information as provided in the actuarial valuation as of June 30, 2020. That report includes various deterministic projections of future results under different investment return scenarios based on the assumptions adopted in the quadrennial experience study for the June 30, 2020 valuation.

    We understand that the next stand-alone risk assessment report will be performed in 2025 upon the completion of the June 30, 2024 valuation. In the meantime, we have also included a brief discussion of some risks that may affect the Plan in *Section 2, Subsection I*, beginning on page 38.

13. The risk assessment in *Section 2, Subsection I* includes the disclosure of a "Low-Default-Risk Obligation Measure" (LDROM). This disclosure, along with commentary on the significance of the LDROM, is a requirement under Actuarial Standard of Practice No. 4 (ASOP 4) for all pension funding actuarial valuation reports and can be found on page 41.

GASB

14. This report constitutes an actuarial valuation for the purpose of determining the actuarially determined contribution (ADC) under the System's funding policy and measuring the progress of that funding policy. The Net Pension Liability and Pension Expense under GASB Statements No. 67 and No. 68, for inclusion in the Plan's and employer's financial statements as of June 30, 2024, will be provided separately. The accounting disclosures will utilize different methodologies from those employed in the funding valuation, as required by the GASB. However, the ADC in this valuation is expected to be used as the ADC for GASB financial reporting.

Summary of key valuation results

Average Employer and Member Contributions Calculated as of June 30

Employer and Member Contributions	2024 Contribution Rate	2024 Annual Amount[1]	2023 Contribution Rate	2023 Annual Amount[1]
Employer contribution				
• 1955/1980 Plan	45.43%	$55,824,550	44.59%	$54,792,354
• 2013 Tier	35.93%	54,091,875	35.80%	53,896,164
• **Combined**	**40.20%**	**$109,916,425**	**39.75%**	**$108,688,518**
Member contribution				
• 1955/1980 Plan	8.66%[2]	$10,641,439	8.66%[2]	$10,641,439
• 2013 Tier	10.08%	15,175,233	9.41%	14,166,561
• **Combined**	**9.44%**	**$25,816,672**	**9.07%**	**$24,808,000**

Note: Contributions are payable at the end of each pay period.

[1] Estimated based on June 30, 2024 projected annual compensation of $273,428,306 (that is, $122,880,363 for the 1955/1980 Plan and $150,547,943 for the 2013 Tier).

[2] The rate of 8.66% payable during the fiscal years 2024/2025 and 2025/2026 is calculated by taking the total employee rate payable beginning April 18, 2016 (i.e., 8.75%), less the HIB employee contribution rate of 0.09%.

Section 1: Actuarial Valuation Summary

Valuation Results as of June 30

Line Description	2024	2023
Actuarial accrued liability		
• Total actuarial accrued liability	$3,143,728,340	$2,994,429,150
– Retired members and beneficiaries	2,081,323,619	1,959,982,363
– Inactive members	63,313,175	59,125,354
– Active members	999,091,546	975,321,433
• Normal cost for plan year beginning June 30[1]	65,051,880	62,314,596
Assets		
• Market value of Pension Plan and HIB Plan assets	$2,517,031,000	$2,255,307,000
• Actuarial value of Pension Plan and HIB Plan assets	2,461,214,590	2,314,460,062
• Actuarial value of assets as a percentage of market value of assets	97.8%	102.6%
• Market value of Pension Plan assets (MVA) [2]	2,445,611,000	2,194,142,000
• Valuation value of Pension Plan assets (VVA)[2]	2,391,378,364	2,251,690,803
Funded status		
• Unfunded actuarial accrued liability on market value of assets	$698,117,340	$800,287,150
• Funded percentage on MVA basis	77.8%	73.3%
• Unfunded actuarial accrued liability on valuation value of assets	$752,349,976	$742,738,347
• Funded percentage on VVA basis	76.1%	75.2%
Key assumptions		
• Net investment return	6.75%	6.75%
• Inflation rate	2.50%	2.50%
• Real across-the-board increase	0.50%	0.50%
• Payroll growth	3.00%	3.00%
• Cost-of-living adjustments	2.75%	2.75%
• Amortization period[3]	20 years	20 years

[1] Adjusted with interest to middle of the year assuming contributions would be paid at the end of each pay period.
[2] Net of HIB Plan assets.
[3] Changes in UAAL as a result of gains or losses for each valuation are amortized over separate 20-year periods. Details on the funding policy are provided in *Section 4, Exhibit 1*.

Section 1: Actuarial Valuation Summary

Demographic Data as of June 30

Demographic Data by Status	2024	2023	Change
Active members			
• Number of members	1,974	1,955	1.0%
• Average age	46.9	47.1	-0.2
• Average service	10.9	11.0	-0.1
• Total projected compensation	$273,428,306	$262,272,600	4.3%
• Average projected compensation	$138,515	$134,155	3.2%
Retired members and beneficiaries			
• Number of members	2,176	2,117	2.8%
– Service retired	1,753	1,704	2.9%
– Disability retired	51	51	0.0%
– Beneficiaries	372	362	2.8%
• Average age	71.7	71.4	0.3
• Average monthly benefit	$5,930	$5,752	3.1%
Inactive members			
• Number of members[1]	407	381	6.8%
• Average age	48.0	48.4	-0.4
Total members	**4,557**	**4,453**	**2.3%**

[1] Includes inactive members due a refund of member contributions.

Important information about actuarial valuations

An actuarial valuation is a budgeting tool with respect to the financing of future projected obligations of a pension plan. It is an estimated forecast – the actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.

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

Input Item	Description
Plan provisions	Plan provisions define the rules that will be used to determine benefit payments, and those rules, or the interpretation of them, may change over time. Even where they appear precise, outside factors may change how they operate. It is important to keep Segal informed with respect to plan provisions and administrative procedures, and to review the plan summary included in our report to confirm that Segal has correctly interpreted the plan of benefits.
Member information	An actuarial valuation for a plan is based on data provided to the actuary by the System. Segal does not audit such data for completeness or accuracy, other than reviewing it for obvious inconsistencies compared to prior data and other information that appears unreasonable. It is important for Segal to receive the best possible data and to be informed about any known incomplete or inaccurate data.
Financial information	Part of the cost of a plan will be paid from existing assets — the balance will need to come from future contributions and investment income. The valuation is based on the asset values as of the valuation date, typically reported by the System. A snapshot as of a single date may not be an appropriate value for determining a single year's contribution requirement, especially in volatile markets. Plan sponsors often use an "actuarial value of assets" that differs from market value to gradually reflect year-to-year changes in the market value of assets in determining the contribution requirements.
Actuarial assumptions	In preparing an actuarial valuation, Segal starts by developing a forecast of the benefits to be paid to existing plan members for the rest of their lives and the lives of their beneficiaries. This requires actuarial assumptions as to the probability of death, disability, withdrawal, and retirement of members in each year, as well as forecasts of the plan's benefits for each of those events. In addition, the benefits forecasted for each of those events in each future year reflect actuarial assumptions as to salary increases and cost-of-living adjustments (if applicable). The forecasted benefits are then discounted to a present value, typically based on an estimate of the rate of return that will be achieved on the plan's assets. All of these factors are uncertain and unknowable. Thus, there will be a range of reasonable assumptions, and the results may vary materially based on which assumptions are selected within that range. That is, there is no right answer (except with hindsight). It is important for any user of an actuarial valuation to understand and accept this constraint. The actuarial model may use approximations and estimates that will have an immaterial impact on our results. In addition, the actuarial assumptions may change over time, and while this can have a significant impact on the reported results, it does not mean that the previous assumptions or results were unreasonable or wrong.

Section 1: Actuarial Valuation Summary

The user of Segal's actuarial valuation (or other actuarial calculations) should keep the following in mind:

- The actuarial valuation is prepared at the request of the System. Segal is not responsible for the use or misuse of its report, particularly by any other party.
- An actuarial valuation is a measurement at a specific date — it is not a prediction of a plan's future financial condition. Accordingly, Segal did not perform an analysis of the potential range of financial measurements, except where otherwise noted.
- If EBMUDERS is aware of any event or trend that was not considered in this valuation that may materially change the results of the valuation, Segal should be advised, so that we can evaluate it.
- Segal does not provide investment, legal, accounting or tax advice and is not acting as a fiduciary to the Plan. This valuation is based on Segal's understanding of applicable guidance in these areas and of the Plan's provisions, but they may be subject to alternative interpretations. The System should look to their other advisors for expertise in these areas.
- While Segal maintains extensive quality assurance procedures, an actuarial valuation involves complex computer models and numerous inputs. In the event that an inaccuracy is discovered after presentation of Segal's valuation, Segal may revise that valuation or make an appropriate adjustment in the next valuation.
- Segal's report shall be deemed to be final and accepted by the System upon delivery and review. The System should notify Segal immediately of any questions or concerns about the final content.

Section 2: Actuarial Valuation Results

A. Member information

The Actuarial Valuation and Review considers the number and demographic characteristics of covered members, including active members, inactive members, retired members and beneficiaries.

This section presents a summary of significant statistical data on these member groups. More detailed information for this valuation year and the preceding valuation can be found in *Section 3, Exhibits A, B,* and *C*.

Member Population

As of June 30	Active Members	Inactive Members[1]	Retired Members and Beneficiaries (Pay Status)	Total Non-Actives	Ratio of Non-Actives to Actives	Ratio of Pay Status to Actives
2015	1,762	239	1,563	1,802	1.02	0.89
2016	1,789	248	1,630	1,878	1.05	0.91
2017	1,802	267	1,713	1,980	1.10	0.95
2018	1,828	284	1,779	2,063	1.13	0.97
2019	1,847	303	1,844	2,147	1.16	1.00
2020	1,903	312	1,905	2,217	1.17	1.00
2021	1,896	327	1,977	2,304	1.22	1.04
2022	1,895	360	2,048	2,408	1.27	1.08
2023	1,955	381	2,117	2,498	1.28	1.08
2024	1,974	407	2,176	2,583	1.31	1.10

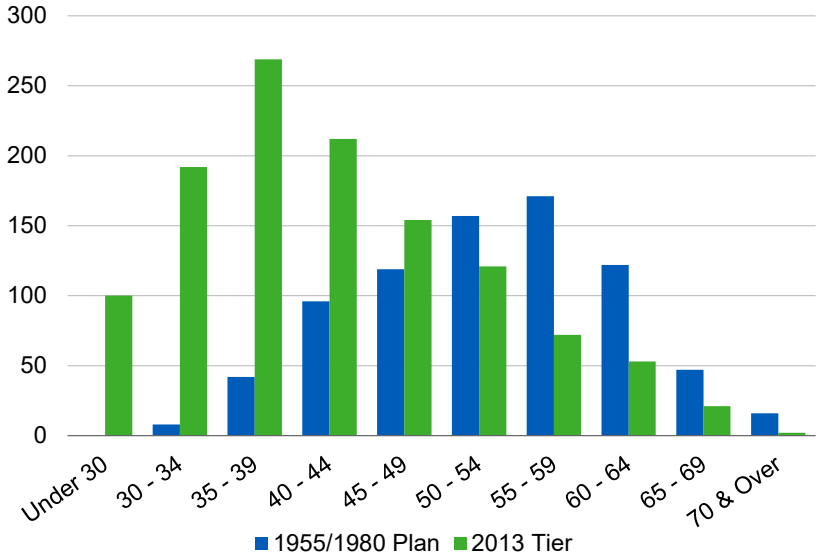
[1] Includes inactive members due a refund of member contributions.

Active members

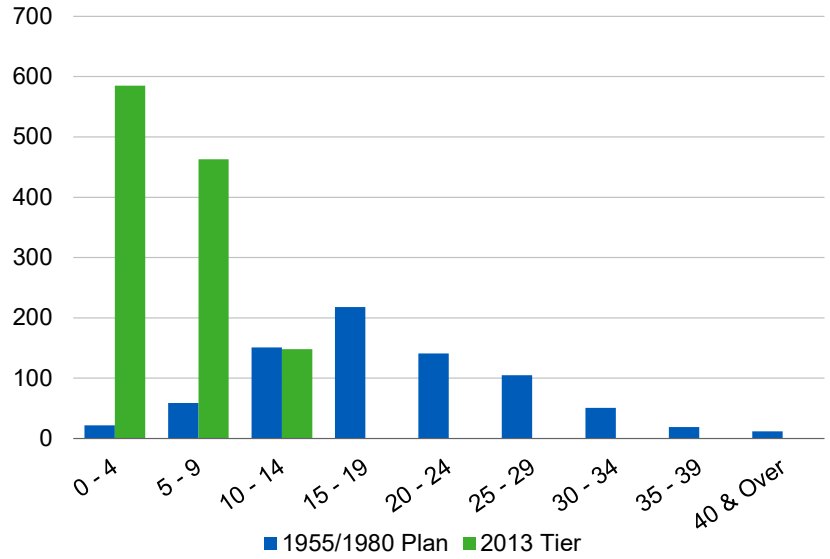
Demographic Data	As of June 30, 2024	As of June 30, 2023	Change
Active members	1,974	1,955	1.0%
Average age[1]	46.9	47.1	-0.2
Average years of service	10.9	11.0	-0.1
Average compensation	$138,515	$134,155	3.2%

Distribution of Active Members as of June 30, 2024

Actives by Age



Actives by Years of Service



Inactive members

Demographic Data	As of June 30, 2024	As of June 30, 2023	Change
Inactive members[2]	407	381	6.8%

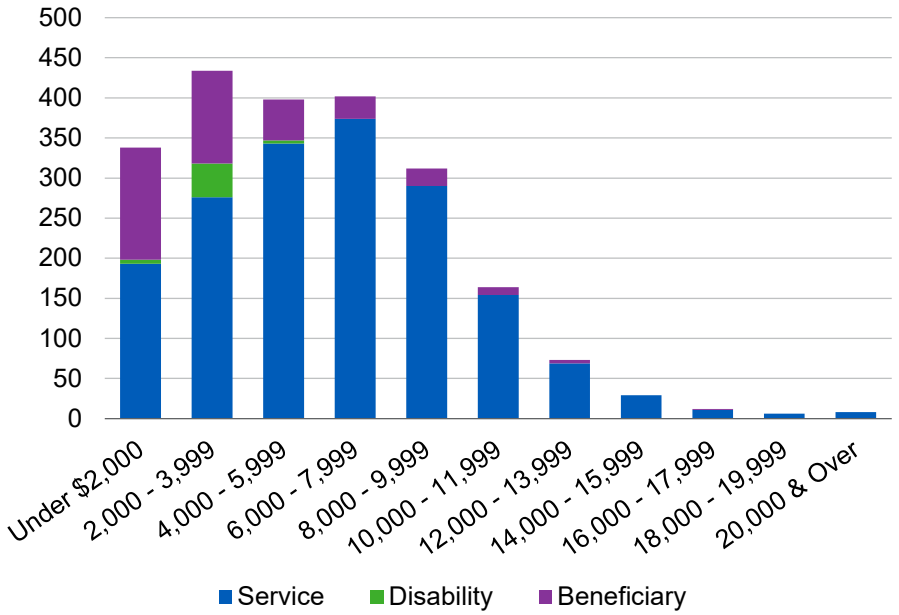
[1] Among the active members, there were none with unknown age information.
[2] Includes inactive members due a refund of member contributions.

Retired members and beneficiaries

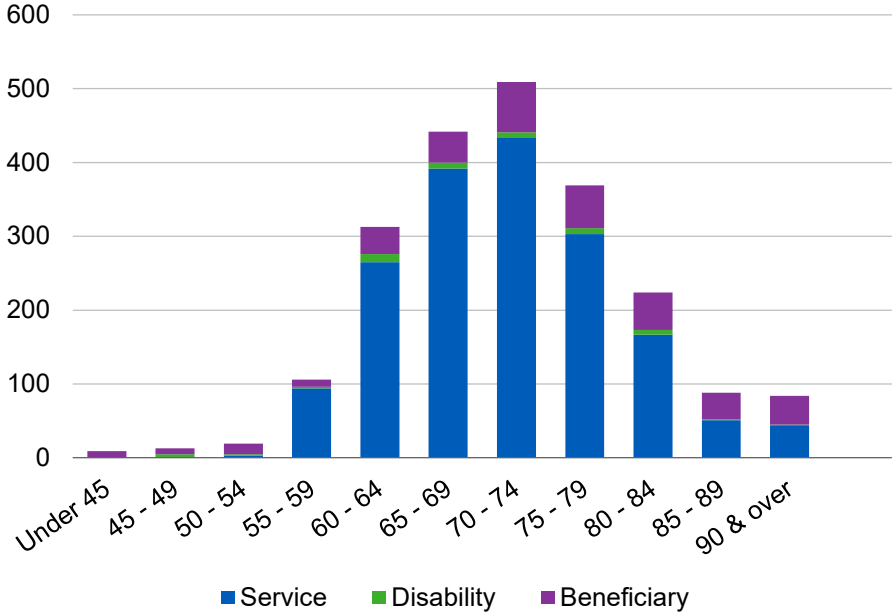
Demographic Data	As of June 30, 2024	As of June 30, 2023	Change
Retired members	1,804	1,755	2.8%
Beneficiaries	372	362	2.8%
Average age	71.7	71.4	0.3
Average monthly amount	$5,930	$5,752	3.1%
Total monthly amount	$12,903,119	$12,176,254	6.0%

Distribution of Retired Members and Beneficiaries as of June 30, 2024

By Type and Monthly Amount



By Type and Age



Historical plan population

The chart below demonstrates the progression of the active population over the last ten years. The chart also shows the growth among the retired population over the same time period.

Member Data Statistics

Active Members versus Retired Members and Beneficiaries (Pay Status)

As of June 30	Active Count	Active Average Age	Active Average Service	Pay Status Count	Pay Status Average Age	Pay Status Monthly Amount
2015	1,762	48.8	13.7	1,563	70.1	$4,360
2016	1,789	48.5	13.3	1,630	70.1	4,499
2017	1,802	48.0	12.8	1,713	70.1	4,649
2018	1,828	47.8	12.4	1,779	70.2	4,841
2019	1,847	47.6	12.0	1,844	70.3	5,024
2020	1,903	47.3	11.7	1,905	70.6	5,211
2021	1,896	47.4	11.6	1,977	70.8	5,376
2022	1,895	47.2	11.4	2,048	71.0	5,592
2023	1,955	47.1	11.0	2,117	71.4	5,752
2024	1,974	46.9	10.9	2,176	71.7	5,930

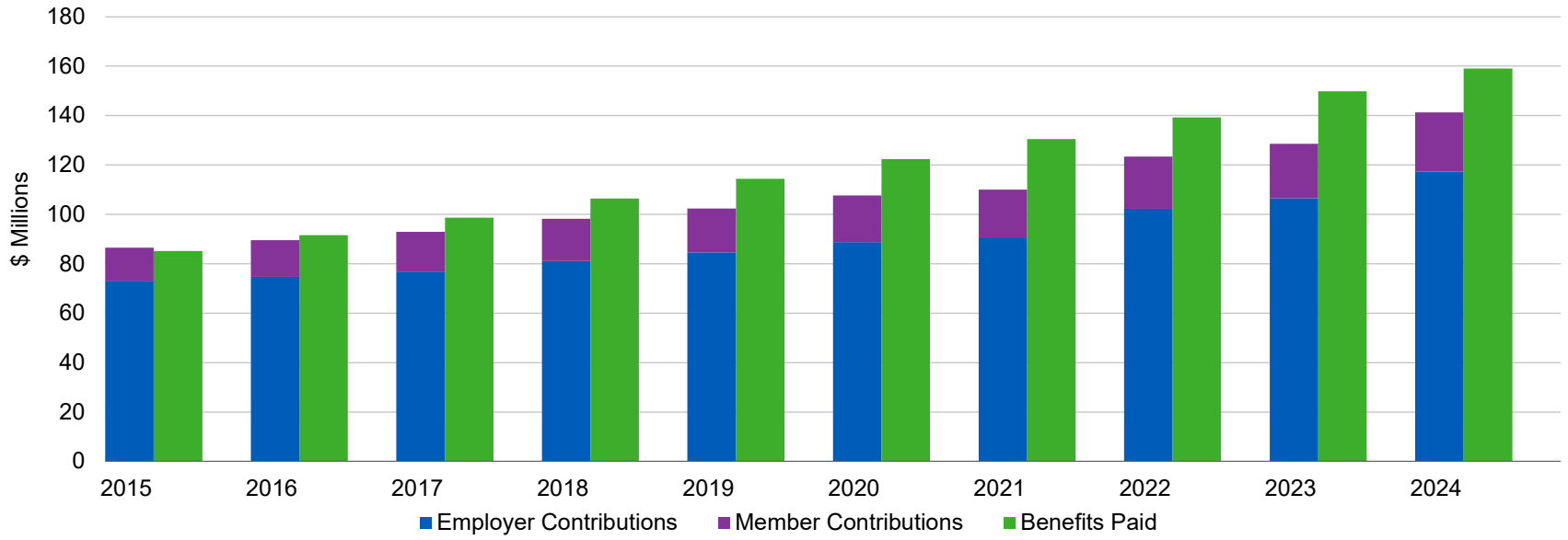
B. Financial information

Pension plan funding anticipates that, over the long term, both contributions and investment earnings (less investment fees) will be needed to cover benefit payments and administrative expenses. Pension plan assets change as a result of the net impact of these income and expense components.

Additional financial information, including a summary of transactions for the valuation year, is presented in *Section 3, Exhibits D, E* and *F.*

It is desirable to have level and predictable plan costs from one year to the next. For this reason, the Board has approved an asset valuation method that gradually adjusts to market value. Under this valuation method, the full value of market fluctuations is not recognized in a single year and, as a result, the valuation asset value and the plan costs are more stable. The amount of the adjustment to recognize market value is treated as income, which may be positive or negative. Realized and unrealized gains and losses are treated equally and, therefore, the sale of assets has no immediate effect on the actuarial value.

Comparison of Contributions Made with Benefits for Years Ended June 30



Section 2: Actuarial Valuation Results

Determination of Actuarial Value and Valuation Value of Assets for Year Ended June 30, 2024

Step		Actual Return	Expected Return	Investment Gain/(Loss)	Percent Deferred	Amount
1.	**Market value of assets**					
	a. Pension Plan					$2,445,611,000
	b. HIB Plan					71,420,000
	c. Total					**$2,517,031,000**
2.	**Calculation of deferred return**					
	a. Year ended June 30, 2020	$39,376,000	$127,791,930	$(88,415,930)	0%	$0
	b. Year ended June 30, 2021	491,625,000	129,314,710	362,310,290	20	72,462,058
	c. Year ended June 30, 2022	(253,930,000)	162,455,125	(416,385,125)	40	(166,554,050)
	d. Year ended June 30, 2023	217,559,000	138,262,646	79,296,354	60	47,577,813
	e. Year ended June 30, 2024	279,545,000	151,631,764	127,913,236	80	102,330,589
	f. Total deferred return[1]					**$55,816,410**
3.	**Preliminary actuarial value of assets: 1c − 2f**					**$2,461,214,590**
4.	Adjustment to be within 30% corridor of market value					0
5.	Final actuarial value of assets: **3 + 4:**					$2,461,214,590
6.	Actuarial value of assets as a percentage of market value of assets: **5 ÷ 1c**					97.8%
7.	**Valuation value of Pension Plan assets: 1a ÷ 1c × 5**					**$2,391,378,364**

[1] The total deferred return as of June 30, 2024 is recognized in each of the next four years as follows:

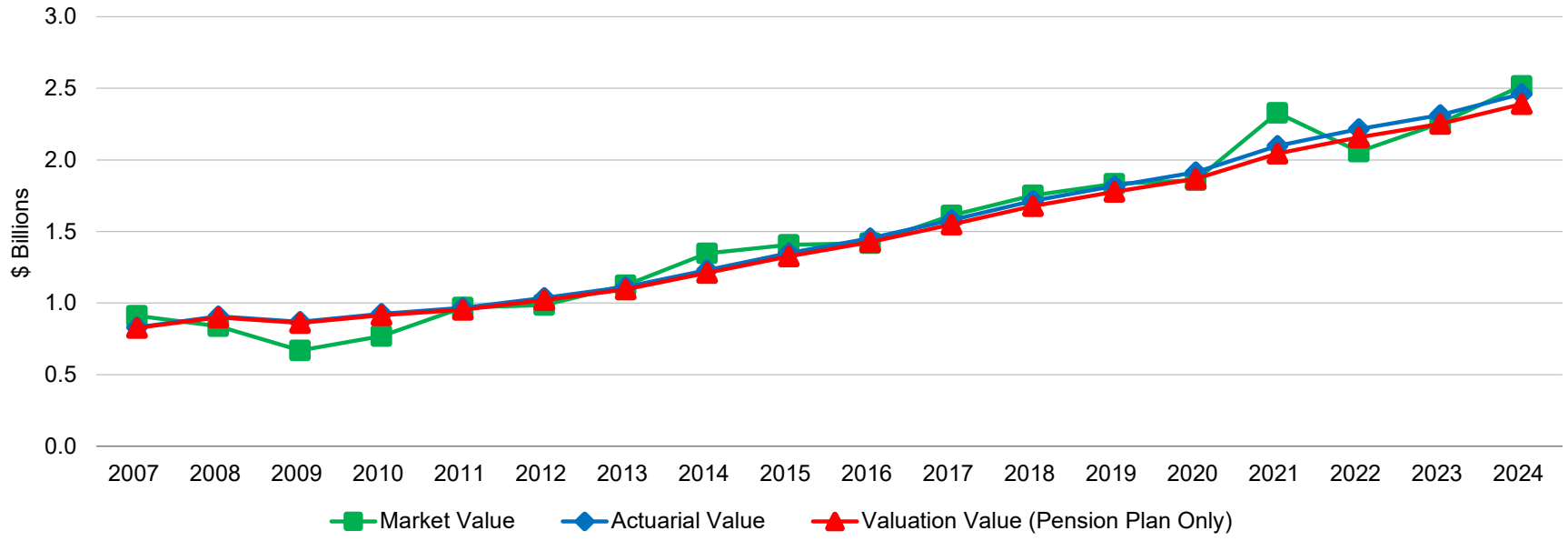
a. Amount recognized on June 30, 2025	$30,626,951
b. Amount recognized on June 30, 2026	(41,835,107)
c. Amount recognized on June 30, 2027	41,441,918
d. Amount recognized on June 30, 2028	25,582,648
e. Total unrecognized return as of June 30, 2024	$55,816,410

Asset history

The market value, actuarial value and valuation value of assets are representations of the Plan's financial status. As investment gains and losses are gradually taken into account, the actuarial value of assets tracks the market value of assets. The valuation value of assets is generally the actuarial value, excluding HIB Plan assets.

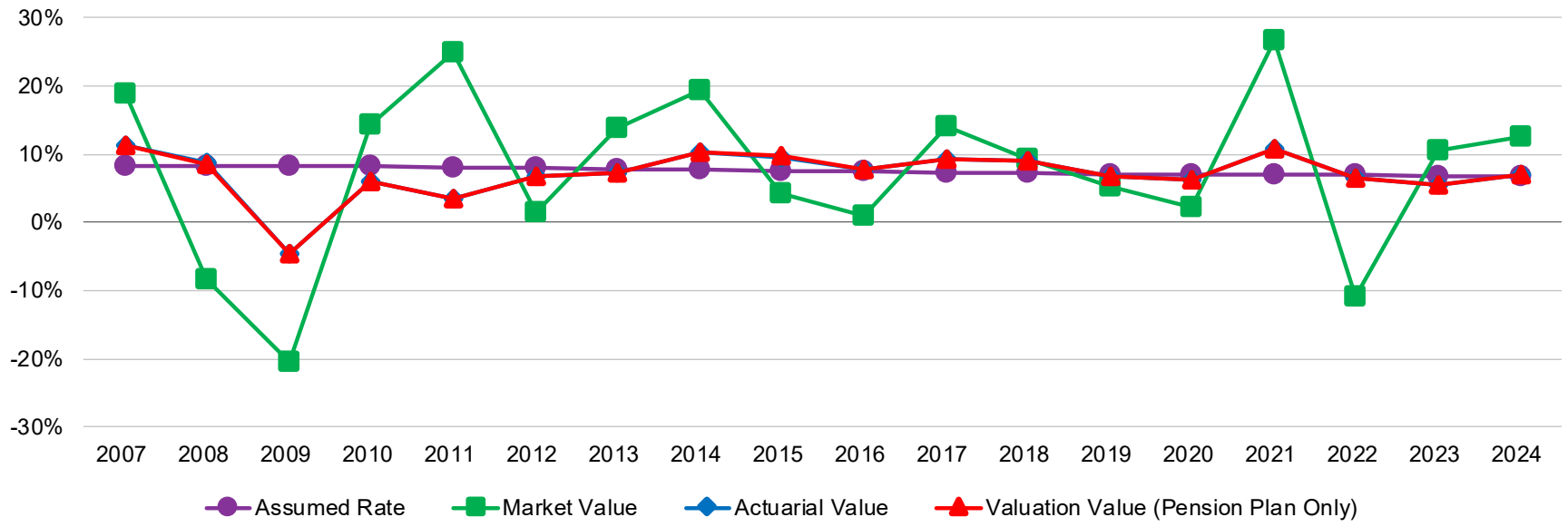
The valuation value of assets is significant because the Plan's liabilities are compared to these assets to determine what portion, if any, remains unfunded. Amortization of the unfunded actuarial accrued liability is an important element in determining the contribution requirement.

Market Value, Actuarial Value, and Valuation Value (Pension Plan Only) of Assets as of June 30



Historical investment returns

Market, Actuarial and Valuation Rates of Return for Years Ended June 30



Legend	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Market rate	18.95%	(8.40)%	(20.47)%	14.27%	24.85%	1.57%	13.91%	19.41%	4.37%	0.92%	14.15%	9.25%	5.25%	2.16%	26.61%	(10.94)%	10.62%	12.44%
Actuarial rate	11.31%	8.69%	(4.47)%	5.96%	3.62%	6.76%	7.39%	10.19%	9.67%	7.74%	9.22%	9.00%	6.74%	6.16%	10.71%	6.43%	5.42%	7.14%
Valuation rate	11.33%	8.59%	(4.49)%	5.93%	3.62%	6.75%	7.40%	10.22%	9.68%	7.74%	9.23%	9.01%	6.74%	6.16%	10.74%	6.41%	5.42%	7.15%
Assumed rate	8.25%	8.25%	8.25%	8.25%	8.00%	8.00%	7.75%	7.75%	7.50%	7.50%	7.25%	7.25%	7.00%	7.00%	7.00%	7.00%	6.75%	6.75%

Average Rates of Return	Market Value	Actuarial Value	Valuation Value
Most recent five-year geometric average return	7.46%	7.16%	7.16%
Most recent 10-year geometric average return	7.07%	7.81%	7.82%
Most recent 15-year geometric average return	9.51%	7.46%	7.46%

C. Actuarial experience

To calculate any actuarially determined contribution, assumptions are made about future events that affect the amount and timing of benefits to be paid and assets to be accumulated. Each year actual experience is measured against the assumptions. If overall experience is more favorable than anticipated (an actuarial gain), the actuarially determined contribution will decrease from the previous year. On the other hand, the actuarially determined contribution will increase if overall actuarial experience is less favorable than expected (an actuarial loss).

Taking account of experience gains or losses in one year without making a change in assumptions reflects the belief that the single year's experience was a short-term development and that, over the long term, experience will return to the original assumptions. For contribution requirements to remain stable, assumptions should approximate experience.

If assumptions are changed, the contribution requirement is adjusted to take into account a change in experience anticipated for all future years. There are no changes in actuarial assumptions reflected in this valuation.

The actuarial experience for the year can be found below and a discussion of the major components can be found on the following pages.

Actuarial Experience for Year Ended June 30, 2024

	Source	Amount
1.	Net gain from investments[1]	$(8,857,227)
2.	Net loss from contributions	2,674,834
3.	Net loss from other experience[2]	9,223,629
4.	**Net experience loss[3]**	**$3,041,236**

[1] Details on next page.
[2] See *Subsection E* for further details. Does not include the effect of plan, method or assumption changes, if any.
[3] The net loss is attributed to actual liability experience from July 1, 2023 through June 30, 2024 compared to the projected experience based on the actuarial assumptions as of June 30, 2023. It does not include the effect of plan or assumption changes as of June 30, 2024, if any.

Investment experience

A major component of projected asset growth is the assumed rate of return. The assumed return should represent the expected long-term rate of return, based on the Plan's investment policy.

For valuation purposes, the assumed rate of return on the valuation value of assets is 6.75% based on the June 30, 2023 valuation. The actual rate of return on a valuation basis for the 2023–2024 plan year was 7.15% after recognizing a portion of this year's investment gains and a portion of prior years' investment gains and losses. Since the actual return for the year was more than the assumed return, the Plan experienced an actuarial gain during the year ended June 30, 2024 with regard to its investments.

Investment Experience for Year Ended June 30, 2024

	Line Description	Valuation Value (Pension Plan assets only)	Actuarial Value (includes Pension and HIB Plan assets)	Market Value (includes Pension and HIB Plan assets)
1.	Net investment income	$160,155,561	$164,575,528	$279,545,000
2.	Average value of assets	2,241,456,803	2,305,549,562	2,246,396,500
3.	Rate of return: **1 ÷ 2**	7.15%	7.14%	12.44%
4.	Assumed rate of return	6.75%	6.75%	6.75%
5.	Expected investment income: **2 × 4**	$151,298,334	$155,624,595	$151,631,764
6.	**Investment gain/(loss): 1 − 5**	**$8,857,227**	**$8,950,933**	**$127,913,236**

Contributions

In last year's valuation report, expected contributions for the year ended June 30, 2024 were based on the contribution rates from the June 30, 2023 valuation. However, due to the anticipated one-year delay in implementing the higher contribution rates calculated in that valuation, actual contributions for fiscal year 2023/2024 were based on the contribution rates from the June 30, 2022 valuation. This anticipated delay resulted in a contribution loss of $2.7 million for the year, when adjusted for timing.

Other experience

There are other differences between the expected and the actual experience that appear when the new valuation is compared with the projections from the previous valuation. These include:

- Mortality experience (more or fewer than expected deaths)
- The extent of turnover among members
- Retirement experience (earlier or later than projected)
- The number of disability retirements (more or fewer than projected)
- Salary increases (greater or smaller than projected), and
- Cost-of-living adjustments (COLAs; higher or lower than anticipated)

The net loss from this other experience for the year ended June 30, 2024 amounted to $9.2 million, which is 0.29% of the actuarial accrued liability. This loss was mainly due to the effect of higher than expected individual salary increases for actives and higher than anticipated COLA increases for current retirees and beneficiaries. See *Section 2, Subsection E* for a detailed development of the unfunded actuarial accrued liability.

D. Other changes impacting the actuarial accrued liability

Actuarial assumptions and methods

This report reflects assumption and method changes based on the Actuarial Experience Study (dated November 13, 2024) covering the period July 1, 2020 through June 30, 2024.

- The changes in actuarial assumptions and method increased the actuarial accrued liability by $25.3 million (a 0.81% increase) and increased the total normal cost by $1.2 million (a 1.85% increase). The changes resulted in an increase in the combined (1955/1980 Plan and 2013 Tier) employer contribution rate of 0.70% of payroll and employee contribution rate of 0.37% of payroll (payable at the end of each pay period.) There was an increase in the 2013 Tier member rate of 0.67% of payroll (payable at the end of each pay period).

Details on actuarial assumptions and methods are in *Section 4, Exhibit 1*.

Plan provisions

There were no changes in plan provisions since the prior valuation.

A summary of plan provisions is in *Section 4, Exhibit 2*.

E. Unfunded actuarial accrued liability

Development of Unfunded Actuarial Accrued Liability for Year Ended June 30, 2024

	Line Description	Amount
1.	Unfunded actuarial accrued liability at beginning of year	$742,738,347
2.	Total normal cost at beginning of year	60,312,330
3.	Expected employer and member contributions at beginning of year	(124,828,990)
4.	Interest to end of year	45,779,963
5.	**Expected unfunded actuarial accrued liability at end of year**	**$724,001,650**
6.	**Changes due to:**	
a.	Investment return greater than expected, after asset smoothing	$(8,857,227)
b.	Anticipated one-year delay in implementing the higher contribution rates calculated in the prior valuation	2,674,834
c.	Individual salary increases greater than expected	3,546,248
d.	Loss due to higher than expected COLA increases for current retirees and beneficiaries	6,707,822
e.	Other gains on demographic experience	(1,030,441)
f.	Increase due to change in actuarial assumptions	25,307,090
g.	**Total changes**	**$28,348,326**
7.	**Unfunded actuarial accrued liability at end of year: 5 + 6g**	**$752,349,976**

Note: The “net loss from other experience” of $9,223,629 from *Subsection C* is equal to the sum of items 6c, 6d and 6e.

F. Recommended contribution

The recommended contribution is equal to the employer normal cost payment and a payment on the unfunded actuarial accrued liability. As of June 30, 2024, the average recommended employer contribution is 40.20% of payroll.

The Board sets the funding policy used to calculate the recommended contribution based on layered 20-year[1] amortization periods as a level percentage of payroll. See *Section 4, Exhibit 1* for further details on the funding policy. Based on this policy, there is no negative amortization[2] and each amortization layer is fully funded in 20 years. As shown in the graphical projection of the UAAL amortization balances and payments found in *Section 3, Exhibit H*, before taking into consideration the deferred investment gains and/or losses that will be recognized in the next several valuations, the UAAL of the Plan is expected to be fully amortized by 2045,[3] assuming all assumptions are realized and contributions are made in accordance with the funding policy.

The current funding policy is intended to fully fund the cost of the benefits and to allocate the cost of benefits reasonably and equitably over time while minimizing the volatility of employer contributions. The recommended contribution is expected to remain level as a percent of payroll, except when any current amortization layer is fully amortized and assuming there are no future actuarial gains or losses. Furthermore, the funded ratio is expected to increase as the UAAL is methodically funded by employer contributions.

The contribution requirement as of June 30, 2024 is based on the data previously described, the actuarial assumptions and plan provisions described in *Section 4*, including all changes affecting future costs adopted at the time of the actuarial valuation, actuarial gains and losses, and changes in the actuarial assumptions.

[1] Changes in UAAL as a result of actuarial gains or losses or as a result of changes in actuarial assumptions or methods (on or after July 1, 2021) for each valuation are amortized over separate 20-year periods. Changes in UAAL as a result of plan changes are amortized over separate 15-year periods.

[2] Negative amortization means that the amortization payment towards the UAAL is less than the interest on the UAAL and therefore the outstanding balance of the UAAL would increase.

[3] The UAAL is expected to be fully amortized later than the 20-year amortization period because of a prior change in assumptions base that was originally established with a 25 year amortization period and which has 21 years remaining as of June 30, 2024.

Section 2: Actuarial Valuation Results

Average Recommended Employer Contribution Calculated as of June 30

Line Description	2024 Amount	2024 % of Projected Compensation	2023 Amount	2023 % of Projected Compensation
1. Total normal cost	$65,051,880	23.79%	$62,314,596	23.76%
2. Expected member normal cost contributions	25,816,672	9.44%	23,708,690	9.04%
3. Employer normal cost: **1 − 2**	$39,235,208	14.35%	$38,605,906	14.72%
4. Actuarial accrued liability	3,143,728,340		2,994,429,150	
5. Valuation value of assets	2,391,378,364		2,251,690,803	
6. Unfunded actuarial accrued liability: **4 − 5**	$752,349,976		$742,738,347	
7. Payment on UAAL	70,681,217	25.85%	66,669,695	25.42%
8. Average recommended employer contribution: 3 + 7	**$109,916,425**	**40.20%**	**$105,275,601**	**40.14%**
9. Projected payroll	$273,428,306		$262,272,600	

Note: Contributions are assumed to be paid at the end of each pay period.

Reconciliation of average recommended employer contribution rate

Reconciliation from June 30, 2023 to June 30, 2024

	Item	Contribution Rate	Estimated Annual Dollar Amount[1]
1.	Average recommended employer contribution as of June 30, 2023	39.75%	$108,688,518
2.	**Changes due to:**		
a.	Investment return greater than expected after asset smoothing	(0.23)%	(628,885)
b.	Effect of anticipated one-year delay in implementing the higher contribution rates calculated in the prior valuation	0.07%	191,400
c.	Individual salary increases greater than expected	0.09%	246,085
d.	Amortizing prior year's UAAL over a larger than expected total payroll	(0.30)%	(820,285)
e.	Higher than expected COLA increases for current retirees and beneficiaries	0.17%	464,828
f.	Change in member demographics and other net experience gains	(0.05)%	(139,234)
g.	Effect of changes in actuarial assumptions and methodology	0.70%	1,913,998
h.	**Total change**	**0.45%**	**$1,227,907**
3.	**Average recommended employer contribution as of June 30, 2024: 1 + 2h**	**40.20%**	**$109,916,425**

[1] Based on June 30, 2024 projected compensation of $273,428,306.

Reconciliation of average recommended member contribution rate

Reconciliation from June 30, 2023 to June 30, 2024

	Item	Contribution Rate	Estimated Annual Dollar Amount[1]
1.	Average recommended member contribution as of June 30, 2023	9.07%	$24,808,000
2.	**Changes due to:**		
	a. Change in member demographics and effect of changes in actuarial assumptions and methodology[2]	0.37%	1,008,672
	b. Total change	**0.37%**	**$1,008,672**
3.	**Average recommended member contribution as of June 30, 2024: 1 + 2b**	**9.44%**	**$25,816,672**

[1] Based on June 30, 2024 projected compensation of $273,428,306.
[2] There is no change in the 1955/1980 Plan member rate. There is an increase in the 2013 Tier member rate of 0.67% or $1,008,672.

Recommended employer contribution rate

Recommended Employer Contribution Calculated as of June 30
(% of Payroll; Payable at End of Each Pay Period)

Employer and Member Contributions	2024 Contribution Rate	2024 Estimated Annual Amount[1]	2023 Contribution Rate	2023 Estimated Annual Amount[1]
1955/1980 Plan				
Total normal cost	28.24%	$34,701,415	27.83%	$34,197,605
Expected employee contributions	−8.66%	−10,641,439	−8.66%	−10,641,439
Employer normal cost	19.58%	$24,059,976	19.17%	$23,556,166
UAAL	25.85%	31,764,574	25.42%	31,236,188
Total employer contribution	**45.43%**	**$55,824,550**	**44.59%**	**$54,792,354**
2013 Tier				
Total normal cost	20.16%	$30,350,465	19.79%	$29,793,438
Expected employee contributions	−10.08%	−15,175,233	−9.41%	−14,166,561
Employer normal cost	10.08%	$15,175,232	10.38%	$15,626,877
UAAL	25.85%	38,916,643	25.42%	38,269,287
Total employer contribution	**35.93%**	**$54,091,875**	**35.80%**	**$53,896,164**
Combined				
Total normal cost	23.79%	$65,051,880	23.40%	$63,991,043
Expected employee contributions	−9.44%	−25,816,672	−9.07%	−24,808,000
Employer normal cost	14.35%	$39,235,208	14.33%	$39,183,043
UAAL	25.85%	70,681,217	25.42%	69,505,475
Total employer contribution	**40.20%**	**$109,916,425**	**39.75%**	**$108,688,518**

[1] Amounts are based on the following June 30, 2024 projected annual payroll:

Projected Annual Payroll

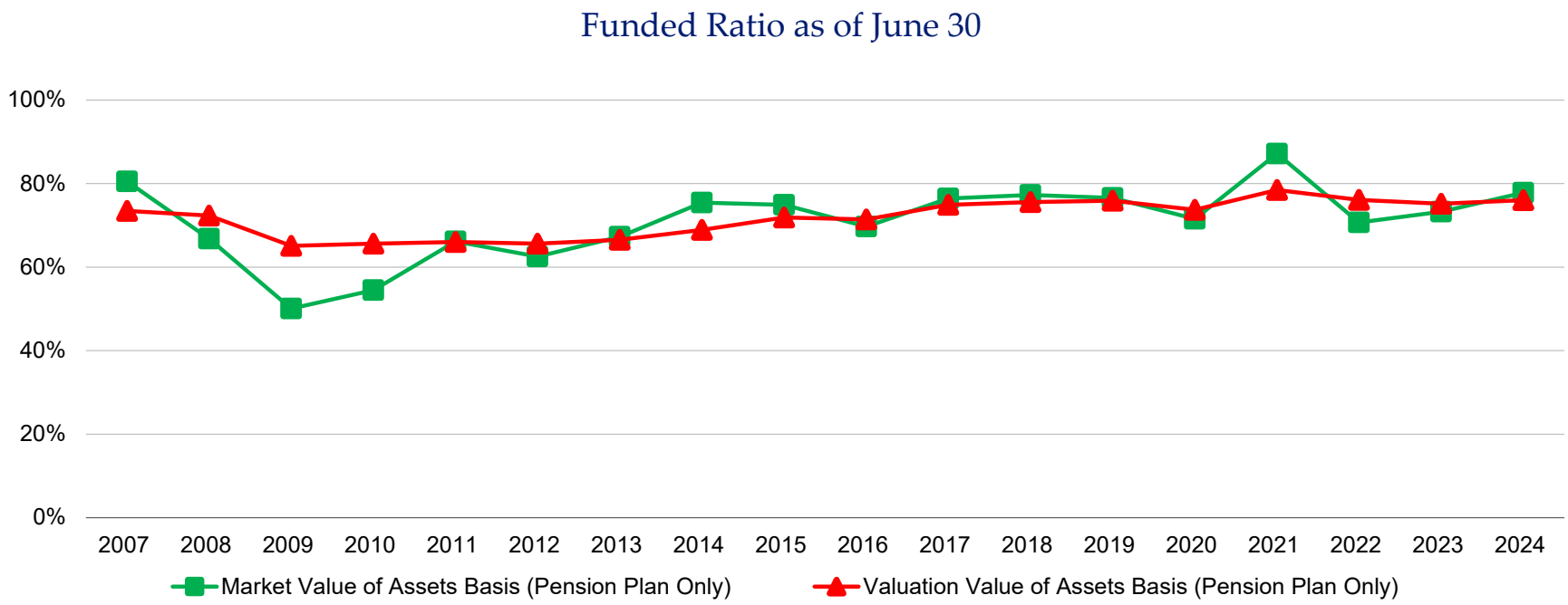
Plan	Amount
1955/1980 Plan	$122,880,363
2013 Tier	150,547,943
Combined	**$273,428,306**

G. Funded status

A commonly reported piece of information regarding the Plan's financial status is the funded ratio. These ratios compare the market and valuation value of assets to the actuarial accrued liability of the Plan. Higher ratios indicate a relatively well-funded plan while lower ratios may indicate recent changes to actuarial assumptions, funding of the plan below actuarial requirements, poor asset performance, or a variety of other causes.

The chart below depicts a history of the funded ratio for the Plan. The chart on the next page shows the Plan's schedule of funding progress for the last ten years.

The funded status measures shown in this valuation are appropriate for assessing the need for or amount of future contributions. However, they are not necessarily appropriate for assessing the sufficiency of Plan assets to cover the estimated cost of settling the Plan's benefit obligations. As the chart below shows, the measures are different depending on whether the market or valuation value of assets is used.



Schedule of Funding Progress

(Dollars in Thousands)

As of June 30	Valuation Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b) − (a)	Funded Ratio (a) ÷ (b)	Projected Compensation (c)	UAAL as a % of Projected Compensation [(b) − (a)] ÷ (c)
2015	$1,327,113	$1,845,912	$518,799	71.9%	$174,899	296.6%
2016	1,425,785	1,995,863	570,078	71.4	183,971	309.9
2017	1,549,213	2,068,015	518,802	74.9	184,859	280.6
2018	1,678,417	2,220,977	542,560	75.6	202,995	267.3
2019	1,777,065	2,340,773	563,708	75.9	212,351	265.5
2020	1,868,917	2,535,238	666,321	73.7	224,412	296.9
2021	2,045,503	2,605,614	560,111	78.5	224,392	249.6
2022	2,158,463	2,835,771	677,308	76.1	241,538	280.4
2023	2,251,691	2,994,429	742,738	75.2	262,273	283.2
2024	2,391,378	3,143,728	752,350	76.1	273,428	275.2

H. Actuarial balance sheet

An overview of the Plan's funding is given by an actuarial balance sheet. In this approach, first the amount and timing of all future payments that will be made by the Plan for current members is determined. Then these payments are discounted at the valuation interest rate to the date of the valuation, thereby determining the present value, referred to as the "liability" of the Plan.

Second, this liability is compared to the assets. The "assets" for this purpose include the net amount of assets already accumulated by the Plan, the present value of future member contributions, the present value of future employer normal cost contributions, and the present value of future employer amortization payments for the unfunded actuarial accrued liability.

Actuarial Balance Sheet as of June 30

Line Description	2024	2023
Liabilities		
Present value of benefits for retired members and beneficiaries	$2,081,323,619	$1,959,982,363
Present value of benefits for inactive members	63,313,175	59,125,354
Present value of benefits for active members	1,562,679,932	1,507,682,199
Total liabilities	**$3,707,316,726**	**$3,526,789,916**
Current and future assets		
Total valuation value of assets	$2,391,378,364	$2,251,690,803
Present value of future contributions by members	249,278,982	216,963,727[1]
Present value of future employer contributions for:		
• Entry age normal cost	314,309,404	315,397,039[1]
• Unfunded actuarial accrued liability	752,349,976	742,738,347
Total of current and future assets	**$3,707,316,726**	**$3,526,789,916**

[1] The present value of future contributions by members has been adjusted to exclude the 0.09% of payroll employee contributions allocated to the HIB Plan. The present value of future employer contributions for entry age normal cost has been adjusted accordingly so that the total of these two items remains unchanged. This reallocation of amounts is for display purposes only and has no effect on the employee and employer contribution rates developed in the June 30, 2023 valuation.

I. Risk

Because the actuarial valuation results are dependent on a fixed set of assumptions and data as of a specific date, there is risk that emerging results may differ, perhaps significantly, as actual experience is fluid and will not exactly track current assumptions. This potential divergence may have a significant impact on the future financial condition of the plan.

This report does not contain a detailed analysis of the potential range of future measurements but does include a concise discussion of some of the primary risks that may affect the Plan's future financial condition. We recommend a more detailed assessment of the risks to provide the Board with a better understanding of the risks inherent in the Plan that can inform both financial preparation and future decision making. This assessment would enable us to work with the Board to highlight and illustrate particular risks or potential future outcomes they may be interested in discussing and could include scenario testing, sensitivity testing, stress testing and stochastic modeling. As noted in the valuation highlights section of this report the results of our more detailed risk assessment will be provided in a separate stand-alone report.

This section provides descriptions and basic assessments of the primary risks that are likely to have an ongoing influence on the Plan's financial health, as well as a discussion of historical trends and maturity measures:

Risk assessments

- **Asset/Liability Mismatch Risk** (the potential that future plan experience does not affect asset and liability values in the same way, causing them to diverge)

  The most significant asset/liability mismatch risk to the Plan is investment risk, as discussed below. In fact, investment risk has the potential to impact asset/liability mismatch in two ways. The first is evident in annual valuations; when asset values deviate from assumptions they are typically independent from liability changes. The second can be caused when systemic asset deviations from assumptions may signal the need for an assumption change, which causes liability values and contribution rates to move in the opposite direction from any change in the expected experience of asset growth rates.

  Asset/liability mismatch can also be caused by demographic assumption risk such as longevity, which affects liabilities but has no impact on asset levels. This risk is also discussed below.

- **Investment Risk** (the risk that investment returns will be different than expected)

  The investment return assumption is a long-term, static assumption for valuation purposes even though in reality market experience can be quite volatile in any given year. That volatility can cause significant changes in the financial condition of the Plan, affecting both funded status and contribution rates. The inherent year-to-year volatility is reduced by smoothing through the valuation value of assets, however investment experience can still have a sizable impact. As discussed in *Section 2, Subsection J,*

Volatility Ratios, on page 42, a 1% asset gain or loss (relative to the assumed investment return) translates to about 8.9% of one-year's payroll. Since actuarial gains and losses are amortized over 20 years, there would be a 0.6% of payroll decrease/(increase) in the required contribution for each 1% asset gain/(loss).

The year-by-year market value rate of return over the last 10 years has ranged from a low of (10.94)% to a high of 26.61%.

- **Longevity Risk** (the risk that mortality experience will be different than expected)

  The actuarial valuation includes current life expectancy assumptions and an expectation of future improvement in life expectancy, which are significant assumptions given the relatively long duration of liabilities for pension plans. Emerging plan experience that does not match these expectations will result in increases or decreases in the actuarially determined contribution over time. This risk can be reduced by using tables appropriate for the Plan (public experience tables) that are weighted by benefit levels, and by using generational mortality projections. The Board has adopted mortality tables based on this methodology.

- **Other Risks**

  In addition to longevity, the valuation includes a variety of other assumptions that are unlikely to match future experience exactly. One example is projected salary scales over time. As salary is central to the determination of benefits paid in retirement, deviations from the projected salary scales could have a material impact on the benefits anticipated for each member. Examples of other demographic assumptions include retirement, termination and disability assumptions, and will likely vary in significance for different plans.

Some plans also carry significant contribution risk, defined as the potential for actual future contributions deviating from expected future contributions. However, the employer has a proven track-record of making at least the the actuarially determined contributions based on the Board's Actuarial Funding Policy, so contribution risk is minimal.

Evaluation of historical trends

Past experience can help demonstrate the sensitivity of key results to the Plan's actual experience. Over the past ten years:

- The funded percentage on the valuation value of assets basis has increased from 71.9% to 76.1%. This is primarily due to contributions made to amortize the UAAL under the Board's actuarial funding policy and average recent years' investment return on a smoothed basis greater than the assumption. For a more detailed history see *Section 2, Subsection G, Funded status* starting on page 35.
- The average geometric investment return on the actuarial value of assets over the last 10 years was 7.81%. This includes a high of 10.71% and a low of 5.42%. The average over the last five years is 7.16%. For more details see *Section 2, Subsection B, Historical investment returns* on page 24.

- The primary source of new UAAL was the strengthening of assumptions through multiple assumption changes. For example, the assumption changes in:
  - 2016 included a change in the discount rate from 7.50% to 7.25%, adding $52.6 million in unfunded liability;
  - 2018 included a change in the discount rate from 7.25% to 7.00%, adding $12.5 million in unfunded liability;
  - 2020 included the use of amount-weighted mortality tables projected generationally to better reflect future mortality improvement, adding $104.8 million in unfunded liability;
  - 2022 included a change in the discount rate from 7.00% to 6.75%, adding $72.1 million in unfunded liability; and
  - 2024 includes changes in demographic assumptions and methodology, adding $25.3 million in unfunded liability.
- The plan's funding policy effectively deals with these unfunded liabilities over time.[1] This can be seen most clearly in *Section 3, Exhibit H, Projection of UAAL balances and payments* starting on page 56.

Maturity measures

In the last 10 years the ratio of members in pay status to active participants has increased from 0.89 to 1.10. An increased ratio indicates that the plan has grown in maturity over time. This is to be expected, but is also informative for understanding plan sensitivity to particular risks. For more details see *Section 2, Subsection A, Member information* on page 17.

As pension plans mature, the cash needed to fulfill benefit obligations will increase over time. Therefore, cash flow projections and analysis should be performed to assure that the Plan's asset allocation is aligned to meet emerging pension liabilities. Over the past year, benefits paid were $20.5 million more than contributions received.[2] Plans with high levels of negative cash flows may have a need for a larger allocation to income generating assets, which can create a drag on investment return. However, the Plan currently has a low level of negative cash flow. For more details on historical cash flows see *Section 2, Subsection B, Financial information* on page 21.

A further discussion of plan maturity measures and how they relate to changes in assets and liabilities is included in *Section 2, Subsection J, Volatility ratios* on page 42.

[1] In addition, during the last ten years, the Board had on five occasions elected to continue to carry over the higher employer contribution rates in a previous valuation even though the employer contribution rates would have come down in the absence of such action. The Board made that election for the purpose of accelerating the payment of the UAAL.

[2] Under the Retirement Board's actuarial funding policy, current assets plus the present value of future (employer and member) contributions will always be equal to the present value of benefits expected to be paid by the System. Based on the understanding that the present value of future contributions includes both the amounts required to pay the ongoing normal cost and any unfunded liabilities, it appears that the minimum contribution limit pursuant to Section 12335 of the Public Utilities Code does not apply.

Low-Default-Risk Obligation Measure (LDROM)

In December 2021, the Actuarial Standards Board issued a revision of Actuarial Standard of Practice No. 4 (ASOP 4) *Measuring Pension Obligations and Determining Pension Plan Costs or Contributions*. One of the revisions to ASOP 4 requires the disclosure of a Low-Default-Risk Obligation Measure (LDROM) when performing a funding valuation. The LDROM presented in this report is calculated using the same methodology and assumptions used to determine the AAL used for funding, except for the discount rate. The LDROM is required to be calculated using "a discount rate…derived from low-default-risk fixed income securities whose cash flows are reasonably consistent with the pattern of benefits expected to be paid in the future."

The LDROM is a calculation assuming a plan's assets are invested in an all-bond portfolio, generally lowering expected long-term investment returns. The discount rate selected and used for this purpose is the Bond Buyer General Obligation 20-year Municipal Bond Index Rate, published at the end of each week. The last published rate in June of the measurement period, by The Bond Buyer, is 3.93% for use effective June 30, 2024. This is the rate used to determine the discount rate for valuing reported public pension plan liabilities in accordance with Governmental Accounting Standards when plan assets are projected to be insufficient to make projected benefit payments, and the 20-year period reasonably approximates the duration of plan liabilities. The LDROM is not used to determine a plan's funded status or actuarially determined contribution rates. The plan's expected return on assets, currently 6.75%, is used for these calculations.

As of June 30, 2024, the LDROM for the Plan is $4.560 billion.[1] The difference between the Plan's AAL of $3.144 billion and the LDROM can be thought of as the increase in the AAL if the entire portfolio were invested in low-default-risk securities. Alternatively, this difference could also be viewed as representing the expected savings from investing in the Plan's diversified portfolio compared to investing only in low-default-risk securities.

ASOP 4 requires commentary to help the intended user understand the significance of the LDROM with respect to the funded status of the plan, plan contributions, and the security of member benefits. In general, if plan assets were invested exclusively in low-default-risk securities, the funded status would be lower and the actuarially determined contribution would be higher. While investing in a portfolio with low-default-risk securities may be more likely to reduce investment volatility and the volatility of employer contributions, it also may be more likely to result in higher employer contributions or lower benefits.

[1] For comparison purposes, as of June 30, 2023, the LDROM was $4.515 billion based on a discount rate of 3.65%, while the Plan's actuarial accrued liability was $2.994 billion.

J. Volatility ratios

Retirement plans are subject to volatility in the level of required contributions. This volatility tends to increase as retirement plans become more mature.

The Asset Volatility Ratio (AVR), which is equal to the market value of assets divided by total projected compensation, provides an indication of the potential contribution volatility for any given level of investment volatility. A higher AVR indicates that the plan is subject to a greater level of contribution volatility. This is a current measurement since it is based on the current level of assets.

The current AVR is about 8.9. This means that a 1% asset gain or loss (relative to the assumed investment return) translates to about 8.9% of one-year's payroll. Since actuarial gains and losses are amortized over 20 years, there would be a 0.6% of payroll decrease/(increase) in the required contribution for each 1% asset gain/(loss).

The Liability Volatility Ratio (LVR), which is equal to the actuarial accrued liability divided by total projected compensation, provides an indication of the longer-term potential for contribution volatility for any given level of investment volatility. This is because, over an extended period of time, the plan's assets should track the plan's liabilities. For example, if a plan is 50% funded on a market value basis, the liability volatility ratio would be double the asset volatility ratio and the plan sponsor should expect contribution volatility to increase over time as the plan becomes better funded.

The LVR also indicates how volatile contributions will be in response to changes in the actuarial accrued liability due to actual experience or to changes in actuarial assumptions. The current total Plan LVR is about 11.5. This is about 29% higher than the AVR. Therefore, we would expect that contribution volatility will increase over the long term.

Volatility Ratios

Asset Volatility Ratio (AVR) versus Liability Volatility Ratio (LVR)

As of June 30	Asset Volatility Ratio	Liability Volatility Ratio
2015	7.9	10.6
2016	7.6	10.8
2017	8.6	11.2
2018	8.5	10.9
2019	8.4	11.0
2020	8.1	11.3
2021	10.1	11.6
2022	8.3	11.7
2023	8.4	11.4
2024	8.9	11.5

Section 3: Supplemental Information

Exhibit A: Table of plan demographics

Total Plan — Demographics as of June 30

Demographic Data by Status	2024	2023	Change
Active members			
• Number	1,974	1,955	1.0%
• Average age	46.9	47.1	-0.2
• Average years of service	10.9	11.0	-0.1
• Total projected compensation	$273,428,306	$262,272,600	4.3%
• Average projected compensation	$138,515	$134,155	3.2%
• Account balances	$263,198,027	$248,277,401	6.0%
• Total active vested members	1,367	1,338	2.2%
Inactive members[1]			
• Number	407	381	6.8%
• Average age	48.0	48.4	-0.4
Retired members			
• Number	1,753	1,704	2.9%
• Average age	71.4	71.0	0.4
• Average monthly benefit	$6,531	$6,332	3.1%
Disabled members			
• Number	51	51	0.0%
• Average age	68.0	67.4	0.6
• Average monthly benefit	$2,699	$2,653	1.7%
Beneficiaries			
• Number	372	362	2.8%
• Average age	73.9	73.8	0.1
• Average monthly benefit	$3,538	$3,456	2.4%

[1] Includes inactive members due a refund of member contributions.

Section 3: Supplemental Information

1955/1980 Plan — Demographics as of June 30

Demographic Data by Status	2024	2023	Change
Active members			
• Number	778	856	-9.1%
• Average age	53.6	53.3	0.3
• Average years of service	19.5	18.9	0.6
• Total projected compensation	$122,880,363	$129,488,164	-5.1%
• Average projected compensation	$157,944	$151,271	4.4%
• Account balances	$193,280,838	$192,745,940	0.3%
• Total active vested members	756	825	-8.4%
Inactive members[1]			
• Number	204	211	-3.3%
• Average age	53.2	52.9	0.3
Retired members			
• Number	1,742	1,694	2.8%
• Average age	71.4	71.1	0.3
• Average monthly benefit	$6,564	$6,363	3.2%
Disabled members			
• Number	51	51	0.0%
• Average age	68.0	67.4	0.6
• Average monthly benefit	$2,699	$2,653	1.7%
Beneficiaries			
• Number	372	362	2.8%
• Average age	73.9	73.8	0.1
• Average monthly benefit	$3,538	$3,456	2.4%

[1] Includes inactive members due a refund of member contributions.

Section 3: Supplemental Information

2013 Tier — Demographics as of June 30

Demographic Data by Status	2024	2023	Change
Active members			
• Number	1,196	1,099	8.8%
• Average age	42.5	42.2	0.3
• Average years of service	5.3	4.9	0.4
• Total projected compensation	$150,547,943	$132,784,436	13.4%
• Average projected compensation	$125,876	$120,823	4.2%
• Account balances	$69,917,190	$55,531,461	25.9%
• Total active vested members	611	513	19.1%
Inactive members[1]			
• Number	203	170	19.4%
• Average age	42.8	42.8	0
Retired members			
• Number	11	10	10.0%
• Average age	68.3	67.0	1.3
• Average monthly benefit	$1,345	$1,161	15.8%
Disabled members			
• Number	N/A	N/A	N/A
• Average age	N/A	N/A	N/A
• Average monthly benefit	N/A	N/A	N/A
Beneficiaries			
• Number	N/A	N/A	N/A
• Average age	N/A	N/A	N/A
• Average monthly benefit	N/A	N/A	N/A

[1] Includes inactive members due a refund of member contributions.

Exhibit B: Distribution of active members

Total Plan

Active Counts & Average Projected Compensation by Age and Years of Service as of June 30, 2024

Age	Total	0–4 Years	5–9 Years	10–14 Years	15–19 Years	20–24 Years	25–29 Years	30–34 Years	35–39 Years	40 Years and Over
Under 25	17	17	—	—	—	—	—	—	—	—
	$95,015	$95,015	—	—	—	—	—	—	—	—
25–29	83	73	10	—	—	—	—	—	—	—
	$118,065	$116,341	$130,656	—	—	—	—	—	—	—
30–34	200	112	65	22	1	—	—	—	—	—
	$125,758	$118,413	$133,340	$139,771	$147,299	—	—	—	—	—
35–39	311	148	116	38	9	—	—	—	—	—
	$128,717	$117,927	$135,430	$145,286	$149,669	—	—	—	—	—
40–44	308	93	103	65	42	5	—	—	—	—
	$138,227	$120,859	$132,681	$151,553	$163,223	$192,326	—	—	—	—
45–49	273	65	75	56	46	27	4	—	—	—
	$145,812	$127,820	$135,455	$148,048	$162,874	$174,479	$211,352	—	—	—
50–54	278	50	69	47	36	42	29	5	—	—
	$145,307	$129,936	$135,238	$144,821	$153,319	$161,144	$158,640	$174,461	—	—
55–59	243	27	43	35	47	31	35	22	3	—
	$148,692	$124,808	$137,068	$150,130	$156,276	$157,776	$148,482	$165,963	$176,631	—
60–64	175	16	29	28	31	20	25	14	10	2
	$147,640	$128,639	$127,037	$151,811	$158,148	$149,833	$159,750	$139,135	$150,810	$247,520
65–69	68	5	11	8	4	14	5	9	5	7
	$141,532	$127,131	$112,632	$127,912	$159,069	$126,289	$137,188	$167,201	$170,771	$182,479
70 and over	18	1	1	—	2	2	7	1	1	3
	$136,767	$119,998	$151,446	—	$146,926	$127,415	$135,316	$137,201	$147,690	$136,525
Total	**1,974**	**607**	**522**	**299**	**218**	**141**	**105**	**51**	**19**	**12**
	$138,515	**$120,350**	**$133,733**	**$147,400**	**$158,436**	**$158,519**	**$154,950**	**$159,086**	**$159,976**	**$181,831**

1955/1980 Plan

Active Counts & Average Projected Compensation by Age and Years of Service as of June 30, 2024

Age	Total	0–4 Years	5–9 Years	10–14 Years	15–19 Years	20–24 Years	25–29 Years	30–34 Years	35–39 Years	40 Years and Over
Under 25	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
25–29	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—
30–34	8	—	2	5	1	—	—	—	—	—
	$142,055	—	$120,369	$149,680	$147,299	—	—	—	—	—
35–39	42	4	10	19	9	—	—	—	—	—
	$151,383	$134,794	$160,138	$151,078	$149,669	—	—	—	—	—
40–44	96	5	11	33	42	5	—	—	—	—
	$162,206	$153,018	$139,612	$165,270	$163,223	$192,326	—	—	—	—
45–49	119	5	12	25	46	27	4	—	—	—
	$166,422	$200,639	$144,393	$160,788	$162,874	$174,479	$211,352	—	—	—
50–54	157	4	15	26	36	42	29	5	—	—
	$156,569	$191,066	$142,703	$150,617	$153,319	$161,144	$158,640	$174,461	—	—
55–59	171	3	7	23	47	31	35	22	3	—
	$157,969	$164,364	$179,802	$158,570	$156,276	$157,776	$148,482	$165,963	$176,631	—
60–64	122	1	2	17	31	20	25	14	10	2
	$156,774	$238,871	$140,608	$162,485	$158,148	$149,833	$159,750	$139,135	$150,810	$247,520
65–69	47	—	—	3	4	14	5	9	5	7
	$151,046	—	—	$124,292	$159,069	$126,289	$137,188	$167,201	$170,771	$182,479
70 and over	16	—	—	—	2	2	7	1	1	3
	$136,897	—	—	—	$146,926	$127,415	$135,316	$137,201	$147,690	$136,525
Total	**778**	**22**	**59**	**151**	**218**	**141**	**105**	**51**	**19**	**12**
	$157,944	**$172,895**	**$148,999**	**$157,555**	**$158,436**	**$158,519**	**$154,950**	**$159,086**	**$159,976**	**$181,831**

2013 Tier

Active Counts & Average Projected Compensation by Age and Years of Service as of June 30, 2024

Age	Total	0–4 Years	5–9 Years	10–14 Years	15–19 Years	20–24 Years	25–29 Years	30–34 Years	35–39 Years	40 Years and Over
Under 25	17	17	—	—	—	—	—	—	—	—
	$95,015	$95,015	—	—	—	—	—	—	—	—
25–29	83	73	10	—	—	—	—	—	—	—
	$118,065	$116,341	$130,656	—	—	—	—	—	—	—
30–34	192	112	63	17	—	—	—	—	—	—
	$125,079	$118,413	$133,751	$136,856	—	—	—	—	—	—
35–39	269	144	106	19	—	—	—	—	—	—
	$125,178	$117,458	$133,099	$139,493	—	—	—	—	—	—
40–44	212	88	92	32	—	—	—	—	—	—
	$127,369	$119,031	$131,852	$137,406	—	—	—	—	—	—
45–49	154	60	63	31	—	—	—	—	—	—
	$129,886	$121,752	$133,753	$137,774	—	—	—	—	—	—
50–54	121	46	54	21	—	—	—	—	—	—
	$130,694	$124,621	$133,165	$137,644	—	—	—	—	—	—
55–59	72	24	36	12	—	—	—	—	—	—
	$126,659	$119,863	$128,758	$133,955	—	—	—	—	—	—
60–64	53	15	27	11	—	—	—	—	—	—
	$126,617	$121,290	$126,032	$135,315	—	—	—	—	—	—
65–69	21	5	11	5	—	—	—	—	—	—
	$120,240	$127,131	$112,632	$130,084	—	—	—	—	—	—
70 and over	2	1	1	—	—	—	—	—	—	—
	$135,722	$119,998	$151,446	—	—	—	—	—	—	—
Total	**1,196**	**585**	**463**	**148**	**—**	**—**	**—**	**—**	**—**	**—**
	$125,876	**$118,373**	**$131,788**	**$137,039**	**—**	**—**	**—**	**—**	**—**	**—**

Exhibit C: Reconciliation of member data

Line Description	Active Members	Inactive Members[1]	Retired Members	Disabled Members	Beneficiaries	Total
Number as of June 30, 2023	1,955	381	1,704	51	362	4,453
New members	151	0	0	0	25	176
Terminations with vested rights	−44	44	0	0	0	0
Contribution refunds	−14	−15	0	0	0	−29
Retirements	−71	−10	81	0	0	0
New disabilities	0	−1	0	1	0	0
Return to work	2	−2	0	0	0	0
Died with or without beneficiary	−4	−1	−32	−1	−15	−53
Data adjustments	−1	11[2]	0	0	0	10
Number as of June 30, 2024	**1,974**	**407**	**1,753**	**51**	**372**	**4,557**

[1] Includes inactive members due a refund of member contributions.
[2] These 11 members were hired and terminated during fiscal year 2023/2024.

Exhibit D: Summary of income and expenses on a market value basis for all Pension Plan and HIB Plan assets

Line Description	Year Ended June 30, 2024	Year Ended June 30, 2023
Contribution income		
• Employer contributions	$117,342,000	$106,523,000
• Member contributions	23,877,000	22,088,000
– **Net contribution income**	**$141,219,000**	**$128,611,000**
Investment income		
• Interest, dividends and other income	$44,490,000	$38,553,000
• Asset appreciation	247,042,000	187,897,000
• Less investment and administrative fees	(11,987,000)	(8,891,000)
– **Net investment income**	**$279,545,000**	**$217,559,000**
Total income available for benefits	**$420,764,000**	**$346,170,000**
Less benefit payments		
• Benefits paid	$(157,771,000)	$(149,102,000)
• Refund of contributions	(1,269,000)	(684,000)
– **Net benefit payments**	**$(159,040,000)**	**$(149,786,000)**
Change in market value of assets	**$261,724,000**	**$196,384,000**
Net assets at market value at the beginning of the year	**$2,255,307,000**	**$2,058,923,000**
Net assets at market value at the end of the year	**$2,517,031,000**	**$2,255,307,000**

Note: Results may be slightly off due to rounding.

Exhibit E: Summary statement of plan assets

Line Description	Year Ended June 30, 2024	Year Ended June 30, 2023
Cash equivalents	**$28,791,000**	**$27,677,000**
Accounts receivable		
• Brokers, securities sold	$2,068,000	$2,854,000
• Employer and member contributions	5,584,000	4,493,000
• Interest, dividends and recoverable taxes	5,115,000	4,833,000
– **Total accounts receivable**	**$12,767,000**	**$12,180,000**
Investments		
• Equities	$1,824,973,000	$1,581,310,000
• Fixed income investments	533,117,000	515,694,000
• Real estate	118,857,000	122,000,000
• Securities lending collateral	106,561,000	77,906,000
• Capital assets	4,240,000	1,692,000
• Prepaid expenses	598,000	575,000
– **Total investments at market value**	**$2,588,346,000**	**$2,299,177,000**
Total assets	**$2,629,904,000**	**$2,339,034,000**
Accounts payable		
• Accounts payable and accrued expenses	$(2,772,000)	$(3,224,000)
• Payables to brokers, securities purchased	(3,540,000)	(2,597,000)
• Securities lending collateral	(106,561,000)	(77,906,000)
– **Total accounts payable**	**$(112,873,000)**	**$(83,727,000)**
Net assets at market value	**$2,517,031,000**	**$2,255,307,000**
Net assets at actuarial value	**$2,461,214,590**	**$2,314,460,062**
Net assets at valuation value (Pension Plan only)	**$2,391,378,364**	**$2,251,690,803**

Note: Results may be slightly off due to rounding.

Exhibit F: Development of the Plan through June 30, 2024 for all Pension Plan and HIB Plan assets

Year Ended June 30	Employer Contributions	Member Contributions	Net Investment Return[1]	Benefit Payments	Market Value of Assets at Year-End	Actuarial Value of Assets at Year-End	Actuarial Value as a Percent of Market Value
2015	$73,141,000	$13,427,000	$58,937,000	$85,184,000	$1,407,209,000	$1,350,292,296	96.0%
2016	74,672,000	14,925,000	12,894,000	91,571,000	1,418,129,000	1,452,786,717	102.4%
2017	76,860,000	16,018,000	200,254,000	98,617,000	1,612,644,000	1,580,665,009	98.0%
2018	81,096,000	17,079,000	148,798,000	106,377,000	1,753,240,000	1,714,363,843	97.8%
2019	84,551,000	17,865,000	91,744,000	114,435,000	1,832,965,000	1,817,562,986	99.2%
2020	88,734,000	18,885,000	39,376,000	122,351,000	1,857,609,000	1,914,278,036	103.1%
2021	90,624,000	19,336,000	491,625,000	130,472,000	2,328,722,000	2,097,712,454	90.1%
2022	102,285,000	21,127,000	(253,930,000)	139,281,000	2,058,923,000	2,216,123,725	107.6%
2023	106,523,000	22,088,000	217,559,000	149,786,000	2,255,307,000	2,314,460,062	102.6%
2024	117,342,000	23,877,000	279,545,000	159,040,000	2,517,031,000	2,461,214,590	97.8%

[1] On a market value basis, net of investment and administrative expenses.

Exhibit G: Table of amortization bases

Base Type	Date Established: June 30	Initial Amount	Initial Period	Outstanding Balance	Years Remaining	Annual Payment[1]
Experience Gain	2000	$(10,871,830)	30	$(7,758,087)	6	$(1,411,304)
Change in Assumptions	2000	8,629,891	30	6,158,253	6	1,120,272
Plan Amendments	2000	13,607,265	30	9,710,082	6	1,766,398
3.5% Retiree COLA Assumption	2000	27,057,441	30	19,308,070	6	3,512,405
Experience Loss	2001	2,292,281	30	1,800,708	7	285,645
Experience Loss	2002	26,232,251	30	22,224,749	8	3,137,959
Plan Amendments	2002	5,111,914	30	4,330,964	8	611,498
Experience Loss	2003	43,692,270	30	39,305,164	9	5,017,415
Plan Amendments	2003	67,138,578	30	60,397,241	9	7,709,879
Experience Loss	2004	32,731,232	30	30,882,544	10	3,608,382
New Assumption / Domestic Partners	2004	(9,812,646)	30	(9,258,421)	10	(1,081,774)
Experience Loss	2005	26,910,233	30	26,367,324	11	2,848,088
Remove Limit Pension Base	2005	27,315,928	30	26,643,190	11	2,877,885
Experience Loss	2006	14,160,133	30	14,291,138	12	1,438,799
Experience Gain	2007	(3,098,126)	30	(3,198,741)	13	(302,231)
Experience Gain	2008	(7,800,585)	30	(8,191,579)	14	(730,610)
Change in Assumptions	2008	51,413,374	30	53,990,404	14	4,815,426
Experience Loss	2009	114,894,458	30	122,105,337	15	10,332,058
Experience Loss	2010	3,039,098	30	3,254,596	16	262,405
Change in Assumptions	2010	8,098,499	30	8,672,752	16	699,249
Experience Loss	2011	4,428,038	30	4,763,753	17	367,368
Experience Gain	2012	(15,668,764)	20	(11,397,941)	8	(1,609,299)

[1] Calculated as a level percentage of payroll, payable at the beginning of the year.

Section 3: Supplemental Information

Base Type	Date Established: June 30	Initial Amount	Initial Period	Outstanding Balance	Years Remaining	Annual Payment[1]
Change in Assumptions	2012	$53,400,521	25	$50,171,332	13	$4,740,406
Experience Loss	2013	10,858,322	20	8,413,720	9	1,074,035
Experience Gain	2014	(26,406,581)	20	(21,529,181)	10	(2,515,515)
Change in Assumptions	2014	18,421,049	25	17,926,571	15	1,516,874
Experience Gain	2015	(28,955,525)	20	(24,652,243)	11	(2,662,832)
Experience Gain	2016	(1,408,751)	20	(1,242,271)	12	(125,069)
Change in Assumptions	2016	52,595,760	25	52,346,541	17	4,036,827
Experience Gain	2017	(50,022,788)	20	(45,416,385)	13	(4,291,138)
Experience Loss	2018	14,053,082	20	13,060,113	14	1,164,837
Change in Assumptions	2018	12,484,391	25	12,557,625	19	894,604
Experience Loss	2019	26,728,885	20	25,359,871	15	2,145,849
Experience Loss	2020	5,281,313	20	5,093,424	16	410,662
Change in Assumptions	2020	104,813,640	25	105,919,511	21	7,045,774
Experience Gain	2021	(97,336,901)	20	(95,058,879)	17	(7,330,690)
Experience Loss	2022	56,034,517	20	55,227,826	18	4,087,400
Change in Assumptions	2022	72,119,593	20	71,081,335	18	5,260,715
Experience Loss	2023	80,817,915	20	80,341,240	19	5,723,504
Experience Loss	2024	3,041,236	20	3,041,236	20	209,106
Change in Assumptions	2024	25,307,090	20	25,307,090	20	1,740,040
Total				**$752,349,976**		**$68,401,302**

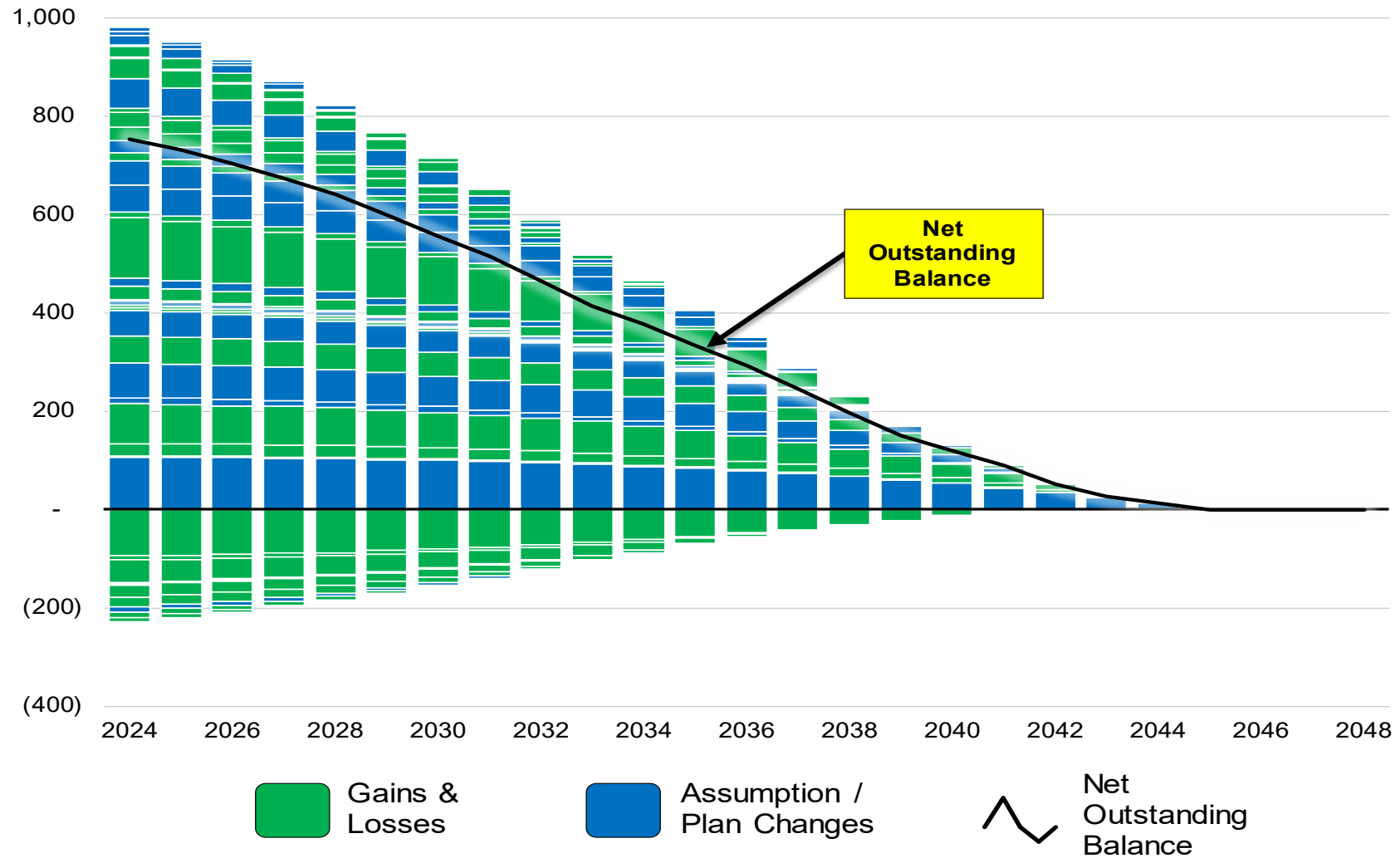
Note: The equivalent single amortization period is about 14 years.

[1] Calculated as a level percentage of payroll, payable at the beginning of the year.

Exhibit H: Projection of UAAL balances and payments

Outstanding Balance of $752.3 Million in Net UAAL as of June 30, 2024

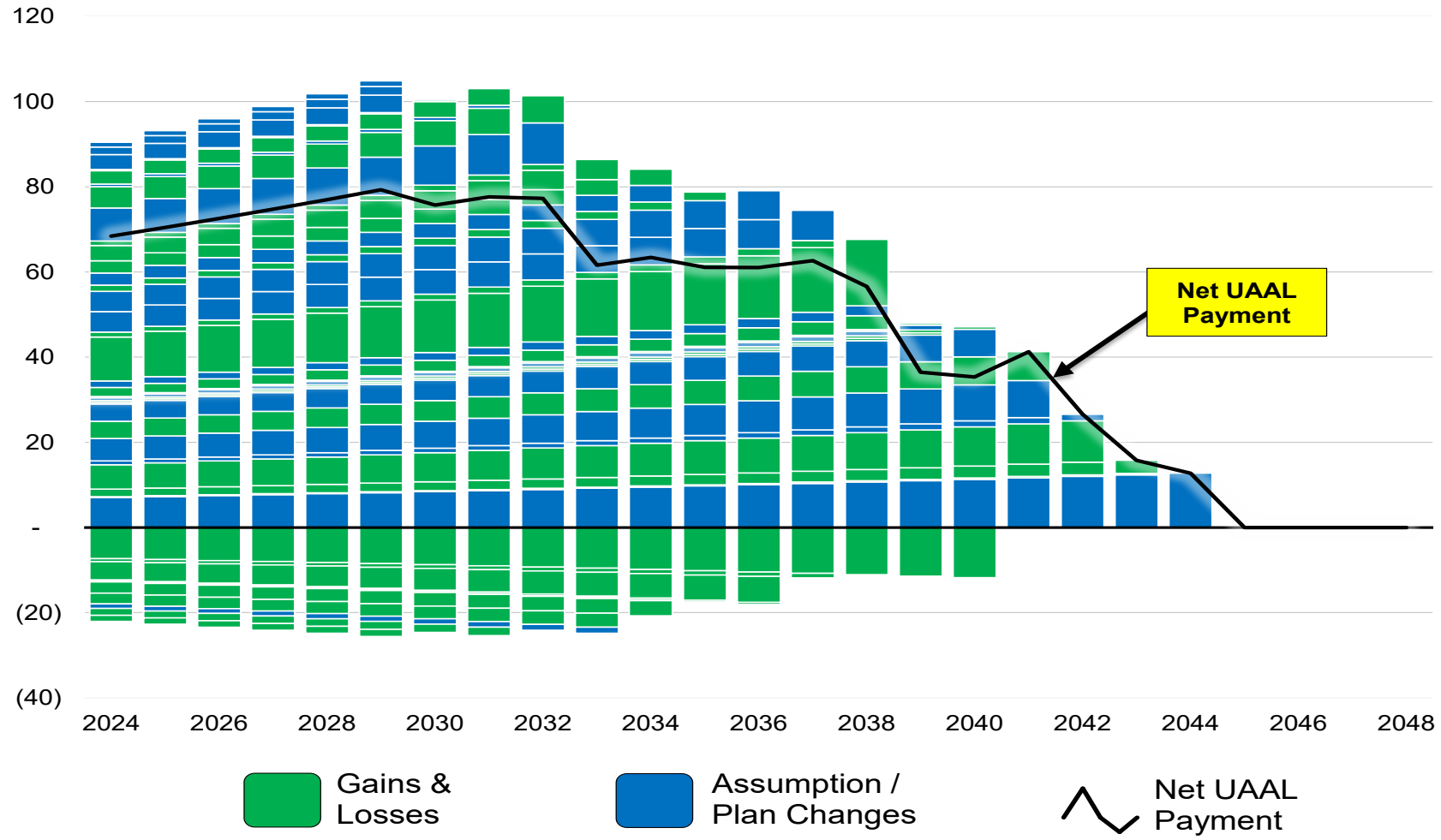
($ in Millions)



Section 3: Supplemental Information

Annual Payments Required to Amortize $752.3 Million in Net UAAL as of June 30, 2024

($ in Millions)



Note: Starting in 2030, the contribution rate for the UAAL would be expected to be somewhat non-level due to the pattern of recognition of the various layers of UAAL payments. We intend to bring back to EBMUDERS in the future a proposal that might be considered by the Board to levelized such UAAL payments.

Section 4: Actuarial Valuation Basis

Exhibit 1: Actuarial assumptions, methods and models

Rationale for assumptions

The information and analysis used in selecting each assumption that has a significant effect on this actuarial valuation is shown in the July 1, 2020 through June 30, 2024 Actuarial Experience Study report dated November 13, 2024. Unless otherwise noted, all actuarial assumptions and methods shown below apply to both tiers. These assumptions were adopted by the Board.

Net investment return

6.75%; net of administrative and investment expenses.

Based on the Actuarial Experience Study referenced above, expected administrative 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 Adjustment (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 real “across-the-board” salary increase of 0.50% per year. The payroll growth assumption is used to amortize the unfunded actuarial accrued liability as a level percentage of payroll.

Increase 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 increase of 0.50% per year, plus
- Merit and promotion increase based on time from hire:

Merit and Promotion Increases (%)

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

Post-retirement mortality rates

The Pub-2010 mortality tables and adjustments as shown below reasonably reflect the mortality experience as of the measurement date. These mortality tables were adjusted to future years using the generational projection to reflect future mortality improvement between the measurement date and those years.

Healthy

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.

Disabled

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.

Beneficiary

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.

Pre-retirement mortality rates

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

Disability

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

Disabilities rates are applicable after eight years of service.

Termination

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: Unreduced Pension[1]	1955/1980 Plan: 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[2]	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

[1] 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.
[2] 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.

Retirement age for inactive 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.

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% of 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%

Actuarial cost method

Entry age cost method. Entry age is the age at the member's hire date. Normal cost and actuarial accrued liability are calculated on an individual basis and are based on costs allocated as a level percentage of compensation, as if the current benefit formula for each individual has always been in effect (i.e., "replacement life within a tier").

Actuarial value of assets

Market value of assets (MVA) less unrecognized returns in each of the last five years. Unrecognized returns are equal to the difference between the actual market returns and the expected returns on the market value, and are recognized over a five-year period. The actuarial value of assets (AVA) is limited by a 30% corridor; the AVA cannot be less than 70% of MVA, nor greater than 130% of MVA.

Valuation value of assets

The proportion of the actuarial value of assets allocated to the Pension Plan, based on the proportion of the MVA attributable to the Pension Plan.

Amortization policy

Prior to July 1, 2011, the UAAL from plan changes, assumption changes, and experience gains/losses were amortized over separate decreasing 30-year 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.

Employer contributions

The recommended employer contributions are provided in *Section 2, Subsection F* and consist of two components:

Normal Cost

The annual contribution rate that, if paid annually from a member's first year of membership through the year of retirement, would accumulate to the amount necessary to fully fund the member's retirement-related benefits. Accumulation includes annual crediting of interest at the assumed investment earnings rate. The contribution rate is expressed as a level percentage of the member's compensation.

Contribution to the Unfunded Actuarial Accrued Liability (UAAL)

The annual contribution rate that, if paid annually over the UAAL amortization period, would accumulate to the amount necessary to fully fund the UAAL. Accumulation includes annual crediting of interest at the assumed investment earning rate. The contribution (or rate credit in the case of a negative UAAL) is calculated to remain as a level percentage of future active member payroll (including payroll for new members as they enter the System) assuming a constant number of active members. In order to remain as a level percentage of payroll, amortization payments (credits) are scheduled to increase at the annual rate of 3.00% (i.e., 2.50% inflation plus 0.50% across-the-board salary increase).

The amortization policy is described above.

Member contributions

The member contribution rates are provided in *Section 2, Subsection F*. Accumulation for all members includes crediting of interest at the assumed investment earnings rate.

1955/1980 Plan Members

Employee contribution rates for 1955/1980 Plan members are prescribed in the Ordinance. Effective April 17, 2006, the rate of member retirement contributions is 6.83%, and 6.74% of that rate is allocated to pay pension benefits. The rest, or 0.09%, is used to pay HIB benefits. The Board of Directors may adjust the employee rates solely pursuant to the terms of a negotiated collective bargaining agreement or memorandum of understanding with employee bargaining units.

Based on bargaining unit contract negotiations in 2013, members are contracted to pay the following employee rates (as a percentage of pay) beginning April 22, 2013:

Member Rate

Effective Date	(a) Total	(b) HIB Plan	(c) = (a) − (b) Pension Plan
April 17, 2006[1]	6.83%[1]	0.09%	6.74%
April 22, 2013	7.33%	0.09%	7.24%
April 21, 2014	7.83%	0.09%	7.74%
April 20, 2015	8.33%	0.09%	8.24%
April 18, 2016	8.75%	0.09%	8.66%

2013 Tier Members

Pursuant to Section 7522.30(a) of the California Government Code, 2013 Tier members are required to contribute at least 50% of the Normal Cost rate. In addition, Section 7522.30(c) requires that the initial employee contribution rate be rounded to the nearest quarter of 1 percent, unless a greater contribution rate has been agreed to pursuant to Section 7522.30(e). In preparing the initial Normal Cost rates, we assumed that exactly 50% of the Normal Cost would be paid by the new members and we took into account only the requirements of Section 7522.30(c), but not requirements of Section 7522.30(e). In particular, the total Normal Cost rate of 17.56% was determined in the first CalPEPRA valuation, and this total rate has been used through the June 30, 2019 valuation to determine the 50% of the Normal Cost (rounded to one quarter of 1 percent) paid by the employees, or 8.75%.

[1] Pursuant to the Ordinance.

Pursuant to Section 7522.30(d), each year we have compared the total Normal Cost rates between the current valuation and the initial CalPEPRA valuation since a rate increase (or decrease) of less than 1% of payroll would result in no change to the members' rate. Effective with the June 30, 2020 valuation, the total Normal Cost rate was determined to be 18.81%, which is a change of more than 1% of payroll compared to the rate of 17.56% that was determined in the first CalPEPRA valuation. This was the first time since the first CalPEPRA valuation that the change in the total Normal Cost rate has exceeded the 1% of payroll threshold. Consequently, the member contribution rate for 2013 Tier members was increased to 9.41%, which is 50% of the total Normal Cost rate.

For the June 30, 2024 valuation, the 2013 Tier member contribution rate has increased to 10.08% for the Pension Plan, because the total Normal Cost rate for this tier of 20.16% has exceeded 1% of payroll of the new 18.81% threshold noted above.

As stated in our Actuarial Experience Study Report dated November 12, 2020, once the 1% threshold has been exceeded an adjustment to the members' rate is required as was the case in the June 30, 2020 valuation. Upon consulting with the Retirement System, the final member contribution rate determined in that valuation was calculated without the quarter of 1 percent rounding based on the Retirement System's direction that the rounding does not apply after the initial calculation. However, the rate paid by the employee was rounded to the nearest one/one hundredth of one percent (two decimals) consistent with the rounding methods used throughout the June 30, 2020 valuation report to ensure that the employees would pay at least 50% of the Normal Cost. This practice has been followed for the adjustment in this valuation.

Internal Revenue Code Section 415

Section 415 of the Internal Revenue Code (IRC) specifies the maximum benefits that may be paid to an individual from a defined benefit plan and the maximum amounts that may be allocated each year to an individual's account in a defined contribution plan.

A qualified pension plan may not pay benefits in excess of the Section 415 limits. The ultimate penalty for non-compliance is disqualification: active members could be taxed on their vested benefits and the IRS may seek to tax the income earned on the plan's assets.

In particular, Section 415(b) of the IRC limits the maximum annual benefit payable at the Normal Retirement Age to a dollar limit of $160,000 indexed for inflation. That limit is $275,000 for 2024. Normal Retirement Age for these purposes is age 62. These are the limits in simplified terms. They must be adjusted based on each participant's circumstances, for such things as age at retirement, form of benefits chosen and after tax contributions.

Benefits for members in the non-CalPEPRA plan in excess of the limits may be paid through a qualified governmental excess plan that meets the requirements of Section 415(m).

Legal Counsel's review and interpretation of the law and regulations should be sought on any questions in this regard.

Contribution rates determined in this valuation have not been reduced for the Section 415 limitations. Actual limitations will result in gains as they occur.

Models

Segal valuation results are based on proprietary actuarial modeling software. The actuarial valuation models generate a comprehensive set of liability and cost calculations that are presented to meet regulatory, legislative and client requirements. Our Actuarial Technology and Systems unit, comprised of both actuaries and programmers, is responsible for the initial development and maintenance of these models. The models have a modular structure that allows for a high degree of accuracy, flexibility and user control. The client team programs the assumptions and the plan provisions, validates the models, and reviews test lives and results, under the supervision of the responsible actuary.

Justification for change in actuarial assumptions, methods or models

Based on the July 1, 2020 through June 30, 2024 Actuarial Experience Study, the following actuarial assumptions were changed. Previously, these assumptions were:

Salary increases

The annual rate of compensation increase includes:

- Inflation at 2.50%, plus
- “Across-the-board” salary increase of 0.50% per year, plus
- Merit and promotion increase based on time from hire:

Merit and Promotion Increases (%)

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

Post-retirement mortality rates

The Pub-2010 mortality tables and adjustments as shown below reasonably reflect the mortality experience as of the measurement date. These mortality tables were adjusted to future years using the generational projection to reflect future mortality improvement between the measurement date and those years.

Healthy

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.

Disabled

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.

Beneficiary

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.

Pre-retirement mortality rates

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

Section 4: Actuarial Valuation Basis

Disability

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

Disabilities rates are applicable after eight years of service.

Termination

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: Unreduced Pension[1]	1955/1980 Plan: 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[2]	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

[1] 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.
[2] 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.

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 with domestic partner at pre-retirement death or 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%

Exhibit 2: Summary of plan provisions

This exhibit summarizes the major provisions of the Plan included in the valuation. It is not intended to be, nor should it be interpreted as, a complete statement of all plan provisions. If the System should find the plan summary not in accordance with the actual provisions, the System should alert the actuary so they can both be sure the proper provisions are valued.

Plan year

July 1 through June 30

Census date

June 30

Membership eligibility

Membership Tier	Plan Provision
1955/1980 Plan	All employees who first become members before January 1, 2013.
2013 Tier	All employees who first become members on or after January 1, 2013.

Final compensation and service for benefit determination

Final Compensation and Service	Plan Provision
Final average compensation	
1955/1980 Plan	Highest two consecutive years of compensation earnable (FAS2).
2013 Tier	Highest thirty-six consecutive months of pensionable compensation (FAS3).
Compensation limit	
1955/1980 Plan	IRC Section 401(a)(17) compensation limit applies to all employees who began membership in EBMUDERS on or after January 1, 1996.
2013 Tier	$151,446 for 2024

Final Compensation and Service	Plan Provision
Service	
All members	Years of service (Yrs) are generally based on a member's employment during a period of time in which retirement contributions are deducted from their compensation.

Normal retirement benefits

Eligibility for unreduced benefits

Tier	Age and Service Requirement
1955/1980 Plan	Age 65; Age 62 with 5 years of service; Age 59 with 20 years of service; Age 54 with 30 years of service; Other combinations of age and service between ages 54 and 59.
2013 Tier	Age 67 with 5 years of service

Unreduced benefit formula

Tier	Benefit formula
1955/1980 Plan	
1955 Formula	2.42% (2.82% if member is credited with District Service on or after January 1, 2004) times Final Compensation per year of service including all service extension credit.
1955/80 Formula	• 2.42% (2.82% if member is credited with District Service on or after January 1, 2004) times Final Compensation per year of service up to August 1, 1980 including all service extension credit, plus • 2.20% (2.60% if member is credited with District Service on or after January 1, 2004) times Final Compensation per year of service after August 1, 1980. Applies to members who elected to convert to the 1980 Formula in 1980.
1955/90 Formula	• 2.42% (2.82% if member is credited with District Service on or after January 1, 2004) times Final Compensation per year of service up to January 1, 2000 including all service extension credit, plus • 2.20% (2.60% if member is credited with District Service on or after January 1, 2004) times Final Compensation per year of service after January 1, 2000. Applies to members who elected to convert to the 1980 Formula in 1989.
1980 Formula	• 2.20% (2.60% if member is credited with District Service on or after January 1, 2004) times Final Compensation per year of service including all service extension credit. Applies to all members hired on or after January 1, 1980.
Service Extension Credit	• 2.42% (2.82% if member is credited with District Service on or after January 1, 2004) for members with any service under the 1955 Formula times Final Compensation per year of Service Extension Credit., **or** • 2.20% (2.60% if member is credited with District Service on or after January 1, 2004) for members with service only under the 1980 Formula times Final Compensation per year of Service Extension Credit. Service extension credit is the number of unused sick leave days credited to a member at the time of retirement converted on a 260-day basis. The number of such days is then doubled for the benefit calculation and for service retirements to meet the early retirement provision of the Ordinance.
2013 Tier	2.50% × FAS3 × Yrs

Eligibility for early/reduced benefits

Tier	Age and Service Requirement
1955/1980 Plan	Age 54 with 5 years of service.
2013 Tier	Age 52 with 5 years of service.

Reductions to benefit formula for early retirement

Tier and Retirement Age	Reduction to benefit formula
1955/1980 Plan	Reduced by 3% per year under the age of eligibility for an unreduced benefit, based on service at retirement, for retirements before age 63 (before age 62 commencing November 1, 2000). Effective July 1, 1999, Service Extension Credit is included in the years of service calculation of service for determining eligibility for unreduced retirement.
2013 Tier	
Age 52	1.00% × FAS3 × Yrs
Age 55	1.30% × FAS3 × Yrs
Age 60	1.80% × FAS3 × Yrs
Age 62	2.00% × FAS3 × Yrs
Age 65	2.30% × FAS3 × Yrs

Disability benefits

Provision by Tier	Disability Benefit Plan Provision
Eligibility	
All members	Eight years of service (not available for Directors).
Benefit amount	
All members	Greater of: • 1.5% times Final Compensation per year of service. • One-third of Final Compensation.

Vesting

Five years of service; must leave contributions on deposit, reciprocal service counts for vesting purposes.

Pre-retirement death benefits

Provision by Vesting	Pre-Retirement Death Benefit Plan Provision
Eligibility	
All members	None.
Vested members	Eligible for retirement.
Benefit amount	
All members	Lump sum payment of accumulated retirement contributions.
Vested members	50% of the unmodified service retirement benefit to eligible surviving spouse/surviving domestic partner plus the lump sum payment of accumulated retirement contributions.

Post-retirement death benefit

50% of the unmodified service retirement benefit to surviving spouse or registered domestic partner (tied to the implementation of the AB 205 legislation).

Post-retirement cost-of-living benefits

Payable July 1 of each year, the basic minimum COLA benefit is the lesser of 3% and the actual change in the cost-of-living index.

Excess of the actual change of cost-of-living index over 3% is accumulated in individual retiree COLA banks.

Withdrawals from the bank are made in years when the index increases less than 3%.

Increases of up to 5% are granted in years when the Retirement Board determines that the System is more than 85% funded on a Projected Benefit Obligation basis. In those years when the System is more than 85% funded and the cost-of-living index exceeds 5%, any excess cost-of-living over 5% is accumulated in the COLA bank.

Effective October 1, 2000, in those years when the system is more than 85% funded on a Projected Benefit Obligation basis and the cost-of-living is less than 4%, withdrawals from the bank are made to allow cost-of-living increases up to 4%.

Member contributions

Provision by Tier	Plan Provision
1955/1980 Plan	Effective April 17, 2006, retirement system members contribute at a rate of 6.83% of pay, as prescribed in the Ordinance. Effective April 22, 2013, members are contracted to pay the employee rates (as a percentage of pay) as shown in the table below, based on bargaining unit contract negotiations in 2013
2013 Tier	Initial member contribution rate is set at 50% of the total 2013 Tier Normal Cost rate, rounded to the nearest quarter of 1%. Once established, the member contribution rate will be adjusted annually to reflect the change in the 2013 Tier Normal Cost rate, but only if the change is more than 1% of payroll. Effective with the June 30, 2024 valuation, the member contribution rate for the Pension Plan is 10.08% of pay.

1955/1980 Plan schedule of member contribution rates

Effective Date	(a) Total	(b) HIB Plan	(c) = (a) – (b) Pension Plan
April 17, 2006[1]	6.83%[1]	0.09%	6.74%
April 22, 2013	7.33%	0.09%	7.24%
April 21, 2014	7.83%	0.09%	7.74%
April 20, 2015	8.33%	0.09%	8.24%
April 18, 2016	8.75%	0.09%	8.66%

Changes in plan provisions

There have been no changes in plan provisions since the prior valuation.

[1] Pursuant to the Ordinance.

Appendix A: Definition of Pension Terms

The following list defines certain technical terms for the convenience of the reader:

Term	Definition
Actuarial accrued liability for actives	The equivalent of the accumulated normal costs allocated to the years before the valuation date.
Actuarial accrued liability for retirees and beneficiaries	Actuarial present value of lifetime benefits to existing retirees and beneficiaries. This sum takes account of life expectancies appropriate to the ages of the annuitants and the interest that the sum is expected to earn before it is entirely paid out in benefits.
Actuarial cost method	A procedure allocating the actuarial present value of future benefits to various time periods; a method used to determine the normal cost and the actuarial accrued liability that are used to determine the actuarially determined contribution.
Actuarial gain or loss	A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates. To the extent that actual experience differs from that assumed, actuarial accrued liabilities emerge which may be the same as forecasted or may be larger or smaller than projected. Actuarial gains are due to favorable experience, e.g., assets earn more than projected, salary increases are less than assumed, members retire later than assumed, etc. Favorable experience means actual results produce actuarial liabilities not as large as projected by the actuarial assumptions. On the other hand, actuarial losses are the result of unfavorable experience, i.e., actual results yield actuarial liabilities that are larger than projected.
Actuarially equivalent	Of equal actuarial present value, determined as of a given date and based on a given set of actuarial assumptions.
Actuarial present value	The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of actuarial assumptions. Each such amount or series of amounts is: Adjusted for the probable financial effect of certain intervening events (such as changes in compensation levels, marital status, etc.) Multiplied by the probability of the occurrence of an event (such as survival, death, disability, withdrawal, etc.) on which the payment is conditioned, and Discounted according to an assumed rate (or rates) of return to reflect the time value of money.

Appendix A: Definition of Pension Terms

Term	Definition
Actuarial present value of future benefits	The actuarial present value of benefit amounts expected to be paid at various future times under a particular set of actuarial assumptions, taking into account such items as the effect of advancement in age, anticipated future compensation, and future service credits. The actuarial present value of future benefits includes the liabilities for active members, retired members, beneficiaries receiving benefits, and inactive members entitled to either a refund of member contributions or a future retirement benefit. Expressed another way, it is the value that would have to be invested on the valuation date so that the amount invested plus investment earnings would provide sufficient assets to pay all projected benefits and expenses when due.
Actuarial valuation	The determination, as of a valuation date, of the normal cost, actuarial accrued liability, actuarial value of assets, and related actuarial present values for a plan. An actuarial valuation for a governmental retirement system typically also includes calculations of items needed for compliance with GASB, such as the Actuarially Determined Contribution (ADC) and the Net Pension Liability (NPL).
Actuarial value of assets	The value of the Fund's assets as of a given date, used by the actuary for valuation purposes. This may be the market or fair value of plan assets, but commonly plans use a smoothed value in order to reduce the year-to-year volatility of calculated results, such as the funded ratio and the actuarially determined contribution.
Actuarially determined	Values that have been determined utilizing the principles of actuarial science. An actuarially determined value is derived by application of the appropriate actuarial assumptions to specified values determined by provisions of the law.
Actuarially determined contribution	The employer's periodic required contributions, expressed as a dollar amount or a percentage of covered plan compensation, determined under the Plan's funding policy. The actuarially determined contribution consists of the employer normal cost and the amortization payment.
Amortization method	A method for determining the amortization payment. The most common methods used are level dollar and level percentage of payroll. Under the level dollar method, the amortization payment is one of a stream of payments, all equal, whose actuarial present value is equal to the unfunded actuarial accrued liability. Under the level percentage of pay method, the amortization payment is one of a stream of increasing payments, whose actuarial present value is equal to the unfunded actuarial accrued liability. Under the level percentage of pay method, the stream of payments increases at the assumed rate at which total covered payroll of all active members will increase.
Amortization payment	The portion of the pension plan contribution, or actuarially determined contribution, that is intended to pay off the unfunded actuarial accrued liability.

Appendix A: Definition of Pension Terms

Term	Definition
Assumptions or actuarial assumptions	The estimates upon which the cost of the Fund is calculated, including: **Investment return** — the rate of investment yield that the Fund will earn over the long-term future; **Mortality rates** — the rate or probability of death at a given age for employees and retirees; life expectancy is based on these rates; **Retirement rates** — the rate or probability of retirement at a given age or service; **Disability rates** — the rate or probability of disability retirement at a given age; **Withdrawal rates** — the rate or probability at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement; **Salary increase rates** — the rates of salary increase due to inflation, real wage growth and merit and promotion increases.
Closed amortization period	A specific number of years that is counted down by one each year, and therefore declines to zero with the passage of time. For example, if the amortization period is initially set at 20 years, it is 19 years at the end of one year, 18 years at the end of two years, etc. See “open amortization period.”
Decrements	Those causes/events due to which a member’s status (active-inactive-retiree-beneficiary) changes, that is: death, retirement, disability, or withdrawal.
Defined benefit plan	A retirement plan in which benefits are defined by a formula based on the member’s compensation, age and/or years of service.
Defined contribution plan	A retirement plan, such as a 401(k) plan, a 403(b) plan, or a 457 plan, in which the contributions to the plan are assigned to an account for each member, the plan’s earnings are allocated to each account, and each member’s benefits are a direct function of the account balance.
Employer normal cost	The portion of the normal cost to be paid by the employer. This is equal to the normal cost less expected member contributions.
Experience study	A periodic review and analysis of the actual experience of the Plan that may lead to a revision of one or more actuarial assumptions. Actual rates of decrement and salary increases are compared to the actuarially assumed values and modified based on recommendations from the Actuary.
Funded ratio	The ratio of the valuation value of assets to the actuarial accrued liability. Plans sometimes also calculate a market funded ratio, using the market value of assets, rather than the valuation value of assets.
GASB 67 and GASB 68	Governmental Accounting Standards Board (GASB) Statements No. 67 and No. 68. These are the governmental accounting standards that set the accounting rules for public retirement systems and the employers that sponsor or contribute to them. Statement No. 68 sets the accounting rules for the employers that sponsor or contribute to public retirement systems, while Statement No. 67 sets the rules for the systems themselves.

Appendix A: Definition of Pension Terms

Term	Definition
Investment return	The rate of earnings of the Fund from its investments, including interest, dividends and capital gain and loss adjustments, computed as a percentage of the average value of the fund. For actuarial purposes, the investment return often reflects a smoothing of the capital gains and losses to avoid significant swings in the value of assets from one year to the next.
Negative amortization	Negative amortization is a result of an increase in the unfunded actuarial accrued liability when the amortization payment is less than the interest accrued on the unfunded actuarial accrued liability.
Net pension liability	The net pension liability is equal to the total pension liability minus the plan fiduciary net position.
Normal cost	The portion of the actuarial present value of future benefits and expenses, if applicable, allocated to a valuation year by the actuarial cost method. Any payment with respect to an unfunded actuarial accrued liability is not part of the normal cost (see “amortization payment”). For pension plan benefits that are provided in part by employee contributions, normal cost refers to the total of member contributions and employer normal cost unless otherwise specifically stated.
Open amortization period	An open amortization period is one which is used to determine the amortization payment but which does not change over time. If the initial period is set as 30 years, the same 30-year period is used in each future year in determining the amortization period.
Plan fiduciary net position	Market value of assets.
Service costs	The portions of the actuarial present value of projected benefit payments that are attributed to valuation years.
Total pension liability	The actuarial accrued liability under the entry age normal cost method and based on the blended discount rate as described in GASB 67 and 68.
Unfunded actuarial accrued liability	The excess of the actuarial accrued liability over the valuation value of assets. This value may be negative, in which case it may be expressed as a negative unfunded actuarial accrued liability, also called the funding surplus or an overfunded actuarial accrued liability.
Valuation date or actuarial valuation date	The date as of which the value of assets is determined and as of which the Actuarial Present Value of Future Benefits is determined. The expected benefits to be paid in the future are discounted to this date.
Valuation value of assets	The actuarial value of assets reduced by the value of non-valuation reserves.

5923977v7/10419.001

East Bay Municipal Utility District Employees' Retirement System

Health Insurance Benefit Valuation

Review of Contribution Rates and Funding Status as of June 30, 2024

Segal

Segal

180 Howard Street
Suite 1100
San Francisco, CA 94105-6147
segalco.com
T 415.263.8200

January 14, 2025

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

Dear Sophia:

We are pleased to submit our Health Insurance Benefit (HIB) Valuation as of June 30, 2024 for the prefunded $450 ($550 for a retiree with a spouse or EBMUD domestic partner) monthly health insurance subsidy. The Governmental Accounting Standards Board (GASB) requires employers, such as EBMUD, that pool health insurance premium rates for actives and retirees under age 65 to also calculate the liability associated with such pooled premiums for retirees under age 65 on an accrual basis. While that liability referred to as the implicit subsidy has to be disclosed, it is not required to be prefunded. The contribution rate developed in this report only includes the prefunding requirement for the $450/$550 benefit. The obligation required for financial disclosure purposes under GASB Statements No. 74 (plan reporting) and 75 (employer reporting) will be provided in separate reports.

This report has been prepared in accordance with generally accepted actuarial principles and practices for the exclusive use and benefit of the East Bay Municipal Utility District (EBMUD), based upon information provided by EBMUD.

This valuation is based on financial statements and census data furnished by East Bay Municipal Utility District Employees' Retirement System (EBMUDERS). Segal does not audit the data provided. The accuracy and comprehensiveness of the data is the responsibility of those supplying the data. To the extent we can, however, Segal does review the data for reasonableness and consistency. Based on our review of the data, we have no reason to doubt the substantial accuracy of the information on which we have based this report and we have no reason to believe there are facts or circumstances that would affect the validity of these results.

The measurements shown in this actuarial valuation may not be applicable for other purposes. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements; and changes in plan provisions or applicable law.

The actuarial calculations were completed under the supervision of Andy Yeung, ASA, MAAA, FCA, EA and Mehdi Riazi, FSA, MAAA, FCA, EA. The health care trend and other related medical assumptions have been reviewed by Mary Kirby, FSA, MAAA, FCA. We, the undersigned, are members of the American Academy of Actuaries and we meet the qualification requirements to render the actuarial opinion contained herein. To the best of our knowledge, the information supplied in the actuarial valuation is complete and accurate. The assumptions used in this valuation were those adopted by the Retirement Board based on the results of the recent Actuarial Experience Study (Segal report dated November 13, 2024). We have also applied the medical trend assumptions as recommended in our letter dated November 14, 2024. In our opinion, the combined effect of these assumptions is expected to have no significant bias.

Segal makes no representation or warranty as to the future status of the 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 to answering any questions.

Sincerely,

Segal

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

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

Mary Kirby, FSA, MAAA, FCA
Senior Vice President and Chief Health Actuary

TTT/jl

Table of Contents

Section 1: Actuarial Valuation Summary

Contribution recommendations and funding status

1. The funded ratio measured on a valuation value of assets basis increased from 47.7% as of June 30, 2023 to 51.8% as of June 30, 2024. The funded ratio increased from 46.5% to 53.0% if measured on a market value of assets basis. The Unfunded Actuarial Accrued Liability (UAAL) decreased from $68.86 million as of June 30, 2023 to $64.92 million as of June 30, 2024, on a valuation value of asset basis. This valuation reflects the various assumptions that were adopted by the Retirement Board based on the results of the recent Actuarial Experience Study (Segal report dated November 13, 2024) for experience during the period July 1, 2020 through June 30,2024. We have also applied the medical trend assumptions as recommended in our letter dated November 14, 2024. The new actuarial assumptions produced a relatively small increase in liabilities of $1.4 million and an increase in the employer's contribution rate of 0.04% of payroll. Overall, the results of the June 30, 2024 valuation were consistent with the June 30, 2023 valuation results. On a net basis, the increase to the funded ratio and the reduction to the UAAL were both in-line with the expected changes based on the plan's funding policy, as contributions continue to pay down the UAAL.
2. The recommended aggregate employer contribution rate is 4.31% based on the June 30, 2024 valuation. The new rate is 0.03% lower than the 4.34% aggregate rate developed in the June 30, 2023 valuation. The decrease in the contribution rate was mainly attributable to higher payroll growth than expected. Note, the 4.34% aggregate/blended rate has been restated based on projected June 30, 2024 payrolls, which is why it is slightly lower than the 4.35% aggregate rate shown in the June 30, 2023 valuation. We have maintained the allocation of 0.09% of the member contribution to the HIB plan used in last year's valuation.
3. As indicated in Section 2, Subsection B of this report, the total unrecognized investment gain as of June 30, 2024 is $55.8 million for the assets for the pension and HIB plans (in the previous valuation, this item was a deferred loss of $59.2 million). This investment gain will be recognized in the determination of the actuarial value of assets for funding purposes in the next few years. This implies that earning the assumed rate of investment return of 6.75% per year (net of expenses) on a market value basis will produce investment gains on the actuarial value of assets after June 30, 2024.
   The deferred gains of $55.8 million represent 2.2% of the market value of assets as of June 30, 2024. Unless offset by future investment losses or other unfavorable experience, the recognition of the $55.8 million market gains is expected to have an impact on the System's future funded percentage and contribution rate requirements. This potential impact may be illustrated as follows:
   - If the HIB plan portion of the deferred gains were recognized immediately and entirely in the valuation value of assets, the funded percentage would increase from 51.8% to 53.0%.
   - If the HIB plan portion of the deferred gains were recognized immediately and entirely in the valuation value of assets, the aggregate recommended employer rate would decrease from 4.31% to about 4.27% of payroll.

Section 1: Actuarial Valuation Summary

4. This report assumes the HIB subsidy limit will remain at the current levels of $450/$550. Future increases in the HIB subsidy limit will increase the cost of the plan as a percent of pay.

5. The following tables summarizes the contribution rate recommendations for the employer and the employee:

Employer	June 30, 2024 Total Rate[1]	June 30, 2024 Estimated Annual Amount[2]	June 30, 2023 Total Rate[1]	June 30, 2023 Estimated Annual Amount[2]
1955/1980 Plan	4.43%	$5,440,000	4.43%	$5,444,000
2013 Tier	4.22%	6,351,000	4.27%	6,428,000
Combined	**4.31%**	**$11,791,000**	**4.34%**	**$11,872,000**

Member	June 30, 2024 Total Rate[1]	June 30, 2024 Estimated Annual Amount[2]	June 30, 2023 Total Rate[1]	June 30, 2023 Estimated Annual Amount[2]
1955/1980 Plan	0.09%	$111,000	0.09%	$111,000
2013 Tier	0.09%	135,000	0.09%	135,000
Combined	**0.09%**	**$246,000**	**0.09%**	**$246,000**

6. The following table compares the valuation value of assets and liabilities for the Health Insurance Benefit as of June 30, 2024 and June 30, 2023:

		June 30, 2024	June 30, 2023
1.	Valuation Value of Assets	$69,836,226	$62,769,259
2.	Actuarial Accrued Liabilities:		
a.	Current Recipients	100,354,837	97,330,438
b.	Future Recipients	34,401,641	34,297,017
c.	Total	$134,756,478	$131,627,455
3.	Liabilities minus Valuation Value of Assets: (2) – (1)	$64,920,252	$68,858,196
4.	Funding Ratio (1) ÷ (2)	51.82%	47.69%

[1] Payable at the end of each pay period.

[2] Based on June 30, 2024 projected annual payroll of:

1955/1980 Plan	$122,880,363
2013 Tier	150,547,943
Combined	$273,428,306

Important information about actuarial valuations

An actuarial valuation is a budgeting tool with respect to the financing of future projected obligations of an OPEB plan. It is an estimated forecast – the actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.

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

Input Item	Description
Plan of benefits	Plan provisions define the rules that will be used to determine benefit payments, and those rules, or the interpretation of them, may change over time. Even where they appear precise, outside factors may change how they operate. For example, a plan may provide health benefits to post-65 retirees that coordinates with Medicare. If so, changes in the Medicare law or administration may change the plan's costs without any change in the terms of the plan itself. It is important for the System to keep Segal informed with respect to plan provisions and administrative procedures, and to review the plan summary included in our report to confirm that Segal has correctly interpreted the plan of benefits.
Participant data	An actuarial valuation for a plan is based on data provided to the actuary by the System. Segal does not audit such data for completeness or accuracy, other than reviewing it for obvious inconsistencies compared to prior data and other information that appears unreasonable. It is not necessary to have perfect data for an actuarial valuation: the valuation is an estimated forecast, not a prediction. The uncertainties in other factors are such that even perfect data does not produce a "perfect" result. Notwithstanding the above, it is important for Segal to receive the best possible data and to be informed about any known incomplete or inaccurate data.
Assets	This valuation is based on the market value of assets as of the valuation date, as provided by the System. For funding purposes, the System uses an "Actuarial Value of Assets" that differs from the market value to gradually reflect year-to-year changes in the market value of assets in determining the contribution requirements.
Actuarial assumptions	In preparing an actuarial valuation, Segal starts by developing a forecast of the benefits to be paid to existing plan participants for the rest of their lives and the lives of their beneficiaries. To determine the future costs of benefits, Segal collects claims, premiums, and enrollment data in order to establish a baseline cost for the valuation measurement, and then develops short- and long-term health care cost trend rates to project increases in costs in future years. This forecast also requires actuarial assumptions as to the probability of death, disability, withdrawal, and retirement of each participant for each year, as well as forecasts of the plan's benefits for each of those events. The forecasted benefits are then discount to a present value based on an estimate of the rate of return that will be achieved on the plan's assets. All of these factors are uncertain and unknowable. Thus, there will be a range of reasonable assumptions, and the results may vary materially based on which assumptions the actuary selects within that range. That is, there is no right answer (except with hindsight). It is important for any user of an actuarial valuation to understand and accept this constraint. The actuarial model necessarily uses approximations and estimates that may lead to significant changes in our results but will have no impact on the actual cost of the plan. In addition, the actuarial assumptions may change over time, and while this can have a significant impact on the reported results, it does not mean that the previous assumptions or results were unreasonable or wrong.

Section 1: Actuarial Valuation Summary

Input Item	Description
Models	Segal results are based on proprietary actuarial modeling software. The valuation models generate a comprehensive set of liability and cost calculations that are presented to meet actuarial standards and client requirements. Our Actuarial Technology and Systems unit, comprising both actuaries and programmers, is responsible for the initial development and maintenance of these models. The models have a modular structure that allows for a high degree of accuracy, flexibility and user control. The client team programs the assumptions and the plan provisions, validates the models, and reviews test lives and results, under the supervision of the responsible actuary. Our claims costs assumptions are based on proprietary modeling software as well as models that were developed by others. These models generate per capita claims cost calculations that are used in our valuation software. Our Health Technical Services Unit, comprised of actuaries and programmers, is responsible for the initial development and maintenance of our health models. They are also responsible for testing models that we purchase from other vendors for reasonableness. The client team inputs the paid claims, enrollments, plan provisions and assumptions into these models and reviews the results for reasonableness, under the supervision of the responsible actuary.

Section 1: Actuarial Valuation Summary

The user of Segal's actuarial valuation (or other actuarial calculations) should keep the following in mind:

- The actuarial valuation is prepared for use by the Board. Segal is not responsible for the use or misuse of its report, particularly by any other party.
- If the Board is aware of any event or trend that was not considered in this valuation that may materially change the results of the valuation, Segal should be advised, so that we can evaluate it.
- An actuarial valuation is a measurement at a specific date – it is not a prediction of a plan's future financial condition. Accordingly, Segal did not perform an analysis of the potential range of financial measurements, except where otherwise noted. The actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.
- Sections of this report include actuarial results that are not rounded, but that does not imply precision.
- Critical events for a plan include, but are not limited to, decisions about changes in benefits and contributions. The basis for such decisions needs to consider many factors such as the risk of changes in plan enrollment, emerging claims experience, health care trend, and investment losses, not just the current valuation results.
- Segal does not provide investment, legal, accounting, or tax advice and is not acting as a fiduciary to the Plan. This valuation is based on Segal's understanding of applicable guidance in these areas and of the Plan's provisions, but they may be subject to alternative interpretations. The Board should look to their other advisors for expertise in these areas.
- While Segal maintains extensive quality assurance procedures, an actuarial valuation involves complex computer models and numerous inputs. In the event that an inaccuracy is discovered after presentation of Segal's valuation, Segal may revise that valuation or make an appropriate adjustment in the next valuation.
- Segal's report shall be deemed to be final and accepted by the System upon delivery and review. The System should notify Segal immediately of any questions or concerns about the final content.

Section 2: Actuarial Valuation Results

A. Introduction

Pursuant to Section 36 of the Ordinance, the Retirement Board is authorized to administer a Health Insurance Benefit (HIB) through an IRC Section 401(h) account. The HIB may be used for the payment of sickness, accident, hospitalization, and medical expenses as permitted under the IRC and as authorized by the Retirement Board. In particular, the Retirement Board has authorized the use of the HIB towards the payment of medical insurance premiums.

This report does not provide information required for disclosure under GASB Statements 74 and 75. Such information will be provided in separate reports.

In this valuation, we have used a layered amortization approach to determine the contribution rate to fund the Unfunded Actuarial Accrued Liability (UAAL).

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, through June 30, 2021, plan changes are amortized over separate decreasing 15-year periods; assumption changes from the experience study are amortized over separate decreasing 25-year periods; and experience gains/losses (including year-to-year health assumption changes) are amortized over separate decreasing 20-year periods. On or after July 1, 2021, assumption changes from the experience study or interim review of the economic assumptions are amortized over 20 years. The above payments would continue to be expressed as a level percent of a growing payroll base.

The cost of the HIB is funded by both employer and employee contributions. The contribution rates for the employer are calculated to provide for the ongoing normal cost, plus any amounts necessary to fund any shortfall between the valuation value of assets and the actuarial accrued liabilities.

A summary of the Health Insurance Benefit provisions is displayed in Section 4, Exhibit 2.

B. Determination of actuarial value of assets

To minimize volatility in the calculation of the Actuarially Determined Contribution, the Board has approved an asset valuation method that gradually adjusts to market value over a five-year period. Under this valuation method, the full value of market fluctuations is not recognized in a single year and, as a result, the asset value and the plan costs are more stable. The amount of the adjustment to recognize market value is treated as income, which may be positive or negative. Realized and unrealized gains and losses are treated equally and, therefore, the sale of assets has no immediate effect on the actuarial value.

Determination of Actuarial Value of Assets for Year Ended June 30, 2024 (for Pension and HIB plans)

	Items	Actual Return	Expected Return	Investment Gain / (Loss)	Percent Deferred	Return
1.	**Market value of assets**					
	a. Pension plan					**$2,445,611,000**
	b. HIB plan					**71,420,000**
	c. Total					**$2,517,031,000**
2.	Calculation of unrecognized return					
	a. Year ended June 30, 2020	$39,376,000	$127,791,930	$(88,415,930)	0%	$0
	b. Year ended June 30, 2021	491,625,000	129,314,710	362,310,290	20%	72,462,058
	c. Year ended June 30, 2022	(253,930,000)	162,455,125	(416,385,125)	40%	(166,554,050)
	d. Year ended June 30, 2023	217,559,000	138,262,646	79,296,354	60%	47,577,813
	e. Year ended June 30, 2024	279,545,000	151,631,764	127,913,236	80%	102,330,589
	f. Total unrecognized return[1]					$55,816,410
3.	**Preliminary actuarial value: (1c) - (2f)**					**$2,461,214,590**
4.	Adjustment to be within 30% corridor of market value					0
5.	**Final actuarial value of assets for pension and HIB plans: (3) + (4)**					**$2,461,214,590**
6.	Actuarial value as a percentage of market value: (5) ÷ (1c)					97.8%
7.	**Valuation value of HIB plan assets: (1b) x (5) ÷ (1c)**					**$69,836,226**

[1] Deferred return as of June 30, 2024 that will be recognized in each of the next four years (amounts may not total exactly due to rounding):

(a) Amount recognized on June 30, 2025	$30,626,951
(b) Amount recognized on June 30, 2026	(41,835,107)
(c) Amount recognized on June 30, 2027	41,441,918
(d) Amount recognized on June 30, 2028	25,582,647
(e) Total unrecognized return as of June 30, 2024	$55,816,410

C. Funding status

The funding of the Health Insurance Benefit comes from the following sources:

1. The valuation value of HIB assets, which equals $69,836,226 as of June 30, 2024;
2. Contributions from the employer; and
3. Contributions from the employees.

The following table provides the funding status of the Health Insurance Benefit as of June 30, 2024 and June 30, 2023:

Item	June 30, 2024	June 30, 2023
1. Valuation Value of Assets	$69,836,226	$62,769,259
2. Actuarial Accrued Liabilities:		
• Current Recipients	100,354,837	97,330,438
• Future Recipients	34,401,641	34,297,017
• Total	$134,756,478	$131,627,455
3. Liabilities minus Valuation Value of Assets: (2) – (1)	$64,920,252	$68,858,196
4. Funding Ratio (1) ÷ (2)	51.82%	47.69%

The contribution requirements are determined based on the Entry Age Funding Method. The excess of the actuarial accrued liability over assets (Item 3 in the above table) is amortized as a level percentage of payroll for current active members. The employer contribution rates are derived on the following page.

D. Recommended contribution

The amount of annual contribution required to fund the HIB is comprised of a net employer normal cost payment and a payment on the unfunded actuarial accrued liability. This total amount is then divided by the projected payroll for active members to determine the contribution rate of 4.31% of payroll for this year's valuation compared to 4.34% of payroll recommended for last year's valuation. The 4.34% aggregate rate from June 30, 2023 has been restated based on projected June 30, 2024 payrolls, which is why it is slightly lower than the 4.35% aggregate rate shown in the June 30, 2023 valuation.

Recommended Contribution (% of Payroll) Calculated as of June 30

Item	2024 1955/1980 Plan	2024 2013 Tier	2024 Combined[1]	2023 1955/1980 Plan	2023 2013 Tier	2023 Combined[1]
1. Total Normal Cost	0.97%	0.76%	0.85%	0.95%	0.79%	0.86%
2. Expected employee contributions	-0.09%	-0.09%	-0.09%	-0.09%	-0.09%	-0.09%
3. Employer normal cost: (1) - (2)	**0.88%**	**0.67%**	**0.76%**	**0.86%**	**0.70%**	**0.77%**
4. Unfunded actuarial accrued liability	3.55%	3.55%	3.55%	3.57%	3.57%	3.57%
5. Total recommended contribution, end of each pay period	**4.43%**	**4.22%**	**4.31%**	**4.43%**	**4.27%**	**4.34%**

[1] Based on June 30, 2024 projected annual payroll of:

1955/1980 Plan	$122,880,363
2013 Tier	150,547,943
Combined	$273,428,306

E. Reconciliation of recommended employer contribution

The chart below details the changes in the recommended employer contribution from the prior valuation to the current year's valuation. The 4.34% aggregate rate from June 30, 2023 has been restated based on projected June 30, 2024 payrolls, which is why it is slightly lower than the 4.35% aggregate rate shown in the June 30, 2023 valuation.

Item	Contribution Rate
Average Recommended Employer Contribution Rate as of June 30, 2023	**4.34%**
Effect of actuarial experience during fiscal 2023/2024	
1. Effect of investment gain/loss (after smoothing)[1]	0.00%
2. Effect of higher than expected growth in total payroll to amortize the prior years' UAAL	(0.06)%
3. Effect of one-year lag in implementing contribution rates	(0.02)%
4. Effect of assumption changes	0.04%
5. Effect of demographic experience, including change to average HIB subsidy paid and HIB subsidy trend assumptions	0.01%
Total change	(0.03)%
Average Recommended Employer Contribution Rate as of June 30, 2024	**4.31%**

[1] The rate of return on the valuation value of assets was 6.90% for the OPEB and 7.15% for the Pension plans. While the 6.90% return was greater than the 6.75% net investment return assumption, the gain was not sufficient to reduce the employer's contribution rate by 0.01% of payroll.

F. Table of amortization bases

This schedule of funding progress presents multi-year trend information about whether the actuarial value of plan assets is increasing or decreasing over time relative to the actuarial accrued liability for benefits.

Type	Date Established	Initial Years	Initial Amount	Outstanding Balance	Years Remaining	Annual Payment[1]
Initial HIB Base	6/30/1997	30	$15,829,000	$6,728,135	3	$2,323,373
Combined Base	6/30/1998	30	(195,000)	(104,236)	4	(27,473)
Combined Base	6/30/1999	30	6,467,754	4,076,666	5	874,664
Combined Base	6/30/2000	30	5,543,694	3,955,952	6	719,642
Combined Base	6/30/2001	30	794,097	623,805	7	98,954
Combined Base	6/30/2002	30	18,413,242	15,600,252	8	2,202,633
Combined Base	6/30/2003	30	6,628,441	5,962,885	9	761,179
Combined Base	6/30/2004	30	1,942,176	1,878,459	10	219,483
Combined Base	6/30/2005	30	8,019,739	7,690,871	11	830,736
Combined Base	6/30/2006	30	(1,769,952)	(1,786,324)	12	(179,843)
Experience Loss	6/30/2007	30	2,878,105	2,971,577	13	280,768
Combined Base	6/30/2008	30	12,125,015	12,732,764	14	1,135,640
Combined Base	6/30/2009	30	(1,240,538)	(1,318,393)	15	(111,557)
Combined Base	6/30/2010	30	463,026	495,860	16	39,979
Combined Base	6/30/2011	30	(60,151)	(64,711)	17	(4,990)
Experience Gain	6/30/2012	20	(1,251,821)	(910,613)	8	(128,571)
Assumption Changes	6/30/2012	25	3,374,832	3,170,751	13	299,586
Experience Gain	6/30/2013	20	(1,155,658)	(895,478)	9	(114,310)
Experience Loss	6/30/2014	20	21,287	17,356	10	2,028
Assumption Changes	6/30/2014	25	2,555,790	2,487,185	15	210,455
Experience Gain	6/30/2015	20	(810,969)	(690,447)	11	(74,579)

[1] Beginning of year payment, reflecting level percentage of payroll.

Section 2: Actuarial Valuation Results

Type	Date Established	Initial Years	Initial Amount	Outstanding Balance	Years Remaining	Annual Payment[1]
Assumption Changes	6/30/2016	25	$2,459,846	$2,448,190	17	$188,798
Experience Gain	6/30/2016	20	(1,569,600)	(1,384,110)	12	(139,349)
Assumption Changes	6/30/2017	25	(403,768)	(404,594)	18	(29,944)
Experience Gain	6/30/2017	20	(664,072)	(602,921)	13	(56,967)
Experience Gain	6/30/2018	20	(2,295,237)	(2,133,059)	14	(190,248)
Assumption Changes	6/30/2018	25	2,931,560	2,948,755	19	210,069
Experience Gain	6/30/2019	20	(504,689)	(478,841)	15	(40,518)
Assumption Changes	6/30/2020	25	1,899,682	1,919,725	21	127,700
Experience Gain	6/30/2020	20	(542,065)	(522,780)	16	(42,150)
Experience Gain	6/30/2021	20	(6,818,716)	(6,659,133)	17	(513,535)
Assumption Changes	6/30/2022	20	3,202,074	3,155,976	18	233,573
Experience Loss	6/30/2022	20	2,976,293	2,933,446	18	217,104
Experience Loss	6/30/2023	20	1,323	1,315	19	94
Assumption Changes	6/30/2024	20	1,350,349	1,350,349	20	92,846
Experience Gain	6/30/2024	20	(274,382)[1]	(274,382)	20	(18,866)
Total				**$64,920,252**		**$9,396,404**

Note: The equivalent single amortization period is about 8 years.

[1] The 2024 experience gain of $274,382 or 0.2% of AAL was the result of gains due to (1) contributions being higher than expected, (2) actual FYE24 benefit payments being lower than expected, and (3) new starting costs and trends. The impact of these gains was mostly offset by a demographic loss of roughly 0.8% of AAL.

Section 3: Supplemental Information

Exhibit A: Summary of participant data

Participants	June 30, 2024	June 30, 2023
Retired Members		
• Number	1,693	1,653
• Average age	71.6	71.1
Surviving Spouses		
• Number	222	217
• Average age	79.1	78.9
Eligible for Deferred Benefit		
• Number[1]	407	381
• Average age	48.0	48.4
Active Participants		
• Number	1,974	1,955
• Average age	46.9	47.1
• Average years of service	10.9	11.0
• Average expected retirement age	63.4	62.4

[1] Includes inactive members due a refund of Pension Plan member contributions.

Section 4: Actuarial Valuation Basis

Exhibit 1: Actuarial assumptions and methods

Rationale for Assumptions and Methods:

The information and analysis used in selecting each assumption and method that has a significant effect on this actuarial valuation is shown in the July 1, 2020 through June 30, 2024 Actuarial Experience Study report dated November 13, 2024, the Retiree Health assumptions letter dated November 14, 2024, and the Actuarial Funding Policy review letter dated September 14, 2022. Unless otherwise noted, all actuarial assumptions and methods shown below apply to both tiers.

Economic Assumptions:

Net Investment Return

6.75%, net of investment and administrative expenses.

Inflation

2.50%

Across the Board Salary Increases

0.50%

Payroll Growth

Inflation of 2.50% per year plus real “across the board” salary increases of 0.50% per year, used to amortize the Unfunded Actuarial Accrued Liability as a level percentage of payroll.

Section 4: Actuarial Valuation Basis

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 promotional increases:

Years of Service	1955/1980 Plan Rates (%)	2013 Tier Rates (%)
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 & Over	0.75	0.75

Demographic Assumptions:

Mortality

- **Pre-Retirement:**
  - 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.
- **Post-Retirement Healthy Members:**
  - 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.
- **Post-Retirement Disabled Members:**
  - 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.
- **Beneficiaries:**
  - In pay status at time of valuation: 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-2021.
  - If not in pay status at time of valuation: same tables as for Post-retirement Healthy Members.

The Pub-2010 mortality tables and adjustments as shown above, with generational projection to the ages of members as of the measurement date, reasonably reflect the mortality experience of the Plan as of the measurement date. The additional generational projection is a provision made to reflect future mortality improvement.

Section 4: Actuarial Valuation Basis

Retirement

Age	1955/1980 Plan Unreduced Pension[1] Rates (%)	1955/1980 Plan Reduced Pension Rates (%)	2013 Tier Rates (%)
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[2]	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 & Over	100.00	N/A	100.00

[1] For example, a 1955/1980 Plan member age 54 with 30 or more years of service would be eligible for an unreduced pension benefit.
[2] For ages 62 and over, all 1955/1980 Plan members who are eligible for retirement are eligible for an unreduced pension benefit.

Section 4: Actuarial Valuation Basis

Disability Incidence

Disability rates are applicable after eight years of service.

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

Section 4: Actuarial Valuation Basis

Termination

Years of Service	1955/1980 Plan Rates (%)	2013 Tier Rates (%)
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 & Over	1.60	1.60

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

Section 4: Actuarial Valuation Basis

Unknown Data for Participants

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

Retirement Age for Inactive Vested Participants

59

Percent Married/Domestic Partnership

For all active and inactive vested participants: 75% of male members and 50% of female members are assumed to elect spouse/domestic partner HIB coverage at retirement.

For retired participants: Actual data included in census.

Based on past practice this is not necessarily the same as the percent married/domestic partnership assumption used in the pension valuation. Some of those members may not elect HIB spouse/domestic partner coverage upon retirement due to the additional cost to the member.

Age of Spouse/Domestic Partner

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

Future Benefit Accruals

1.0 year of service per year.

We have not applied the 0.040 years of additional service for each year of employment, applied in the pension valuation to anticipate conversion of unused sick leave, based on our understanding of the HIB plan provisions.

Actuarial Funding Policy:

Actuarial Cost Method

Entry Age Cost Method. Entry Age is the age at the member's hire date. Actuarial Accrued Liability is calculated on an individual basis and is based on costs allocated as a level percentage of compensation. The Normal Cost is calculated on an individual basis where the Entry Age Normal Cost is calculated as the sum of the individual Normal Costs.

Actuarial Value of Assets

Market value of assets (MVA) less unrecognized returns in each of the last five years. Unrecognized returns are equal to the difference between the actual market returns and the expected returns on the market value, and are recognized over a five-year period. The actuarial value of assets (AVA) is limited by a 30% corridor; the AVA cannot be less than 70% of MVA, nor greater than 130% of MVA.

Valuation Value of Assets

The proportion of the Actuarial Value of Assets allocated to the HIB plan, based on the proportion of the MVA attributable to the HIB plan.

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, through June 30, 2021, 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. On or after July 1, 2021, assumption changes from the experience study or interim review of the economic assumptions are amortized over 20 years.

Retiree Health Assumptions

Participation

95% of future eligible retirees are assumed to enroll in the HIB plan.
All current pensioners and beneficiaries with a retiree health insurance cash subsidy were valued.
For deferred vested members, we assume an election equal to 65% of the future retiree election percent.

Average HIB Subsidy

The enrollment percent of 70% is used to estimate the proportion of future retirees expected to participate in the EBMUD medical insurance plans (Kaiser, Blue Cross, Sutter Health Plus<65, and UHC Medicare Advantage PPO 65+). The difference between the 95% of all future retirees expected to be provided with an HIB subsidy and 70% (i.e. 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. The HIB subsidy may be used to defray any other allowed health benefits (e.g., Medicare Part B premiums, dental costs) in addition to medical premiums. For current retirees, we have used the HIB on record. For the expected 95% future retirees who received an HIB, we have assumed, based on the average HIB on record for current retirees at 100% vesting level, that:

- Retirees at 100% vesting level under age 65 with single HIB coverage will receive an average $439 monthly benefit as of July 1, 2024,
- Retirees at 100% vesting level under age 65 with spouse HIB coverage will receive an average $520 monthly benefit as of July 1, 2024,
- Retirees at 100% vesting level age 65 and over with single HIB coverage will receive an average $439 monthly benefit as of July 1, 2024, and
- Retirees at 100% vesting level age 65 and over with spouse HIB coverage will receive an average $539 monthly benefit as of July 1, 2024.

The maximum (100% vesting level) monthly HIB subsidy is $450 for a retiree with single coverage and $550 for a retiree with spouse/domestic partner coverage.

Projected HIB Subsidy Increase

We have projected the HIB medical benefit to increase with medical trend until it reaches the limits described in the Summary of Plan Provisions. The benefit limits are projected to remain unchanged at the current levels of $450/$550.

Health Care Cost Trend Rates

Trend is to be applied to premium for shown fiscal year to calculate next fiscal year's projected premium.

First Fiscal Year (July 1, 2024 through June 30, 2025):

Plan	Anthem Blue Cross PPO, Under Age 65	Sutter Health Plus HMO, Under Age 65	Kaiser HMO Under Age 65	Kaiser Senior Advantage	UHC Medicare Advantage PPO
Trend rate to be applied to 2024-2025 Fiscal Year premium	8.56%	10.50%	5.81%	9.08%	14.69%

The fiscal year trend rates are based on the following calendar year trend rates:

Approximate Trends for Fiscal Year	Non-Medicare Trend Rate (%)	Medicare Trend Rate (%)	Trend Rates Applied to Premium for Calendar Year	Non-Medicare Trend Rate (%)	Medicare Trend Rate (%)
2025-2026	7.125	6.875	2025	7.25	7.00
2026-2027	6.875	6.625	2026	7.00	6.75
2027-2028	6.625	6.375	2027	6.75	6.50
2028-2029	6.375	6.125	2028	6.50	6.25
2029-2030	6.125	5.875	2029	6.25	6.00
2030-2031	5.875	5.625	2030	6.00	5.75
2031-2032	5.625	5.375	2031	5.75	5.50
2032-2033	5.375	5.125	2032	5.50	5.25
2033-2034	5.125	4.875	2033	5.25	5.00
2034-2035	4.875	4.625	2034	5.00	4.75
2035-2036	4.625	4.500	2035	4.75	4.50
2036 and later	4.500	4.500	2036	4.50	4.50

Medical Carrier Election

Medical Carrier	Election (%)
Non-Medicare Medical Carrier	
• Kaiser HMO	70
• Anthem Blue Cross PPO	25
• Sutter Health Plus HMO	5
Medicare Medical Carrier	
• Kaiser Senior Advantage HMO (High Option)	67
• UHC Medicare Advantage PPO	33

Assumption Changes Since Prior Valuation:

The following assumptions were changed since the prior valuation:

- Salary scales, retirement rates, termination rates, disability rates, and mortality rates were updated per the 2024 experience study.
- The percentage of male participants who elect HIB coverage for their spouses/domestic partners was increased from 70% to 75%, while that for female participants was increased from 35% to 50%.
- The spouse age difference for male participants and their female spouses/domestic partners was decreased from 3 years to 2.
- The participation election for current vested terminated participants was increased from 50% to 65%.
- The average HIB subsidy for future retirees was updated.
- The future trend for projecting medical costs below the subsidy limit were updated.

Collectively, these assumption changes increased the Actuarial Accrued Liability by 0.94%.

Per the plan's funding policy, the impact of the year-to-year retiree healthcare assumption changes (such as updates to the average HIB subsidy and future trend assumptions) are amortized as part of the annual experience gain/loss.

Exhibit 2: Summary of plan

This exhibit summarizes the major benefit provisions as included in the valuation. It is not intended to be, nor should it be interpreted as, a complete statement of all benefit provisions.

Normal or Unreduced Retirement Eligibility:

- **1955/1980 Plan**
  - Age 65;
  - Age 62 with 5 years of service;
  - Age 59 with 20 years of service;
  - Age 54 with 30 years of service;
  - Other combinations of age and service between ages 54 and 59.
- **2013 Tier**
  - Age 67 with 5 years of service (for unreduced benefit)

Early Retirement Eligibility:

- **1955/1980 Plan**
  - Age 54 with 5 years of service.
- **2013 Tier**
  - Age 52 with 5 years of service.

Covered Members:

All members with at least 5 years of service.

Member Contribution Rate:

0.09%

Employer Contribution Rate:

100% of total cost net of the 0.09% rate paid by the employee.

Benefit Formula:

For members entering the System prior to July 1, 1996, a monthly allowance of up to $450 ($550 for married retirees and retirees with EBMUD domestic partners) is paid to retirees with at least five years of full-time service to reimburse member-paid medical expenses.

For members entering the System after June 30, 1996, the members shall receive the full monthly allowance multiplied by the applicable percentage below based on years of full-time service.

Effective January 1, 1999, retired members who had separated from the District prior to their retirement and who had at least five years of service also become eligible for the post-employment healthcare benefits based on the same vesting schedule.

Years of Full-time Service	Percent of HIB
Less than 5	0%
5-9	25%
10-14	50%
15-19	75%
20 or more	100%

An eligible surviving spouse/domestic partner may receive a Health Insurance Benefit of up to $450 per month.

Changes in Plan Provisions:

None since the prior valuation.

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East Bay Municipal Utility District Employees' Retirement System

Governmental Accounting Standards Board
Statement No. 67 Actuarial Valuation for the Pension Plan
as of June 30, 2024

Segal

180 Howard Street
Suite 1100
San Francisco, CA 94105-6147
segalco.com
T 415.263.8200

January 14, 2025

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

Dear Sophia:

We are pleased to submit this Governmental Accounting Standards Board Statement No. 67 (GASB 67) Actuarial Valuation as of June 30, 2024 for the Pension Plan of the East Bay Municipal Utility District Employees' Retirement System ("EBMUDERS" or "the Plan"). It contains various information that will need to be disclosed in order to comply with GASB 67. Please refer to EBMUDERS' Actuarial Valuation and Review of Pension Plan Benefits as of June 30, 2024, dated January 14, 2025 for the data, assumptions, and plan of benefits underlying these calculations.

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

The measurements shown in this actuarial valuation may not be applicable for other purposes. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; and changes in plan provisions or applicable law.

The actuarial calculations were completed under the supervision of Andy Yeung, ASA, 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. To the best of our knowledge, the information supplied in the actuarial valuation is complete and accurate. The assumptions used in this actuarial valuation were selected by the Board based upon our analysis and recommendations. In our opinion, the assumptions are reasonable and take into account the experience of EBMUDERS and

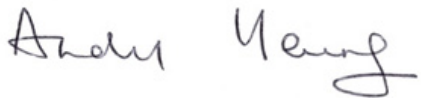
reasonable expectations. In addition, in our opinion, the combined effect of these assumptions is expected to have no significant bias.

Segal makes no representation or warranty as to the future status of the 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.

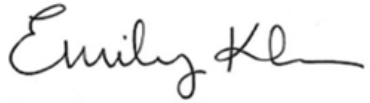
We look forward to reviewing this report with you and to answering any questions.

Sincerely,

Segal



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



Emily Klare, ASA, MAAA, EA
Senior Actuary

DNA/jl

Table of Contents

Section 1: Actuarial Valuation Summary

Purpose and basis

This report has been prepared by Segal to present certain disclosure information required by Governmental Accounting Standards Board Statement No. 67 (GASB 67) as of June 30, 2024. This report is based on:

- The benefit provisions of the Pension Plan, as administered by the Board;
- The characteristics of covered active, inactive, and retired members and beneficiaries as of June 30, 2024, provided by EBMUDERS;
- The assets of the Plan as of June 30, 2024, provided by EBMUDERS;
- Economic assumptions regarding future salary increases and investment earnings adopted by the Board for the June 30, 2024 funding valuation; and
- Other actuarial assumptions, regarding employee terminations, retirement, death, etc. adopted by the Board for the June 30, 2024 funding valuation.

General observations on a GASB 67 actuarial valuation

1. The Governmental Accounting Standards Board (GASB) rules only define pension liability and expense for financial reporting purposes, they do not apply to contribution amounts for pension funding purposes. Employers and plans should continue to develop and adopt funding policies under current practices.
2. When measuring pension liability, GASB uses the same actuarial cost method (Entry Age method) and the same type of discount rate (expected return on assets) as EBMUDERS uses for funding. This means that the Total Pension Liability (TPL) measure for financial reporting shown in this report is determined on the same basis as EBMUDERS' Actuarial Accrued Liability (AAL) measure for funding. We note that the same is true for the service cost for financial reporting shown in this report and the normal cost component of the annual plan cost for funding.
3. The Net Pension Liability (NPL) is equal to the difference between the TPL and the Plan Fiduciary Net Position (FNP). The Plan FNP is equal to the fair value of assets and therefore, the NPL measure is very similar to an Unfunded Actuarial Accrued Liability (UAAL) on a market value basis.

Highlights of the valuation

1. The reporting date for the Plan is June 30, 2024 and the NPL was measured as of the same date. The TPL was determined based upon the actuarial funding valuation as of June 30, 2024 and the Plan FNP was also valued as of the measurement date.

2. Section 33 of the Employees' Retirement System Ordinance ("Ordinance") references a funded ratio based on the ratio of the market value of assets to the projected benefit obligation (PBO) for purposes of determining post-retirement cost-of-living adjustments (COLA). As noted in the plan provisions section of the June 30, 2024 Pension Plan funding valuation report dated January 14, 2025 (Section 4, Exhibit 2), the basic minimum COLA benefit is the lesser of 3% and the actual change in the cost-of-living index. Any excess of the actual change in the cost-of-living index over 3% is accumulated in individual retiree COLA banks, and withdrawals from the bank are made in years when the index increases less than 3%. However, increases of up to 5% are granted in years when the Retirement Board determines that the System is more than 85% funded on a PBO basis. In those years when the System is more than 85% funded and the cost-of-living index exceeds 5%, any excess cost-of-living over 5% is accumulated in the COLA bank. Furthermore, effective October 1, 2000, in those years when the System is more than 85% funded on a PBO basis and the change in the cost-of-living index is less than 4%, withdrawals from the bank are made to allow cost-of-living increases up to 4%.

   For the June 30, 2024 Pension Plan and HIB Plan valuations, we note that the funded ratio on the PBO (and market value) basis is 78.4% for both plans combined, as shown in the Supplemental Exhibits report dated January 14, 2025.

3. The NPL decreased from $800 million as of June 30, 2023 to $698 million as of June 30, 2024 primarily due to a return on the market value of assets of 12.57% during fiscal year 2023/2024 that was more than the assumption of 6.75% used in the June 30, 2023 valuation (a gain of about $127 million), offset somewhat by the change in actuarial assumptions and methodology (a loss of about $25 million). Changes in these values during the last two fiscal years can be found in *Section 2, Exhibit 3 - Schedule of changes in Net Pension Liability* on page 18.

4. The discount rate used to measure the TPL and NPL as of June 30, 2024 was 6.75%, following the same assumptions used by EBMUDERS in the actuarial funding valuation as of June 30, 2024. The detailed calculations used in the derivation of the 6.75% discount rate can be found in *Appendix A*. Various other information that is required to be disclosed can be found throughout *Section 2*.

Summary of key valuation results

Line Description	Current Year	Prior Year
Reporting and Measurement Date	June 30, 2024	June 30, 2023
Disclosure elements		
Service cost[1]	$60,312,330	$56,378,319
Total Pension Liability	3,143,728,340	2,994,429,150
Plan Fiduciary Net Position	2,445,611,000	2,194,142,000
Net Pension Liability	698,117,340	800,287,150
Schedule of contributions		
Actuarially determined contributions	$105,111,000	$95,103,000
Actual contributions	105,111,000	95,103,000
Contribution deficiency / (excess)	0	0
Demographic data		
Number of retired members and beneficiaries	2,176	2,117
Number of inactive members[2]	407	381
Number of active members	1,974	1,955
Key assumptions		
Investment rate of return	6.75%	6.75%
Inflation rate	2.50%	2.50%
"Across-the-board" salary increase	0.50%	0.50%
Projected salary increases[3]	1955/1980 Plan: 9.25% to 3.75% 2013 Tier: 9.50% to 3.75%	1955/1980 Plan: 9.25% to 3.75% 2013 Tier: 9.25% to 3.75%
Cost-of-living adjustments	2.75%	2.75%

[1] The service cost is based on the previous year's valuation, meaning the service costs as of the June 30, 2024 and June 30, 2023 measurement dates are based on the valuations as of June 30, 2023 and June 30, 2022, respectively. Both service costs have been calculated using the assumptions shown in the Prior Year column, as there had been no changes in the actuarial assumptions between the June 30, 2023 and June 30, 2022 valuations.

[2] Includes inactive members due a refund of member contributions.

[3] Includes inflation at 2.50% plus "across-the-board" salary increase of 0.50% plus merit and promotion increases that vary based on time from hire.

Important information about actuarial valuations

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

Input Item	Description
Plan provisions	Plan provisions define the rules that will be used to determine benefit payments, and those rules, or the interpretation of them, may change over time. Even where they appear precise, outside factors may change how they operate. It is important to keep Segal informed with respect to plan provisions and administrative procedures, and to review the plan summary included in our report (as well as the plan summary included in our funding valuation report) to confirm that Segal has correctly interpreted the plan of benefits.
Member information	An actuarial valuation for a plan is based on data provided to the actuary by EBMUDERS. Segal does not audit such data for completeness or accuracy, other than reviewing it for obvious inconsistencies compared to prior data and other information that appears unreasonable. It is important for Segal to receive the best possible data and to be informed about any known incomplete or inaccurate data.
Financial information	The valuation is based on the fair value of assets as of the measurement date, as provided by EBMUDERS.
Actuarial assumptions	In preparing an actuarial valuation, Segal starts by developing a forecast of the benefits to be paid to existing plan members for the rest of their lives and the lives of their beneficiaries. This requires actuarial assumptions as to the probability of death, disability, withdrawal, and retirement of members in each year, as well as forecasts of the plan's benefits for each of those events. In addition, the benefits forecasted for each of those events in each future year reflect actuarial assumptions as to salary increases and cost-of-living adjustments (if any). The forecasted benefits are then discounted to a present value, typically based on an estimate of the rate of return that will be achieved on the plan's assets. All of these factors are uncertain and unknowable. Thus, there will be a range of reasonable assumptions, and the results may vary materially based on which assumptions are selected within that range. That is, there is no right answer (except with hindsight). It is important for any user of an actuarial valuation to understand and accept this constraint. The actuarial model may use approximations and estimates that will have an immaterial impact on our results. In addition, the actuarial assumptions may change over time, and while this can have a significant impact on the reported results, it does not mean that the previous assumptions or results were unreasonable or wrong.
Actuarial models	Segal valuation results are based on proprietary actuarial modeling software. The actuarial valuation models generate a comprehensive set of liability and cost calculations that are presented to meet regulatory, legislative and client requirements. Deterministic cost projections are based on a proprietary forecasting model. Our Actuarial Technology and Systems unit, comprised of both actuaries and programmers, is responsible for the initial development and maintenance of these models. The models have a modular structure that allows for a high degree of accuracy, flexibility and user control. The client team programs the assumptions and the plan provisions, validates the models, and reviews test lives and results, under the supervision of the responsible actuary.

Section 1: Actuarial Valuation Summary

The user of Segal's actuarial valuation (or other actuarial calculations) should keep the following in mind:

- The actuarial valuation is prepared at the request of the Board. Segal is not responsible for the use or misuse of its report, particularly by any other party.
- An actuarial valuation is a measurement at a specific date — it is not a prediction of a plan's future financial condition. Accordingly, Segal did not perform an analysis of the potential range of financial measurements, except where otherwise noted.
- If EBMUDERS is aware of any event or trend that was not considered in this valuation that may materially change the results of the valuation, Segal should be advised, so that we can evaluate it.
- Segal does not provide investment, legal, accounting or tax advice and is not acting as a fiduciary to the Plan. This valuation is based on Segal's understanding of applicable guidance in these areas and of the Plan's provisions, but they may be subject to alternative interpretations. The Board should look to their other advisors for expertise in these areas.
- While Segal maintains extensive quality assurance procedures, an actuarial valuation involves complex computer models and numerous inputs. In the event that an inaccuracy is discovered after presentation of Segal's valuation, Segal may revise that valuation or make an appropriate adjustment in the next valuation.
- Segal's report shall be deemed to be final and accepted by EBMUDERS upon delivery and review. EBMUDERS should notify Segal immediately of any questions or concerns about the final content.

Section 2: GASB 67 Information

General information about the Pension Plan

Plan administration

The East Bay Municipal Utility District (the District) Employees' Retirement System (EBMUDERS or 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[1] for eligible directors, officers, and employees of the District. 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 (nonvoting) 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. It should be noted that there are two systems in EBMUDERS (i.e., Water System and Wastewater System).

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.

Plan membership

All regular full-time employees of the District are members of the Plan, in addition to certain job share and intermittent employees. Eligible employees become members on the first day they are physically on the job. At June 30, 2024, Pension Plan membership consisted of the following:

Membership	Count
Retired members and beneficiaries	2,176
Inactive members[2]	407
Active members	1,974
Total	**4,557**

[1] The liabilities and expenses associated with providing post-employment health insurance benefits are reportable under GASB Statements 74 and 75. They have not been included in this report.

[2] Includes inactive members due a refund of member contributions.

Benefits provided

EBMUDERS provides service retirement, disability, death and survivor benefits to eligible employees.

There are two tiers in effect currently, the 1955/1980 Plan and the 2013 Tier.

- Employees who became members of the Retirement System prior to January 1, 2013, or who have reciprocal membership are in the 1955/1980 Plan.
- Employees who became members on or after January 1, 2013 are in the 2013 Tier.

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 eight 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/domestic partner of a member who dies after retirement, or who was eligible but had not retired from service, provided the spouse/domestic partner was married to/established domestic partnership with the member at the date of retirement and for at least one year prior to the member's death.

EBMUDERS provides an annual cost-of-living benefit to all retirees. The cost-of-living adjustment is capped at 3.0% unless the System is more than 85% funded on a Projected Benefit Obligation (PBO) basis, in which case the cost-of-living adjustment is capped at 5.0%.[1]

1955/1980 Plan member benefits

1955/1980 Plan members may elect voluntary reduced service retirement upon attaining the age of 54 and completing five years of continuous full-time employment. Members may elect voluntary unreduced service retirement upon attaining the age of 62 and completing five 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.

[1] 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%.

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 Tier member benefits

2013 Tier members may elect voluntary reduced service retirement upon attaining the age of 52 and completing five years of continuous full-time employment. Members may elect voluntary unreduced service retirement upon attaining the age of 67 and completing five 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.

Contributions

The East Bay Municipal Utility District contributes to the Pension Plan based upon actuarially determined contribution rates adopted by the Retirement Board. Employer contribution rates are adopted annually based upon recommendations received from EBMUDERS' actuary after the completion of the annual actuarial valuation. The average employer contribution rate as of June 30, 2024 for 2023/2024 (based on contribution rates adopted for the June 30, 2022 valuation) was 39.75% of covered payroll.

All members are required to make contributions to EBMUDERS regardless of the Pension Plan or tier in which they are included. The average member contribution rate as of June 30, 2024 for 2023/2024 (based on the June 30, 2022 valuation) was 8.94% of covered payroll.

Exhibit 1 – Net Pension Liability

Line Description	Current Year	Prior Year
Reporting and Measurement Date	June 30, 2024	June 30, 2023
Components of the Net Pension Liability		
Total Pension Liability	$3,143,728,340	$2,994,429,150
Plan Fiduciary Net Position	(2,445,611,000)	(2,194,142,000)
Net Pension Liability	**$698,117,340**	**$800,287,150**
Plan Fiduciary Net Position as a percentage of the Total Pension Liability[1]	77.79%	73.27%

The NPL for the Plan in this valuation was measured as of June 30, 2024. The Plan FNP was valued as of the measurement date and the TPL was determined based upon the actuarial valuation as of June 30, 2024.

Plan provisions

The plan provisions used in the measurement of the NPL as of June 30, 2024 are the same as those used in EBMUDERS' actuarial funding valuation as of June 30, 2024.

Actuarial assumptions

The TPL as of June 30, 2024 uses the same actuarial assumptions as the actuarial funding valuation as of June 30, 2024. The actuarial assumptions used in that funding valuation were based on the results of an experience study for the period July 1, 2020 through June 30, 2024. In particular, the following actuarial assumptions were applied to all periods included in the measurement:

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

Section 2: GASB 67 Information

Assumption Type	Assumption
Investment rate of return	6.75%, net of Pension Plan investment expense, including inflation
Inflation rate	2.50%
"Across-the-board" salary increase	0.50%
Projected salary increases	1955/1980 Plan: 9.25% to 3.75% 2013 Tier: 9.50% to 3.75% The above salary increases vary based on time from hire and include inflation and "across-the-board" salary increase.
Cost-of-living adjustments	2.75% For members who have COLA banks, we assume they receive up to 3.00% COLA increases until their COLA banks are exhausted and 2.75% thereafter.
Other assumptions	See analysis of actuarial experience during the period July 1, 2020 through June 30, 2024.

Detailed information regarding all actuarial assumptions can be found in the June 30, 2024 Actuarial Valuation and Review of Pension Plan Benefits.

Exhibit 2 – Discount rate

Determination of discount rate and investment rates of return

The long-term expected rate of return on Pension Plan investments[1] was determined using a building-block method in which expected future real rates of return (expected returns, net of inflation and, beginning with June 30, 2024, any applicable investment management expenses) are developed for each major asset class. These returns are combined to produce the long-term expected arithmetic rate of return for the portfolio by weighting the expected arithmetic real rates of return by the target asset allocation percentage, adding expected inflation and subtracting expected investment expenses (beginning with June 30, 2024 including only investment consulting fees, custodian fees and other miscellaneous investment expenses) and a risk margin. Beginning with June 30, 2024, this portfolio return is further adjusted to an expected geometric real rate of return for the portfolio.

The target allocation (approved by the Board) and projected arithmetic real rates of return for each major asset class (after deducting inflation and applicable investment management expenses), are shown in the following table. This information was used in the derivation of the long-term expected investment rate of return assumption for the actuarial funding valuation as of June 30, 2024. This information will be subject to change every four years based on the results of an actuarial experience study, or every two years based upon an interim economic actuarial assumptions study.

[1] Note that the investment return assumption for funding purposes was developed net of both investment and administrative expenses; however, the same investment return assumption was used for financial reporting purposes, where it is considered gross of administrative expenses. This results in an increase in the margin for adverse deviation when using that investment return assumption for financial reporting.

Asset Class	Target Allocation	Long-Term Expected Arithmetic Real Rate of Return[1]
Domestic large cap equity	32.55%	5.80%
Domestic small cap equity	2.45%	6.59%
Developed international large cap equity	18.00%	6.44%
Emerging markets equity	7.00%	8.32%
Core bonds	20.00%	2.27%
High yield bonds	7.50%	4.62%
Bank loans	5.00%	4.43%
Real estate	2.50%	4.54%
Private debt	5.00%	6.63%
Total	**100.00%**	**5.26%**

Discount rate

The discount rate used to measure the TPL was 6.75% as of June 30, 2024.

The projection of cash flows used to determine the discount rate assumes plan member contributions will be made at the current contribution rates and that employer contributions will be made at rates equal to the actuarially determined contribution rates.[2] Projected employer contributions that are intended to fund the service costs for future plan members and their beneficiaries, as well as projected contributions from future plan members, are not included. Based on those assumptions, the Plan FNP was projected to be available to make all projected future benefit payments for current plan members. Therefore, the long-term expected rate of return on Pension Plan investments was applied to all periods of projected benefit payments to determine the TPL as of June 30, 2024.

Discount rate sensitivity

The following presents the NPL of EBMUDERS as of June 30, 2024 calculated using the current discount rate of 6.75%, as well as what EBMUDERS' NPL 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] Arithmetic real rates of return are net of inflation.
[2] For this purpose, only employer contributions that are intended to fund benefits of current plan members and their beneficiaries are included.

Section 2: GASB 67 Information

Line Description	1% Decrease in Discount Rate (5.75%)	Current Discount Rate (6.75%)	1% Increase in Discount Rate (7.75%)
Net Pension Liability	$1,110,904,700	$698,117,340	$356,956,008

Exhibit 3 – Schedule of changes in Net Pension Liability

Line Description	Current Year	Prior Year
Reporting and Measurement Date	June 30, 2024	June 30, 2023
Total Pension Liability		
Service cost[1]	$60,312,330	$56,378,319
Interest	201,159,010	190,492,351
Change of benefit terms	0	0
Differences between expected and actual experience	11,736,760	51,868,388
Changes of assumptions	25,307,090	0
Benefit payments, including refunds of member contributions	(149,216,000)	(140,081,000)
Net change in Total Pension Liability	**$149,299,190**	**$158,658,058**
Total Pension Liability — beginning	2,994,429,150	2,835,771,092
Total Pension Liability — ending	**$3,143,728,340**	**$2,994,429,150**
Plan Fiduciary Net Position		
Contributions — employer	$105,111,000	$95,103,000
Contributions — member	23,637,000	21,865,000
Net investment income	274,375,000	214,117,000
Benefit payments, including refunds of member contributions	(149,216,000)	(140,081,000)
Administrative expense	(2,438,000)	(2,214,000)
Net change in Plan Fiduciary Net Position	**$251,469,000**	**$188,790,000**
Plan Fiduciary Net Position — beginning	2,194,142,000	2,005,352,000
Plan Fiduciary Net Position — ending	**$2,445,611,000**	**$2,194,142,000**
Net Pension Liability — ending	**$698,117,340**	**$800,287,150**
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	77.79%	73.27%
Covered payroll[2]	$264,425,972	$246,230,567
Plan Net Pension Liability as percentage of covered payroll	264.01%	325.02%

[1] The service cost is based on the previous year's valuation, meaning the service costs as of the June 30, 2024 and June 30, 2023 measurement dates are based on the valuations as of June 30, 2023 and June 30, 2022, respectively. Both service costs have been calculated using the assumptions shown in the Prior Year column on page 7, as there had been no changes in the actuarial assumptions between the June 30, 2023 and June 30, 2022 valuations.

[2] Covered payroll represents payroll on which contributions to the pension plan are based.

Exhibit 4 – Schedule of employer contributions

Year Ended June 30	Actuarially Determined Contributions	Contributions in Relation to the Actuarially Determined Contributions	Contribution Deficiency / (Excess)	Covered Payroll[1]	Contributions as a Percentage of Covered Payroll
2015	$64,177,000	$64,177,000	$0	$166,886,146	38.46%
2016	65,218,000	65,218,000	0	174,586,444	37.36%
2017	67,096,000	67,096,000	0	182,031,838	36.86%
2018	71,221,000	71,221,000	0	193,717,364	36.77%
2019	74,033,000	74,033,000	0	203,541,207	36.37%
2020	77,645,000	77,645,000	0	215,109,948	36.10%
2021	79,252,000	79,252,000	0	221,809,447	35.73%
2022	91,393,000	91,393,000	0	233,939,981	39.07%
2023	95,103,000	95,103,000	0	246,230,567	38.62%
2024	105,111,000	105,111,000	0	264,425,972	39.75%

See accompanying notes to this schedule on next page.

[1] Covered payroll represents payroll on which contributions to the pension plan are based, as reported by EBMUDERS.

Methods and assumptions used to establish the actuarially determined contribution for the year ended June 30, 2024

Valuation date

Actuarially determined contribution rates are calculated as of June 30, two years prior to the end of the fiscal year in which contributions are reported (the June 30, 2022 valuation sets the rates for the 2023/2024 fiscal year).

Actuarial cost method

Entry Age 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.

Asset valuation method

The actuarial value of assets is equal to the market value (or fair value) of assets less unrecognized returns from each of the last five years. The unrecognized return each year is equal to the difference between the actual and expected returns on the market value of assets, recognized over a five-year period. The actuarial value of assets is further adjusted, if necessary, to be within 30% of the market value of assets.

Section 2: GASB 67 Information

Actuarial assumptions

The actuarially determined contribution for the year ended June 30, 2024 is based on the results of the EBMUDERS June 30, 2022 Actuarial Valuation and Review of Pension Plan Benefits. The actuarial assumptions used in that valuation are as follows:

Assumption Type	Assumptions Used in the June 30, 2022 Valuation
Investment rate of return	6.75%, net of Pension Plan investment expense, including inflation
Inflation rate	2.50%
"Across-the-board" salary increase	0.50%
Projected salary increases	9.25% to 3.75% The above salary increases vary by time from hire and include inflation and "across-the-board" salary increase.
Cost-of-living adjustments	2.75% For members who have COLA banks, we assume they receive up to 3.00% COLA increases until their COLA banks are exhausted and 2.75% thereafter.
Mortality	**Healthy:** 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
Other assumptions	Same as those used in the funding actuarial valuation as of June 30, 2022.

Appendix A: Projection of Plan Fiduciary Net Position

Projection of Plan Fiduciary Net Position for use in the Calculation of Discount Rate as of June 30, 2024 ($ in millions)

Year Beginning July 1	Beginning Plan Fiduciary Net Position (a)	Total Contributions (b)	Benefit Payments (c)	Administrative Expenses (d)	Investment Earnings (e)	Ending Plan Fiduciary Net Position (a) + (b) – (c) – (d) + (e)
2023	$2,194	$129	$149	$2	$274	$2,446
2024	2,446	131	162	3	163	2,576
2025	2,576	129	170	3	172	2,704
2026	2,704	133	179	3	180	2,835
2027	2,835	130	188	3	189	2,963
2028	2,963	129	196	3	197	3,089
2029	3,089	130	205	3	205	3,216
2030	3,216	124	213	4	213	3,336
2031	3,336	124	222	4	221	3,456
2032	3,456	122	230	4	229	3,573
2054	3,883	17	334	4	250	3,812
2055	3,812	16 [1]	335	4	245	3,734
2056	3,734	15	335	4	240	3,650
2057	3,650	14 [1]	334	4	234	3,560
2116	1	0 [1,2]	1	0 [2]	0 [2]	1
2117	1	0 [1,2]	0 [2]	0 [2]	0 [2]	0 [2]
2118	0 [2]	0 [1,2]	0 [2]	0 [2]	0 [2]	0 [2]
2119	0 [2]	0 [1,2]	0 [2]	0 [2]	0 [2]	0 [2]
2120	0 [2]	0 [1,2]	0 [2]	0 [2]	0 [2]	0 [2]
2121	0 [2]	0 [1,2]	0 [2]	0 [2]	0 [2]	0 [2]
2122	0 [2]	0 [1,2]	0 [2]	0 [2]	0 [2]	0 [2]

[1] Mainly attributable to employer contributions to fund each year's annual administrative expenses.
[2] Less than $1 million when rounded.

Appendix A: Projection of Plan Fiduciary Net Position

Notes

1. Amounts may not total exactly due to rounding.
2. Amounts shown in the year beginning July 1, 2023 row are actual amounts, based the financial statements provided by EBMUDERS.
3. Various years have been omitted from this table.
4. In preparing the above projections, we have not taken into consideration the one-year delay between the date of the contribution rate calculation and the implementation.
5. **Column (a):** None of the Plan FNP amounts shown have been adjusted for the time value of money.
6. **Column (b):** Projected total contributions include member and employer normal cost contributions based on closed group projections (based on covered active members as of June 30, 2024); plus employer contributions to the UAAL, plus employer contributions to fund each year's annual administrative expenses reflecting a 20-year amortization schedule. Contributions are assumed to occur halfway through the year, on average.
7. **Column (c):** Projected benefit payments have been determined in accordance with paragraph 39 of GASB Statement No. 67, and are based on the closed group of active, inactive and retired members and beneficiaries as of June 30, 2024. The projected benefit payments reflect the cost-of-living increase assumptions used in the June 30, 2024 valuation report. Benefit payments are assumed to occur halfway through the year, on average.
8. **Column (d):** Projected administrative expenses are calculated as approximately 0.11% of the beginning Plan FNP. The 0.11% was based on the actual fiscal year 2023/2024 administrative expenses as a percentage of the beginning Plan FNP as of July 1, 2023. Administrative expenses are assumed to occur halfway through the year, on average.
9. **Column (e):** Projected investment earnings are based on the assumed investment rate of return of 6.75% per annum and reflect the assumed timing of cashflows, as noted above.
10. As illustrated in this appendix, the Plan FNP was projected to be available to make all projected future benefit payments for current Plan members. In other words, there is no projected "cross-over date" when projected benefits are **not** covered by projected assets. Therefore, the long-term expected rate of return on Plan investments of 6.75% per annum was applied to all periods of projected benefit payments to determine the TPL as of June 30, 2024 shown earlier in this report, pursuant to paragraph 44 of GASB Statement No. 67.

Appendix B: Definition of terms

Definitions of certain terms as they are used in GASB Statement No. 67. The terms may have different meanings in other contexts.

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

Appendix B: Definition of terms

Term	Definition
Closed period	A specific number of years that is counted from one date and declines to zero with the passage of time. For example, if the recognition period initially is five years on a closed basis, four years remain after the first year, three years after the second year, and so forth.
Contributions	Additions to the Plan Fiduciary Net Position for amounts from employers, non-employer contributing entities (for example, state government contributions to a local government pension plan), or employees. Contributions can result from cash receipts by the pension plan or from recognition by the pension plan of a receivable from one of these sources.
Cost-of-living adjustments	Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.
Cost-sharing employer	An employer whose employees are provided with pensions through a cost-sharing multiple-employer defined benefit pension plan.
Cost-sharing multiple employer defined benefit pension plan (Cost-sharing pension plan)	A multiple-employer defined benefit pension plan in which the pension obligations to the employees of more than one employer are pooled and pension plan assets can be used to pay the benefits of the employees of any employer that provides pensions through the pension plan.
Covered payroll	Payroll on which contributions to a pension plan are based.
Deferred retirement option program (DROP)	A program that permits an employee to elect a calculation of benefit payments based on service credits and salary, as applicable, as of the DROP entry date. The employee continues to provide service to the employer and is paid for that service by the employer after the DROP entry date; however, the pensions that would have been paid to the employee (if the employee had retired and not entered the DROP) are credited to an individual employee account within the defined benefit pension plan until the end of the DROP period.
Defined benefit pension plans	Pension plans that are used to provide defined benefit pensions.
Defined benefit pensions	Pensions for which the income or other benefits that the employee will receive at or after separation from employment are defined by the benefit terms. The pensions may be stated as a specified dollar amount or as an amount that is calculated based on one or more factors such as age, years of service, and compensation. (A pension that does not meet the criteria of a defined contribution pension is classified as a defined benefit pension for purposes of GASB Statement No. 67.)
Defined contribution pension plans	Pension plans that are used to provide defined contribution pensions.

Appendix B: Definition of terms

Term	Definition
Defined contribution pensions	Pensions having terms that: 1. Provide an individual account for each employee; 2. Define the contributions that an employer is required to make (or the credits that it is required to provide) to an active employee's account for periods in which that employee renders service; and 3. Provide that the pensions an employee will receive will depend only on the contributions (or credits) to the employee's account, actual earnings on investments of those contributions (or credits), and the effects of forfeitures of contributions (or credits) made for other employees, as well as pension plan administrative costs, that are allocated to the employee's account.
Discount rate	The single rate of return that, when applied to all projected benefit payments, results in an actuarial present value of projected benefit payments equal to the total of the following: 1. The actuarial present value of benefit payments projected to be made in future periods in which: a. The amount of the Plan Fiduciary Net Position is projected (under the requirements of GASB Statement No. 67) to be greater than the benefit payments that are projected to be made in that period, and b. Pension plan assets up to that point are expected to be invested using a strategy to achieve the long-term expected rate of return, calculated using the long-term expected rate of return on pension plan investments. 2. The actuarial present value of projected benefit payments not included in 1., calculated using the municipal bond rate.
Entry age actuarial cost method	A method under which the actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis over the earnings or service of the individual between entry age and assumed exit age(s). The portion of this actuarial present value allocated to a valuation year is called the normal cost. The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future normal costs is called the actuarial accrued liability.
Inactive employees	Terminated individuals that have accumulated benefits but are not yet receiving them, and retirees or their beneficiaries currently receiving benefits.
Measurement period	The period between the prior and the current measurement dates.
Multiple-employer defined benefit pension plan	A defined benefit pension plan that is used to provide pensions to the employees of more than one employer.
Net Pension Liability (NPL)	The liability of employers and non-employer contributing entities to employees for benefits provided through a defined benefit pension plan.
Non-employer contributing entities	Entities that make contributions to a pension plan that is used to provide pensions to the employees of other entities.

Appendix B: Definition of terms

Term	Definition
Other postemployment benefits	All postemployment benefits other than retirement income (such as death benefits, life insurance, disability, and long-term care) that are provided separately from a pension plan, as well as postemployment healthcare benefits, regardless of the manner in which they are provided. Other postemployment benefits do not include termination benefits.
Pension plans	Arrangements through which pensions are determined, assets dedicated for pensions are accumulated and managed and benefits are paid as they come due.
Pensions	Retirement income and, if provided through a pension plan, postemployment benefits other than retirement income (such as death benefits, life insurance, and disability benefits). Pensions do not include postemployment healthcare benefits and termination benefits.
Plan members	Individuals that are covered under the terms of a pension plan. Plan members generally include: 1. Employees in active service (active plan members), and 2. Terminated employees who have accumulated benefits but are not yet receiving them and retirees or their beneficiaries currently receiving benefits (inactive plan members).
Postemployment	The period after employment.
Postemployment benefit changes	Adjustments to the pension of an inactive employee.
Postemployment healthcare benefits	Medical, dental, vision, and other health-related benefits paid subsequent to the termination of employment.
Projected benefit payments	All benefits estimated to be payable through the pension plan to current active and inactive employees as a result of their past service and their expected future service.
Public employee retirement system	A special-purpose government that administers one or more pension plans; also may administer other types of employee benefit plans, including postemployment healthcare plans and deferred compensation plans.
Real rate of return	The rate of return on an investment after adjustment to eliminate inflation.
Service costs	The portions of the actuarial present value of projected benefit payments that are attributed to valuation years.
Single employer	An employer whose employees are provided with pensions through a single-employer defined benefit pension plan.
Single-employer defined benefit pension plan (Single-employer pension plan)	A defined benefit pension plan that is used to provide pensions to employees of only one employer.

Appendix B: Definition of terms

Term	Definition
Special funding situations	Circumstances in which a non-employer entity is legally responsible for making contributions directly to a pension plan that is used to provide pensions to the employees of another entity or entities and either of the following conditions exists: 1. The amount of contributions for which the non-employer entity legally is responsible is not dependent upon one or more events or circumstances unrelated to the pensions. 2. The non-employer entity is the only entity with a legal obligation to make contributions directly to a pension plan.
Termination benefits	Inducements offered by employers to active employees to hasten the termination of services, or payments made in consequence of the early termination of services. Termination benefits include early-retirement incentives, severance benefits, and other termination-related benefits.
Total Pension Liability (TPL)	The portion of the actuarial present value of projected benefit payments that is attributed to past periods of employee service in conformity with the requirements of GASB Statement No. 67.

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East Bay Municipal Utility District Employees' Retirement System

Governmental Accounting Standards Board Statement (GASB) 74
Actuarial Valuation for the Health Insurance Benefit Plan

As of June 30, 2024

Segal

Segal

180 Howard Street, Suite 1100
San Francisco, CA 94105-6147
segalco.com
T 415.263.8200

January 14, 2025

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

Dear Sophia:

We are pleased to submit this Governmental Accounting Standards Board Statement 74 (GASB 74) Actuarial Valuation as of June 30, 2024 for the health insurance benefit (HIB) plan or Other Post Employment Benefits (OPEB) Plan. It contains various information that will need to be disclosed in order to comply with GASB 74 for the health plan.

This report has been prepared in accordance with generally accepted actuarial principles and practices at the request of the Board to assist in administering the East Bay Municipal Utility District Employees' Retirement System (EBMUDERS). The census and financial information on which our calculations were based was prepared by EBMUDERS. That assistance is gratefully acknowledged.

The measurements shown in this actuarial valuation may not be applicable for other purposes. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; and changes in plan provisions or applicable law.

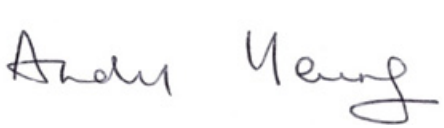
The actuarial calculations were completed under the supervision of Andy Yeung, ASA, MAAA, FCA, EA and Mehdi Riazi, FSA, MAAA, FCA, EA. The health care trend and other related medical assumptions have been reviewed by Mary Kirby, FSA, MAAA, FCA. We are members of the American Academy of Actuaries and we meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. To the best of our knowledge, the information supplied in the actuarial valuation is complete and accurate. Further, in our opinion, the assumptions used in this valuation, as approved by the Board, are reasonably related to the experience of and expectations for the Plan.

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 to answering any questions.

Sincerely,

Segal



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

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

Mary Kirby, FSA, MAAA, FCA
Senior Vice President and Chief Health Actuary

TTT/jl

Table of Contents

Section 1: Actuarial Valuation Summary

Purpose and basis

This report has been prepared by Segal to present certain disclosure information required by Governmental Accounting Standards Board (GASB) Statement No. 74, Financial Reporting for Postemployment Benefit Plans Other than Pension Plans, as of June 30, 2024. This valuation is based on:

- The benefit provisions of the Health Insurance Benefit (HIB) or Other Postemployment Benefits (OPEB) Plan, as administered by the Board;
- The characteristics of covered active members, terminated vested members, and retired members and beneficiaries as of June 30, 2024, provided by EBMUDERS;
- The assets of the Plan as of June 30, 2024, provided by EBMUDERS;
- Economic assumptions regarding future salary increases and investment earnings as adopted by the Board for the valuation as of June 30, 2024; and
- Other (health and non-health) actuarial assumptions, regarding employee terminations, retirement, death, health care trend and enrollment, etc. that the Board has adopted for the June 30, 2024 valuation.

General observations on GASB 74 actuarial valuation

1. The GASB rules only define OPEB liability and expense for financial reporting purposes, and do not apply to contribution amounts for OPEB funding purposes. Employers and plans still develop and adopt funding policies under current practices.
2. When measuring the Total OPEB Liability, GASB uses the same actuarial cost method (Entry Age) for benefits that are being funded on an actuarial basis[1] and the same expected return on Plan assets as EBMUDERS uses for funding. This means that the Total OPEB Liability (TOL) measure for financial reporting shown in this report is determined on the same basis as EBMUDERS Actuarial Accrued Liability (AAL) measure for funding with the exception discussed below on the “implicit subsidy”. We note that the same is true for the Normal Cost component of the annual plan cost for funding and financial reporting again with the exception discussed below on the “implicit subsidy”.

[1] The $450/$550 HIB subsidy has been funded on an actuarial basis.

a. Pursuant to Paragraph 46 of GASB Statement No. 74, projected benefit payments should be based on claims costs or age-adjusted premiums approximating claims costs. In effect, GASB requires employers, such as EBMUD, that pool health insurance premium rates for actives and retirees under age 65 to calculate on an accrual basis the liability associated with such pooled premiums for retirees under age 65. That liability, referred to as the implicit subsidy, is included in this valuation in addition to the liability for the $450/$550 subsidy.

b. Pursuant to Paragraph 48 of the GASB Statement No. 74 and based on our understanding of subsequent guidance provided in Implementation Guide No. 2017-2, Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans, OPEB plans that are not being fully funded on an actuarial basis (such as the implicit subsidy component of the HIB for EBMUDERS that are being paid on a pay-as-you go basis) are required to go through a cross-over test in determining the discount rate that would be used in the valuation

3. The Net OPEB Liability (NOL) is equal to the difference between the TOL and the Plan Fiduciary Net Position. The Plan Fiduciary Net Position is equal to the market value of assets. The NOL reflects all investment gains and losses as of the measurement date. This is different from the Unfunded Actuarial Accrued Liability (UAAL) calculated on a valuation value of assets basis in the funding valuation that reflects investment gains and losses over a five-year period.

Highlights of the valuation

1. The NOL measured as of June 30, 2024 was determined from the actuarial valuation as of June 30, 2024. The NOL measured as of June 30, 2023 was determined from the actuarial valuation as of June 30, 2023.
2. Following the method outlined in the Implementation Guide, we have calculated a discount rate of 5.58% instead of the 6.75% used in the June 30, 2024 funding valuation.
3. The discount rates used to determine the TOL and NOL as of June 30, 2024 and 2023 were 5.58% and 5.23%, respectively. The detailed calculations in the derivation of the “cross-over date” to determine the discount rate of 5.58% used in the calculation of the TOL and NOL as of June 30, 2024 can be found in Appendix A of Section 3. Various other information that is required to be disclosed can be found throughout Section 2.

Section 1: Actuarial Valuation Summary

4. The discount rate used in the valuation for financial disclosure purposes as of June 30, 2024 is a blend of the assumed investment return on Plan assets (e.g. 6.75% for the June 30, 2024 valuation) and the rate for 20-year, tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher (e.g. 3.93% as of June 30, 2024[1]). Because EBMUDERS is not prefunding the implicit subsidy, Plan assets, when projected in accordance with the method prescribed by GASB 74, are expected to be sufficient to make benefit payment through June 30, 2051 (the projected beginning balance at July 1, 2051 is less than the projected benefit payments for the 2051/2052 year, before including projected contributions for the year). Projected benefit payments are discounted by the Plan investment return assumption of 6.75% until June 30, 2051. Benefit payments after June 30, 2051 are then discounted by the 20-year municipal bond rate of 3.93%. The 5.58% discount rate used in this valuation is the blended discount rate reflecting benefits discounted by the Plan investment return assumption rate and the bond rate.
5. The NOL has decreased from $132.4 million as of June 30, 2023 to $118.5 million as of June 30, 2024. The decrease in NOL was primarily the result of updating the discount rate from 5.23% to 5.58% and from the effect of various assumption changes made (see item #6). This decrease in liability was slightly offset by a liability increase resulting from premium updates. The premium increases had very little impact on the plan's fixed future explicit subsidies but resulted in a slightly higher liability attributable to future implicit subsidies.
6. The following assumptions were changed since the prior valuation:
   - The discount rate increased from 5.23% to 5.58%. This change decreased the TOL. The increase to the blended discount rate was primarily due to the increase in the 20-year municipal bond rate from 3.65% to 3.93% and the favorable investment returns during FYE24, which extended the cross-over date.
   - As approved by the Board, the applicable assumptions presented in the Actuarial Experience Study Report for the period July 1, 2020 through June 30, 2024 (report dated November 13, 2024) were applied and used beginning with this June 30, 2024 valuation. These same assumptions were also used in the June 30, 2024 Funding actuarial valuation. These assumption changes decreased the TOL. Note, the GASB 74 valuation incorporates a lower spousal participation assumption for the implicit subsidy compared to the explicit subsidy. The new assumptions increased the actuarial accrued liability in this year's funding report but decreased the TOL in this year's GASB 74 report because of the lower implicit subsidy spousal participation assumption that only applies to the GASB 74 valuation.
   - The estimated per capita retiree claims costs and associated trend assumptions were updated to reflect 2025 calendar year premiums and updated trend assumptions for 2026 and after. The updated claims and associated trend assumptions had a combined impact of increasing the TOL.
   - The average HIB for future retirees was updated. This change had a very minor impact.

[1] The comparable rate was 3.65% in the last valuation as of June 30, 2023.

Summary of key valuation results

Valuation Result	Current	Prior
Measurement date	June 30, 2024	June 30, 2023
Disclosure elements for fiscal year ending June 30,		
• Service Cost[1]	$5,864,684	$5,088,059
• Total OPEB Liability	189,880,139	193,546,328
• Plan Fiduciary Net Position (Assets)	71,420,000	61,165,000
• Net OPEB Liability	118,460,139	132,381,328
Schedule of contributions for fiscal year ending June 30,		
• Actuarially Determined Contributions	$12,231,000	$11,420,000
• Actual contributions	12,231,000	11,420,000
• Contribution deficiency / (excess)	0	0
Demographic data as of June 30,		
• Number of retired members and beneficiaries receiving a health subsidy	1,915	1,870
• Number of vested terminated members[2]	407	381
• Number of active members	1,974	1,955
Key assumptions as of June 30,		
• Discount rate	5.58%	5.23%
• Health care premium trend rates:		
– Non-Medicare medical plans	Actual premium increases for 2024-2025, then 7.125% graded down to 4.50% over 11 years.	Actual premium increases for 2023-2024, then 7.375% graded down to 4.50% over 12 years.
– Medicare medical plans	Actual premium increases for 2024-2025, then 6.875% graded down to 4.50% over 10 years	Actual premium increases for 2023-2024, then 6.375% graded down to 4.50% over 8 years
• Health Insurance Benefit (HIB) subsidy increase	0.00%	0.00%

[1] The service cost is based on the previous year's valuation, meaning the June 30, 2024 value is based on the valuation results as of June 30, 2023, whereas the June 30, 2023 value is based on the June 30, 2022 valuation results. As a result, this year's increase in service cost was due to the liability increase in last year's valuation, which was primarily due to the change in the discount rate from 5.35% as of June 30, 2022 to 5.23% as of June 30, 2023.

[2] Includes inactive members due a refund of Pension Plan member contributions.

Important information about actuarial valuations

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

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

Input Item	Description
Plan of benefits	Plan provisions define the rules that will be used to determine benefit payments, and those rules, or the interpretation of them, may change over time. Even where they appear precise, outside factors may change how they operate. For example, a plan may provide health benefits to post-65 retirees that coordinates with Medicare. If so, changes in the Medicare law or administration may change the plan's costs without any change in the terms of the plan itself. It is important to keep Segal informed with respect to plan provisions and administrative procedures, and to review the plan summary included in our report to confirm that Segal has correctly interpreted the plan of benefits.
Participant data	An actuarial valuation for a plan is based on data provided to the actuary by the System. Segal does not audit such data for completeness or accuracy, other than reviewing it for obvious inconsistencies compared to prior data and other information that appears unreasonable. It is not necessary to have perfect data for an actuarial valuation: the valuation is an estimated forecast, not a prediction. The uncertainties in other factors are such that even perfect data does not produce a "perfect" result. Notwithstanding the above, it is important for Segal to receive the best possible data and to be informed about any known incomplete or inaccurate data.
Assets	The valuation is based on the market value of assets as of the valuation date, as provided by the System.
Actuarial assumptions	In preparing an actuarial valuation, Segal projects the benefits to be paid to existing plan participants for the rest of their lives and the lives of their beneficiaries. This projection requires actuarial assumptions as to the probability of death, disability, termination, and retirement of each participant for each year. In addition, the benefits projected to be paid for each of those events in each future year reflect actuarial assumptions as to health care trends and member enrollment in retiree health benefits. The projected benefits are then discounted to a present value, based on the assumed rate of return that is expected to be achieved on the plan's assets. There is a reasonable range for each assumption used in the projection and the results may vary materially based on which assumptions are selected. It is important for any user of an actuarial valuation to understand this concept. Actuarial assumptions are periodically reviewed to ensure that future valuations reflect emerging plan experience. While future changes in actuarial assumptions may have a significant impact on the reported results, that does not mean that the previous assumptions were unreasonable.

Section 1: Actuarial Valuation Summary

Input Item	Description
Models	Segal valuation results are based on proprietary actuarial modeling software. The actuarial valuation models generate a comprehensive set of liability and cost calculations that are presented to meet regulatory, legislative and client requirements. Our Actuarial Technology and Systems unit, comprised of both actuaries and programmers, is responsible for the initial development and maintenance of these models. The models have a modular structure that allows for a high degree of accuracy, flexibility and user control. The client team programs the assumptions and the plan provisions, validates the models, and reviews test lives and results, under the supervision of the responsible actuary. The blended discount rate used for calculating Total OPEB Liability is based on a model developed by our Actuarial Technology and Systems unit, comprised of both actuaries and programmers. The model allows the client team, under the supervision of the responsible actuary, control over the entry of future expected contribution income, benefit payments and administrative expenses. The projection of Fiduciary Net Position and the discounting of benefits is part of the model. Our claims costs assumptions are based on proprietary modeling software as well as models that were developed by others. These models generate per capita claims cost calculations that are used in our valuation software. Our Health Technical Services Unit, comprised of actuaries and programmers, is responsible for the initial development and maintenance of our health models. They are also responsible for testing models that we purchase from other vendors for reasonableness. The client team inputs the paid claims, enrollments, plan provisions and assumptions into these models and reviews the results for reasonableness, under the supervision of the responsible actuary.

The user of Segal's actuarial valuation (or other actuarial calculations) should keep the following in mind:

- The valuation is prepared at the request of the Board. It includes information for compliance with accounting standards and for the plan's auditor. Segal is not responsible for the use or misuse of its report, particularly by any other party.
- If the Board is aware of any event or trend that was not considered in this valuation that may materially change the results of the valuation, Segal should be advised, so that we can evaluate it.
- An actuarial valuation is a measurement at a specific date – it is not a prediction of a plan's future financial condition. Accordingly, Segal did not perform an analysis of the potential range of financial measurements, except where otherwise noted. The actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.
- Sections of this report include actuarial results that are not rounded, but that does not imply precision.
- Critical events for a plan include, but are not limited to, decisions about changes in benefits and contributions. The basis for such decisions needs to consider many factors such as the risk of changes in plan enrollment, emerging claims experience, health care trend, and investment losses, not just the current valuation results.

Section 1: Actuarial Valuation Summary

- Segal does not provide investment, legal, accounting, or tax advice. Segal's valuation is based on our understanding of applicable guidance in these areas and of the plan's provisions, but they may be subject to alternative interpretations. The Board should look to their other advisors for expertise in these areas.
- While Segal maintains extensive quality assurance procedures, an actuarial valuation involves complex computer models and numerous inputs. In the event that an inaccuracy is discovered after presentation of Segal's valuation, Segal may revise that valuation or make an appropriate adjustment in the next valuation.
- Segal's report shall be deemed to be final and accepted by the System upon delivery and review. The System should notify Segal immediately of any questions or concerns about the final content.

Section 2: GASB 74 Information

General information about the OPEB plan

Plan administration. The East Bay Municipal Utility District (the District) Employees' Retirement System (EBMUDERS or the System) was established in 1937 to administer a single-employer, contributory, defined benefit OPEB plan (the OPEB Plan). The System provides retirement, disability, survivorship, and post-employment health insurance benefits[1] for eligible directors, officers, and employees of the District. 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 (nonvoting) 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. It should be noted that there are two systems in EBMUDERS (i.e., Water System and Wastewater System).

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 most of 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.

Plan membership. All regular full-time employees of the District are members of the Plan, in addition to certain job share and intermittent employees. Eligible employees become members on the first day they are physically on the job. At June 30, 2024, OPEB Plan membership consisted of the following:

Membership	Headcount
Retired members or beneficiaries currently receiving benefits	1,915
Vested terminated members entitled to but not yet receiving benefits[2]	407
Active members	1,974
Total	**4,296**

[1] The liabilities and expenses associated with providing retirement, disability and survivorship benefits are reportable under GASB Statements 67 and 68. They have not been included in this report.

[2] Includes inactive members due a refund of Pension Plan member contributions.

Section 2: GASB 74 Information

Benefits provided. EBMUDERS provides post-employment health insurance benefits to eligible employees.

There are two tiers in effect currently, the 1955/1980 Plan and the 2013 Tier. Employees who became members of the retirement system prior to January 1, 2013, or who have reciprocal membership are in the 1955/1980 Plan. Employees who became members on or after January 1, 2013 are in the 2013 Tier.

1955/1980 Plan members may elect voluntary service retirement upon attaining the age of 54 and completing 5 years of continuous full-time employment.

2013 Tier members may elect voluntary reduced service retirement upon attaining the age of 52 and completing 5 years of continuous full-time employment.

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.

Death benefits are payable to the eligible beneficiary of a member who dies before retirement. Survivorship benefits are payable to the spouse/domestic partner of a member who dies after retirement, or who was eligible but had not retired from service, provided the spouse/domestic partner was married to/established domestic partnership with the member at the date of retirement and for at least one year prior to the member's death.

The District provides post-employment health benefits assistance (administered by the Employees' Retirement System) for employees who retire from the District or their surviving spouses. As of June 30, 2024 there were 1,915 participants receiving these health care benefits.

Section 2: GASB 74 Information

Effective July 1, 1996, a 20-year vesting schedule for full benefits was implemented for all new participants with a lesser benefit paid for less than 20 years of service. Effective January 1, 1999, retired members who had separated from the District prior to their retirement and who had at least 5 years of service also became eligible for the post-employment 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 to 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 reimburses up to $450 per month ($550 per month effective July 1, 2004, for members with 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 without considering the implicit subsidy. Cash reimbursement of these benefits totaled $9,824,000 in the year ended June 30, 2024. Effective June 18, 2002, a portion of the post-employment healthcare benefit costs is recovered through employee contributions.

The District contributes to the Plan based upon actuarially determined contribution rates adopted by the Retirement Board. Employer contribution rates are adopted annually based upon recommendations received from EBMUDERS' actuary (Segal) after the completion of the annual actuarial valuation. The average employer contribution rate (not reflecting any estimated implicit subsidies) as of June 30, 2024 for 2023-2024 (based on contribution rates adopted for the June 30, 2022 valuation) was 4.63% of pensionable compensation.

All members are required to make contributions to EBMUDERS regardless of the OPEB Plan or tier in which they are included. The average member contribution rate as of June 30, 2024 for 2023-2024 (based on the June 30, 2022 valuation) was 0.09% of pensionable compensation.

Net OPEB Liability

Components of the Net OPEB Liability	Current	Prior
Measurement date	June 30, 2024	June 30, 2023
Total OPEB Liability	$189,880,139	$193,546,328
Plan Fiduciary Net Position	(71,420,000)	(61,165,000)
Net OPEB Liability	$118,460,139	$132,381,328
Plan Fiduciary Net Position as a percentage of the Total OPEB Liability	37.61%	31.60%

The Net OPEB Liability (NOL) was measured as of June 30, 2024 and 2023. The Plan Fiduciary Net Position (plan assets) was valued as of the measurement date, while the Total OPEB Liability (TOL) was determined based upon the results of the funding actuarial valuations as of June 30, 2024 and 2023, respectively, with the following exceptions:

- Discount rate has been calculated as a blend of the investment return on plan assets and municipal bond rate in accordance with GASB 74 and Illustration 2 of Implementation Guide No. 2017-2, Financial Reporting Postemployment Benefit Plans Other Than Pension Plans.
- The implicit subsidy benefit payments are valued based on the age-based costs, which are provided for sample ages in Section 3, Appendix B. In addition, separate spousal participation assumptions are used to model the implicit subsidies compared to those used to model the explicit subsidies.

Plan Provisions. The plan provisions used in the measurement of the TOL as of June 30, 2024 and 2023 are the same as those used in the EBMUDERS funding valuations as of June 30, 2024 and 2023, respectively.

Actuarial assumptions. The TOL as of June 30, 2024 was measured by an actuarial valuation as of June 30, 2024. The actuarial assumptions used in the June 30, 2024 valuation were based on the results of an experience study (dated November 13, 2024) for the period from July 1, 2020 through June 30, 2024, the June 30, 2022 Economic Assumptions Review report (dated November 8, 2022), and the Retiree Health assumptions letter (dated November 14, 2024). These are the same as the assumptions used in the June 30, 2024 funding actuarial valuation for EBMUDERS 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 valued based on the age-based costs and separate spousal participation assumptions. In particular, the following actuarial assumptions were applied to all periods included in the measurement:

Section 2: GASB 74 Information

Assumption Type	Assumption
Inflation	2.50%
Salary increases:	
• 1955/1980 Plan	Ranges from 9.25% to 3.75% based on time from hire, including inflation and real "across the board" salary increases
• 2013 Tier	Ranges from 9.50% to 3.75% based on time from hire, including inflation and real "across the board" salary increases
Discount rate	5.58%, net of OPEB Plan investment expense, including inflation
Spousal Participation	Explicit HIB spouse subsidies: 75% of males and 50% of females Implicit health plan spouse subsidies: 50% of males and 30% of females
Other assumptions	Same as those used in the June 30, 2024 funding actuarial valuation
Medical cost trend rates:	
• Non-Medicare medical plans	Actual premium increases for 2024-2025, then 7.125% graded down to 4.50% over 11 years.
• Medicare medical plans	Actual premium increases for 2024-2025, then 6.875% graded down to 4.50% over 10 years

The TOL as of June 30, 2023 was measured by an actuarial valuation as of June 30, 2023. The actuarial assumptions used in the June 30, 2023 valuation were based on the results of an experience study (dated November 12, 2020) for the period from July 1, 2016 through June 30, 2020, the June 30, 2022 Economic Assumptions Review report (dated November 8, 2022), and the Retiree Health assumptions letter (dated November 10, 2023). They are the same as the assumptions used in the June 30, 2023 funding actuarial valuation for EBMUDERS 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 valued based on the age-based costs. In particular, the following actuarial assumptions were applied to all periods included in the measurement:

Assumption Type	Assumption
Inflation	2.50%
Salary increases	Ranges from 9.25% to 3.75% based on time from hire, including inflation and real "across the board" salary increases
Discount rate	5.23%, net of OPEB Plan investment expense, including inflation
Spousal Participation	70% of males and 35% of females
Other assumptions	Same as those used in the June 30, 2023 funding actuarial valuation
Medical cost trend rates:	
• Non-Medicare medical plans	Actual premium increases for 2023-2024, then 7.375% graded down to 4.50% over 12 years.
• Medicare medical plans	Actual premium increases for 2023-2024, then 6.375% graded down to 4.50% over 8 years

Determination of discount rate and investment rates of return

The 6.75% long-term expected rate of return on OPEB Plan investments was determined using a building-block method in which expected future real rates of return (expected returns, net of inflation) are developed for each major asset class. These returns are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage, and by adding expected inflation and subtracting expected investment expenses (beginning with June 30, 2024 including only investment consulting fees, custodian fees and other miscellaneous investment expenses) and a risk margin. Beginning with June 30, 2024, this portfolio return is further adjusted to an expected geometric real rate of return for the portfolio.

The target allocation and projected arithmetic real rates of return for each major asset class, after deducting inflation, but before deducting investment expenses, are summarized in the following table. These returns were used in the derivation of the 6.75% long-term expected investment rate of return assumption for the actuarial valuation as of June 30, 2024. This information is subject to change every four years based on the actuarial experience study, or every two years based on the interim economic actuarial assumptions study.

Asset Class	Target Allocation	Long-Term Expected Arithmetic Real Rate of Return
Domestic Large Cap Equity	32.55%	5.80%
Domestic Small Cap Equity	2.45%	6.59%
Developed International Large Cap Equity	18.00%	6.44%
Emerging Market Equity	7.00%	8.32%
Core Bonds	20.00%	2.27%
High Yield Bonds	7.50%	4.62%
Bank Loans	5.00%	4.43%
Real Estate	2.50%	4.54%
Private Debt	5.00%	6.63%
Total	**100.00%**	**5.26%**

Municipal Bond Rate. 3.93% and 3.65% based on the 20-year municipal bond rate for the Bond Buyer 20-Bond GO Index as of June 30, 2024 and June 30, 2023, respectively.

Section 2: GASB 74 Information

Discount rate. The discount rates used to measure the Total OPEB Liability were 5.58% as of June 30, 2024 and 5.23% as of June 30, 2023. 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[1]. Based on those assumptions, the OPEB Plan's assets were projected to be sufficient to make projected future benefit payments for current plan members through June 30, 2051. 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, 2051, and the 20-year municipal bond rate (3.93%) was applied to periods after June 30, 2051 to determine the Total OPEB Liability.

[1] See Section 3, Appendix A for derivation

Discount rate and trend sensitivity

Sensitivity of the Net OPEB Liability (NOL) to changes in the discount rate. The following presents the NOL of EBMUDERS as of June 30, 2024, calculated using the discount rate of 5.58%, as well as what EBMUDERS NOL would be if it were calculated using a discount rate that is 1-percentage-point lower (4.58%) or 1-percentage-point higher (6.58%) than the current rate:

Item	1% Decrease (4.58%)	Current Discount Rate (5.58%)	1% Increase (6.58%)
Net OPEB Liability	$137,675,985	$118,460,139	$102,022,836

Sensitivity of the NOL to changes in the trend rate (only applied to implicit subsidy and not the $450/$550 cash subsidy). The following presents the NOL of EBMUDERS as of June 30, 2024, calculated using the current trend rates as well as what EBMUDERS NOL 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:

Item	1% Decrease	Current Trend[1]	1% Increase
Net OPEB Liability	$114,715,457	$118,460,139	$122,776,226

[1] Current trend rates: Actual premium increases for fiscal year 2024-2025, then 7.125% in 2025-2026 graded down to 4.50% over 11 years for Non-Medicare medical plan costs and 6.875% in 2025-2026 graded down to 4.50% over 10 years for Medicare medical plan costs.

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

Components of the Net OPEB Liability	Current	Prior
Measurement dates	**June 30, 2024**	**June 30, 2023**
Total OPEB Liability		
Service cost[1]	$5,864,684	$5,088,059
Interest	10,101,343	9,646,268
Change of benefit terms	—	—
Differences between expected and actual experience	290,869	(438,245)
Changes of assumptions	(7,223,859)	10,206,178
Benefit payments, including implicit subsidies[2]	(12,699,226)	(12,185,125)
Net change in Total OPEB Liability	**$(3,666,189)**	**$12,317,135**
Total OPEB Liability – beginning	193,546,328	181,229,193
Total OPEB Liability – ending	**$189,880,139**	**$193,546,328**
Plan Fiduciary Net Position		
Contributions – employer	$12,231,000	$11,420,000
Contributions – member	240,000	223,000
Net investment income	7,676,000	5,715,000
Benefit payments, including implicit subsidies	(12,699,226)	(12,185,125)
Administrative expense	(68,000)	(59,000)
Other[3]	2,875,226	2,480,125
Net change in Plan Fiduciary Net Position	**$10,255,000**	**$7,594,000**
Plan Fiduciary Net Position – beginning	61,165,000	53,571,000
Plan Fiduciary Net Position – ending	**$71,420,000**	**$61,165,000**

[1] The service cost is based on the previous year's valuation, meaning the June 30, 2024 and June 30, 2023 value is based on valuation results as of June 30, 2023 and June 30, 2022, respectively.

[2] Sum of cash benefit payments ($9,824,000) and estimated implicit subsidy benefit payments ($2,875,226) for 2024. Sum of cash benefit payments ($9,705,000) and estimated implicit subsidy benefit payments ($2,480,125) for 2023.

[3] The total employer contributions for estimated implicit subsidy calculated based on assumptions disclosed in Note 4 of Appendix A.

Section 2: GASB 74 Information

Components of the Net OPEB Liability	Current	Prior
Net OPEB Liability		
Net OPEB Liability – ending	$118,460,139	$132,381,328
Plan Fiduciary Net Position as a percentage of the Total OPEB Liability	37.61%	31.60%
Covered payroll[1]	$264,425,972	$246,230,567
Plan Net OPEB Liability as percentage of covered payroll	44.80%	53.76%

Notes to Schedule:

Benefit changes: None.

Assumption changes:

- The discount rate increased from 5.23% to 5.58%. This change decreased the TOL. The increase to the blended discount rate was primarily due to the increase in the 20-year municipal bond rate from 3.65% to 3.93% and the favorable investment returns during FYE24, which extended the cross-over date.
- As approved by the Board, the applicable assumptions presented in the Actuarial Experience Study Report for the period July 1, 2020 through June 30, 2024 (report dated November 13, 2024) were applied and used beginning with the June 30, 2024 valuation. These assumption changes decreased the TOL. Note, the GASB 74 valuation incorporates a lower spousal participation assumption for the implicit subsidy compared to the explicit subsidy. The new assumptions increased the accrued liability in this year's funding report but decreased the TOL in this year's GASB 74 report because of the lower implicit subsidy spousal participation assumption that only applies to the GASB 74 valuation.
- The estimated per capita retiree claims costs and associated trend assumptions were updated to reflect 2025 calendar year premiums and updated trend assumptions for 2026 and after. The updated claims and associated trend assumptions had a combined impact of increasing the TOL.
- The average HIB for future retirees was updated. This change had a very minor impact.

[1] Pensionable payroll reported by EBMUDERS.

Schedule of EBMUDERS contributions – Last ten fiscal years

Year Ended June 30	Actuarially Determined Contributions	Contributions in Relation to the Actuarially Determined Contributions	Contribution Deficiency / (Excess)	Covered Payroll[1]	Contributions as a Percentage of Covered Payroll
2015	$8,964,000	$8,964,000	0	$166,886,146	5.37%
2016	9,454,000	9,454,000	0	174,586,444	5.42%
2017	9,764,000	9,764,000	0	182,031,838	5.36%
2018	9,875,000	9,875,000	0	193,717,364	5.10%
2019	10,518,000	10,518,000	0	203,541,207	5.17%
2020	11,089,000	11,089,000	0	215,109,948	5.16%
2021	11,372,000	11,372,000	0	221,809,447	5.13%
2022	10,892,000	10,892,000	0	233,939,981	4.66%
2023	11,420,000	11,420,000	0	246,230,567	4.64%
2024	12,231,000	12,231,000	0	264,425,972	4.63%

See accompanying notes to this schedule on next page.

[1] These amounts are the pensionable payroll amounts reported by EBMUDERS.

Section 2: GASB 74 Information

Notes to Schedule:

Methods and Assumptions Used to Establish "Actuarially Determined Contribution" (ADC) Rates:

Method	Description
Valuation date	Actuarially determined contribution rates are calculated as of June 30, two years prior to the end of the fiscal year in which contributions are reported
Actuarial cost method	Entry Age 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.
Asset 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.

Section 2: GASB 74 Information

Actuarial Assumptions	June 30, 2022 (for the year ended June 30, 2024 ADC)	June 30, 2021 (for the year ended June 30, 2023 ADC)
Investment rate of return	6.75%	7.00%
Inflation rate	2.50%	2.75%
Real “across-the-board” salary increase	0.50%	0.50%
Projected salary increases	Ranges from 9.25% to 3.75% based on years of service, including inflation (stated above) plus “across-the-board” salary” increases (stated above) plus merit, and promotional increases	Ranges from 9.50% to 4.00% based on years of service, including inflation (stated above) plus “across-the-board” salary” increases (stated above) plus merit, and promotional increases
Mortality	Healthy: 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	Healthy: 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
Other assumptions	Same as those used in the June 30, 2022 funding actuarial valuation	Same as those used in the June 30, 2021 funding actuarial valuation
Medical cost trend rates:		
• Non-Medicare medical plans	Actual premium increases for 2022-2023, then 7.125% graded down to 4.50% over 11 years.	Actual premium increases for 2021-2022, then 7.375% graded down to 4.50% over 12 years.
• Medicare medical plans	Actual premium increases for 2022-2023, then 6.125% graded down to 4.50% over 7 years	Actual premium increases for 2021-2022, then 6.375% graded down to 4.50% over 8 years

Section 3: Appendices

Appendix A: Table 1 – Projection of Plan Fiduciary Net Position for use in the calculation of discount rate as of June 30, 2024

Year Beginning July 1,	Projected Beginning Plan Fiduciary Net Position (a)	Projected Total Contributions (b)	Projected Benefit Payments (c)	Projected Administrative Expenses (d)	Projected Investment Earnings (e)	Projected Ending Plan Fiduciary Net Position (e) = (a) + (b) – (c) – (d) + (e)
2024	$71,420	$15,174	$13,596	$79	$4,871	$77,790
2025	77,790	15,178	13,815	80	5,294	84,368
2026	84,368	15,403	13,996	81	5,740	91,433
2027	91,433	12,924	14,281	83	6,123	96,117
2028	96,117	12,940	14,389	83	6,436	101,021
2029	101,021	11,889	14,411	83	6,731	105,147
2030	105,147	11,140	14,571	84	6,979	108,612
2031	108,612	11,023	14,621	84	7,207	112,137
2032	112,137	8,394	14,696	85	7,354	113,103
2033	113,103	7,472	14,717	85	7,387	113,160
2044	76,967	3,741	15,916	92	4,781	69,482
2045	69,482	3,449	15,829	91	4,269	61,279
2046	61,279	3,261	15,850	92	3,708	52,306
2047	52,306	3,225	15,733	91	3,105	42,813
2048	42,813	3,280	15,788	91	2,465	32,679
2049	32,679	2,974	15,491	90	1,780	21,853
2050	21,853	2,695	15,268	88	1,048	10,240
2051	10,240	2,291	14,850	86	264	0
2052	0	1,604	14,185	82	0	0
2053	0	1,079	13,632	79	0	0
2103	0	0	18	0	0	0
2104	0	0	13	0	0	0
2105	0	0	9	0	0	0
2106	0	0	6	0	0	0
2107	0	0	4	0	0	0

Note that in preparing the projections in the table above, we have not taken into consideration the one-year delay between the date of the contribution rate calculation and the implementation.

Notes

1. Amounts are in $000's and may not total exactly due to rounding.
2. Years 2034-2043 and 2054-2102, have been omitted from this table.
3. Column (b): Projected total contributions include employee and employer normal cost contributions based on closed group projections (based on covered active members as of June 30, 2024); plus employer contributions to the unfunded actuarial accrued liability; plus contributions to fund each year's annual administrative expenses reflecting a 20-year amortization schedule; plus implicit subsidy payments for current plan members as shown on the next page, based on Illustration 2 of Implementation Guide No. 2017-2, Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans. Contributions are assumed to occur halfway through the year, on average.
4. Column (c): Projected benefit payments have been determined in accordance with paragraphs 43-47 of GASB Statement No. 74, and are based on the closed group of active, inactive vested, retired participants, and beneficiaries as of June 30, 2024. The projected benefit payments reflect the health care trend assumptions used in the June 30, 2024 funding valuation report. Benefit payments are assumed to occur halfway through the year, on average. In accordance with paragraph 48 of GASB Statement No. 74, the long-term expected rate of return on Plan investments of 6.75% was applied to periods of projected benefit payments through June 30, 2051, and the index rate for 20-year, tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher (3.93%) was applied to periods after June 30, 2051, to determine the discount rate of 5.58%. See the following pages for details.
5. Column (d): Projected administrative expenses are calculated as approximately 0.11% of the projected beginning Plan Fiduciary Net Position amount. The 0.11% portion was based on the actual fiscal year 2023/2024 administrative expenses as a percentage of the beginning Plan Fiduciary Net Position amount as of July 1, 2023. Administrative expenses are assumed to occur halfway through the year, on average.
6. Column (e): Projected investment earnings are based on the assumed investment rate of return on Plan investments of 6.75% per annum.

7. As illustrated in this Appendix, the Plan Fiduciary Net Position was projected to be available to make projected future benefit payments for current Plan members through June 30, 2051. In other words, the projected 'cross-over date' when projected benefits are not covered by projected assets (before reflecting contributions and investment earnings) occurs between June 30, 2051 and June 30, 2052. Therefore, the long-term expected rate of return on Plan investments of 6.75% per annum was applied to periods of projected benefit payments through June 30, 2051. Benefit payments after June 30, 2051 were discounted at 3.93%, the index rate for 20-year, tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher.
8. The blended discount rate used for calculating total OPEB liability is based on a model developed by our Actuarial Technology and Systems unit. The model allows the client team, under the supervision of the responsible actuary, control over the entry of future expected contribution income, benefit payments and administrative expenses. The projection of fiduciary net position and the discounting of benefits is part of the model.

Appendix A: Table 2
Projection of contributions – Implicit subsidy only

Year Beginning July 1,	Projected Payroll for Current Plan Members (a)	Projected Payroll for Future Plan Members[1] (b) = (c) – (a)	Total Projected Payroll[2] (c)	Total Implicit Subsidy Contributions = Implicit Subsidy Benefit Payments (d)	Implicit Subsidy Contributions Related to Payroll of Future Plan Members[3] (e) = (b) x 0.69%	Implicit Subsidy Contributions for Current Plan Members[4] (f) = (d) - (e)
2024	$273,428	$0	$273,428	$3,300	$0	$3,300
2025	267,120	14,511	281,631	3,282	100	3,182
2026	261,472	28,608	290,080	3,286	197	3,089
2027	255,516	43,266	298,782	3,421	299	3,123
2028	248,945	58,801	307,746	3,418	406	3,012
2029	242,695	74,284	316,978	3,352	513	2,840
2030	236,114	90,373	326,488	3,453	624	2,830
2031	229,681	106,601	336,282	3,443	736	2,708
2032	223,037	123,334	346,371	3,501	851	2,650
2033	216,643	140,118	356,762	3,510	967	2,544
2044	137,104	356,738	493,842	5,412	2,461	2,950
2045	129,041	379,616	508,657	5,465	2,619	2,846
2046	121,382	402,535	523,917	5,628	2,777	2,851
2047	113,582	426,053	539,634	5,675	2,940	2,735
2048	105,913	449,910	555,823	5,896	3,104	2,792
2049	98,235	474,263	572,498	5,770	3,272	2,498
2050	90,343	499,330	589,673	5,734	3,445	2,289
2051	82,510	524,853	607,363	5,517	3,621	1,895
2052	74,764	550,820	625,584	5,058	3,801	1,257
2053	67,016	577,335	644,352	4,728	3,984	744

[1] Future plan members assumed to enter plan at the end of the year.
[2] Initial payroll based on June 30, 2024 funding valuation. Future payrolls are projected with assumed annual 3.00% increase.
[3] Normal cost rate adjusted for timing of implicit subsidy benefit of 2013 Tier members.
[4] Numbers may not add up due to rounding.

Appendix A: Table 3
Projection of contributions and benefit payments – Total

Year Beginning July 1,	Contributions for Current Plan Members Prefunding (a)	Contributions for Current Plan Members Implicit Subsidy (b)	Contributions for Current Plan Members Total Contributions (c) = (a) + (b)	Benefit Payments Cash Subsidy (HIB Subsidy) (d)	Benefit Payments Implicit Subsidy (e) = column (d) from Table 2	Benefit Payments Total Benefit Payments (f) = (d) + (e)
2024	$11,874	$3,300	$15,174	$10,296	$3,300	$13,596
2025	11,996	3,182	15,178	10,533	3,282	13,815
2026	12,314	3,089	15,403	10,710	3,286	13,996
2027	9,801	3,123	12,924	10,860	3,421	14,281
2028	9,928	3,012	12,940	10,971	3,418	14,389
2029	9,049	2,840	11,889	11,059	3,352	14,411
2030	8,310	2,830	11,140	11,118	3,453	14,571
2031	8,315	2,708	11,023	11,178	3,443	14,621
2032	5,744	2,650	8,394	11,195	3,501	14,696
2033	4,928	2,544	7,472	11,207	3,510	14,717
2044	791	2,950	3,741	10,504	5,412	15,916
2045	603	2,846	3,449	10,364	5,465	15,829
2046	410	2,851	3,261	10,222	5,628	15,850
2047	490	2,735	3,225	10,058	5,675	15,733
2048	488	2,792	3,280	9,892	5,896	15,788
2049	476	2,498	2,974	9,721	5,770	15,491
2050	406	2,289	2,695	9,534	5,734	15,268
2051	396	1,895	2,291	9,333	5,517	14,850
2052	347	1,257	1,604	9,127	5,058	14,185
2053	335	744	1,079	8,904	4,728	13,632

Appendix B: Actuarial assumptions and methods for implicit subsidy calculation

Carrier Election and Monthly Premiums — Participants Under Age 65:[1]

These monthly premiums apply to the 70% of future retirees assumed to enroll in an EBMUDERS medical insurance plan.

2024 Calendar Year

Carrier	Single Party	Married/With Domestic Partner	Eligible Survivor
Kaiser HMO	$931.22	$1,862.44	$931.22
Anthem Blue Cross PPO	981.81	1,963.62	981.81
Sutter Health Plus HMO	977.00	1,954.00	977.00

2025 Calendar Year

Carrier	Single Party	Married/With Domestic Partner	Eligible Survivor
Kaiser HMO	$971.29	$1,942.58	$971.29
Anthem Blue Cross PPO	1,079.99	2,159.98	1,079.99
Sutter Health Plus HMO	1,115.80	2,231.60	1,115.80

2024 - 2025 Calendar Year

Carrier[2]	Election Percentage Rate (%)	Single Party	Married/With Domestic Partner	Eligible Survivor
Kaiser HMO	70	$951.26	$1,902.51	$951.26
Anthem Blue Cross PPO	25	1,030.90	2,061.80	1,030.90
Sutter Health Plus HMO	5	1,046.40	2,092.80	1,046.40

[1] We only use monthly premiums for participants under age 65 to determine the implicit subsidy.
[2] We assume 0% of future retirees will enroll in the Kaiser CDHP, Sutter CDHP, and Blue Cross CDHP plans.

Implicit Subsidy:

Retiree under age 65 and active health insurance premiums have been underwritten together. Under GASB 74, the health care costs must be valued as if the under age 65 retirees had been underwritten separately from the actives. Any excess of the retiree only per capita costs over the blended active/retiree premiums is the implicit subsidy. The tables below show the annual implicit subsidies for sample ages under different carriers. No implicit subsidy exists for retirees over age 65.

The adjustment of per capita premium medical costs for age and gender and spouse/domestic partner status, are in accordance with Actuarial Standard of Practice (ASOP) No. 6. The actuarial factors used to estimate individual retiree and spouse costs by age and by gender were updated. The new factors are based on a review of historical claims experience by age, gender, and status (active vs retired) from Segal's claims data warehouse.

Amounts shown in the tables below are for both retirees and spouses, at selected ages:

Kaiser HMO

Annual Blended Active/Retiree Premium: $11,415

Age	Annual Per Capita Costs Male	Annual Per Capita Costs Female	Annual Implicit Subsidy Rates Male	Annual Implicit Subsidy Rates Female
50	$13,965	$14,746	$2,550	$3,331
55	15,758	16,007	4,343	4,592
60	18,144	17,353	6,729	5,938
64	22,050	18,839	10,635	7,424

Sutter Health Plus HMO

Annual Blended Active/Retiree Premium: $12,557

Age	Annual Per Capita Costs Male	Annual Per Capita Costs Female	Annual Implicit Subsidy Rates Male	Annual Implicit Subsidy Rates Female
50	$13,643	$14,406	$1,086	$1,849
55	15,395	15,638	2,838	3,081
60	17,725	16,953	5,168	4,396
64	21,542	18,404	8,985	5,847

Section 3: Appendices

Anthem Blue Cross PPO

Annual Blended Active/Retiree Premium: $12,371

Age	Annual Per Capita Costs Male	Annual Per Capita Costs Female	Annual Implicit Subsidy Rates Male	Annual Implicit Subsidy Rates Female
50	$13,596	$14,356	$1,225	$1,985
55	15,342	15,584	2,971	3,213
60	17,664	16,894	5,293	4,523
64	21,468	18,341	9,097	5,970

Weighted Average Costs – Use for future retirees

Annual Blended Active/Retiree Premium: $11,711

Age	Annual Per Capita Costs Male	Annual Per Capita Costs Female	Annual Implicit Subsidy Rates Male	Annual Implicit Subsidy Rates Female
50	$13,857	$14,632	$2,146	$2,921
55	15,637	15,884	3,926	4,173
60	18,004	17,219	6,293	5,508
64	21,880	18,693	10,169	6,982

Appendix C: Definition of terms

Definitions of certain terms as they are used in Statement 75. The terms may have different meanings in other contexts.

Term	Definition
Actuarial Present Value of Projected Benefit Payments:	Projected benefit payments discounted to reflect the expected effects of the time value (present value) of money and the probabilities of payment.
Actuarial Valuation:	The determination, as of a point in time (the actuarial valuation date), of the service cost, Total OPEB Liability, and related actuarial present value of projected benefit payments for OPEB performed in conformity with Actuarial Standards of Practice unless otherwise specified by the GASB.
Actuarial Valuation Date:	The date as of which an actuarial valuation is performed.
Actuarially Determined Contribution:	A target or recommended contribution to an OPEB plan for the reporting period based on the most recent measurement available.
Assumptions or Actuarial Assumptions:	The estimates on which the cost of the Plan is calculated including: a. Investment return — the rate of investment yield that the Plan will earn over the long-term future; b. Mortality rates — the death rates of employees and pensioners; life expectancy is based on these rates; c. Retirement rates — the rate or probability of retirement at a given age; d. Turnover rates — the rates at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement.
Covered Payroll:	The payroll of the employees that are provided OPEB benefits
Discount Rate:	The single rate of return that, when applied to all projected benefit payments, results in an actuarial present value of projected benefit payments equal to the total of the following: 1. The actuarial present value of benefit payments projected to be made in future periods in which: a. the amount of the OPEB Plan Fiduciary Net Position is projected (under the requirements of Statement 74) to be greater than the benefit payments that are projected to be made in that period and b. OPEB plan assets up to that point are expected to be invested using a strategy to achieve the long-term expected rate of return, calculated using the long-term expected rate of return on OPEB plan investments. 2. The actuarial present value of projected benefit payments not included in (1), calculated using the municipal bond rate.

Section 3: Appendices

Term	Definition
Entry Age Actuarial Cost Method:	A method under which the actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis over the earnings or service of the individual between entry age and assumed exit age(s). The portion of this actuarial present value allocated to a valuation year is called the normal cost. The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future normal costs is called the actuarial accrued liability.
Healthcare Cost Trend Rates:	The rate of change in per capita health costs over time
Net OPEB Liability (NOL):	The Total OPEB Liability less the Plan Fiduciary Net Position
Plan Fiduciary Net Position:	Market Value of Assets
Real Rate of Return:	The rate of return on an investment after removing inflation
Service Costs:	The portions of the actuarial present value of projected benefit payments that are attributed to valuation years.
Total OPEB Liability (TOL):	Present value of all future benefit payments for current retirees and active employees taking into account assumptions about demographics, turnover, mortality, disability, retirement, health care trends, and other actuarial assumptions.

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EAST BAY MUNICIPAL UTILITY DISTRICT

DATE: January 23, 2025

MEMO TO: Members of the Retirement Board

FROM: Cindy Charan, Director of Human Resources

SUBJECT: 2025 Election Schedules for Employee Member to the EBMUD Retirement Board

This memo and attachment outline the 2025 Election Schedules for the Employee member for the EBMUD Retirement Board whose term ends in 2025.

The Retirement Board term for Employee Retirement Board member, Jae Park, will expire on June 23, 2025.

CC:LS

Attachments: 2025 Election Schedule for Employee Member of Retirement Board

2025 Election Schedule for Employee Member to the EBMUD Retirement Board

The Retirement Board term for employee member Jae Park will expire on June 23, 2025. In anticipation of this vacancy, the following dates have been set for the upcoming election schedule.

Tuesday	February 11	Notice of election is announced. Request for Candidacy period opens – all interested candidates must submit a candidacy information form and biography via email to RetirementBoardElections@ebmud.com by March 3, 2025.
Monday	March 3	Request for Candidacy period closes.
Wednesday	March 5	Candidate Biographies received will be sent out to all employees via email from RetirementBoardElections@ebmud.com with a reminder that a candidate must get 50 nominations (signatures/emails) of support for their name to be included on the final ballot. Nominations can be made by sending an email to RetirementBoardElections@ebmud.com and also copying the candidate on the email by cc'ing the candidate's personal email address. Employees may nominate more than one candidate.
Friday	March 28	Nomination period ends.
Tuesday	April 1	Announcement of final candidates, if only one candidate has 50 nominations, that candidate will take the Retirement Board seat on June 24th. If more than one candidate collects the 50 required nominations, the announcement will include their names. The voting will begin via Survey Monkey and a link will be sent via email. The voting link is also be added to Splashpad.
Friday	May 2	Voting Ends. Deadline for Survey Monkey voting.
Wednesday	May 7	Election results are certified then announced via email to all District Employees and posted on Splashpad.
Thursday	May 15	Election results on May Retirement Board agenda.
Tuesday	May 27	Election results memo to Board of Directors.
Tuesday	June 24	Elected employee member takes office for a two-year term.

EAST BAY MUNICIPAL UTILITY DISTRICT

DATE: January 23, 2025

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 November 2024.

DISCUSSION

The Retirement System's portfolio had a market value of $2.7 billion as of November 30, 2024 – up $23.3 million from the end of the third quarter. The portfolio return was 3.3 percent for the one-month period. Over a one-year period, the portfolio return was 19.4 percent, above the total plan benchmark return of 18.1 percent. The portfolio return remains above the plan benchmark by 0.6 percent over a 10-year period.

SDS:SGL

Attachment: Performance Report

MEKETA

East Bay Municipal Utility District Employees' Retirement System

January 23, 2025

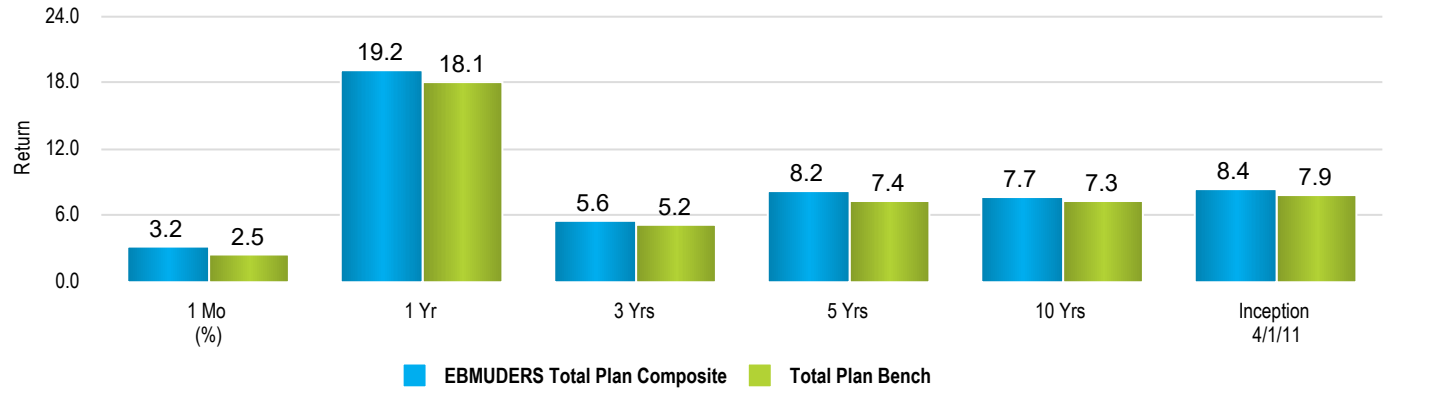
November 2024 Interim Report

Table of Contents

Executive Summary

Summary of Cash Flows	QTD	1 Yr
EBMUDERS Total Plan Composite		
Beginning Market Value	$2,656,881,374	$2,269,019,289
Net Cash Flow	-$6,170,723	-$25,590,457
Net Investment Change	$29,457,210	$436,739,028
Ending Market Value	$2,680,167,861	$2,680,167,861

Return Summary



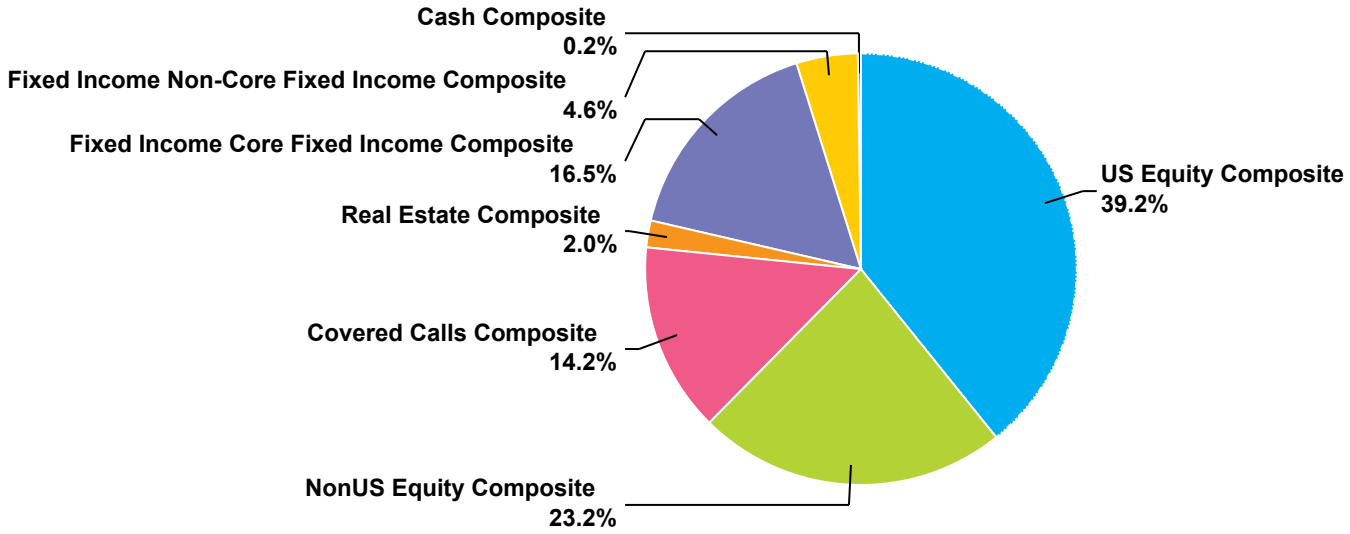
Benchmark definitions are listed at the end of this report.

	Market Value $	% of Portfolio	1 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	20 Yrs (%)	Inception (%)	Inception Date
EBMUDERS Total Plan Composite	**2,680,167,861**	**100.0**	**3.3**	**19.4**	**5.7**	**8.3**	**7.9**	**7.7**	**9.5**	**Aug-84**
Total Plan Benchmark			*2.5*	*18.1*	*5.2*	*7.4*	*7.3*	*7.3*	*9.7*	
US Equity Composite	**1,051,044,701**	**39.2**	**6.6**	**34.5**	**10.6**	**15.2**	**13.1**	**10.6**	**11.8**	**Aug-84**
Russell 3000 Hybrid			*6.7*	*34.5*	*10.5*	*15.2*	*12.9*	*10.6*	*--*	
Non-US Equity Composite	**621,355,114**	**23.2**	**-0.5**	**13.3**	**3.1**	**5.8**	**4.8**	**5.8**	**6.5**	**Jul-95**
MSCI ACWI xUS (blend)			*-0.9*	*13.6*	*3.4*	*5.9*	*5.1*	*5.6*	*5.5*	
Covered Calls Composite	**380,812,936**	**14.2**	**4.2**	**21.0**	**8.3**	**10.2**	**9.1**	**--**	**10.0**	**Feb-14**
Cboe S&P 500 Buy Write Index			*4.0*	*19.8*	*6.5*	*6.6*	*6.8*	*5.9*	*6.9*	
Real Estate Composite	**53,824,286**	**2.0**	**0.0**	**10.9**	**3.5**	**5.8**	**7.5**	**--**	**6.4**	**Jan-07**
Real Estate Composite Benchmark			*0.0*	*10.2*	*3.2*	*5.1*	*6.8*	*8.1*	*6.8*	
Fixed Income Composite	**566,879,871**	**21.2**	**1.2**	**7.9**	**0.4**	**1.4**	**2.3**	**3.7**	**6.6**	**Aug-84**
Fixed Income Composite Benchmark			*1.0*	*7.5*	*0.1*	*1.2*	*2.2*	*3.5*	*6.4*	
Cash Composite	**6,250,952**	**0.2**	**0.0**	**4.8**	**3.5**	**2.6**	**1.9**	**2.0**	**2.9**	**Apr-96**
FTSE 3 Month T-Bill			*0.4*	*5.5*	*3.9*	*2.5*	*1.8*	*1.6*	*2.3*	

Benchmark definitions are listed at the end of this report.

Actual vs Target Allocation | As of November 30, 2024

Allocation vs. Targets and Policy	Current Balance ($)	Current Allocation (%)	Policy Range (%)	Within IPS Range?
Domestic Equity	$1,051,044,701	39	20 - 30	No
International Equity	$621,355,114	23	20 - 30	Yes
Covered Calls	$380,812,936	14	17 - 23	No
Real Estate	$53,824,286	2	3 - 7	No
Core Fixed Income	$443,388,915	17	17 - 23	No
Non-Core Fixed Income	$123,490,955	5	3 - 7	Yes
Cash	$6,250,953	0	0 - 5	Yes
Total	**$2,680,167,861**	**100**		



Economic and Market Update

Data as of November 30, 2024

Commentary

US markets rallied in November, while outside the US, markets were mixed.

→ After the month-end, the Federal Reserve cut its policy rate another 0.25%, even as unemployment remained low and economic growth was resilient.

→ US stocks posted strong returns in November, with the broad market (Russell 3000 +6.7%) outperforming the S&P 500 index (+5.9%).

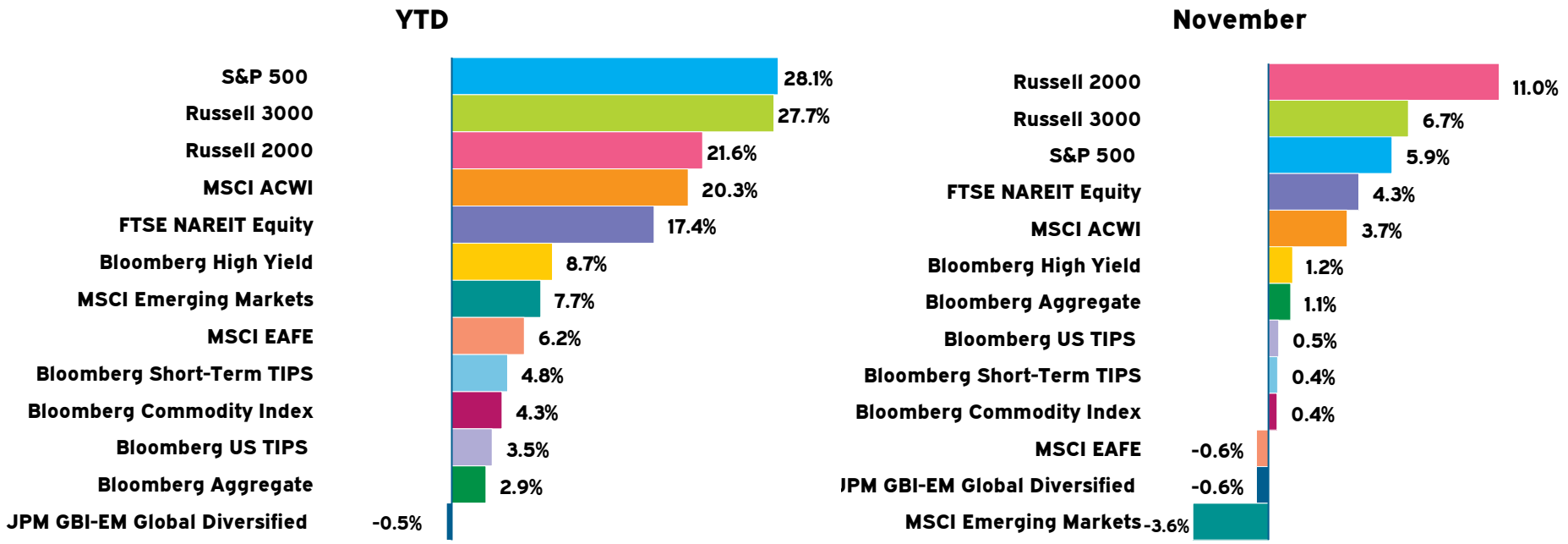
→ In November, emerging market equities lagged developed markets (-3.6%). Non-US developed equities fell (0.6%) on tariff and growth concerns.

→ Chinese stocks (MSCI China) sold-off in October, (-5.9%) as investor enthusiasm cooled, awaiting more concrete fiscal policy stimulus from policy makers to address the solvency issues for local governments, the real estate sector, and consumers.

→ Global sovereign debt yields generally declined as longer-dated inflation expectations eased post-US elections and economic data missed expectations to the downside across some major economies.

→ Looking ahead, key factors influencing the global economic outlook include the paths of inflation, labor markets, and monetary policy, China's slowing economy and the impacts of policy stimulus, increased geopolitical tensions, and questions about new policies from the incoming US administration.

Index Returns[1]



→ After the November election, US markets rallied while many non-US markets posted negative returns for the month.

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

[1] Source: Bloomberg. Data is as of November 30, 2024.

Domestic Equity Returns[1]

Domestic Equity	November (%)	QTD (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
S&P 500	5.9	4.9	28.1	33.9	11.4	15.7	13.3
Russell 3000	6.7	5.9	27.7	34.5	10.5	15.2	12.9
Russell 1000	6.4	5.7	28.1	34.4	10.9	15.6	13.1
Russell 1000 Growth	6.5	6.1	32.2	38.0	10.9	19.4	16.5
Russell 1000 Value	6.4	5.2	22.8	29.6	10.4	10.8	9.3
Russell MidCap	8.8	8.2	24.1	33.7	7.8	12.0	10.4
Russell MidCap Growth	13.3	15.3	30.2	40.1	6.4	13.2	12.2
Russell MidCap Value	7.4	6.0	22.0	31.5	8.7	10.9	9.0
Russell 2000	11.0	9.4	21.6	36.4	5.0	9.9	9.0
Russell 2000 Growth	12.3	10.8	25.4	40.4	3.3	9.2	9.3
Russell 2000 Value	9.6	7.9	17.9	32.5	6.3	9.9	8.4

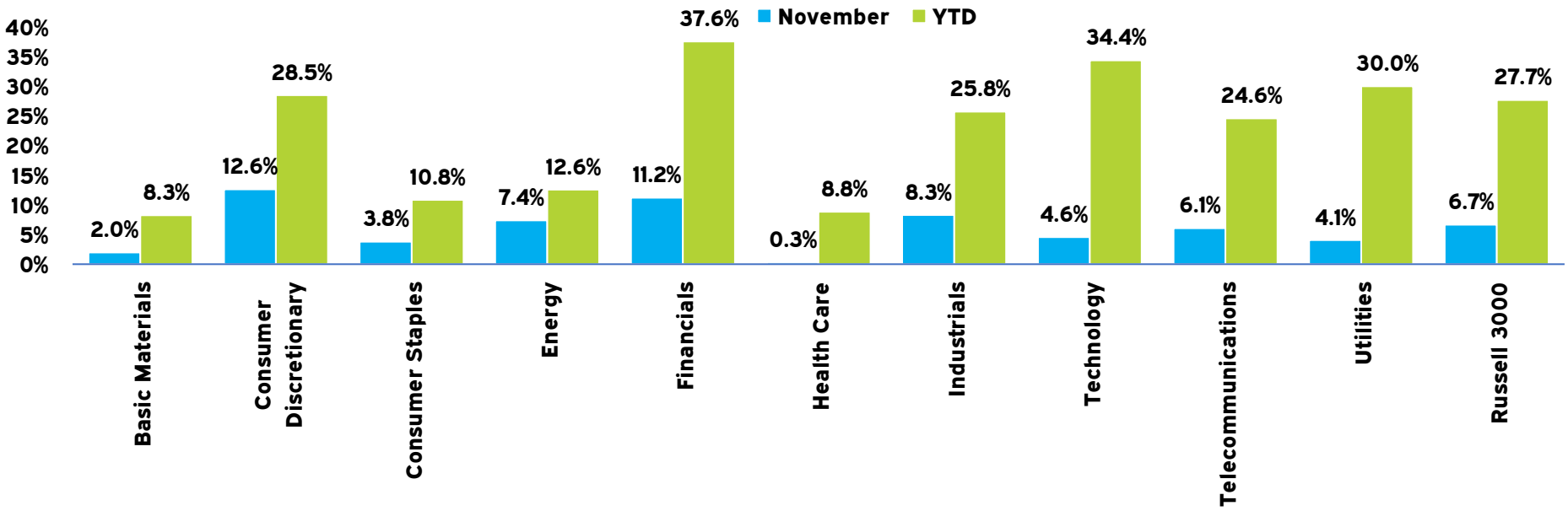
US Equities: The Russell 3000 rose 6.7% in November, bringing the year-to-date results to +27.7%.

→ US stocks rose sharply during November, as investors looked favorably at US election results victory. The small cap index rose nearly 6% the day after the election while the broader market rose nearly 3%.

→ Growth stocks outperformed value stocks in November, across the market cap spectrum. The Russell MidCap Growth index was the top performer and was driven by two AI-related stocks: Palantir Technologies and AppLovin Corp. These two stocks have appreciated 291% and 745%, respectively, in the year-to-date period.

[1] Source: Bloomberg. Data is as of November 30, 2024.

Russell 3000 Sector Returns[1]



→ All sectors rose during November, with a wide dispersion. Consumer discretionary stocks rose 12.6%, driven by Tesla, which appreciated 38% during the month. Health care rose just 0.3% as biopharma stocks fell.

→ Financials were a top performer as banks, such as JP Morgan, and consumer finance companies appreciated.

→ On a year-to-date basis, the financials sector outperformed others (+37.6%) as the Fed continues to lower interest rates. Communication services, technology, and utilities have all appreciated 30%+ year-to-date, mainly due to AI-related exposures.

[1] Source: Bloomberg. Data is as of November 30, 2024.

Foreign Equity Returns[1]

Foreign Equity	November (%)	QTD (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
MSCI ACWI Ex US	-0.9	-5.8	7.6	13.0	2.9	5.4	4.6
MSCI EAFE	-0.6	-6.0	6.2	11.9	4.1	5.9	5.1
MSCI EAFE (Local Currency)	0.6	-1.0	10.8	14.0	7.7	7.7	6.9
MSCI EAFE Small Cap	0.1	-6.2	4.2	11.8	-1.1	3.7	5.7
MSCI Emerging Markets	-3.6	-7.9	7.7	11.9	-1.3	3.2	3.2
MSCI Emerging Markets (Local Currency)	-2.7	-5.5	11.8	15.3	1.7	5.4	5.6
MSCI EM ex China	-3.3	-7.0	4.8	11.5	2.0	6.1	4.2
MSCI China	-4.4	-10.1	16.3	13.5	-7.9	-2.4	1.7

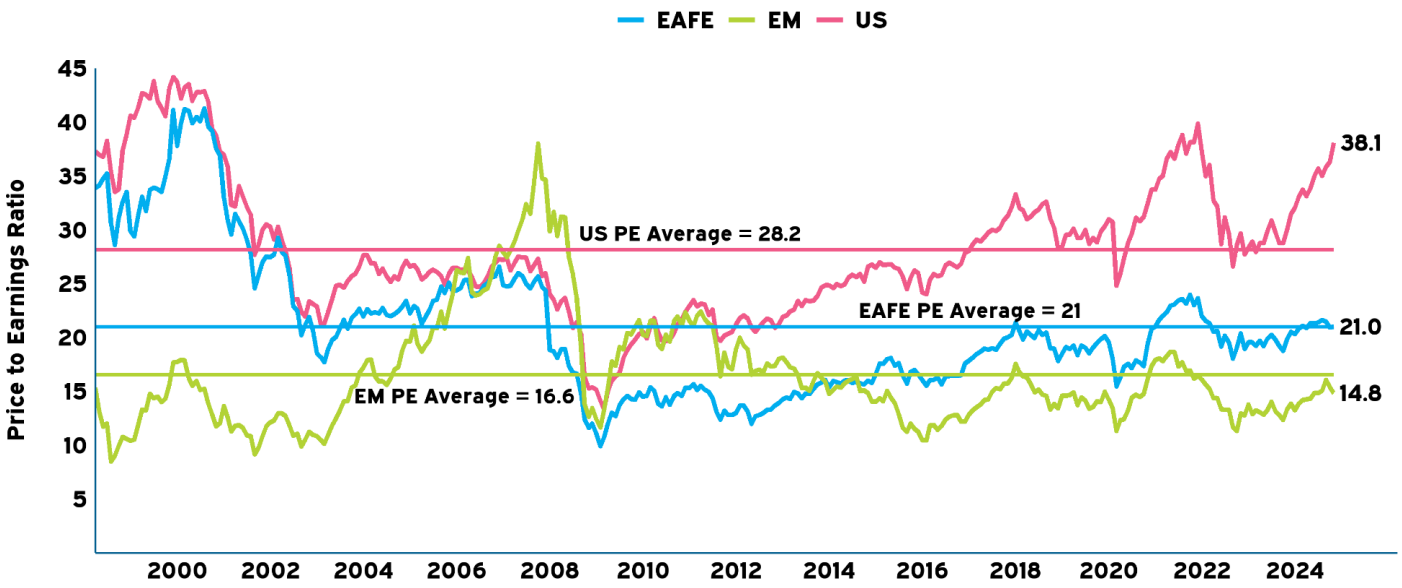
Foreign Equity: Developed international equities (MSCI EAFE) fell 0.6% in November, while emerging market equities (MSCI Emerging Markets) fell 3.6%.

→ A strong US dollar and trade war concerns weighed on non-US stocks. Developed non-US equities saw slight losses in November, driven by automotives and consumer goods earnings warnings. Japan ended slightly negative, with the weakest performance in large cap, export-oriented stocks.

→ Emerging markets lagged developed markets, as Trump's expected trade policies pose a potential headwind for EM and continue to drive outflows. China saw worse performance (-4.4%) than broader emerging markets (-3.6%). India ended the month largely unscathed, down only 42 basis points.

[1] Source: Bloomberg. Data is as of November 30, 2024.

Equity Cyclically Adjusted P/E Ratios[1]



→ US stocks, priced at 38.1 times earnings, continue to trade well above their long-run PE average of 28.2.

→ Non-US developed market valuations are trading at their long-term average. Emerging market stock valuations also declined and remain below their long-term average.

[1] 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 November 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[1]

Fixed Income	November (%)	QTD (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)	Current Yield (%)	Duration (Years)
Bloomberg Universal	1.1	-1.2	3.6	7.5	-1.5	0.4	1.9	4.9	6.0
Bloomberg Aggregate	1.1	-1.4	2.9	6.9	-2.0	0.0	1.5	4.6	6.2
Bloomberg US TIPS	0.5	-1.3	3.5	6.3	-1.7	2.3	2.3	4.3	6.8
Bloomberg Short-term Tips	0.4	0.0	4.8	6.0	2.3	3.5	2.4	4.3	2.4
Bloomberg US Long Treasury	1.8	-3.5	-1.1	7.4	-10.7	-4.7	0.2	4.5	15.3
Bloomberg High Yield	1.2	0.6	8.7	12.7	3.7	4.7	5.1	7.1	3.4
JPM GBI-EM Global Diversified (USD)	-0.6	-5.2	-0.5	2.7	0.2	-0.7	0.0	--	--

Fixed Income: The Bloomberg Universal index rose 1.1% in November, bringing the year-to-date return to +3.6%.

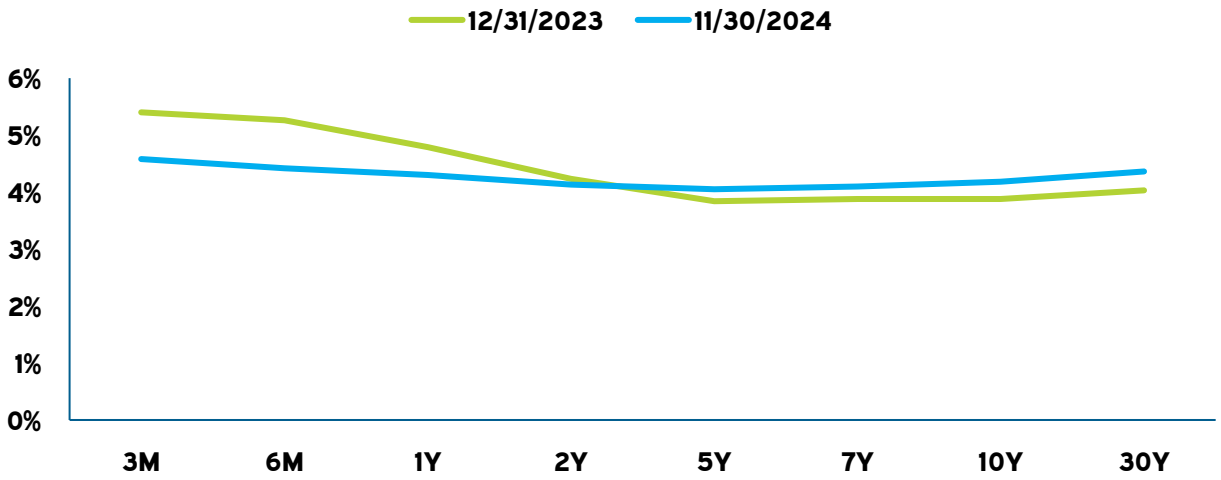
→ Fixed income indexes rose modestly over the month, driven by a decline in interest rates as market participants moved past the US election and the related uncertainty that drove yields higher in September and October.

→ The broad US bond market (Bloomberg Aggregate) gained 1.1% over the month, with TIPS underperforming as elevated inflation expectations eased.

→ High yield bonds outperformed as investor risk appetite remained robust, while emerging market debt weakened on continued US dollar strength and uncertainty about the path of proposed US tariffs by the incoming administration.

[1] Source: Bloomberg. Data is as of November 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 Yield Curve[1]

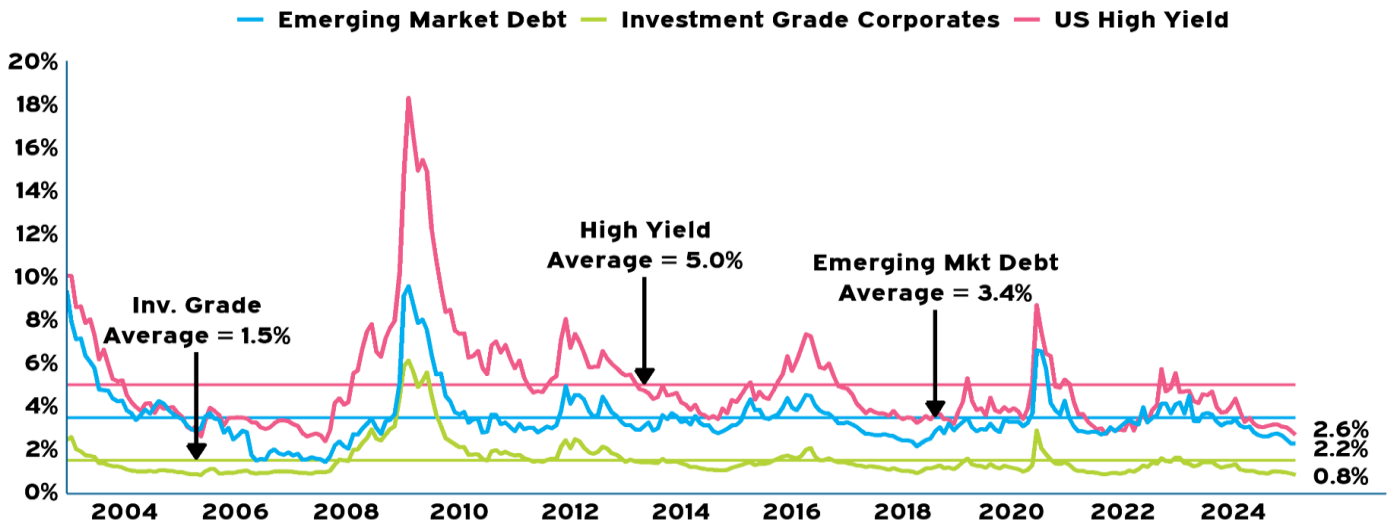


→ After falling in the third quarter, US Treasury yields declined slightly in November across the yield curve.

→ In November, the more policy sensitive 2-year Treasury yield edged down from 4.17% to 4.13%, while the -10-year Treasury yield fell from 4.27% to 4.18%.

[1] Source: Bloomberg. Data is as of November 30, 2024.

Credit Spreads vs. US Treasury Bonds[1]



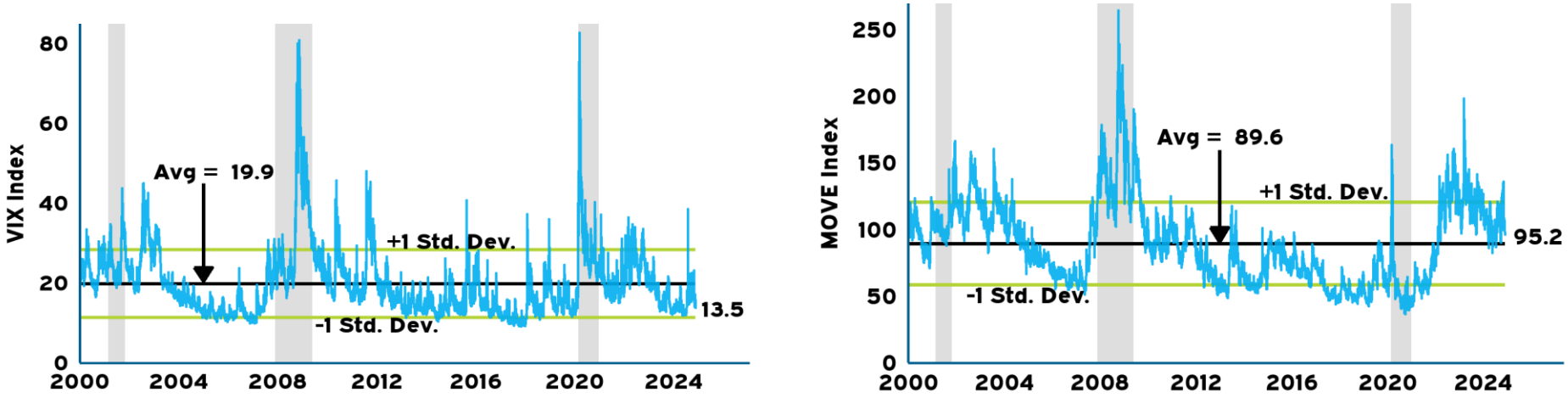
→ Spreads (the yield above a comparable maturity Treasury) resumed their post-pandemic tightening trend.

→ All yield spreads remained below their respective long-run averages, particularly high yield.

→ Although spreads are tight, yields remain at above-average levels compared to the last two decades, particularly for short-term issues.

[1] Source: Bloomberg. Data is as November 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[1]

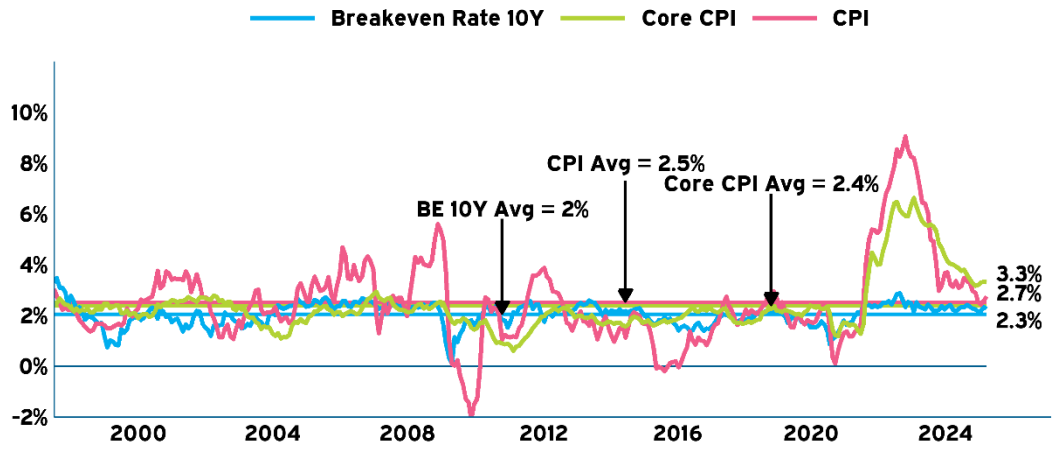


→ In November, bond and equity volatility declined after a period of elevation ahead of the November election.

→ Volatility levels (VIX) in the US stock market finished the month slightly below its long-run average, while volatility in the bond market (MOVE) ended November slightly above its long-run average.

[1] 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 November 2024. The average line indicated is the average of the VIX and MOVE values between January 2000 and October 2024.

US Ten-Year Breakeven Inflation and CPI[1]



→ In November, inflation rose 0.3% month-on-month after four monthly gains of 0.2%, with shelter costs contributing over 40% of the monthly increase.

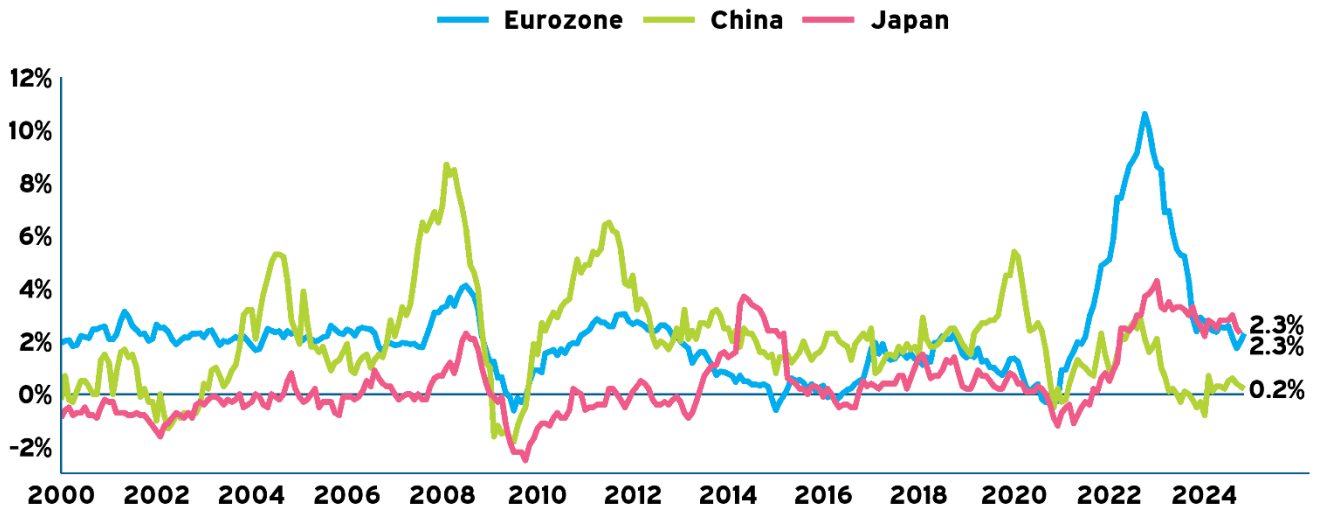
→ Year-over-year inflation increased from 2.6% to 2.7% (matching expectations) largely driven by base year effects. Shelter (+4.7%), transportation (+7.1%), and medical care (+3.7%) contributed to the annual gain while energy prices (-3.2%) fell over the past year.

→ Year-over-year core inflation (excluding food and energy) rose 3.3%, also matching expectations.

→ Inflation expectations (breakevens) declined slightly in November, on the passing of the US elections and some recent economic data missing to the downside.

[1] Source: FRED. Data is as of November 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)[1]



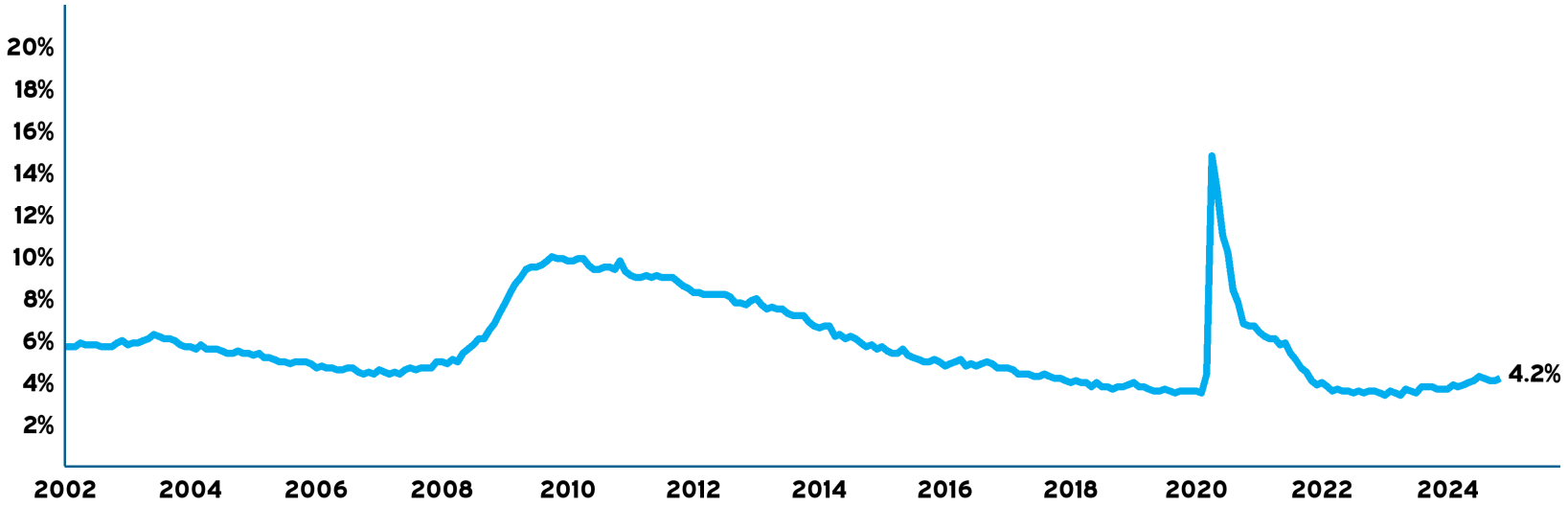
→ In the eurozone, inflation rose slightly from 2.0% to 2.3% in November (still below the US). The increase was driven by last year's significant fall in energy prices no longer being included in the calculation.

→ Inflation in Japan, continued to moderate (2.5% to 2.3%) due in part to slower increases of gas and electricity prices. Despite the decline, inflation levels remain elevated in Japan, from a historical perspective.

→ Inflation in China fell to 0.2% in November. China continues to fight deflationary pressures despite recent stimulus measures.

[1] Source: Bloomberg. Data is as November 30, 2024, except Japan which is as of October 31, 2024.

US Unemployment[1]



→ In November, the US economy added 227,000 new jobs even as the unemployment rate rose slightly to 4.2%.

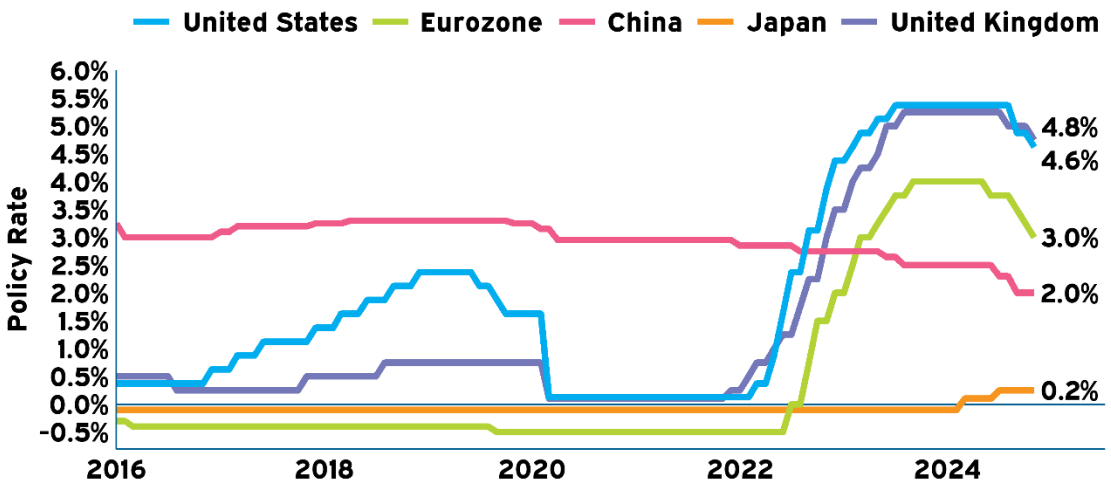
→ The heath care (+54K), leisure and hospitality (+53K) and government (+33K) sectors added the most jobs in November, while retail experienced job losses for the month (-28K).

→ The labor market continues to come into balance with job openings (+7.7M) declining from pandemic highs (>9M) with the number of unemployed workers rising from 6.3 million unemployed to 7.1 million unemployed over the past year.

→ Separations and hires remain steady at around 5.3 million each and average hourly wages continue to grow at approximately 4.0% a year.

[1] Source: FRED and BLS. Data is as of November 30, 2024.

Policy Rates[1]



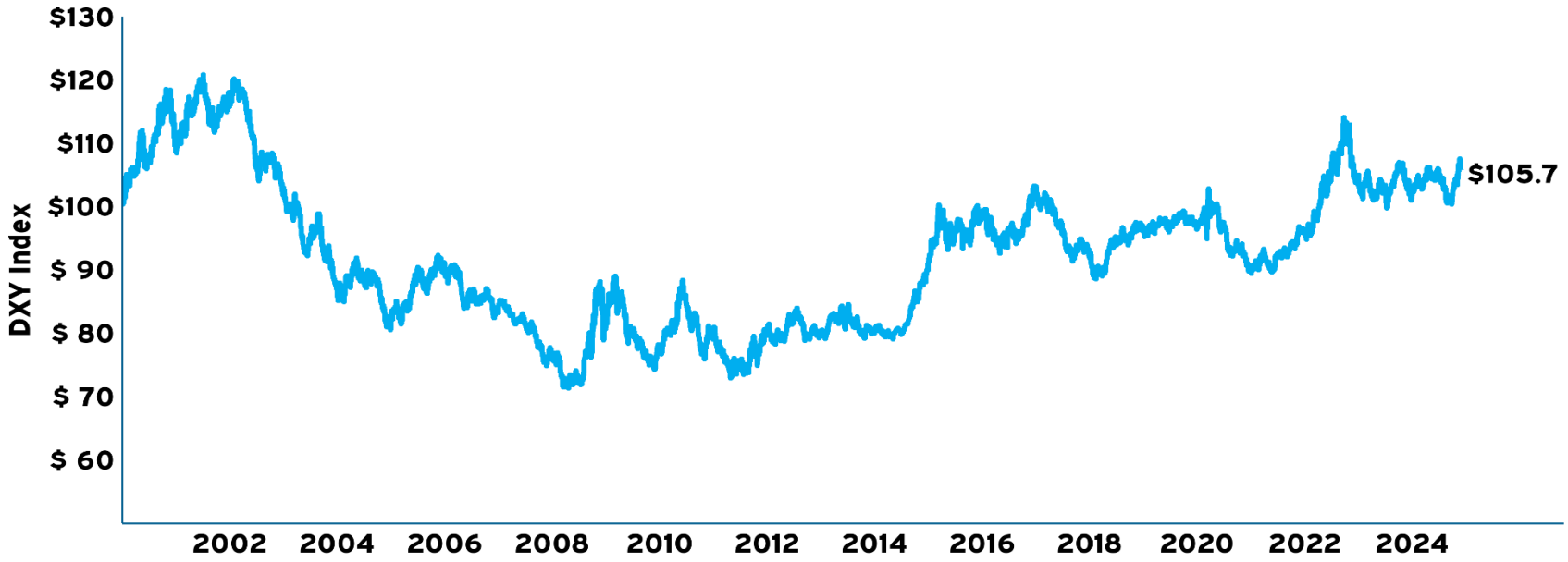
→ In the US, the Fed reduced interest rates after the month-end by 0.25% to a range of 4.5% to 4.75%, in a move largely expected by investors.

→ The Bank of England made a similar 0.25% interest rate cut in November, while the European Central Bank cut rates by another 0.25% in early December.

→ After exiting negative interest rates in 2024 and making several rate increases, rate cutting by other major central banks are complicating prospects for further policy rate hikes in Japan.

[1] Source: Bloomberg. Data is as of December 12, 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[1]



→ In November, the US dollar strengthened versus other currencies on tariff and trade-war concerns.

→ A rise in interest rates driven by potential inflationary impacts of proposed higher tariffs, lower taxes, and immigration policies from candidate, and now president-elect Trump, drove the dollar's gains.

[1] Source: Bloomberg. Data as of November 30, 2024.

Summary

Key Trends:

→ According to the International Monetary Fund's (IMF) October report, global growth in 2025 is expected to be similar to 2024 at around 3.2% with most major economies predicted to avoid a recession.

→ Many questions remain about what policies will be implemented by the new administration in the US. Although deregulation and tax cuts could support growth, these policies, along with higher tariffs and restrictive immigration, could fan inflation. This will likely lead to additional uncertainty 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 fiscal and financial policy stimulus measures. Thus far, these efforts have not increased weak consumer spending or helped the lingering trouble in the real estate sector. 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.

November 2024 Performance Review

Manager Performance - Gross of Fees | As of November 30, 2024

	Market Value $	1 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
EBMUDERS Total Plan Composite	**2,680,167,861**	**3.3**	**19.4**	**5.7**	**8.3**
Total Plan Bench		*2.5*	*18.1*	*5.2*	*7.4*
US Equity Composite	**1,051,044,701**	**6.6**	**34.5**	**10.6**	**15.2**
Russell 3000 Hybrid		*6.7*	*34.5*	*10.5*	*15.2*
Northern Trust Russell 3000	1,050,264,931	6.6	34.5	10.6	15.2
Russell 3000 Index		*6.7*	*34.5*	*10.5*	*15.2*
Non US Equity Composite	**621,355,114**	**-0.5**	**13.3**	**3.1**	**5.8**
MSCI ACWI xUS (blend)		*-0.9*	*13.6*	*3.4*	*5.9*
Northern Trust ACWI ex US	621,355,114	-0.5	13.3	3.1	5.5
MSCI AC World ex USA index		*-0.9*	*13.6*	*3.4*	*5.9*
Covered Calls Composite	**380,812,936**	**4.2**	**21.0**	**8.3**	**10.2**
Cboe S&P 500 Buy Write Index		*4.0*	*19.8*	*6.5*	*6.6*
Parametric BXM	184,519,462	4.0	19.0	8.1	9.6
Cboe S&P 500 Buy Write Index		*4.0*	*19.8*	*6.5*	*6.6*
Parametric Delta Shift	196,110,981	4.4	25.0	9.1	13.6
Cboe S&P 500 Buy Write Index		*4.0*	*19.8*	*6.5*	*6.6*
Van Hulzen	182,493	0.4	15.3	6.8	6.5
Cboe S&P 500 Buy Write Index		*4.0*	*19.8*	*6.5*	*6.6*

Manager Performance - Gross of Fees | As of November 30, 2024

	Market Value $	1 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
Core Fixed Income Composite	**443,388,915**	**1.3**	**7.6**	**-0.7**	**0.6**
Fixed Income Core Composite Bench		*1.1*	*6.9*	*-1.2*	*0.3*
CS McKee	224,777,551	1.2	7.9	-1.3	0.3
Blmbg. U.S. Aggregate Index		*1.1*	*6.9*	*-2.0*	*0.0*
Garcia Hamilton	218,611,365	1.4	7.3	-0.1	0.8
Garcia Hamilton Blended Benchmark		*1.1*	*6.9*	*-0.5*	*0.7*
Non-Core Fixed Income Composite	**123,490,955**	**1.0**	**9.1**	**4.8**	**4.7**
Fixed Income Non-Core Composite Bench		*1.0*	*10.0*	*5.5*	*4.7*
MacKay Shields (HY)	63,849,022	0.9	10.1	5.8	5.8
Mackay Shields Blended Benchmark		*1.2*	*11.4*	*5.3*	*4.7*
Federated Investment Counseling (Bank Loans)	59,641,933	1.2	8.5	4.0	3.6
Federated Investment Counseling Blended Benchmark		*0.8*	*8.7*	*5.7*	*4.7*
Real Estate Composite	**53,824,286**	**0.0**	**10.9**	**3.5**	**5.8**
Real Estate Composite Benchmark		*0.0*	*10.2*	*3.2*	*5.1*
RREEF America II Lag	53,588,843	0.0	-8.1	2.4	3.4
NCREIF NPI Lag		*0.0*	*-5.5*	*2.3*	*3.4*
CenterSquare	235,443	0.4	31.9	4.6	7.2
FTSE NAREIT Equity REIT Index		*4.3*	*29.0*	*3.2*	*5.8*

Manager Performance - Gross of Fees | As of November 30, 2024

	Market Value $	1 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)
Cash Composite	**6,250,952**	**0.0**	**4.8**	**3.5**	**2.6**
Cash LAIF	6,250,952	0.0	4.8	3.5	2.6
FTSE 3 Month T-Bill		*0.4*	*5.5*	*3.9*	*2.5*

Benchmark History

From Date	To Date	Benchmark
EBMUDERS Total Plan Composite		
10/01/2024	Present	2.5% NCREIF NPI Lag, 25.0% Russell 3000 Index, 20.0% 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% Credit Suisse Leveraged Loans, 2.5% Blmbg. U.S. Corp: High Yield Index
02/01/2023	10/01/2024	2.5% Real Estate Composite, 25.0% Russell 3000 Index, 20.0% 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
12/01/2019	02/01/2023	2.5% Real Estate Composite, 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% Real Estate Composite, 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% Real Estate Composite, 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% Real Estate Composite, 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% Real Estate Composite, 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% Real Estate Composite, 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

Benchmark History | As of November 30, 2024

From Date	To Date	Benchmark
Fixed Income Composite		
10/01/2024	Present	80.0% Blmbg. U.S. Aggregate Index, 10.0% Credit Suisse Leveraged Loans, 10.0% Blmbg. U.S. Corp: High Yield Index
02/01/2023	10/01/2024	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
Fixed Income Core Fixed Income Composite		
02/01/2023	Present	100.0% Blmbg. U.S. Aggregate Index
12/01/2019	02/01/2023	50.0% Blmbg. Intermed. U.S. Government/Credit, 50.0% Blmbg. U.S. Aggregate Index
Fixed Income Non-Core Fixed Income Composite		
10/01/2024	Present	50.0% Credit Suisse Leveraged Loans, 50.0% Blmbg. U.S. Corp: High Yield Index
12/01/2019	10/01/2024	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%
Real Estate Composite		
10/01/2024	Present	100.0% NCREIF NPI Lag
11/01/2011	10/01/2024	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

Benchmark History | As of November 30, 2024

From Date	To Date	Benchmark
Fixed Income Blended Benchmarks		
Garcia Hamilton		
02/01/2023	Present	100.0% Blmbg. U.S. Aggregate Index
11/01/2019	02/01/2023	100.0% Blmbg. Intermed. U.S. Government/Credit
MacKay Shields (HY)		
10/01/2024	Present	100.0% Blmbg. U.S. Corp: High Yield Index
02/01/2019	10/01/2024	100.0% ICE BofA ML US Corp Cash Pay BB-B 1-5Yr
Federated Investment Counseling (Bank Loans)		
10/01/2024	Present	100.0% Credit Suisse Leveraged Loans
02/01/2019	10/01/2024	100.0% 60% CredSuisLevLoan/40% BBStGovCorp

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 counties 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 certainly 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[1] (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).

[1] 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.[1] 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.

[1] "Time Series Momentum" Moskowitz, Ooi, Pedersen, August 2010 http://pages.stern.nyu.edu/~lpederse/papers/TimeSeriesMomentum.pdf

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EAST BAY MUNICIPAL UTILITY DISTRICT

DATE: January 23, 2025

MEMO TO: Members of the Retirement Board

FROM: Sophia D. Skoda, Director of Finance

SUBJECT: Northern Trust Proxy Voting Options Update

SUMMARY

Following the completion of the Retirement System Asset Allocation Study at the May 23, 2024 meeting, the System will be moving the entirety of its equities into passively managed vehicles currently managed by Northern Trust Asset Management by the middle of calendar year 2025. As discussed in the Annual Proxy Voting Review item at the November 21, 2024 meeting, Northern Trust has been working on providing a platform for asset owners vote proxies on a proportional share basis based on different policies that fit their organizational philosophy.

The attached memo from the Retirement System's investment consultant, Meketa, discusses the work Northern Trust Asset Management is doing to increase proxy voting options.

SDS:SGL

Attachment: Memo - NTRS Proxy Voting Options Update

MEKETA

5796 Armada Drive
Suite 110
Carlsbad, CA 92008

760.795.3450
Meketa.com

MEMORANDUM

TO: East Bay Municipal Utility District Employees' Retirement System ("EBMUDERS")
FROM: Meketa Investment Group ("Meketa")
DATE: January 23, 2025
RE: NTRS Proxy Voting Options update

Currently, Northern Trust Asset Management (NTAM) votes EBMUDERS' proxies in accordance with the NTAM proxy voting policy for EBMUDERS passively managed securities that are invested through comingled funds. With the recent EBMUDERS asset allocation decisions, it is anticipated that EBMUDERS equities will be all passively managed by mid-to-end of 2026 leaving no actively managed equities for Glass Lewis proxy voting services after this point.

NTAM is expanding their proxy voting options. EBMUDERS passive equity strategies - the MSCI ACWI and the Russell 3000 - are eligible to participate in NTAM proxy voting choice. Today, in addition to the NTAM proxy committee guidelines (default), as of the end of 2024, NTAM offers three additional proxy voting options:

→ ISS Taft-Hartley,

→ ISS Socially Responsible Investing, and

→ ISS Board Aligned.

While NTAM does not currently offer a public pensions proxy voting policy from ISS or Glass Lewis, they have stated that they are seeking to expand the menu of available options. The expansion of voting policies is not expected to happen in time for the spring 2025 proxy season. Staff and Meketa will continue to track the expansion of NTAM proxy voting options and return to the Board when a policy that fits EBMUDERS current voting profile is available.

SB/mp

EAST BAY MUNICIPAL UTILITY DISTRICT

DATE: January 23, 2025

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, with the RFPs closing mid-December. Meketa has since reviewed all of the submissions and has narrowed the field. Staff and Meketa will work to narrow the field further leading up to the in-person interviews scheduled to take place at the March 20, 2025 Retirement Board meeting. Once the new managers are selected, the Retirement System will implement Stage 2 involving the liquidation of one of the Retirement System's two remaining Covered Call mandates and using those assets to fund the new High Yield and Bank Loan managers. The intent is to complete the search and fund the new mandates by the end of Fiscal Year 2025.

SDS:SGL

Attachment: Memo – High Yield and Bank Loans Manager Search Update

MEKETA
INVESTMENT GROUP

2175 NW Raleigh Street
Suite 300A
Portland, OR 97210

503.226.1050
Meketa.com

MEMORANDUM

TO: East Bay Municipal Utility District Employees' Retirement System ("EBMUDERS")
FROM: Meketa Investment Group, Inc ("Meketa")
DATE: January 23, 2025
RE: High Yield and Bank Loans Manager Search Update

Summary

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.

In order to implement the increased allocations to the High Yield and Bank Loans segments, a public RFP was released in November 2024. The purpose of this memo is to briefly summarize the responses received and process completed to-date. It is anticipated that the Board will interview finalists for each mandate at the March 20, 2025, Retirement Board Meeting.

Discussion

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. The deadline for responses was December 9, 2024. For the High Yield search, 38 firms (39 strategies) submitted responses. For the Bank Loans search, 29 firms (30 strategies) submitted responses. In Meketa's opinion, both of these searches were well-received by the marketplace and the quantity of responses will provide EBMUDERS an attractive universe to select from.

During the month of December, Meketa reviewed the responses for both the High Yield and Bank Loans RFPs. Responses were reviewed across multiple facets, including reviewing the respective organizations, investment teams, investment philosophies/processes, performance, and additional considerations that we believe to be important to a potential EBMUDERS engagement. In early January, Meketa provided EBMUDERS Staff with a "short-list" of 11 firms for each mandate (10 new firms + the respective incumbents). The goal was to incorporate Staff's perspective/review during the latter stages of the review process in order to collectively land on a list of 2-3 managers per segment for the Board to interview in March.

As discussed in November, the number of managers to be interviewed 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

At the March meeting, the Board should expect to receive materials from Meketa that provide detail on the review process and specific information on the finalist candidates. The finalist candidates will also be expected to provide information for the Board to review during the interview process. As discussed in the Evolving Policy Plan, both the High Yield and Bank Loans segments are expected to receive additional 2.5% increases (each) in the target allocations beginning on 7/1/2025. By interviewing and selecting firms in March, this provides ample time for the necessary contracting and account/fund set-up for the selected firms to be ready to invest EBMUDERS's assets by 7/1/2025. The High Yield segment will receive an additional 2.5% allocation in late-2025 in order to begin 2026 with a policy target allocation of 7.5%.

Conclusion

The Evolving Policy Plan is moving forward as scheduled. As EBMUDERS prepares for Stage 2 to take effect (targeting 7/1/2025), the primary task is the selection of 1-2 new managers within the High Yield and Bank Loans segments, respectively. The publicly released RFPs for these mandates were well received by the marketplace with a considerable amount of responses submitted. The Board will be interviewing finalist candidates for both mandates at the March meeting.

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 10/1/2024	*Approximately* 7/1/2025
US Equity	25.0%	33.5%	35.0%
Non-US Equity	25.0%	25.0%	25.0%
Covered Calls	20.0%	14.0%	7.5%
REITS	2.5%	0.0%	0.0%
Core Private Real Estate	2.5%	2.5%	2.5%
Investment Grade Bonds	20.0%	20.0%	20.0%
High Yield Bonds	2.5%	2.5%	5.0%
Bank Loans	2.5%	2.5%	5.0%
Private Debt	0.0%	0.0%	0.0%
TOTAL	100.0%	100.0%	100.0%
Expected Long-term Return	8.0%	8.1%	8.1%
Expected Volatility	13.1%	13.2%	13.2%

Change from Prior Period			
	Stage 0	Stage 1	Stage 2
	Starting Policy	Current Policy 10/1/2024	*Approximately* 7/1/2025
US Equity	---	8.5%	1.5%
Non-US Equity	---	---	---
Covered Calls	---	-6.0%	-6.5%
REITS	---	-2.5%	---
Core Private Real Estate	---	---	---
Investment Grade Bonds	---	---	---
High Yield Bonds	---	---	2.5%
Bank Loans	---	---	2.5%
Private Debt	---	---	---

Evolving Policy Plan (continued)

Policy Allocations			
	Stage 3	Stage 4	Stage 5
	Approximately 1/1/2026	*Approximately* 4/1/2026	*Approximately* 7/1/2026
US Equity	35.0%	35.0%	35.0%
Non-US Equity	25.0%	25.0%	25.0%
Covered Calls	5.0%	2.5%	0.0%
REITS	0.0%	0.0%	0.0%
Core Private Real Estate	2.5%	2.5%	2.5%
Investment Grade Bonds	20.0%	20.0%	20.0%
High Yield Bonds	7.5%	7.5%	7.5%
Bank Loans	5.0%	5.0%	5.0%
Private Debt	0.0%	2.5%	5.0%
TOTAL	100.0%	100.0%	100.0%
Expected Long-term Return	8.1%	8.1%	8.2%
Expected Volatility	13.2%	13.0%	12.9%

Change from Prior Period			
	Stage 3	Stage 4	Stage 5
	Approximately 1/1/2026	*Approximately* 4/1/2026	*Approximately* 7/1/2026
US Equity	---	---	---
Non-US Equity	---	---	---
Covered Calls	-2.5%	-2.5%	-2.5%
REITS	---	---	---
Core Private Real Estate	---	---	---
Investment Grade Bonds	---	---	---
High Yield Bonds	2.5%	---	---
Bank Loans	---	---	---
Private Debt	---	2.5%	2.5%

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 in Q4 2024.

Stage 2 *(approximately 7/1/2025)*
- 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). - Moreover, Stage 2 will also see the launch of a Private Debt RFP. If desired, additional education on this asset class will be provided.
Stage 3 *(approximately 1/1/2026)*
- 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). - 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.
Stage 4 *(approximately 4/1/2026)*
- 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. - Funding will come from an additional redemption from Covered Calls.
Stage 5 *(approximately 7/1/2026)*
- 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. - **At the completion of this Stage, EBMUDERS will have reached the new long-term strategic allocation policy targets.**

EAST BAY MUNICIPAL UTILITY DISTRICT

DATE: January 23, 2025

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:

- The Steering Committee approved filling two vacant resources for the HRIS project, and the recruitment process has started for both. The Pension project team has been requesting and the Steering Committee has approved help from these positions until such time as the HRIS RFP is near completion and the HRIS project needs analytical help.
- Engagement with an external consultant specializing in large technology transitions and implementations. The consultant may be able to help with an evaluation of project resources, assistance in updating the RFP and monitoring/summarizing RFP responses.
- A payroll replacement project has been approved by the Planning and Priorities Committee and the Technology and Investment Committee. This project's goal is to find a solution to Rimini Street's imminent exit from the EBMUD contract to provide regulatory updates to PeopleSoft's payroll module. This is a separate project from the HRIS Core replacement project, which will be running concurrently along with the Pension Phase. Pension Project and Retirement Services staff will be Key SMEs during the Payroll project which will further divide both teams' time.

PRODUCT OWNER UPDATE

The Project, Payroll and Retirement Service teams have completed testing of Software Deliverable Three: Payroll and Retirement Benefits COLA. The Project team has identified issues during testing, which they are working with LRS to resolve.

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. This now includes the development of an interim employer-reporting to accommodate the new payroll system.

ACTIVE RISKS AND BUILDING STAFFING CAPACITY

- The need for the HRIS Analyst II and IS Administrator positions continue to be acute. The recruitment for both positions should begin in January.

CC:vw