BAY AREA WATER SUPPLY AND CONSERVATION AGENCY

BOARD OF DIRECTORS MEETING

Agenda Title: Transition Plan for Chief Executive Officer/General Manager (CEO/GM)

Summary:

At the recommendation of CalPERS staff and attorneys, BAWSCA will not create a new position of "Transition Manager" to ensure the institutional knowledge and expertise of its current Chief Executive Officer/General Manager (CEO/GM), Nicole Sandkulla, is carried over to BAWSCA's new CEO/GM, Thomas Smegal, who is anticipated to officially assume his role on or around December 1, 2024. Instead, Ms. Sandkulla and Mr. Smegal will both hold the position of CEO/GM during December to facilitate the transition of this role.

Fiscal Impact:

It is anticipated that Ms. Sandkulla will remain in the CEO/GM role for approximately one month (December 2024). Sufficient funds are estimated to be available in the adopted budget for FY 2024-25 to fund both Mr. Smegal and Ms. Sandkulla holding this position. No budget adjustment is needed at this time.

If the estimate at mid-year indicates that the adopted operating budget will be insufficient through the end of the year, the additional increment of funding will be relatively small and may be available from savings in other areas of the budget or, if necessary, from BAWSCA's General Reserve. However, it is anticipated that this will not be necessary.

Board Policy Committee Action:

The Committee voted unanimously to recommend the creation of a Transition Manager position to facilitate the transition of the CEO/GM role from Ms. Sandkulla to Mr. Smegal. Based on recent discussions with CalPERS staff and attorneys, it is not recommended to create a new position; rather, CalPERS recommends having both Ms. Sandkulla and Mr. Smegal hold the position of CEO/GM for a short time to effectuate the transition.

This is an informational item. No action is required.

Discussion:

BAWSCA's current CEO/GM Nicole Sandkulla has served over 11 years as BAWSCA's CEO/GM following 14 years with BAWSCA and BAWSCA's predecessor agency, the Bay Area Water Users Association (BAWUA). During this time period, Ms. Sandkulla has amassed a knowledge base and understanding of the critical issues that impact BAWSCA and its 26 member agencies. She has also cultivated a wide array of professional relationships that have benefitted BAWSCA and improved communication and negotiations with the City and County of San Francisco. BAWSCA is also currently without the services of its Strategic Counsel consultant, an important role that has supported the CEO/GM with strategic advice and counsel since BAWSCA's inception in 2003.

The retirement of Ms. Sandkulla at the end of this calendar year and the vacant Strategic Counsel consultant role present significant challenges for the incoming CEO/GM Thomas Smegal to quickly take over leadership of BAWSCA and ensure ongoing critical projects and negotiations are completed successfully. To ensure a successful transition from Ms. Sandkulla to Mr. Smegal, it is vital that Ms. Sandkulla remains a BAWSCA employee for a one month transition period (December 2024) to provide essential guidance and expertise to Mr. Smegal.

At the recommendation of CalPERS staff and attorneys, Ms. Sandkulla will remain in the BAWSCA employee classification of CEO/GM when Mr. Smegal assumes the position of incoming CEO/GM in December. By staying in this classification, Ms. Sandkulla will provide necessary transition services to Mr. Smegal to ensure the continuity of pending projects and the transfer of Ms. Sandkulla's considerable institutional knowledge to Mr. Smegal.

BAY AREA WATER SUPPLY AND CONSERVATION AGENCY

BOARD OF DIRECTORS MEETING

Agenda Title: **Resolution Approving the Temporary Appointment of Nicole Sandkulla as Special Counsel to the CEO/GM and Making Findings in Support of the Appointment.**

Summary:

As required by the California Public Employees' Retirement System (CalPERS), Board findings are required before Nicole Sandkulla, soon to retire from BAWSCA, can be appointed to the position of Special Counsel to the Chief Executive Officer and General Manager (CEO/GM) in order to provide BAWSCA with essential services. The responsibilities for this position are described in Exhibit A.

Fiscal Impact:

Sufficient funds to appoint Nicole Sandkulla as Special Counsel to the CEO/GM are estimated to be available in the adopted budget for FY 2024-25. No budget adjustment is needed at this time.

These estimates will be updated and reviewed during the mid-year work plan and budget review.

If the estimate at mid-year indicates that the adopted operating budget will be insufficient through the end of the year, the additional increment of funding will be relatively small and may be available from savings in other areas of the budget or, if necessary, from the General Reserve.

Board Policy Committee Action

The Committee voted unanimously to recommend the proposed Board action.

Recommendation:

That the Board adopt Resolution #2024-04 approving the temporary appointment of Nicole Sandkulla to the position of Special Counsel to the CEO/GM and making associated findings in support of such an appointment.

Discussion:

Although Nicole Sandkulla will soon retire from BAWSCA, her services will continue to be essential in order to effect a smooth transition to her successor, Thomas Smegal, and to provide critical executive strategic advice and counsel services to Mr. Smegal.

The California Government Code allows the temporary employment of a PERS-covered retiree only under specified conditions, and only if the person works no more than 960 hours per fiscal year. The attached resolution includes findings that the Board must adopt in order for the incoming CEO/GM to retain Ms. Sandkulla in this position for no longer than twenty four months in compliance with all legal requirements. Ms. Sandkulla's hourly pay will be $165.46, which is consistent with the salary range for the CEO/GM position, which is the position that is most closely related to the duties that Ms. Sandkulla will be performing. Consistent with state law, Ms. Sandkulla has not and will not receive any other benefit, incentive, compensation in lieu of benefit or other form of compensation in addition to her hourly pay rate.

Attachments:

1. Exhibit A, Responsibilities of Special Counsel to the CEO/GM.
2. Resolution #2024-04 Approving the Temporary Appointment of Nicole Sandkulla as Special Counsel to the CEO/GM and Making Findings in Support of the Appointment.

EXHIBIT A

BAWSCA

Special Counsel to the Chief Executive Officer and General Manager

RESPONSIBILITIES

The part-time position of Special Counsel to the CEO/GM will report to Thomas Smegal.

The Special Counsel to the CEO/GM will assist the CEO/GM in the following areas:

1. Transition to BAWSCA's incoming CEO/GM, Thomas Smegal; and
2. Provide executive strategic advice and counsel to Mr. Smegal.

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RESOLUTION NO. 2024-04
BY THE BOARD OF DIRECTORS OF THE
BAY AREA WATER SUPPLY AND CONSERVATION AGENCY

APPROVING TEMPORARY APPOINTMENT OF NICOLE SANDKULLA AS SPECIAL COUNSEL TO THE CEO/GM AND MAKING FINDINGS IN SUPPORT OF THE APPOINTMENT

WHEREAS, the Bay Area Water Supply and Conservation Agency ("BAWSCA") is organized and established pursuant to the Bay Area Water Supply and Conservation Agency Act, Water Code section 81300, et seq. (the "Act");

WHEREAS, section 81408 of the Act authorizes the Board of Directors of BAWSCA (the "Board") to (i) employ employees that it determines are necessary or convenient to operate BAWSCA, and (ii) delegate that authority to the Chief Executive Officer and General Manager of BAWSCA (the "CEO/GM") with respect to the employment of additional employees;

WHEREAS, the incoming CEO/GM, Thomas Smegal, would benefit from the temporary appointment of Nicole Sandkulla (the "Appointee") to the position of Special Counsel to the CEO/GM; and

WHEREAS, the Appointee will be a retired annuitant entitled to receive retirement benefit payments under the California Public Employees' Retirement System ("PERS"), which benefits she accrued based on service with multiple PERS-covered agencies;

WHEREAS, BAWSCA contracts with PERS to provide retirement benefits to its eligible employees;

WHEREAS, the Appointee will be performing similar duties to those duties performed by individuals who have held or are currently holding the position of CEO/GM;

WHEREAS, the California Government Code ("Code") generally requires that a retired PERS annuitant be reinstated to active PERS membership upon employment by a PERS-covered agency, unless she is temporarily appointed by the agency's appointing authority under sections 7522.56 and 21224 of the Code, which exempt a retired PERS annuitant from the reinstatement requirement if (i) she is temporarily appointed because she " . . . has specialized skills needed in performing work of limited duration," (ii) she works no more than 960 hours per fiscal year for all PERS-covered employers, (iii) her hourly rate of pay is neither less than nor more than the monthly base salary paid by the agency to any of its other employees who perform comparable duties, divided by 173.333, as reflected in the publicly-available salary schedule , (iv) she will not receive any other benefit, incentive, compensation in lieu of benefits, or other form of compensation in excess of such hourly rate, (v) she is not reemployed within 180 days of her retirement, unless she did not receive any incentive to retire, and the appointment is certified by the agency as necessary to fill a critically-needed position before 180 days has passed and approved by the employer's governing body at a public meeting, and (vi) she has not received unemployment compensation arising out of any prior employment subject to these requirements with the same employer during the 12-month period preceding her appointment;

WHEREAS, Code section 7522.56 also permits a retired PERS annuitant to be employed within 180 days following the date of retirement, if, among other criteria, she (i) fills a "critically needed position before 180 days have passed" and (ii) the appointment has been "approved by the governing body of the employer in a public meeting;"

WHEREAS, the Board has determined that BAWSCA has a critical need and that the appointment of the Appointee is necessary to fill this critical need;

WHEREAS, the Board has also determined that the Appointee has the skills needed in performing work as Special Counsel to the CEO/GM for a limited term of no more than twenty-four months and intends that her appointment to that position for such term meet this and all other applicable requirements of sections 7522.56 and 21224 of the Code;

WHEREAS, the hourly pay rate to Appointee will be $165.46; and

WHEREAS, Appointee has not and will not receive any other benefit, incentive, compensation in lieu of benefit or other form of compensation in addition to the hourly pay rate stated above.

NOW THEREFORE BE IT RESOLVED, that subject to BAWSCA's customary employment practices and the specific terms and conditions of any offer of employment by BAWSCA to the Appointee in connection therewith, the Board hereby approves the appointment of the Appointee to the position of Special Counsel to the CEO/GM for up to one twenty-four month term, effective upon appropriate action by the incoming CEO/GM; and

RESOLVED FURTHER, that in accordance with sections 7522.56 and 21224 of the Code:

1. The Board finds that BAWSCA has a critical need to fill the position of Special Counsel to the CEO/GM;

2. The Board finds and declares that the Appointee possesses extensive, highly specialized skills and experience needed to effect a smooth transition to her successor Thomas Smegal and to provide critical executive strategic advice and counsel to Mr. Smegal, and due to the immediacy of these needs for such skills and experience, the Appointee's services are needed to fill this critically-needed position before 180 days have passed since her retirement upon which she did not accept any incentive to retire;

3. The Appointee's appointment to the position of Special Counsel to the CEO/GM will not exceed 960 hours in any fiscal year for all PERS-covered agencies;

4. The Appointee's hourly rate of pay as Special Counsel to the CEO/GM will be neither less than nor more than the base monthly salary of any of BAWSCA's other employees who perform comparable duties divided by 173.333, as reflected in the attached salary schedule for the CEO/GM position (Attachment A), which is hereby adopted by the Board, and she will not receive any other benefit, incentive, compensation in lieu of benefits, or other form of compensation in excess of such hourly rate;

5. The Appointee has not received any unemployment compensation arising out of her prior employment with BAWSCA during the 12-month period preceding her appointment; and

6. Subject to BAWSCA's customary employment practices, including "at-will" employment, the appointment of Appointee as Special Counsel to the CEO/GM will continue only until the earlier of: (i) the end of the appointment's twenty-four month term, or (ii) termination of the Appointee's employment by either BAWSCA or the Appointee for any other reason.

RESOLVED FURTHER, that the incoming CEO/GM, Thomas Smegal is hereby authorized and directed to execute all documents and take all other actions necessary or advisable to effect the purposes of this resolution.

PASSED AND ADOPTED this 21st day of November, 2024, by the following vote:

AYES:

NOES:

ABSENT:

_____
Chair, Board of Directors
Bay Area Water Supply and
Conservation Agency

ATTEST:

_____
Assistant to the CEO

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BAY AREA WATER SUPPLY AND CONSERVATION AGENCY

BOARD OF DIRECTORS MEETING

Agenda Title: **Approval and Adoption of BAWSCA Retroactive Pay Schedules for FY 2020-21 through FY 2024-25.**

Summary:

As a participating agency in the California Public Employees' Retirement System (CalPERS) and to comply with California Code Regulations (CCR) Title 2 § 570.5 - "Requirement for a Publicly Available Pay Schedule," the Board must approve and adopt the retroactive and current fiscal year pay schedules for BAWSCA staff, provided in Attachment A. These retroactive pay schedules reflect pay as approved and adopted by the Board as part of its regular adoption of the annual Work Plan and Budget. For future fiscal years, approval and adoption of updated pay schedules will be included as part of the Board's regular consideration of the annual Work Plan and Budget and following action on the CEO/GM salary. This action is not authorizing retroactive pay for agency employees, but rather formally approving and adopting previously approved and adopted salary schedules in a specified format as required by CalPERS.

Board Policy Committee Action

The Committee voted unanimously to recommend the proposed Board action, however the format of the Pay Schedules have been revised based on CalPERS' direction.

Recommendation:

That the Board approve and adopt the BAWSCA Retroactive Pay Schedules for FY 2020-21 through FY 2024-25.

Discussion:

BAWSCA is a participating agency in CalPERS. CalPERS requires that BAWSCA's employees' reportable compensation, which is the compensation that employees' retirement benefits are based on, comply with the California Public Employee's Retirement Law ("PERL") and its regulations, including CCR Title 2 § 570.5 - Requirement for a Publicly Available Pay Schedule. During a recent review, CalPERS informed BAWSCA that the Board needed to approve and adopt retroactive pay schedules for the preceding four fiscal years, in addition to the current fiscal year. This CalPERS review was initiated due to the anticipated retirement of the CEO/GM.

This action is not authorizing retroactive pay for agency employees, but rather formally approving and adopting previously approved salary schedules in a specified format as required by CalPERS.

In order to comply with PERL and Title 2 CCR § 570.5, the Board must approve and adopt the BAWSCA pay schedules for FY 2020-21 through FY 2024-25.

The CEO/GM informed CalPERS of her intended retirement in June 2024 and staff and legal counsel have been diligently working to resolve issues raised by CalPERS. Through this effort, CalPERS informed the CEO/GM and legal counsel of the need to take the proposed action to fully comply with PERL and Title 2 CCR § 570.5 in advance of the CEO/GM's retirement date.

The Pay Schedules have been revised from when presented to the Board Policy Committee to address formatting advice from CalPERS. There are two (2) Pay Schedules for each fiscal year reflecting the pay schedules in effect on July 1, the beginning of each fiscal year, and the updated pay schedules as of September 30, reflecting the CEO/GM compensation adjustments authorized and approved by the Board.

Following the Board's action, the approved and adopted Pay Schedules will be posted on BAWSCA's publicly accessible website and formally transmitted to CalPERS.

Attachments:

1. BAWSCA Retroactive Pay Schedules FY 2020-21 through FY 2024-25.

BAWSCA
Bay Area Water Supply & Conservation Agency

This document has been prepared for the specific purposes of compliance with California Code of Regulations (CCR) 570.5 and was last approved and adopted by the Board of Directors on November 21, 2024

Salary Schedule Effective July 1, 2020

Classification	Annual Minimum	Annual Maximum
Chief Executive Officer / General Manager	$179,755	$270,000
Finance Manager	$148,066	$185,082
Water Resources Manager	$169,248	$211,560
Senior Water Resources Specialist	$130,971	$163,714
Water Resources Specialist	$100,380	$125,474
Assistant to the CEO	$94,728	$118,410
Office Manager	$100,541	$125,676
Office Assistant	$62,093	$77,619

BAWSCA
Bay Area Water Supply & Conservation Agency

This document has been prepared for the specific purposes of compliance with California Code of Regulations (CCR) 570.5 and was last approved and adopted by the Board of Directors on November 21, 2024

Salary Schedule Effective September 30, 2020

Classification	Annual Minimum	Annual Maximum
Chief Executive Officer / General Manager	$179,755	$285,000
Finance Manager	$148,066	$185,082
Water Resources Manager	$169,248	$211,560
Senior Water Resources Specialist	$130,971	$163,714
Water Resources Specialist	$100,380	$125,474
Assistant to the CEO	$94,728	$118,410
Office Manager	$100,541	$125,676
Office Assistant	$62,093	$77,619

BAWSCA
Bay Area Water Supply & Conservation Agency

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Salary Schedule Effective July 1, 2021

Classification	Annual Minimum	Annual Maximum
Chief Executive Officer / General Manager	$179,755	$285,000
Finance Manager	$151,249	$189,061
Water Resources Manager	$172,887	$216,108
Senior Water Resources Specialist	$133,787	$167,234
Water Resources Specialist	$102,538	$128,172
Assistant to the CEO	$108,449	$135,624
Office Manager	$104,911	$131,138
Office Assistant	$63,428	$79,285

BAWSCA
Bay Area Water Supply & Conservation Agency

This document has been prepared for the specific purposes of compliance with California Code of Regulations (CCR) 570.5 and was last approved and adopted by the Board of Directors on November 21, 2024

Salary Schedule Effective September 30, 2021

Classification	Annual Minimum	Annual Maximum
Chief Executive Officer / General Manager	$179,755	$297,675
Finance Manager	$151,249	$189,061
Water Resources Manager	$172,887	$216,108
Senior Water Resources Specialist	$133,787	$167,234
Water Resources Specialist	$102,538	$128,172
Assistant to the CEO	$108,449	$135,624
Office Manager	$104,911	$131,138
Office Assistant	$63,428	$79,285

BAWSCA
Bay Area Water Supply & Conservation Agency

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Salary Schedule Effective July 1, 2022

Classification	Annual Minimum	Annual Maximum
Chief Executive Officer / General Manager	$179,755	$297,675
Finance Manager	$159,598	$199,497
Water Resources Manager	$182,430	$228,037
Senior Water Resources Specialist	$141,172	$176,465
Water Resources Specialist	$108,198	$135,427
Assistant to the CEO	$114,490	$143,112
Office Manager	$108,371	$135,464
Office Assistant	$66,929	$83,661

BAWSCA
Bay Area Water Supply & Conservation Agency

This document has been prepared for the specific purposes of compliance with California Code of Regulations (CCR) 570.5 and was last approved and adopted by the Board of Directors on November 21, 2024

Salary Schedule Effective September 30, 2022

Classification	Annual Minimum	Annual Maximum
Chief Executive Officer / General Manager	$179,755	$318,512
Finance Manager	$159,598	$199,497
Water Resources Manager	$182,430	$228,037
Senior Water Resources Specialist	$141,172	$176,465
Water Resources Specialist	$108,198	$135,427
Assistant to the CEO	$114,490	$143,112
Office Manager	$108,371	$135,464
Office Assistant	$66,929	$83,661

BAWSCA
Bay Area Water Supply & Conservation Agency

This document has been prepared for the specific purposes of compliance with California Code of Regulations (CCR) 570.5 and was last approved and adopted by the Board of Directors on November 21, 2024

Salary Schedule Effective July 1, 2023

Classification	Annual Minimum	Annual Maximum
Chief Executive Officer / General Manager	$179,755	$318,512
Finance Manager	$171,997	$214,996
Water Resources Manager	$192,976	$241,220
Senior Water Resources Specialist	$149,771	$187,214
Water Resources Specialist	$121,924	$152,405
Assistant to the CEO	$121,228	$151,535
Office Manager	$115,430	$144,287
Office Assistant	$74,790	$93,487

BAWSCA
Bay Area Water Supply & Conservation Agency

This document has been prepared for the specific purposes of compliance with California Code of Regulations (CCR) 570.5 and was last approved and adopted by the Board of Directors on November 21, 2024

Salary Schedule Effective September 30, 2023

Classification	Annual Minimum	Annual Maximum
Chief Executive Officer / General Manager	$179,755	$333,259
Finance Manager	$171,997	$214,996
Water Resources Manager	$192,976	$241,220
Senior Water Resources Specialist	$149,771	$187,214
Water Resources Specialist	$121,924	$152,405
Assistant to the CEO	$121,228	$151,535
Office Manager	$115,430	$144,287
Office Assistant	$74,790	$93,487

BAWSCA
Bay Area Water Supply & Conservation Agency

This document has been prepared for the specific purposes of compliance with California Code of Regulations (CCR) 570.5 and was last approved and adopted by the Board of Directors on November 21, 2024

Salary Schedule Effective July 1, 2024

Classification	Annual Minimum	Annual Maximum
Chief Executive Officer / General Manager	$179,755	$333,259
Finance Manager	$176,808	$221,009
Water Resources Manager	$198,374	$247,967
Senior Water Resources Specialist	$153,960	$192,450
Water Resources Specialist	$125,334	$156,668
Assistant to the CEO	$124,619	$155,773
Office Manager	$118,658	$148,323
Office Assistant	$76,881	$96,102

Bay Area Water Supply & Conservation Agency

This document has been prepared for the specific purposes of compliance with California Code of Regulations (CCR) 570.5 and was last approved and adopted by the Board of Directors on November 21, 2024

Salary Schedule Effective September 30, 2024

Classification	Annual Minimum	Annual Maximum
Chief Executive Officer / General Manager	$179,755	$344,166
Finance Manager	$176,808	$221,009
Water Resources Manager	$198,374	$247,967
Senior Water Resources Specialist	$153,960	$192,450
Water Resources Specialist	$125,334	$156,668
Assistant to the CEO	$124,619	$155,773
Office Manager	$118,658	$148,323
Office Assistant	$76,881	$96,102

BAY AREA WATER SUPPLY AND CONSERVATION AGENCY

VALUATION OF RETIREE HEALTH BENEFITS

REPORT OF GASB 75 ACTUARIAL VALUATION AS OF JUNE 30, 2024

Prepared by: North Bay Pensions LLC
October 28, 2024

Contents of This Report

Actuarial Certification

This report presents the determination of benefit obligations under **Statement No. 75 of the Governmental Accounting Standards Board (GASB 75)** as of June 30, 2024 for the retiree health and welfare benefits provided by the Bay Area Water Supply and Conservation Agency (BAWSCA). I was retained by BAWSCA to perform these calculations.

GASB Statement 75, "Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions", was issued to provide standards for governmental employers to record expense for **Other Postemployment Benefits (OPEB)**.

The information contained in this report was based on a participant census as of June 30, 2024 provided to me by BAWSCA. The actuarial assumptions and methods used in this valuation were selected by BAWSCA after consultation with me. I believe the assumptions and methods are reasonable and appropriate for purposes of actuarial computations under GASB 75.

Actuarial computations under GASB 75 are for purposes of fulfilling employer accounting requirements. The calculations reported herein have been made on a basis consistent with my understanding of GASB 75. Determinations for purposes other than meeting employer financial accounting requirements may be significantly different from the results reported herein. Due to the limited scope of my assignment, I did not perform an analysis of the potential range of future measurements.

To the best of my knowledge, this report is complete and accurate. This valuation has been conducted in accordance with generally accepted actuarial principles and practices. The undersigned is a Fellow of the Society of Actuaries, a Fellow of the Conference of Consulting Actuaries, and a Member of the American Academy of Actuaries, and meets their continuing education requirements and qualification standards for public statements of actuarial opinion relating to retirement plans. In my opinion, I am qualified to perform this valuation.

10-28-24

Nick Franceschine, F.S.A.

North Bay Pensions LLC
550 Du Franc Avenue
Sebastopol, CA 95472
707-824-9600
nick@northbaypensions.com

Summary of Results

Background

The Bay Area Water Supply and Conservation Agency (BAWSCA) pays monthly medical insurance premiums on behalf of retired former employees. As of June 30, 2024, BAWSCA has accumulated $1,271,560 in the CalPERS CERBT (California Employers' Retirement Benefit Trust) toward the cost of future benefits.

In June 2015, the Governmental Accounting Standards Board (GASB) released Statement No. 75, "Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions". This statement, often referred to as **GASB 75**, requires governmental entities to (1) record annual expense for their OPEB and (2) disclose certain information in their year-end financial statements.

BAWSCA has requested this actuarial valuation to determine what its OPEB obligations under the program are, and what the impact of GASB 75 will be for the 2024-2025 year. This report also includes GASB 75 results that were accrued and disclosed by BAWSCA during the 2023-2024 year.

Actuarial Present Value of Projected Benefit Payments

The Actuarial Present Value of Projected Benefit Payments (APVPBP) for all current and former employees, as of June 30, 2024, is **$3,057,699**. This is the amount BAWSCA would theoretically need to set aside at this time to fully fund all those future benefits.

The total value of $3,057,699 is the sum of these amounts:

Future benefits of current employees	$ 2,541,022
Future benefits of current retirees	516,677
APVPBP	$ 3,057,699

This figure may be compared to the APVPBP of $2,573,809 that was shown in the 2023 valuation report. We would have expected the APVPBP to increase to approximately $2,687,000 by 2024 as employees continue working and approach retirement age. The difference between the 2023 figure of $2,573,809 and this year's figure of $3,057,699 is:

• Expected increase in the APVPBP since 2023	$ 112,783
• Changes in medical premiums	346,194
• Miscellaneous experience gains and losses	24,913
Total of changes	$ 483,890

These figures are computed by (1) estimating the OPEB benefits that will be paid to each current and former employee and their beneficiaries (if applicable), upon the employee's

retirement from BAWSCA, (2) estimating the likelihood that each payment will be made, taking into consideration the likelihood of remaining employed until retirement age and the likelihood of survival after retirement, and (3) discounting each expected future payment back to the present date at an assumed rate of investment return.

Net OPEB Liability

The **Total OPEB Liability** (TOL) is the portion of the APVPBP which has been "earned" by employees based on past years of service (i.e. benefits allocated to past years of service).

The **Plan Fiduciary Net Position** (FNP) is equal to the value of assets that have been accumulated in an irrevocable trust for these benefits.

The **Net OPEB Liability** or **Asset** (NOL) is the excess of the Total OPEB Liability over the Plan Fiduciary Net Position. At the end of each fiscal year, BAWSCA must show a liability equal to the NOL.

At June 30, 2023 and June 30, 2024, these amounts are:

	June 30, 2023	June 30, 2024
Present value of benefits for employees	$ 1,554,414	$ 1,937,694
Present value of benefits for retirees	452,521	516,677
Total OPEB Liability	$ 2,006,935	$ 2,454,371
Accumulated assets in the CERBT trust	$ 1,099,366	$ 1,271,560
Plan Fiduciary Net Position	$ 1,099,366	$ 1,271,560
Net OPEB Liability	$ 907,569	$ 1,182,811

OPEB Expense under GASB 75

GASB 75 requires that the annual change in the NOL be recognized as OPEB expense, except for certain specific changes which are to be recognized over different periods of time. Changes in actuarial assumptions, and experience gains and losses, are to be recognized over the average of the expected remaining service lives of all employees. This average for BAWSCA employees is 7.5 years. Differences between actual and expected investment earnings are to be recognized over 5 years. The unrecognized remaining amounts of assumption changes, experience gains/losses and investment earnings differences are called "deferred outflows and inflows of resources relating to OPEB" (see Exhibit 5).

The OPEB Expense for the fiscal year ending June 30, 2024 is **$123,703**. For the year ending June 30, 2025, the OPEB Expense is **$171,328**. Derivations of these amounts are shown in Exhibit 4.

The increase from $123,703 in FY24 to $171,328 in FY25 is mostly from higher medical premiums this year than anticipated.

Disclosure Information as of June 30, 2024 and June 30, 2025

Amounts to be disclosed in the footnotes to BAWSCA's audited financial statements as of June 30, 2024 and as of June 30, 2025 are shown in Exhibits 2 through 6 of this report. Numbers labelled as "June 30, 2023" are to be disclosed at June 30, 2024. Numbers labelled as "June 30, 2024" are to be disclosed at June 30, 2025.

Exhibit 7 shows estimated retiree benefits and OPEB expense for the next ten years.

Actuarial Assumptions

All actuarial assumptions are unchanged from the June 30, 2023 valuation, and are described in more detail in Exhibit 9.

Funding Strategy

BAWSCA has requested a calculation of an amount to budget for funding into CERBT for 2025-2026. The previous funding pattern was $80,000 per year, with the expectation that the Net OPEB Liability would be reduced to $0 by approximately 2036.

The higher medical premiums this year have significantly altered the forecast of future liabilities. To be consistent with the prior objective of full funding by 2036, I suggest these contributions for the 2025-2026 year:

Estimated amount to contribute to CERBT	$ 85,000
Expected benefits to retirees 2025-2026	61,000
Estimated implicit subsidy 2025-2026	3,000
Total	**$ 149,000**

Assuming 5.5% investment return each year, and assuming that BAWSCA contributes $85,000 to the CERBT trust each year, **it is estimated that the Net OPEB Liability will be reduced to $0 approximately in the year 2036**. This estimate also assumes no significant changes in the workforce, in the promised schedule of benefits, or in the actuarial assumptions. Obviously, this is a very rough estimate of a number many years in the future, and should be regarded in that light.

Exhibit 1 - Actuarial Values as of June 30, 2024

The Actuarial Present Value of Projected Benefit Payments (APVPBP) as of June 30, 2024 of all future employer-paid benefits from the program, for all current and former employees, is as follows:

	Actuarial Present Values	Number of Persons
Current Employees	$ 2,541,022	9
Retired Employees	516,677	3
	$ 3,057,699	12

As of June 30, 2024, BAWSCA has accumulated $1,271,560 in an irrevocable trust toward this liability.

The Total OPEB Liability (TOL) as of June 30, 2024 is the portion of the APVPBP which has been "earned" to date by current and former employees, based on the years of service already completed:

Current employees	$ 1,937,694
Retired former employees	516,677
Totals	$ 2,454,371

Summary of Participating Employees as of June 30, 2024

Active Employees

Number	9 employees
Average Age	50.9 years
Average Service	11.8 years

Retired Former Employees and Surviving Spouses

Number of Retirees	3 persons
Number of Dependent Spouses	3 persons
Average Age of Retirees	76.0 years

Exhibit 2 - Net OPEB Liability

The Net OPEB Liability (NOL) is the excess of the Total OPEB Liability (TOL) over the Plan Fiduciary Net Position (FNP). As of June 30, 2022; June 30, 2023; and June 30, 2024 these are:

	June 30, 2022	June 30, 2023	June 30, 2024
Total OPEB Liability			
Value of benefits for employees	$ 1,367,543	$ 1,554,414	$ 1,937,694
Value of benefits for retirees	434,781	452,521	516,677
Total OPEB Liability	$ 1,802,324	$ 2,006,935	$ 2,454,371
Plan Fiduciary Net Position			
Fair value of assets in CERBT	$ 994,254	$ 1,099,366	$ 1,271,560
Plan Fiduciary Net Position	$ 994,254	$ 1,099,366	$ 1,271,560
Net OPEB Liability	$ 808,070	$ 907,569	$ 1,182,811

The Net OPEB Liability has changed from June 30, 2022 to June 30, 2023 in this way:

	TOL	FNP	NOL
Values at June 30, 2022	$ 1,802,324	$ 994,254	$ 808,070
Service cost	82,889		82,889
Interest	98,353		98,353
Differences between actual and expected experience	51,531		51,531
Assumption changes	0		0
Employer contributions		98,162	(98,162)
Net investment income		35,630	(35,630)
Benefits paid to retirees	(28,162)	(28,162)	0
Administrative expense		(518)	518
Net changes	$ 204,611	$ 105,112	$ 99,499
Values at June 30, 2023	$ 2,006,935	$ 1,099,366	$ 907,569

The Net OPEB Liability has changed from June 30, 2023 to June 30, 2024 in this way:

	TOL	FNP	NOL
Values at June 30, 2023	$ 2,006,935	$ 1,099,366	$ 907,569
Service cost	93,083		93,083
Interest	109,611		109,611
Differences between actual and expected experience	272,748		272,748
Assumption changes	0		0
Employer contributions		106,006	(106,006)
Net investment income		94,781	(94,781)
Benefits paid to retirees	(28,006)	(28,006)	0
Administrative expense		(587)	587
Net changes	$ 447,436	$ 172,194	$ 275,242
Values at June 30, 2024	$ 2,454,371	$ 1,271,560	$ 1,182,811

Exhibit 3 - Sensitivity of the Net OPEB Liability

The following presents the Net OPEB Liability (NOL) as well as what the NOL would be if it were calculated using a discount rate that is 1-percentage-point higher or lower than the current discount rate, as of June 30, 2023 and June 30, 2024:

	1% Decrease	Discount Rate	1% Increase
Discount rate	4.50 %	5.50 %	6.50 %
Net OPEB Liability 6-30-2023	$ 1,277,348	$ 907,569	$ 616,990
Net OPEB Liability 6-30-2024	$ 1,633,144	$ 1,182,811	$ 828,776

The following presents the Net OPEB Liability (NOL) as well as what the NOL would be if it were calculated using healthcare cost trend rates that are 1-percentage-point higher or lower than the current healthcare cost trend rates, as of June 30, 2023 and June 30, 2024:

	1% Decrease	Trend Rate	1% Increase
Trend rate	4.5 %	5.5 %	6.5 %
Net OPEB Liability 6-30-2023	$ 613,508	$ 907,569	$ 1,278,933
Net OPEB Liability 6-30-2024	$ 823,884	$ 1,182,811	$ 1,636,569

Exhibit 4 - OPEB Expense for the Fiscal Year Ending June 30, 2025

For the year ending June 30, 2024, BAWSCA recognized OPEB expense of **$123,703**, computed as follows:

Service cost	$ 82,889
Interest	98,353
Expected investment return	(54,670)
Administrative expense	518
Change in NOL due to changes in benefits	0
Recognition of difference between actual and expected experience	(29,135)
Recognition of changes in assumptions	8,638
Recognition of difference between projected and actual earnings on investments	17,110
Total	**$ 123,703**

For the year ending June 30, 2025, BAWSCA will recognize OPEB expense of **$171,328**, computed as follows:

Service cost	$ 93,083
Interest	109,611
Expected investment return	(60,449)
Administrative expense	587
Change in NOL due to changes in benefits	0
Recognition of difference between actual and expected experience	7,231
Recognition of changes in assumptions	8,638
Recognition of difference between projected and actual earnings on investments	12,627
Total	**$ 171,328**

Exhibit 5 - Deferred Outflows and Inflows of Resources

The values of deferred outflows and inflows of resources related to OPEB as of June 30, 2023, **to be reported as of June 30, 2024**, are:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$ 87,553	$ 157,310
Changes of assumptions	53,328	1,326
Net difference between projected and actual earnings on OPEB plan investments	138,501	50,547
BAWSCA contributions subsequent to the measurement date	106,006	0
Total	$ 385,388	$ 209,183

Amounts reported as deferred outflows and inflows of resources related to OPEB as of June 30, 2023, **to be reported as of June 30, 2024**, will be recognized in OPEB expense as follows:

Year Ended June 30	
2025	$ (1,004)
2026	(741)
2027	24,400
2028	7,144
2029	14,828
Thereafter	25,572

The values of deferred outflows and inflows of resources related to OPEB as of June 30, 2024, **to be reported as of June 30, 2025**, are:

	Deferred Outflows of Resources	**Deferred Inflows of Resources**
Differences between expected and actual experience	$ 310,003	$ 114,243
Changes of assumptions	44,289	925
Net difference between projected and actual earnings on OPEB plan investments	93,603	52,608
BAWSCA contributions subsequent to the measurement date	UNKNOWN	0
Total	$	$ 167,776

"UNKNOWN" is the total of amounts contributed by BAWSCA to retirees' benefits and to the CERBT trust **during the 12 months ending June 30, 2025**. This is the sum of (1) the total contributions to CERBT ($80,000), (2) the actual benefits paid to/for retirees during the 12 months ending June 30, 2025, and (3) the implicit subsidy of $773.

Amounts reported as deferred outflows and inflows of resources related to OPEB as of June 30, 2024, **to be reported as of June 30, 2025**, will be recognized in OPEB expense as follows:

Year Ended June 30	
2026	$ 28,759
2027	53,900
2028	36,644
2029	44,326
2030	57,251
Thereafter	59,239

Exhibit 6 - Schedule of Changes in the Net OPEB Liability

Reporting date	**6/30/2023**	**6/30/2024**
Total OPEB liability		
Service cost	$ 82,889	$ 93,083
Interest	98,353	109,611
Changes of benefit terms	0	0
Differences between actual and expected experience	51,531	272,748
Changes of assumptions	0	0
Benefits paid to retirees	(28,162)	(28,006)
Net change in Total OPEB liability	204,611	447,436
Total OPEB liability – beginning	1,802,324	2,006,935
Total OPEB liability – ending	$ 2,006,935	$ 2,454,371
Plan fiduciary net position		
Contributions – employer	$ 98,162	$ 106,006
Net investment income	35,630	94,781
Benefits paid to retirees	(28,162)	(28,006)
Administrative expense	(518)	(587)
Net change in plan fiduciary net position	105,112	172,194
Plan fiduciary net position - beginning	994,254	1,099,366
Plan fiduciary net position - ending	$ 1,099,366	$ 1,271,560
Net OPEB Liability – ending	$ 907,569	$ 1,182,811
Plan fiduciary net position as a percentage of the Total OPEB liability	54.78 %	51.81 %
Covered-employee payroll	$ 1,437,060	$ 1,575,217
Net OPEB liability as a percentage of covered-employee payroll	63.15 %	75.09 %

Exhibit 7 - Ten-Year Projection of Costs

Shown below are estimates of (a) the benefits expected to be paid to retirees, and (b) the amounts BAWSCA is expected to accrue as GASB 75 OPEB expense, for the next ten years. For these estimates, it is assumed that all actuarial assumptions and the size of the workforce will remain unchanged, that the promised benefits will remain the same, that BAWSCA will contribute $85,000 to the CERBT each year, that there are no experience gains or losses, and that the CERBT trust will earn 5.5% each year.

Fiscal Year Ending:	Employer-Paid Retiree Payments	Projected Implicit Rate Subsidy Payments	GASB 75 OPEB Expense
2025	$ 48,000	$ 773	$ 171,328
2026	61,000	3,393	150,000
2027	72,000	5,000	176,000
2028	89,000	9,000	158,000
2029	105,000	13,000	165,000
2030	114,000	12,000	161,000
2031	123,000	13,000	141,000
2032	126,000	10,000	114,000
2033	126,000	7,000	90,000
2034	140,000	11,000	85,000

Exhibit 8 - Summary of Benefit Provisions

BAWSCA contributes toward post-retirement benefits for employees who retire after age 50 with at least 5 years of service. For employees new to CalPERS on or after January 1, 2013, the minimum retirement age is 52.

Retired employees may select any of the medical plans offered by CalPERS. BAWSCA pays the full amount of the monthly medical premium, subject to a phase-in under the "unequal contribution" method, which phases in to the full premium amount over a period of years. The retiree may cover dependents, and may add dependents after retirement if a qualifying event occurs. Payments are made for the lifetime of the retired employee and dependent spouse.

No dental, vision or other post-retirement benefits are provided to retired employees.

Exhibit 9 - Summary of Actuarial Assumptions

Actuarial Assumptions: The following assumptions as of June 30, 2024 were selected by BAWSCA in accordance with the requirements of GASB 75. These assumptions, in my opinion, are reasonable and appropriate for purposes of determining OPEB costs under GASB 75.

Long-Term Expected Rate of Return on Investments: Recently, CalPERS changed its expected 20-year rate of return for CERBT investment strategy #2 from 5.5% to 6.1%. To be conservative, BAWSCA has decided to keep 5.5% as its best estimate of the long-term expected rate of return for the CERBT investments.

Discount rate: 5.5% per year. The cash flows of the OPEB plan were projected to future years, assuming that BAWSCA will contribute an amount so that the assets always exceed expected benefits to retirees. Under that projection, the plan assets are projected to be adequate to pay all benefits to retirees in all future years, so the discount rate has been set equal to the long-term expected rate of return on investments, 5.5%.

Medical Cost Increases (Trend): Medical premium amounts are assumed to increase 5.5% per year.

Payroll Growth: Total payroll is assumed to increase 3.0% per year in the future.

Coverage Elections: 100% of future eligible retired employees who have current medical coverage are assumed to participate in this program. Employees are assumed to keep the same medical plan and marital status after retirement that they have while employed. Male spouses are assumed to be 3 years older than females.

Mortality: Mortality rates are taken from the 2021 valuation of CalPERS, projected to future years with the ultimate rates of projection scale MP-2021.

Funding Method: The Entry Age actuarial cost method has been used, with normal costs calculated as a level percentage of payroll, as required by GASB 75.

Retirement: Rates are taken from the 2021 CalPERS valuation for miscellaneous public employees with a 2% at age 55 retirement formula. Sample rates:

	10 Years Service	20 Years Service	30 Years Service
Age 55	4.2 %	8.6 %	12.3 %
Age 58	4.4 %	7.4 %	12.3 %
Age 61	7.4 %	10.7 %	16.8 %
Age 64	13.8 %	19.0 %	22.8 %

Disability: Incidence of disability is considered to be included in the termination and retirement rates here, so no explicit recognition of disablement has been included.

Turnover (withdrawal): Likelihood of termination within the next year is taken from the 2021 CalPERS pension valuation for "public agency miscellaneous". Sample rates are:

	5 Years Service	10 Years Service	15 Years Service
Males			
Age 20	8.433 %		
Age 30	8.040 %	3.770 %	1.804 %
Age 40	6.265 %	3.372 %	1.804 %
Age 50	4.971 %	2.449 %	1.515 %
Females			
Age 20	8.833 %		
Age 30	8.615 %	4.915 %	2.516 %
Age 40	6.702 %	4.358 %	2.516 %
Age 50	5.343 %	2.999 %	1.738 %

Inflation: Long-term inflation is assumed to be 2.75% per year.

Age-Specific Medical Claims: The estimated per person medical claims (true costs of coverage) during the 2024-2025 fiscal year are as follows (rates are shown for certain ages only):

Age	Annual Claims
40	$ 9,635
45	11,649
50	14,392
55	17,750
60	20,689
64	22,197

These age-specific rates were developed so as to reproduce in the aggregate the same total premium that would be paid to the carriers for all current employees and all current retirees.

CHEIRON

Classic Values, Innovative Advice

City and County of San Francisco Postretirement Health Plan

GASB 74/75 Report
June 30, 2022 Measurement Date for June 30, 2023 Reporting Date

Produced by Cheiron

December 2023

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SECTION I – BOARD SUMMARY

The purpose of this report is to provide accounting and financial reporting information under the Governmental Accounting Standards Board Statements No. 74 and No. 75 (GASB 74 and GASB 75) for the City and County of San Francisco Postretirement Health Plan. This information includes:

- Determination of the discount rate as of the measurement date;
- Sensitivity of the Net OPEB Liability to changes in discount rates and health care cost trend rates;
- Changes in the Net OPEB Liability;
- Schedule of Employer Contributions;
- Disclosure of Deferred Inflows and Outflows; and,
- Calculation of the Annual OPEB Expense for the City and County of San Francisco.

Numbers in the tables in this report may not add due to rounding.

Highlights

The measurement date for GASB 74 and 75 is June 30, 2022. Measurements are based on the fair value of assets as of June 30, 2022 and the Total OPEB Liability as of the valuation date, which is also June 30, 2022. For this plan, valuations are conducted every other year, and each valuation is used as the basis for two years of reporting and disclosure of the Total OPEB Liability under GASB 74 and 75.

The table on the next page provides a summary of the key results during this measurement period. For GASB 74 reporting purposes, only the Net OPEB Liability applies.

SECTION I – BOARD SUMMARY

Summary of Results

	Measurement Date 6/30/2022	6/30/2021
Net OPEB Liability	$ 3,746,270	$ 3,691,122
Deferred Outflows	(564,062)	(519,760)
Deferred Inflows	623,705	638,225
Net Impact on Statement of Net Position	$ 3,805,913	$ 3,809,587
Contributions Subsequent to Measurement Date (Included in Deferred Outflows Above)		
Contributions to Trust	$ 45,241	$ 41,841
Benefit Payments	215,408	211,025
Total	$ 260,649	$ 252,866
OPEB Expense ($ Amount)	$ 256,974	$ 272,001
OPEB Expense (% of Payroll)	6.14%	6.88%

Amounts in Thousands

The Net OPEB Liability (NOL) increased approximately $55 million since the prior measurement date compared to an expected increase of $88 million. Experience gains, primarily due to lower premiums than expected, offset by investment losses and assumption changes caused the lower-than-expected increase in NOL.

Plan changes are recognized immediately, investment gains and losses are recognized over five years, and experience gains and losses and assumption changes are recognized over the average remaining service life, which is six years. Unrecognized amounts are reported as deferred outflows and deferred inflows of resources.

As of June 30, 2023, the end of the reporting year, the City and County reports a Net OPEB Liability of $3,746,270,000, Deferred Outflows of $564,062,000, and Deferred Inflows of $623,705,000. Consequently, the net impact on the City and County's Statements of Net Position is $3,805,913,000 at the end of the reporting year. Contributions of $260,649,000 between the measurement date (June 30, 2022) and the City and County's reporting date (June 30, 2023) are reported as deferred outflows to offset the cash outflow reported and are included in the figures above.

For the fiscal year ending June 30, 2023, the OPEB Expense is $256,974,000, or 6.14% of covered payroll. Volatility in OPEB Expense from year to year is to be expected given the immediate recognition of plan changes and the short recognition periods for investment gains and losses, assumption changes, and liability gains and losses. A breakdown of the components of the OPEB Expense is shown in Section V of this report – GASB 75 Reporting Information.

SECTION I – BOARD SUMMARY

Reconciliation to Prior Valuation Results

The table below compares the Total OPEB Liability and service cost under GASB 74 and 75 as of June 30, 2022 to the prior valuation of June 30, 2020. The service cost shown in this table is for the year beginning on the valuation date, so it differs from the amount shown in the OPEB Expense calculation for the measurement year ending on the valuation date.

Comparison of Results to Prior Valuation		
Valuation Date	**6/30/2022**	**6/30/2020**
Discount Rate	7.00%	7.00%
Total OPEB Liability		
Actives	$ 1,596,373	$ 1,614,663
Terminated Vested Members	412,297	391,069
Retirees	2,477,480	2,306,591
Total	$ 4,486,150	$ 4,312,323
Service Cost (at middle of year)	$ 136,612	$ 146,242

Amounts in Thousands

The following table shows the impact of the primary sources contributing to the change in Total OPEB Liability and service cost since the prior actuarial valuation. Note that the expected values as of June 30, 2022 are based on assumptions and methods from the prior valuation.

Reconciliation of Results to Prior Valuation		
	Total OPEB Liability	**Service Cost**
Expected Value, June 30, 2022	$ 4,847,417	$ 162,908
Demographic Changes	$ (16,148)	$ (14,482)
Actual Claims and Premiums	(394,903)	(11,139)
Assumption Changes	49,784	(675)
Total Changes	$ (361,267)	$ (26,296)
Actual Value, June 30, 2022	$ 4,486,150	$ 136,612

Amounts in Thousands

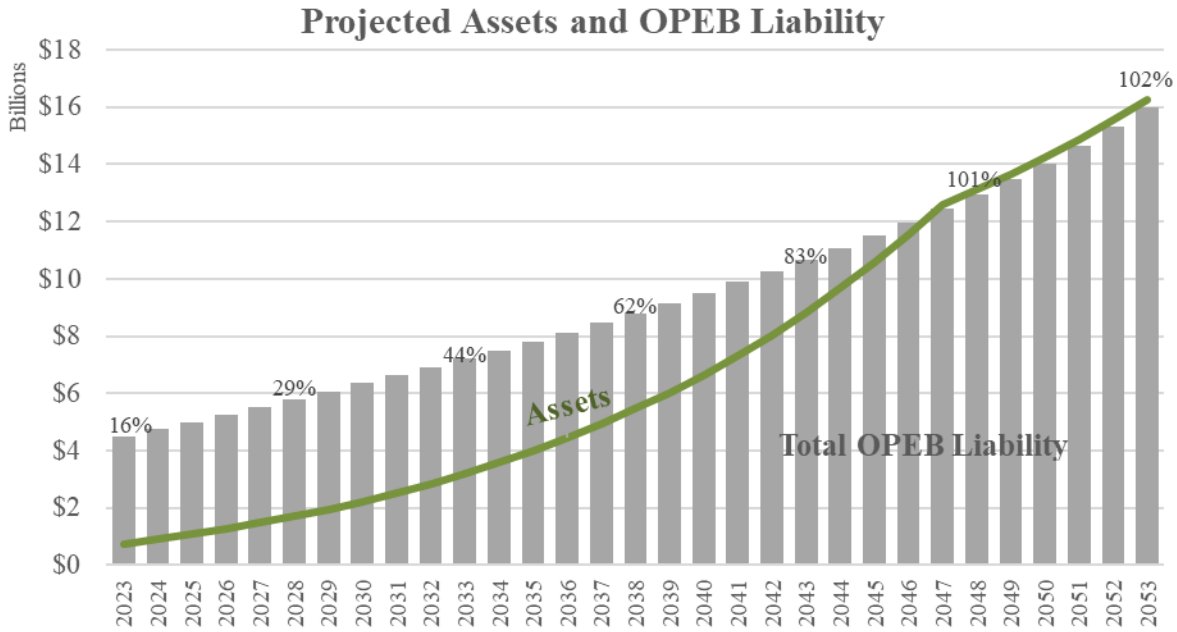
SECTION I – BOARD SUMMARY

Below is a brief description of each of the changes shown in the previous table:

- The *Expected Value* is what the Total OPEB Liability and service cost would have been had experience matched all the assumptions between June 30, 2020 and June 30, 2022.
- The *Demographic Changes* represent the impact of population changes between June 30, 2020 and June 30, 2022.
- The *Actual Claims and Premiums* represent the impact of the difference between actual health care claims, expense costs, and premiums adopted as of the measurement date compared to the projected costs using the assumptions from the June 30, 2020 valuation.
- The *Assumption Changes* represent the impact of changes to the health care trend assumptions and OPEB-specific demographic assumptions (including participation, plan election, etc.). The assumption changes are described in Appendix B of this report – Actuarial Assumptions and Methods.

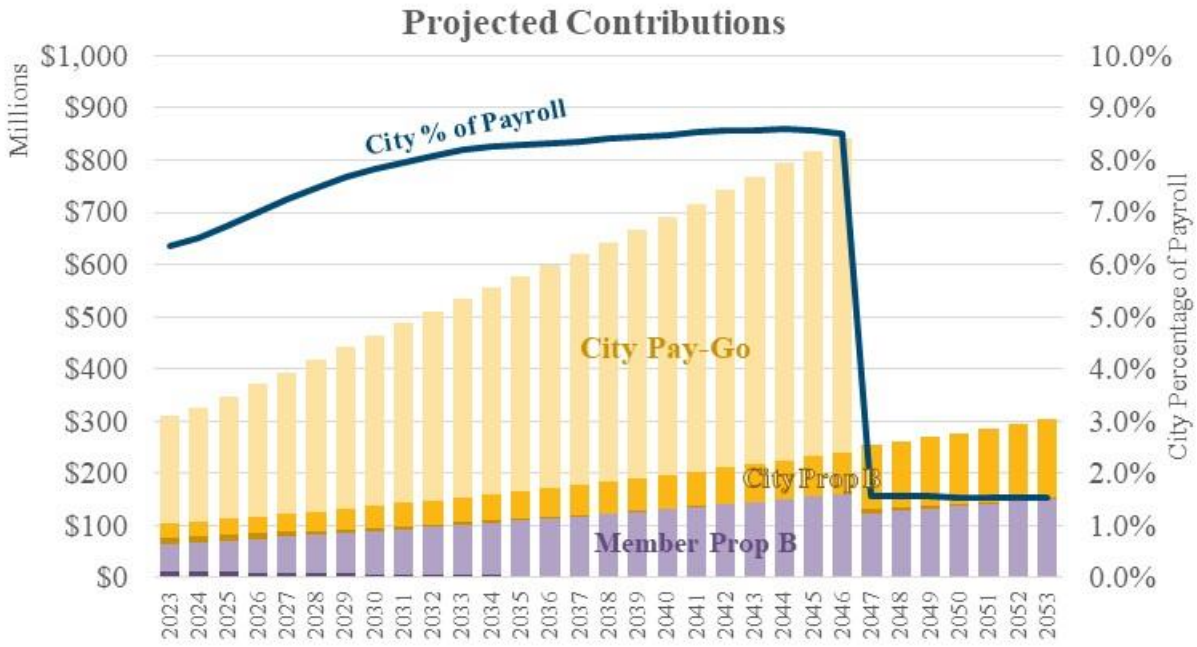
Funding Projections

The chart below shows the projected growth of the Total OPEB Liability and the assets in the Retiree Health Care Trust Fund (RHCTF) over the next 30 years. The plan is expected to grow from 16% funded to 102% funded over the 30-year period if all assumptions are met, including the 7.0% expected return on assets. Benefits cannot be paid from the RHCTF until the plan is 100% funded.



SECTION I – BOARD SUMMARY

Contributions to fund the OPEB plan are defined in the Charter and are not actuarially determined. Until the plan is 100% funded, Pre-Prop B members contribute 1% of pay and Prop B members contribute 2% of pay while the City contributes 1% of pay and pays the benefits on a pay-as-you-go (Pay-Go) basis each year. If the City's contributions exceed 10% of payroll, there are some potential adjustments that are described in detail in Section III and Appendix C of the report. Once the plan is 100% funded, members pay 50% of the normal cost up to 2% of pay (1% if Pre-Prop B) and the City pays the remainder of the normal cost. The following chart shows the projected contributions over the next 30 years.



Member contributions are shown as purple bars with the darker purple for Pre-Prop B members. City contributions are shown as gold bars with dark gold for Pre-Prop B members, medium gold for Prop B members, and light gold for the pay-as-you-go benefit payments. The blue line represents total City contributions as a percentage of payroll. If all assumptions are met, City contributions do not reach the 10% of payroll threshold and contributions drop significantly in 2047 when the plan is projected to reach 100% funding.

Details of the contribution and disbursement structure both before and after full funding are provided in Appendix C – Summary of Plan Provisions.

SECTION II – CERTIFICATION

The purpose of this report is to provide accounting and financial reporting information under GASB No. 74 for the City and County of San Francisco Postretirement Health Plan (Plan) and under GASB No. 75 for the City and County of San Francisco. This report is for the use of the City and County of San Francisco and its auditors in preparing financial reports in accordance with applicable law and accounting requirements. This report is not appropriate for other purposes, including the calculation of actuarially determined contributions.

In preparing our report, we relied on information (some oral and some written) supplied by the City and County of San Francisco (CCSF), the Health Services System (HSS), and the San Francisco Employees' Retirement System (SFERS). This information includes, but is not limited to, the plan provisions, employee data, and financial information. We performed an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23.

The City and County of San Francisco selected the actuarial assumptions based on our analysis and recommendations. We believe the selected assumptions to be reasonable for the purpose of financial reporting under GASB Statement Nos. 74 and 75.

Medical trend assumptions were developed using the Society of Actuaries (SOA) Long-Term Health Care Cost Trends Model (Model). This Model and its baseline projection are based on an econometric analysis of historical U.S. medical expenditures and the judgments of experts in the field. The long-run baseline projection and input variables have been developed under the guidance of the SOA Project Oversight Group. We have reviewed the baseline assumptions for the Model and found them to be reasonable and consistent with the other economic assumptions used in the valuation, except the inflation (CPI) assumption. A long-term inflation assumption of 2.5% is better aligned with consensus expectations among macroeconomic forecasters and break-even inflation rates. Further rationale and detail on the parameters used in this Model can be found in Appendix B of this report – Actuarial Assumptions and Methods. We have relied on the SOA as the developer of the Model. We have reviewed the Model, have a basic understanding of the Model, and have used it in accordance with its original intended purpose. We have not identified any material inconsistencies in assumptions or output of the Model that would affect these results.

Cheiron utilizes ProVal, an actuarial valuation software leased from Winklevoss Technologies (WinTech) to calculate the liabilities, normal costs, and projected benefit payments. We have relied on WinTech as the developer of ProVal. We have reviewed ProVal and have a basic understanding of it and have used ProVal in accordance with its original intended purpose. We have not identified any material inconsistencies in assumptions or output of ProVal that would affect this actuarial valuation.

The funding projections shown in the Board Summary and the projection of future contributions shown in Appendix D – Determination of the Discount Rate are developed using an open group deterministic projection of the liabilities and assets associated with the Plan. The projection uses projected benefit payments for current members but does not include projected benefit payments for new members. This limitation is not material for the purpose of the projection as it would affect

SECTION II – CERTIFICATION

the assets and liabilities by the same amount. The projection uses standard roll-forward techniques that implicitly assume a stable active population.

Future actuarial measurements may differ significantly from the current measurements due to such factors as the following: plan experience differing from that anticipated by the assumptions; changes in assumptions; and, changes in plan provisions or applicable law.

The Inflation Reduction Act of 2022 (the Act) contains provisions that may impact the cost of benefits provided to Medicare eligible retirees. The Act provides for changes that could reduce costs and changes that could increase costs. Implementing regulations and market responses are likely to affect the net impact. Based on information currently available, we do not expect the Act to have a material impact on costs.

This report and its contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices and our understanding of the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board as well as applicable laws and regulations. Furthermore, as credentialed actuaries, collectively we meet the Qualification Standards of the American Academy of Actuaries to render the opinion contained in this report. This report does not address any contractual or legal issues. We are not attorneys, and our firm does not provide any legal services or advice.

This report was prepared exclusively for the City and County of San Francisco for the purposes described herein and for the use by the City's auditor in completing an audit related to the matters herein. Other users of this report are not intended users as defined in the Actuarial Standards of Practice, and Cheiron assumes no duty or liability to any other user.

William R. Hallmark, ASA, EA, FCA, MAAA
Consulting Actuary

Taylor Stevens, ASA, MAAA
Associate Actuary

Michael Schionning, FSA, MAAA
Principal Consulting Actuary

SECTION III – DETERMINATION OF DISCOUNT RATE

The discount rate used to measure the Total OPEB Liability was 7.00%.

Employee and City and County contributions to the Plan are set in Charter Section A8.432(a) and (b) and are not actuarially determined. Employee and City and County contributions to the Retiree Health Care Trust Fund (RHCTF) are a fixed percent of pay that varies depending on the employee's hire date, the year in which the payment is made, and whether the Trust is fully funded.

As described in Charter Section A8.432(d), before the Trust is fully funded, other than limited disbursements described below to stabilize City and County contributions and disbursements for reasonable administrative expenses, no disbursements may be made from the RHCTF. As a result, the City and County pays for all benefits on a pay-as-you-go basis while the contributions accumulate in the Trust.

If the City and County's retiree health care costs (RHCTF contributions plus benefit payments) are projected to exceed 10% of payroll, with approval of the Mayor and by resolution of the Board of Supervisors, the RHCTF Board may authorize stabilization disbursements to the extent necessary to reduce the City's retiree health care costs to 10% of payroll provided that such stabilization disbursement does not exceed 10% of the balance in the RHCTF as of the prior year.

Once the RHCTF is fully funded:

- Benefits for current retirees can be paid from the Trust,
- Employee contributions to the Trust become 50% of normal cost up to 2% of pay, and
- City and County contributions become the remainder of the normal cost not paid by employee contributions.

Details of the contribution and disbursement structure both before and after full funding are provided in Appendix C – Summary of Plan Provisions.

To determine the discount rate, we have assumed that the City and County and employees will contribute to the RHCTF at the rates specified by the Charter and disbursements from the RHCTF will continue to be limited by the Charter until it is fully funded.

A formal cash flow projection as described under Paragraph 37 of GASB Statement 75 is included in Appendix D – Determination of the Discount Rate. In performing the crossover test, we made the following conservative assumptions to simplify the test:

- In projecting when the Plan becomes fully funded, the Total OPEB Liability includes the service cost for new entrants and the assets include contributions for new entrants, but the Total OPEB Liability and assets are only reduced for projected benefit payments for current members.
- All projected administrative expenses are allocated to current members.

The projection shows that for each future period, the amount of the Plan's Fiduciary Net Position is projected to be greater than the benefit payments that are projected to be made in that period. Therefore, the long-term expected rate of return on plan investments was applied to all periods of projected benefit payments to determine the Total OPEB Liability.

SECTION IV – GASB 74 REPORTING INFORMATION

Note Disclosures

The table below shows the changes in the Total OPEB Liability (TOL), the Plan Fiduciary Net Position (i.e., fair value of Plan assets) (FNP), and the Net OPEB Liability (NOL) during the measurement period ending on June 30, 2022.

Change in Net OPEB Liability

	Increase (Decrease)		
	Total OPEB Liability	Plan Fiduciary Net Position	Net OPEB Liability
Balance at end of prior year	$ 4,409,899	$ 718,777	$ 3,691,122
Changes for the year:			
Service cost	154,799		154,799
Interest	306,758		306,758
Changes of benefits	0		0
Differences between expected and actual experience	(224,065)		(224,065)
Changes of assumptions	49,784		49,784
Contributions - employer		252,866	(252,866)
Contributions - member		66,455	(66,455)
Net investment income		(87,003)	87,003
Benefit payments	(211,025)	(211,025)	0
Administrative expense		(189)	189
Net changes	76,251	21,103	55,148
Balance at end of current year	$ 4,486,150	$ 739,880	$ 3,746,270

Amounts in Thousands

During the measurement year, the NOL increased by approximately $55 million. The service cost, interest cost, net investment income, and administrative expenses increased the NOL by approximately $549 million while contributions decreased the NOL by approximately $319 million. The assumption changes effective at the end of the measurement year increased the NOL by approximately $50 million. There were actuarial experience gains during the year of approximately $224 million.

SECTION IV – GASB 74 REPORTING INFORMATION

Changes in the discount rate affect the measurement of the TOL. Lower discount rates produce a higher TOL and higher discount rates produce a lower TOL. The table below shows the sensitivity of the NOL to the discount rate.

Sensitivity of Net OPEB Liability to Changes in Discount Rate

	1% Decrease 6.00%	Discount Rate 7.00%	1% Increase 8.00%
Total OPEB Liability	$ 5,101,268	$ 4,486,150	$ 3,981,493
Plan Fiduciary Net Position	739,880	739,880	739,880
Net OPEB Liability	$ 4,361,388	$ 3,746,270	$ 3,241,613
Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability	14.5%	16.5%	18.6%

Amounts in Thousands

A one percent decrease in the discount rate increases the TOL by approximately 14% and increases the NOL by approximately 16%. A one percent increase in the discount rate decreases the TOL by approximately 11% and decreases the NOL by approximately 13%.

SECTION IV – GASB 74 REPORTING INFORMATION

Changes in healthcare trend rates affect the measurement of the TOL. Lower healthcare trends produce a lower TOL and higher healthcare trends produce a higher TOL. The table below shows the sensitivity of the NOL to the healthcare trends.

Sensitivity of Net OPEB Liability to Changes in Healthcare Cost Trend Rates

	1% Decrease	Healthcare Trend	1% Increase
Total OPEB Liability	$ 3,944,754	$ 4,486,150	$ 5,157,684
Plan Fiduciary Net Position	739,880	739,880	739,880
Net OPEB Liability	$ 3,204,874	$ 3,746,270	$ 4,417,804
Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability	18.8%	16.5%	14.3%

Amounts in Thousands

A one percent decrease in the healthcare trends decreases the TOL by approximately 12% and decreases the NOL by approximately 14%. A one percent increase in the healthcare trends increases the TOL by approximately 15% and increases the NOL by approximately 18%.

SECTION IV – GASB 74 REPORTING INFORMATION

Required Supplementary Information

The schedules of Required Supplementary Information generally start with information as of the implementation of GASB 74 and 75, and eventually will build up to 10 years of information. The schedule that follows shows the changes in NOL and related ratios required by GASB for each measurement year since implementation. The covered payroll represents the pay on which contributions to the Retiree Health Care Trust Fund were made during the measurement year.

Schedule of Changes in Net OPEB Liability and Related Ratios

	MYE 2022	MYE 2021	MYE 2020
Total OPEB Liability			
Service cost	$ 154,799	$ 155,840	$ 141,642
Interest	306,758	300,122	314,907
Changes of benefit terms	0	0	0
Differences between expected and actual experience	(224,065)	(151,947)	(381,922)
Changes of assumptions	49,784	0	151,725
Benefit payments	(211,025)	(206,439)	(196,445)
Net change in TOL	**$ 76,251**	**$ 97,576**	**$ 29,907**
TOL - beginning	**4,409,899**	**4,312,323**	**4,282,416**
TOL - ending	**$ 4,486,150**	**$ 4,409,899**	**$ 4,312,323**
Plan fiduciary net position			
Contributions - employer	$ 252,866	$ 245,994	$ 235,963
Contributions - member	66,455	61,582	60,236
Net investment income	(87,003)	128,916	22,746
Benefit payments	(211,025)	(206,439)	(196,445)
Administrative expense	(189)	(265)	(114)
Net change in plan fiduciary net position	**$ 21,103**	**$ 229,788**	**$ 122,387**
Plan fiduciary net position - beginning	**718,777**	**488,989**	**366,602**
Plan fiduciary net position - ending	**$ 739,880**	**$ 718,777**	**$ 488,989**
NOL - ending	**$ 3,746,270**	**$ 3,691,122**	**$ 3,823,334**
Plan fiduciary net position as a percentage of the TOL	16.5%	16.3%	11.3%
Covered payroll	$ 4,184,087	$ 3,955,498	$ 3,951,792
NOL as a percentage of covered payroll	89.5%	93.3%	96.7%

Amounts in Thousands

SECTION IV – GASB 74 REPORTING INFORMATION

Schedule of Changes in Net OPEB Liability and Related Ratios

	MYE 2019	MYE 2018	MYE 2017
Total OPEB Liability			
Service cost	$ 133,736	$ 127,850	$ 125,193
Interest	283,520	290,029	272,943
Changes of benefit terms	0	0	0
Differences between expected and actual experience	194,068	(385,732)	0
Changes of assumptions	0	111,119	0
Benefit payments	(185,839)	(178,019)	(165,470)
Net change in TOL	**$ 425,485**	**$ (34,753)**	**$ 232,666**
TOL - beginning	**3,856,931**	**3,891,684**	**3,659,019**
TOL - ending	**$ 4,282,416**	**$ 3,856,931**	**$ 3,891,684**
Plan fiduciary net position			
Contributions - employer	$ 218,625	$ 203,858	$ 183,898
Contributions - member	51,025	41,682	31,686
Net investment income	26,959	14,105	17,369
Benefit payments	(185,839)	(178,019)	(165,470)
Administrative expense	(132)	(138)	(109)
Net change in plan fiduciary net position	**$ 110,638**	**$ 81,488**	**$ 67,373**
Plan fiduciary net position - beginning	**255,964**	**174,477**	**107,103**
Plan fiduciary net position - ending	**$ 366,602**	**$ 255,964**	**$ 174,477**
NOL - ending	**$ 3,915,814**	**$ 3,600,967**	**$ 3,717,207**
Plan fiduciary net position as a percentage of the TOL	8.6%	6.6%	4.5%
Covered payroll	$ 3,763,446	$ 3,583,448	$ 3,393,658
NOL as a percentage of covered payroll	104.0%	100.5%	109.5%

Amounts in Thousands

SECTION IV – GASB 74 REPORTING INFORMATION

Employee and City and County contributions to the Plan are set by the Charter and are not actuarially determined. Employee and City and County contributions to the Retiree Health Care Trust Fund (RHCTF) are a fixed percent of pay that varies depending on the employee's hire date, the year in which the payment is being made, and whether the Trust is fully funded. In addition to the contributions to the Trust, the City and County pay plan benefits on a pay-as-you-go basis until the Trust is fully funded. For purposes of the schedule of employer contributions, the combination of the pay-as-you-go amounts and the contributions to the Trust are considered Charter required contributions. The table below shows the Charter required contributions for each of the last 10 measurement years.

Schedule of Employer Contributions

	MYE 2022	MYE 2021	MYE 2020	MYE 2019	MYE 2018
Charter Required Contribution	$ 252,866	$ 245,994	$ 235,963	$ 218,625	$ 203,858
Contributions in Relation to the Charter Required Contribution	252,866	245,994	235,963	218,625	203,858
Contribution Deficiency/(Excess)	$ 0	$ 0	$ 0	$ 0	$ 0
Covered Payroll	$ 4,184,087	$ 3,955,498	$ 3,951,792	$ 3,763,446	$ 3,583,448
Actual Contributions as % of Pay	6.04%	6.22%	5.97%	5.81%	5.69%

	MYE 2017	MYE 2016	MYE 2015	MYE 2014	MYE 2013
Charter Required Contribution	$ 183,898	$ 168,855	$ 167,241	$ 166,628	$ 160,300
Contributions in Relation to the Charter Required Contribution	183,898	168,855	167,241	166,628	160,300
Contribution Deficiency/(Excess)	$ 0	$ 0	$ 0	$ 0	$ 0
Covered Payroll	$ 3,393,658	$ 3,241,700	$ 3,017,847	$ 2,869,603	$ 2,810,519
Actual Contributions as % of Pay	5.42%	5.21%	5.54%	5.81%	5.70%

Amounts in Thousands

For measurement years prior to 2017, covered payroll represents the pay during the measurement year for members eligible to receive future OPEB benefits if they meet the age and service requirements for benefits. For the measurement years ended on or after June 30, 2017 covered payroll is the payroll on which contributions to the RHCTF were made.

SECTION V – GASB 75 REPORTING INFORMATION

We understand the City and County elected to use a measurement date as of the end of the prior fiscal year for their reporting under GASB 75. As a result, the schedules in this section are based on the June 30, 2022 measurement date and are intended be used for their 2023 reporting date.

The table below summarizes the current balances of deferred outflows and deferred inflows of resources related to the Plan along with the net recognition over the next five years and the total amount recognized thereafter, if any.

Schedule of Deferred Inflows and Outflows of Resources

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$ 83,172	$ 623,705
Changes in assumptions	159,935	0
Net difference between projected and actual earnings on OPEB plan investments	60,306	0
Contributions subsequent to the measurement date		
Contributions to the Trust	$ 45,241	
Benefit payments	215,408	
Total contributions	$ 260,649	
Total	**$ 564,062**	**$ 623,705**

Amounts reported as deferred outflows due to contributions subsequent to the measurement date will be recognized as a reduction of the Total OPEB Liability in the measurement year ended June 30, 2023. Other amounts reported as deferred outflows and deferred inflows of resources will be recognized in OPEB expense as follows:

Measurement year ended June 30:	
2023	$ (84,576)
2024	(83,580)
2025	(45,951)
2026	(55,431)
2027	(50,754)
Thereafter	0

Amounts in Thousands

The tables on the following pages provide details on the current balances of deferred inflows and outflows of resources along with the recognition of each base for each of the current and following five years, as well as the total for any years thereafter.

SECTION V – GASB 75 REPORTING INFORMATION

Recognition of Experience (Gains) and Losses

Year	Recognition Period	Total Amount	Beginning Remaining Amount	Ending Remaining Amount	Recognition Year 2022	2023	2024	2025	2026	Thereafter
2022	6.0	$ (224,065)	$ (224,065)	$ (186,721)	$ (37,344)	$ (37,344)	$ (37,344)	$ (37,344)	$ (37,344)	$ (37,344)
2021	7.0	(151,947)	(130,240)	(108,534)	(21,707)	(21,707)	(21,707)	(21,707)	(21,707)	(21,707)
2020	7.0	(381,922)	(272,802)	(218,241)	(54,560)	(54,560)	(54,560)	(54,560)	(54,560)	0
2019	7.0	194,068	110,896	83,172	27,724	27,724	27,724	27,724	0	0
2018	7.0	(385,732)	(165,314)	(110,209)	(55,105)	(55,105)	(55,105)	0	0	0
Deferred Outflows			$ 110,896	$ 83,172	$ 27,724	$ 27,724	$ 27,724	$ 27,724	$ 0	$ 0
Deferred (Inflows)			(792,421)	(623,705)	(168,716)	(168,716)	(168,716)	(113,611)	(113,611)	(59,051)
Net Change in OPEB Expense			$ (681,525)	$ (540,533)	$ (140,992)	$ (140,992)	$ (140,992)	$ (85,887)	$ (113,611)	$ (59,051)

Amounts in Thousands

Recognition of Assumption Changes

Year	Recognition Period	Total Amount	Beginning Remaining Amount	Ending Remaining Amount	Recognition Year 2022	2023	2024	2025	2026	Thereafter
2022	6.0	$ 49,784	$ 49,784	$ 41,487	$ 8,297	$ 8,297	$ 8,297	$ 8,297	$ 8,297	$ 8,297
2020	7.0	151,725	108,375	86,700	21,675	21,675	21,675	21,675	21,675	0
2018	7.0	111,119	47,623	31,748	15,874	15,874	15,874	0	0	0
Deferred Outflows			$ 205,782	$ 159,935	$ 45,847	$ 45,847	$ 45,847	$ 29,972	$ 29,972	$ 8,297
Deferred (Inflows)			0	0	0	0	0	0	0	0
Net Change in OPEB Expense			$ 205,782	$ 159,935	$ 45,847	$ 45,847	$ 45,847	$ 29,972	$ 29,972	$ 8,297

Amounts in Thousands

SECTION V – GASB 75 REPORTING INFORMATION

Recognition of Investment (Gains) and Losses

Year	Recognition Period	Total Amount	Beginning Remaining Amount	Ending Remaining Amount	Recognition Year 2022	2023	2024	2025	2026	Thereafter
2022	5.0	$ 141,038	$ 141,038	$ 112,830	$ 28,208	$ 28,208	$ 28,208	$ 28,208	$ 28,208	$ 0
2021	5.0	(91,216)	(72,973)	(54,730)	(18,243)	(18,243)	(18,243)	(18,243)	0	0
2020	5.0	8,003	4,802	3,201	1,601	1,601	1,601	0	0	0
2019	5.0	(4,977)	(1,991)	(995)	(995)	(995)	0	0	0	0
2018	5.0	1,462	292	0	292	0	0	0	0	0
Net Change in OPEB Expense			$ 71,168	$ 60,306	$ 10,862	$ 10,570	$ 11,565	$ 9,964	$ 28,208	$ 0

Amounts in Thousands

SECTION V – GASB 75 REPORTING INFORMATION

The Annual OPEB Expense recognized by the City and County of San Francisco can be calculated two different ways. It is the change in the amounts reported on the City and County's Statements of Net Position that relate to the Plan and are not attributable to employer contributions. That is, it is the change in NOL plus the changes in deferred outflows and inflows plus employer contributions. Alternatively, Annual OPEB Expense can be calculated by its individual components. While GASB does not require or suggest the organization of the individual components shown in the table below, we believe it helps to understand the level and volatility of the OPEB Expense.

The table below shows the development of the OPEB Expense using both of these methodologies.

Calculation of OPEB Expense

Measurement Year Ending	June 30, 2022	June 30, 2021
Change in Net OPEB Liability	$ 55,148	$ (132,212)
Change in Deferred Outflows	(36,520)	67,775
Change in Deferred Inflows	(14,520)	90,445
Employer Contributions	252,866	245,994
OPEB Expense	**$ 256,974**	**$ 272,001**
OPEB Expense as % of Payroll	**6.14%**	**6.88%**
Operating Expenses		
Service cost	$ 154,799	$ 155,840
Employee contributions	(66,455)	(61,582)
Administrative expenses	189	265
Total	$ 88,533	$ 94,523
Financing Expenses		
Interest cost	$ 306,758	$ 300,122
Expected return on assets	(54,034)	(37,700)
Total	$ 252,724	$ 262,422
Changes		
Benefit changes	$ 0	$ 0
Recognition of assumption changes	45,847	37,549
Recognition of liability gains and losses	(140,992)	(103,648)
Recognition of investment gains and losses	10,862	(18,845)
Total	$ (84,283)	$ (84,943)
OPEB Expense	**$ 256,974**	**$ 272,001**

Amounts in Thousands

SECTION V – GASB 75 REPORTING INFORMATION

Operating expenses are items directly attributable to the operation of the Plan during the measurement year. Service cost less employee contributions represents the increase in employer-provided benefits attributable to the year, and administrative expenses are the cost of operating the Plan for the year.

The financing expenses are the interest on the Total OPEB Liability less the expected return on assets. Financing expenses are the primary source of expenses for the plan. As the funding level improves, the financing expenses will decline.

The remaining components of the annual expense are due to the recognition of changes. These components will drive most of the volatility in the OPEB Expense from year to year. They include any changes in benefits made during the year and the recognized amounts due to assumption changes, gains or losses on the TOL, and investment gains or losses.

The OPEB Expense decreased by approximately $15 million. Operating expenses decreased about $6 million and financing expenses decreased about $10 million while the recognition of changes increased about $1 million.

APPENDIX A – MEMBERSHIP INFORMATION

The census data used to develop the Total OPEB Liability as of June 30, 2022 is based on a June 30, 2022 valuation date. The census data used for the previous valuation at June 30, 2020 is shown for comparison purposes.

Schedule of Valuation Data

Valuation Date	June 30, 2022	June 30, 2020	% Change
Active Employees			
Count	31,621	32,879	-4%
Average Age	47.1	46.6	1%
Average Service	11.0	10.8	2%
Total Payroll ($000's)	$ 3,832,603	$ 3,591,515	7%
Vested, Terminated Members			
Count	2,211	2,211	0%
Average Age	51.2	50.3	2%
In-Pay Members with Coverage			
Count	23,624	22,728	4%
Average Age	72.3	72.0	0%
Total Member Count	57,456	57,818	-1%

The following table provides a summary of active employees by age and service as of the current valuation date.

Active Employees by Age and Service
As of June 30, 2022

Age Group	Years of Service							
	< 5	5-9	10-14	15-19	20-24	25-29	30+	Total
Under 25	254	1	0	0	0	0	0	255
25 to 29	1,150	245	1	0	0	0	0	1,396
30 to 34	1,723	1,402	118	0	0	0	0	3,243
35 to 39	1,656	1,954	704	155	1	0	0	4,470
40 to 44	1,294	1,580	905	620	126	0	0	4,525
45 to 49	970	1,141	831	730	619	102	0	4,393
50 to 54	857	1,002	691	758	1,027	489	89	4,913
55 to 59	591	773	605	660	912	495	349	4,385
60 to 64	320	576	381	403	527	258	333	2,798
Over 65	134	235	209	176	219	103	167	1,243
Total	8,949	8,909	4,445	3,502	3,431	1,447	938	31,621

APPENDIX A – MEMBERSHIP INFORMATION

Key statistics for active participants by employee group are provided as of the valuation date in the following table.

Active Employees by Employee Group
As of June 30, 2022

	Police	Fire	Muni	Craft	Misc.	Total
Pre-Prop B (for vesting schedule)						
Count	1,529	703	887	1,501	8,643	13,263
Average age	49.1	51.1	54.6	55.5	53.3	53.1
Average service	20.2	21.6	17.1	19.4	18.2	18.7
Total Payroll ($000's)	$240,672	$110,695	$77,010	$173,296	$1,117,898	$1,719,569
Post-Prop B (for vesting schedule)						
Count	1,282	957	1,416	2,105	12,598	18,358
Average age	36.1	37.0	45.8	46.9	42.9	42.8
Average service	7.1	5.5	5.8	5.7	5.3	5.5
Total Payroll ($000's)	$170,452	$115,681	$118,516	$231,382	$1,477,001	$2,113,033
Total Actives						
Count	2,811	1,660	2,303	3,606	21,241	31,621
Average age	43.2	43.0	49.2	50.5	47.1	47.1
Average service	14.2	12.3	10.2	11.4	10.5	11.0
Total Payroll ($000's)	$411,124	$226,376	$195,526	$404,678	$2,594,899	$3,832,603

A member's vesting schedule is based on their original hire date. However, their contribution schedule is based on their most recent date of hire. The following table provides a summary of the active membership broken into the pre- and post-Prop B contribution schedules.

Active Employees by Contribution Schedule
As of June 30, 2022

	Pre-Prop B	Post-Prop B	Total
Count	9,879	21,742	31,621
Average age	54.2	43.9	47.1
Average service	21.2	6.4	11.0
Total Payroll ($000's)	$1,330,844	$2,501,759	$3,832,603

APPENDIX A – MEMBERSHIP INFORMATION

A schedule of inactive participants by status and age group is shown below.

Inactive Members by Status and Age Group
As of June 30, 2022

Age Group	Disabled Retiree	Retiree	Survivor	Term Vested	Total
Under 40	13	4	5	136	158
40 to 44	14	5	3	364	386
45 to 49	26	5	20	534	585
50 to 54	85	335	42	553	1,015
55 to 59	197	1,067	78	346	1,688
60 to 64	362	2,664	137	151	3,314
65 to 69	466	4,132	237	81	4,916
70 to 74	463	4,493	406	32	5,394
75 to 79	357	2,938	455	5	3,755
80 to 84	197	1,767	405	3	2,372
85 to 90	84	901	342	3	1,330
Over 90	51	500	368	3	922
Total	2,315	18,811	2,498	2,211	25,835

Shown below is the distribution of medical plan elections for participants currently receiving a benefit from the Plan.

Medical Plan Elections for In-Pay Members [1]
As of June 30, 2022

	Pre-Medicare			Medicare Eligible		
Medical Plan	Retirees & Surviving Spouses	Spouses & Domestic Partners	Total	Retirees & Surviving Spouses	Spouses & Domestic Partners	Total
Blue Shield Access+	1,061	345	1,406	N/A	N/A	N/A
Blue Shield Trio	671	179	850	N/A	N/A	N/A
Health Net CanopyCare	5	2	7	N/A	N/A	N/A
Blue Shield / UHC PPO	887	822	1,709	10,429	2,886	13,315
Kaiser	2,414	1,078	3,492	8,097	2,128	10,225
Total	5,038	2,426	7,464	18,526	5,014	23,540

[1] Assumes Medicare eligibility at age 65. Delinquent members excluded from counts.

APPENDIX A – MEMBERSHIP INFORMATION

The following table provides a summary of retirees and surviving spouses by vesting level as of the valuation date.

Retirees and Surviving Spouses by Vesting Level
As of June 30, 2022

	Vesting Level				
	0%	50%	75%	100%	Total
Pre-Medicare	11	19	0	4,335	4,365
Medicare Eligible	23	41	0	16,880	16,944
Total	34	60	0	21,215	21,309

APPENDIX A – MEMBERSHIP INFORMATION

Data Assumptions and Methods

The methodology for preparing the data used for the valuation is based upon the assumptions and practices as outlined below and described in the Data Memo provided to the City and County dated October 18, 2023.

The raw data is adjusted and combined to reflect members covered by the OPEB plan as follows:

- The Active members for the OPEB valuation are the Active members reported by SFERS plus the Active members reported to CalPERS in the City payroll report, both adjusted for members reported as In-Pay by HSS.
- The Vested Terminated members for the OPEB valuation are the Vested Terminated members reported by SFERS plus estimated Vested Terminated members in CalPERS adjusted for those currently active, duplicates, and members reported as In-Pay by HSS. The estimated Vested Terminated members in CalPERS equal the Vested Terminated members reported as of the 2021 valuation plus Active members in the 2021 valuation who were not reported in the 2022 City payroll report to CalPERS and were hired before January 10, 2009.
- The In-Pay status members for the OPEB valuation are the members reported as In-Pay by HSS.

The following table provides a summary of the adjustments made to the raw data.

Counts Reconciliation			
Description	**SFERS**	**CalPERS**	**Total**
Active			
Total Raw Data	31,084	551	31,635
Remove: HSS Retired	(14)	(0)	(14)
OPEB Valuation Data	31,070	551	**31,621**
Vested Terminated			
Total Raw Data	2,510	230	2,740
Add: CalPERS Active in 2021, but not in 2022	N/A	89	89
Remove: Active in CalPERS / SFERS	(402)	(49)	(451)
Remove: Duplicated in SFERS and CalPERS	N/A	(65)	(65)
Remove: HSS Retired	(32)	(70)	(102)
OPEB Valuation Data	2,076	135	**2,211**
In-Pay			
Total Raw Data	N/A	N/A	26,415
Remove: Waived Coverage	N/A	N/A	(2,791)
OPEB Valuation Data	N/A	N/A	**23,624**

APPENDIX A – MEMBERSHIP INFORMATION

The following table provides the assumptions and methods used to set key data fields used in the valuation. Unless otherwise indicated, for Active and Vested Terminated members, healthcare-related fields are from the HSS data and all other fields are from the retirement or payroll data. For In-Pay participants, the HSS data is used.

"SFERS" refers to the 7/1/2022 SFERS valuation data, "CalPERS" refers to the 6/30/2021 CalPERS Safety valuation data, "HSS" refers to the 6/30/2022 HSS census data, "City Payroll" refers to the Controller's Office Active Member Payroll reports as of June 30, 2022.

Active Participants	Affected Group	Base Data Set Fields Used
Categorize Prop B *(for vesting)*	All actives	• (SFERS) SFERS Hire Dt [1] • (CalPERS) CalPERS Assumption Alignment Date, if available, or HSS HIRE_DT
Categorize Prop B *(for contributions)*	All actives	• (SFERS) SFERS Mbrship Dt [1] • (CalPERS) CalPERS Membership Effective Date, if available, or HSS SVC_DT • (Applicable to All) If Prop B (vesting), or if Prop B or inactive in the 2020 OPEB valuation
Total Service	CalPERS Actives	• CalPERS Program Eligibility Service + [1 year of service x CalPERS Pay Part Time Percent], if available, or HSS SVC_DT
Years Service	CalPERS Actives	• CalPERS [(Service Credit Years) - (Service Credit Purchase Years)] + [1 year of service x CalPERS Pay Part Time Percent], if available, or HSS SVC_DT
Adjust Salary to FYE 2023	All actives	• (SFERS) HSS ANNUAL_RT (an annualized rate of pay as of the valuation date), if available, or SFERS valuation pay • (CalPERS) Annualized City Payroll MEM EARNINGS, for the last pay period ending before the valuation date. To estimate pay for FYE 2023, known bargained inflationary increases are applied along with half a year of merit increases

[1] *SFERS Hire Dt is defined as the earliest period of employment and Mbrship Dt is defined as the most recent membership date for the plan*

APPENDIX A – MEMBERSHIP INFORMATION

Vested Terminated Participants	Affected Group	Base Data Set Fields Used
Date of Termination	All Vested Terminated	The earlier of [the most recent date of hire + the member's years of service], or the valuation date

In-Pay Participants	Affected Group	Base Data Set Fields Used
Assign Status (Retired, Disabled, Survivor)	All In-Pay	First SFERS classification, then CalPERS classification, then classification in last OPEB valuation, then HSS classification of Survivor, then Disabled if under age 65 and on Medicare, retirement reason "RTD", or newly retired before age 50. Remaining are considered Retired.
Assign Group (Misc, Safety)	All In-Pay	First SFERS classification, then CalPERS classification, then classification in last OPEB valuation, then HSS "FIR" or "POL" as Safety, and remaining are considered Miscellaneous.
Assign Medical Plan Information	60	Delinquent members missing medical plan information were assumed to participate in a medical plan, and are thus included in the valuation

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

Economic Assumptions

Based on Meketa's 10 and 20-year capital market assumptions for the RHCTF's asset allocation, an expected return on plan assets of 7.0% was adopted by the City and County.

The wage inflation and price inflation assumptions are the same as those adopted by the City and County of San Francisco Employees' Retirement System at the December 9, 2020 Board meeting. Please refer to the economic assumption review presentation for SFERS dated December 9, 2020 for the rationale for the **wage** inflation and price inflation assumptions.

The per person healthcare cost trends were developed using the 2023 Getzen Model of Long-Run Medical Cost Trends published by the Society of Actuaries. Initial trends reflect short-term expectations, including the delayed impact of inflation on health care costs and the impact of changes to Centers for Medicare & Medicaid Services (CMS) funding methodology for MAPD plans. Longer-term trends are based on our review of the current economic environment, and our expectations for the future.

Please refer to the Assumptions and Methods presentation dated October 12, 2023 for further detail on the rationale for these assumptions.

These assumptions have been reviewed and approved by the City and County of San Francisco.

1. Expected Return on Assets and Discount Rate

7.00% per year, net of investment expenses

2. Inflation

Price Inflation:	2.50%, compounded annually.
Wage Inflation:	Bargained increases through July 1, 2022 followed by 3.25% compounded annually thereafter. Since benefits are not based on pay, we used a simplified version of the SFERS assumption.

3. Per Person Cost Trends

Medical trends were developed using the 2023 Society of Actuaries Long-Term Health Care Cost Trends model with the following parameters:

Inflation:	2.5%
Real GDP per Capita:	1.4%
Excess Medical Cost Growth:	0.8%
Capacity Constraints	
Expected Health Share of GDP in 2032:	19.8%
Resistance Point – Share of GDP:	19.0%
Year Limited to GDP Growth:	2075

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

Annual Per Person Cost Increases

To Fiscal Year Beginning	10-County Trend	Medical & Rx Non-Medicare	Medical & Rx Medicare Eligible	Vision / Expense	To Fiscal Year Beginning	10-County Trend	Medical & Rx Non-Medicare	Medical & Rx Medicare Eligible	Vision / Expense
2023		*Varies by Plan*			2050	4.45%	4.45%	4.45%	3.00%
2024	5.00%	7.74%	7.74%	3.00%	2051	4.44%	4.44%	4.44%	3.00%
2025	5.00%	7.24%	7.24%	3.00%	2052	4.43%	4.43%	4.43%	3.00%
2026	4.98%	6.81%	6.81%	3.00%	2053	4.43%	4.43%	4.43%	3.00%
2027	4.94%	6.44%	6.44%	3.00%	2054	4.42%	4.42%	4.42%	3.00%
2028	4.90%	6.06%	6.06%	3.00%	2055	4.42%	4.42%	4.42%	3.00%
2029	4.86%	5.69%	5.69%	3.00%	2056	4.41%	4.41%	4.41%	3.00%
2030	4.82%	5.32%	5.32%	3.00%	2057	4.41%	4.41%	4.41%	3.00%
2031	4.79%	4.95%	4.95%	3.00%	2058	4.40%	4.40%	4.40%	3.00%
2032	4.68%	4.68%	4.68%	3.00%	2059	4.40%	4.40%	4.40%	3.00%
2033	4.59%	4.59%	4.59%	3.00%	2060	4.39%	4.39%	4.39%	3.00%
2034	4.58%	4.58%	4.58%	3.00%	2061	4.39%	4.39%	4.39%	3.00%
2035	4.57%	4.57%	4.57%	3.00%	2062	4.38%	4.38%	4.38%	3.00%
2036	4.55%	4.55%	4.55%	3.00%	2063	4.38%	4.38%	4.38%	3.00%
2037	4.54%	4.54%	4.54%	3.00%	2064	4.37%	4.37%	4.37%	3.00%
2038	4.53%	4.53%	4.53%	3.00%	2065	4.35%	4.35%	4.35%	3.00%
2039	4.53%	4.53%	4.53%	3.00%	2066	4.30%	4.30%	4.30%	3.00%
2040	4.52%	4.52%	4.52%	3.00%	2067	4.25%	4.25%	4.25%	3.00%
2041	4.51%	4.51%	4.51%	3.00%	2068	4.21%	4.21%	4.21%	3.00%
2042	4.50%	4.50%	4.50%	3.00%	2069	4.17%	4.17%	4.17%	3.00%
2043	4.49%	4.49%	4.49%	3.00%	2070	4.12%	4.12%	4.12%	3.00%
2044	4.49%	4.49%	4.49%	3.00%	2071	4.08%	4.08%	4.08%	3.00%
2045	4.48%	4.48%	4.48%	3.00%	2072	4.04%	4.04%	4.04%	3.00%
2046	4.47%	4.47%	4.47%	3.00%	2073	4.00%	4.00%	4.00%	3.00%
2047	4.46%	4.46%	4.46%	3.00%	2074	3.96%	3.96%	3.96%	3.00%
2048	4.46%	4.46%	4.46%	3.00%	2075	3.94%	3.94%	3.94%	3.00%
2049	4.45%	4.45%	4.45%	3.00%	2076	3.94%	3.93%	3.94%	3.00%

- Deductibles, Co-payments, Out-of-Pocket Maximums, and Annual Maximum are assumed to increase at the above trend rates.

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

Demographic Assumptions

Rates of retirement, termination, member refunds, mortality, disability, and salary increases are the same as those adopted by the SFERS Board at the December 9, 2020 Board meeting. Please refer to the demographic experience study report for SFERS dated August 2020 for the rationale for these demographic assumptions.

The other demographic assumptions are based on recent Plan experience and our expectations for the future. Please refer to the Assumptions and Methods presentation dated October 12, 2023 for further detail on the rationale for these assumptions.

These assumptions have been reviewed and approved by the City and County of San Francisco.

1. Retirement Rates

Rates of retirement are based on age and service according to the tables on the following pages. Separate rates are used for members hired on or after January 7, 2012 under Charter Sections A8.603 and above (Prop C). Any deferred vested member hired on or after January 10, 2009 is assumed to retire outside of the 180-day retirement window set in place by Proposition B (passed 6/3/2008).

Police Rates of Retirement						
	Other than Prop C Years of Service			Prop C Years of Service		
Age	< 25	25 - 29	30 +	< 25	25 - 29	30 +
50	1.50%	5.00%	5.00%	1.50%	5.00%	5.00%
51	1.50	5.00	15.00	1.50	5.00	10.00
52	2.00	7.50	20.00	2.00	7.50	20.00
53	5.00	20.00	40.00	5.00	15.00	25.00
54	7.50	22.00	50.00	7.50	17.50	30.00
55	7.50	35.00	50.00	7.50	20.00	35.00
56	7.50	26.00	40.00	7.50	24.00	35.00
57	10.00	28.00	45.00	10.00	26.00	40.00
58	10.00	30.00	45.00	10.00	35.00	60.00
59	15.00	25.00	45.00	15.00	25.00	45.00
60	20.00	34.00	45.00	20.00	34.00	45.00
61	10.00	36.00	40.00	10.00	36.00	40.00
62	15.00	36.00	40.00	15.00	36.00	40.00
63	12.50	36.00	40.00	12.50	36.00	40.00
64	12.50	36.00	40.00	12.50	36.00	40.00
65 & over	100.00	100.00	100.00	100.00	100.00	100.00

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

Fire Rates of Retirement						
	Other than Prop C Years of Service			Prop C Years of Service		
Age	< 25	25 - 29	30 +	< 25	25 - 29	30 +
50	2.00%	5.00%	5.00%	2.00%	2.00%	2.00%
51	1.00	5.00	5.00	1.00	2.00	2.00
52	2.00	5.00	5.00	2.00	5.00	5.00
53	3.00	5.00	15.00	3.00	5.00	12.50
54	7.50	20.00	35.00	7.50	12.50	20.00
55	7.50	25.00	35.00	7.50	15.00	25.00
56	7.50	20.00	35.00	7.50	15.00	30.00
57	12.50	20.00	35.00	12.50	15.00	30.00
58	12.50	20.00	25.00	12.50	30.00	35.00
59	12.50	25.00	25.00	12.50	25.00	25.00
60	15.00	25.00	35.00	15.00	25.00	35.00
61	15.00	40.00	40.00	15.00	40.00	40.00
62	15.00	40.00	40.00	15.00	40.00	40.00
63	15.00	20.00	25.00	15.00	20.00	25.00
64	20.00	20.00	25.00	20.00	20.00	25.00
65 & over	100.00	100.00	100.00	100.00	100.00	100.00

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

Muni Drivers Rates of Retirement						
	Other than Prop C Years of Service			Prop C Years of Service		
Age	< 20	20 - 29	30 +	< 20	20 - 29	30 +
50	0.00%	1.00%	1.50%	0.00%	0.00%	0.00%
51	0.00	1.00	1.50	0.00	0.00	0.00
52	0.00	1.00	1.50	0.00	0.00	0.00
53	0.00	1.00	1.50	0.00	1.00	1.50
54	0.00	1.00	1.50	0.00	1.00	1.50
55	0.00	4.00	5.00	0.00	1.00	5.00
56	0.00	4.00	5.00	0.00	1.00	5.00
57	0.00	4.00	5.00	0.00	2.00	5.00
58	0.00	4.00	5.00	0.00	2.00	5.00
59	0.00	4.00	5.00	0.00	2.00	5.00
60	10.00	10.00	20.00	5.00	10.00	15.00
61	12.50	25.00	30.00	7.50	12.50	20.00
62	20.00	32.50	35.00	10.00	15.00	30.00
63	15.00	30.00	30.00	10.00	20.00	25.00
64	15.00	30.00	30.00	10.00	25.00	25.00
65	27.50	30.00	35.00	27.50	30.00	40.00
66	27.50	30.00	35.00	27.50	30.00	35.00
67	27.50	30.00	35.00	27.50	30.00	35.00
68	27.50	30.00	35.00	27.50	30.00	35.00
69	27.50	30.00	35.00	27.50	30.00	35.00
70 & over	100.00	100.00	100.00	100.00	100.00	100.00

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

Craft Rates of Retirement						
	Other than Prop C Years of Service			Prop C Years of Service		
Age	< 20	20 - 29	30 +	< 20	20 - 29	30 +
50	0.00%	1.50%	1.50%	0.00%	0.00%	0.00%
51	0.00	1.50	1.50	0.00	0.00	0.00
52	0.00	1.50	1.50	0.00	0.00	0.00
53	0.00	2.50	4.00	0.00	1.50	1.50
54	0.00	2.50	4.00	0.00	1.50	1.50
55	0.00	2.50	5.00	0.00	1.50	2.50
56	0.00	3.00	5.00	0.00	1.50	2.50
57	0.00	3.00	5.00	0.00	2.00	2.50
58	0.00	3.00	5.00	0.00	2.00	5.00
59	0.00	8.00	20.00	0.00	2.00	10.00
60	7.50	12.00	32.50	5.00	7.50	15.00
61	10.00	20.00	35.00	7.50	12.50	20.00
62	20.00	30.00	37.50	17.50	25.00	30.00
63	10.00	25.00	30.00	10.00	17.50	25.00
64	17.50	25.00	30.00	10.00	17.50	25.00
65	25.00	27.50	30.00	25.00	30.00	40.00
66	27.50	30.00	32.50	27.50	30.00	32.50
67	27.50	30.00	32.50	27.50	30.00	32.50
68	15.00	25.00	30.00	15.00	25.00	30.00
69	15.00	25.00	30.00	15.00	25.00	30.00
70 & over	100.00	100.00	100.00	100.00	100.00	100.00

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

Miscellaneous Rates of Retirement						
	Other than Prop C Years of Service			Prop C Years of Service		
Age	< 20	20 - 29	30 +	< 20	20 - 29	30 +
50	0.00%	2.75%	3.50%	0.00%	0.00%	0.00%
51	0.00	2.50	3.50	0.00	0.00	0.00
52	0.00	2.50	3.50	0.00	0.00	0.00
53	0.00	3.25	3.50	0.00	3.25	3.25
54	0.00	4.00	4.00	0.00	4.00	4.00
55	0.00	4.00	5.50	0.00	4.00	4.00
56	0.00	4.25	6.75	0.00	4.25	4.25
57	0.00	4.50	8.75	0.00	4.50	4.50
58	0.00	5.00	10.00	0.00	5.00	7.50
59	0.00	8.75	20.00	0.00	8.75	10.00
60	9.00	11.50	30.00	7.50	10.00	12.50
61	13.25	20.00	35.00	10.00	15.00	15.00
62	20.00	30.00	35.00	17.50	25.00	25.00
63	16.00	22.50	30.00	12.50	17.50	20.00
64	16.00	22.50	30.00	12.50	17.50	20.00
65	20.00	30.00	30.00	25.00	40.00	40.00
66	25.00	30.00	35.00	25.00	30.00	35.00
67	25.00	30.00	35.00	25.00	30.00	35.00
68	20.00	30.00	30.00	20.00	30.00	30.00
69	20.00	30.00	30.00	20.00	30.00	30.00
70	25.00	25.00	30.00	25.00	25.00	30.00
71	25.00	25.00	30.00	25.00	25.00	30.00
72	25.00	25.00	30.00	25.00	25.00	30.00
73	25.00	25.00	30.00	25.00	25.00	30.00
74	25.00	25.00	30.00	25.00	25.00	30.00
75 & over	100.00	100.00	100.00	100.00	100.00	100.00

The assumed retirement age for inactive terminated vested members and actives who are expected to terminate is shown below.

Deferred Retirement Age		
	Non-Prop C	Prop C
Safety	51	55
	Non-Reciprocal	Reciprocal
Miscellaneous	55	60

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

2. Rates of Termination of Employment

Sample rates of termination by service for Police, Fire, Muni Drivers, and Craft members are shown below.

Rates of Termination				
Service	Police	Fire	Muni Drivers	Craft
0	8.00%	2.50%	12.00%	9.50%
1	5.00	1.00	5.00	6.50
2	2.00	1.00	4.00	5.75
3	1.50	1.00	3.50	4.50
4	1.00	1.00	3.25	3.50
5	1.00	1.00	3.00	3.25
10	0.75	0.50	2.50	1.75
15	0.50	0.25	2.50	1.75
20+	0.50	0.25	2.50	1.75

Sample rates of termination by age and service for Miscellaneous members are shown below.

Misc. Rates of Termination by Age and Service Years			
	Age		
Service	Under 30	30 to 39	40 & over
0	38.00%	24.00%	20.00%
1	20.00	12.00	9.00
2	14.00	9.00	6.00
3	10.00	7.00	4.80
4	7.50	6.50	4.60
5	6.75	6.00	4.40
10	3.75	3.75	3.75
15	2.25	2.25	2.25
20+	1.00	1.00	1.00

When members are eligible to retire, it is assumed that their termination rates are zero.

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

3. Member Refunds

The rates of refund of contributions for terminated vested members are shown below.

Vested Terminated Rates of Refund		
Service	Police & Fire	Miscellaneous
5	24.0%	20.0%
6	20.0	15.0
7	16.0	12.0
8	12.0	10.0
9	8.0	9.0
10	4.0	8.5
15	0.0	6.0
20	0.0	0.0

4. Base Rates of Mortality

The mortality rates used in the valuation are developed from a base table that is projected generationally from the base year of that table using the mortality projection scale described below. Base mortality tables are developed by multiplying a published table by an adjustment factor that was developed in the SFERS experience study for the period ending June 30, 2019. The base mortality tables are described below.

Base Mortality Tables			
	Published Table	Adjustment Factor Male	Female
Non-Annuitants			
Miscellaneous	PubG-2010 Employee	0.834	0.866
Safety	PubS-2010 Employee	1.011	0.979
Healthy Retirees			
Miscellaneous	PubG-2010 Retiree	1.031	0.977
Safety	PubS-2010 Retiree	0.947	1.044
Disabled Retirees			
Miscellaneous	PubG-2010 Disabled	1.045	1.003
Safety	PubS-2010 Disabled	0.916	0.995
Beneficiaries			
Miscellaneous	PubG-2010 Retiree	1.031	0.977
Safety	PubG-2010 Retiree	1.031	0.977

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

5. Mortality Projection Scale

The mortality rates shown in the base tables above are projected generationally from the base year using the MP-2019 projection scale.

6. Rates of Disability

Sample disability rates of active participants are provided below. 100% of safety and 0% of Miscellaneous disabilities are assumed to be duty related.

Rates of Disability at Selected Ages

Age	Police	Fire	Muni Drivers	Craft	Misc Females	Misc Males
30	0.05%	0.04%	0.01%	0.01%	0.01%	0.01%
35	0.14	0.09	0.06	0.06	0.04	0.04
40	0.35	0.24	0.11	0.11	0.07	0.08
45	0.44	0.42	0.17	0.20	0.15	0.11
50	0.90	0.84	0.45	0.40	0.40	0.28
55	3.30	3.50	1.35	0.75	0.55	0.45
60	5.75	7.30	0.00	0.00	0.00	0.00
65	0.00	0.00	0.00	0.00	0.00	0.00

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

7. Salary Increase Rate

Wage Inflation Component: Bargained increases through July 1, 2022 followed by 3.25% compounded annually thereafter. Since benefits are not based on pay, we used a simplified version of the SFERS assumption.

Current Bargained Wage Increases			
Date of Increase	Police	Fire	Misc
7/1/2022	3.0%	3.0%	5.3%

Additional Merit Component:

Salary Merit Increases - Sample Rates					
Years of Service	Police	Fire	Muni Drivers	Craft	Misc
0	7.50%	14.00%	16.00%	3.75%	5.50%
1	6.75	10.00	11.00	3.00	4.50
2	6.00	8.00	6.50	2.40	3.75
3	5.25	6.00	3.50	1.80	3.25
4	4.50	5.00	1.75	1.50	2.75
5	3.75	4.00	1.25	1.20	2.25
10	1.50	1.50	0.30	0.50	1.10
15	0.50	0.50	0.00	0.50	0.55
20 & over	0.50	0.50	0.00	0.50	0.30

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

8. Percent of Retirees Electing Coverage

Future eligible retirees are assumed to elect coverage at retirement at the following rates, which vary by vesting level and Medicare eligibility.

Percent of Retirees Electing Coverage

	Vesting Level				
	0%	**50%**	**75%**	**100%**	**Disabled**
Non-Medicare Eligible	15%	45%	75%	87%	90%
Medicare Eligible	15%	65%	90%	92%	95%

Participants currently receiving benefits are assumed to keep their current coverage.

9. Medical Plan Election

Future retirees' plan elections are assumed to mirror current retiree plan elections. The following rates are used to determine blended claims and contributions for future retirees.

Assumed Plan Elections for Future Retirees

Medical Plan	Non-Medicare	Medicare Eligible
Health Net Canopy Care	0%	N/A
Blue Shield Access+	20%	N/A
Blue Shield Trio	15%	N/A
Blue Shield PPO	9%	N/A
Blue Shield PPO– Choice Not Available	8%	N/A
Kaiser	48%	45%
UHC PPO	N/A	55%

Participants currently receiving benefits are assumed to continue participation in their current medical plan, where non-Kaiser retirees without Medicare are assumed to transition to the UHC PPO plan once Medicare eligible.

10. Medicare Participation

All in-pay participants, both current and future, are assumed to be eligible for and elect into Medicare at age 65. All participants under age 65 and currently on Medicare are assumed not to be on Medicare until age 65.

11. Future Service Accruals

Actives are assumed to accrue a full year of credited service each year. Members currently terminated and under a reciprocity arrangement are assumed to meet the City's eligibility requirements for retiree healthcare through earned reciprocity service.

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

12. Portion of New Entrant Payroll Eligible for Pre-Prop B Benefits

In order to project payroll for employees eligible for the pre-Proposition B vesting schedule, we assumed the following portion of newly hired employees were originally hired on or before January 9, 2009 and returned to work: 9% in fiscal year ending (FYE) 2023 and decreasing by 0.5% each year thereafter until 0%.

13. Coverage Elections for Spouses and Domestic Partners

The percentage of future retirees who elect to cover a spouse or domestic partner is shown in the following table.

Spousal Coverage Elections

	Vesting Level				
	0%	**50%**	**75%**	**100%**	**Disabled**
Pre-Medicare	60%	40%	35%	35%	25%
Medicare Eligible	40%	40%	40%	40%	45%

Actual spouse/domestic partner coverage data is used for participants currently receiving a benefit.

The cost for children is fully paid for by the member. No additional load was added for children.

14. Dependent Age

For participants currently receiving a benefit, actual spouse date of birth is used if available. Otherwise, spouses and domestic partners of male members are assumed to be three years younger than the member and spouses and domestic partners of female members are assumed to be two years older than the member.

15. Surviving Spouse Participation

100% of surviving spouses continue coverage.

16. Deferred Member Benefit

Based on the data provided (date of birth, date of hire, date of termination), service credit and deferred retirement age were estimated. These estimates were used to compute eligibility and vesting for the OPEB benefit, upon which the liabilities are based.

17. Future Increases in Retiree Healthcare Trust Fund Administrative Expense

FYE 2022 expenses increased by 3.25% per year.

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

Claim and Expense Assumptions

1. **Average Annual Claims Assumptions:** The following claim assumptions are applicable to the 12-month plan year beginning July 1, 2022 and are based on the premiums in effect on the valuation date. Subsequent years' costs are based on actual premiums, then adjusted with trends previously listed.

Annual Claims and Expenses - Non-Medicare
For the Period July 1, 2022 to June 30, 2023

	Medical & Rx					Expense		
	Blue Shield of CA			Health	BSC	BSC HMO, Kaiser,	BSC	
Age	Access+	Trio	Kaiser	Net	PPO	HealthNet	PPO	Vision
40	$ 8,465	$ 7,926	$ 6,673	$ 7,047	$ 8,404	$ 36	$ 1,044	$ 49
45	9,654	9,040	7,611	8,066	9,709	36	1,044	49
50	11,434	10,707	9,015	9,577	11,827	36	1,044	49
55	13,904	13,019	10,961	11,671	14,712	36	1,044	49
60	16,887	15,813	13,313	14,231	17,835	36	1,044	49
64	19,342	18,111	15,248	16,392	19,732	36	1,044	49

Annual Claims and Expenses - Medicare Eligible
For the Period July 1, 2022 to June 30, 2023

	Medical & Rx		Expense		
Age	Kaiser	UHC	Kaiser	UHC	Vision
65	$ 3,111	$ 4,441	$ 36	$ 36	$ 49
70	3,241	4,628	36	36	49
75	3,689	5,267	36	36	49
80	4,186	5,977	36	36	49
85	4,545	6,490	36	36	49

2. **Dental, Vision, and Expense:** These benefits are assumed to have no implicit subsidy cost.
3. **Medicare Part D Subsidy:** Per GASB guidance, the Part D Subsidy has not been reflected in this valuation.
4. **Annual Limits:** Assumed to increase at the same rate as trend.
5. **Lifetime Maximums:** Unlimited.
6. **Geography:** Implicitly assumed to remain the same as current retirees.

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

Methodology

The Entry Age Actuarial Cost Method was used to measure the Plan's Total OPEB Liability and service cost. Under this method, the service cost rate is the percentage of pay contribution that is expected to be sufficient to fund the Plan benefits if it were paid from each member's hire date at the City until termination or retirement.

A service cost rate is determined for each individual by taking the value, as of age at entry into the Plan, of the member's projected future benefits and dividing it by the value, also as of the member's entry age, of the member's expected future salary.

The Total OPEB Liability is that portion of the present value of projected benefits that is not expected to be paid by future service costs. The difference between the Total OPEB Liability and the Market Value of Assets (or Fiduciary Net Position) as of the same date is the Net OPEB Liability.

The medical claims costs were developed based on actual premiums for the six months ending December 31, 2022 and calendar year 2023 for the HMO plans and actual rates for the six months ending December 31, 2022 and calendar year 2023 for the PPO plan. For Non-Medicare adults, the premiums (or rates, as applicable) for active employee only, first dependent of active employee, Non-Medicare retiree, and first dependent of Non-Medicare retirees were blended based upon enrollment data for the period July 1, 2021 to June 30, 2022. The same process was used for Medicare adults, except only Medicare retirees and first dependents of Medicare retirees were included. The resulting per person per month (PPPM) cost was then adjusted using age curves. Expenses and vision costs were based directly on the rates in effect for 2022-2023.

Changes Since Last Measurement Date

Per person healthcare cost trends were updated.

Participation in the postretirement health plan, anticipated medical plan elections, anticipated spousal coverage, and the average annual claims by age assumptions were updated to reflect recent experience.

APPENDIX C – SUMMARY OF PLAN PROVISIONS

Eligibility

Former employees of the City and County of San Francisco who were members of the Health Service System and who retire under SFERS or CalPERS are eligible for postretirement health benefits from the City and County of San Francisco. Superior Court members who were separated as of January 1, 2001 are treated as former employees of the City and County. Effective with Proposition B, passed 6/3/2008, employees hired on or after January 10, 2009 must retire within 180 days of separation in order to be eligible for retiree healthcare benefits from the City.

The eligibility requirements to receive a pension benefit, and thus commence postretirement health benefits, are as follows:

City and County of San Francisco's Retirement System (SFERS)

Normal Retirement	Miscellaneous	Age 50 with 20 years of credited service[1]
		Age 60 with 10 years of credited service
	Safety	Age 50 with 5 years of credited service
Disabled Retirement[2]	Any age with 10 years of credited service	
Terminated Vested	5 years of credited service at separation	

California Public Employees' Retirement System (CalPERS) – the Safety Plan of the City and County of San Francisco

Normal Retirement	Age 50 with 5 years of credited service
Disabled Retirement[2]	Any age with 5 years of credited service
Terminated Vested	5 years of credited service at separation

[1] *Age 53 with 20 years of credited service, age 60 with 10 years of credited service, or age 65 for Miscellaneous members hired on or after January 7, 2012 under Charter Section 8.603.*

[2] *No service requirement for Safety members retiring under the industrial disability benefit or for surviving spouses / domestic partners of those killed in the line of duty.*

APPENDIX C – SUMMARY OF PLAN PROVISIONS

Healthcare Benefits for Retirees

The San Francisco Health Service System administers healthcare benefits to the retirees of the City and County of San Francisco.

Medical: PPO – Blue Shield (self-insured) and UHC Medicare Advantage (fully-insured)
HMO – Kaiser (fully-insured), Blue Shield (flex-funded), and Health Net (flex-funded)

Dental: Delta Dental, DeltaCare USA, and UHC Dental

Vision: Vision benefits are provided under the medical insurance plans and are administered by Vision Service Plan.

Premiums: Monthly premiums for January 1, 2022 through December 31, 2023 are as follows.

Medical Premiums / Premium Equivalents [1]

	Pre-Medicare		Medicare Eligible	
	Single	Dual	Single	Dual
January 1, 2022 – December 31, 2022				
Active				
Blue Shield Access+	$ 931.44	$ 1,859.91	N/A	N/A
Blue Shield Trio	816.90	1,630.81	N/A	N/A
Health Net CanopyCare	859.02	1,715.06	N/A	N/A
BSC PPO - Accolade - CNA	931.44	1,859.91	N/A	N/A
BSC PPO - Accolade	1,337.19	2,586.45	N/A	N/A
Kaiser	715.97	1,428.96	N/A	N/A
Retiree				
Blue Shield Access+	$ 2,151.00	$ 3,116.47	N/A	N/A
Blue Shield Trio	1,885.34	2,731.68	N/A	N/A
Health Net CanopyCare	1,983.02	2,873.17	N/A	N/A
BSC PPO - Accolade [2]	1,797.54	2,604.04	$ 434.17	$ 865.36
Kaiser	1,437.79	2,150.78	316.71	630.44
January 1, 2023 – December 31, 2023				
Active				
Blue Shield Access+	$ 935.85	$ 1,868.73	N/A	N/A
Blue Shield Trio	860.26	1,717.53	N/A	N/A
Health Net CanopyCare	770.28	1,537.58	N/A	N/A
BSC PPO - Accolade - CNA	935.85	1,868.73	N/A	N/A
BSC PPO - Accolade	1,435.47	2,784.80	N/A	N/A
Kaiser	743.62	1,484.26	N/A	N/A
Retiree				
Blue Shield Access+	$ 2,160.96	$ 3,131.02	N/A	N/A
Blue Shield Trio	1,985.64	2,877.08	N/A	N/A
Health Net CanopyCare	1,776.96	2,574.80	N/A	N/A
BSC PPO - Accolade [2]	1,932.72	2,803.79	$ 454.37	$ 905.76
Kaiser	1,493.47	2,234.11	311.15	619.32

[1] Includes Rx, vision, and expense. All claims stabilization amounts are included in the premiums shown. CNA = Choice Not Available.

[2] Includes Choice Not Available. UHC Medicare Advantage PPO premiums are shown for Medicare eligible retirees.

APPENDIX C – SUMMARY OF PLAN PROVISIONS

The following table summarizes the medical plans that were in effect as of June 30, 2022.

Health Plan Last Modified	1/1/2022	1/1/2018	1/1/2018	1/1/2022	1/1/2018
Plan:	**Health Net CanopyCare (HMO)**	**Blue Shield Trio (HMO)**	**Blue Shield Access+ (HMO)**	**Blue Shield (PPO)**	**Kaiser (HMO)**
In-Network (INN) Benefits					
Deductible (Individual / Family)	None	None	None	$250 / $750	None
Coinsurance	N/A	N/A	N/A	15%	N/A
Out-of-Pocket Max (Individual / Family)	$1,500 / $2,000	$2,000 / $4,000	$2,000 / $4,000	$3,750 / $7,500	$1,500 / $3,000
Copays					
Preventive Care	Fully Covered	Fully Covered	Fully Covered	Fully Covered	Fully Covered
Office Visit (OV) - Primary Care (PCP)	$25 per visit	$25 per visit	$25 per visit	DC[1]	$20 per visit
OV - Specialist Care Provider (SCP)	$25 per visit	$25 per visit	$25 per visit	DC[1]	$20 per visit
Hospital Emergency Room (ER)	$100 per visit	$100 per visit	$100 per visit	DC[1]	$100 per visit
Outpatient Surgery	$100 per surgery	$100 per surgery	$100 per surgery	DC[1]	$35 per surgery
Hospital Inpatient	$200 per admission	$200 per admission	$200 per admission	DC[1]	$100 per admission
Lifetime Max	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited
Out-of-Network (OON) Benefits	**Not Covered**	**Not Covered**	**Not Covered**		**Not Covered**
Deductible (Individual / Family)				$500 / $1500	
Coinsurance				50%	
Office Visits (PCP) & (SCP)				DC[1]	
Out-of-Pocket Max (Individual / Family)				$7,500 per person	
Lifetime Max				Unlimited	
Prescription Drugs					
Retail (30 Days) - Generic/Formulary/Non-Form.	$10 / $25 / $50	$10 / $25 / $50	$10 / $25 / $50	$10 / $25 / $50 (OON $10 / $25 / $50 then 50% coins)	$5 / $15 / Physician authorized only
Mail Order (90 Days) - Generic/Form./Non-Form.	$20 / $50 / $100	$20 / $50 / $100	$20 / $50 / $100	$20 / $50 / $100 (OON no coverage)	$10 / $30 / Physician authorized only
Specialty Pharmacy	20% of script up to $100	20% of script up to $100	20% of script up to $100	Same as Mail/Retail	20% of script up to $100
Mental Health and Substance Abuse					
Mental Health Inpatient	$200 per admission	$200 per admission	$200 per admission	DC[1]	$100 per admission
Mental Health Outpatient	$25 per visit	$25 per visit	$25 per visit	DC[1]	$20 per visit
Substance Abuse Inpatient	$200 per admission	$200 per admission	$200 per admission	DC[1]	$100 per admission
Substance Abuse Outpatient	$25 per visit	$25 per visit	$25 per visit	DC[1]	$20 per visit
Detail Benefits					
Chiropractic Benefit	$15 per visit (30 visit limit)	$15 per visit (30 visit limit)	$15 per visit (30 visit limit)	Deductible and 50% Coins. ($1000 limit)	$15 per visit (combined 30 visit limit with acupuncture)
Rehab (speech, occupational, physical)	$25 per visit	$25 per visit	$25 per visit	DC[1]	$20 per visit
Hearing Aids	$5,000 combined for both ears for 36 mos.	$2,500 per ear for 36 mos.	$2,500 per ear for 36 mos.	DC[1] (up to $2,500 per ear for 36 mos.)	$2,500 per ear for 36 mos.
Durable Medical Equipment	Fully Covered	Fully Covered	Fully Covered	DC[1]	Fully Covered
Medical Management	PCP referral required	PCP referral required	PCP referral required	Required on Some Services	PCP referral required
Medicare Integration	N/A	N/A	N/A	Medicare Advantage PPO	Medicare Advantage HMO
Vision Care Services	**Not Covered**	**Not Covered**	**Not Covered**	**Not Covered**	**Not Covered**

[1] DC = Deductible and coinsurance applies

APPENDIX C – SUMMARY OF PLAN PROVISIONS

Cost-Sharing Provisions

Medical & Vision: Members are required to pay the difference between the cost of coverage and the City contribution.

Dental Coverage: Retirees pay the full cost of dental coverage offered by the City for themselves and their dependents.

City Contribution: The City pays a portion of the retiree or spouse/domestic partner premium as detailed in the following table with the vesting schedule also applied. The City's contribution is limited by the premium. Medicare Part B premiums are the responsibility of the retiree. The City does not contribute to coverage for dependent children.

City Contribution[1]	
Pre-Medicare:	
Retiree/Surviving Spouse	Single Retiree Premium less 50% of the amount the Single Active Premium exceeds the 10-County Amount
Spouse/Domestic Partner	50% of the difference between the Single and Dual Retiree Coverage Premiums
Medicare Eligible:	
Retiree/Surviving Spouse	100% of Single Retiree Premium, up to the 10-County Amount
Spouse/Domestic Partner	50% of the difference between the Single and Dual Retiree Coverage Premiums

[1] *For participants terminated on or before 6/30/2001 and not yet retired on or before 1/6/2012, Proposition C (passed 11/8/2011) removes the additional City Contribution put in place by Proposition E (passed 11/7/2000), which decreased the amount the retiree pays for one dependent coverage by half.*

Vesting Schedule[1] (based on years of service)	
Originally hired on or before January 9, 2009 (with 5 years)	100%
Originally hired on or after January 10, 2009	
Under 10 years	0%
10 to 15 years	50%
15 to 20 years	75%
Over 20 years	100%

[1] *Proposition B, passed 6/3/2008, introduced this vesting schedule to the postretirement health benefit plan. Participants retiring under disability or benefiting under the active death benefit receive 100% of the City Contribution, regardless of hire date and service. The participant's vesting schedule is based on their original hire date.*

APPENDIX C – SUMMARY OF PLAN PROVISIONS

10-County Amount: The 10-County Amount (historical amounts are listed in the table below) is the average of the monthly employer contribution in the 10 most populous counties in California (other than San Francisco).

10-County Amount	
Period Ending	
December 31, 2022	$ 761.94
December 31, 2023[1]	$ 780.76

[1] *Calculated amount*

Retiree Health Care Trust Fund Contributions

The City and County of San Francisco created the Retiree Health Care Trust Fund (RHCTF) as an irrevocable trust fund established under City Charter Section A8.432.

The employee's contribution is based on their latest date of hire.

Employees most recently hired before January 10, 2009: Once the plan is fully funded, employees contribute the lesser of 50% of the normal cost or 1% of payroll and the employer contributes the remainder of the normal cost. Prior to becoming fully funded, employee contributions are the lesser of 100% of normal cost or 1% of payroll and employer contributions are 1% of payroll.

Employees most recently hired on or after January 10, 2009: Once the plan is fully funded, employees contribute the lesser of 50% of the normal cost or 2% of payroll and the employer contributes the remainder of the normal cost. Prior to becoming fully funded, employee contributions are the lesser of 100% of normal cost or 2% of payroll and employer contributions are 1% of payroll.

APPENDIX C – SUMMARY OF PLAN PROVISIONS

Disbursements from Retiree Health Care Trust Fund

Other than disbursements described below to stabilize City contributions and disbursements for reasonable administrative expenses, no disbursements may be made from the RHCTF unless it is fully funded.

If City retiree health care costs (RHCTF contributions plus benefit payments) are projected to exceed 10% of payroll, with approval of the Mayor and by resolution of the Board of Supervisors, the RHCTF Board may authorize stabilization disbursements up to the extent necessary to reduce the City's retiree health care costs to 10% of payroll provided that such stabilization disbursement does not exceed 10% of the balance in the RHCTF as of the prior year.

Changes Since Last Measurement Date

There have been no changes to the plan provisions since the last measurement date.

APPENDIX D – DETERMINATION OF DISCOUNT RATE

FYE	Beginning Fiduciary Net Position	Contributions	Admin Expenses	Benefit Payments	Investment Earnings	Ending Fiduciary Net Position	"Funded" Portion of Benefit Payments	"Unfunded" Portion of Benefit Payments
2023	$ 739,880	$ 299,437	$ 195	$ 205,516	$ 55,017	$ 888,622	$ 205,516	$ 0
2024	888,622	309,448	202	217,872	65,348	1,045,343	217,872	0
2025	1,045,343	325,228	208	235,754	76,245	1,210,854	235,754	0
2026	1,210,854	340,791	215	253,478	87,757	1,385,710	253,478	0
2027	1,385,710	357,106	222	272,064	99,918	1,570,447	272,064	0
2028	1,570,447	373,931	229	291,184	112,771	1,765,736	291,184	0
2029	1,765,736	390,001	237	309,612	126,359	1,972,247	309,612	0
2030	1,972,247	404,928	244	326,978	140,731	2,190,684	326,978	0
2031	2,190,684	419,731	252	344,268	155,936	2,421,831	344,268	0
2032	2,421,831	434,625	260	361,723	172,028	2,666,500	361,723	0
2033	2,666,500	449,637	269	379,329	189,065	2,925,604	379,329	0
2034	2,925,604	462,855	278	395,174	207,111	3,200,119	395,174	0
2035	3,200,119	475,650	287	410,606	226,236	3,491,112	410,606	0
2036	3,491,112	488,415	296	426,086	246,512	3,799,657	426,086	0
2037	3,799,657	501,410	306	441,862	268,014	4,126,914	441,862	0
2038	4,126,914	515,330	316	458,676	290,822	4,474,075	458,676	0
2039	4,474,075	529,417	326	475,817	315,018	4,842,367	475,817	0
2040	4,842,367	544,451	336	493,991	340,690	5,233,181	493,991	0
2041	5,233,181	559,996	347	512,765	367,936	5,648,000	512,765	0
2042	5,648,000	575,646	359	531,802	396,856	6,088,341	531,802	0
2043	6,088,341	590,883	370	550,607	427,557	6,555,804	550,607	0
2044	6,555,804	605,874	382	569,289	460,152	7,052,159	569,289	0
2045	7,052,159	618,415	395	585,565	494,768	7,579,381	585,565	0
2046	7,579,381	629,387	408	600,286	531,544	8,139,618	600,286	0
2047	8,139,618	31,573	421	611,896	549,791	8,108,665	611,896	0

Amounts in Thousands

APPENDIX D – DETERMINATION OF DISCOUNT RATE

FYE	Beginning Fiduciary Net Position	Contributions	Admin Expenses	Benefit Payments	Investment Earnings	Ending Fiduciary Net Position	"Funded" Portion of Benefit Payments	"Unfunded" Portion of Benefit Payments
2048	$ 8,108,665	$ 27,051	$ 434	$ 622,414	$ 547,106	$ 8,059,973	$ 622,414	$ 0
2049	8,059,973	22,830	449	630,760	543,265	7,994,860	630,760	0
2050	7,994,860	19,017	463	638,054	538,324	7,913,683	638,054	0
2051	7,913,683	15,640	478	640,564	532,439	7,820,720	640,564	0
2052	7,820,720	12,714	494	642,293	525,771	7,716,419	642,293	0
2053	7,716,419	10,223	510	642,029	518,393	7,602,495	642,029	0
2054	7,602,495	8,126	526	638,571	510,464	7,481,987	638,571	0
2055	7,481,987	6,394	544	633,751	502,134	7,356,221	633,751	0
2056	7,356,221	4,981	561	628,649	493,457	7,225,449	628,649	0
2057	7,225,449	3,838	579	622,296	484,482	7,090,893	622,296	0
2058	7,090,893	2,916	598	614,613	475,295	6,953,892	614,613	0
2059	6,953,892	2,187	618	608,513	465,889	6,812,838	608,513	0
2060	6,812,838	1,616	638	601,040	456,252	6,669,028	601,040	0
2061	6,669,028	1,173	659	594,203	446,404	6,521,744	594,203	0
2062	6,521,744	838	680	588,498	436,278	6,369,683	588,498	0
2063	6,369,683	586	702	582,714	425,824	6,212,677	582,714	0
2064	6,212,677	401	725	576,684	415,034	6,050,703	576,684	0
2065	6,050,703	268	748	570,828	403,892	5,883,286	570,828	0
2066	5,883,286	176	773	564,407	392,389	5,710,671	564,407	0
2067	5,710,671	114	798	557,036	380,557	5,533,508	557,036	0
2068	5,533,508	72	824	548,375	368,451	5,352,833	548,375	0
2069	5,352,833	45	851	538,358	356,147	5,169,816	538,358	0
2070	5,169,816	27	878	526,900	343,728	4,985,793	526,900	0
2071	4,985,793	16	907	513,887	331,293	4,802,309	513,887	0
2072	4,802,309	9	936	499,331	318,949	4,620,999	499,331	0

Amounts in Thousands

APPENDIX D – DETERMINATION OF DISCOUNT RATE

FYE	Beginning Fiduciary Net Position	Contributions	Admin Expenses	Benefit Payments	Investment Earnings	Ending Fiduciary Net Position	"Funded" Portion of Benefit Payments	"Unfunded" Portion of Benefit Payments
2073	$ 4,620,999	$ 5	$ 967	$ 483,259	$ 306,809	$ 4,443,587	$ 483,259	$ 0
2074	4,443,587	2	998	465,722	294,992	4,271,862	465,722	0
2075	4,271,862	1	1,030	446,815	283,621	4,107,637	446,815	0
2076	4,107,637	0	1,064	426,727	272,815	3,952,662	426,727	0
2077	3,952,662	0	1,098	405,656	262,691	3,808,598	405,656	0
2078	3,808,598	0	1,134	383,729	253,359	3,677,094	383,729	0
2079	3,677,094	0	1,171	361,097	244,932	3,559,758	361,097	0
2080	3,559,758	0	1,209	337,923	237,514	3,458,140	337,923	0
2081	3,458,140	0	1,248	314,392	231,209	3,373,709	314,392	0
2082	3,373,709	0	1,289	290,701	226,113	3,307,832	290,701	0
2083	3,307,832	0	1,331	267,053	222,314	3,261,761	267,053	0
2084	3,261,761	0	1,374	243,659	219,892	3,236,621	243,659	0
2085	3,236,621	0	1,419	220,724	218,920	3,233,398	220,724	0
2086	3,233,398	0	1,465	198,449	219,459	3,252,943	198,449	0
2087	3,252,943	0	1,513	177,021	221,563	3,295,972	177,021	0
2088	3,295,972	0	1,562	156,611	225,276	3,363,075	156,611	0
2089	3,363,075	0	1,612	137,364	230,633	3,454,731	137,364	0
2090	3,454,731	0	1,665	119,401	237,666	3,571,331	119,401	0
2091	3,571,331	0	1,719	102,815	246,396	3,713,193	102,815	0
2092	3,713,193	0	1,775	87,663	256,846	3,880,601	87,663	0
2093	3,880,601	0	1,832	73,975	269,034	4,073,828	73,975	0
2094	4,073,828	0	1,892	61,751	282,978	4,293,163	61,751	0
2095	4,293,163	0	1,954	50,964	298,701	4,538,946	50,964	0
2096	4,538,946	0	2,017	41,563	316,227	4,811,592	41,563	0
2097	4,811,592	0	2,083	33,478	335,588	5,111,620	33,478	0

Amounts in Thousands

APPENDIX D – DETERMINATION OF DISCOUNT RATE

FYE	Beginning Fiduciary Net Position	Contributions	Admin Expenses	Benefit Payments	Investment Earnings	Ending Fiduciary Net Position	"Funded" Portion of Benefit Payments	"Unfunded" Portion of Benefit Payments
2098	$ 5,111,620	$ 0	$ 2,150	$ 26,614	$ 356,824	$ 5,439,679	$ 26,614	$ 0
2099	5,439,679	0	2,220	20,869	379,983	5,796,573	20,869	0
2100	5,796,573	0	2,292	16,132	405,126	6,183,275	16,132	0
2101	6,183,275	0	2,367	12,285	432,325	6,600,948	12,285	0
2102	6,600,948	0	2,444	9,210	461,665	7,050,960	9,210	0
2103	7,050,960	0	2,523	6,793	493,247	7,534,890	6,793	0
2104	7,534,890	0	2,605	4,927	527,183	8,054,541	4,927	0
2105	8,054,541	0	2,690	3,511	563,605	8,611,945	3,511	0
2106	8,611,945	0	2,777	2,457	602,656	9,209,366	2,457	0
2107	9,209,366	0	2,867	1,687	644,499	9,849,310	1,687	0
2108	9,849,310	0	2,961	1,137	689,311	10,534,524	1,137	0
2109	10,534,524	0	3,057	750	737,286	11,268,002	750	0
2110	11,268,002	0	3,156	485	788,635	12,052,995	485	0
2111	12,052,995	0	3,259	307	843,587	12,893,016	307	0
2112	12,893,016	0	3,365	190	902,389	13,791,850	190	0
2113	13,791,850	0	3,474	115	965,306	14,753,567	115	0
2114	14,753,567	0	3,587	68	1,032,624	15,782,536	68	0
2115	15,782,536	0	3,704	39	1,104,649	16,883,442	39	0
2116	16,883,442	0	3,824	22	1,181,709	18,061,305	22	0
2117	18,061,305	0	3,948	12	1,264,155	19,321,500	12	0
2118	19,321,500	0	4,077	6	1,352,364	20,669,781	6	0
2119	20,669,781	0	4,209	3	1,446,740	22,112,309	3	0
2120	22,112,309	0	4,346	2	1,547,712	23,655,673	2	0
2121	23,655,673	0	4,487	1	1,655,743	25,306,928	1	0
2122	25,306,928	0	4,633	0	1,771,326	27,073,621	0	0

Amounts in Thousands

APPENDIX E – GLOSSARY OF TERMS

1. Actuarially Determined Contribution

A target or recommended contribution 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.

2. Actuarial Valuation Date

The date as of which an actuarial valuation is performed. This date may be up to 24 months prior to the measurement date and up to 30 months prior to the employer's reporting date.

3. Deferred Inflow of Resources

An acquisition of net assets by a government employer that is applicable to a future reporting period. In the context of GASB 75, these are experience gains on the Total OPEB Liability, assumption changes reducing the Total OPEB Liability, or investment gains that are recognized in future reporting periods.

4. Deferred Outflow of Resources

A consumption of net assets by a government employer that is applicable to a future reporting period. In the context of GASB 75, these are experience losses on the Total OPEB Liability, assumption changes increasing the Total OPEB Liability, or investment losses that are recognized in future reporting periods.

5. Entry Age Actuarial Cost Method

The actuarial cost method required for GASB 74 and 75 calculations. Under this method, 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 of the individual between entry age and assumed exit ages. The portion of this actuarial present value allocated to a valuation year is called the service cost. The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future service costs is called the Total OPEB Liability.

6. Measurement Date

The date as of which the Total OPEB liability and Plan Fiduciary Net Position are measured. The Total OPEB Liability may be projected from the actuarial valuation date to the measurement date. The measurement date must be the same as the reporting date for the plan.

APPENDIX E – GLOSSARY OF TERMS

7. Net OPEB Liability

The liability of employers and nonemployer contributing entities for employees for benefits provided through a defined benefit OPEB plan. It is calculated as the Total OPEB Liability less the plan fiduciary net position.

8. Plan Fiduciary Net Position

The fair or Market Value of Assets.

9. Reporting Date

The last day of the plan or employer's fiscal year.

10. Service Cost

The portion of the actuarial present value of projected benefit payments that is attributed to the current period of employee service in conformity with the requirements of GASB 74 and 75. The service cost is the normal cost calculated under the Entry Age Actuarial Cost Method.

11. Total OPEB Liability

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 74 and 75. The Total OPEB Liability is the Actuarial Liability calculated under the Entry Age Actuarial Cost Method.

Classic Values, Innovative Advice

California Public Employees' Retirement System
Actuarial Office
400 Q Street, Sacramento, CA 95811 | Phone: (916) 795-3000 | Fax: (916) 795-2744
888 CalPERS (or **888**-225-7377) | TTY: (877) 249-7442 | **www.calpers.ca.gov**

July 2024

Miscellaneous Plan of the Bay Area Water Supply and Conservation Agency (CalPERS ID: 3304364524)
Annual Valuation Report as of June 30, 2023

Dear Employer,

Attached to this letter is Section 1 of the June 30, 2023 actuarial valuation report for the rate plan noted above. **Provided in this report is the determination of the minimum required employer contributions for fiscal year (FY) 2025-26**. In addition, the report contains important information regarding the current financial status of the plan as well as projections and risk measures to aid in planning for the future.

Because this plan is in a risk pool, the following valuation report has been separated into two sections:

- Section 1 contains specific information for the plan including the development of the current and projected employer contributions, and
- Section 2 contains the Risk Pool Actuarial Valuation appropriate to the plan as of June 30, 2023.

Section 2 can be found on the CalPERS website (www.calpers.ca.gov). From the home page, go to *"Forms & Publications*" and select "*View All*". In the search box, enter *"Risk Pool*" and from the results list download the Miscellaneous Risk Pool Actuarial Valuation Report for June 30, 2023.

Required Contributions

The table below shows the minimum required employer contributions for FY 2025-26 along with an estimate of the employer contribution requirements for FY 2026-27. Employee contributions other than cost sharing (whether paid by the employer or the employee) are in addition to the results shown below. **The required employer contributions in this report do not reflect any cost sharing arrangement between the agency and the employees.**

Fiscal Year	Employer Normal Cost Rate	Employer Amortization of Unfunded Accrued Liability
2025-26	13.91%	$101,368
Projected Results		
2026-27	*13.9%*	*$111,000*

The actual investment return for FY 2023-24 was not known at the time this report was prepared. The projections above assume the investment return for that year would be 6.8%. To the extent the actual investment return for FY 2023-24 differs from 6.8%, the actual contribution requirements for FY 2026-27 will differ from those shown above. For additional details regarding the assumptions and methods used for these projections, please refer to Projected Employer Contributions. This section also contains projected required contributions through FY 2030-31.

Report Enhancements

A number of enhancements were made to the report this year to ease navigation and allow the reader to find specific information more quickly. The tables of contents are now "clickable." This is true for the main table of contents that follows the title page and the intermediate tables of contents at the beginning of sections. The Adobe navigation pane on the left can also be used to skip to specific exhibits.

There are a number of links throughout the document in blue text. Links that are internal to the document are not underlined, while underlined links will take you to the CalPERS website. Examples are shown below.

Internal Bookmarks	CalPERS Website Links
Required Employer Contributions	Required Employer Contribution Search Tool
Member Contribution Rates	Public Agency PEPRA Member Contribution Rates
Summary of Key Valuation Results	Pension Outlook Overview
Funded Status – Funding Policy Basis	Interactive Summary of Public Agency Valuation Results
Projected Employer Contributions	Public Agency Actuarial Valuation Reports

Further descriptions of general changes are included in the Highlights and Executive Summary section and in Appendix A - Actuarial Methods and Assumptions in Section 2.

Questions

A CalPERS actuary is available to answer questions about this report. Other questions may be directed to the Customer Contact Center at **888 CalPERS** (or **888**-225-7377).

Sincerely,

Julian Robinson, FSA, EA, MAAA
Senior Actuary, CalPERS

Randall Dziubek, ASA, MAAA
Deputy Chief Actuary, Valuation Services, CalPERS

Scott Terando, ASA, EA, MAAA, FCA, CFA
Chief Actuary, CalPERS

California Public Employees' Retirement System

Actuarial Valuation for the Miscellaneous Plan of the Bay Area Water Supply and Conservation Agency

as of June 30, 2023

(CalPERS ID: 3304364524)
(Rate Plan ID: 4540)

Required Contributions for Fiscal Year

July 1, 2025 — June 30, 2026

CalPERS

Table of Contents

Section 1

California Public Employees' Retirement System

Plan Specific Information for the Miscellaneous Plan of the Bay Area Water Supply and Conservation Agency

(CalPERS ID: 3304364524)
(Rate Plan ID: 4540)

Table of Contents — Section 1

Actuarial Certification

It is our opinion that the valuation has been performed in accordance with generally accepted actuarial principles as well as the applicable Standards of Practice promulgated by the Actuarial Standards Board. While this report, consisting of Section 1 and Section 2, is intended to be complete, our office is available to answer questions as needed. All of the undersigned are actuaries who satisfy the *Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States* of the American Academy of Actuaries with regard to pensions.

Actuarial Methods and Assumptions

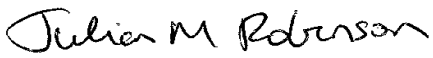
It is our opinion that the assumptions and methods, as recommended by the Chief Actuary and adopted by the CalPERS Board of Administration, are internally consistent and reasonable for this plan.

Randall Dziubek, ASA, MAAA
Deputy Chief Actuary, Valuation Services, CalPERS

Scott Terando, ASA, EA, MAAA, FCA, CFA
Chief Actuary, CalPERS

Actuarial Data and Rate Plan Results

To the best of my knowledge and having relied upon the attestation above that the actuarial methods and assumptions are reasonable as well as the information in Section 2 of this report, this report is complete and accurate and contains sufficient information to disclose, fully and fairly, the funded condition of the Miscellaneous Plan of the Bay Area Water Supply and Conservation Agency and satisfies the actuarial valuation requirements of Government Code section 7504. This valuation and related validation work was performed by the CalPERS Actuarial Office. The valuation was based on the member and financial data as of June 30, 2023, provided by the various CalPERS databases and the benefits under this plan with CalPERS as of the date this report was produced. Section 1 of this report is based on the member and financial data for Bay Area Water Supply and Conservation Agency, while Section 2 is based on the corresponding information for all agencies participating in the Miscellaneous Risk Pool to which the plan belongs.



Julian Robinson, FSA, EA, MAAA
Senior Actuary, CalPERS

Highlights and Executive Summary

Introduction

This report presents the results of the June 30, 2023, actuarial valuation of the Miscellaneous Plan of the Bay Area Water Supply and Conservation Agency of the California Public Employees' Retirement System (CalPERS). This actuarial valuation sets the minimum required contributions for fiscal year (FY) 2025-26.

Purpose of Section 1

This Section 1 report for the Miscellaneous Plan of the Bay Area Water Supply and Conservation Agency of CalPERS was prepared by the Actuarial Office using data as of June 30, 2023. The purpose of the valuation is to:

- Set forth the assets and accrued liabilities of this rate plan as of June 30, 2023;
- Determine the minimum required employer contributions for this rate plan for FY July 1, 2025, through June 30, 2026;
- Determine the required member contribution rate for FY July 1, 2025, through June 30, 2026, for employees subject to the California Public Employees' Pension Reform Act of 2013 (PEPRA); and
- Provide actuarial information as of June 30, 2023, to the CalPERS Board of Administration (board) and other interested parties.

The pension funding information presented in this report should not be used in financial reports subject to Governmental Accounting Standards Board (GASB) Statement No. 68 for a Cost Sharing Employer Defined Benefit Pension Plan. A separate accounting valuation report for such purposes is available on the CalPERS website (www.calpers.ca.gov).

The measurements shown in this actuarial valuation may not be applicable for other purposes. The agency should contact a CalPERS actuary before disseminating any portion of this report for any reason that is not explicitly described above.

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; changes in actuarial policies; changes in plan provisions or applicable law; and differences between the required contributions determined by the valuation and the actual contributions made by the agency.

Assessment and Disclosure of Risk

This report includes the following risk disclosures consistent with the guidance of Actuarial Standards of Practice No. 51 and recommended by the California Actuarial Advisory Panel (CAAP) in the Model Disclosure Elements document:

- A "Scenario Test," projecting future results under different investment income returns.
- A "Sensitivity Analysis," showing the impact on current valuation results using alternative discount rates of 5.8% and 7.8%.
- A "Sensitivity Analysis," showing the impact on current valuation results assuming rates of mortality are 10% lower or 10% higher than our current post-retirement mortality assumptions adopted in 2021.
- Plan maturity measures indicating how sensitive a plan may be to the risks noted above.

Summary of Key Valuation Results

Below is a brief summary of key valuation results along with page references where more detailed information can be found .

Required Employer Contributions — page 8

	Fiscal Year 2024-25	Fiscal Year 2025-26
Employer Normal Cost Rate	13.84%	13.91%
Unfunded Accrued Liability (UAL) Contribution Amount	$82,691	$101,368
Paid either as		
Option 1) 12 Monthly Payments of	$6,890.92	$8,447.33
Option 2) Annual Prepayment in July	$80,015	$98,088

Member Contribution Rates — page 9

	Fiscal Year 2024-25	Fiscal Year 2025-26
Member Contribution Rate	7.00%	7.00%

Projected Employer Contributions — page 14

Fiscal Year	Normal Cost (% of payroll)	Annual UAL Payment
2026-27	13.9%	$111,000
2027-28	13.9%	$119,000
2028-29	13.9%	$137,000
2029-30	13.9%	$140,000
2030-31	13.9%	$142,000

Funded Status — Funding Policy Basis — page 12

	June 30, 2022	June 30, 2023
Entry Age Accrued Liability (AL)	$4,933,830	$5,521,294
Market Value of Assets (MVA)	3,911,543	4,372,108
Unfunded Accrued Liability (UAL) [AL – MVA]	$1,022,287	$1,149,186
Funded Ratio [MVA ÷ AL]	79.3%	79.2%

Summary of Valuation Data — Page 26

	June 30, 2022	June 30, 2023
Active Member Count	5	5
Annual Covered Payroll	$925,264	$976,009
Transferred Member Count	1	1
Separated Member Count	2	1
Retired Members and Beneficiaries Count	3	3

Changes Since the Prior Year's Valuation

Benefits

The standard actuarial practice at CalPERS is to recognize mandated legislative benefit changes in the first annual valuation following the effective date of the legislation. For pooled rate plans, voluntary benefit changes by plan amendment are generally included in the first valuation with a valuation date on or after the effective date of the amendment.

Please refer to the Plan's Major Benefit Options in this report and Appendix B of the Section 2 Report for a summary of the plan provisions used in this valuation.

Actuarial Methods and Assumptions

There are no significant changes to the actuarial methods or assumptions for the June 30, 2023, actuarial valuation.

New Disclosure Items

In December 2021, the Actuarial Standards Board issued a revision of Actuarial Standard of Practice No. 4 (ASOP 4) requiring actuaries to disclose a low-default-risk obligation measure (LDROM) of the benefits earned. This information is shown in a new exhibit, Funded Status – Low-Default-Risk Basis.

Subsequent Events

This actuarial valuation report reflects fund investment return through June 30, 2023, as well as statutory changes, regulatory changes and board actions through January 2024.

During the time period between the valuation date and the publication of this report, inflation has been higher than the expected inflation of 2.3% per annum. Since inflation influences cost-of-living increases for retirees and beneficiaries and active member pay increases, higher inflation is likely to put at least some upward pressure on contribution requirements and downward pressure on the funded status in the June 30, 2024, valuation. The actual impact of higher inflation on future valuation results will depend on, among other factors, how long higher inflation persists.

The 2023 annual benefit limit under Internal Revenue Code (IRC) section 415(b) and annual compensation limits under IRC section 401(a)(17) and Government Code section 7522.10 were used for this valuation and are assumed to increase 2.3% per year based on the price inflation assumption. The actual 2024 limits, determined in October 2023, are not reflected.

On April 16, 2024, the board took action to modify the Funding Risk Mitigation Policy to remove the automatic change to the discount rate when the investment return exceeds various thresholds. Rather than an automatic change to the discount rate, a board discussion would be placed on the calendar. The 95th percentile return in the Future Investment Return Scenarios exhibit in this report has not been modified and still reflects the projected contribution requirements associated with a reduction in the discount rate.

To the best of our knowledge, there have been no other subsequent events that could materially affect current or future certifications rendered in this report.

Liabilities and Contributions

Determination of Required Contributions

Contributions to fund the plan are determined by an actuarial valuation performed each year. The valuation employs complex calculations based on a set of actuarial assumptions and methods. See Appendix A in Section 2 for information on the assumptions and methods used in this valuation. The valuation incorporates all plan experience through the valuation date and sets required contributions for the fiscal year that begins two years after the valuation date.

Contribution Components

Two components comprise required contributions:

- Normal Cost — expressed as a percentage of pensionable payroll
- Unfunded Accrued Liability (UAL) Contribution — expressed as a dollar amount

Normal Cost represents the value of benefits allocated to the upcoming year for active employees. If all plan experience exactly matched the actuarial assumptions, normal cost would be sufficient to fully fund all benefits. The employer and employees each pay a share of the normal cost with contributions payable as part of the regular payroll reporting process. The contribution rate for Classic members is set by statute based on benefit formula whereas for PEPRA members it is based on 50% of the total normal cost.

When plan experience differs from the actuarial assumptions, unfunded accrued liability (UAL) emerges. The new UAL may be positive or negative. If the total UAL is positive (i.e., accrued liability exceeds assets), the employer is required to make contributions to pay off the UAL over time. This is called the Unfunded Accrued Liability Contribution component. There is an option to prepay this amount during July of each fiscal year, otherwise it is paid monthly.

In measuring the UAL each year, plan experience is split by source. Common sources of UAL include investment experience different than expected, non-investment experience different than expected, assumption changes and benefit changes. Each source of UAL (positive or negative) forms a base that is amortized, or paid off, over a specified period of time in accordance with the CalPERS Actuarial Amortization Policy. The Unfunded Accrued Liability Contribution is the sum of the payments on all bases. See the Schedule of Amortization Bases section of this report for an inventory of existing bases and Appendix A in Section 2 for more information on the amortization policy.

Required Employer Contributions

The required employer contributions in this report do not reflect any cost sharing arrangement between the agency and the employees.

Required Employer Contributions	Fiscal Year 2025-26
Employer Normal Cost Rate	**13.91%**
Plus	
Unfunded Accrued Liability (UAL) Contribution Amount[1]	**$101,368**
Paid either as	
1) Monthly Payment	**$8,447.33**
Or	
2) Annual Prepayment Option*	**$98,088**

The total minimum required employer contribution is the sum of the Plan's Employer Normal Cost Rate (expressed as a percentage of payroll and paid as payroll is reported) and the Unfunded Accrued Liability (UAL) Contribution Amount (billed monthly (1) or prepaid annually (2) in dollars).

* Only the UAL portion of the employer contribution can be prepaid **(which must be received in full no later than July 31)**.

For Member Contribution Rates see the following page.

Development of Normal Cost as a Percentage of Payroll	Fiscal Year 2024-25	Fiscal Year 2025-26
Base Total Normal Cost for Formula	18.81%	18.87%
Surcharge for Class 1 Benefits[2]		
a) FAC 1	0.64%	0.64%
b) PRSA	0.79%	0.80%
c) 3% COLA	0.53%	0.53%
Plan's Total Normal Cost	20.77%	20.84%
Offset Due to Employee Contributions[3]	6.93%	6.93%
Employer Normal Cost	13.84%	13.91%

[1] The required payment on amortization bases does not take into account any additional discretionary payment made after April 30, 2024.

[2] Section 2 of this report contains a list of Class 1 benefits and corresponding surcharges.

[3] This is the expected employee contributions, taking into account individual benefit formula and any offset from the use of a modified formula, divided by projected annual payroll. For member contribution rates above the breakpoint for each benefit formula, see Member Contribution Rates.

Member Contribution Rates

The required member contributions in this report do not reflect any cost sharing arrangement between the agency and the employees.

Each member contributes toward their retirement based upon the retirement formula. The standard Classic member contribution rate above the breakpoint, if any, is as described below.

Benefit Formula	Percent Contributed above the Breakpoint
Miscellaneous, 1.5% at age 65	2%
Miscellaneous, 2% at age 60	7%
Miscellaneous, 2% at age 55	7%
Miscellaneous, 2.5% at age 55	8%
Miscellaneous, 2.7% at age 55	8%
Miscellaneous, 3% at age 60	8%

Auxiliary organizations of the CSU system may elect reduced contribution rates for Miscellaneous members, in which case the contribution rate above the breakpoint is 6% if members are not covered by Social Security and 5% if they are.

Other Pooled Miscellaneous Risk Pool Rate Plans

All of the results presented in this Section 1 report, except those shown on this page, correspond to rate plan 4540. In many cases, employers have additional rate plans within the same risk pool. For cost analysis and budgeting it is useful to consider contributions for these rate plans as a whole rather than individually. The estimated contribution amounts and rates for all of the employer's rate plans in the Miscellaneous Risk Pool are shown below and assume that the total employer payroll within the Miscellaneous Risk Pool will grow according to the overall payroll growth assumption of 2.80% per year for three years. Classic members who are projected to terminate employment are assumed to be replaced by PEPRA members.

Estimated Employer Contributions for all Pooled Miscellaneous Rate Plans	Fiscal Year 2024-25	Fiscal Year 2025-26
Projected Payroll for the Contribution Year	$1,503,483	$1,569,084
Estimated Employer Normal Cost	$170,757	$179,522
Required Payment on Amortization Bases	$85,252	$106,946
Estimated Total Employer Contributions	$256,009	$286,468
Estimated Total Employer Contribution Rate (illustrative only)	17.03%	18.26%

Breakdown of Entry Age Accrued Liability

Active Members	$4,358,760
Transferred Members	46,675
Separated Members	54,008
Members and Beneficiaries Receiving Payments	1,061,851
Total	$5,521,294

Allocation of Plan's Share of Pool's Experience

It is the policy of CalPERS to ensure equity within the risk pools by allocating the pool's experience gains/losses and assumption changes in a manner that treats each employer equitably and maintains benefit security for the members of the System while minimizing substantial variations in employer contributions. The pool's experience gains/losses and impact of assumption/method changes is allocated to the plan as follows:

1.	Plan's Accrued Liability	$5,521,294
2.	Projected UAL Balance at 6/30/2023	1,035,604
3.	Other UAL Adjustments (Golden Handshake, Prior Service Purchase, etc.)	0
4.	Adjusted UAL Balance at 6/30/2023 for Asset Share	1,035,604
5.	Pool's Accrued Liability[1]	23,349,910,053
6.	Sum of Pool's Individual Plan UAL Balances at 6/30/2023[1]	5,227,602,209
7.	Pool's 2022-23 Investment (Gain)/Loss[1]	114,855,623
8.	Pool's 2022-23 Non-Investment (Gain)/Loss[1]	360,116,330
9.	Plan's Share of Pool's Investment (Gain)/Loss: [(1) - (4)] ÷ [(5) - (6)] × (7)	28,429
10.	Plan's Share of Pool's Non-Investment (Gain)/Loss: (1) ÷ (5) × (8)	85,153
11.	Plan's New (Gain)/Loss as of 6/30/2023: (9) + (10)	113,582
12.	Increase in Pool's Accrued Liability due to Change in Assumptions[1]	0
13.	Plan's Share of Pool's Change in Assumptions: (1) ÷ (5) × (12)	0
14.	Increase in Pool's Accrued Liability due to Funding Risk Mitigation[1]	0
15.	Plan's Share of Pool's Change due to Funding Risk Mitigation: (1) ÷ (5) × (14)	0
16.	Offset due to Funding Risk Mitigation	0
17.	Plan's Investment (Gain)/Loss: (9) – (16)	28,429

[1] Does not include plans that transferred to the pool on the valuation date.

Development of the Plan's Share of Pool's Assets

18.	Plan's UAL: (2) + (3) + (11) + (13) + (15)	$1,149,186
19.	Plan's Share of Pool's Market Value of Assets (MVA): (1) - (18)	$4,372,108

For a reconciliation of the pool's Market Value of Assets (MVA), information on the fund's asset allocation and a history of CalPERS investment returns, see Section 2, which can be found on the CalPERS website (www.calpers.ca.gov).

Funded Status – Funding Policy Basis

The table below provides information on the current funded status of the plan under the funding policy. The funded status for this purpose is based on the market value of assets relative to the funding target produced by the entry age actuarial cost method and actuarial assumptions adopted by the board. The actuarial cost method allocates the total expected cost of a member's projected benefit (Present Value of Benefits) to individual years of service (the Normal Cost). The value of the projected benefit that is not allocated to future service is referred to as the Accrued Liability and is the plan's funding target on the valuation date. The Unfunded Accrued Liability (UAL) equals the funding target minus the assets. The UAL is an absolute measure of funded status and can be viewed as employer debt. The funded ratio equals the assets divided by the funding target. The funded ratio is a relative measure of the funded status and allows for comparisons between plans of different sizes.

	June 30, 2022	June 30, 2023
1. Present Value of Benefits	$6,094,736	$6,694,318
2. Entry Age Accrued Liability	4,933,830	5,521,294
3. Market Value of Assets (MVA)	3,911,543	4,372,108
4. Unfunded Accrued Liability (UAL) [(2) – (3)]	$1,022,287	$1,149,186
5. Funded Ratio [(3) ÷ (2)]	79.3%	79.2%

A funded ratio of 100% (UAL of $0) implies that the funding of the plan is on target and that future contributions equal to the normal cost of the active plan members will be sufficient to fully fund all retirement benefits if future experience matches the actuarial assumptions. A funded ratio of less than 100% (positive UAL) implies that in addition to normal costs, payments toward the UAL will be required. Plans with a funded ratio greater than 100% have a negative UAL (or surplus) but are required under current law to continue contributing the normal cost in most cases, preserving the surplus for future contingencies.

Calculations for the funding target reflect the expected long-term investment return of 6.8%. If it were known on the valuation date that future investment returns will average something greater/less than the expected return, calculated normal costs and accrued liabilities provided in this report would be less/greater than the results shown. Therefore, for example, if actual average future returns are less than the expected return, calculated normal costs and UAL contributions will not be sufficient to fully fund all retirement benefits. Under this scenario, required future normal cost contributions will need to increase from those provided in this report, and the plan will develop unfunded liabilities that will also add to required future contributions. For illustrative purposes, funded statuses based on a 1% lower and higher average future investment return (discount rate) are as follows:

	1% Lower Average Return	Current Assumption	1% Higher Average Return
Discount Rate	5.8%	6.8%	7.8%
1. Entry Age Accrued Liability	$6,315,931	$5,521,294	$4,859,421
2. Market Value of Assets (MVA)	4,372,108	4,372,108	4,372,108
3. Unfunded Accrued Liability (UAL) [(1) – (2)]	$1,943,823	$1,149,186	$487,313
4. Funded Ratio [(2) ÷ (1)]	69.2%	79.2%	90.0%

The Risk Analysis section of the report provides additional information regarding the sensitivity of valuation results to the expected investment return and other factors. Also provided in that section are measures of funded status that are appropriate for assessing the sufficiency of plan assets to cover estimated termination liabilities.

Additional Employer Contributions

The minimum required employer contribution towards the Unfunded Accrued Liability (UAL) for this rate plan for FY 2025-26 is $101,368. CalPERS allows agencies to make additional discretionary payments (ADPs) at any time. These optional payments serve to reduce the UAL and future required contributions and can result in significant long-term savings. Agencies can also use ADPs to stabilize annual contributions as a fixed dollar amount, percent of payroll or percent of revenue.

Provided below are select ADP options for consideration. Making such an ADP during FY 2025-26 does not require an ADP be made in any future year, nor does it change the remaining amortization period of any portion of unfunded liability. For information on permanent changes to amortization periods, see Amortization Schedule and Alternatives. Agencies considering making an ADP should contact CalPERS for additional information.

Fiscal Year 2025-26 Employer Contributions — Illustrative Scenarios

Funding Approach	Estimated Normal Cost	Minimum UAL Contribution	ADP[1]	Total UAL Contribution	Estimated Total Contribution
Minimum required only	$114,439	$101,368	0	$101,368	$215,807
20 year funding horizon	$114,439	$101,368	$2,466	$103,834	$218,273
15 year funding horizon	$114,439	$101,368	$19,763	$121,131	$235,570
10 year funding horizon	$114,439	$101,368	$56,246	$157,614	$272,053
5 year funding horizon	$114,439	$101,368	$169,679	$271,047	$385,486

[1] The ADP amounts are assumed to be made in the middle of the fiscal year. A payment made earlier or later in the fiscal year would have to be less or more than the amount shown to have the same effect on the UAL amortization.

The calculations above are based on the projected UAL as of June 30, 2025, as determined in the June 30, 2023, actuarial valuation. New unfunded liabilities can emerge in future years due to assumption or method changes, changes in plan provisions, and actuarial experience different than assumed. Making an ADP illustrated above for the indicated number of years will not result in a plan that is exactly 100% funded in the indicated number of years. Valuation results will vary from one year to the next and can diverge significantly from projections over a period of several years.

Additional Discretionary Payment History

The following table provides a recent history of actual ADPs made to the plan.

Fiscal Year	ADP	Fiscal Year	ADP
2019-20	$0	2022-23	$0
2020-21	$0	2023-24[2]	$0
2021-22	$0		

[2] Excludes payments made after April 30, 2024

Projected Employer Contributions

The table below shows the required and projected employer contributions (before cost sharing) for the next six fiscal years. The projection assumes that all actuarial assumptions will be realized and that no further changes to assumptions, contributions, benefits, or funding will occur during the projection period. In particular, the investment return beginning with FY 2023-24 is assumed to be 6.80% per year, net of investment and administrative expenses. Future contribution requirements may differ significantly from those shown below. The actual long-term cost of the plan will depend on the actual benefits and expenses paid and the actual investment experience of the fund.

	Required Contribution	**Projected Future Employer Contributions (Assumes 6.80% Return for Fiscal Year 2023-24 and Beyond)**				
Fiscal Year	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
	Rate Plan 4540 Results					
Normal Cost %	13.91%	13.9%	13.9%	13.9%	13.9%	13.9%
UAL Payment	$101,368	$111,000	$119,000	$137,000	$140,000	$142,000

For ongoing plans, investment gains and losses are amortized using a 5-year ramp up. For more information, please see Amortization of Unfunded Actuarial Accrued Liability in Appendix A of the Section 2 Report. This method phases in the impact of the change in UAL over a 5-year period in order to reduce employer cost volatility from year to year. As a result of this methodology, dramatic changes in the required employer contributions in any one year are less likely. However, required contributions can change gradually and significantly over the next five years. In years when there is a large investment loss, the relatively small amortization payments during the ramp up period could result in contributions that are less than interest on the UAL (i.e. negative amortization) while the contribution impact of the increase in the UAL is phased in.

For projected contributions under alternate investment return scenarios, please see the Future Investment Return Scenarios exhibit. Our online pension plan projection tool, Pension Outlook, is available in the Employers section of the CalPERS website. Pension Outlook can help plan and budget pension costs under various scenarios.

Schedule of Amortization Bases

Below is the schedule of the plan's amortization bases. Note that there is a two-year lag between the valuation date and the start of the contribution year.

- The assets, liabilities and funded status of the plan are measured as of the valuation date: June 30, 2023.
- The required employer contributions determined by the valuation are for the fiscal year beginning two years after the valuation date: FY 2025-26.

This two-year lag is necessary due to the amount of time needed to extract and test the membership and financial data, and the need to provide public agencies with their required employer contribution well in advance of the start of the fiscal year.

The Unfunded Accrued Liability (UAL) is used to determine the employer contribution and therefore must be rolled forward two years from the valuation date to the first day of the fiscal year for which the contribution is being determined. The UAL is rolled forward each year by subtracting the expected payment on the UAL for the fiscal year and adjusting for interest. The expected payment on the UAL for FY 2023-24 is based on the actuarial valuation two years ago, adjusted for additional discretionary payments made on or before April 30, 2024, if necessary, and the expected payment for FY 2024-25 is based on the actuarial valuation one year ago.

Reason for Base	Date Est.	Ramp Level 2025-26	Ramp Shape	Escalation Rate	Amort. Period	Balance 6/30/23	Expected Payment 2023-24	Balance 6/30/24	Expected Payment 2024-25	Balance 6/30/25	Minimum Required Payment 2025-26
Fresh Start	6/30/17	No Ramp		2.80%	9	499,727	56,410	475,412	57,990	447,811	59,613
Assumption Change	6/30/18	100%	Up/Dn	2.80%	15	113,873	8,246	113,095	10,596	109,835	10,892
Investment (Gain)/Loss	6/30/18	100%	Up/Dn	2.80%	25	(32,903)	(1,679)	(33,405)	(2,157)	(33,447)	(2,218)
Method Change	6/30/18	100%	Up/Dn	2.80%	15	29,722	2,152	29,519	2,766	28,668	2,843
Non-Investment (Gain)/Loss	6/30/18	100%	Up/Dn	2.80%	25	15,314	781	15,548	1,004	15,568	1,032
Investment (Gain)/Loss	6/30/19	100%	Up Only	0.00%	16	16,645	1,001	16,742	1,334	16,502	1,668
Non-Investment (Gain)/Loss	6/30/19	No Ramp		0.00%	16	14,471	1,372	14,037	1,372	13,574	1,372
Investment (Gain)/Loss	6/30/20	80%	Up Only	0.00%	17	87,701	3,605	89,939	5,408	90,466	7,210
Non-Investment (Gain)/Loss	6/30/20	No Ramp		0.00%	17	13,558	1,250	13,188	1,250	12,793	1,250
Assumption Change	6/30/21	No Ramp		0.00%	18	28,843	2,594	28,124	2,594	27,356	2,594
Net Investment (Gain)	6/30/21	60%	Up Only	0.00%	18	(460,674)	(9,902)	(481,767)	(19,804)	(494,061)	(29,706)
Non-Investment (Gain)/Loss	6/30/21	No Ramp		0.00%	18	(20,273)	(1,823)	(19,768)	(1,823)	(19,228)	(1,823)
Risk Mitigation	6/30/21	No Ramp		0.00%	0	133,901	138,379	0	0	0	0
Risk Mitigation Offset	6/30/21	No Ramp		0.00%	0	(133,901)	(138,379)	0	0	0	0
Investment (Gain)/Loss	6/30/22	40%	Up Only	0.00%	19	655,546	0	700,123	15,049	732,179	30,098
Non-Investment (Gain)/Loss	6/30/22	No Ramp		0.00%	19	74,054	0	79,090	7,112	77,118	7,112
Investment (Gain)/Loss	6/30/23	20%	Up Only	0.00%	20	28,429	0	30,362	0	32,427	697
Non-Investment (Gain)/Loss	6/30/23	No Ramp		0.00%	20	85,153	0	90,943	0	97,127	8,734
Total						**1,149,186**	**64,007**	**1,161,182**	**82,691**	**1,154,688**	**101,368**

The (gain)/loss bases are the plan's allocated share of the risk pool's (gain)/loss for the fiscal year as disclosed in Allocation of Plan's Share of Pool's Experience earlier in this report. These (gain)/loss bases will be amortized in accordance with the CalPERS amortization policy in effect at the time the base was established.

Amortization Schedule and Alternatives

The amortization schedule on the previous page(s) shows the minimum contributions required according to the CalPERS amortization policy. Many agencies have expressed a desire for a more stable pattern of payments or have indicated interest in paying off the unfunded accrued liabilities more quickly than required. As such, we have provided alternative amortization schedules to help analyze the current amortization schedule and illustrate the potential savings of accelerating unfunded liability payments.

Shown on the following page are future year amortization payments based on 1) the current amortization schedule reflecting the individual bases and remaining periods shown on the previous page, and 2) alternative "fresh start" amortization schedules using two sample periods that would both result in interest savings relative to the current amortization schedule. To initiate a fresh start, please contact a CalPERS actuary.

The current amortization schedule typically contains both positive and negative bases. Positive bases result from plan changes, assumption changes, method changes or plan experience that increase unfunded liability. Negative bases result from plan changes, assumption changes, method changes, or plan experience that decrease unfunded liability. The combination of positive and negative bases within an amortization schedule can result in unusual or problematic circumstances in future years, such as:

- When a negative payment would be required on a positive unfunded actuarial liability; or
- When the payment would completely amortize the total unfunded liability in a very short time period, and results in a large change in the employer contribution requirement.

In any year when one of the above scenarios occurs, the actuary will consider corrective action such as replacing the existing unfunded liability bases with a single "fresh start" base and amortizing it over an appropriate period.

The current amortization schedule on the following page may appear to show that, based on the current amortization bases, one of the above scenarios will occur at some point in the future. It is impossible to know today whether such a scenario will in fact arise since there will be additional bases added to the amortization schedule in each future year. Should such a scenario arise in any future year, the actuary will take appropriate action based on guidelines in the CalPERS Actuarial Amortization Policy.

Amortization Schedule and Alternatives (continued)

	Current Amortization Schedule		Alternative Schedules			
			15 Year Amortization		10 Year Amortization	
Date	**Balance**	**Payment**	**Balance**	**Payment**	**Balance**	**Payment**
6/30/2025	1,154,688	101,368	1,154,688	121,131	1,154,688	157,614
6/30/2026	1,128,449	111,037	1,108,025	121,131	1,070,322	157,614
6/30/2027	1,090,432	118,957	1,058,189	121,131	980,219	157,614
6/30/2028	1,041,648	136,839	1,004,964	121,131	883,989	157,614
6/30/2029	971,064	139,730	948,120	121,131	781,216	157,614
6/30/2030	892,694	141,987	887,410	121,131	671,454	157,615
6/30/2031	806,662	144,308	822,572	121,131	554,227	157,614
6/30/2032	712,381	146,689	753,325	121,131	429,030	157,615
6/30/2033	609,230	149,145	679,369	121,131	295,318	157,615
6/30/2034	496,526	75,232	600,384	121,131	152,514	157,614
6/30/2035	452,540	75,680	516,028	121,131		
6/30/2036	405,102	72,421	425,936	121,130		
6/30/2037	357,806	68,966	329,719	121,130		
6/30/2038	310,866	65,309	226,959	121,131		
6/30/2039	264,512	61,437	117,210	121,130		
6/30/2040	219,008	57,345				
6/30/2041	174,638	54,257				
6/30/2042	130,443	43,943				
6/30/2043	93,902	92,630				
6/30/2044	4,561	4,714				
6/30/2045						
6/30/2046						
6/30/2047						
6/30/2048						
6/30/2049						
Total	**1,861,994**		**1,816,962**		**1,576,143**	
Interest Paid	**707,306**		**662,274**		**421,455**	
Estimated Savings			**45,032**		**285,851**	

Employer Contribution History

The table below provides a recent history of the employer contribution requirements for the plan, as determined by the annual actuarial valuation. Changes due to prepayments or plan amendments after the valuation report was finalized are not reflected.

Valuation Date	Contribution Year	Employer Normal Cost Rate	Unfunded Liability Payment
06/30/2014	2016 - 17	10.523%	$15,057
06/30/2015	2017 - 18	10.565%	19,640
06/30/2016	2018 - 19	11.154%	26,587
06/30/2017	2019 - 20	11.767%	52,020
06/30/2018	2020 - 21	12.531%	55,070
06/30/2019	2021 - 22	12.38%	60,614
06/30/2020	2022 - 23	12.39%	68,039
06/30/2021	2023 - 24	13.79%	64,007
06/30/2022	2024 - 25	13.84%	82,691
06/30/2023	2025 - 26	13.91%	101,368

Funding History

The table below shows the recent history of the actuarial accrued liability, share of the pool's market value of assets, unfunded accrued liability, funded ratio and annual covered payroll.

Valuation Date	Accrued Liability (AL)	Share of Pool's Market Value of Assets (MVA)	Unfunded Accrued Liability (UAL)	Funded Ratio	Annual Covered Payroll
06/30/2014	$2,124,882	$1,862,019	$262,863	87.6%	$446,127
06/30/2015	2,305,518	1,948,473	357,045	84.5%	483,328
06/30/2016	2,526,901	1,990,397	536,504	78.8%	500,694
06/30/2017	2,733,282	2,204,971	528,311	80.7%	689,767
06/30/2018	3,115,883	2,471,276	644,607	79.3%	721,486
06/30/2019	3,463,240	2,762,989	700,251	79.8%	769,596
06/30/2020	3,895,146	3,108,316	786,830	79.8%	807,674
06/30/2021	4,395,827	4,032,483	363,344	91.7%	868,156
06/30/2022	4,933,830	3,911,543	1,022,287	79.3%	925,264
06/30/2023	5,521,294	4,372,108	1,149,186	79.2%	976,009

Risk Analysis

Future Investment Return Scenarios

Analysis using the investment return scenarios from the Asset Liability Management process completed in 2021 was performed to determine the effects of various future investment returns on required employer contributions. The projections below reflect the impact of the CalPERS Funding Risk Mitigation Policy. The projections also assume that all other actuarial assumptions will be realized and that no further changes in assumptions, contributions, benefits, or funding will occur.

The first table shows projected contribution requirements if the fund were to earn either 3.0% or 10.8% annually. These alternate investment returns were chosen because 90% of long-term average returns are expected to fall between them over the 20-year period ending June 30, 2043.

Assumed Annual Return FY 2023-24 through FY 2042-43	Projected Employer Contributions				
	2026-27	2027-28	2028-29	2029-30	2030-31
3.0% (5th percentile)					
Discount Rate	6.80%	6.80%	6.80%	6.80%	6.80%
Normal Cost Rate	13.9%	13.9%	13.9%	13.9%	13.9%
UAL Contribution	$115,000	$131,000	$162,000	$181,000	$205,000
10.8% (95th percentile)					
Discount Rate	6.75%	6.70%	6.65%	6.60%	6.55%
Normal Cost Rate	14.2%	14.5%	14.7%	15.0%	15.3%
UAL Contribution	$107,000	$108,000	$114,000	$101,000	$0

Required contributions outside of this range are also possible. In particular, whereas it is unlikely that investment returns will average less than 3.0% or greater than 10.8% over a 20-year period, the likelihood of a single investment return less than 3.0% or greater than 10.8% in any given year is much greater. The following analysis illustrates the effect of an extreme, single year investment return.

The portfolio has an expected volatility (or standard deviation) of 12.0% per year. Accordingly, in any given year there is a 16% probability that the annual return will be -5.2% or less and a 2.5% probability that the annual return will be -17.2% or less. These returns represent one and two standard deviations below the expected return of 6.8%.

The following table shows the effect of one and two standard deviation investment losses in FY 2023-24 on the FY 2026-27 contribution requirements. Note that a single-year investment gain or loss decreases or increases the required UAL contribution amount incrementally for each of the next five years, not just one, due to the 5-year ramp in the amortization policy. However, the contribution requirements beyond the first year are also impacted by investment returns beyond the first year. Historically, significant downturns in the market are often followed by higher than average returns. Such investment gains would offset the impact of these single year negative returns in years beyond FY 2026-27.

Assumed Annual Return for Fiscal Year 2023-24	Required Employer Contributions	Projected Employer Contributions
	2025-26	2026-27
(17.2%) (2 standard deviation loss)		
Discount Rate	6.80%	6.80%
Normal Cost Rate	13.91%	13.9%
UAL Contribution	$101,368	$137,000
(5.2%) (1 standard deviation loss)		
Discount Rate	6.80%	6.80%
Normal Cost Rate	13.91%	13.9%
UAL Contribution	$101,368	$124,000

- Without investment gains (returns higher than 6.8%) in FY 2024-25 or later, projected contributions rates would continue to rise over the next four years due to the continued phase-in of the impact of the illustrated investment loss in FY 2023-24.
- The Pension Outlook Tool can be used to model projected contributions for these scenarios beyond FY 2026-27 as well as to model other investment return scenarios.

Discount Rate Sensitivity

The discount rate assumption is calculated as the sum of the assumed real rate of return and the assumed annual price inflation, currently 4.5% and 2.3%, respectively. Changing either the price inflation assumption or the real rate of return assumption will change the discount rate. The sensitivity of the valuation results to the discount rate assumption depends on which component of the discount rate is changed. Shown below are various valuation results as of June 30, 2023, assuming alternate discount rates by changing the two components independently. Results are shown using the current discount rate of 6.8% as well as alternate discount rates of 5.8% and 7.8%. The rates of 5.8% and 7.8% were selected since they illustrate the impact of a 1.0% increase or decrease to the 6.8% assumption.

Sensitivity to the Real Rate of Return Assumption

As of June 30, 2023	1% Lower Real Return Rate	Current Assumptions	1% Higher Real Return Rate
Discount Rate	**5.8%**	**6.8%**	**7.8%**
Price Inflation	2.3%	2.3%	2.3%
Real Rate of Return	**3.5%**	**4.5%**	**5.5%**
a) Total Normal Cost	26.23%	20.84%	16.74%
b) Accrued Liability	$6,315,931	$5,521,294	$4,859,421
c) Market Value of Assets	$4,372,108	$4,372,108	$4,372,108
d) Unfunded Liability/(Surplus) [(b) - (c)]	$1,943,823	$1,149,186	$487,313
e) Funded Ratio	69.2%	79.2%	90.0%

Sensitivity to the Price Inflation Assumption

As of June 30, 2023	1% Lower Price Inflation	Current Assumptions	1% Higher Price Inflation
Discount Rate	**5.8%**	**6.8%**	**7.8%**
Price Inflation	**1.3%**	**2.3%**	**3.3%**
Real Rate of Return	4.5%	4.5%	4.5%
a) Total Normal Cost	21.85%	20.84%	19.02%
b) Accrued Liability	$5,549,991	$5,521,294	$5,342,200
c) Market Value of Assets	$4,372,108	$4,372,108	$4,372,108
d) Unfunded Liability/(Surplus) [(b) - (c)]	$1,177,883	$1,149,186	$970,092
e) Funded Ratio	78.8%	79.2%	81.8%

Mortality Rate Sensitivity

The following table looks at the change in the June 30, 2023, plan costs and funded status under two different longevity scenarios, namely assuming rates of post-retirement mortality are 10% lower or 10% higher than our current mortality assumptions adopted in 2021. This type of analysis highlights the impact on the plan of a change in the mortality assumption.

As of June 30, 2023	10% Lower Mortality Rates	Current Assumptions	10% Higher Mortality Rates
a) Total Normal Cost	21.20%	20.84%	20.51%
b) Accrued Liability	$5,630,636	$5,521,294	$5,420,579
c) Market Value of Assets	$4,372,108	$4,372,108	$4,372,108
d) Unfunded Liability/(Surplus) [(b) - (c)]	$1,258,528	$1,149,186	$1,048,471
e) Funded Ratio	77.6%	79.2%	80.7%

Maturity Measures

As pension plans mature they become more sensitive to risks. Understanding plan maturity and how it affects the ability of a pension plan sponsor to tolerate risk is important in understanding how the pension plan is impacted by investment return volatility, other economic variables and changes in longevity or other demographic assumptions.

Since it is the employer that bears the risk, it is appropriate to perform this analysis on a pension plan level considering all rate plans. The following measures are for one rate plan only. One way to look at the maturity level of CalPERS and its plans is to look at the ratio of a plan's retiree liability to its total liability. A pension plan in its infancy will have a very low ratio of retiree liability to total liability. As the plan matures, the ratio increases. A mature plan will often have a ratio above 60%-65%.

Ratio of Retiree Accrued Liability to Total Accrued Liability	June 30, 2022	June 30, 2023
1. Retiree Accrued Liability	$1,012,004	$1,061,851
2. Total Accrued Liability	$4,933,830	$5,521,294
3. Ratio of Retiree AL to Total AL [(1) ÷ (2)]	21%	19%

Another measure of the maturity level of CalPERS and its plans is the ratio of actives to retirees, also called the support ratio. A pension plan in its infancy will have a very high ratio of active to retired members. As the plan matures and members retire, the ratio declines. A mature plan will often have a ratio near or below one.

To calculate the support ratio for the rate plan, retirees and beneficiaries receiving a continuance are each counted as one, even though they may have only worked a portion of their careers as an active member of this rate plan. For this reason, the support ratio, while intuitive, may be less informative than the ratio of retiree liability to total accrued liability above.

For comparison, the support ratio for all CalPERS public agency plans as of June 30, 2022, was 0.77 and was calculated consistently with how it is for the individual rate plan. Note that to calculate the support ratio for all public agency plans, a retiree with service from more than one CalPERS agency is counted as a retiree more than once.

Support Ratio	June 30, 2022	June 30, 2023
1. Number of Actives	5	5
2. Number of Retirees	3	3
3. Support Ratio [(1) ÷ (2)]	1.67	1.67

Maturity Measures (continued)

The actuarial calculations supplied in this communication are based on various assumptions about long-term demographic and economic behavior. Unless these assumptions (e.g., terminations, deaths, disabilities, retirements, salary increases, investment return) are exactly realized each year, there will be differences on a year-to-year basis. The year-to-year differences between actual experience and the assumptions are called actuarial gains and losses and serve to lower or raise required employer contributions from one year to the next. Therefore, employer contributions will inevitably fluctuate, especially due to the ups and downs of investment returns.

Asset Volatility Ratio

Shown in the table below is the asset volatility ratio (AVR), which is the ratio of market value of assets to payroll. Plans that have a higher AVR experience more volatile employer contributions (as a percentage of payroll) due to investment return. For example, a plan with an AVR of 8 may experience twice the contribution volatility due to investment return volatility than a plan with an AVR of 4. It should be noted that this ratio is a measure of the current situation. It increases over time but generally tends to stabilize as a plan matures.

Liability Volatility Ratio

Also shown in the table below is the liability volatility ratio (LVR), which is the ratio of accrued liability to payroll. Plans that have a higher LVR experience more volatile employer contributions (as a percentage of payroll) due to changes in liability. For example, a plan with an LVR of 8 is expected to have twice the contribution volatility of a plan with an LVR of 4 when there is a change in accrued liability, such as when there is a change in actuarial assumptions. It should be noted that this ratio indicates a longer-term potential for contribution volatility, since the AVR, described above, will tend to move closer to the LVR as the funded ratio approaches 100%.

Contribution Volatility	June 30, 2022	June 30, 2023
1. Market Value of Assets	$3,911,543	$4,372,108
2. Payroll	$925,264	$976,009
3. Asset Volatility Ratio (AVR) [(1) ÷ (2)]	4.2	4.5
4. Accrued Liability	$4,933,830	$5,521,294
5. Liability Volatility Ratio (LVR) [(4) ÷ (2)]	5.3	5.7

Maturity Measures History

Valuation Date	Ratio of Retiree Accrued Liability to Total Accrued Liability	Support Ratio	Asset Volatility Ratio	Liability Volatility Ratio
06/30/2017	37%	1.67	3.2	4.0
06/30/2018	33%	1.67	3.4	4.3
06/30/2019	30%	1.67	3.6	4.5
06/30/2020	26%	1.67	3.8	4.8
06/30/2021	23%	1.67	4.6	5.1
06/30/2022	21%	1.67	4.2	5.3
06/30/2023	19%	1.67	4.5	5.7

Funded Status – Termination Basis

The funded status measured on a termination basis is an estimate of the financial position of the plan had the contract with CalPERS been terminated as of June 30, 2023. The accrued liability on a termination basis (termination liability) is calculated differently from the plan's ongoing funding liability. For the termination liability calculation, both compensation and service are frozen as of the valuation date and no future pay increases or service accruals are assumed. This measure of funded status is not appropriate for assessing the need for future employer contributions in the case of an ongoing plan, that is, for an employer that continues to provide CalPERS retirement benefits to active employees. Unlike the actuarial cost method used for ongoing plans, the termination liability is the present value of the benefits earned through the valuation date.

A more conservative investment policy and asset allocation strategy was adopted by the board for the Terminated Agency Pool. The Terminated Agency Pool has limited funding sources since no future employer contributions will be made. Therefore, expected benefit payments are secured by risk-free assets and benefit security for members is increased while limiting the funding risk. However, this asset allocation has a lower expected rate of return than the remainder of the PERF and consequently, a lower discount rate assumption. The lower discount rate for the Terminated Agency Pool results in higher liabilities for terminated plans.

The discount rate used for actual termination valuations is a weighted average of the 10-year and 30-year Treasury yields where the weights are based on matching asset and liability durations as of the termination date. The discount rates used in the following analysis is based on 20-year Treasury bonds, which is a good proxy for most plans. The discount rate upon contract termination will depend on actual Treasury rates on the date of termination, which varies over time, as shown below.

Valuation Date	20-Year Treasury Rate	Valuation Date	20-Year Treasury Rate
06/30/2014	3.08%	06/30/2019	2.31%
06/30/2015	2.83%	06/30/2020	1.18%
06/30/2016	1.86%	06/30/2021	2.00%
06/30/2017	2.61%	06/30/2022	3.38%
06/30/2018	2.91%	06/30/2023	4.06%

As Treasury rates are variable, the table below shows a range for the termination liability using discount rates 1% below and above the 20-year Treasury rate on the valuation date. The price inflation assumption is the 20-year Treasury breakeven inflation rate, that is, the difference between the 20-year inflation indexed bond and the 20-year fixed-rate bond.

The Market Value of Assets (MVA) also varies with interest rates and will fluctuate depending on other market conditions on the date of termination. Since it is not possible to approximate how the MVA will change in different interest rate environments, the results below use the MVA as of the valuation date.

	Discount Rate: 3.06% Price Inflation: 2.50%	Discount Rate: 5.06% Price Inflation: 2.50%
1. Termination Liability[1]	$9,641,328	$6,985,307
2. Market Value of Assets (MVA)	4,372,108	4,372,108
3. Unfunded Termination Liability [(1) – (2)]	$5,269,220	$2,613,199
4. Funded Ratio [(2) ÷ (1)]	45.3%	62.6%

[1] The termination liabilities calculated above include a 5% contingency load. The contingency load and other actuarial assumptions can be found in Appendix A of the Section 2 report.

In order to terminate the plan, first contact our Pension Contract Services unit to initiate a Resolution of Intent to Terminate. The completed Resolution will allow a CalPERS actuary to provide a preliminary termination valuation with a more up-to-date estimate of the plan's assets and liabilities. Before beginning this process, please consult with a CalPERS actuary.

Funded Status – Low-Default-Risk Basis

Actuarial Standard of Practice (ASOP) No. 4, *Measuring Pension Obligations and Determining Pension Plan Costs or Contributions*, requires the disclosure of a low-default-risk obligation measure (LDROM) of benefit costs accrued as of the valuation date using a discount rate based on the yields of high quality fixed income securities with cash flows that replicate expected benefit payments. Conceptually, this measure represents the level at which financial markets would value the accrued plan costs, and would be approximately equal to the cost of a portfolio of low-default-risk bonds with similar financial characteristics to accrued plan costs.

As permitted in ASOP No. 4, the Actuarial Office uses the Entry Age Actuarial Cost Method to calculate the LDROM. This methodology is in line with the measure of "benefit entitlements" calculated by the Bureau of Economic Analysis and used by the Federal Reserve to report the indebtedness due to pensions of plan sponsors and, conversely, the household wealth due to pensions of plan members.

As shown below, the discount rate used for the LDROM is 4.82%, which is the Standard FTSE Pension Liability Index[1] discount rate as of June 30, 2023, net of assumed administrative expenses.

Selected Measures on a Low-Default-Risk Basis	**June 30, 2023**
Discount Rate	4.82%
1. Accrued Liability[2] – Low-Default-Risk Basis (LDROM)	
a) Active Members	$5,869,531
b) Transferred Members	69,021
c) Separated Members	54,008
d) Members and Beneficiaries Receiving Payments	1,262,357
e) Total	$7,254,917
2. Market Value of Assets (MVA)	4,372,108
3. Unfunded Accrued Liability – Low-Default-Risk Basis [(1e) – (2)]	$2,882,809
4. Unfunded Accrued Liability – Funding Policy Basis	1,149,186
5. Present Value of Unearned Investment Risk Premium [(3) – (4)]	$1,733,623

The difference between the unfunded liabilities on a low-default-risk basis and on the funding policy basis represents the present value of the investment risk premium that must be earned in future years to keep future contributions for currently accrued plan costs at the levels anticipated by the funding policy.

Benefit security for members of the plan relies on a combination of the assets in the plan, the investment income generated from those assets, and the ability of the plan sponsor to make necessary future contributions. If future returns fall short of 6.8%, benefit security could be at risk without higher than currently anticipated future contributions.

The funded status on a low-default-risk basis is not appropriate for assessing the sufficiency of plan assets to cover the cost of settling the plan's benefit obligations (see Funded Status – Termination Basis), nor is it appropriate for assessing the need for future contributions (see Funded Status – Funding Policy Basis).

1 This index is based on a yield curve of hypothetical AA-rated zero coupon corporate bonds whose maturities range from 6 months to 30 years. The index represents the single discount rate that would produce the same present value as discounting a standardized set of liability cash flows for a fully open pension plan using the yield curve. The liability cash flows are reasonably consistent with the pattern of benefits expected to be paid from the entire Public Employees' Retirement Fund for current and former plan members. A different index, hence a different discount rate, may be needed to measure the LDROM for a subset of the fund, such as a single rate plan or a group of retirees.

2 If plan assets were invested entirely in the AA fixed income securities used to determine the discount rate of 4.82%, the CalPERS discount rate could, at various times, be below 4.5% or 5.25%, and some automatic annual retiree COLAs could be suspended (Gov. Code sections 21329 and 21335). Since there is currently no proposal to adopt an asset allocation entirely comprised of fixed income securities, the automatic COLAs have been fully valued in the measures above based on the assumptions used for plan funding. Removing future COLAs from the measurement would understate the statutory obligation.

Summary of Valuation Data

The table below shows a summary of the plan's member data upon which this valuation is based:

	June 30, 2022	June 30, 2023
Active Members		
Counts	5	5
Average Attained Age	55.1	56.1
Average Entry Age to Rate Plan	40.9	40.9
Average Years of Credited Service	14.2	15.2
Average Annual Covered Pay	$185,053	$195,202
Annual Covered Payroll	$925,264	$976,009
Present Value of Future Payroll	$5,679,972	$5,716,408
Transferred Members	1	1
Separated Members	2	1
Retired Members and Beneficiaries*		
Counts	3	3
Average Annual Benefits	$25,822	$27,889
Total Annual Benefits	$77,465	$83,666

Counts of members included in the valuation are counts of the records processed by the valuation. Multiple records may exist for those who have service in more than one valuation group. This does not result in double counting of liabilities.

* Values include community property settlements.

List of Class 1 Benefit Provisions

This plan has the following Class 1 Benefit Provisions:

- One Year Final Compensation (FAC 1)
- Post-Retirement Survivor Allowance (PRSA)
- 3% Annual Cost-of-Living Allowance Increase (3% COLA)

Plan's Major Benefit Options

Shown below is a summary of the major optional benefits for which the agency has contracted. A description of principal standard and optional plan provisions is in Section 2.

	Benefit Group	
Member Category	**Misc**	
Demographics		
Actives	Yes	
Transfers/Separated	Yes	
Receiving	Yes	
Benefit Provision		
Benefit Formula	2% @ 55	
Social Security Coverage	No	
Full/Modified	Full	
Employee Contribution Rate	7.00%	
Final Average Compensation Period	One Year	
Sick Leave Credit	Yes	
Non-Industrial Disability	Standard	
Industrial Disability	No	
Pre-Retirement Death Benefits		
Optional Settlement 2	Yes	
1959 Survivor Benefit Level	Level 4	
Special	No	
Alternate (firefighters)	No	
Post-Retirement Death Benefits		
Lump Sum	$5,000	
Survivor Allowance (PRSA)	Yes	
COLA	3%	

Section 2

California Public Employees' Retirement System

Risk Pool Actuarial Valuation Information

Section 2 may be found on the
CalPERS website (www.calpers.ca.gov)
in the Forms & Publications section

California Public Employees' Retirement System
Actuarial Office
400 Q Street, Sacramento, CA 95811 | Phone: (916) 795-3000 | Fax: (916) 795-2744
888 CalPERS (or **888**-225-7377) | TTY: (877) 249-7442 | **www.calpers.ca.gov**

July 2024

PEPRA Miscellaneous Plan of the Bay Area Water Supply and Conservation Agency (CalPERS ID: 3304364524)
Annual Valuation Report as of June 30, 2023

Dear Employer,

Attached to this letter is Section 1 of the June 30, 2023 actuarial valuation report for the rate plan noted above. **Provided in this report is the determination of the minimum required employer contributions for fiscal year (FY) 2025-26**. In addition, the report contains important information regarding the current financial status of the plan as well as projections and risk measures to aid in planning for the future.

Because this plan is in a risk pool, the following valuation report has been separated into two sections:

- Section 1 contains specific information for the plan including the development of the current and projected employer contributions, and
- Section 2 contains the Risk Pool Actuarial Valuation appropriate to the plan as of June 30, 2023.

Section 2 can be found on the CalPERS website (www.calpers.ca.gov). From the home page, go to *"Forms & Publications"* and select *"View All"*. In the search box, enter *"Risk Pool"* and from the results list download the Miscellaneous Risk Pool Actuarial Valuation Report for June 30, 2023.

Required Contributions

The table below shows the minimum required employer contributions and the PEPRA member contribution rate for FY 2025-26 along with an estimate of the employer contribution requirements for FY 2026-27. Employee contributions other than cost sharing (whether paid by the employer or the employee) are in addition to the results shown below. **The required employer contributions in this report do not reflect any cost sharing arrangement between the agency and the employees.**

Fiscal Year	Employer Normal Cost Rate	Employer Amortization of Unfunded Accrued Liability	PEPRA Member Contribution Rate
2025-26	8.72%	$5,578	8.25%
Projected Results			
2026-27	*8.7%*	*$7,400*	*TBD*

The actual investment return for FY 2023-24 was not known at the time this report was prepared. The projections above assume the investment return for that year would be 6.8%. To the extent the actual investment return for FY 2023-24 differs from 6.8%, the actual contribution requirements for FY 2026-27 will differ from those shown above. For additional details regarding the assumptions and methods used for these projections, please refer to Projected Employer Contributions. This section also contains projected required contributions through FY 2030-31.

Report Enhancements

A number of enhancements were made to the report this year to ease navigation and allow the reader to find specific information more quickly. The tables of contents are now "clickable." This is true for the main table of contents that follows the title page and the intermediate tables of contents at the beginning of sections. The Adobe navigation pane on the left can also be used to skip to specific exhibits.

There are a number of links throughout the document in blue text. Links that are internal to the document are not underlined, while underlined links will take you to the CalPERS website. Examples are shown below.

Internal Bookmarks	CalPERS Website Links
Required Employer Contributions	Required Employer Contribution Search Tool
Member Contribution Rates	Public Agency PEPRA Member Contribution Rates
Summary of Key Valuation Results	Pension Outlook Overview
Funded Status – Funding Policy Basis	Interactive Summary of Public Agency Valuation Results
Projected Employer Contributions	Public Agency Actuarial Valuation Reports

Further descriptions of general changes are included in the Highlights and Executive Summary section and in Appendix A - Actuarial Methods and Assumptions in Section 2.

Questions

A CalPERS actuary is available to answer questions about this report. Other questions may be directed to the Customer Contact Center at **888 CalPERS** (or **888**-225-7377).

Sincerely,

Julian M Robinson

Julian Robinson, FSA, EA, MAAA
Senior Actuary, CalPERS

Randall Dziubek, ASA, MAAA
Deputy Chief Actuary, Valuation Services, CalPERS

Scott Terando, ASA, EA, MAAA, FCA, CFA
Chief Actuary, CalPERS

California Public Employees' Retirement System

Actuarial Valuation for the PEPRA Miscellaneous Plan of the Bay Area Water Supply and Conservation Agency

as of June 30, 2023

(CalPERS ID: 3304364524)
(Rate Plan ID: 26893)

Required Contributions for Fiscal Year

July 1, 2025 — June 30, 2026

CalPERS

Table of Contents

Section 1

California Public Employees' Retirement System

Plan Specific Information for the PEPRA Miscellaneous Plan of the Bay Area Water Supply and Conservation Agency

(CalPERS ID: 3304364524)
(Rate Plan ID: 26893)

Table of Contents — Section 1

Actuarial Certification

It is our opinion that the valuation has been performed in accordance with generally accepted actuarial principles as well as the applicable Standards of Practice promulgated by the Actuarial Standards Board. While this report, consisting of Section 1 and Section 2, is intended to be complete, our office is available to answer questions as needed. All of the undersigned are actuaries who satisfy the *Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States* of the American Academy of Actuaries with regard to pensions.

Actuarial Methods and Assumptions

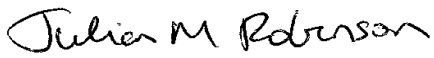
It is our opinion that the assumptions and methods, as recommended by the Chief Actuary and adopted by the CalPERS Board of Administration, are internally consistent and reasonable for this plan.

Randall Dziubek, ASA, MAAA
Deputy Chief Actuary, Valuation Services, CalPERS

Scott Terando, ASA, EA, MAAA, FCA, CFA
Chief Actuary, CalPERS

Actuarial Data and Rate Plan Results

To the best of my knowledge and having relied upon the attestation above that the actuarial methods and assumptions are reasonable as well as the information in Section 2 of this report, this report is complete and accurate and contains sufficient information to disclose, fully and fairly, the funded condition of the PEPRA Miscellaneous Plan of the Bay Area Water Supply and Conservation Agency and satisfies the actuarial valuation requirements of Government Code section 7504. This valuation and related validation work was performed by the CalPERS Actuarial Office. The valuation was based on the member and financial data as of June 30, 2023, provided by the various CalPERS databases and the benefits under this plan with CalPERS as of the date this report was produced. Section 1 of this report is based on the member and financial data for Bay Area Water Supply and Conservation Agency, while Section 2 is based on the corresponding information for all agencies participating in the Miscellaneous Risk Pool to which the plan belongs.



Julian Robinson, FSA, EA, MAAA
Senior Actuary, CalPERS

Highlights and Executive Summary

Introduction

This report presents the results of the June 30, 2023, actuarial valuation of the PEPRA Miscellaneous Plan of the Bay Area Water Supply and Conservation Agency of the California Public Employees' Retirement System (CalPERS). This actuarial valuation sets the minimum required contributions for fiscal year (FY) 2025-26.

Purpose of Section 1

This Section 1 report for the PEPRA Miscellaneous Plan of the Bay Area Water Supply and Conservation Agency of CalPERS was prepared by the Actuarial Office using data as of June 30, 2023. The purpose of the valuation is to:

- Set forth the assets and accrued liabilities of this rate plan as of June 30, 2023;
- Determine the minimum required employer contributions for this rate plan for FY July 1, 2025, through June 30, 2026;
- Determine the required member contribution rate for FY July 1, 2025, through June 30, 2026, for employees subject to the California Public Employees' Pension Reform Act of 2013 (PEPRA); and
- Provide actuarial information as of June 30, 2023, to the CalPERS Board of Administration (board) and other interested parties.

The pension funding information presented in this report should not be used in financial reports subject to Governmental Accounting Standards Board (GASB) Statement No. 68 for a Cost Sharing Employer Defined Benefit Pension Plan. A separate accounting valuation report for such purposes is available on the CalPERS website (www.calpers.ca.gov).

The measurements shown in this actuarial valuation may not be applicable for other purposes. The agency should contact a CalPERS actuary before disseminating any portion of this report for any reason that is not explicitly described above.

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; changes in actuarial policies; changes in plan provisions or applicable law; and differences between the required contributions determined by the valuation and the actual contributions made by the agency.

Assessment and Disclosure of Risk

This report includes the following risk disclosures consistent with the guidance of Actuarial Standards of Practice No. 51 and recommended by the California Actuarial Advisory Panel (CAAP) in the Model Disclosure Elements document:

- A "Scenario Test," projecting future results under different investment income returns.
- A "Sensitivity Analysis," showing the impact on current valuation results using alternative discount rates of 5.8% and 7.8%.
- A "Sensitivity Analysis," showing the impact on current valuation results assuming rates of mortality are 10% lower or 10% higher than our current post-retirement mortality assumptions adopted in 2021.
- Plan maturity measures indicating how sensitive a plan may be to the risks noted above.

Summary of Key Valuation Results

Below is a brief summary of key valuation results along with page references where more detailed information can be found .

Required Employer Contributions — page 8

	Fiscal Year 2024-25	Fiscal Year 2025-26
Employer Normal Cost Rate	8.63%	8.72%
Unfunded Accrued Liability (UAL) Contribution Amount	$2,561	$5,578
Paid either as		
Option 1) 12 Monthly Payments of	$213.42	$464.83
Option 2) Annual Prepayment in July	$2,478	$5,398

Member Contribution Rates — page 9

	Fiscal Year 2024-25	Fiscal Year 2025-26
Member Contribution Rate	8.25%	8.25%

Projected Employer Contributions — page 14

Fiscal Year	Normal Cost (% of payroll)	Annual UAL Payment
2026-27	8.7%	$7,400
2027-28	8.7%	$9,200
2028-29	8.7%	$11,000
2029-30	8.7%	$11,000
2030-31	8.7%	$11,000

Funded Status — Funding Policy Basis — page 12

	June 30, 2022	June 30, 2023
Entry Age Accrued Liability (AL)	$606,920	$773,551
Market Value of Assets (MVA)	527,786	674,680
Unfunded Accrued Liability (UAL) [AL – MVA]	$79,134	$98,871
Funded Ratio [MVA ÷ AL]	87.0%	87.2%

Summary of Valuation Data — Page 26

	June 30, 2022	June 30, 2023
Active Member Count	4	4
Annual Covered Payroll	$458,682	$468,322
Transferred Member Count	3	4
Separated Member Count	3	2
Retired Members and Beneficiaries Count	0	0

Changes Since the Prior Year's Valuation

Benefits

The standard actuarial practice at CalPERS is to recognize mandated legislative benefit changes in the first annual valuation following the effective date of the legislation. For pooled rate plans, voluntary benefit changes by plan amendment are generally included in the first valuation with a valuation date on or after the effective date of the amendment.

Please refer to the Plan's Major Benefit Options in this report and Appendix B of the Section 2 Report for a summary of the plan provisions used in this valuation.

Actuarial Methods and Assumptions

There are no significant changes to the actuarial methods or assumptions for the June 30, 2023, actuarial valuation.

New Disclosure Items

In December 2021, the Actuarial Standards Board issued a revision of Actuarial Standard of Practice No. 4 (ASOP 4) requiring actuaries to disclose a low-default-risk obligation measure (LDROM) of the benefits earned. This information is shown in a new exhibit, Funded Status – Low-Default-Risk Basis.

Subsequent Events

This actuarial valuation report reflects fund investment return through June 30, 2023, as well as statutory changes, regulatory changes and board actions through January 2024.

During the time period between the valuation date and the publication of this report, inflation has been higher than the expected inflation of 2.3% per annum. Since inflation influences cost-of-living increases for retirees and beneficiaries and active member pay increases, higher inflation is likely to put at least some upward pressure on contribution requirements and downward pressure on the funded status in the June 30, 2024, valuation. The actual impact of higher inflation on future valuation results will depend on, among other factors, how long higher inflation persists.

The 2023 annual benefit limit under Internal Revenue Code (IRC) section 415(b) and annual compensation limits under IRC section 401(a)(17) and Government Code section 7522.10 were used for this valuation and are assumed to increase 2.3% per year based on the price inflation assumption. The actual 2024 limits, determined in October 2023, are not reflected.

On April 16, 2024, the board took action to modify the Funding Risk Mitigation Policy to remove the automatic change to the discount rate when the investment return exceeds various thresholds. Rather than an automatic change to the discount rate, a board discussion would be placed on the calendar. The 95th percentile return in the Future Investment Return Scenarios exhibit in this report has not been modified and still reflects the projected contribution requirements associated with a reduction in the discount rate.

To the best of our knowledge, there have been no other subsequent events that could materially affect current or future certifications rendered in this report.

Liabilities and Contributions

Determination of Required Contributions

Contributions to fund the plan are determined by an actuarial valuation performed each year. The valuation employs complex calculations based on a set of actuarial assumptions and methods. See Appendix A in Section 2 for information on the assumptions and methods used in this valuation. The valuation incorporates all plan experience through the valuation date and sets required contributions for the fiscal year that begins two years after the valuation date.

Contribution Components

Two components comprise required contributions:

- Normal Cost — expressed as a percentage of pensionable payroll
- Unfunded Accrued Liability (UAL) Contribution — expressed as a dollar amount

Normal Cost represents the value of benefits allocated to the upcoming year for active employees. If all plan experience exactly matched the actuarial assumptions, normal cost would be sufficient to fully fund all benefits. The employer and employees each pay a share of the normal cost with contributions payable as part of the regular payroll reporting process. The contribution rate for Classic members is set by statute based on benefit formula whereas for PEPRA members it is based on 50% of the total normal cost.

When plan experience differs from the actuarial assumptions, unfunded accrued liability (UAL) emerges. The new UAL may be positive or negative. If the total UAL is positive (i.e., accrued liability exceeds assets), the employer is required to make contributions to pay off the UAL over time. This is called the Unfunded Accrued Liability Contribution component. There is an option to prepay this amount during July of each fiscal year, otherwise it is paid monthly.

In measuring the UAL each year, plan experience is split by source. Common sources of UAL include investment experience different than expected, non-investment experience different than expected, assumption changes and benefit changes. Each source of UAL (positive or negative) forms a base that is amortized, or paid off, over a specified period of time in accordance with the CalPERS Actuarial Amortization Policy. The Unfunded Accrued Liability Contribution is the sum of the payments on all bases. See the Schedule of Amortization Bases section of this report for an inventory of existing bases and Appendix A in Section 2 for more information on the amortization policy.

Required Employer Contributions

The required employer contributions in this report do not reflect any cost sharing arrangement between the agency and the employees.

Required Employer Contributions	Fiscal Year 2025-26
Employer Normal Cost Rate	**8.72%**
Plus	
Unfunded Accrued Liability (UAL) Contribution Amount[1]	**$5,578**
Paid either as	
1) Monthly Payment	**$464.83**
Or	
2) Annual Prepayment Option*	**$5,398**

The total minimum required employer contribution is the sum of the Plan's Employer Normal Cost Rate (expressed as a percentage of payroll and paid as payroll is reported) and the Unfunded Accrued Liability (UAL) Contribution Amount (billed monthly (1) or prepaid annually (2) in dollars).

* Only the UAL portion of the employer contribution can be prepaid **(which must be received in full no later than July 31)**.

For Member Contribution Rates see the following page.

Development of Normal Cost as a Percentage of Payroll	Fiscal Year 2024-25	Fiscal Year 2025-26
Base Total Normal Cost for Formula	15.62%	15.71%
Surcharge for Class 1 Benefits[2]		
a) PRSA	0.81%	0.81%
b) 3% COLA	0.45%	0.45%
Plan's Total Normal Cost	16.88%	16.97%
Offset Due to Employee Contributions[3]	8.25%	8.25%
Employer Normal Cost	8.63%	8.72%

[1] The required payment on amortization bases does not take into account any additional discretionary payment made after April 30, 2024.

[2] Section 2 of this report contains a list of Class 1 benefits and corresponding surcharges.

[3] This is the expected employee contributions, taking into account individual benefit formula and any offset from the use of a modified formula, divided by projected annual payroll. For member contribution rates above the breakpoint for each benefit formula, see Member Contribution Rates.

Member Contribution Rates

The required member contributions in this report do not reflect any cost sharing arrangement between the agency and the employees.

The California Public Employees' Pension Reform Act of 2013 (PEPRA) established new benefit formulas, final compensation period, and contribution requirements for "new" employees (generally those first hired into a CalPERS-covered position on or after January 1, 2013). In accordance with Government Code Section 7522.30(b), "new members … shall have an initial contribution rate of at least 50% of the normal cost rate." The normal cost rate for the plan is dependent on the benefit levels, actuarial assumptions and demographics of the risk pool, particularly members' entry age. Should the total normal cost rate of the plan change by more than 1% from the base total normal cost rate established for the plan, the new member rate shall be 50% of the new normal cost rate rounded to the nearest quarter percent.

The table below shows the determination of the PEPRA member contribution rates effective July 1, 2025, based on 50% of the total normal cost rate as of the June 30, 2023, valuation.

		Basis for Current Rate		Rates Effective July 1, 2025			
Rate Plan Identifier	Benefit Group Name	Total Normal Cost	Member Rate	Total Normal Cost	Change	Change Needed	Member Rate
26893	Miscellaneous PEPRA Level	16.73%	8.25%	16.97%	0.24%	No	8.25%

Other Pooled Miscellaneous Risk Pool Rate Plans

All of the results presented in this Section 1 report, except those shown on this page, correspond to rate plan 26893. In many cases, employers have additional rate plans within the same risk pool. For cost analysis and budgeting it is useful to consider contributions for these rate plans as a whole rather than individually. The estimated contribution amounts and rates for all of the employer's rate plans in the Miscellaneous Risk Pool are shown below and assume that the total employer payroll within the Miscellaneous Risk Pool will grow according to the overall payroll growth assumption of 2.80% per year for three years. Classic members who are projected to terminate employment are assumed to be replaced by PEPRA members.

Estimated Employer Contributions for all Pooled Miscellaneous Rate Plans	Fiscal Year 2024-25	Fiscal Year 2025-26
Projected Payroll for the Contribution Year	$1,503,483	$1,569,084
Estimated Employer Normal Cost	$170,757	$179,522
Required Payment on Amortization Bases	$85,252	$106,946
Estimated Total Employer Contributions	$256,009	$286,468
Estimated Total Employer Contribution Rate (illustrative only)	17.03%	18.26%

Breakdown of Entry Age Accrued Liability

Active Members	$361,845
Transferred Members	340,461
Separated Members	71,245
Members and Beneficiaries Receiving Payments	0
Total	$773,551

Allocation of Plan's Share of Pool's Experience

It is the policy of CalPERS to ensure equity within the risk pools by allocating the pool's experience gains/losses and assumption changes in a manner that treats each employer equitably and maintains benefit security for the members of the System while minimizing substantial variations in employer contributions. The pool's experience gains/losses and impact of assumption/method changes is allocated to the plan as follows:

1.	Plan's Accrued Liability	$773,551
2.	Projected UAL Balance at 6/30/2023	82,562
3.	Other UAL Adjustments (Golden Handshake, Prior Service Purchase, etc.)	0
4.	Adjusted UAL Balance at 6/30/2023 for Asset Share	82,562
5.	Pool's Accrued Liability[1]	23,349,910,053
6.	Sum of Pool's Individual Plan UAL Balances at 6/30/2023[1]	5,227,602,209
7.	Pool's 2022-23 Investment (Gain)/Loss[1]	114,855,623
8.	Pool's 2022-23 Non-Investment (Gain)/Loss[1]	360,116,330
9.	Plan's Share of Pool's Investment (Gain)/Loss: [(1) - (4)] ÷ [(5) - (6)] × (7)	4,379
10.	Plan's Share of Pool's Non-Investment (Gain)/Loss: (1) ÷ (5) × (8)	11,930
11.	Plan's New (Gain)/Loss as of 6/30/2023: (9) + (10)	16,309
12.	Increase in Pool's Accrued Liability due to Change in Assumptions[1]	0
13.	Plan's Share of Pool's Change in Assumptions: (1) ÷ (5) × (12)	0
14.	Increase in Pool's Accrued Liability due to Funding Risk Mitigation[1]	0
15.	Plan's Share of Pool's Change due to Funding Risk Mitigation: (1) ÷ (5) × (14)	0
16.	Offset due to Funding Risk Mitigation	0
17.	Plan's Investment (Gain)/Loss: (9) – (16)	4,379

[1] Does not include plans that transferred to the pool on the valuation date.

Development of the Plan's Share of Pool's Assets

18.	Plan's UAL: (2) + (3) + (11) + (13) + (15)	$98,871
19.	Plan's Share of Pool's Market Value of Assets (MVA): (1) - (18)	$674,680

For a reconciliation of the pool's Market Value of Assets (MVA), information on the fund's asset allocation and a history of CalPERS investment returns, see Section 2, which can be found on the CalPERS website (www.calpers.ca.gov).

Funded Status – Funding Policy Basis

The table below provides information on the current funded status of the plan under the funding policy. The funded status for this purpose is based on the market value of assets relative to the funding target produced by the entry age actuarial cost method and actuarial assumptions adopted by the board. The actuarial cost method allocates the total expected cost of a member's projected benefit (Present Value of Benefits) to individual years of service (the Normal Cost). The value of the projected benefit that is not allocated to future service is referred to as the Accrued Liability and is the plan's funding target on the valuation date. The Unfunded Accrued Liability (UAL) equals the funding target minus the assets. The UAL is an absolute measure of funded status and can be viewed as employer debt. The funded ratio equals the assets divided by the funding target. The funded ratio is a relative measure of the funded status and allows for comparisons between plans of different sizes.

	June 30, 2022	June 30, 2023
1. Present Value of Benefits	$1,400,639	$1,634,964
2. Entry Age Accrued Liability	606,920	773,551
3. Market Value of Assets (MVA)	527,786	674,680
4. Unfunded Accrued Liability (UAL) [(2) – (3)]	$79,134	$98,871
5. Funded Ratio [(3) ÷ (2)]	87.0%	87.2%

A funded ratio of 100% (UAL of $0) implies that the funding of the plan is on target and that future contributions equal to the normal cost of the active plan members will be sufficient to fully fund all retirement benefits if future experience matches the actuarial assumptions. A funded ratio of less than 100% (positive UAL) implies that in addition to normal costs, payments toward the UAL will be required. Plans with a funded ratio greater than 100% have a negative UAL (or surplus) but are required under current law to continue contributing the normal cost in most cases, preserving the surplus for future contingencies.

Calculations for the funding target reflect the expected long-term investment return of 6.8%. If it were known on the valuation date that future investment returns will average something greater/less than the expected return, calculated normal costs and accrued liabilities provided in this report would be less/greater than the results shown. Therefore, for example, if actual average future returns are less than the expected return, calculated normal costs and UAL contributions will not be sufficient to fully fund all retirement benefits. Under this scenario, required future normal cost contributions will need to increase from those provided in this report, and the plan will develop unfunded liabilities that will also add to required future contributions. For illustrative purposes, funded statuses based on a 1% lower and higher average future investment return (discount rate) are as follows:

	1% Lower Average Return	Current Assumption	1% Higher Average Return
Discount Rate	5.8%	6.8%	7.8%
1. Entry Age Accrued Liability	$957,192	$773,551	$630,782
2. Market Value of Assets (MVA)	674,680	674,680	674,680
3. Unfunded Accrued Liability (UAL) [(1) – (2)]	$282,512	$98,871	($43,898)
4. Funded Ratio [(2) ÷ (1)]	70.5%	87.2%	107.0%

The Risk Analysis section of the report provides additional information regarding the sensitivity of valuation results to the expected investment return and other factors. Also provided in that section are measures of funded status that are appropriate for assessing the sufficiency of plan assets to cover estimated termination liabilities.

Additional Employer Contributions

The minimum required employer contribution towards the Unfunded Accrued Liability (UAL) for this rate plan for FY 2025-26 is $5,578. CalPERS allows agencies to make additional discretionary payments (ADPs) at any time. These optional payments serve to reduce the UAL and future required contributions and can result in significant long-term savings. Agencies can also use ADPs to stabilize annual contributions as a fixed dollar amount, percent of payroll or percent of revenue.

Provided below are select ADP options for consideration. Making such an ADP during FY 2025-26 does not require an ADP be made in any future year, nor does it change the remaining amortization period of any portion of unfunded liability. For information on permanent changes to amortization periods, see Amortization Schedule and Alternatives. Agencies considering making an ADP should contact CalPERS for additional information.

Fiscal Year 2025-26 Employer Contributions — Illustrative Scenarios

Funding Approach	Estimated Normal Cost	Minimum UAL Contribution	ADP[1]	Total UAL Contribution	Estimated Total Contribution
Minimum required only	$65,083	$5,578	0	$5,578	$70,661
20 year funding horizon	$65,083	$5,578	$4,325	$9,903	$74,986
15 year funding horizon	$65,083	$5,578	$5,975	$11,553	$76,636
10 year funding horizon	$65,083	$5,578	$9,454	$15,032	$80,115
5 year funding horizon	$65,083	$5,578	$20,273	$25,851	$90,934

The minimum required contribution above is less than interest on the UAL. With no ADP the UAL is projected to increase over the following year. If the minimum UAL payment were split between interest and principal, the principal portion would be negative. This situation is referred to as **negative amortization**. If only the minimum required contribution is made, contributions are not expected to exceed interest on the UAL until FY **2026-27**, as shown in the Amortization Schedule and Alternatives section of the report (see columns labeled Current Amortization Schedule).

Fiscal Year 2025-26 Employer Contribution Necessary to Avoid Negative Amortization

Estimated Normal Cost	Minimum UAL Contribution	ADP[1]	Total UAL Contribution	Estimated Total Contribution
$65,083	$5,578	$1,668	$7,246	$72,329

[1] The ADP amounts are assumed to be made in the middle of the fiscal year. A payment made earlier or later in the fiscal year would have to be less or more than the amount shown to have the same effect on the UAL amortization.

The calculations above are based on the projected UAL as of June 30, 2025, as determined in the June 30, 2023, actuarial valuation. New unfunded liabilities can emerge in future years due to assumption or method changes, changes in plan provisions, and actuarial experience different than assumed. Making an ADP illustrated above for the indicated number of years will not result in a plan that is exactly 100% funded in the indicated number of years. Valuation results will vary from one year to the next and can diverge significantly from projections over a period of several years.

Additional Discretionary Payment History

The following table provides a recent history of actual ADPs made to the plan.

Fiscal Year	ADP	Fiscal Year	ADP
2019-20	$0	2022-23	$0
2020-21	$0	2023-24[2]	$0
2021-22	$0		

[2] Excludes payments made after April 30, 2024

Projected Employer Contributions

The table below shows the required and projected employer contributions (before cost sharing) for the next six fiscal years. The projection assumes that all actuarial assumptions will be realized and that no further changes to assumptions, contributions, benefits, or funding will occur during the projection period. In particular, the investment return beginning with FY 2023-24 is assumed to be 6.80% per year, net of investment and administrative expenses. Future contribution requirements may differ significantly from those shown below. The actual long-term cost of the plan will depend on the actual benefits and expenses paid and the actual investment experience of the fund.

	Required Contribution	**Projected Future Employer Contributions (Assumes 6.80% Return for Fiscal Year 2023-24 and Beyond)**				
Fiscal Year	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
	Rate Plan 26893 Results					
Normal Cost %	8.72%	8.7%	8.7%	8.7%	8.7%	8.7%
UAL Payment	$5,578	$7,400	$9,200	$11,000	$11,000	$11,000

For ongoing plans, investment gains and losses are amortized using a 5-year ramp up. For more information, please see Amortization of Unfunded Actuarial Accrued Liability in Appendix A of the Section 2 Report. This method phases in the impact of the change in UAL over a 5-year period in order to reduce employer cost volatility from year to year. As a result of this methodology, dramatic changes in the required employer contributions in any one year are less likely. However, required contributions can change gradually and significantly over the next five years. In years when there is a large investment loss, the relatively small amortization payments during the ramp up period could result in contributions that are less than interest on the UAL (i.e. negative amortization) while the contribution impact of the increase in the UAL is phased in.

The required contribution for FY 2025-26 is less than interest on the UAL, a situation referred to as **negative amortization**, as explained in the Additional Employer Contributions section earlier in this report. If only the minimum required contribution is made, contributions are not expected to exceed interest on the UAL until FY 2026-27, as shown in the Amortization Schedule and Alternatives section of the report (see columns labelled “Current Amortization Schedule”).

For projected contributions under alternate investment return scenarios, please see the Future Investment Return Scenarios exhibit. Our online pension plan projection tool, Pension Outlook, is available in the Employers section of the CalPERS website. Pension Outlook can help plan and budget pension costs under various scenarios.

Schedule of Amortization Bases

Below is the schedule of the plan's amortization bases. Note that there is a two-year lag between the valuation date and the start of the contribution year.

- The assets, liabilities and funded status of the plan are measured as of the valuation date: June 30, 2023.
- The required employer contributions determined by the valuation are for the fiscal year beginning two years after the valuation date: FY 2025-26.

This two-year lag is necessary due to the amount of time needed to extract and test the membership and financial data, and the need to provide public agencies with their required employer contribution well in advance of the start of the fiscal year.

The Unfunded Accrued Liability (UAL) is used to determine the employer contribution and therefore must be rolled forward two years from the valuation date to the first day of the fiscal year for which the contribution is being determined. The UAL is rolled forward each year by subtracting the expected payment on the UAL for the fiscal year and adjusting for interest. The expected payment on the UAL for FY 2023-24 is based on the actuarial valuation two years ago, adjusted for additional discretionary payments made on or before April 30, 2024, if necessary, and the expected payment for FY 2024-25 is based on the actuarial valuation one year ago.

Reason for Base	Date Est.	Ramp Level 2025-26	Ramp Shape	Escalation Rate	Amort. Period	Balance 6/30/23	Expected Payment 2023-24	Balance 6/30/24	Expected Payment 2024-25	Balance 6/30/25	Minimum Required Payment 2025-26
Non-Investment (Gain)/Loss	6/30/22	No Ramp		0.00%	19	9,110	0	9,729	875	9,486	875
Partial Fresh Start	6/30/22	40%	Up Only	0.00%	19	73,452	0	78,447	1,686	82,039	3,372
Investment (Gain)/Loss	6/30/23	20%	Up Only	0.00%	20	4,379	0	4,677	0	4,995	107
Non-Investment (Gain)/Loss	6/30/23	No Ramp		0.00%	20	11,930	0	12,741	0	13,607	1,224
Total						**98,871**	**0**	**105,594**	**2,561**	**110,127**	**5,578**

The (gain)/loss bases are the plan's allocated share of the risk pool's (gain)/loss for the fiscal year as disclosed in Allocation of Plan's Share of Pool's Experience earlier in this report. These (gain)/loss bases will be amortized in accordance with the CalPERS amortization policy in effect at the time the base was established.

Amortization Schedule and Alternatives

The amortization schedule on the previous page(s) shows the minimum contributions required according to the CalPERS amortization policy. Many agencies have expressed a desire for a more stable pattern of payments or have indicated interest in paying off the unfunded accrued liabilities more quickly than required. As such, we have provided alternative amortization schedules to help analyze the current amortization schedule and illustrate the potential savings of accelerating unfunded liability payments.

Shown on the following page are future year amortization payments based on 1) the current amortization schedule reflecting the individual bases and remaining periods shown on the previous page, and 2) alternative "fresh start" amortization schedules using two sample periods that would both result in interest savings relative to the current amortization schedule. To initiate a fresh start, please contact a CalPERS actuary.

The current amortization schedule typically contains both positive and negative bases. Positive bases result from plan changes, assumption changes, method changes or plan experience that increase unfunded liability. Negative bases result from plan changes, assumption changes, method changes, or plan experience that decrease unfunded liability. The combination of positive and negative bases within an amortization schedule can result in unusual or problematic circumstances in future years, such as:

- When a negative payment would be required on a positive unfunded actuarial liability; or
- When the payment would completely amortize the total unfunded liability in a very short time period, and results in a large change in the employer contribution requirement.

In any year when one of the above scenarios occurs, the actuary will consider corrective action such as replacing the existing unfunded liability bases with a single "fresh start" base and amortizing it over an appropriate period.

The current amortization schedule on the following page may appear to show that, based on the current amortization bases, one of the above scenarios will occur at some point in the future. It is impossible to know today whether such a scenario will in fact arise since there will be additional bases added to the amortization schedule in each future year. Should such a scenario arise in any future year, the actuary will take appropriate action based on guidelines in the CalPERS Actuarial Amortization Policy.

Amortization Schedule and Alternatives (continued)

	Current Amortization Schedule		Alternative Schedules			
			20 Year Amortization		15 Year Amortization	
Date	**Balance**	**Payment**	**Balance**	**Payment**	**Balance**	**Payment**
6/30/2025	110,127	5,578	110,127	9,903	110,127	11,553
6/30/2026	111,851	7,373	107,381	9,903	105,676	11,553
6/30/2027	111,837	9,165	104,449	9,903	100,923	11,553
6/30/2028	109,971	10,960	101,317	9,903	95,846	11,553
6/30/2029	106,122	11,066	97,972	9,903	90,424	11,552
6/30/2030	101,902	11,066	94,400	9,903	84,635	11,553
6/30/2031	97,395	11,067	90,585	9,903	78,451	11,553
6/30/2032	92,580	11,066	86,511	9,903	71,846	11,552
6/30/2033	87,439	11,067	82,160	9,903	64,793	11,553
6/30/2034	81,947	11,065	77,513	9,903	57,260	11,553
6/30/2035	76,084	11,065	72,550	9,903	49,214	11,552
6/30/2036	69,823	11,067	67,249	9,903	40,622	11,552
6/30/2037	63,134	11,066	61,588	9,903	31,446	11,552
6/30/2038	55,991	11,065	55,542	9,903	21,646	11,553
6/30/2039	48,363	11,064	49,085	9,903	11,179	11,553
6/30/2040	40,217	11,064	42,189	9,903		
6/30/2041	31,518	11,066	34,824	9,903		
6/30/2042	22,226	11,066	26,958	9,904		
6/30/2043	12,301	11,064	18,556	9,904		
6/30/2044	1,703	1,760	9,583	9,903		
6/30/2045						
6/30/2046						
6/30/2047						
6/30/2048						
6/30/2049						
Total	**200,820**		**198,062**		**173,290**	
Interest Paid	**90,693**		**87,935**		**63,163**	
Estimated Savings			**2,758**		**27,530**	

Employer Contribution History

The table below provides a recent history of the employer contribution requirements for the plan, as determined by the annual actuarial valuation. Changes due to prepayments or plan amendments after the valuation report was finalized are not reflected.

Valuation Date	Contribution Year	Employer Normal Cost Rate	Unfunded Liability Payment
06/30/2014	2016 - 17	7.191%	$71
06/30/2015	2017 - 18	7.170%	1,936
06/30/2016	2018 - 19	7.557%	2,277
06/30/2017	2019 - 20	7.528%	5,617
06/30/2018	2020 - 21	8.239%	8,115
06/30/2019	2021 - 22	8.09%	8,034
06/30/2020	2022 - 23	8.19%	8,357
06/30/2021	2023 - 24	8.48%	0
06/30/2022	2024 - 25	8.63%	2,561
06/30/2023	2025 - 26	8.72%	5,578

Funding History

The table below shows the recent history of the actuarial accrued liability, share of the pool's market value of assets, unfunded accrued liability, funded ratio and annual covered payroll.

Valuation Date	Accrued Liability (AL)	Share of Pool's Market Value of Assets (MVA)	Unfunded Accrued Liability (UAL)	Funded Ratio	Annual Covered Payroll
06/30/2014	$23,644	$24,696	($1,052)	104.5%	$400,947
06/30/2015	96,290	90,755	5,535	94.3%	414,342
06/30/2016	175,665	155,106	20,559	88.3%	428,693
06/30/2017	229,574	209,298	20,276	91.2%	246,388
06/30/2018	313,465	280,984	32,481	89.6%	323,708
06/30/2019	391,130	351,025	40,105	89.7%	336,371
06/30/2020	383,218	334,433	48,785	87.3%	419,994
06/30/2021	491,128	500,762	(9,634)	102.0%	411,047
06/30/2022	606,920	527,786	79,134	87.0%	458,682
06/30/2023	773,551	674,680	98,871	87.2%	468,322

Risk Analysis

Future Investment Return Scenarios

Analysis using the investment return scenarios from the Asset Liability Management process completed in 2021 was performed to determine the effects of various future investment returns on required employer contributions. The projections below reflect the impact of the CalPERS Funding Risk Mitigation Policy. The projections also assume that all other actuarial assumptions will be realized and that no further changes in assumptions, contributions, benefits, or funding will occur.

The first table shows projected contribution requirements if the fund were to earn either 3.0% or 10.8% annually. These alternate investment returns were chosen because 90% of long-term average returns are expected to fall between them over the 20-year period ending June 30, 2043.

Assumed Annual Return FY 2023-24 through FY 2042-43	Projected Employer Contributions				
	2026-27	2027-28	2028-29	2029-30	2030-31
3.0% (5th percentile)					
Discount Rate	6.80%	6.80%	6.80%	6.80%	6.80%
Normal Cost Rate	8.7%	8.7%	8.7%	8.7%	8.7%
UAL Contribution	$8,000	$11,000	$15,000	$17,000	$21,000
10.8% (95th percentile)					
Discount Rate	6.75%	6.70%	6.65%	6.60%	6.55%
Normal Cost Rate	8.9%	9.2%	9.4%	8.8%	9.0%
UAL Contribution	$6,800	$7,500	$7,500	$0	$0

Required contributions outside of this range are also possible. In particular, whereas it is unlikely that investment returns will average less than 3.0% or greater than 10.8% over a 20-year period, the likelihood of a single investment return less than 3.0% or greater than 10.8% in any given year is much greater. The following analysis illustrates the effect of an extreme, single year investment return.

The portfolio has an expected volatility (or standard deviation) of 12.0% per year. Accordingly, in any given year there is a 16% probability that the annual return will be -5.2% or less and a 2.5% probability that the annual return will be -17.2% or less. These returns represent one and two standard deviations below the expected return of 6.8%.

The following table shows the effect of one and two standard deviation investment losses in FY 2023-24 on the FY 2026-27 contribution requirements. Note that a single-year investment gain or loss decreases or increases the required UAL contribution amount incrementally for each of the next five years, not just one, due to the 5-year ramp in the amortization policy. However, the contribution requirements beyond the first year are also impacted by investment returns beyond the first year. Historically, significant downturns in the market are often followed by higher than average returns. Such investment gains would offset the impact of these single year negative returns in years beyond FY 2026-27.

Assumed Annual Return for Fiscal Year 2023-24	Required Employer Contributions	Projected Employer Contributions
	2025-26	2026-27
(17.2%) (2 standard deviation loss)		
Discount Rate	6.80%	6.80%
Normal Cost Rate	8.72%	8.7%
UAL Contribution	$5,578	$11,000
(5.2%) (1 standard deviation loss)		
Discount Rate	6.80%	6.80%
Normal Cost Rate	8.72%	8.7%
UAL Contribution	$5,578	$9,400

- Without investment gains (returns higher than 6.8%) in FY 2024-25 or later, projected contributions rates would continue to rise over the next four years due to the continued phase-in of the impact of the illustrated investment loss in FY 2023-24.
- The Pension Outlook Tool can be used to model projected contributions for these scenarios beyond FY 2026-27 as well as to model other investment return scenarios.

Discount Rate Sensitivity

The discount rate assumption is calculated as the sum of the assumed real rate of return and the assumed annual price inflation, currently 4.5% and 2.3%, respectively. Changing either the price inflation assumption or the real rate of return assumption will change the discount rate. The sensitivity of the valuation results to the discount rate assumption depends on which component of the discount rate is changed. Shown below are various valuation results as of June 30, 2023, assuming alternate discount rates by changing the two components independently. Results are shown using the current discount rate of 6.8% as well as alternate discount rates of 5.8% and 7.8%. The rates of 5.8% and 7.8% were selected since they illustrate the impact of a 1.0% increase or decrease to the 6.8% assumption.

Sensitivity to the Real Rate of Return Assumption

As of June 30, 2023	1% Lower Real Return Rate	Current Assumptions	1% Higher Real Return Rate
Discount Rate	**5.8%**	**6.8%**	**7.8%**
Price Inflation	2.3%	2.3%	2.3%
Real Rate of Return	**3.5%**	**4.5%**	**5.5%**
a) Total Normal Cost	21.23%	16.97%	13.73%
b) Accrued Liability	$957,192	$773,551	$630,782
c) Market Value of Assets	$674,680	$674,680	$674,680
d) Unfunded Liability/(Surplus) [(b) - (c)]	$282,512	$98,871	($43,898)
e) Funded Ratio	70.5%	87.2%	107.0%

Sensitivity to the Price Inflation Assumption

As of June 30, 2023	1% Lower Price Inflation	Current Assumptions	1% Higher Price Inflation
Discount Rate	**5.8%**	**6.8%**	**7.8%**
Price Inflation	**1.3%**	**2.3%**	**3.3%**
Real Rate of Return	4.5%	4.5%	4.5%
a) Total Normal Cost	17.89%	16.97%	15.43%
b) Accrued Liability	$804,497	$773,551	$725,820
c) Market Value of Assets	$674,680	$674,680	$674,680
d) Unfunded Liability/(Surplus) [(b) - (c)]	$129,817	$98,871	$51,140
e) Funded Ratio	83.9%	87.2%	93.0%

Mortality Rate Sensitivity

The following table looks at the change in the June 30, 2023, plan costs and funded status under two different longevity scenarios, namely assuming rates of post-retirement mortality are 10% lower or 10% higher than our current mortality assumptions adopted in 2021. This type of analysis highlights the impact on the plan of a change in the mortality assumption.

As of June 30, 2023	10% Lower Mortality Rates	Current Assumptions	10% Higher Mortality Rates
a) Total Normal Cost	17.27%	16.97%	16.70%
b) Accrued Liability	$785,986	$773,551	$762,033
c) Market Value of Assets	$674,680	$674,680	$674,680
d) Unfunded Liability/(Surplus) [(b) - (c)]	$111,306	$98,871	$87,353
e) Funded Ratio	85.8%	87.2%	88.5%

Maturity Measures

As pension plans mature they become more sensitive to risks. Understanding plan maturity and how it affects the ability of a pension plan sponsor to tolerate risk is important in understanding how the pension plan is impacted by investment return volatility, other economic variables and changes in longevity or other demographic assumptions.

Since it is the employer that bears the risk, it is appropriate to perform this analysis on a pension plan level considering all rate plans. The following measures are for one rate plan only. One way to look at the maturity level of CalPERS and its plans is to look at the ratio of a plan's retiree liability to its total liability. A pension plan in its infancy will have a very low ratio of retiree liability to total liability. As the plan matures, the ratio increases. A mature plan will often have a ratio above 60%-65%.

Ratio of Retiree Accrued Liability to Total Accrued Liability	June 30, 2022	June 30, 2023
1. Retiree Accrued Liability	$0	$0
2. Total Accrued Liability	$606,920	$773,551
3. Ratio of Retiree AL to Total AL [(1) ÷ (2)]	0%	0%

Another measure of the maturity level of CalPERS and its plans is the ratio of actives to retirees, also called the support ratio. A pension plan in its infancy will have a very high ratio of active to retired members. As the plan matures and members retire, the ratio declines. A mature plan will often have a ratio near or below one.

To calculate the support ratio for the rate plan, retirees and beneficiaries receiving a continuance are each counted as one, even though they may have only worked a portion of their careers as an active member of this rate plan. For this reason, the support ratio, while intuitive, may be less informative than the ratio of retiree liability to total accrued liability above.

For comparison, the support ratio for all CalPERS public agency plans as of June 30, 2022, was 0.77 and was calculated consistently with how it is for the individual rate plan. Note that to calculate the support ratio for all public agency plans, a retiree with service from more than one CalPERS agency is counted as a retiree more than once.

Support Ratio	June 30, 2022	June 30, 2023
1. Number of Actives	4	4
2. Number of Retirees	0	0
3. Support Ratio [(1) ÷ (2)]	N/A	N/A

Maturity Measures (continued)

The actuarial calculations supplied in this communication are based on various assumptions about long-term demographic and economic behavior. Unless these assumptions (e.g., terminations, deaths, disabilities, retirements, salary increases, investment return) are exactly realized each year, there will be differences on a year-to-year basis. The year-to-year differences between actual experience and the assumptions are called actuarial gains and losses and serve to lower or raise required employer contributions from one year to the next. Therefore, employer contributions will inevitably fluctuate, especially due to the ups and downs of investment returns.

Asset Volatility Ratio

Shown in the table below is the asset volatility ratio (AVR), which is the ratio of market value of assets to payroll. Plans that have a higher AVR experience more volatile employer contributions (as a percentage of payroll) due to investment return. For example, a plan with an AVR of 8 may experience twice the contribution volatility due to investment return volatility than a plan with an AVR of 4. It should be noted that this ratio is a measure of the current situation. It increases over time but generally tends to stabilize as a plan matures.

Liability Volatility Ratio

Also shown in the table below is the liability volatility ratio (LVR), which is the ratio of accrued liability to payroll. Plans that have a higher LVR experience more volatile employer contributions (as a percentage of payroll) due to changes in liability. For example, a plan with an LVR of 8 is expected to have twice the contribution volatility of a plan with an LVR of 4 when there is a change in accrued liability, such as when there is a change in actuarial assumptions. It should be noted that this ratio indicates a longer-term potential for contribution volatility, since the AVR, described above, will tend to move closer to the LVR as the funded ratio approaches 100%.

Contribution Volatility	June 30, 2022	June 30, 2023
1. Market Value of Assets	$527,786	$674,680
2. Payroll	$458,682	$468,322
3. Asset Volatility Ratio (AVR) [(1) ÷ (2)]	1.2	1.4
4. Accrued Liability	$606,920	$773,551
5. Liability Volatility Ratio (LVR) [(4) ÷ (2)]	1.3	1.7

Maturity Measures History

Valuation Date	Ratio of Retiree Accrued Liability to Total Accrued Liability	Support Ratio	Asset Volatility Ratio	Liability Volatility Ratio
06/30/2017	0%	N/A	0.8	0.9
06/30/2018	0%	N/A	0.9	1.0
06/30/2019	0%	N/A	1.0	1.2
06/30/2020	0%	N/A	0.8	0.9
06/30/2021	0%	N/A	1.2	1.2
06/30/2022	0%	N/A	1.2	1.3
06/30/2023	0%	N/A	1.4	1.7

Funded Status – Termination Basis

The funded status measured on a termination basis is an estimate of the financial position of the plan had the contract with CalPERS been terminated as of June 30, 2023. The accrued liability on a termination basis (termination liability) is calculated differently from the plan's ongoing funding liability. For the termination liability calculation, both compensation and service are frozen as of the valuation date and no future pay increases or service accruals are assumed. This measure of funded status is not appropriate for assessing the need for future employer contributions in the case of an ongoing plan, that is, for an employer that continues to provide CalPERS retirement benefits to active employees. Unlike the actuarial cost method used for ongoing plans, the termination liability is the present value of the benefits earned through the valuation date.

A more conservative investment policy and asset allocation strategy was adopted by the board for the Terminated Agency Pool. The Terminated Agency Pool has limited funding sources since no future employer contributions will be made. Therefore, expected benefit payments are secured by risk-free assets and benefit security for members is increased while limiting the funding risk. However, this asset allocation has a lower expected rate of return than the remainder of the PERF and consequently, a lower discount rate assumption. The lower discount rate for the Terminated Agency Pool results in higher liabilities for terminated plans.

The discount rate used for actual termination valuations is a weighted average of the 10-year and 30-year Treasury yields where the weights are based on matching asset and liability durations as of the termination date. The discount rates used in the following analysis is based on 20-year Treasury bonds, which is a good proxy for most plans. The discount rate upon contract termination will depend on actual Treasury rates on the date of termination, which varies over time, as shown below.

Valuation Date	20-Year Treasury Rate	Valuation Date	20-Year Treasury Rate
06/30/2014	3.08%	06/30/2019	2.31%
06/30/2015	2.83%	06/30/2020	1.18%
06/30/2016	1.86%	06/30/2021	2.00%
06/30/2017	2.61%	06/30/2022	3.38%
06/30/2018	2.91%	06/30/2023	4.06%

As Treasury rates are variable, the table below shows a range for the termination liability using discount rates 1% below and above the 20-year Treasury rate on the valuation date. The price inflation assumption is the 20-year Treasury breakeven inflation rate, that is, the difference between the 20-year inflation indexed bond and the 20-year fixed-rate bond.

The Market Value of Assets (MVA) also varies with interest rates and will fluctuate depending on other market conditions on the date of termination. Since it is not possible to approximate how the MVA will change in different interest rate environments, the results below use the MVA as of the valuation date.

	Discount Rate: 3.06% Price Inflation: 2.50%	Discount Rate: 5.06% Price Inflation: 2.50%
1. Termination Liability[1]	$1,407,666	$843,149
2. Market Value of Assets (MVA)	674,680	674,680
3. Unfunded Termination Liability [(1) – (2)]	$732,986	$168,469
4. Funded Ratio [(2) ÷ (1)]	47.9%	80.0%

[1] The termination liabilities calculated above include a 5% contingency load. The contingency load and other actuarial assumptions can be found in Appendix A of the Section 2 report.

In order to terminate the plan, first contact our Pension Contract Services unit to initiate a Resolution of Intent to Terminate. The completed Resolution will allow a CalPERS actuary to provide a preliminary termination valuation with a more up-to-date estimate of the plan's assets and liabilities. Before beginning this process, please consult with a CalPERS actuary.

Funded Status – Low-Default-Risk Basis

Actuarial Standard of Practice (ASOP) No. 4, *Measuring Pension Obligations and Determining Pension Plan Costs or Contributions*, requires the disclosure of a low-default-risk obligation measure (LDROM) of benefit costs accrued as of the valuation date using a discount rate based on the yields of high quality fixed income securities with cash flows that replicate expected benefit payments. Conceptually, this measure represents the level at which financial markets would value the accrued plan costs, and would be approximately equal to the cost of a portfolio of low-default-risk bonds with similar financial characteristics to accrued plan costs.

As permitted in ASOP No. 4, the Actuarial Office uses the Entry Age Actuarial Cost Method to calculate the LDROM. This methodology is in line with the measure of "benefit entitlements" calculated by the Bureau of Economic Analysis and used by the Federal Reserve to report the indebtedness due to pensions of plan sponsors and, conversely, the household wealth due to pensions of plan members.

As shown below, the discount rate used for the LDROM is 4.82%, which is the Standard FTSE Pension Liability Index[1] discount rate as of June 30, 2023, net of assumed administrative expenses.

Selected Measures on a Low-Default-Risk Basis	**June 30, 2023**
Discount Rate	4.82%
1. Accrued Liability[2] – Low-Default-Risk Basis (LDROM)	
a) Active Members	$578,464
b) Transferred Members	506,803
c) Separated Members	116,134
d) Members and Beneficiaries Receiving Payments	0
e) Total	$1,201,401
2. Market Value of Assets (MVA)	674,680
3. Unfunded Accrued Liability – Low-Default-Risk Basis [(1e) – (2)]	$526,721
4. Unfunded Accrued Liability – Funding Policy Basis	98,871
5. Present Value of Unearned Investment Risk Premium [(3) – (4)]	$427,850

The difference between the unfunded liabilities on a low-default-risk basis and on the funding policy basis represents the present value of the investment risk premium that must be earned in future years to keep future contributions for currently accrued plan costs at the levels anticipated by the funding policy.

Benefit security for members of the plan relies on a combination of the assets in the plan, the investment income generated from those assets, and the ability of the plan sponsor to make necessary future contributions. If future returns fall short of 6.8%, benefit security could be at risk without higher than currently anticipated future contributions.

The funded status on a low-default-risk basis is not appropriate for assessing the sufficiency of plan assets to cover the cost of settling the plan's benefit obligations (see Funded Status – Termination Basis), nor is it appropriate for assessing the need for future contributions (see Funded Status – Funding Policy Basis).

1 This index is based on a yield curve of hypothetical AA-rated zero coupon corporate bonds whose maturities range from 6 months to 30 years. The index represents the single discount rate that would produce the same present value as discounting a standardized set of liability cash flows for a fully open pension plan using the yield curve. The liability cash flows are reasonably consistent with the pattern of benefits expected to be paid from the entire Public Employees' Retirement Fund for current and former plan members. A different index, hence a different discount rate, may be needed to measure the LDROM for a subset of the fund, such as a single rate plan or a group of retirees.

2 If plan assets were invested entirely in the AA fixed income securities used to determine the discount rate of 4.82%, the CalPERS discount rate could, at various times, be below 4.5% or 5.25%, and some automatic annual retiree COLAs could be suspended (Gov. Code sections 21329 and 21335). Since there is currently no proposal to adopt an asset allocation entirely comprised of fixed income securities, the automatic COLAs have been fully valued in the measures above based on the assumptions used for plan funding. Removing future COLAs from the measurement would understate the statutory obligation.

Summary of Valuation Data

The table below shows a summary of the plan's member data upon which this valuation is based:

	June 30, 2022	June 30, 2023
Active Members		
Counts	4	4
Average Attained Age	40.9	41.9
Average Entry Age to Rate Plan	37.2	37.2
Average Years of Credited Service	3.0	4.0
Average Annual Covered Pay	$114,671	$117,081
Annual Covered Payroll	$458,682	$468,322
Present Value of Future Payroll	$5,433,681	$5,632,353
Transferred Members	3	4
Separated Members	3	2
Retired Members and Beneficiaries*		
Counts	0	0
Average Annual Benefits	$0	$0
Total Annual Benefits	$0	$0

Counts of members included in the valuation are counts of the records processed by the valuation. Multiple records may exist for those who have service in more than one valuation group. This does not result in double counting of liabilities.

* Values include community property settlements.

List of Class 1 Benefit Provisions

This plan has the following Class 1 Benefit Provisions:

- Post-Retirement Survivor Allowance (PRSA)
- 3% Annual Cost-of-Living Allowance Increase (3% COLA)

Plan's Major Benefit Options

Shown below is a summary of the major optional benefits for which the agency has contracted. A description of principal standard and optional plan provisions is in Section 2.

	Benefit Group	
Member Category	**Misc**	
Demographics		
Actives	Yes	
Transfers/Separated	Yes	
Receiving	No	
Benefit Provision		
Benefit Formula	2% @ 62	
Social Security Coverage	No	
Full/Modified	Full	
Employee Contribution Rate	8.25%	
Final Average Compensation Period	Three Year	
Sick Leave Credit	Yes	
Non-Industrial Disability	Standard	
Industrial Disability	No	
Pre-Retirement Death Benefits		
Optional Settlement 2	Yes	
1959 Survivor Benefit Level	Level 4	
Special	No	
Alternate (firefighters)	No	
Post-Retirement Death Benefits		
Lump Sum	$5,000	
Survivor Allowance (PRSA)	Yes	
COLA	3%	

Section 2

California Public Employees' Retirement System

Risk Pool Actuarial Valuation Information

Section 2 may be found on the
CalPERS website (www.calpers.ca.gov)
in the Forms & Publications section

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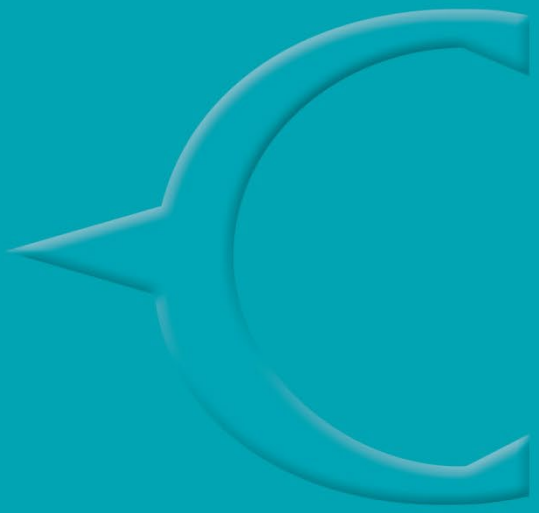

San Francisco City and County Employees' Retirement System

July 1, 2023
Actuarial Valuation Report

Produced by Cheiron
February 2024

www.cheiron.us 1.877.CHEIRON (243.4766)

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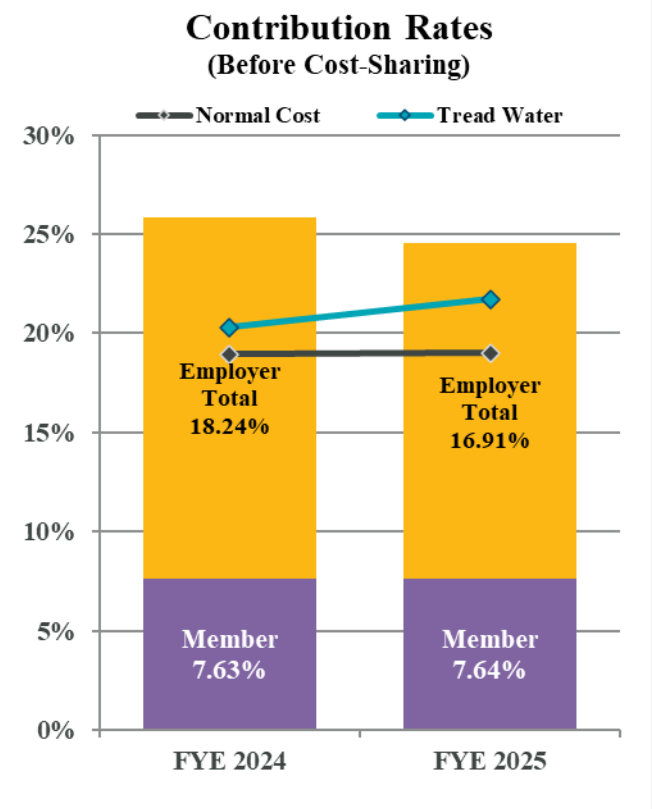
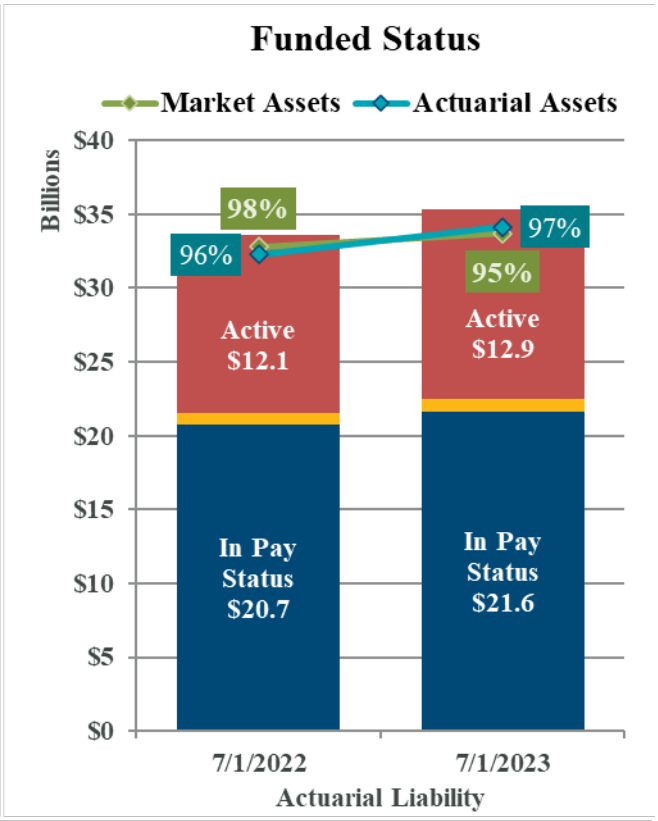
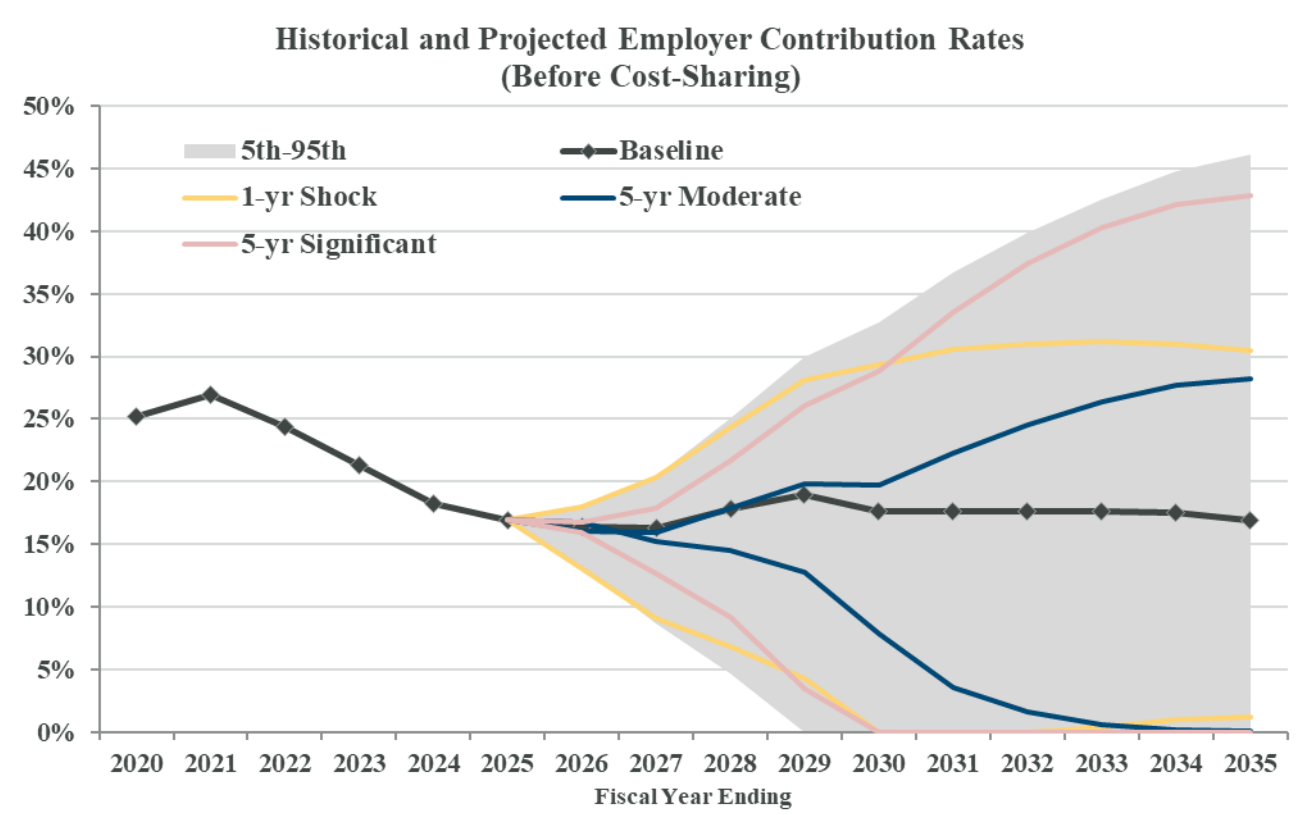






SECTION I – BOARD SUMMARY

Key Findings of the July 1, 2023 Valuation

The key results of the July 1, 2023 actuarial valuation are as follows:

- The employer contribution rate decreased from 18.24% for FYE 2024 to 16.91% for FYE 2025 before any cost-sharing adjustments.[1] See Table I-4 for details on the components of the decrease in contribution rates. After the cost-sharing adjustments, the estimated employer contribution rate decreased from 16.12% to 15.27%. The actual aggregate employer contribution rates after cost-sharing adjustments will depend upon the proportion of the actual payroll for each employee group defined in the Charter. See Table VI-2 for more details.

- The average cost-sharing adjustment for employee contribution rates will decrease by 0.47% of pay in FYE 2025. The average employee contribution rate after cost-sharing adjustments is estimated to be 9.28% of pay in FYE 2025 compared to 9.75% in FYE 2024.

- Based on the Market Value of Assets, the funded ratio decreased from 97.6% to 95.3%, and the Unfunded Actuarial Liability (UAL) increased from $0.8 billion to $1.7 billion. Based on the smoothed Actuarial Value of Assets, the funded ratio increased from 96.1% to 96.6%, and the Unfunded Actuarial Liability decreased from $1.3 billion to $1.2 billion.

- The return on the Market Value of Assets for the year ended June 30, 2023 was approximately 5.2% resulting in an actuarial loss of about $0.6 billion that will be recognized over the next five years. The return on the Actuarial Value of Assets was 8.2%, which recognizes 20% of the FYE 2023 loss as well as deferred investment gains and losses from previous years, and results in an actuarial gain of about $0.3 billion.

- Because actual investment returns were less than expected, a Supplemental COLA was not payable on July 1, 2023.

[1] *The cost-sharing adjustments depend on the employer contribution rate, the employee group, and the level of pay based on the applicable table in the Charter. The FYE 2025 average cost-sharing adjustment is estimated to be 1.64%, details of the calculation can be found in Table VI-2 of this report.*

SECTION I – BOARD SUMMARY

Funded Status

This report measures assets and liabilities for funding purposes. Table I-1 below summarizes the Actuarial Liability, assets, and related ratios as of July 1, 2023 compared to July 1, 2022.

Table I-1
Summary of Key Valuation Results
(Amounts in millions)

Valuation Date	July 1, 2022	July 1, 2023	% Change
Actuarial Liability	$ 33,591.6	$ 35,352.0	5.2%
Actuarial Value of Assets	$ 32,275.5	$ 34,137.0	5.8%
Unfunded Actuarial Liability (actuarial value)	1,316.1	1,215.0	-7.7%
Funding Ratio (actuarial value)	96.1%	96.6%	0.5%
Market Value of Assets	$ 32,798.5	$ 33,688.4	2.7%
Unfunded Liability (market value)	793.1	1,663.6	109.8%
Funding Ratio (market value)	97.6%	95.3%	-2.3%
Expected Payroll	$ 3,984.1	$ 4,258.6	6.9%
Interest on UAL (MVA basis)	$ 55.2	$ 115.7	109.8%
Interest Cost as Percent of Payroll	1.4%	2.7%	1.3%

The Actuarial Liability increased by approximately $1.8 billion. The Actuarial Value of Assets, which is used as the basis to set contribution rates, increased by approximately $1.9 billion reflecting smoothed investment returns and contributions offset by benefits and expenses paid during the year. The Unfunded Actuarial Liability decreased by approximately $0.1 billion based on the Actuarial Value of Assets.

The Market Value of Assets increased approximately $0.9 billion, and the UAL based on the Market Value of Assets increased approximately $0.9 billion.

The interest cost on the UAL – based on the Market Value of Assets – increased by $61 million. As a result, approximately 2.7% of payroll is necessary to pay the interest on the UAL, which is an increase from 1.4% of payroll in the prior year.

SECTION I – BOARD SUMMARY

Contributions

The San Francisco City and County Employees' Retirement System (SFERS) funding policy sets employer contributions equal to the sum of:

- The employer normal cost under the Entry Age Normal Cost Method,
- The expected administrative expenses, and
- An amortization payment on the Unfunded Actuarial Liability.

The Charter requires employees to pay a portion of the employer contribution rate, depending on the employer contribution rate, the employee group, and the level of pay received by the employee. Unless explicitly identified, the figures shown in this report are before applying the cost-sharing adjustments. Table I-2 summarizes the employer and member contribution rates both before and after the cost-sharing adjustments.

Table I-2
Summary Of Contributions
(Amounts in millions)

	FYE 2024	FYE 2025	Change
Contribution Rates Before Adjustments			
Net Employer Contribution Rate	18.24%	16.91%	-1.33%
Est. Aggregate Employee Contribution Rate	7.63%	7.64%	0.01%
Total Contribution Rate	25.87%	24.55%	-1.32%
Estimated Payroll	$ 4,113.6	$ 4,397.0	$ 283.4
Estimated Net Employer Contributions	750.1	743.6	(6.5)
Contribution Rates After Adjustments			
Net Employer Contribution Rate	16.12%	15.27%	-0.85%
Est. Aggregate Employee Contribution Rate	9.75%	9.28%	-0.47%
Total Contribution Rate	25.87%	24.55%	-1.32%
Estimated Payroll	$ 4,113.6	$ 4,397.0	$ 283.4
Estimated Net Employer Contributions	663.1	671.4	8.3
Total Contribution Rate			
Normal Cost Rate	18.33%	18.40%	0.07%
Administrative Expense Rate	0.60%	0.60%	0.00%
UAL Rate			
Interest on Market Value UAL	1.38%	2.72%	1.34%
Principal on UAL	5.56%	2.83%	-2.73%
Total UAL Rate	6.94%	5.55%	-1.39%
Total Contribution Rate	25.87%	24.55%	-1.32%

SECTION I – BOARD SUMMARY

The net employer contribution rate before applying the cost-sharing adjustments decreased 1.33% of payroll from 18.24% to 16.91% for the fiscal year ending June 30, 2025. The cost-sharing adjustment is estimated to decrease the employer contribution and increase the aggregate employee contributions by about 1.64% of payroll. Thus, the estimated employer contribution rate after cost-sharing is 15.27% for FYE 2025. The cost-sharing adjustments will remain at this level as long as the employer contribution rate before adjustment is between 15.01% and 17.50%.

SFERS Membership

As shown in Table I-3 below, membership in SFERS increased in total by 2.3%. Active membership increased 2.5%, terminated vested membership increased 4.6%, and members receiving benefits increased by 1.2%. Total payroll increased by 6.9%. The average pay per active member increased 4.3%.

Table I-3
Membership Total

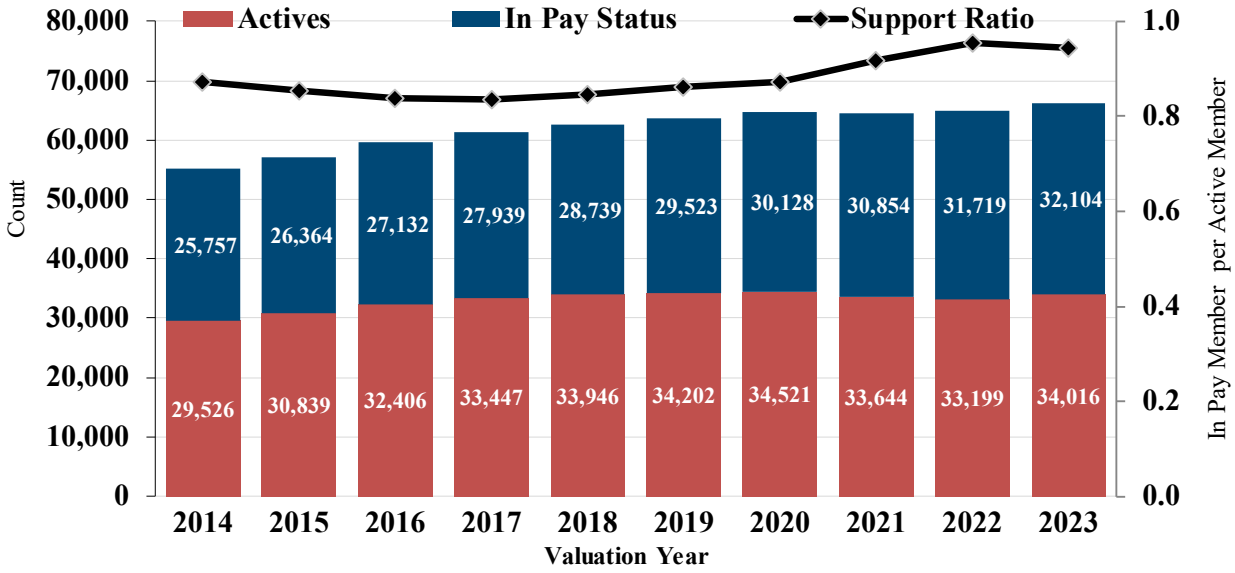
	July 1, 2022	July 1, 2023	% Change
Actives	33,199	34,016	2.5%
Terminated Vested	12,085	12,641	4.6%
Members Receiving Benefits	31,719	32,104	1.2%
Total SFERS Members	77,003	78,761	2.3%
Active Member Payroll (thousands)[1]	$ 3,984,150	$ 4,258,570	6.9%
Average Pay per Active	$ 120,000	$ 125,200	4.3%

[1] *Active member payroll is projected for the fiscal year beginning on the valuation date.*

SECTION I – BOARD SUMMARY

The chart below shows the historical trend in membership counts over the last 10 years. This trend can be an important indicator of growing plan maturity and sensitivity to investment returns, assumption changes, and other changes to the System. In particular, if the support ratio (the ratio of retirees to active members) grows, it indicates that any losses on retiree liabilities or assets are likely to place a relatively greater burden on employers and active members. For SFERS, the support ratio remained relatively stable, between 0.84 and 0.96, prior to the pandemic. However, in both 2021 and 2022 it increased due to declining active membership. This trend has reversed in 2023 as active members increased and the support ratio declined to 0.94.

Historical Membership Counts



SECTION I – BOARD SUMMARY

Contribution Reconciliation

The SFERS contribution rate for FYE 2024 before cost-sharing adjustments decreased from 18.24% to 16.91% of payroll. Table I-4 shows sources for the change in the net employer contribution rate.

Table I-4
Net Employer Contribution Rate Reconciliation
(Before Cost-Sharing Adjustment)

	Normal Cost [1]	UAL Payment	Total
FYE 2024 Net Employer Contribution Rate	11.30%	6.94%	18.24%
Fully paid 2018 Supplemental COLA	0.00%	-1.33%	-1.33%
Payroll growth more than assumed	0.00%	-0.19%	-0.19%
Investment gain on actuarial value of assets	0.00%	-0.57%	-0.57%
Salary increases and Old Safety Basic COLAs	0.00%	0.39%	0.39%
Other experience and programming changes	0.06%	0.31%	0.37%
FYE 2025 Net Employer Contribution Rate	11.36%	5.55%	16.91%

[1] *Includes administrative expenses and is net of employee contributions.*

- The amortization schedule for the 2018 Supplemental COLA was completed resulting in a 1.33% decrease in the employer contribution rate.
- Payroll grew by almost 7%, more than the expected growth rate of 3.25%, resulting in a 0.19% reduction in the employer contribution rate. The dollar amount of amortization payments increase at the expected payroll growth rate. When payroll growth is more than assumed, the amortization payments decrease as a percentage of payroll.
- Investment gains on the smoothed Actuarial Value of Assets reduced the contribution rate by 0.57% of payroll.
- Salary increases for active members were higher than expected, primarily for the Police membership. Also, Basic COLA increases for the Old Safety members were slightly higher than assumed. As a result, the employer contribution rates increased by 0.39% of payroll.
- Finally, other plan experience including retirements, terminations, disabilities and member mortality as well as minor programming changes increased the contribution rate by 0.37% of payroll.

SECTION I – BOARD SUMMARY

Historical and Projected Trends

Each valuation is a snapshot of the long-term progress of a pension fund. It is important to judge a current year's valuation result in the context of historical and projected future trends. **The baseline projections on the next page include the cost and liability for assumed future Supplemental COLAs.**

Supplemental COLAs are granted if there are excess returns (the actual return on the Market Value of Assets minus the expected return on Actuarial Value of Assets). For members who were hired after Proposition C (Prop C) passed in 2012, the Supplemental COLA is only payable if the System was 100% funded based on the Market Value of Assets. For non-Prop C Retirees, the projections assume 50% of a full Supplemental COLA each year (0.75% for most members). For the Prop C Retirees, the probability is slightly lower than 50% in the short term since the System is only 95% funded based on the Market Value of Assets.

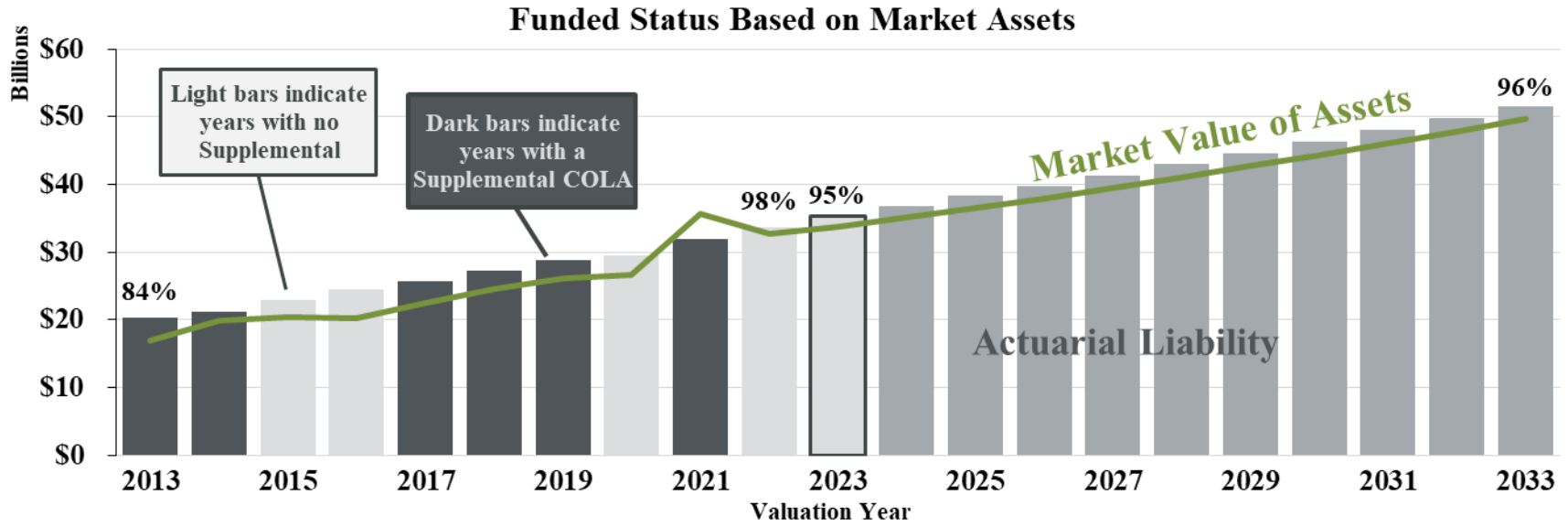
The top chart on page 9 compares the Market Value of Assets to the Actuarial Liability for the historical period from 2013 to 2023 and the projected period from 2024 to 2033 assuming all assumptions are met. The light gray bars represent the historical Actuarial Liability in years when no Supplemental COLA was paid, while the black bars represent the historical Actuarial Liability in years when a Supplemental COLA was paid. The medium gray bars represent the projected Actuarial Liability with an assumed level of Supplemental COLA. The gray bar with a black outline is the current valuation year.

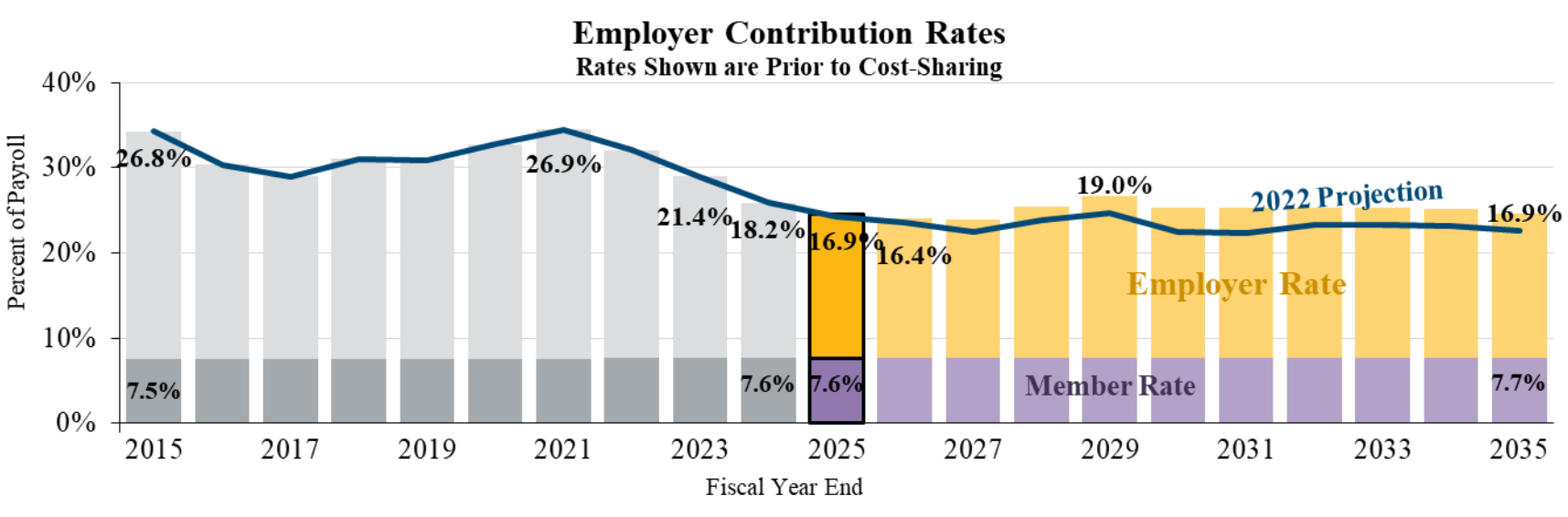
At the top of the bars, the funding ratios based on the Market Value of Assets are shown. The System was 84% funded as of July 1, 2013. Since then, investment returns and contributions offset by some assumption changes and the impact of actual Supplemental COLAs have increased the funding ratio to 95% as of July 1, 2023.

The bottom chart on page 9 shows historical and projected contribution rates for the fiscal years ending 2015 through 2035. The dark and light gray bars represent historical member and employer contribution rates while the purple and gold bars represent member and employer contribution rates currently in effect and projected for the future. The rates determined by the current valuation are a darker shade. The blue line represents the baseline projection from the 2022 actuarial valuation.

Since 2021, the employer contribution rate has decreased primarily due to the completion of the amortization payments for certain charter amendments and investment returns on the actuarial value of assets. After FYE 2025, employer contributions are expected to decline gradually over the next two years and then increase as deferred asset gains and losses are recognized in the smoothed Actuarial Value of Assets and as some amortization credits are fully amortized. After FYE 2030, employer contributions are expected to remain relatively level.

SECTION I – BOARD SUMMARY





SECTION II – ASSESSMENT AND DISCLOSURE OF RISK

Actuarial valuations are based on a set of assumptions about future economic and demographic experience. These assumptions represent a reasonable estimate of future experience, but actual future experience will undoubtedly be different and may be significantly different. This section of the report is intended to identify the primary risks to the plan, provide some background information about those risks, and provide an assessment of those risks.

Identification of Risks

The fundamental risk to the System is that the contributions needed to pay the benefits become unaffordable. While SFERS cannot determine on its own what contribution level is unaffordable, we can project expected contribution rates and illustrate the potential impact of key sources of risk on those contribution rates so the employers can assess affordability. While there are several factors that could lead to contribution amounts becoming unaffordable, we believe the primary risks for this System are:

- Investment risk,
- Interest rate risk, and
- Supplemental COLA risk.

Investment risk is the potential for investment returns to be different than expected. Interest rate risk is the potential for interest rates to be different than expected. For public plans, short-term fluctuations in interest rates have little or no effect, but longer-term trends can have a powerful effect on economic assumptions, particularly the discount rate. Supplemental COLA risk is the potential for the cost of future Supplemental COLAs to increase contribution rates.

Other risks that we have not identified may also turn out to be important.

SECTION II – ASSESSMENT AND DISCLOSURE OF RISK

The chart below shows the components of changes in the Unfunded Actuarial Liability for the last 10 years, including investment gains and losses on the Actuarial Value of Assets, liability gains and losses, assumption changes, benefit changes, and contributions compared to the tread water level of contributions (normal cost plus interest on the UAL, explained in more detail below). The net UAL change is shown by the dark blue line.

SFERS Historical Changes in UAL 2014-2023

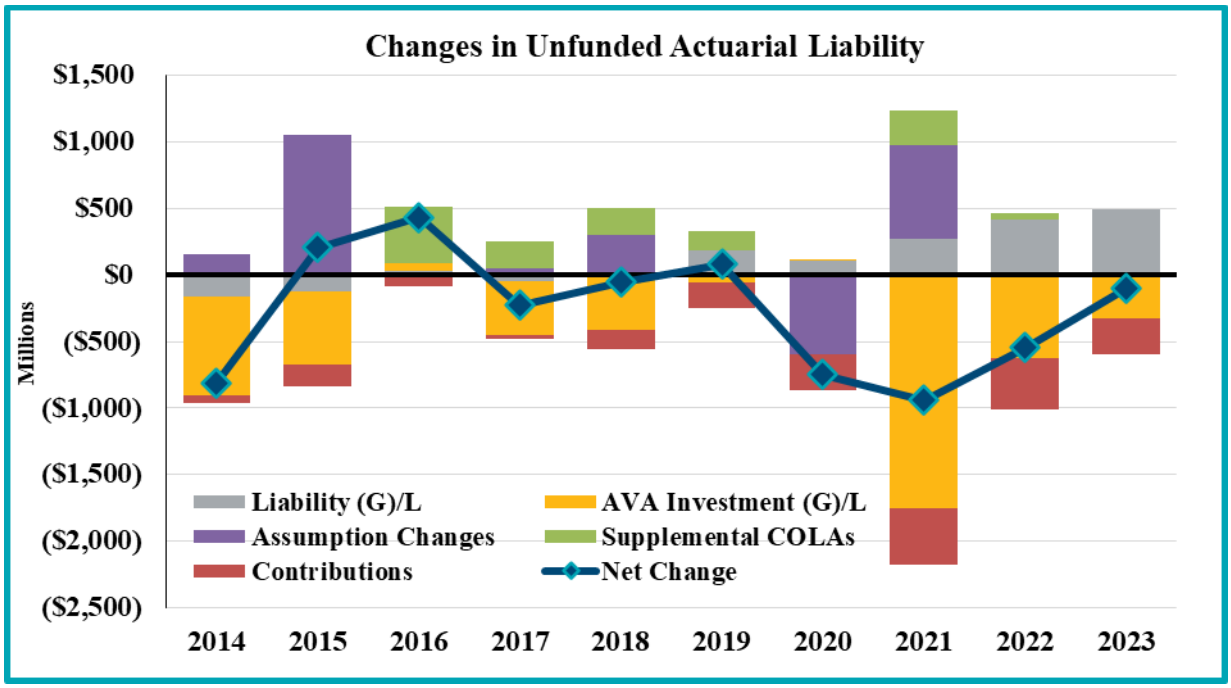


Table II-1
Changes in Unfunded Actuarial Liability
(Amounts in millions)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Total
Discount Rate	**7.50%**	**7.50%**	**7.50%**	**7.50%**	**7.40%**	**7.40%**	**7.40%**	**7.20%**	**7.20%**	**7.20%**	
Source											
AVA (G)/L	$(749.2)	$ (545.5)	$ 51.5	$(405.7)	$ (408.9)	$(58.6)	$ 6.4	$ (1,750.1)	$(628.0)	$(322.5)	**$(4,810.6)**
Liability (G)/L	(157.9)	(127.6)	34.5	(45.5)	6.5	185.4	112.3	270.0	412.9	492.7	**1,183.3**
Assumptions/Methods	153.1	1,048.4	0.0	50.2	297.7	0.0	(591.4)	701.6	0.0	0.0	**1,659.6**
Supplemental COLAs	0.0	0.0	429.3	200.1	200.8	141.0	0.0	264.1	48.0	0.0	**1,283.3**
Contributions[1]	(56.9)	(168.2)	(83.7)	(27.4)	(147.5)	(186.2)	(274.2)	(427.6)	(378.9)	(271.3)	**(2,021.9)**
Total UAL Change	**$(810.9)**	**$207.1**	**$431.6**	**$(228.3)**	**$(51.4)**	**$ 81.6**	**$(746.9)**	**$(942.0)**	**$(546.0)**	**$(101.1)**	$(2,706.3)

[1] *Actual contributions (greater)/less than normal cost, administrative expenses and interest on the UAL; also includes rate implementation delay, payroll growth not as anticipated.*

SECTION II – ASSESSMENT AND DISCLOSURE OF RISK

The totals above support the identification of investment returns, Supplemental COLAs, and interest rates that drive assumption changes as the primary risks to the System.

On a smoothed asset basis, recent market experience has produced gains in eight of the last 10 years. Over the 10-year period, investment gains reduced the UAL by approximately $4.8 billion.

On the liability side (gray bars), gains early in the period have been offset by more recent losses primarily due to salary increases and Old Safety Basic COLAs with a net experience loss increasing the UAL by approximately $1.2 billion over the 10-year period. The liability loss in 2023 includes programming modifications of $115 million to help mitigate future losses.

Assumption and method changes (purple bars) over the last 10 years have increased the UAL by about $1.7 billion. The significant changes increasing the UAL have included reductions in the discount rate, decreases in mortality rates, and increases in retirement rates. The assumption changes lowering the UAL in 2020 were primarily due to reductions in wage inflation and assumed Old Safety COLAs. In 2021, the discount rate was reduced from 7.4% to 7.2% which increased the UAL by about $700 million.

Benefit changes (green bars) are all Supplemental COLAs. While our projections include an assumed level of Supplemental COLAs, the Actuarial Liability for determining contribution rates in each valuation does not. In 2016, the benefit increase is a result of the 2013 and 2014 retroactive Supplemental COLAs. The 2022 increase is due to Proposition A that increased pre-96 retiree benefits for prior Supplemental COLAs that were not granted due to SFERS not being 100% funded. Over the 10-year period, Supplemental COLAs increased the UAL by about $1.3 billion.

Each year, absent any contributions, the UAL is expected to increase for active member benefits attributable to the current year of service (the normal cost), administrative expenses, and interest on the UAL. This expected increase is referred to as the tread water level. If contributions are greater than the tread water level, the UAL is expected to decrease. Conversely, if contributions are less than the tread water level, the UAL is expected to increase. Over the 10-year period, contributions have decreased the UAL by about $2.0 billion, and during 2023, contributions decreased the UAL by about $271 million.

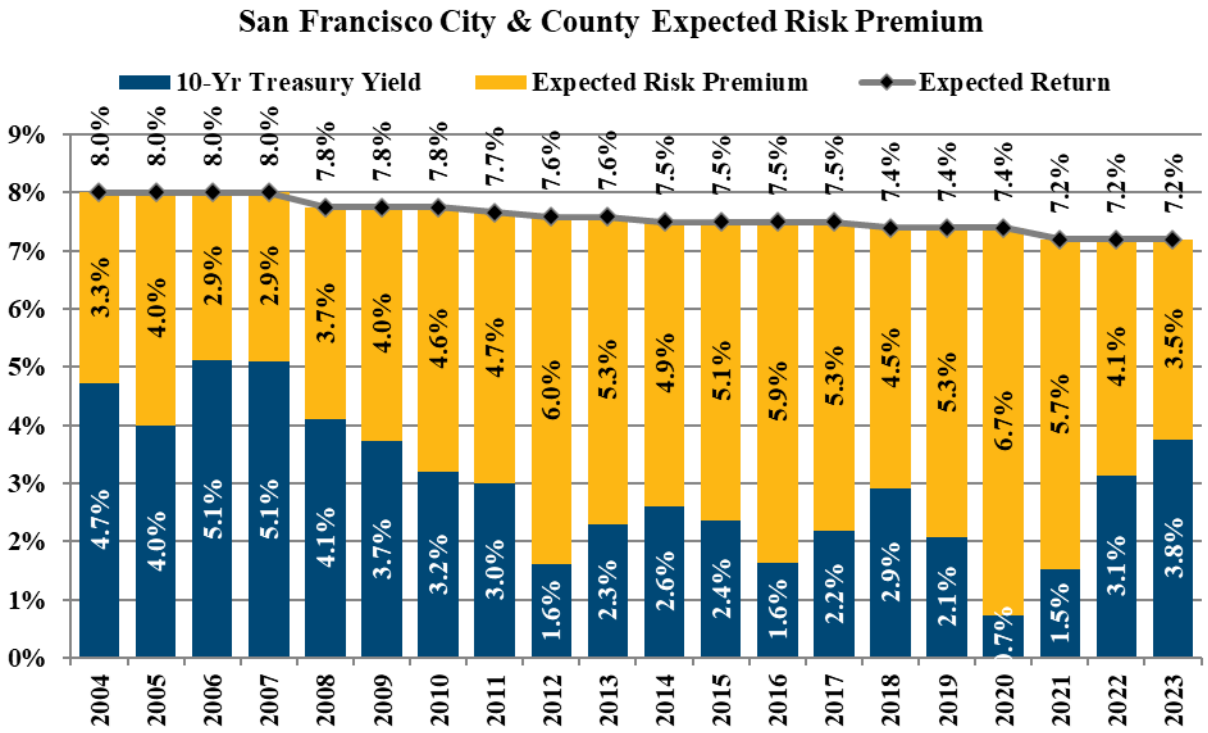
In general, the amortization methods used to determine contributions to the System are designed to collect more than the tread water level. However, the System may temporarily pay less than this threshold due to asset smoothing, the one-year delay between the valuation date and when contribution rates become effective or due to unexpected reductions in payroll.

SECTION II – ASSESSMENT AND DISCLOSURE OF RISK

The chart below shows the yield on a 10-year Treasury security compared to the System's assumed rate of return. The difference is a simple measure of the investment risk premium. From 2007 to 2020, the yield on the 10-year Treasury declined from about 5.1% to 0.7%. During this period, the System reduced its expected rate of return from 8.0% to 7.2%. Meanwhile, its expected risk premium grew from 2.9% to 6.7%.As interest rates declined, the System faced a choice:

- maintain the same risk premium and reduce the expected rate of return;
- maintain the same expected rate of return and increase the risk premium; or
- some combination of the two strategies.

In the last three years, the yield on the 10-year Treasury has rebounded to 3.8% as the Federal Reserve increased rates to combat inflation. The expected risk premium has contracted to 3.5%, the lowest level since 2007. If interest rates remain at the current level, there will be less pressure to reduce the discount rate further.



SECTION II – ASSESSMENT AND DISCLOSURE OF RISK

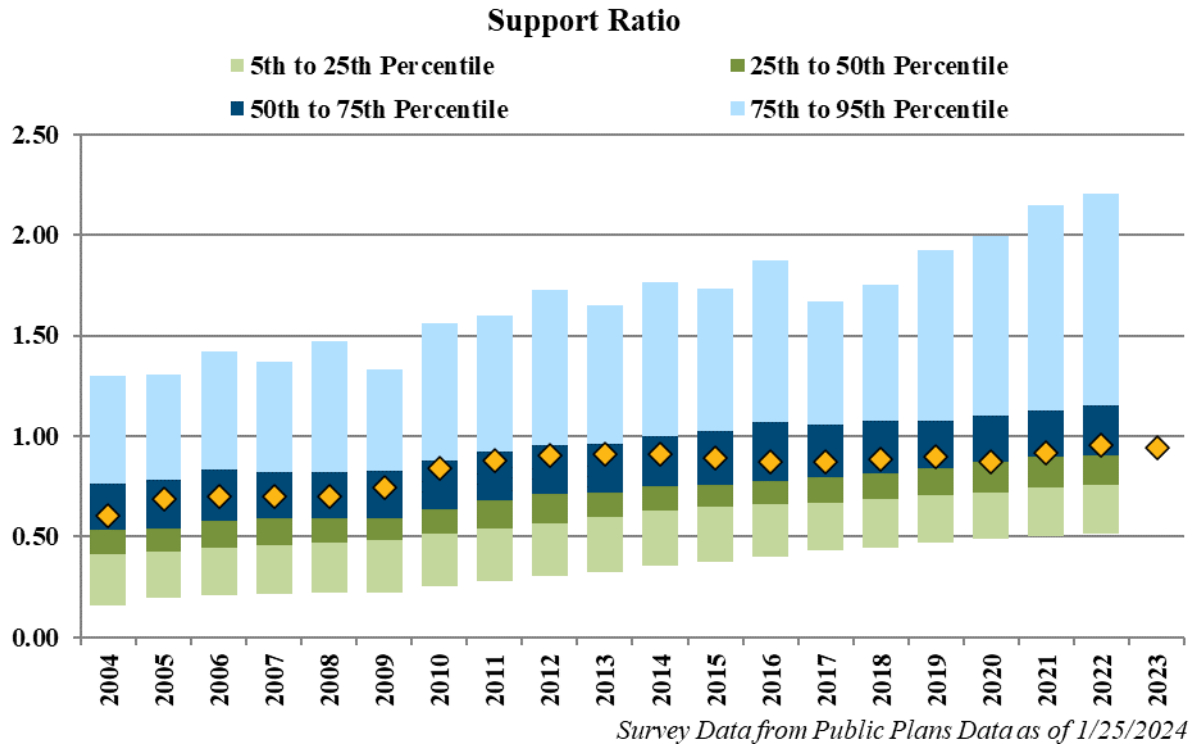
Plan Maturity Measures

The future financial condition of a mature pension plan is more sensitive to each of the risks identified above than a less mature plan. Before assessing each of these risks, it is important to understand the maturity of SFERS compared to other public plans and how the maturity has changed over time.

Plan maturity can be measured in a variety of ways, but all of the measures get at one basic dynamic – the larger the plan is compared to the contribution or revenue base that supports it; the more sensitive the plan will be to risk. The measures below have been selected as the most important in understanding the primary risks identified for SFERS.

Support Ratio (Inactives per Active)

One simple measure of plan maturity is the ratio of the number of members receiving benefits to the number of active members. The revenue base supporting the plan is usually proportional to the number of active members, so a relatively high number of inactives compared to actives indicate a larger plan relative to its revenue base as well.

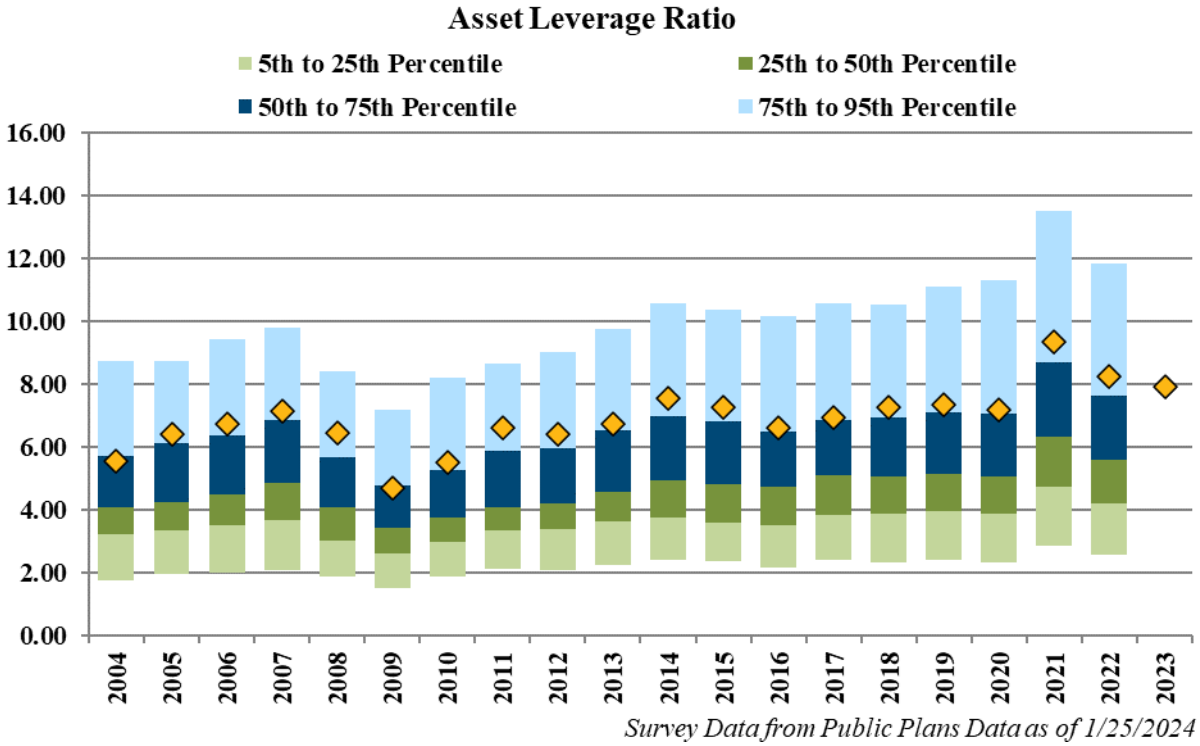


The chart above compares the distribution from the 5th to 95th percentile of support ratios for the plans in Public Plans Data to SFERS (yellow diamonds). Like many other plans, SFERS support ratio increased during the Great Recession, but SFERS has stabilized in recent years while other plans have continued to increase. The support ratio for SFERS increased slightly in 2021 and 2022 due to declines in the active membership, but decreased slightly in 2023.

SECTION II – ASSESSMENT AND DISCLOSURE OF RISK

Leverage Ratios

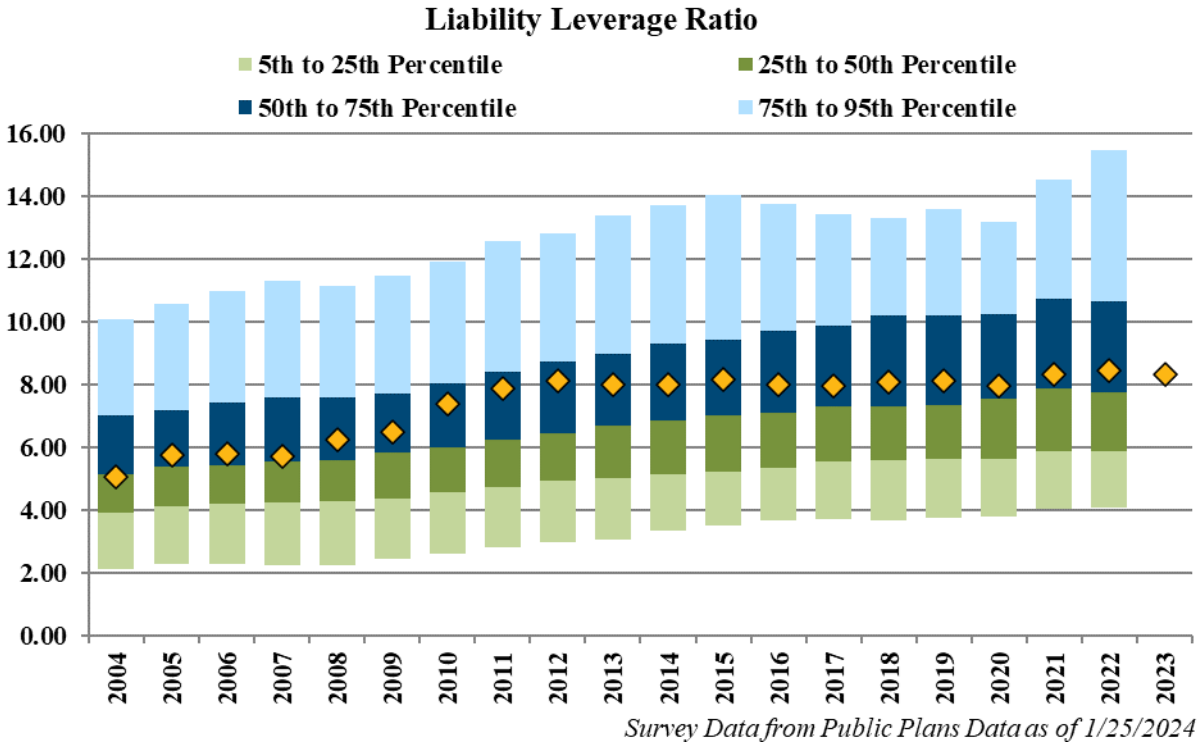
Leverage or volatility ratios measure the size of the plan compared to its revenue base more directly. An asset leverage ratio of 5.0, for example, means that if the system experiences a 10% loss on assets compared to the expected return, the loss would be equivalent to 50% of payroll. The same investment loss for a system with an asset leverage ratio of 10.0 would be equivalent to 100% of payroll. Plans with higher asset leverage ratios are more sensitive to variations in investment returns.



The chart above compares the distribution from the 5th to 95th percentile of asset leverage ratios for the plans in the Public Plans Database to SFERS (yellow diamonds).

SFERS' asset leverage ratio has consistently been at the 75th percentile or above compared to other plans while its absolute level has fluctuated with investment returns and the growth of the system. It reached a low during this period of 4.7 in 2009, a peak of 9.3 in 2021 and has since decreased to 7.9 as of June 30, 2023. SFERS' asset leverage ratio decreased in 2023 primarily due to payroll increasing more than expected. This level indicates that SFERS is more sensitive to investment returns than 75% of public plans. For example, an investment loss of 10% (compared to the assumed return) would increase SFERS UAL by about 79% of payroll compared to only 56% of payroll for the median plan in 2022.

SECTION II – ASSESSMENT AND DISCLOSURE OF RISK



The chart above compares the distribution from the 5th to 95th percentile of liability leverage ratios for the plans in the Public Plans Database to SFERS (yellow diamonds).

SFERS' Actuarial Liability leverage ratio has consistently been between the 50th and 75th percentiles and has recently been holding relatively constant around 8.0 while other plans have been increasing. SFERS remains in the 50th to 75th percentile which means that it is slightly more sensitive to the impact of assumption changes than most public plans. For example, an assumption change that increases the Actuarial Liability by 5% would add a liability equivalent to about 42% of payroll for SFERS compared to about 39% of payroll for the median plan in 2022.

Assessment of Risks

The fundamental risk to the System is that the contributions needed to fund the benefits become unaffordable. Assessing this risk, however, is complex because there is no bright line of what is unaffordable and the contribution amounts themselves are affected not just by the experience of the System, but also by the interaction of that experience and decisions by the Board related to assumptions, asset smoothing methods, and amortization periods.

SECTION II – ASSESSMENT AND DISCLOSURE OF RISK

Investment Risk – Stress Testing

To assess the potential impact of investment risk, we developed six hypothetical scenarios. The scenarios are balanced between positive and negative scenarios and are based on a lognormal distribution of one and five year expected returns as shown in the table below using the 10-year capital market assumptions from SFERS' investment consultant Wilshire (Geometric return = 7.7%, standard deviation = 14.7).

Table II-1
Distribution of Expected Average Annual Returns

Percentile	1 Year	5 Year
5%	-13.7%	-2.4%
25%	-1.6%	3.4%
50%	7.7%	7.7%
75%	18.0%	12.2%
95%	34.4%	18.9%

The scenarios include a one-year shock using the 5th and 95th percentile returns for one year, a five-year moderate scenario using the 25th and 75th percentile returns for five years, and a five-year significant scenario using the 5th and 95th percentile returns for five years. The table below summarizes the theoretical scenarios.

Table II-2
Theoretical Scenarios

	1-Yr Shock		5-Yr Moderate		5-Yr Significant	
FYE	Neg	Pos	Neg	Pos	Neg	Pos
2024	-13.7%	34.4%	3.4%	12.2%	-2.4%	18.9%
2025	7.2%	7.2%	3.4%	12.2%	-2.4%	18.9%
2026	7.2%	7.2%	3.4%	12.2%	-2.4%	18.9%
2027	7.2%	7.2%	3.4%	12.2%	-2.4%	18.9%
2028	7.2%	7.2%	3.4%	12.2%	-2.4%	18.9%
2029+	7.2%	7.2%	7.2%	7.2%	7.2%	7.2%

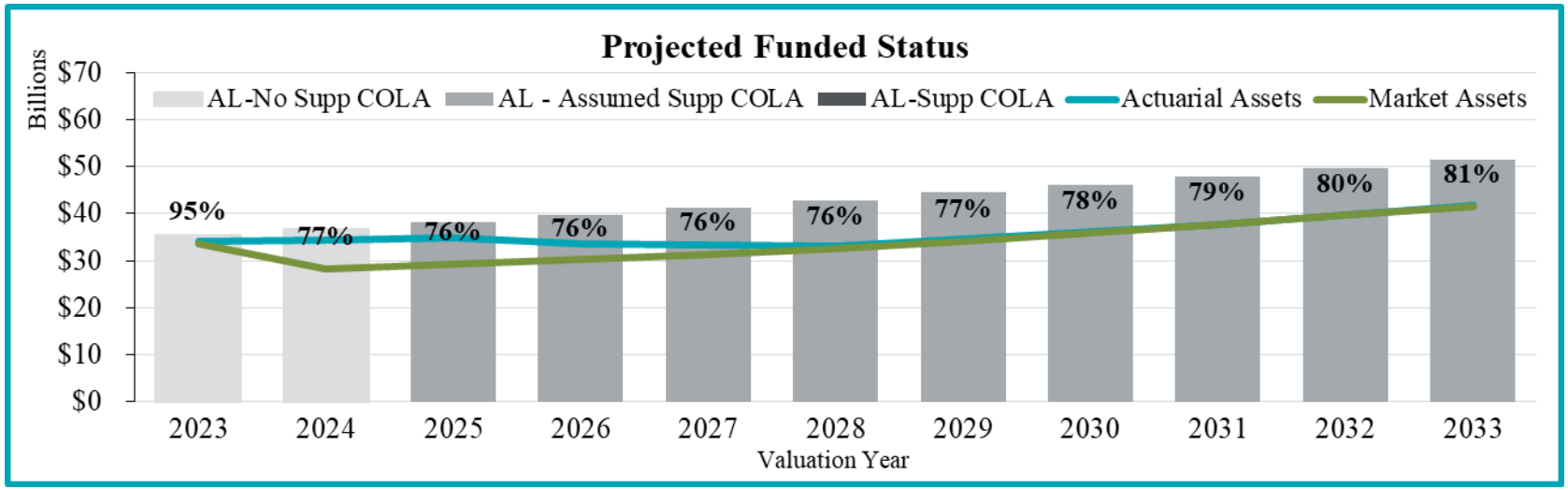
The charts on pages 19-24 show the projections under each of these theoretical scenarios. The contribution charts include a blue line representing the 2023 baseline projections shown in the Board Summary (on page 9) to facilitate the comparison between the scenario and the projections assuming all assumptions are met. Supplemental COLAs for future years, where the return differs from the assumption are calculated based on actual returns in excess of the expected return on the Actuarial Value of Assets. In years, where the return equals the assumed

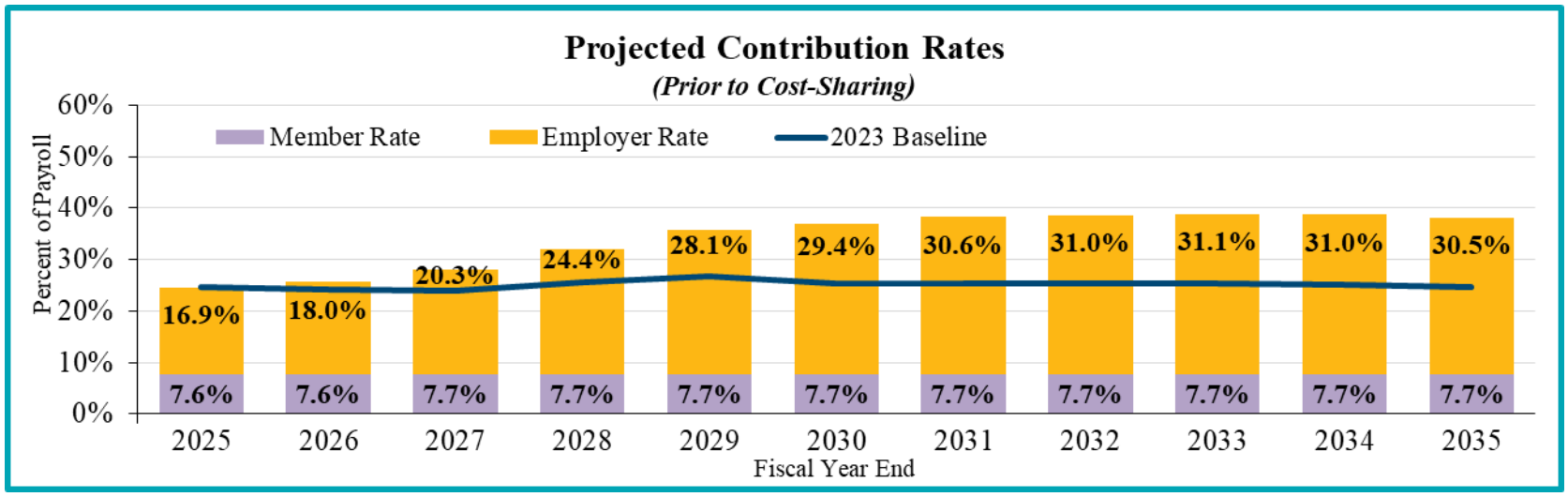
SECTION II – ASSESSMENT AND DISCLOSURE OF RISK

return, a partial Supplemental COLA is assumed based on the probability of the return exceeding the amount necessary to generate a Supplemental COLA. The liability projections are shown as black bars in years a Supplemental COLA is payable, medium gray bars in years when a Supplemental COLA is assumed to be payable, and light gray bars in years when no Supplemental COLA is payable. The contribution rates are shown before any cost-sharing adjustments.

SECTION II – ASSESSMENT AND DISCLOSURE OF RISK

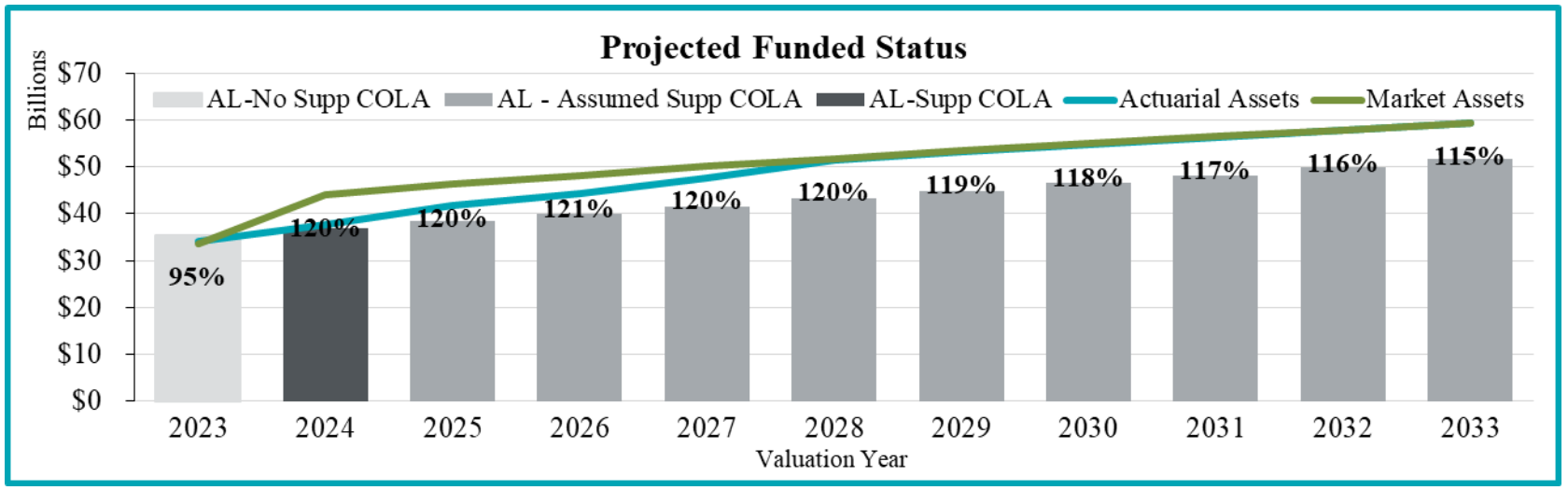
One-Year Negative Shock Scenario: -13.7% return FYE 2024, 7.2% thereafter

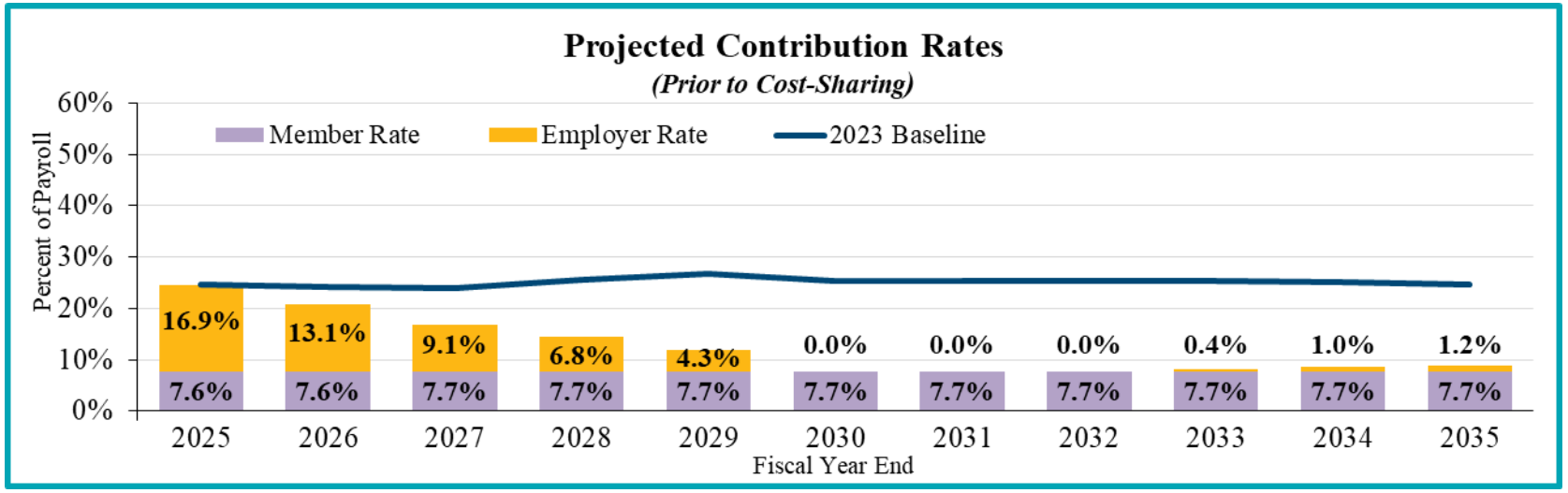




SECTION II – ASSESSMENT AND DISCLOSURE OF RISK

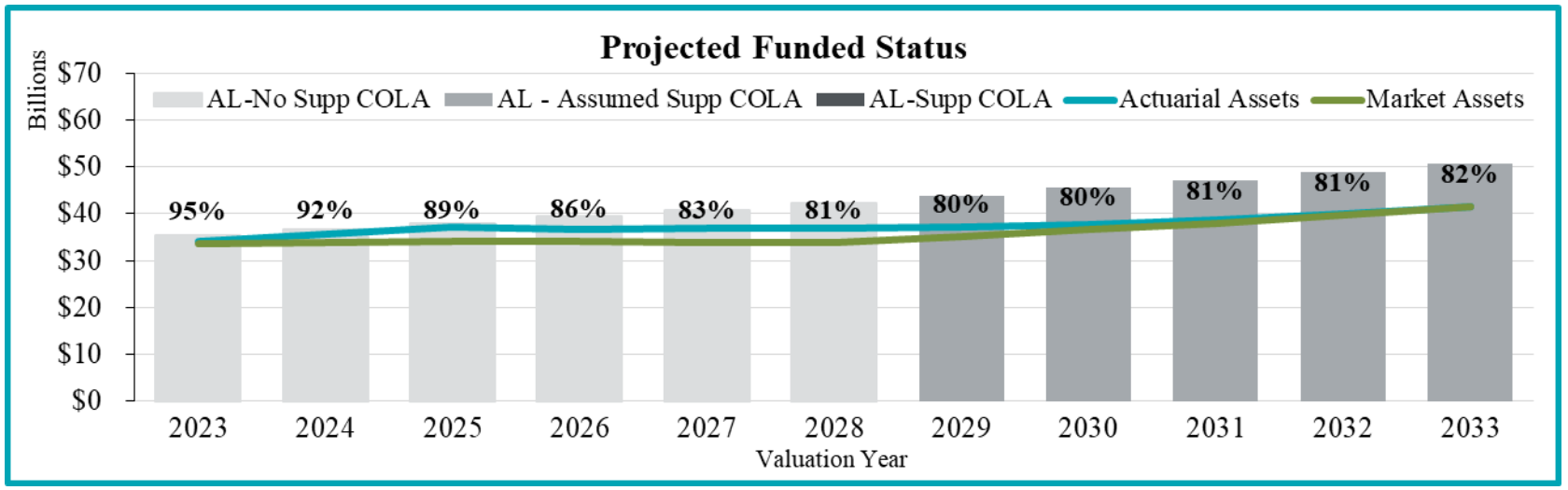
One-Year Positive Shock Scenario: 34.4% return FYE 2024, 7.2% thereafter

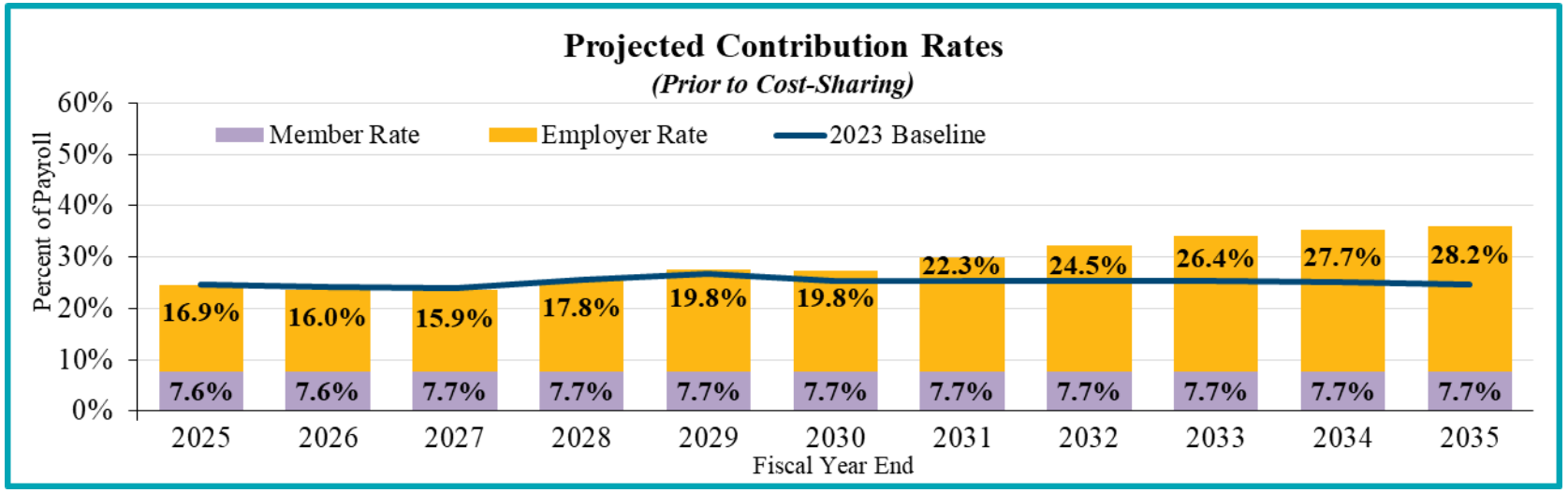




SECTION II – ASSESSMENT AND DISCLOSURE OF RISK

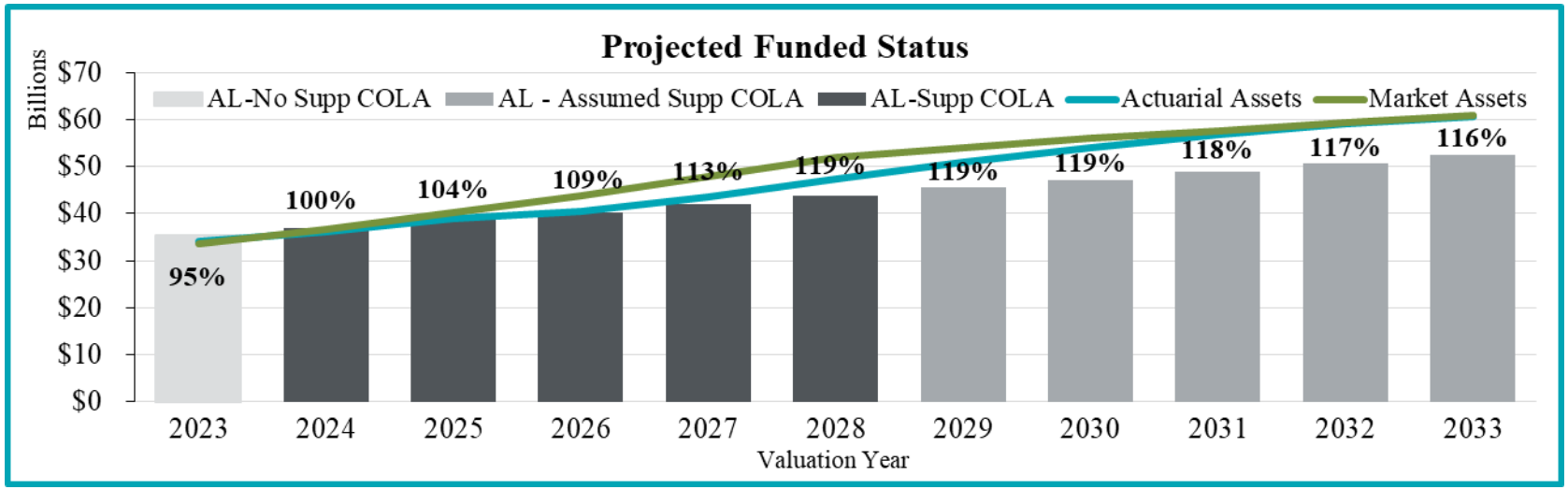
Five-Year Moderate Negative Scenario: 3.4% return FYE 2024-2028, 7.2% thereafter

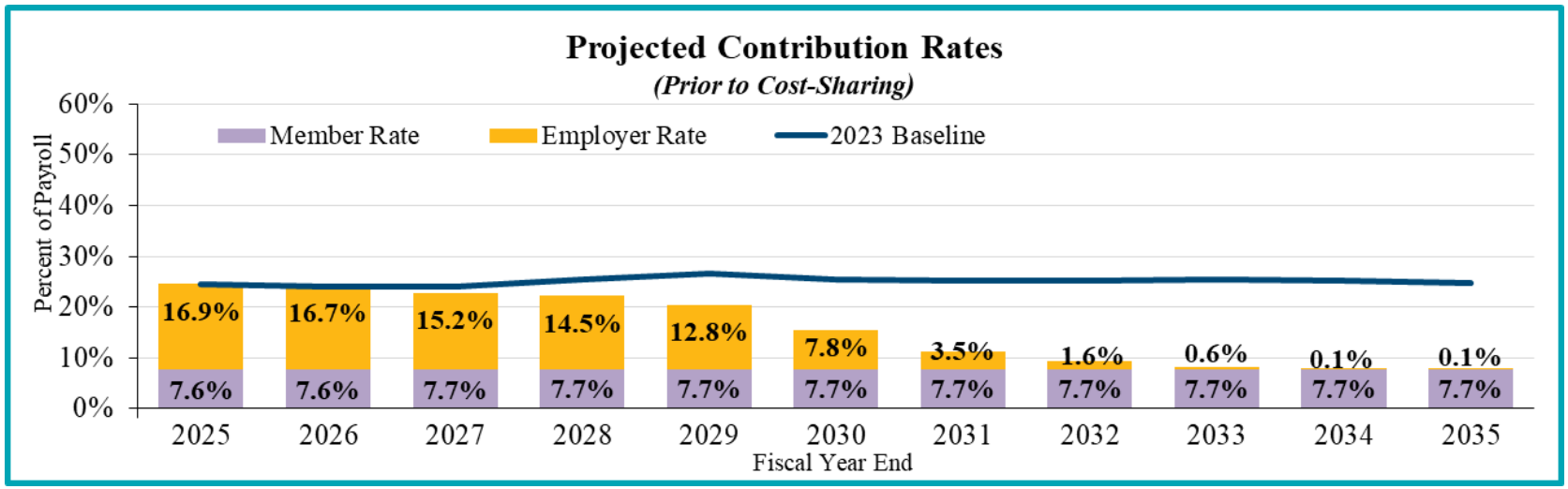




SECTION II – ASSESSMENT AND DISCLOSURE OF RISK

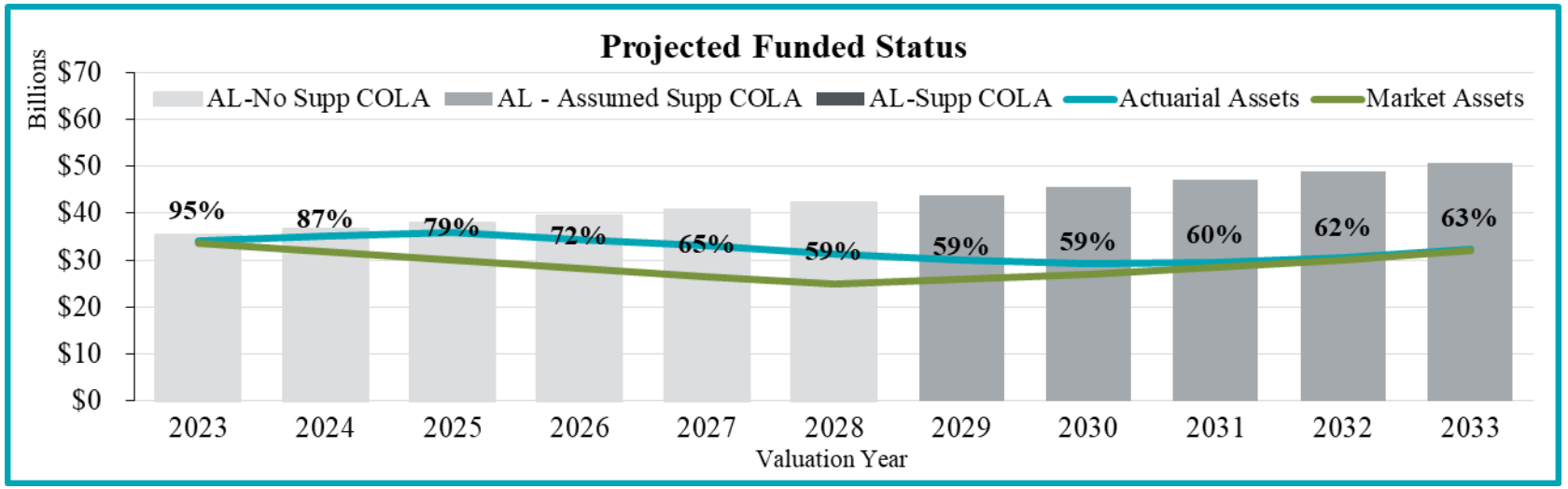
Five-Year Moderate Positive Scenario: 12.2% return FYE 2024-2028, 7.2% thereafter

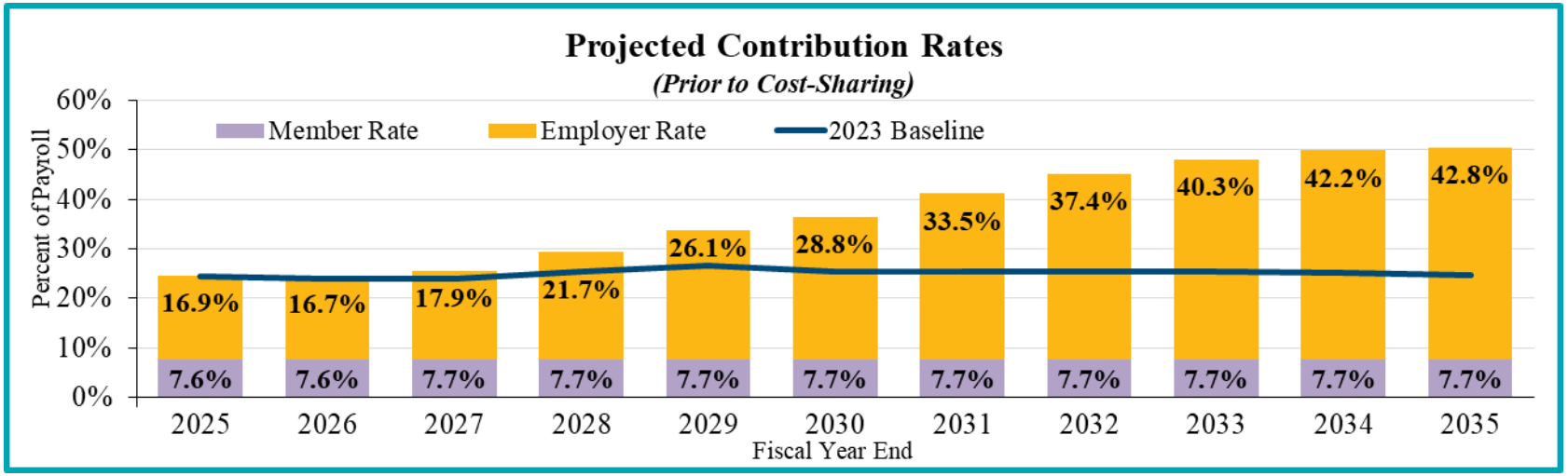




SECTION II – ASSESSMENT AND DISCLOSURE OF RISK

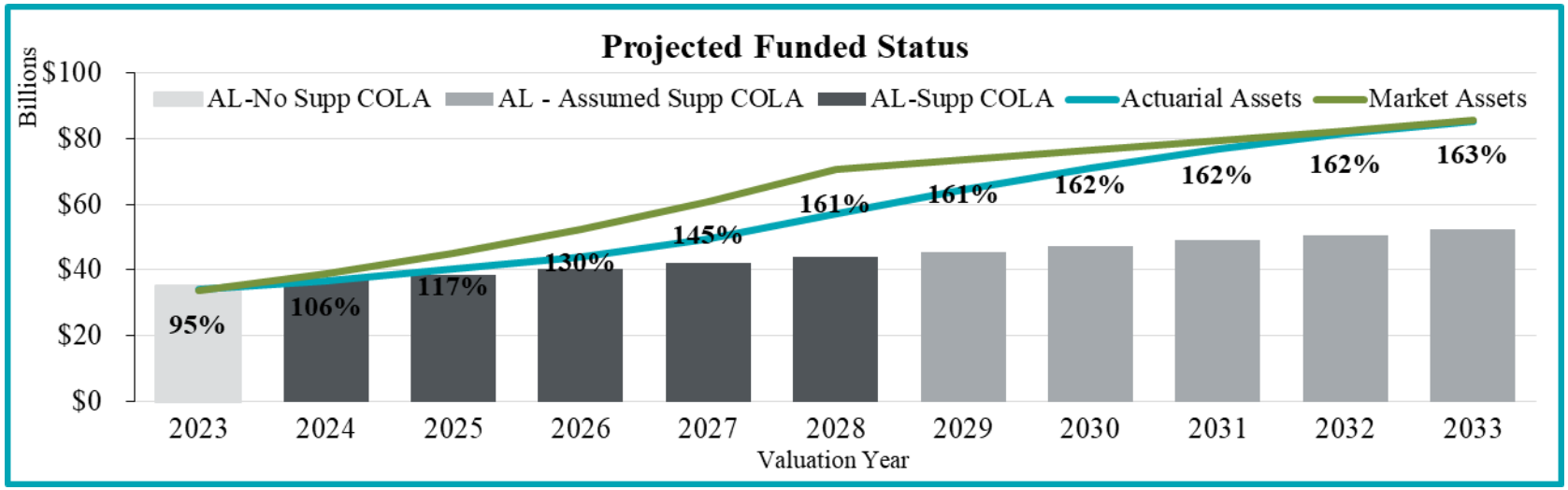
Five-Year Significant Negative Scenario: -2.4% return FYE 2024–2028, 7.2% thereafter

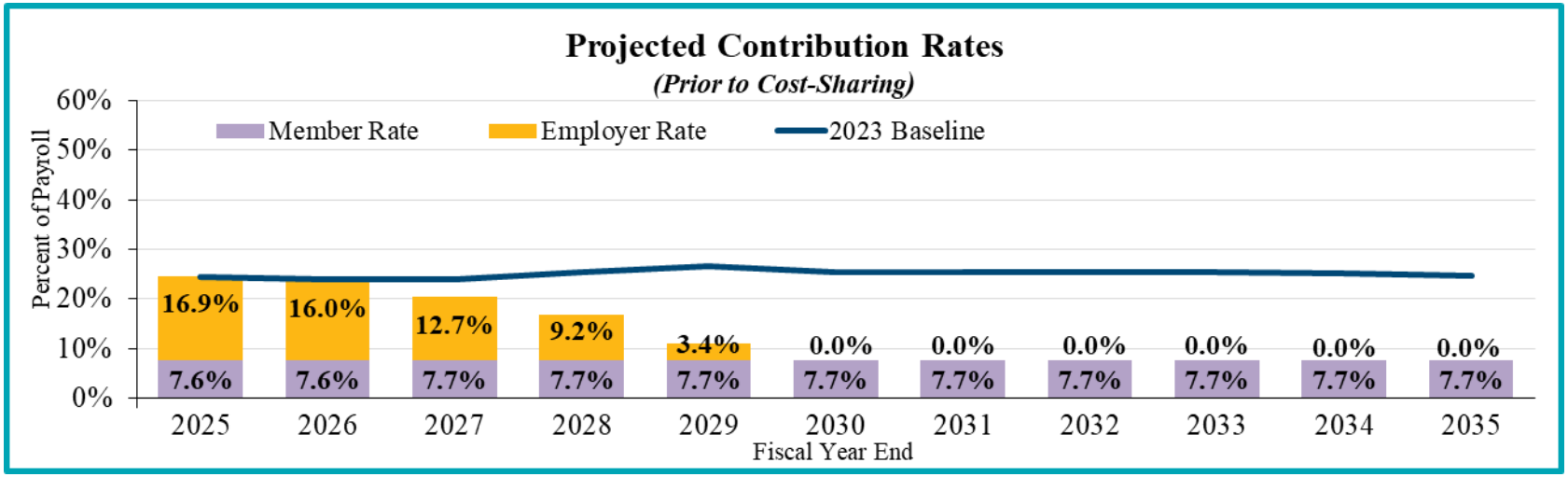




SECTION II – ASSESSMENT AND DISCLOSURE OF RISK

Five-Year Significant Positive Scenario: 18.9% return FYE 2024-2028, 7.2% thereafter





SECTION II – ASSESSMENT AND DISCLOSURE OF RISK

The scenarios show that actual future investment returns have a significant impact on future contribution rates.

All positive economic scenarios result in the payment of Supplemental COLAs to all retirees. The employer contribution rates decrease in FYE 2026 and continue to decline quickly and steadily reaching 0.0% in FYE 2030 for both the one-year shock and five-year significant. The contribution rate for the five-year moderate scenario does not decrease as quickly but does reach 0.1% in FYE 2034.

The five-year negative economic scenarios show decreases in the employer contribution rates next year before contributions rise again. The completion of payments on amortization layers creates some downward pressure on contribution rates but is somewhat offset by net deferred asset losses.

- The one-year negative shock (-13.7%) shows employer rates increasing immediately reaching a peak in FYE 2033 of 31.1%. The funded status declines but stays at or above 76% throughout the 10-year period.

- The five-year moderate negative scenario (3.4%) produces decreases in the rate in FYE 2026 and FYE 2027 before it increases to 28.2% in FYE 2035. The funded status remains at or above 80% throughout the 10-year period.

- The five-year significant negative scenario (-2.4%) produces a slight decrease in the rate in FYE 2026 before the employer rate escalates to 42.8% in FYE 2035. The funded status declines significantly each year, dropping to 59% funded in 2028 before it gradually increases to 63% at the end of the 10-year period.

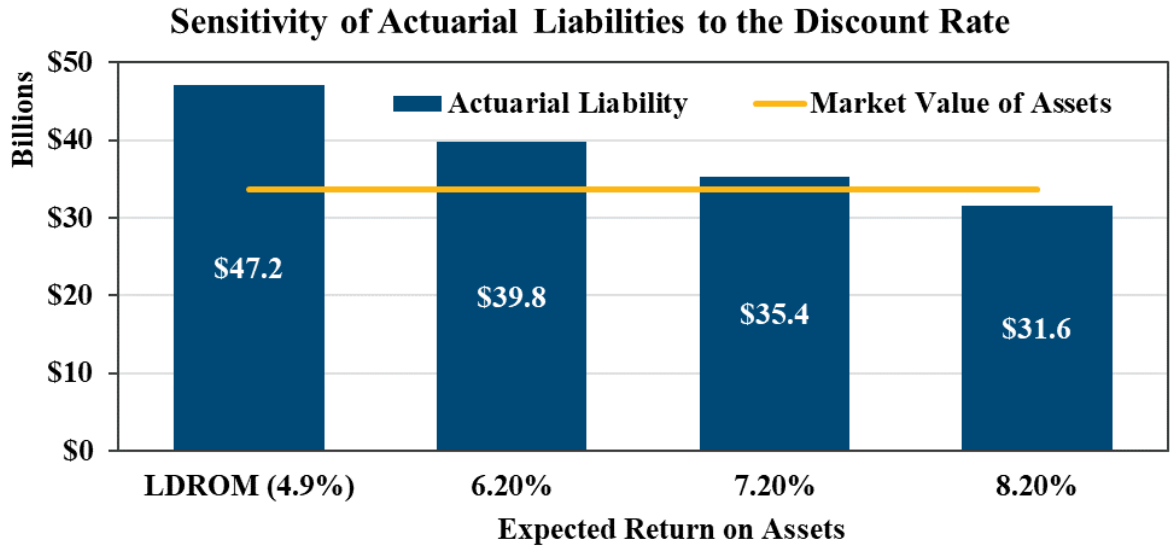
The investment returns used in the projections above were selected solely to illustrate the impact of investment volatility on the pattern of funded status and employer contribution rates. They are not intended to be predictive of actual future contribution rates or funded status or even to represent a realistic pattern of investment returns.

Interest Rate and Discount Rate Change Risk – Sensitivity Testing

As shown above, assumption changes over the last decade have increased the UAL by approximately $1.7 billion, with decreases in the discount rate from 7.66% to 7.20% accounting for approximately $1.3 billion of the increase. The reductions in discount rates have been largely driven by declines in interest rates that affect expectations of future investment returns. If interest rates revert to the low levels reached during the pandemic or if there is a desire or need to reduce investment risk that reduces expected returns, the discount rate and expected returns may need to be reduced further. Conversely, if interest rates continue to rise, expectations of future investment returns would also increase, and the discount rate could be increased, or investment risk could be reduced without affecting the discount rate.

SECTION II – ASSESSMENT AND DISCLOSURE OF RISK

The chart below compares the Market Value of Assets (gold line) to the Actuarial Liability (blue bar) using discount rates equal to the current expected rate of return and 100 basis points above and below the expected rate of return. In addition, the chart shows the low-default-risk obligation measure (LDROM), which is the Actuarial Liability using a discount rate derived from low-default-risk fixed income securities that approximately match the benefit payments of the plan.



SFERS invests in a diversified portfolio with the objective of maximizing investment returns at a reasonable level of risk. If investments return 7.20% annually, SFERS would need approximately $35.4 billion in assets today to pay all benefits attributable to past service compared to current assets of $33.7 billion. If investment returns are only 6.20%, SFERS would need approximately $39.8 billion in assets today, and if investment returns are 8.20%, only $31.6 billion in assets would be needed. The lowest risk portfolio for a pension plan with fixed cash flows would be composed entirely of low-default-risk fixed income securities whose cash flows match the benefit cash flows of SFERS. As of June 30, 2023, using the FTSE Pension Liability Index, we estimate that such a portfolio would have an expected return of 4.9%, and SFERS would need $47.2 billion to pay all benefits attributed to past service. This amount is the LDROM. The $11.8 billion difference between the LDROM and the Actuarial Liability at 7.20% represents the expected savings from bearing the risk of investing in SFERS' diversified portfolio. Alternatively, it also represents the cost of eliminating the investment risk.

Because SFERS invests in a diversified portfolio and not the LDROM portfolio, the reported funded status is higher, and expected employer contributions are lower. Benefit security for members of SFERS depends on a combination of the plan's assets, the investment returns generated on those assets, and the ability of SFERS to make any needed future contributions. An LDROM portfolio would generate more predictable but lower expected investment returns, potentially changing the level of reliance on future SFERS contributions to secure benefits.

SECTION II – ASSESSMENT AND DISCLOSURE OF RISK

Supplemental COLA Risk – Stress Testing

Supplemental COLA risk is the potential for the cost of future Supplemental COLAs to increase contribution rates. Supplemental COLAs are granted if there are excess returns (the actual return on the Market Value of Assets minus the expected return on Actuarial Value of Assets). For members who were hired after Proposition C passed in 2012, the Supplemental COLA is only payable if the System is also 100% funded.

In determining the Actuarial Liability in the funding valuation and whether the System is 100% funded, there are no future Supplemental COLAs assumed. In the projections, however, Supplemental COLAs are assumed to be granted each year in the future with 50% probability (multiplied by the probability of being 100% funded for members with that requirement). If the Actuarial Liability were determined with the same assumption, it would affect the funded status as shown in the table below.

Table II-3
Impact of Anticipating Future Supplemental COLAs
(Amounts in millions)

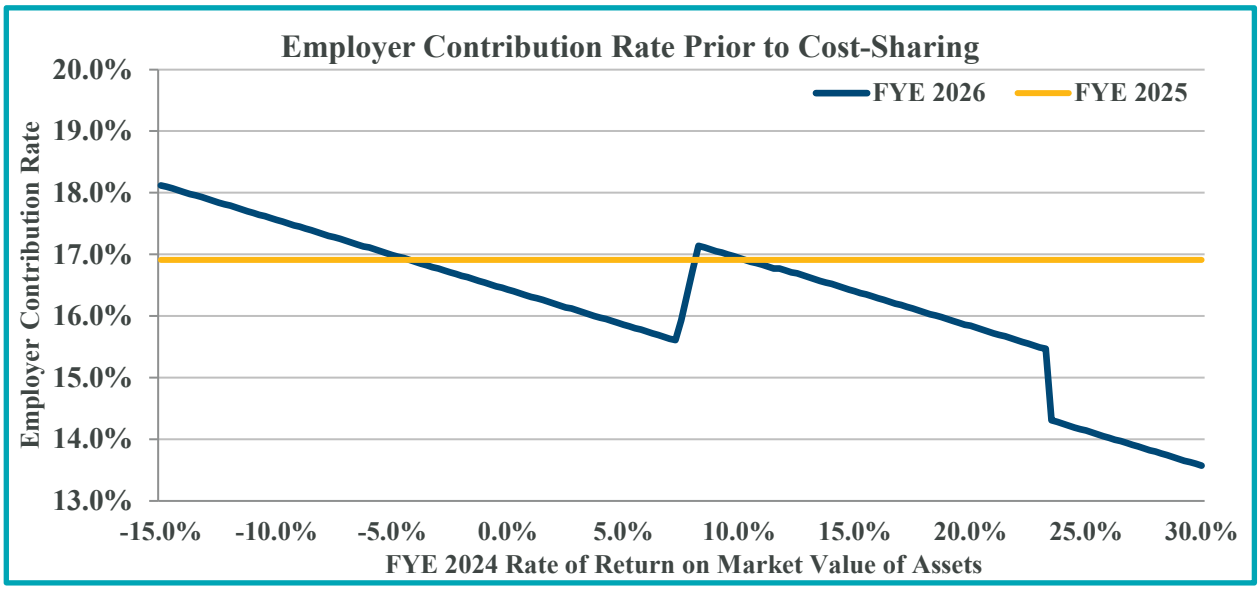
	Future Supplemental COLAs		
	None	Assumed	% Difference
Actuarial Liability	$ 35,352.0	$ 37,831.1	7.0%
Actuarial Value of Assets	$ 34,137.0	$ 34,137.0	0.0%
Unfunded Actuarial Liability (actuarial value)	1,215.0	3,694.1	204.0%
Funding Ratio (actuarial value)	96.6%	90.2%	-6.3%
Market Value of Assets	$ 33,688.4	$ 33,688.4	0.0%
Unfunded Liability (market value)	1,663.6	4,142.7	149.0%
Funding Ratio (market value)	95.3%	89.0%	-6.2%

While current contributions rates do not anticipate any future Supplemental COLAs, when a Supplemental COLA is granted, the increase in Actuarial Liability is amortized over five years, increasing contribution rates. The higher-than-expected investment returns that generate a Supplemental COLA are smoothed into the Actuarial Value of Assets over five years and then amortized over 20 years providing a reduction in contribution rates. In most cases, the gain from the investment returns is sufficient to offset the loss due to the Supplemental COLA in contribution rates. However, the worst situation for near-term contribution rates is for investment returns to be just large enough to generate a Supplemental COLA. Then, the five-year amortization of the Supplemental COLA creates an increase in contribution rates that is not entirely offset by the investment gains until after the five-year period.

SECTION II – ASSESSMENT AND DISCLOSURE OF RISK

To illustrate the impact of the Supplemental COLA on the employer contribution rate, the chart below shows the estimated FYE 2026 contribution rate assuming actual rates of investment return vary from -15% to 30% with all other actuarial assumptions being met. The expected employer contribution rate for FYE 2026 ranges from 13.6% to 18.1%, a relatively narrow range compared to the extremely wide range of investment returns.

There is some downward pressure on the FYE 2026 employer contribution rate due to the completion of payments on the UAL from the 2019 Supplemental COLA of approximately 0.9% of pay. As shown in the chart, a return of approximately 7.3% starts to generate a Supplemental COLA, and a return of approximately 8.25% or greater generates a full Supplemental COLA for the non-Prop C retirees. A return of 23.4% reaches 100% funding based on the Actuarial Value of Assets, which extends the amortization of the Supplemental COLA from five years to 20 years.

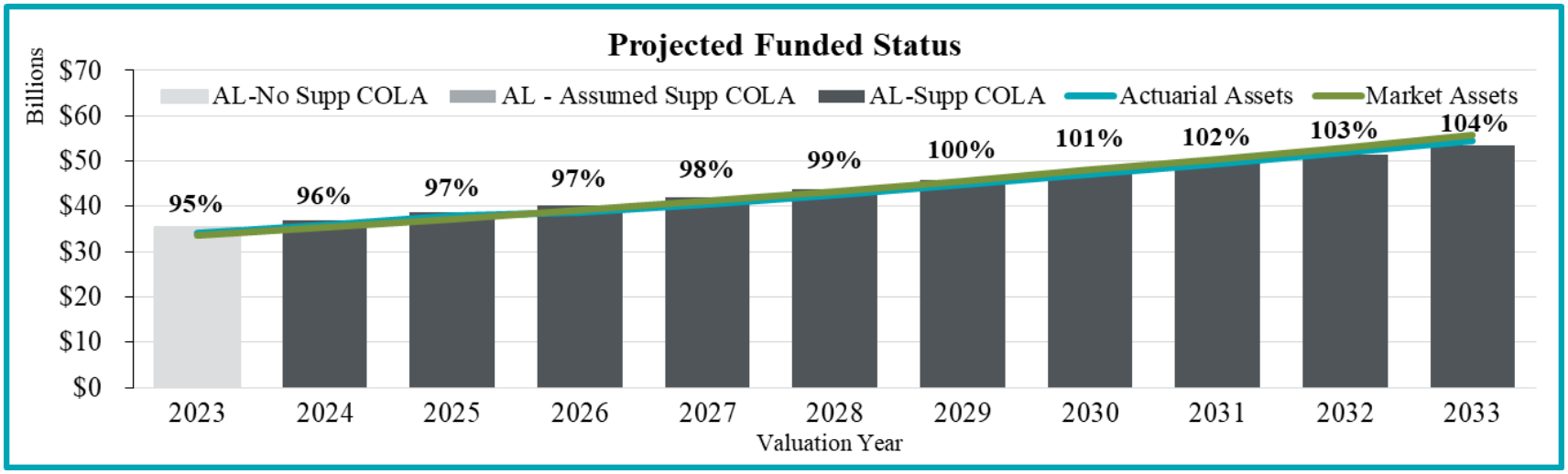


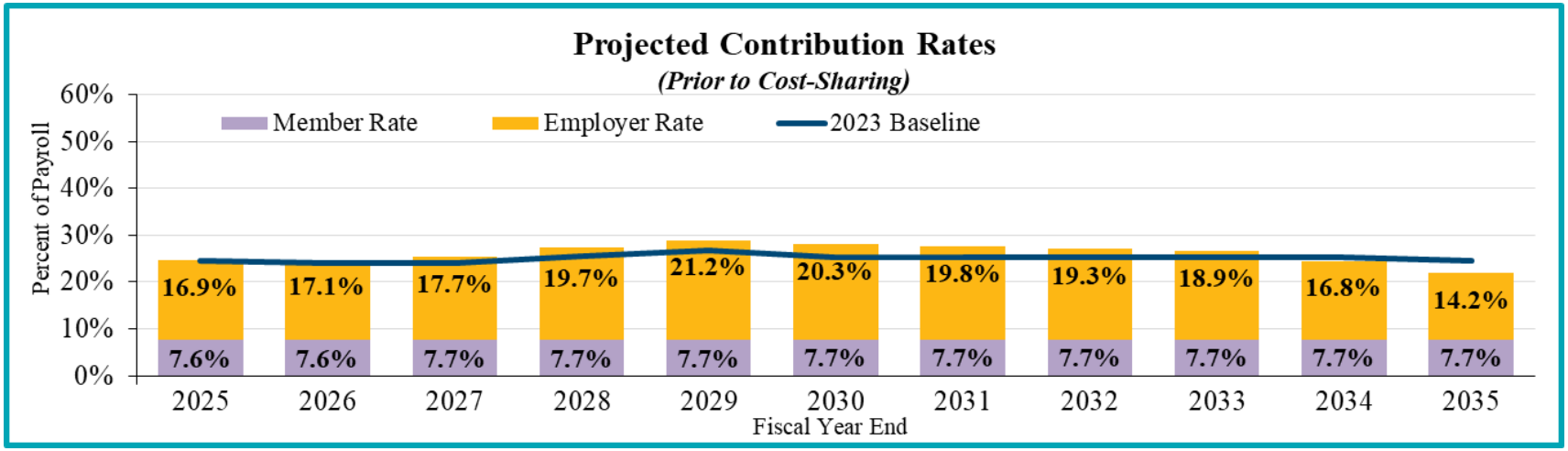
The impact of future Supplemental COLAs on contribution rates and funded status is the worst when the investment returns are just large enough to generate a Supplemental COLA. To illustrate this potential risk and how the amortization method manages it, the projections on the following page assume 8.25% returns each year, which produces a full Supplemental COLA in each year.

These projections illustrate that the five-year amortization period manages the risk of future Supplemental COLAs relatively well. The contributions remain very close to the baseline level, and the funded status also remains relatively stable.

SECTION II – ASSESSMENT AND DISCLOSURE OF RISK

Supplemental COLA Risk Stress Test: 8.25% return FYE 2024-2033





SECTION III – CERTIFICATION

The purpose of this report is to present the July 1, 2023 Actuarial Valuation of the San Francisco City and County Employees' Retirement System (SFERS or the System). This report is for the use of the System and its auditors in setting contribution levels and preparing financial reports in accordance with applicable law and annual report requirements.

In preparing our report, we relied on information, some oral and some written, supplied by the System. This information includes, but is not limited to, the plan provisions, employee data, and financial information. We performed an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with the Actuarial Standard of Practice No. 23.

All demographic assumptions and the price and wage inflation assumptions were adopted at the December 9, 2020 Board meeting based on our recommendations. Please refer to the demographic experience study report dated August 2020 for the rationale for the demographic assumptions and the December 9, 2020 Board presentation for the rationale for the economic assumptions. The discount rate and amortization policy changes were adopted at the November 10, 2021 Board meeting. We believe all the assumptions are reasonable for the purposes of the measurement.

The measures, including funding ratios, in this report are for the purpose of establishing contribution rates. These measures are not appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations.

Future actuarial measurements may differ significantly from the current measurements 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.

Cheiron utilizes ProVal actuarial valuation software leased from Winklevoss Technologies (WinTech) to calculate liabilities and project benefit payments. We have relied on WinTech as the developer of ProVal. We have a basic understanding of ProVal and have used ProVal in accordance with its original intended purpose. We have not identified any material inconsistencies in assumptions or output of ProVal that would affect this valuation.

Deterministic projections in this report were developed using P-scan, a proprietary tool used to illustrate the impact of changes in assumptions, methods, plan provisions, or actual experience (particularly investment experience) on the future financial status of the System. P-scan uses standard roll-forward techniques that implicitly assume a stable active population. Assumed Supplemental COLAs are included in these projections.

Stochastic projections in this presentation were developed using R-scan, our proprietary tool for assessing the probability of different outcomes based on the range of potential investment returns. We relied on Cheiron colleagues for the development of the model. The stochastic projections of investment returns assume that each future year's investment return is independent from all other years and is identically distributed according to a lognormal distribution. The

SECTION III – CERTIFICATION

standard deviation used in the stochastic projection of investment returns was provided by the System's investment consultant.

This report and its contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices and our understanding of the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board as well as applicable laws and regulations. Furthermore, as credentialed actuaries, we meet the Qualification Standards of the American Academy of Actuaries to render the opinion contained in this report. This report does not address any contractual or legal issues. We are not attorneys, and our firm does not provide any legal services or advice.

This report was prepared for the System for the purposes described herein and for the use by the plan auditor in completing an audit related to the matters herein. Other users of this report are not intended users as defined in the Actuarial Standards of Practice, and Cheiron assumes no duty or liability to any other user.

William R. Hallmark, ASA, EA, FCA, MAAA
Consulting Actuary

Anne D. Harper, FSA, EA, MAAA
Principal Consulting Actuary

SECTION IV – ASSETS

SFERS uses and discloses two different asset measurements which are presented in this section of the report: Market value and Actuarial Value of Assets. The market value represents the value of the assets if they were liquidated on the valuation date. The Actuarial Value of Assets is a value that attempts to smooth annual investment return performance over multiple years to reduce the impact of investment volatility on SFERS contribution rates.

This section includes the following information on SFERS assets:

- Statement of changes in the Market Value of Assets during the year,
- Development of the Actuarial Value of Assets, and
- Discussion of investment performance for the year.

Changes in the Market Value of Assets

Table IV-1
Change in Market Value of Assets
(Amounts in thousands)

		FYE 2022	FYE 2023
1.	Market Value, Beginning of Year	$ 35,673,834	$ 32,798,524
2.	Additions		
	a. Employer Contributions	768,463	672,651
	b. Member Contributions	423,471	413,916
	c. Total Additions: (2a. + 2b.)	$ 1,191,934	$ 1,086,567
3.	Net Investment Income	(2,308,320)	1,670,666
4.	Benefits and Administrative Expenses	(1,758,924)	(1,867,329)
5.	Net Increase/(Decrease): (2c.+3.+4.)	$ (2,875,310)	$ 889,904
6.	**Market Value, End of Year**	**$ 32,798,524**	**$ 33,688,428**
7.	Estimated Rate of Return on Market Value	-6.5%	5.2%

Actuarial Value of Assets

To determine on-going contribution requirements, most pension funds utilize an Actuarial Value of Assets that differs from the Market Value of Assets. The Actuarial Value of Assets is intended to smooth year-to-year investment returns to reduce the volatility of contribution rates.

The actuarial value is calculated by recognizing 20% of the variance of each of the prior five years of actual investment returns compared to the expected return on the Actuarial Value of Assets. The expected return on the Actuarial Value of Assets is determined using SFERS actual cash flows and the assumed rate of return. See Appendix B for further explanation of the asset valuation method.

SECTION IV – ASSETS

Table IV-2
Development of Actuarial Value of Assets for 7/1/2023
(Amounts in thousands)

			Total
1.	Actuarial Value of Assets (AVA) as of 7/1/2022	$	32,275,474
2.	Non-Investment Cash Flow for FYE 2023		(780,762)
3.	Expected Return on AVA for FYE 2023		2,319,837
4.	Expected Actuarial Value as of 7/1/2023: (1+2+3)	$	33,814,549
5.	Actual Return on Market Value of Assets in FYE 2023		1,670,666
6.	Actual Return Above Expected in 2022-2023: (5 - 3)		(649,171)
7.	Recognition of Returns Above / (Below) Expected		
	a. 2022-2023 (20% of 6.)		(129,834)
	b. 2021-2022		(895,904)
	c. 2020-2021		1,491,276
	d. 2019-2020		(182,627)
	e. 2018-2019		39,545
	f. Total: (7a. + 7b. + 7c. + 7d. + 7e.)	$	322,456
8.	**Actuarial Value as of 7/1/2023: (4 + 7f.)**	**$**	**34,137,005**
9.	Market Value as of 7/1/2023	$	33,688,428
10.	Ratio of Actuarial Value to Market Value: (8 / 9)		101.3%
11.	Estimated Rate of Return on Actuarial Value		8.2%

Investment Performance

The internal rate of return on the Market Value of Assets, net of investment expenses, was 5.2% for the plan year ending June 30, 2023. This return compares to an assumed rate of return of 7.20% and resulted in actual investment returns that are approximately $649 million less than the expected return on the Actuarial Value of Assets.

On an Actuarial Value of Assets basis, the return for the plan year ending June 30, 2023 was 8.2% compared to the assumed return of 7.20%. This return produced an investment gain on the Actuarial Value of Assets of $322 million for the plan year ending June 30, 2023.

SECTION V – MEASURES OF LIABILITY

This section presents detailed information on liability measures for SFERS for funding purposes, including:

- Present value of all future benefits,
- Normal cost,
- Actuarial Liability, and
- Analysis of changes in the Unfunded Actuarial Liability during the year.

These measures are developed for the purpose of establishing contribution rates and are not appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations.

Present Value of Future Benefits

The present value of future benefits represents the amount of money today that is expected to be needed to pay all benefits of SFERS both earned as of the valuation date and those to be earned in the future by current plan members under the current plan provisions if all assumptions are met. Table V-1 below shows the present value of future benefits as of July 1, 2022 and July 1, 2023.

Table V-1
Present Value of Future Benefits
(Amounts in thousands)

	July 1, 2022	July 1, 2023	% Change
Present Value of Future Benefits			
Actives	$ 18,692,979	$ 19,984,387	6.9%
Terminated Vested	797,020	888,810	11.5%
Members Receiving Benefits	20,715,121	21,580,088	4.2%
Total	$ 40,205,120	$ 42,453,285	5.6%

Normal Cost

Under the Entry Age Actuarial Cost Method, the present value of future benefits for each individual is spread over the individual's expected working career as a level percentage of the individual's expected pay. The normal cost is the amount attributed to the next year of service. Table V-2 on the next page shows the normal cost as of the valuation date separately for each tier of benefits for Police, Fire, and Miscellaneous employees.

SECTION V – MEASURES OF LIABILITY

Table V-2
Normal Cost by Group as of July 1, 2023
(Amounts in thousands)

	Police	Fire	Miscellaneous	Total
Normal Cost by Benefit Tier				
New	$ 52,079	$ 35,894	$ 235,859	$ 323,832
Prop D	870	2,995	28,618	32,483
Prop C	52,597	44,055	331,516	428,168
Total	$ 105,546	$ 82,944	$ 595,993	$ 784,483

Actuarial Liability

The Actuarial Liability is calculated by taking the present value of all future benefits and subtracting the present value of future normal costs as determined under the Entry Age Actuarial Cost Method. The Actuarial Liability represents the amount of money today that is expected to be needed to pay for benefits attributed to service prior to the valuation date if all assumptions are met. Table V-3 below shows the Actuarial Liability as of the valuation date separately for Police, Fire, and Miscellaneous employees.

Table V-3
Actuarial Liability by Group as of July 1, 2023
(Amounts in thousands)

	Police	Fire	Miscellaneous	Total
Actuarial Liability				
Actives	$ 1,843,512	$ 1,371,045	$ 9,668,512	$ 12,883,069
Terminated Vested	62,207	20,067	806,536	888,810
Members Receiving Benefits				
Retirees	2,822,667	2,005,935	12,663,013	17,491,615
Disabled	926,954	1,088,713	481,823	2,497,490
Beneficiaries	422,230	358,812	809,941	1,590,983
Total Members Receiving Benefits	4,171,851	3,453,460	13,954,777	21,580,088
Total Actuarial Liability	**$ 6,077,570**	**$ 4,844,572**	**$ 24,429,825**	**$ 35,351,967**

SECTION V – MEASURES OF LIABILITY

Changes in Unfunded Actuarial Liability

The Unfunded Actuarial Liability (UAL) is the difference between the Actuarial Liability and the Actuarial Value of Assets. The UAL of any retirement plan is expected to change at each subsequent valuation for a variety of reasons. Table V-4 below presents key changes in the UAL since the last valuation.

Table V-4
Development of 2023 Experience Gain/(Loss)
(Amounts in millions)

Item	Cost
1. Unfunded Actuarial Liability (UAL) at July 1, 2022	$ 1,316.1
2. Middle of year expected actuarial liability payment	(266.1)
3. Interest to end of year on 1. and 2.	85.3
4. Expected UAL at July 1, 2023 (1+2+3)	$ 1,135.3
5. Actual Unfunded Liability at July 1, 2023	1,215.0
6. Experience Gain/(Loss): (4-5)	$ (79.7)
7. Portion of difference due to:	
a. Investment experience on actuarial value	$ 322.5
b. Salaries more than expected	(209.1)
c. Old Safety Basic COLA more than expected	(13.7)
d. Retirements, terminations, mortality, and disability experience	(66.3)
e. Programming changes	(115.4)
f. New entrants	(56.8)
g. Contributions (rate delay, payroll changes)	90.5
h. Other experience	(31.4)
i. Total gain/(loss)	(79.7)

SECTION V – MEASURES OF LIABILITY

Table V-5 below shows a five-year history of sources of liability gain and loss. Higher salary increases than expected, new entrants, terminations, and retirements have been the primary sources of losses while COLAs for the old safety groups have been the primary sources of gains.

Table V-5
Historical Sources of Liability (Gain) or Loss
(Amounts in Thousands)

Source	Year Ending June 30, 2019	2020	2021	2022	2023	Total
Salary Increases	$ 45,993	$ 114,500	$ 169,789	$ 240,602	$ 209,096	$ 779,980
Retirement	32,398	3,918	39,765	52,504	34,733	163,318
Termination	47,547	19,838	29,126	(5,829)	18,789	109,471
Mortality	1,112	4,590	(1,492)	12,143	(25,459)	(9,106)
Disability	10,387	10,327	16,369	9,370	38,251	84,704
New Entrants	41,251	45,006	24,142	34,713	56,841	201,953
Old Safety COLAs	(22,131)	(86,577)	(19,826)	83,279	13,674	(31,581)
Other	28,851	691	12,171	(13,886)	32,255	60,082
Total	$ 185,408	$ 112,293	$ 270,044	$ 412,896	$ 378,180	$ 1,358,821

SECTION VI – CONTRIBUTIONS

The contribution allocation procedure employed by SFERS has three components to the total contribution: the normal cost determined under the Entry Age Actuarial Cost Method, administrative expenses, and the contribution toward the Unfunded Actuarial Liability.

The normal cost shown in the prior section is divided by the projected payroll for the year for each benefit tier to determine the normal cost rate for that tier. The aggregate normal cost rate is the weighted average of the normal cost rate for each tier based on the expected payroll for that tier for the fiscal year to which the contribution rate applies. Finally, the normal cost rate is reduced by the member contribution rate to produce the employer normal cost rate.

Assumed administrative expenses of 0.60% of payroll are added to the contribution rate.

The difference between the Actuarial Liability determined under the Entry Age Actuarial Cost Method and the Actuarial Value of Assets is the Unfunded Actuarial Liability (UAL). The UAL is made up of unamortized portion of prior Charter amendments, plus the impact of accumulated experience, assumption changes, and method changes.

Table VI-1 on the following page develops the employer's contribution rate for FYE 2024 prior to any cost-sharing adjustments. The employer pays the composite contribution rate on the payroll for all employees. The contribution rates shown for Police, Fire, and Miscellaneous are for illustrative purposes only.

SECTION VI – CONTRIBUTIONS

Table VI-1
Development of the Net Employer Contribution Rate as of July 1, 2023 for FYE 2025
(Amounts in millions)

	FYE 2025				FYE 2024
	Police	Fire	Misc.	TOTAL	TOTAL
1. Total Normal Cost Rate	29.13%	30.29%	16.42%	**18.40%**	**18.33%**
2. Member Contribution Rate	8.37%	8.46%	7.50%	**7.64%**	**7.63%**
3. Employer Normal Cost Rate (1 - 2)	20.76%	21.83%	8.92%	**10.76%**	**10.70%**
4. UAL Components					
a. Proposition balance	$ 34.4	$ 27.4	$ 408.1	**$ 469.9**	**$ 530.5**
b. Other UAL	63.4	48.1	633.6	**745.1**	**785.6**
c. Total UAL (4a+4b)	$ 97.8	$ 75.5	$ 1,041.7	**$ 1,215.0**	**$ 1,316.1**
5. Amortization Payments					
a. Proposition balance	2.03%	2.30%	2.45%	**2.40%**	**2.49%**
b. Other UAL	3.15%	3.15%	3.15%	**3.15%**	**4.45%**
c. Total Amortization (5a+5b)	5.18%	5.45%	5.60%	**5.55%**	**6.94%**
6. Administrative Expenses	0.60%	0.60%	0.60%	**0.60%**	**0.60%**
7. Net Employer Contribution Rate (3+ 5c+6)	26.54%	27.88%	15.12%	**16.91%**	**18.24%**

SECTION VI – CONTRIBUTIONS

Table VI-2 shows the estimated member and employer contributions adjusted for the cost-sharing provisions under Proposition C. The adjustments are based on the applicable table in the Charter for an employer contribution rate of 16.91% and the hourly pay rates shown in the table below.

Table VI-2
Employee and Employer Contribution Rates By Employee Group for FYE 2025
(Amounts in thousands)

Hire Date	Hourly Pay	Estimated Payroll FYE 2025	Base Rates		Adjusted Rates		Cost Sharing Adjustment
			Employee	Employer	Employee	Employer	
Police and Fire							
11/2/1976 - 6/30/2010	All	$ 259,685	7.50%	16.91%	9.50%	14.91%	2.00%
> 6/30/2010	< $68	272,597	9.00%	16.91%	10.50%	15.41%	1.50%
> 6/30/2010	>= $68	125,447	9.00%	16.91%	11.00%	14.91%	2.00%
Miscellaneous							
>= 11/2/1976	< $34	$ 203,351	7.50%	16.91%	7.50%	16.91%	0.00%
>= 11/2/1976	$34 - $68	2,054,539	7.50%	16.91%	9.00%	15.41%	1.50%
>= 11/2/1976	>= $68	1,481,352	7.50%	16.91%	9.50%	14.91%	2.00%
Estimated Total Plan		**$ 4,396,971**	**7.64%**	**16.91%**	**9.28%**	**15.27%**	**1.64%**
Estimated Contribution Amounts			**$ 335,929**	**$ 743,528**	**$ 408,039**	**$ 671,417**	**$ 72,110**

SECTION VI – CONTRIBUTIONS

Table VI-3 below provides the amortization schedules for the changes to the Actuarial Liability due to changes to the Charter. Each Charter change prior to 2014 is amortized over 20 years from the date it was first recognized in the valuation. Effective with the July 1, 2014 valuation, any new changes to active member benefits are amortized over a closed 15-year period, and any new changes to inactive or retired member benefits, including Supplemental COLAs which are shown in Table VI-4, are amortized over a closed five-year period. However, the Board elected to amortize the increase in the Unfunded Actuarial Liability due to Proposition A over a 10-year period. All amortization payments increase each year at the ultimate assumed wage inflation rate.

Table VI-3
Development of the Proposition Amortization Rate as of July 1, 2023 for FYE 2025
(dollars in thousands)

Propositions	Remaining Period	Police		Fire		Miscellaneous		Total	
		Balance	Payment	Balance	Payment	Balance	Payment	Balance	Payment
5.0% Credited Interest on EE ctrbs	1	(72)	(79)	(34)	(38)	(6,562)	(7,284)	(6,668)	(7,401)
2004 Prop E - New Safety LOD Bfts	2	1,572	888	2,207	1,248	0	0	3,779	2,136
2003 Prop F - Misc 3+3 Early Ret Bfts	2	0	0	0	0	4,754	2,688	4,754	2,688
Liability of 2003 Prop F (extended) - Misc 3+3 Early Ret Bfts	3	0	0	0	0	3,892	1,494	3,892	1,494
Liability of 2003 Prop F (extended) - Misc 3+3 Early Ret Bfts	4	0	0	0	0	2,203	646	2,203	646
2008 Prop B	5	21,814	5,213	17,801	4,254	376,937	90,072	416,552	99,539
2022 Prop A Pre96 Supplemental COLAs	9	11,038	1,574	7,418	1,058	26,978	3,848	45,434	6,480
Proposition Total		**$ 34,352**	**$ 7,596**	**$ 27,392**	**$ 6,522**	**$ 408,202**	**$ 91,464**	**$ 469,946**	**$ 105,582**
Expected FYE 2025 Payroll			**$ 373,922**		**$ 283,807**		**$ 3,739,242**		**$ 4,396,971**
Amortization Rate			**2.03%**		**2.30%**		**2.45%**		**2.40%**

SECTION VI – CONTRIBUTIONS

Effective July 1, 2014, any new sources of UAL due to actuarial gains and losses, assumption changes, or method changes are amortized over a closed, layered 20-year period. In addition, the UAL as of July 1, 2013 not attributable to Propositions was re-amortized over a closed 19-year period as of July 1, 2014.

Effective with the July 1, 2021 valuation, the remaining amortization periods for assumption changes prior to July 1, 2021 and all prior actuarial gains and losses (including the gain for 2021) were reduced to five years. Furthermore, if the System becomes fully funded based on the Actuarial Value of Assets, any unexpected changes in the surplus would be amortized over a rolling
20-year period.

Table VI-4 on the next page shows all the Non-Proposition amortizations under the new amortization policy. All amortization schedules are determined on a level percent of pay basis which means that for the duration of the amortization schedule, the payment amount increases each year at the assumed wage inflation rate.

SECTION VI – CONTRIBUTIONS

Table VI-4
Development of the Non-Proposition Amortization Rate as of July 1, 2023 for FYE 2025
(dollars in thousands)

Amortization Bases	Remaining Period	Outstanding Balance	Amortization Payment
2013 Non-Proposition UAL	3	$ 1,590,172	$ 610,542
2014 Actuarial Gain	3	(535,869)	(205,745)
2014 Assumption Change	3	94,794	36,396
2015 Actuarial Gain	3	(487,175)	(187,049)
2015 Assumption Change	3	770,768	295,934
2013 Supplemental COLA	10	170,525	22,281
2016 Actuarial Loss	3	17,668	6,784
2017 Actuarial Gain	3	(257,419)	(98,835)
2017 Assumption and Method Change	3	32,632	12,529
2018 Actuarial Gain	3	(257,200)	(98,751)
2018 Assumption Change	3	195,272	74,974
2019 Actuarial Loss	3	114,215	43,852
2019 Supplemental COLA	1	34,604	38,407
2020 Actuarial Loss	3	103,103	39,586
2020 Assumption Changes	3	(391,527)	(150,326)
2021 Actuarial Gain	3	(1,057,156)	(405,892)
2021 Supplemental COLA	3	175,219	67,275
2021 Assumption Change	18	695,820	57,929
2022 Actuarial Gain	19	(343,083)	(27,513)
2023 Actuarial Loss	20	79,653	6,169
Total Non-Proposition UAL		**$ 745,016**	**$ 138,547**
Expected FYE 2025 Payroll			**$ 4,396,971**
Amortization Rate			**3.15%**

SECTION VII – ACTUARIAL SECTION OF THE ANNUAL REPORT

The Government Finance Officers Association (GFOA) maintains a checklist of items to be included in a System's Annual Comprehensive Financial Report in order to receive recognition for excellence in financial reporting. We understand that SFERS includes these exhibits in their Annual Report. The following Tables VII-1 through VII-3 are exhibits listed by the GFOA, and they recommend showing 10 years of experience in each of these exhibits. Table VII-1 presents an Analysis of Financial Experience for the valuation year, Table VII-2 presents the Schedule of Funded Liabilities by Type, Table VII-3 shows the Schedule of Funding Progress and Table VII-4 shows the Retirees added and removed from the Rolls.

In the table below, non-recurring items include changes in assumptions and methods, Supplemental COLAs, and changes in plan provisions.

Table VII-1
Analysis of Financial Experience
(Amounts in thousands)

Gain or (Loss) for Year Ending	(A) Investment Income	(B) Contribution Income[1]	(C) Combined Liability Experience	(D) (A)+(B)+(C) Gain or (Loss) From Experience	(E) Non-Recurring Items[2]	(F) (D)+(E) Composite Gain or (Loss) During Year
July 1, 2023	$ 322,456	$ 91,497	$ (378,180)	$ 35,773	$ (115,426)	$ (79,653)
July 1, 2022	628,041	128,903	(412,896)	344,048	(48,037)	296,011
July 1, 2021	1,750,143	113,249	(270,044)	1,593,348	(965,694)	627,654
July 1, 2020	(6,409)	(37,023)	(112,293)	(155,725)	591,355	435,630
July 1, 2019	58,561	(46,222)	(185,408)	(173,069)	(140,998)	(314,067)
July 1, 2018	408,925	19,028	(35,783)	392,170	(498,554)	(106,384)
July 1, 2017	405,685	(55,038)	45,496	396,143	(250,285)	145,858
July 1, 2016	(51,452)	58,461	(34,514)	(27,505)	(429,336)	(456,841)
July 1, 2015	545,506	97,444	127,610	770,560	(1,048,350)	(277,790)
July 1, 2014	749,173	(41,626)	157,931	865,478	(153,100)	712,378

[1] *Due to Payroll Changes, One-Year Lag, and Expenses.*

[2] *Includes Assumption, Method, and Benefit Changes as well as Supplemental COLAs.*

SECTION VII – ACTUARIAL SECTION OF THE ANNUAL REPORT

Table VII-2
Schedule of Funded Liabilities by Type
(Amounts in millions)

Valuation Date July 1,	(A) Active Member Contributions	(B) Retirees, Beneficiaries, and Inactives	(C) Remaining Active Members' Liabilities	Actuarial Value of Assets	Portion of Actuarial Liabilities Covered by Reported Assets (A)	(B)	(C)
2023	$ 4,437	$ 22,469	$ 8,446	$ 34,137	100%	100%	86%
2022	4,232	21,512	7,847	32,275	100%	100%	83%
2021 [1]	4,104	20,228	7,573	30,043	100%	100%	75%
2020 [2]	3,916	18,621	6,963	26,696	100%	100%	60%
2019	3,675	18,074	7,050	25,248	100%	100%	50%
2018 [1]	3,496	17,024	6,816	23,866	100%	100%	49%
2017 [3]	3,325	15,847	6,535	22,185	100%	100%	46%
2016 [4]	3,175	14,941	6,288	20,655	100%	100%	40%
2015 [5]	2,995	13,931	6,045	19,653	100%	100%	45%
2014 [6]	2,825	12,901	5,397	18,012	100%	100%	42%

[1] *Reflects revised discount rate.*

[2] *Reflects revised demographic and wage inflation assumptions.*

[3] *Reflects revised wage inflation assumption.*

[4] *Reflects 2013 and 2014 Retroactive Supplemental COLA benefits for Post96 Retirees.*

[5] *Reflects revised demographic assumptions.*

[6] *Reflects revised discount rate and wage inflation.*

SECTION VII – ACTUARIAL SECTION OF THE ANNUAL REPORT

Table VII-3
Schedule of Funding Progress
(in thousands)

Actuarial Valuation Date	Actuarial Value of Assets	Actuarial Liability (AL)	Unfunded AL	Funded Ratio	Covered Payroll	Unfunded AL as a % of Covered Payroll
July 1, 2023	$ 34,137,005	$ 35,351,967	$ 1,214,962	97%	$ 4,258,568	29%
July 1, 2022	32,275,474	33,591,565	1,316,091	96%	3,984,150	33%
July 1, 2021	30,043,222	31,905,275	1,862,053	94%	3,828,797	49%
July 1, 2020	26,695,844	29,499,918	2,804,074	90%	3,703,103	76%
July 1, 2019	25,247,549	28,798,581	3,551,032	88%	3,549,936	100%
July 1, 2018	23,866,027	27,335,417	3,469,390	87%	3,385,517	102%
July 1, 2017	22,185,244	25,706,090	3,520,846	86%	3,242,468	109%
July 1, 2016	20,654,703	24,403,882	3,749,179	85%	3,062,422	122%
July 1, 2015	19,653,338	22,907,892	3,254,554	86%	2,820,968	115%
July 1, 2014	18,012,088	21,122,567	3,110,479	85%	2,640,153	118%

Table VII-4
Schedule of Retirees and Beneficiaries Added to and Removed from Retirement Payroll

	Added to Rolls		Removed from Rolls		Rolls at End of Year			
FYE	Member Count[1]	Annual Allowance	Member Count[1]	Annual Allowance	Member Count[1]	Annual Allowance	% Increase in Annual Allowance	Avearge Annual Allowance
2023	2,044	$103,581,459	1,543	$61,862,676	32,104	$1,888,105,484	5.2%	$58,812
2022	1,872	103,981,941	1,007	45,948,001	31,719	1,795,472,441	6.1%	56,606
2021	1,722	97,495,262	996	43,909,238	30,854	1,691,633,291	6.5%	54,827
2020	1,470	74,777,425	816	34,764,875	30,128	1,587,981,080	4.9%	52,708
2019	1,770	83,661,179	957	36,959,870	30,778	1,513,436,081	6.3%	49,173
2018	1,797	84,574,963	959	36,284,323	29,965	1,424,324,641	6.9%	47,533
2017	1,769	80,214,008	928	35,082,179	29,127	1,332,430,263	6.8%	45,746
2016	1,657	72,049,646	856	30,384,191	28,286	1,247,230,245	7.8%	44,094
2015	1,564	63,136,134	931	29,314,643	27,485	1,157,081,680	4.8%	42,099
2014	1,588	65,923,470	770	25,170,856	26,852	1,103,959,803	5.6%	41,113

[1] *Member count as of FYE 2020 reflects combining records for members who have both a Safety and Miscellaneous benefit. Member count as of FYE 2023 reflects combining records for beneficiaries and QDROs who have both a Safety and Miscellaneous benefit.*

APPENDIX A – MEMBERSHIP INFORMATION

Table A-1
Active Member Data - By Group

	July 1, 2022	July 1, 2023	% Change
Total			
Count	33,199	34,016	2.5%
Average Current Age	47.3	47.2	-0.1
Average Service	10.9	11.0	0.1
Annual Pensionable Earnings	$ 3,708,897,220	$ 4,038,465,958	8.9%
Average Pensionable Earnings	$ 111,717	$ 118,723	6.3%
Police			
Count	2,269	2,221	-2.1%
Average Current Age	41.4	41.5	0.1
Average Service	13.0	13.2	0.2
Annual Pensionable Earnings	$ 315,938,119	$ 343,677,600	8.8%
Average Pensionable Earnings	$ 139,241	$ 154,740	11.1%
Fire			
Count	1,664	1,699	2.1%
Average Current Age	42.9	42.5	-0.4
Average Service	12.3	12.1	-0.2
Annual Pensionable Earnings	$ 237,555,937	$ 258,174,078	8.7%
Average Pensionable Earnings	$ 142,762	$ 151,956	6.4%
Miscellaneous			
Count	29,266	30,096	2.8%
Average Current Age	48.0	47.9	-0.1
Average Service	10.7	10.8	0.1
Annual Pensionable Earnings	$ 3,155,403,164	$ 3,436,614,280	8.9%
Average Pensionable Earnings	$ 107,818	$ 114,188	5.9%

APPENDIX A – MEMBERSHIP INFORMATION

Table A-2
Active Member Data - By Charter
July 1, 2023

	Police	Fire	Miscellaneous	Total
Member Counts				
Old	0	1	3	4
New	945	620	11,011	12,576
Prop D	16	50	1,340	1,406
Prop C[1]	1,260	1,028	17,742	20,030
Total	2,221	1,699	30,096	34,016
Annual Pensionable Earnings				
Old	$ 0	$ 185,124	$ 278,317	$ 463,441
New	171,229,202	117,167,637	1,348,000,516	1,636,397,355
Prop D	2,557,579	8,356,246	153,407,669	164,321,494
Prop C[1]	169,890,819	132,465,071	1,934,927,778	2,237,283,668
Total	$ 343,677,600	$ 258,174,078	$ 3,436,614,280	$ 4,038,465,958

[1] *Police includes Sherriffs Plan (Charter A8.608) and Miscellaneous Safety Plan (Charter A8.610) members.*

APPENDIX A – MEMBERSHIP INFORMATION

Table A-3
Non-Active Member Data - Total System

	July 1, 2022	July 1, 2023	Change
Retired			
Count	24,964	25,379	1.7%
Average Age	71.6	71.9	0.3
Average Annual Benefit[1]	$ 57,831	$ 59,601	3.1%
Disabled			
Count	2,485	2,507	0.9%
Average Age	69.9	69.8	-0.1
Average Annual Benefit[1]	$ 75,773	$ 78,892	4.1%
Beneficiaries			
Count	4,270	4,218	-1.2%
Average Age	77.8	78.1	0.3
Average Annual Benefit[1]	$ 40,159	$ 42,128	4.9%
Total Payees			
Count	31,719	32,104	1.2%
Average Age	72.3	72.6	0.3
Average Annual Benefit[1]	$ 56,857	$ 58,812	3.4%
Inactives			
Count	12,085	12,641	4.6%
Average Age	47.6	48.1	0.5
Total Contribution Balance with Interest	$ 420,865,353	$ 466,779,572	10.9%
Average Contribution Balance with Interest	$ 34,825	$ 36,926	6.0%

[1] *Benefits provided in June 30 valuation data, plus estimated Basic COLAs effective July 1, 2023 and January 6, 2024 for Old Safety payees. If applicable, limited by Section 415(b) of the Internal Revenue Code.*

APPENDIX A – MEMBERSHIP INFORMATION

Table A-4
Non-Active Member Data - Old Safety

Charter Section	July 1, 2023 Prop H	8.559/ 8.585	8.595/ 8.596	Total	July 1, 2022	Change
Retired						
Count	3	513	310	826	868	-4.8%
Average Age	90.7	82.0	75.2	79.5	78.8	0.7
Average Annual Benefit[1]	$ 31,980	$ 109,211	$ 155,548	$ 126,321	$ 121,688	3.8%
Disabled						
Count	27	319	137	483	515	-6.2%
Average Age	85.4	81.6	75.7	80.1	79.6	0.5
Average Annual Benefit[1]	$ 52,015	$ 112,581	$ 162,760	$ 123,428	$ 118,295	4.3%
Beneficiaries						
Count	76	577	66	719	740	-2.8%
Average Age	84.1	82.5	72.6	81.8	81.7	0.1
Average Annual Benefit[1]	$ 42,550	$ 101,601	$ 133,837	$ 98,318	$ 92,801	5.9%
Payee Total						
Count	106	1,409	513	2,028	2,123	-4.5%
Average Age	84.6	82.1	75.0	80.4	80.0	0.4
Average Annual Benefit[1]	$ 44,662	$ 106,857	$ 154,681	$ 115,704	$ 110,796	4.4%
Inactives						
Count	0	0	2	2	2	0.0%
Average Age	N/A	N/A	77.5	77.5	76.5	1.0
Total Contribution Balance with Interest	N/A	N/A	$ 3,152	$ 3,152	$ 3,031	4.0%
Average Contribution Balance with Interest	N/A	N/A	$ 1,576	$ 1,576	$ 1,515	4.0%

[1] *Benefits provided in June 30 valuation data, plus estimated Basic COLAs effective July 1, 2023 and January 6, 2024 for Old Safety payees. If applicable, limited by Section 415(b) of the Internal Revenue Code.*

APPENDIX A – MEMBERSHIP INFORMATION

Table A-5
Non-Active Member Data - New Safety (includes Prop D and C)

	July 1, 2022	July 1, 2023	Change
Retired			
Count	2,172	2,275	4.7%
Average Age	64.1	64.5	0.4
Average Annual Benefit[1]	$ 119,041	$ 121,771	2.3%
Disabled			
Count	699	766	9.6%
Average Age	64.5	64.2	-0.3
Average Annual Benefit[1]	$ 118,658	$ 121,516	2.4%
Beneficiaries			
Count	171	184	7.6%
Average Age	64.5	65.4	0.9
Average Annual Benefit[1]	$ 78,048	$ 79,352	1.7%
Payee Average			
Count	3,042	3,225	6.0%
Average Age	64.2	64.5	0.3
Average Annual Benefit[1]	$ 116,649	$ 119,290	2.3%
Inactives			
Count	474	494	4.2%
Average Age	41.4	42.0	0.6
Total Contribution Balance with Interest	$ 32,598,500	$ 38,358,210	17.7%
Average Contribution Balance with Interest	$ 68,773	$ 77,648	12.9%

[1] *Benefits provided in June 30 valuation data.*
If applicable, limited by Section 415(b) of the Internal Revenue Code.

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Table A-6
Non-Active Member Data - Miscellaneous

	July 1, 2022	July 1, 2023	Change
Retired			
Count	21,924	22,278	1.6%
Average Age	72.1	72.4	0.3
Average Annual Benefit[1]	$ 49,238	$ 50,779	3.1%
Disabled			
Count	1,271	1,258	-1.0%
Average Age	69.0	69.2	0.2
Average Annual Benefit[1]	$ 34,958	$ 35,840	2.5%
Beneficiaries			
Count	3,359	3,315	-1.3%
Average Age	77.7	78.0	0.3
Average Annual Benefit[1]	$ 26,633	$ 27,875	4.7%
Payee Average			
Count	26,554	26,851	1.1%
Average Age	72.7	72.9	0.2
Average Annual Benefit[1]	$ 45,695	$ 47,251	3.4%
Inactives			
Count	11,609	12,145	4.6%
Average Age	47.9	48.4	0.5
Total Contribution Balance with Interest	$ 388,263,822	$ 428,418,210	10.3%
Average Contribution Balance with Interest	$ 33,445	$ 35,275	5.5%

[1] *Benefits provided in June 30 valuation data.*
If applicable, limited by Section 415(b) of the Internal Revenue Code.

APPENDIX A – MEMBERSHIP INFORMATION

Table A-7
Distribution of Active Members as of July 1, 2023
Count By Age/Service - Total System

	Years of Service										
Age	**Under 1**	**1 to 4**	**5 to 9**	**10 to 14**	**15 to 19**	**20 to 24**	**25 to 29**	**30 to 34**	**35 to 39**	**40 and up**	**Total**
Under 25	102	130	1	0	0	0	0	0	0	0	233
25 to 29	334	816	212	0	0	0	0	0	0	0	1,362
30 to 34	413	1,307	1,339	96	0	0	0	0	0	0	3,155
35 to 39	353	1,346	2,107	712	138	0	0	0	0	0	4,656
40 to 44	295	1,101	1,860	946	685	97	1	0	0	0	4,985
45 to 49	234	853	1,342	838	803	519	85	0	0	0	4,674
50 to 54	197	730	1,144	732	875	861	496	77	1	0	5,113
55 to 59	127	529	935	637	719	912	566	277	58	2	4,762
60 to 64	61	335	680	492	537	581	358	248	98	13	3,403
65 to 69	17	92	272	222	223	189	118	76	57	22	1,288
70 and up	2	30	72	57	63	62	44	14	24	17	385
Total Count	2,135	7,269	9,964	4,732	4,043	3,221	1,668	692	238	54	34,016

Table A-8
Distribution of Active Members as of July 1, 2023
Average Salary By Age/Service - Total System

	Years of Service										
Age	**Under 1**	**1 to 4**	**5 to 9**	**10 to 14**	**15 to 19**	**20 to 24**	**25 to 29**	**30 to 34**	**35 to 39**	**40 and up**	**Total**
Under 25	$ 75,007	$ 73,493	$ 67,151	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 74,128
25 to 29	89,838	91,965	112,629	0	0	0	0	0	0	0	94,660
30 to 34	100,233	103,015	118,110	130,400	0	0	0	0	0	0	109,891
35 to 39	104,516	106,611	118,580	132,245	146,455	0	0	0	0	0	116,969
40 to 44	106,991	108,568	120,267	130,017	144,934	150,722	156,085	0	0	0	122,737
45 to 49	102,994	102,931	118,213	129,630	139,106	148,688	144,160	0	0	0	124,154
50 to 54	111,176	100,005	113,094	119,492	135,606	143,833	165,223	165,345	202,575	0	126,957
55 to 59	101,989	97,101	110,465	111,361	125,930	130,603	146,122	140,958	135,862	114,949	121,389
60 to 64	113,175	105,715	106,519	108,984	122,404	122,148	127,879	134,313	117,462	133,991	116,783
65 to 69	111,293	91,535	108,354	99,961	114,174	116,510	114,938	128,406	124,559	114,669	110,561
70 and up	49,892	95,106	98,674	95,460	104,477	113,645	122,239	138,727	122,843	141,853	108,590
Avg. Salary	$ 100,871	$ 101,958	$ 116,013	$ 122,139	$ 133,110	$ 134,981	$ 144,957	$ 139,866	$ 124,546	$ 127,889	$ 118,723

APPENDIX A – MEMBERSHIP INFORMATION

Table A-9
Distribution of Active Members as of July 1, 2023
Count By Age/Service - Police

	Years of Service										
Age	**Under 1**	**1 to 4**	**5 to 9**	**10 to 14**	**15 to 19**	**20 to 24**	**25 to 29**	**30 to 34**	**35 to 39**	**40 and up**	**Total**
Under 25	3	9	0	0	0	0	0	0	0	0	12
25 to 29	7	100	69	0	0	0	0	0	0	0	176
30 to 34	7	82	310	23	0	0	0	0	0	0	422
35 to 39	2	32	212	120	65	0	0	0	0	0	431
40 to 44	0	22	86	77	173	25	1	0	0	0	384
45 to 49	2	9	33	32	91	94	15	0	0	0	276
50 to 54	1	3	14	11	58	99	113	8	0	0	307
55 to 59	4	5	16	5	17	55	44	19	1	0	166
60 to 64	1	0	4	1	4	11	13	1	0	1	36
65 to 69	0	0	1	1	0	1	4	1	0	1	9
70 and up	0	0	0	0	1	0	1	0	0	0	2
Total Count	27	262	745	270	409	285	191	29	1	2	2,221

Table A-10
Distribution of Active Members as of July 1, 2023
Average Salary By Age/Service - Police

	Years of Service										
Age	**Under 1**	**1 to 4**	**5 to 9**	**10 to 14**	**15 to 19**	**20 to 24**	**25 to 29**	**30 to 34**	**35 to 39**	**40 and up**	**Total**
Under 25	$ 91,019	$ 102,693	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 99,775
25 to 29	92,073	109,975	126,698	0	0	0	0	0	0	0	115,819
30 to 34	107,894	111,526	137,146	151,817	0	0	0	0	0	0	132,482
35 to 39	150,140	110,958	139,033	154,926	168,074	0	0	0	0	0	145,805
40 to 44	0	117,987	137,402	154,326	172,463	181,305	156,085	0	0	0	158,386
45 to 49	134,780	114,289	137,268	152,897	174,212	186,760	177,340	0	0	0	169,527
50 to 54	180,692	178,829	143,236	160,835	169,821	180,127	200,057	273,089	0	0	185,554
55 to 59	152,085	147,751	170,538	154,268	171,294	174,230	205,875	206,423	197,134	0	183,851
60 to 64	209,922	0	161,151	164,170	163,293	177,040	189,668	143,664	0	209,930	178,850
65 to 69	0	0	102,492	118,546	0	150,237	173,443	222,519	0	161,838	161,045
70 and up	0	0	0	0	200,360	0	164,697	0	0	0	182,529
Avg. Salary	$ 120,060	$ 112,661	$ 137,664	$ 154,378	$ 171,710	$ 181,056	$ 197,933	$ 223,205	$ 197,134	$ 185,884	$ 154,740

APPENDIX A – MEMBERSHIP INFORMATION

Table A-11
Distribution of Active Members as of July 1, 2023
Count By Age/Service - Fire

	Years of Service										
Age	**Under 1**	**1 to 4**	**5 to 9**	**10 to 14**	**15 to 19**	**20 to 24**	**25 to 29**	**30 to 34**	**35 to 39**	**40 and up**	**Total**
Under 25	10	14	0	0	0	0	0	0	0	0	24
25 to 29	29	82	11	0	0	0	0	0	0	0	122
30 to 34	19	124	114	3	0	0	0	0	0	0	260
35 to 39	5	96	169	44	3	0	0	0	0	0	317
40 to 44	1	40	118	53	50	14	0	0	0	0	276
45 to 49	2	13	44	45	41	65	7	0	0	0	217
50 to 54	0	1	17	19	39	110	72	12	1	0	271
55 to 59	0	1	6	3	21	63	54	13	0	0	161
60 to 64	0	0	1	6	4	18	5	6	1	1	42
65 to 69	0	0	0	0	1	2	1	1	1	0	6
70 and up	0	1	0	0	0	0	0	1	0	1	3
Total Count	66	372	480	173	159	272	139	33	3	2	1,699

Table A-12
Distribution of Active Members as of July 1, 2023
Average Salary By Age/Service - Fire

	Years of Service										
Age	**Under 1**	**1 to 4**	**5 to 9**	**10 to 14**	**15 to 19**	**20 to 24**	**25 to 29**	**30 to 34**	**35 to 39**	**40 and up**	**Total**
Under 25	$ 76,406	$ 89,409	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 83,991
25 to 29	77,455	96,923	144,736	0	0	0	0	0	0	0	96,606
30 to 34	77,216	102,049	144,082	150,529	0	0	0	0	0	0	119,224
35 to 39	87,232	102,147	150,805	164,322	167,885	0	0	0	0	0	137,104
40 to 44	108,524	105,819	148,556	168,230	184,028	178,841	0	0	0	0	153,957
45 to 49	76,623	107,237	145,066	163,956	185,715	187,827	189,769	0	0	0	168,017
50 to 54	0	115,912	154,478	165,579	178,406	182,135	209,159	226,084	202,575	0	187,660
55 to 59	0	213,427	134,737	157,735	171,382	180,156	213,076	204,495	0	0	190,114
60 to 64	0	0	195,041	166,519	187,330	179,530	222,829	208,661	216,402	214,063	189,800
65 to 69	0	0	0	0	209,052	169,685	149,654	183,497	241,092	0	187,111
70 and up	0	45,000	0	0	0	0	0	171,536	0	185,124	133,887
Avg. Salary	$ 78,413	$ 101,239	$ 148,012	$ 165,285	$ 181,350	$ 182,603	$ 209,768	$ 211,468	$ 220,023	$ 199,593	$ 151,956

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Table A-13
Distribution of Active Members as of July 1, 2023
Count By Age/Service - Miscellaneous

	Years of Service										
Age	**Under 1**	**1 to 4**	**5 to 9**	**10 to 14**	**15 to 19**	**20 to 24**	**25 to 29**	**30 to 34**	**35 to 39**	**40 and up**	**Total**
Under 25	89	107	1	0	0	0	0	0	0	0	197
25 to 29	298	634	132	0	0	0	0	0	0	0	1,064
30 to 34	387	1,101	915	70	0	0	0	0	0	0	2,473
35 to 39	346	1,218	1,726	548	70	0	0	0	0	0	3,908
40 to 44	294	1,039	1,656	816	462	58	0	0	0	0	4,325
45 to 49	230	831	1,265	761	671	360	63	0	0	0	4,181
50 to 54	196	726	1,113	702	778	652	311	57	0	0	4,535
55 to 59	123	523	913	629	681	794	468	245	57	2	4,435
60 to 64	60	335	675	485	529	552	340	241	97	11	3,325
65 to 69	17	92	271	221	222	186	113	74	56	21	1,273
70 and up	2	29	72	57	62	62	43	13	24	16	380
Total Count	2,042	6,635	8,739	4,289	3,475	2,664	1,338	630	234	50	30,096

Table A-14
Distribution of Active Members as of July 1, 2023
Average Salary By Age/Service - Miscellaneous

	Years of Service										
Age	**Under 1**	**1 to 4**	**5 to 9**	**10 to 14**	**15 to 19**	**20 to 24**	**25 to 29**	**30 to 34**	**35 to 39**	**40 and up**	**Total**
Under 25	$ 74,310	$ 68,954	$ 67,151	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 71,365
25 to 29	90,990	88,484	102,599	0	0	0	0	0	0	0	90,937
30 to 34	101,224	102,490	108,426	122,500	0	0	0	0	0	0	105,055
35 to 39	104,502	106,848	112,912	124,703	125,463	0	0	0	0	0	112,156
40 to 44	106,986	108,475	117,362	125,241	130,394	130,753	0	0	0	0	117,580
45 to 49	102,947	102,741	116,782	126,622	131,497	131,680	131,192	0	0	0	118,883
50 to 54	110,821	99,657	112,083	117,597	130,910	131,860	142,395	137,435	0	0	119,363
55 to 59	100,360	96,395	109,252	110,799	123,396	123,650	132,779	132,509	134,787	114,949	116,556
60 to 64	111,563	105,715	106,064	108,158	121,604	119,183	124,120	132,423	116,442	119,808	115,189
65 to 69	111,293	91,535	108,376	99,877	113,747	115,757	112,560	126,390	122,478	112,423	109,843
70 and up	49,892	96,834	98,674	95,460	102,930	113,645	121,251	136,203	122,843	139,149	108,001
Avg. Salary	$ 101,343	$ 101,575	$ 112,410	$ 118,369	$ 126,360	$ 125,190	$ 130,661	$ 132,279	$ 123,012	$ 122,701	$ 114,188

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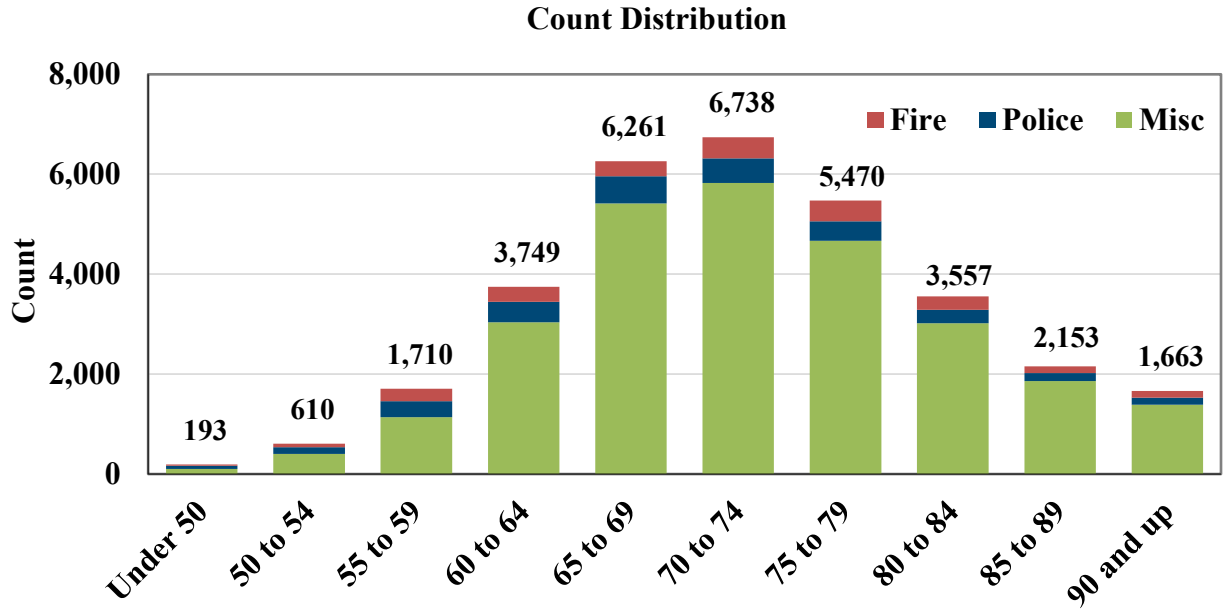
Table A-15
Distribution of Retirees, Disabled Members, and Beneficiaries as of July 1, 2023
Count

Age	Police	Fire	Misc	Total
Under 50	68	25	100	193
50 to 54	129	75	406	610
55 to 59	325	249	1,136	1,710
60 to 64	412	300	3,037	3,749
65 to 69	546	300	5,415	6,261
70 to 74	491	420	5,827	6,738
75 to 79	392	410	4,668	5,470
80 to 84	268	273	3,016	3,557
85 to 89	164	130	1,859	2,153
90 and up	141	135	1,387	1,663
Total	2,936	2,317	26,851	32,104

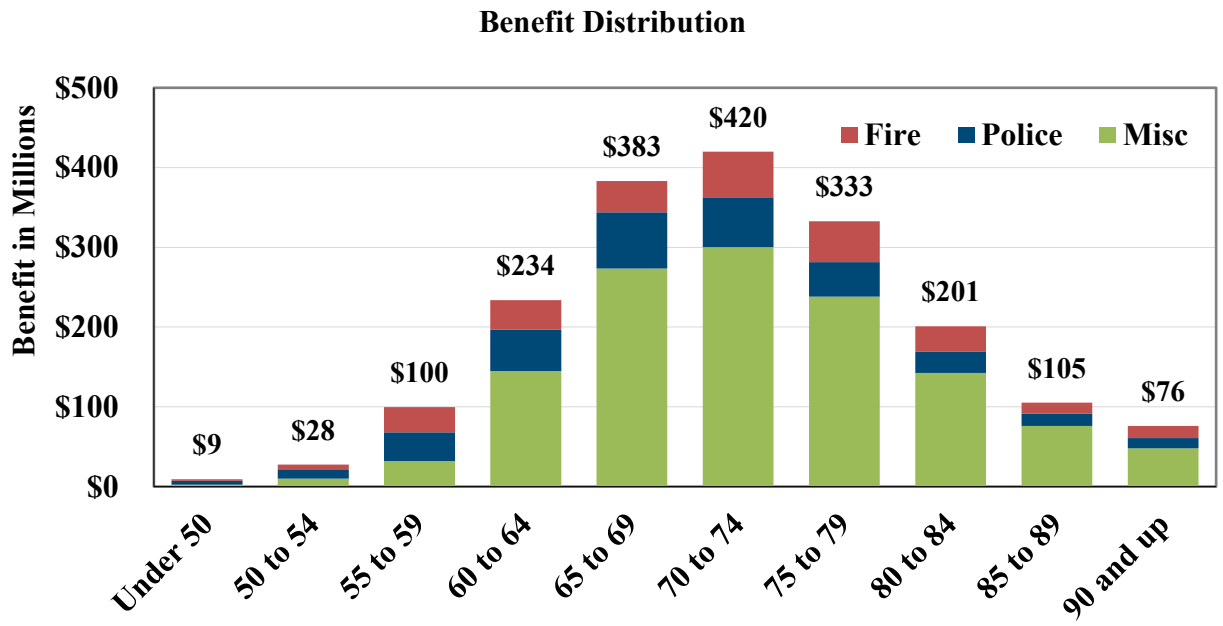


APPENDIX A – MEMBERSHIP INFORMATION

Table A-16
Distribution of Retirees, Disabled Members, and Beneficiaries as of July 1, 2023
Annual Benefit[1]

Age	Police	Fire	Misc	Total
Under 50	$ 4,824,756	$ 1,794,487	$ 2,652,640	$ 9,271,883
50 to 54	10,903,147	6,490,926	10,193,269	27,587,342
55 to 59	35,990,461	31,522,394	32,254,762	99,767,617
60 to 64	51,891,903	36,641,341	145,125,403	233,658,648
65 to 69	70,347,851	39,180,413	273,417,072	382,945,336
70 to 74	62,493,374	57,383,373	300,042,243	419,918,991
75 to 79	43,117,897	51,189,551	238,319,567	332,627,015
80 to 84	26,582,927	31,853,991	142,550,785	200,987,704
85 to 89	15,337,082	13,735,673	76,250,863	105,323,618
90 and up	13,091,028	14,986,193	47,940,110	76,017,331
Total	$ 334,580,428	$ 284,778,342	$ 1,268,746,713	$ 1,888,105,484

[1] *Benefits used in the July 1, 2023 actuarial valuation*



APPENDIX A – MEMBERSHIP INFORMATION

Table A-17
Summary and Reconciliation of Participant Data
Total System

	Active	Vested Terminated	Reciprocal	Non-Vested Terminated	Disabled	Retired	Beneficiaries	Totals
Participants as of 7/1/2022	**33,199**	**3,006**	**1,019**	**8,060**	**2,485**	**24,964**	**4,270**	**77,003**
New Entrants	3,308	1	5	5	0	0	0	3,319
Returned to Work	308	(94)	(9)	(201)	0	(4)	0	0
Vested Terminations	(432)	433	(1)	0	0	0	0	0
Reciprocals	(58)	(1)	69	(10)	0	0	0	0
Non Vested Terminations	(848)	0	0	848	0	0	0	0
Refund/Withdrawal	(364)	(36)	(6)	(275)	0	0	0	(681)
Changes in Inactive Status	0	(75)	142	(65)	0	0	0	2
Retirements	(1,026)	(106)	(33)	(1)	0	1,166	0	0
Disabilities	(24)	(12)	(4)	(4)	104	(60)	0	0
Benefit Ceased[1]	(47)	(11)	(2)	(2)	(82)	(736)	(836)	(1,716)
New Continuants & Dissolutions	0	0	0	0	0	30	783	813
New Split Benefits	0	0	0	0	0	16	0	16
Other Adjustments	0	1	0	0	0	3	1	5
Participants as of 7/1/2023	**34,016**	**3,106**	**1,180**	**8,355**	**2,507**	**25,379**	**4,218**	**78,761**

[1] *Includes deaths and benefits that were terminated or suspended*

APPENDIX A – MEMBERSHIP INFORMATION

Table A-18
Summary and Reconciliation of Participant Data
Police

	Active	Vested Terminated	Reciprocal	Non-Vested Terminated	Disabled	Retired	Beneficiaries	Totals
Participants as of 7/1/2022	**2,269**	**141**	**25**	**210**	**569**	**1,802**	**522**	**5,538**
New Entrants	115	0	0	0	0	0	0	115
Returned to Work	10	(4)	0	(6)	0	0	0	0
Vested Terminations	(36)	36	0	0	0	0	0	0
Reciprocals	(6)	0	16	(10)	0	0	0	0
Non Vested Terminations	(20)	0	0	20	0	0	0	0
Refund/Withdrawal	(15)	0	0	(14)	0	0	0	(29)
Changes in Inactive Status	0	(18)	18	0	0	0	0	0
Retirements	(81)	(1)	(1)	0	0	83	0	0
Disabilities	(15)	(5)	0	(1)	42	(21)	0	0
Benefit Ceased[1]	0	(9)	0	0	(16)	(44)	(64)	(133)
New Continuants & Dissolutions	0	0	0	0	0	9	53	62
New Split Benefits	0	0	0	0	0	1	0	1
Transferred In (From Fire)	0	0	0	0	0	0	0	0
Transferred In (From Misc)	0	1	0	0	0	0	0	1
Transferred Out (To Fire)	0	0	0	0	0	0	0	0
Transferred Out (To Misc)	0	0	0	0	0	0	0	0
Other Adjustments	0	0	0	0	0	0	0	0
Participants as of 7/1/2023	**2,221**	**141**	**58**	**199**	**595**	**1,830**	**511**	**5,555**

[1] *Includes deaths and benefits that were terminated or suspended*

APPENDIX A – MEMBERSHIP INFORMATION

Table A-19
Summary and Reconciliation of Participant Data
Fire

	Active	Vested Terminated	Reciprocal	Non-Vested Terminated	Disabled	Retired	Beneficiaries	Totals
Participants as of 7/1/2022	**1,664**	**44**	**20**	**36**	**645**	**1,238**	**389**	**4,036**
New Entrants	124	0	0	3	0	0	0	127
Returned to Work	1	(1)	0	0	0	0	0	0
Vested Terminations	(1)	1	0	0	0	0	0	0
Reciprocals	0	(1)	1	0	0	0	0	0
Non Vested Terminations	(5)	0	0	5	0	0	0	0
Refund/Withdrawal	(1)	0	0	(1)	0	0	0	(2)
Changes in Inactive Status	0	0	0	0	0	0	0	0
Retirements	(63)	(3)	(3)	0	0	69	0	0
Disabilities	(7)	(1)	0	(2)	30	(20)	0	0
Benefit Ceased[1]	(13)	0	0	0	(21)	(23)	(34)	(91)
New Continuants & Dissolutions	0	0	0	0	0	5	37	42
New Split Benefits	0	0	0	0	0	2	0	2
Transferred In (From Misc)	0	1	0	0	0	0	0	1
Transferred In (From Police)	0	0	0	0	0	0	0	0
Transferred Out (To Misc)	0	(1)	0	0	0	0	0	(1)
Transferred Out (To Police)	0	0	0	0	0	0	0	0
Other Adjustments	0	0	0	0	0	0	0	0
Participants as of 7/1/2023	**1,699**	**39**	**18**	**41**	**654**	**1,271**	**392**	**4,114**

[1] *Includes deaths and benefits that were terminated or suspended*

APPENDIX A – MEMBERSHIP INFORMATION

Table A-20
Summary and Reconciliation of Participant Data
Miscellaneous

	Active	Vested Terminated	Reciprocal	Non-Vested Terminated	Disabled	Retired	Beneficiaries	Totals
Participants as of 7/1/2022	**29,266**	**2,821**	**974**	**7,814**	**1,271**	**21,924**	**3,359**	**67,429**
New Entrants	3,069	1	5	2	0	0	0	3,077
Returned to Work	297	(89)	(9)	(195)	0	(4)	0	0
Vested Terminations	(395)	396	(1)	0	0	0	0	0
Reciprocals	(52)	0	52	0	0	0	0	0
Non Vested Terminations	(823)	0	0	823	0	0	0	0
Refund/Withdrawal	(348)	(36)	(6)	(260)	0	0	0	(650)
Changes in Inactive Status	0	(57)	124	(65)	0	0	0	2
Retirements	(882)	(102)	(29)	(1)	0	1,014	0	0
Disabilities	(2)	(6)	(4)	(1)	32	(19)	0	0
Benefit Ceased[1]	(34)	(2)	(2)	(2)	(45)	(669)	(738)	(1,492)
New Continuants & Dissolutions	0	0	0	0	0	16	693	709
New Split Benefits	0	0	0	0	0	13	0	13
Transferred In (From Fire)	0	1	0	0	0	0	0	1
Transferred In (From Police)	0	0	0	0	0	0	0	0
Transferred Out (To Fire)	0	(1)	0	0	0	0	0	(1)
Transferred Out (To Police)	0	(1)	0	0	0	0	0	(1)
Other Adjustments	0	1	0	0	0	3	1	5
Participants as of 7/1/2023	**30,096**	**2,926**	**1,104**	**8,115**	**1,258**	**22,278**	**3,315**	**69,092**

[1] *Includes deaths and benefits that were terminated or suspended*

APPENDIX A – MEMBERSHIP INFORMATION

Data Assumptions and Methods

In preparing our valuation results, we relied on information supplied by the SFERS staff. This information includes, but is not limited to, plan provisions, employee data, and financial information. Our methodology for obtaining the data used for the valuation is based upon the following assumptions and practices:

- Valuation Salary for the fiscal year ending 6/30/2023 is equal to "Cvd Pay" reported for full-time members hired before the beginning of the previous plan year, and the maximum of "Cvd Pay" and "Calc Pay," which is an annualized pay rate, reported for new hires. A minimum of $45,000 annual pay is used for all active members. Valuation Salary projected forward is the Valuation Salary for the prior fiscal year increased for merit according to our assumptions and for wage inflation in accordance with the latest Memorandum of Understanding (MOUs):

    - Miscellaneous active members
        - 2.50% as of July 1, 2023
        - 2.25% as of January 6, 2024
    - Police and Fire active members
        - 2.50% as of July 1, 2023
        - 2.25% as of January 6, 2024
        - 3.00% as of January 4, 2025
        - 3.00% as of July 1, 2025

- Salary used to determine benefit amounts for active part-time members ("Sch" = "P") is calculated as the greater of "Cvd Pay" and "Calc Pay." The annual projected service for part-time members is the same as the service accrual in the previous year. For all other members, Valuation Salary is used to determine benefit amounts.

- Service for members on the "Active" data file was calculated using the field "Yrs Svc." Any service available for buyback is added to the "Yrs Svc" field and is reflected in the projected benefit.

- Benefits in the valuation data for members in pay status for the Miscellaneous and New Safety Charters include the Basic COLAs effective July 1, 2023.

- The Basic COLAs effective July 1, 2023 and January 6, 2024 for the Old Safety Charter retirees were estimated based on data provided by SFERS and included in the July 1, 2023 benefit.

- No Supplemental COLA benefits were granted as of July 1, 2023. Thus, there were no adjustments made to the benefits provided in the valuation data for a Supplemental COLA.

APPENDIX A – MEMBERSHIP INFORMATION

- Records on the "Active" data file are considered to be Active if they have a status of "AM" or "RT" which mean active, no "Job End Date or the "Job End Date" is after 6/30/2023, and do not have a retiree record and their "Cvd Pay" is greater than $0.

- For accounts having duplicate records based on Social Security Number in the "Active" data file, the records are added together for fields "Cvd Pay," "Contribs," "Interest," "Shortage," "Short Int," and "Yrs Svc." The other data in the record is determined by the record which is considered open ("Plan Stat" = "O") with the most recent "Membership Date."

- Records on the "Active" data file are considered to be Inactive if they have a status of "VM," which means vested or they have a status of "AM" but their "Job End Date" is prior to 6/30/2023, or their "Cvd Pay" is $0. If these inactive members have less than five years of service (non-vested), they are assumed to receive a lump sum distribution on the valuation date. If these inactive members have five or more years of service (vested), they are assumed to have elected a deferred benefit and to retire at age 55 for non-reciprocal Miscellaneous and Safety Prop C members. The assumed retirement age for reciprocal Miscellaneous members is 60. The assumed retirement age for Safety non-Prop C members is 51.

- For Safety members, the deferred benefit is estimated using Final Average Compensation multiplied by years of service (including service purchased) multiplied by the appropriate age factor. For Miscellaneous members, the deferred benefit at retirement is 200% of the member's contribution account balance with interest as of the valuation date projected with the assumed interest crediting rate to the assumed retirement age and then divided by the appropriate annuity factor from Table 12 of the Operating Tables. When there are deferred vested Miscellaneous Prop C members, their deferred benefit will be calculated the same except 200% will be replaced by 150%.

- Members on the "Inactive" data file are assumed to have elected a refund and receive a lump sum distribution on the valuation date if their "Withdrawal Date" is on or after the valuation date. If their "Withdrawal Date" is before the valuation date, they are assumed to have taken a full refund prior to the valuation date.

- Records on the "Retiree" file are considered in pay status if their benefit is not suspended or terminated.

- Members may retire and receive benefits under multiple Charter sections (e.g., a police officer can have two benefits, one for the service during the academy training which is considered Miscellaneous service and a second benefit for all other service as a police officer). For retired or disabled members who are reported with a Safety benefit and a Miscellaneous benefit with less than two years of service, their benefits are added together and valued as a single record under the Safety Charter section. Effective with the July 1, 2023 valuation, beneficiaries and QDROs who are reported with a Safety benefit and a Miscellaneous benefit with less than two years of service, their benefits are added together and valued as a single record under the Safety Charter section if both benefits are linked to

the same member. For all other members who are reported with multiple benefits, we value each component of the member's benefit separately under the applicable Charter section. Consequently, the in-pay member counts reported in this valuation are slightly higher than the actual number of members due to some individual members being reported under multiple groups.

- We assume any member reported in last year's "Retiree" file and not in this year's file is deceased without a beneficiary and is removed from the valuation data.

- We assume all deceased members with payments continuing to a beneficiary have been reported in the "Retiree" file.

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

A. Actuarial Assumptions

All demographic assumptions and the price and wage inflation assumptions were adopted at the December 9, 2020 Board meeting based on our recommendations. Please refer to the demographic experience study report dated August 2020 for the rationale for the demographic assumptions and the presentation dated December 9, 2020 for the rationale for the price and wage inflation assumptions. The discount rate was adopted at the November 10, 2021 Board meeting. Please refer to the October 13, 2021 Board presentation for the rationale for the discount rate. We believe all assumptions are reasonable for the purpose of the measurement.

1. Discount Rate

SFERS assets are assumed to earn 7.20% net of investment expenses.

2. Price Inflation

Consumer Price Inflation: 2.50% compounded annually.

3. Wage Inflation

Bargained future increases as of July 1, 2023 followed by 3.25% compounded annually thereafter.

4. Amortization Payment Increase Rate

Amortization payments increase at the rate of 3.25% compounded annually.

5. Administrative Expenses

Administrative expenses are assumed to equal 0.60% of payroll.

6. Interest Credited to Member Contributions

4.50%, compounded annually.

7. 401(a)(17) Maximum Compensation Limit

The compensation limit in Section 401(a)(17) of the Internal Revenue Code is assumed to increase with price inflation. In the valuation, compensation limits are only applied to members of new plans created by Proposition C for whom compensation is limited to a percentage of the 401(a)(17) compensation limit.

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

8. 415(b) Maximum Benefit Limit

The 415(b) limits have been applied to active members' current and future benefits. The 415(b) limit is assumed to increase with price inflation. The 415(b) limit has also been applied to the retiree members who were in excess of the 415(b) limit in 2021. The projected increase in the 415(b) limit for retirees is the same increase as their Basic COLA which depends on their Charter.

9. Salary Increase Rate

Bargained increases as of July 1, 2023, followed by 3.25% wage inflation compounded annually thereafter, plus an additional merit component based on service. The table below shows the bargained wage increases reflected in this valuation. Muni Drivers and Craft are included with Miscellaneous members.

Table B-1
Current Bargained Wage Increases

Date of Increase	Police	Fire	Misc
7/1/2023	2.50%	2.50%	2.50%
1/6/2024	2.25%	2.25%	2.25%
7/1/2024	N/A	N/A	3.25%
1/4/2025	3.00%	3.00%	N/A
7/1/2025	3.00%	3.00%	N/A

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

The additional merit component:

Table B-2
Salary Merit Increases - Sample Rates

Years of Service	Police	Fire	Muni Drivers	Craft	Misc
0	7.50%	14.00%	16.00%	3.75%	5.50%
1	6.75	10.00	11.00	3.00	4.50
2	6.00	8.00	6.50	2.40	3.75
3	5.25	6.00	3.50	1.80	3.25
4	4.50	5.00	1.75	1.50	2.75
5	3.75	4.00	1.25	1.20	2.25
10	1.50	1.50	0.30	0.50	1.10
15	0.50	0.50	0.00	0.50	0.55
20 & over	0.50	0.50	0.00	0.50	0.30

Extra covered wages in the last year before service retirement are assumed to be as follows:

Table B-3

Safety	3.0%
Muni Drivers	4.5%
Craft Workers	3.0%
Miscellaneous	2.0%

10. Cost-of-Living Increase in Benefits

Basic COLA

Old Plans – Miscellaneous	2.0% per year
New Plans – Police, Fire, and Miscellaneous	2.0% per year
Old Plans – Police and Fire, Charters 8.559 and 8.585	3.6% per year
Old Plans – Police and Fire, Charters 8.595 and 8.596	2.5% per year
Old Plans – Police and Fire, pre-7/1/75 dates of retirement	1.9% per year

Old Safety COLA assumptions are based on the following formula rounded up to one decimal place:

(Wage Inflation + Ultimate Merit) ÷ 2 x Factor

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

For retirements after 6/30/75, the Factor represents the ratio of the average salary for the last position held to the average pension benefit.

For Charters 8.559 and 8.585, the factor is 1.9
For Charters 8.595 and 8.596, the factor is 1.3
For pre-7/1/75 dates of retirement, the factor is 1.0

Supplemental COLA

For purposes of the actuarial valuation and the determination of contribution rates for FYE 2025, future Supplemental COLAs are assumed to be 0%.

For purposes of the projections, in years when the return equals the assumption, future Supplemental COLAs are assumed to be granted approximately:

- 50% of the time for members who are eligible for a Supplemental COLA regardless of the System's funded status, and
- 33.3% of the time for members who are eligible for a Supplemental COLA only if the System is also 100% funded.

In years when the return differs from the assumption, Supplemental COLAs are estimated based on the investment return.

11. Rates of Termination of Employment

Sample rates of termination by age and service for Miscellaneous members are shown below.

Table B-4
Misc. Rates of Termination by Age and Service Years

	Age		
Service	Under 30	30 to 39	40 & over
0	38.00%	24.00%	20.00%
1	20.00	12.00	9.00
2	14.00	9.00	6.00
3	10.00	7.00	4.80
4	7.50	6.50	4.60
5	6.75	6.00	4.40
10	3.75	3.75	3.75
15	2.25	2.25	2.25
20+	1.00	1.00	1.00

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

Sample rates of termination by service for Police, Fire, Muni Drivers, and Craft members are shown below.

Table B-5
Rates of Termination

Service	Police	Fire	Muni Drivers	Craft
0	8.00%	2.50%	12.00%	9.50%
1	5.00	1.00	5.00	6.50
2	2.00	1.00	4.00	5.75
3	1.50	1.00	3.50	4.50
4	1.00	1.00	3.25	3.50
5	1.00	1.00	3.00	3.25
10	0.75	0.50	2.50	1.75
15	0.50	0.25	2.50	1.75
20+	0.50	0.25	2.50	1.75

When members are eligible to retire, it is assumed that their termination rates are zero. 20% of Miscellaneous, Muni Drivers, and Craft and 40% of Safety terminating employees are assumed to subsequently work for a reciprocal employer and receive pay increases equal to the wage inflation assumption.

In estimating termination benefits for Miscellaneous members, it is assumed that employee contribution rates are, on average, not changed by the floating contribution rate provisions of Proposition C.

12. Member Refunds

Non-vested terminated members are assumed to receive a refund of their contributions with interest. Sample rates of refund for terminated vested members are shown below. Muni Drivers and Craft members are included with Miscellaneous members.

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

Table B-6
Vested Terminated Rates of Refund

Service	Police & Fire	Miscellaneous
5	24.0%	20.0%
6	20.0	15.0
7	16.0	12.0
8	12.0	10.0
9	8.0	9.0
10	4.0	8.5
15	0.0	6.0
20	0.0	0.0

In estimating refund amounts, it is assumed that future employee contribution rates are, on average, not changed by the floating contribution rate provisions of Proposition C.

13. Rates of Disability

Sample disability rates of active participants are provided below. 100% of safety and 0% of Muni Driver, Craft, and Miscellaneous disabilities are assumed to be duty related.

Table B-7
Rates of Disability at Selected Ages

Age	Police	Fire	Muni Drivers	Craft	Misc Females	Misc Males
30	0.05%	0.04%	0.01%	0.01%	0.01%	0.01%
35	0.14	0.09	0.06	0.06	0.04	0.04
40	0.35	0.24	0.11	0.11	0.07	0.08
45	0.44	0.42	0.17	0.20	0.15	0.11
50	0.90	0.84	0.45	0.40	0.40	0.28
55	3.30	3.50	1.35	0.75	0.55	0.45
60	5.75	7.30	0.00	0.00	0.00	0.00
65	0.00	0.00	0.00	0.00	0.00	0.00

Table B-8
Level of duty disability benefits
(if projected to be disabled before service retirement eligibility)

Police	55% of pay
Fire	55% of pay

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

14. Base Rates of Mortality for Healthy Lives

The mortality rates used in the valuation are developed from a base table that is projected generationally from the base year of that table using the mortality projection scale described on the following page. Base mortality tables are developed by multiplying a published table by an adjustment factor that was developed in the experience study for the period ending June 30, 2019. The base mortality tables for healthy lives are described on the following page.

Table B-9

	Published Table	Adjustment Factor Male	Adjustment Factor Female
Non-Annuitants			
Miscellaneous	PubG-2010 Employee	0.834	0.866
Safety	PubS-2010 Employee	1.011	0.979
Retirees			
Miscellaneous	PubG-2010 Retiree	1.031	0.977
Safety	PubS-2010 Retiree	0.947	1.044
Beneficiaries			
Miscellaneous	PubG-2010 Retiree	1.031	0.977
Safety	PubG-2010 Retiree	1.031	0.977

Muni Drivers and Craft members are included with Miscellaneous members for mortality assumptions. For active members, 25% of Safety deaths and 0% of Miscellaneous (including Muni Drivers and Craft) deaths are assumed to be duty related.

15. Base Rates of Mortality for Retired Disabled Lives

For disabled annuitant mortality, separate base tables are developed for males and females and for Miscellaneous (including Muni Drivers and Craft) and Safety members by multiplying a published table by an adjustment factor that was developed in the experience study for the period ending June 30, 2019. The base mortality tables for disabled annuitant lives are described below.

Table B-10

	Published Table	Adjustment Factor Male	Adjustment Factor Female
Disabled Annuitants			
Miscellaneous	PubG-2010 Disabled	1.045	1.003
Safety	PubS-2010 Disabled	0.916	0.995

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

16. Mortality Projection Scale

The mortality rates shown in the base tables above are projected generationally from the base year using the MP-2019 projection scale.

17. Rates of Retirement

Rates of retirement are based on age and service according to the tables on the following pages. Separate rates are used for members hired on or after January 7, 2012 under Charter Sections A8.603 and above (Prop C).

Table B-11
Police Rates of Retirement

	Other than Prop C Years of Service			Prop C Years of Service		
Age	< 25	25 - 29	30 +	< 25	25 - 29	30 +
50	1.50%	5.00%	5.00%	1.50%	5.00%	5.00%
51	1.50	5.00	15.00	1.50	5.00	10.00
52	2.00	7.50	20.00	2.00	7.50	20.00
53	5.00	20.00	40.00	5.00	15.00	25.00
54	7.50	22.00	50.00	7.50	17.50	30.00
55	7.50	35.00	50.00	7.50	20.00	35.00
56	7.50	26.00	40.00	7.50	24.00	35.00
57	10.00	28.00	45.00	10.00	26.00	40.00
58	10.00	30.00	45.00	10.00	35.00	60.00
59	15.00	25.00	45.00	15.00	25.00	45.00
60	20.00	34.00	45.00	20.00	34.00	45.00
61	10.00	36.00	40.00	10.00	36.00	40.00
62	15.00	36.00	40.00	15.00	36.00	40.00
63	12.50	36.00	40.00	12.50	36.00	40.00
64	12.50	36.00	40.00	12.50	36.00	40.00
65 & over	100.00	100.00	100.00	100.00	100.00	100.00

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

Table B-12
Fire Rates of Retirement

	Other than Prop C Years of Service			Prop C Years of Service		
Age	< 25	25 - 29	30 +	< 25	25 - 29	30 +
50	2.00%	5.00%	5.00%	2.00%	2.00%	2.00%
51	1.00	5.00	5.00	1.00	2.00	2.00
52	2.00	5.00	5.00	2.00	5.00	5.00
53	3.00	5.00	15.00	3.00	5.00	12.50
54	7.50	20.00	35.00	7.50	12.50	20.00
55	7.50	25.00	35.00	7.50	15.00	25.00
56	7.50	20.00	35.00	7.50	15.00	30.00
57	12.50	20.00	35.00	12.50	15.00	30.00
58	12.50	20.00	25.00	12.50	30.00	35.00
59	12.50	25.00	25.00	12.50	25.00	25.00
60	15.00	25.00	35.00	15.00	25.00	35.00
61	15.00	40.00	40.00	15.00	40.00	40.00
62	15.00	40.00	40.00	15.00	40.00	40.00
63	15.00	20.00	25.00	15.00	20.00	25.00
64	20.00	20.00	25.00	20.00	20.00	25.00
65 & over	100.00	100.00	100.00	100.00	100.00	100.00

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

Table B-13
Muni Drivers Rates of Retirement

	Other than Prop C Years of Service			Prop C Years of Service		
Age	< 20	20 - 29	30 +	< 20	20 - 29	30 +
50	0.00%	1.00%	1.50%	0.00%	0.00%	0.00%
51	0.00	1.00	1.50	0.00	0.00	0.00
52	0.00	1.00	1.50	0.00	0.00	0.00
53	0.00	1.00	1.50	0.00	1.00	1.50
54	0.00	1.00	1.50	0.00	1.00	1.50
55	0.00	4.00	5.00	0.00	1.00	5.00
56	0.00	4.00	5.00	0.00	1.00	5.00
57	0.00	4.00	5.00	0.00	2.00	5.00
58	0.00	4.00	5.00	0.00	2.00	5.00
59	0.00	4.00	5.00	0.00	2.00	5.00
60	10.00	10.00	20.00	5.00	10.00	15.00
61	12.50	25.00	30.00	7.50	12.50	20.00
62	20.00	32.50	35.00	10.00	15.00	30.00
63	15.00	30.00	30.00	10.00	20.00	25.00
64	15.00	30.00	30.00	10.00	25.00	25.00
65	27.50	30.00	35.00	27.50	30.00	40.00
66	27.50	30.00	35.00	27.50	30.00	35.00
67	27.50	30.00	35.00	27.50	30.00	35.00
68	27.50	30.00	35.00	27.50	30.00	35.00
69	27.50	30.00	35.00	27.50	30.00	35.00
70 & over	100.00	100.00	100.00	100.00	100.00	100.00

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

Table B-14
Craft Rates of Retirement

	Other than Prop C Years of Service			Prop C Years of Service		
Age	< 20	20 - 29	30 +	< 20	20 - 29	30 +
50	0.00%	1.50%	1.50%	0.00%	0.00%	0.00%
51	0.00	1.50	1.50	0.00	0.00	0.00
52	0.00	1.50	1.50	0.00	0.00	0.00
53	0.00	2.50	4.00	0.00	1.50	1.50
54	0.00	2.50	4.00	0.00	1.50	1.50
55	0.00	2.50	5.00	0.00	1.50	2.50
56	0.00	3.00	5.00	0.00	1.50	2.50
57	0.00	3.00	5.00	0.00	2.00	2.50
58	0.00	3.00	5.00	0.00	2.00	5.00
59	0.00	8.00	20.00	0.00	2.00	10.00
60	7.50	12.00	32.50	5.00	7.50	15.00
61	10.00	20.00	35.00	7.50	12.50	20.00
62	20.00	30.00	37.50	17.50	25.00	30.00
63	10.00	25.00	30.00	10.00	17.50	25.00
64	17.50	25.00	30.00	10.00	17.50	25.00
65	25.00	27.50	30.00	25.00	30.00	40.00
66	27.50	30.00	32.50	27.50	30.00	32.50
67	27.50	30.00	32.50	27.50	30.00	32.50
68	15.00	25.00	30.00	15.00	25.00	30.00
69	15.00	25.00	30.00	15.00	25.00	30.00
70 & over	100.00	100.00	100.00	100.00	100.00	100.00

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

Table B-15
Miscellaneous Rates of Retirement

	Other than Prop C Years of Service			Prop C Years of Service		
Age	< 20	20 - 29	30 +	< 20	20 - 29	30 +
50	0.00%	2.75%	3.50%	0.00%	0.00%	0.00%
51	0.00	2.50	3.50	0.00	0.00	0.00
52	0.00	2.50	3.50	0.00	0.00	0.00
53	0.00	3.25	3.50	0.00	3.25	3.25
54	0.00	4.00	4.00	0.00	4.00	4.00
55	0.00	4.00	5.50	0.00	4.00	4.00
56	0.00	4.25	6.75	0.00	4.25	4.25
57	0.00	4.50	8.75	0.00	4.50	4.50
58	0.00	5.00	10.00	0.00	5.00	7.50
59	0.00	8.75	20.00	0.00	8.75	10.00
60	9.00	11.50	30.00	7.50	10.00	12.50
61	13.25	20.00	35.00	10.00	15.00	15.00
62	20.00	30.00	35.00	17.50	25.00	25.00
63	16.00	22.50	30.00	12.50	17.50	20.00
64	16.00	22.50	30.00	12.50	17.50	20.00
65	20.00	30.00	30.00	25.00	40.00	40.00
66	25.00	30.00	35.00	25.00	30.00	35.00
67	25.00	30.00	35.00	25.00	30.00	35.00
68	20.00	30.00	30.00	20.00	30.00	30.00
69	20.00	30.00	30.00	20.00	30.00	30.00
70	25.00	25.00	30.00	25.00	25.00	30.00
71	25.00	25.00	30.00	25.00	25.00	30.00
72	25.00	25.00	30.00	25.00	25.00	30.00
73	25.00	25.00	30.00	25.00	25.00	30.00
74	25.00	25.00	30.00	25.00	25.00	30.00
75 & over	100.00	100.00	100.00	100.00	100.00	100.00

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

The assumed retirement age for inactive terminated vested members and actives who are expected to terminate is shown below. Muni Drivers and Craft members are included with Miscellaneous members.

Table B-16
Deferred Retirement Age

	Non-Prop C	Prop C
Safety	51	55
	Non-Reciprocal	**Reciprocal**
Miscellaneous	55	60

18. Family Composition

The percentage assumed to be married (including assumption for Domestic Partners, 1994 Proposition H) is shown below. Spouses of male members are assumed to be three years younger than the member and spouses of female members are assumed to be two years older than the member. Muni Drivers and Craft members are included with Miscellaneous members.

Table B-17
Percentage Married

Safety Males	80%
Safety Females	60
Miscellaneous Males	75
Miscellaneous Females	55

19. Deferred Member Benefit Amount

The benefit was estimated based on information provided by SFERS staff. The data used to estimate the deferred benefit were date of birth, date of hire, date of termination, and last pay. Based on the data provided, service credit, highest average salary, and deferred retirement age were estimated. The estimates were used to compute the retirement benefit, upon which the liabilities are based. For those members without sufficient data or service, accumulated member contribution balances, with interest, were used as the Actuarial Liability.

20. Timing of Contributions

Employer and employee contributions are made throughout the year.

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

21. Changes Since Last Valuation

None.

B. Contribution Allocation Procedure

The contribution allocation procedure primarily consists of an actuarial cost method, an asset smoothing method, and an amortization method as described below. This contribution allocation procedure, combined with reasonable assumptions, produces a Reasonable Actuarially Determined Contribution as defined in Actuarial Standard of Practice No. 4. The contribution allocation procedure was selected to balance benefit security, intergenerational equity, and the stability of actuarially determined contributions. The selection also considered the demographics of plan members, the funding goals and objectives of the Board, and the need to accumulate assets to make benefit payments when due. All components of the contribution allocation procedure were established prior to the July 1, 2008 actuarial valuation except the amortization method, which was most recently modified by the Board at their November 10, 2021 meeting.

1. Actuarial Cost Method

The Entry Age Actuarial Cost Method was used for active employees, whereby the normal cost is computed as the level annual percentage of pay required to fund the retirement benefits between each member's date of hire and assumed termination of employment. The normal costs calculated relate only to current member payroll. The Actuarial Liability is the difference between the present value of future benefits and the present value of future normal cost.

2. Asset Valuation Method

For the purposes of determining the Employer's contribution to SFERS, we use a smoothed Actuarial Value of Assets to dampen the volatility in asset values that could occur because of fluctuations in market conditions. Use of an asset smoothing method is consistent with the long-term nature of the actuarial valuation process.

The actuarial value is calculated by recognizing 20% of each of the past five years of actual investment returns compared to the expected return (7.20% for the years ending 2022-2023, 7.40% for the years ending 2019-2021) on the actuarial asset value. The expected return on Actuarial Value of Assets is determined using SFERS actual cash flows and the assumed return. The balance of the actual investment experience is recognized in a similar fashion in future years.

This asset smoothing method started with the market value as of July 1, 2004.

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

3. Amortization Method

Any Charter change prior to July 1, 2014 has been amortized over 20 years from the date it was first recognized in the valuation. After July 1, 2014, any changes to active member benefits are amortized over a closed 15-year period, and any new changes to inactive or retired member benefits, including Supplemental COLAs, are amortized over a closed five-year period.

The UAL not attributable to Charter changes as of July 1, 2013, was amortized over a closed 19-year period as of July 1, 2014. Any sources of UAL due to actuarial gains and losses, assumption changes, or method changes are amortized over closed, layered 20-year periods.

If the System becomes 100% funded based on the Actuarial Value of Assets, any subsequent unexpected changes in the UAL are amortized over a rolling 20-year period until the System is no longer 100% funded.

Effective with the July 1, 2021 valuation, the remaining amortization periods for assumption changes prior to July 1, 2021 and all prior actuarial gains and losses (including the gain for 2021) were reduced to five years.

All amortization payment amounts increase each year at the assumed wage inflation rate.

4. Changes Since Last Valuation

None.

APPENDIX C – SUMMARY OF PLAN PROVISIONS
(OLD POLICE AND FIRE)

I. Old Police and Fire Members – Charter Sections 8.559 and 8.595 (Police) and 8.585 and 8.596 (Fire)

1. Membership Requirement

Charter Sections 8.559 and 8.585
Police Officers and Firefighters who became members before November 2, 1976 and retired on or before December 31, 2002 without electing membership in another Section.

Charter Sections 8.595 and 8.596
Active members on November 5, 2002 in Section 8.559 (Police) or Section 8.585 (Fire) who elected to switch to Section 8.595 (Police) or Section 8.596 (Fire) by December 31, 2002.

2. Final Compensation

Monthly salary earnable at the final rank held at termination date, or monthly salary at next lower rank if final rank held for less than one year.

3. Credited Service

One year of service credit is given for each fiscal year with 10 or more full months worked. A partial year (fraction with the numerator equal to months including partial months, and the denominator equal to 10) is given for each fiscal year with less than 10 full months worked.

4. Member Contributions

a. Member:
7.0% of salary, excluding overtime and most premium pay. These contributions are credited with interest annually as determined by the Board.

Charter Sections 8.585, 8.595, and 8.596
Depending on the employer contribution rate, the member contribution rate can increase or decrease by up to 6% of pay.

b. Employer:

The Employer contributes the remaining amounts necessary to maintain the soundness of the Retirement System. Any decrease in the member contribution rate is paid by the City.

APPENDIX C – SUMMARY OF PLAN PROVISIONS
(OLD POLICE AND FIRE)

5. Service Retirement

Eligibility

Age 50 with 25 years of Credited Service.

Benefit – Member

Charter Sections 8.559 and 8.585
55% of Final Compensation plus an additional 4% of Final Compensation for each year of credited service in excess of 25 years, subject to a maximum of 75% of Final Compensation.

Charter Sections 8.595 and 8.596
A specified percent of Final Compensation based on the member's age at retirement (factors shown in Table C-1 below) for each year of Credited Service, subject to a maximum of 90% of Final Compensation.

Table C-1
San Francisco City and County Employees' Retirement System
Sections 8.595 (Police) and 8.596 (Fire) – Service Retirement Factors

Retirement Age	Retirement Factors
50	2.40%
51	2.52%
52	2.64%
53	2.76%
54	2.88%
55 or above	3.00%

Benefit – Survivor

75% of the service retirement benefit paid to a qualified survivor.

APPENDIX C – SUMMARY OF PLAN PROVISIONS
(OLD POLICE AND FIRE)

6. Non-Industrial Disability

Eligibility

10 years of Credited Service.

Benefit – Member

At least 10 but less than 25 years of Credited Service:
1.5% of Final Compensation for each year of Credited Service between 10 and 25 years, subject to a minimum of 33.3% and a maximum of 75% of Final Compensation for Charter Sections 8.559 and 8.585 or 90% of Final Compensation for Charter Sections 8.595 and 8.596.

At least 25 years of Credited Service:
Service retirement benefit determined at date of disability.

Benefit – Survivor

75% of the disability retirement benefit paid to a qualified survivor.

7. Industrial Disability

Eligibility

No age or service requirement.

Benefit – Member

If Not Eligible for Service Retirement:
Final Compensation times a percentage of disability, subject to a minimum of 50% and a maximum of 90%, as determined by the Workers' Compensation Appeals Board. Once the member becomes eligible for service retirement, assuming that member earned service and salary increases during the period of disability, the benefit is recalculated using the service and salary rate for the current rank held. The recalculated benefit is based on a minimum of 55% of Final Compensation.

If Eligible for Service Retirement:
Service retirement benefit determined at date of disability, but not less than 55% of Final Compensation.

APPENDIX C – SUMMARY OF PLAN PROVISIONS
(OLD POLICE AND FIRE)

Benefit – Survivor

If Not Eligible for Service Retirement:
100% of the disability retirement benefit paid to a qualified survivor. Once the member would have become eligible for service retirement, assuming that member earned service and salary increases from the date of disability to the eligible service retirement date, the benefit is recalculated at 100% of the service retirement benefit, using the service and salary at the eligible service retirement date, not less than 55% of Final Compensation.

If Eligible for Service Retirement:
100% of the disability retirement benefit paid to a qualified survivor, not less than 55% of Final Compensation.

8. Death while an Active Employee

If Death is due to a Non-Work-Related Cause:

a. Less than 10 Years of Credited Service, or No Qualified Survivor – Lump sum benefit equal to the accumulated refund of all employee contributions with interest, plus six months' salary to a designated beneficiary.

b. At least 10 but less than 25 years of Credited Service – Monthly continuation allowance to a qualified survivor equal to the non-industrial disability benefit the member would have been entitled to on the date of death, subject to a minimum of 33.3% of compensation at the time of death.

c. At Least 25 Years of Credited Service but Less than Age 50 – Monthly continuation allowance to a qualified survivor equal to 75% of the monthly service retirement benefit the member would have received had the member been age 50 and retired on the date of death.

d. Eligible for Service Retirement – Monthly continuation allowance to a qualified survivor equal to 75% of the monthly service retirement benefit the member would have received had the member been retired on the date of death.

If Death is due to a Work-Related Cause:

a. No Qualified Survivor – Lump sum benefit equal to the accumulated refund of all employee contributions with interest, plus six months' salary to a designated beneficiary. If the death is of a violent nature, an additional lump sum equivalent benefit equal to 12 months' salary is payable.

b. Qualified Survivor and Not Eligible for Service Retirement – Monthly continuation allowance to a qualified survivor equal to the salary at the date of death. Once the member would have become eligible for service retirement, assuming that member earned service and salary increases from the date of death to the eligible service retirement date, the benefit is recalculated at 100% of the service retirement benefit, using the service and salary at the eligible service retirement date, such allowance shall not be less than 55% of Final Compensation.

c. Qualified Survivor and Eligible for Service Retirement – Monthly continuation allowance to a qualified survivor equal to 100% of the monthly service retirement benefit the member would have received had the member been retired on the date of death, but such allowance shall not be less than 55% of Final Compensation.

9. Withdrawal Benefits

Less than five years of Credited Service:
Lump sum benefit equal to the accumulated employee contributions with interest.

Five or more years of Credited Service:
The member may choose one of the following:

a. Lump sum benefit equal to the accumulated employee contributions with interest.

b. ***Charter Sections 8.559 and 8.585:*** Retirement benefit first payable at age 50 equal to 55% of Final Compensation at termination, multiplied by a service fraction, the numerator being the Credited Service of the member at termination, and a denominator of 25.

Charter Sections 8.595 and 8.596: A specified percent of Final Compensation based on the member's age at retirement (factors shown in Table C-1) for each year of Credited Service, subject to a maximum of 90% of Final Compensation.

Cost-of-living adjustments are prorated if the member's accrued service is less than 25 years. COLA will be multiplied by a fraction where the denominator is 25 and the numerator is equal to service at date of termination.

10. Additional Post-retirement Death Benefit

A death benefit payable as a lump sum equal to $100 for each full year of Credited Service, subject to a maximum of $3,000, will be paid to a qualified survivor upon the member's death.

APPENDIX C – SUMMARY OF PLAN PROVISIONS
(OLD POLICE AND FIRE)

11. Post-retirement Cost-of-Living Benefit

Basic

Monthly benefits are adjusted by 50% of the actual dollar increase or decrease (50% of the percentage increase or decrease, applied to the monthly benefits excluding Supplemental COLA amounts, for members under Proposition H) in the salary rank or position the member's Final Compensation used to calculate the monthly benefit was based on. A member's monthly benefit will never decrease below its original amount.

Supplemental

Effective July 1 of each fiscal year, if the Retirement System was fully funded based on the Market Value of Assets for the previous year and there are sufficient "excess" investment earnings on the Retirement fund for the previous fiscal year-end, the adjustment could be increased to 3.5% of that member's current monthly benefit less the amount of the Basic COLA above. If "excess" earnings are insufficient to fund a 3.5% increase, then to the extent of "excess" earnings, benefits are increased in increments of 0.5% up to a maximum of 3.5%. For members who worked after November 6, 1996, and before Proposition C passed in 2012, the Supplemental COLA is payable if there are "excess" investment earnings regardless of whether or not the System was fully funded.

12. Changes in this Valuation

None.

APPENDIX C – SUMMARY OF PLAN PROVISIONS
(NEW POLICE AND FIRE)

II. New Police and Fire Members – Charter Sections (Police) 8.586, 8.597, 8.602, and 8.605; (Fire) 8.588, 8.598, 8.601, and 8.604; (Sheriff's Department) 8.608; (Miscellaneous Safety) 8.610

1. Membership Requirement

Charter Sections 8.586 and 8.588
Police Officers and Firefighters who became members on or after November 2, 1976.

Charter Sections 8.597 and 8.598
Active members on January 1, 2003 in Section 8.586 (Police) or Section 8.588 (Fire) who had elected to switch to Section 8.597 (Police) or Section 8.598 (Fire) by December 31, 2002; or, new members becoming active on or after January 1, 2003 in Section 8.597 (Police) or Section 8.598 (Fire).

Charter Sections 8.601 and 8.602
Persons who become members of the fire or police department on or after July 1, 2010 and prior to January 7, 2012.

Charter Sections 8.604 and 8.605
Persons who become members of the fire or police department on or after January 7, 2012.

Charter Section 8.608
Sheriff, undersheriffs, and all deputized personnel of the sheriff's department hired on or after January 7, 2012.

Charter Section 8.610
Miscellaneous Safety members hired on or after January 7, 2012.

2. Final Compensation

Charter Sections 8.586, 8.588, 8.597, and 8.598
Average monthly total compensation earnable during any 12 months of Credited Service which average compensation is the highest.

(Pre 1998 – three- year average of monthly compensation)

Charter Sections 8.601 and 8.602
Average monthly total compensation earnable during the higher of any two consecutive fiscal years of earnings or the twenty-four months of earnings immediately prior to retirement.

APPENDIX C – SUMMARY OF PLAN PROVISIONS
(NEW POLICE AND FIRE)

Charter Sections 8.604, 8.605, 8.608, and 8.610
Average monthly total compensation earnable during the higher of any three consecutive fiscal years of earnings or the thirty-six months of earnings immediately prior to retirement. Compensation for any fiscal year shall not include remuneration that exceeds 75% of the IRC 401(a)(17) compensation limit.

3. Credited Service

One year of service credit is given for each fiscal year with 10 or more full months worked. A partial year (fraction with the numerator equal to months including partial months, and the denominator equal to 10) is given for each fiscal year with less than 10 full months worked.

4. Member Contributions

a. Member:

Charter Sections 8.586, 8.588, 8.597, and 8.598
7.5% of salary, excluding overtime and most premium pay. These contributions are credited with interest annually as determined by the Board.

Depending on the employer contribution rate, the member contribution rate can increase or decrease by up to 6% of pay.

Charter Sections 8.601, 8.602, 8.604, 8.605, 8.608, and 8.610
9.0% of salary, excluding overtime and most premium pay. These contributions are credited with interest annually as determined by the Board.

Depending on the employer contribution rate, the member contribution rate can increase or decrease by up to 4% of pay if the base pay rate is less than $48 per hour or up to 5% of pay if the base pay rate is at or greater than $48 per hour.

b. Employer:

The Employer contributes the remaining amounts necessary to maintain the soundness of the Retirement System. Any decrease in the member contribution rate is paid by the City.

APPENDIX C – SUMMARY OF PLAN PROVISIONS
(NEW POLICE AND FIRE)

5. Service Retirement

Eligibility

Age 50 with five years of Credited Service. ***(Pre 1998 – 50 with 25 years of Credited Service)***

Benefit – Member

Charter Sections 8.586 and 8.588
The monthly service retirement benefit is the greater of i) and ii) below, subject to a maximum of 75% of Final Compensation ***(Pre 1998 – 70%)***

i) 2% of Final Compensation for each of the first 25 years of service plus an additional 3% of Average Compensation for each year of Credited Service in excess of 25 years; ***(Pre 1998 – benefit is calculated under i) only);***

ii) A specified percent of Final Compensation based on the member's age at retirement (factors shown in Table C-2 below) for each year of Credited Service.

Table C-2
San Francisco City and County Employees' Retirement System
Sections 8.586 (Police) and 8.588 (Fire) – Service Retirement Factors

Retirement Age	Retirement Factors
50	2.00%
51	2.14%
52	2.28%
53	2.42%
54	2.56%
55 or above	2.70%

APPENDIX C – SUMMARY OF PLAN PROVISIONS
(NEW POLICE AND FIRE)

Charter Sections 8.597, 8.598, 8.601, and 8.602

A specified percent of Final Compensation based on the member's age at retirement (factors shown in Table C-3 below) for each year of Credited Service, subject to a maximum of 90% of Final Compensation.

Table C-3
San Francisco City and County Employees' Retirement System
Sections 8.597 and 8.601 (Police), 8.598 and 8.602 (Fire)
Service Retirement Factors

Retirement Age	Retirement Factors
50	2.40%
51	2.52%
52	2.64%
53	2.76%
54	2.88%
55 or above	3.00%

Charter Sections 8.604, 8.605, and 8.608

A specified percent of Final Compensation based on the member's age at retirement (factors shown in Table C-4 below) for each year of Credited Service, subject to a maximum of 90% of Final Compensation.

Table C-4
San Francisco City and County Employees' Retirement System
Sections 8.605 (Police), 8.604 (Fire) and 8.608 (Sheriff's Department) –
Service Retirement Factors

Retirement Age	Retirement Factors
50	2.20%
51	2.30%
52	2.40%
53	2.50%
54	2.60%
55	2.70%
56	2.80%
57	2.90%
58 and above	3.00%

APPENDIX C – SUMMARY OF PLAN PROVISIONS
(NEW POLICE AND FIRE)

Charter Sections 8.610

A specified percent of Final Compensation based on the member's age at retirement (factors shown in Table C-5 below) for each year of Credited Service, subject to a maximum of 90% of Final Compensation.

Table C-5
San Francisco City and County Employees' Retirement System
Section 8.610 (Miscellaneous Safety) – Service Retirement Factors

Retirement Age	Retirement Factors
50	1.800%
51	1.912%
52	2.020%
53	2.132%
54	2.244%
55	2.356%
56	2.468%
57	2.590%
58 or above	2.700%

Benefit – Survivor

50% of the service retirement benefit paid to a qualified survivor.

6. Non-Industrial Disability

Eligibility

10 years of Credited Service.

Benefit – Member

1.5% of Average Compensation for each year of Credited Service, subject to a minimum of 33.3% of Final Compensation, subject to a maximum of 75% of Final Compensation for Charter Sections 8.586 and 8.588 or 90% of Final Compensation for all other Charter Sections.

Benefit – Survivor

50% of the disability retirement benefit paid to a qualified survivor.

APPENDIX C – SUMMARY OF PLAN PROVISIONS
(NEW POLICE AND FIRE)

7. Industrial Disability

Eligibility

No age or service requirement.

Benefit – Member

Less than age 50 with 25 Years of Service:
Final Compensation times a percentage of disability, subject to a minimum of 50% and a maximum of 90%, as determined by the Workers' Compensation Appeals Board. If the member is age 50 with five years of service, the disability benefit is the service retirement allowance, but not less than 50% of Final Compensation. Once the member becomes eligible for qualified service retirement, assuming that member earned service and salary increases during the period of disability, the benefit is recalculated using the service and salary rate for the rank held at retirement. The recalculated benefit is based on a minimum of 50% of Final Compensation (not to exceed 90% of Final Compensation for Charter Sections 8.597, 8.598, 8.601, 8.602, 8.608, and 8.610).

Age 50 with 25 Years of Service:
The service retirement allowance, but not less than 50% of Final Compensation.

Benefit – Survivor

75% of the disability retirement benefit paid to a qualified survivor.

8. Death while an Active Employee

If Death is Due to a Non-Work-Related Cause:

a. Less than 10 Years of Credited Service, or No Qualified Survivor – Lump sum benefit equal to the accumulated refund of all employee contributions with interest, plus six months' salary to a designated beneficiary.

b. At least 10 but less than 25 years of Credited Service – Monthly continuation allowance to a qualified survivor equal to the non-industrial disability benefit the member would have been entitled to on the date of death, subject to a minimum of 33.3% of Average Compensation at the time of death.

c. At Least 25 Years of Credited Service but Less than Age 50 – Monthly continuation allowance to a qualified survivor equal to 50% of the monthly service retirement benefit the member would have received had the member been age 50 and retired on the date of death.

d. Age 50 with 25 Years of Credited Service – Monthly continuation allowance to a qualified survivor equal to 50% of the monthly service retirement benefit the member would have received had the member been retired on the date of death.

If Death is Due to a Work-Related Cause:

a. No Qualified Survivor – Lump sum benefit equal to the accumulated refund of all employee contributions with interest, plus six months' salary to a designated beneficiary. For Charter Sections 8.586 and 8.588, if the death is of a violent nature, an additional lump sum equivalent benefit equal to 12 months' salary is payable.

b. Qualified Survivor and Less than Age 50 with 25 Years of Service – Monthly continuation allowance to a qualified survivor equal to 100% ***(Pre 1998 – 75%)*** of Final Compensation at the date of death. Once the member would have completed 25 years of service and attained age 50, assuming that member earned service and salary increases from the date of death to the eligible service retirement date, the benefit is recalculated at 100% of the service retirement benefit, using the service and salary at the eligible service retirement date. Such allowance shall not be less than 50% of Final Compensation (For Chapter Sections 8.597, 8.598, 8.601, 8.602, 8.608, and 8.610 not to exceed 90% of Final Compensation).

c. Qualified Survivor and Age 50 with 25 Years of Service – Monthly continuation allowance to a qualified survivor equal to 100% ***(Pre 1998 – 75%)*** of the monthly service retirement benefit the member would have received had the member been retired on the date of death, not less than 50% of Final Compensation.

9. Withdrawal Benefits

Less than five years of Credited Service:
Lump sum benefit equal to the accumulated employee contributions with interest.

Five or more years of Credited Service:
The member may choose one of the following:

a. Lump sum benefit equal to the accumulated refund all of employee contributions with interest.

b. ***Charter Sections 8.586 and 8.588*****:** Retirement benefit first payable at age 50 equal to 2% of Final Compensation at termination for each year of credited service of the member at the date of termination.

Charter Sections 8.597, 8.598, 8.601, 8.602, 8.604, 8.605, 8.608, and 8.610**:** A specified percent of Final Compensation at termination based on the member's age at retirement (factors shown in Table C-3, C-4, and C-5) for each year of Credited Service, subject to a maximum of 90% of Final Compensation, payable at age 50.

APPENDIX C – SUMMARY OF PLAN PROVISIONS
(NEW POLICE AND FIRE)

10. Additional Post-retirement Death Benefit

A death benefit payable as a lump sum equal to $100 for each full year of Credited Service, subject to a maximum of $3,000, will be paid to a qualified survivor upon the member's death.

11. Post-retirement Cost-of-Living Benefit

Basic
Monthly benefits are increased or decreased each July 1 by a maximum of 2% per year of the initial monthly benefit. A member's monthly benefit will never decrease below its original amount. Effective July 1, 2009, monthly benefits are increased or decreased by a maximum of 2% of the prior year's monthly benefit.

Supplemental
Effective July 1 of each fiscal year, if the Retirement System was fully funded based on the Market Value of Assets for the previous year and there are sufficient "excess" investment earnings on the Retirement fund for the previous fiscal year-end, the adjustment could be increased to 3.5% of that member's current monthly benefit less the amount of the Basic COLA above. If "excess" earnings are insufficient to fund a 3.5% increase, then to the extent of "excess" earnings, benefits are increased in increments of 0.5% up to a maximum of 3.5%. For members who worked after November 6, 1996, and before Proposition C passed in 2012, the Supplemental COLA is payable if there are "excess" investment earnings regardless of whether or not the System was fully funded.

12. Changes in this Valuation

None.

APPENDIX C – SUMMARY OF PLAN PROVISIONS (MISCELLANEOUS)

III. Miscellaneous Members – Charter Sections 8.509, 8.587, 8.600, and 8.603

1. Membership Requirement

Charter Section 8.509
Employees and Officers, other than Police Officers or Firefighters, who became members before November 2, 1976 and continued as a member without interruption.

Charter Section 8.587
Active Employees and Officers, other than Police Officers or Firefighters, who were members under Section A8.584, and members under A8.587, whose accumulated contributions were in the retirement fund on November 7, 2000 and were not retired. After November 7, 2000, all full-time employees, certified Civil Service employees, or temporary employees who work more than 1,040 hours in any 12-month period; excluding all Police Officers and Firefighters.

Charter Section 8.600
Employees and Officers, other than Police Officers or Firefighters, who become employed on or after July 1, 2010, and prior to January 7, 2012.

Charter Section 8.603
Employees and Officers, other than Police Officers or Firefighters, who become employed on or after January 7, 2012.

2. Average Final Compensation

Charter Sections 8.509 and 8.587
Average monthly compensation earned during any year of Credited Service which average compensation is the highest.

Charter Section 8.600
Average monthly compensation earned during the higher of any two consecutive fiscal years of earnings or the twenty-four months of earnings immediately prior to retirement.

Charter Section 8.603
Average monthly compensation earned during the higher of any three consecutive fiscal years of earnings or the 36 consecutive months of earnings immediately prior to retirement. Compensation for any fiscal year shall not include remuneration that exceeds 85% of the IRC 401(a)(17) compensation limit.

APPENDIX C – SUMMARY OF PLAN PROVISIONS (MISCELLANEOUS)

3. Credited Service

One year of service credit is given for each fiscal year with 10 or more full months worked. A partial year (fraction with the numerator equal to months including partial months, and the denominator equal to 10) is given for each fiscal year with less than 10 full months worked. (Exception: for Charter 8.509 members, in the year of retirement, the denominator in the fraction is equal to 12).

4. Member Contributions

a. Member:

Charter 8.509
8.0% of salary.

Charter 8.587, 8.600, and 8.603
7.5% of salary, excluding overtime and most premium pay.

Depending on the employer contribution rate and the base rate of pay of the member beginning on July 1, 2012, the member contribution rate can increase or decrease by up to maximum percentage of pay shown in the following table:

Hourly Rate of Pay*	Maximum Increase / Decrease in Contribution Rate
< $24	0%
$24 - $48	4%
>= $48	5%

**Adjusted each fiscal year by the percentage increase in the cost-of-living during the previous calendar year, based on the San Francisco-Oakland-San José CPI-U Index, but not to exceed 3.5%.*

These contributions are credited with interest annually as determined by the Board.

If the member elects Social Security, the contributions to the System may be reduced by the amount contributed to Social Security (excluding the Medicare portion). Retirement benefits are actuarially reduced by the shortage, which is the difference between contributions paid at the 8%/7.5% rate and contributions actually paid, plus plan interest.

b. Employer:

The Employer contributes the remaining amounts necessary to maintain the soundness of the Retirement System. Any decrease in the member contribution rate is paid by the City.

APPENDIX C – SUMMARY OF PLAN PROVISIONS (MISCELLANEOUS)

5. Service Retirement

Eligibility

Charter Section 8.509, 8.587, and 8.600
Age 50 with 20 years of Credited Service, or age 60 with 10 years of Credited Service.

Charter Section 8.603
Age 53 with 20 years of Credited Service, age 60 with 10 years of Credited Service, or age 65.

Benefit – Member

Charter Section 8.509, 8.587, and 8.600
The monthly service retirement benefit is the greater of i), subject to a maximum of 75% of Average Final Compensation, and ii) below.

i) A specified percent of Average Final Compensation based on the member's age at retirement (factors shown in Table C-6 below) for each year of Credited Service, effective January 11, 2009.

Table C-6
San Francisco City and County Employees' Retirement System
Section 8.509, 8.587, and 8.600 Member Service Retirement Factors

Retirement Age	Retirement Factors	Retirement Age	Retirement Factors
50	1.0%	57	1.7%
51	1.1%	58	1.8%
52	1.2%	59	1.9%
53	1.3%	60	2.1%
54	1.4%	61	2.2%
55	1.5%	62 or above	2.3%
56	1.6%		

ii) The actuarial equivalent of twice the member's accumulated contributions with interest.

APPENDIX C – SUMMARY OF PLAN PROVISIONS (MISCELLANEOUS)

Charter Section 8.603

The monthly service retirement benefit is a specified percent of Average Final Compensation based on the member's age at retirement subject to a maximum of 75% of Average Final Compensation (factors shown in Table C-7 below).

Table C-7
San Francisco City and County Employees' Retirement System
Section 8.603 Member Service Retirement Factors

Retirement Age	Retirement Factors	Retirement Age	Retirement Factors
53	1.000%	60	1.756%
54	1.108%	61	1.864%
55	1.216%	62	1.972%
56	1.324%	63	2.080%
57	1.432%	64	2.188%
58	1.540%	65 or above	2.300%
59	1.648%		

Benefit – Survivor

50% of the service retirement benefit paid to a qualified survivor.

6. Disability

Eligibility

10 years of Credited Service.

Benefit – Member

1.8% of Average Final Compensation for each year of Credited Service, maximum of 75% of Average Final Compensation. If the benefit is less than 40% of Average Final Compensation, additional Credited Service had the member worked to age 60 can be added to the current Credited Service, in order to adjust the benefit to 40% of Average Final Compensation.

Benefit – Survivor

50% of the disability retirement benefit paid to a qualified survivor.

APPENDIX C – SUMMARY OF PLAN PROVISIONS (MISCELLANEOUS)

7. Death while an Active Employee

If Not Eligible for Service Retirement:
Lump sum benefit equal to the accumulated refund of all employee contributions with interest, plus six months' salary to a designated beneficiary. If the death is of a violent nature and job-related, an additional lump sum equivalent benefit equal to 12 months' salary is payable.

If Eligible for Service Retirement:
A qualified spouse may elect i) or ii) below:

i) Lump sum benefit equal to the accumulated refund of all employee contributions with interest, plus six months' salary to a designated beneficiary.

ii) A benefit equal to 50% of the service retirement benefit the member would have received had the member retired for service on the date of death.

8. Withdrawal Benefits

Charter 8.509 members with less than 10 years of Credited Service or less than $1,000 in accumulated contributions and Charter 8.587, 8.600, and 8.603 members with less than five years of Credited Service:

Lump sum benefit equal to the accumulated employee contributions with interest.

Charter 8.509 members with 10 or more years of Credited Service or accumulated contributions exceeding $1,000 and Charter 8.587and 8.600 members with five or more years of Credited Service:

The member may choose one of the following:

i) Lump sum benefit equal to the accumulated refund all of employee contributions with interest.
ii) A deferred retirement benefit payable on or after age 50 equal to the actuarial equivalent of twice the member's accumulated contributions with interest as of the retirement date.

Charter 8.603 members with five or more years of Credited Service:

The member may choose one of the following:

i) Lump sum benefit equal to the accumulated refund all of employee contributions with interest.
ii) A deferred retirement benefit payable on or after age 53 equal to the actuarial equivalent of 150% of the member's accumulated contributions with interest as of the retirement date.

APPENDIX C – SUMMARY OF PLAN PROVISIONS (MISCELLANEOUS)

9. Additional Post-retirement Death Benefit

A death benefit payable as a lump sum equal to $100 for each full year of Credited Service, subject to a maximum of $3,000, will be paid to a qualified survivor upon the member's death.

10. Post-retirement Cost-of-Living Benefit

Basic
Monthly benefits are adjusted each July 1 by the accumulated change in the Consumer Price Index to the nearest 1%, with a maximum increase or decrease of 2% per year of the prior year's monthly benefit. A member's monthly benefit will never decrease below its original amount.

Supplemental
Effective July 1 of each fiscal year, if the Retirement System was fully funded based on the Market Value of Assets for the previous year and there are sufficient "excess" investment earnings on the Retirement fund for the previous fiscal year-end, the adjustment could be increased to 3.5% of that member's current monthly benefit less the amount of the Basic COLA above. If "excess" earnings are insufficient to fund a 3.5% increase, then to the extent of "excess" earnings, benefits are increased in increments of 0.5% up to a maximum of 3.5%. For members who worked after November 6, 1996, and before Proposition C passed in 2012, the Supplemental COLA is payable if there are "excess" investment earnings regardless of whether or not the System was fully funded.

11. Changes in this Valuation

None.

APPENDIX C – SUMMARY OF PLAN PROVISIONS
(COST SHARING PROVISIONS)

IV. Cost Sharing Provisions – Adjusted Contribution Rates

The table below shows the adjustment to the employee contribution rate based on the calculated net employer contribution rate. There are three different adjustment schedules which apply to different groups of employees.

Net Employer Contribution Rate	Adjustment to Employee Contribution Rate		
	Group 1	Group 2	Group 3
0.00% – 0.00%	-4.00%	-5.00%	-6.00%
0.01% – 1.00%	-4.00%	-4.50%	-5.00%
1.01% – 2.50%	-3.75%	-4.25%	-4.75%
2.51% – 4.00%	-3.50%	-4.00%	-4.50%
4.01% – 5.50%	-2.50%	-3.00%	-3.50%
5.51% – 7.00%	-2.00%	-2.50%	-3.00%
7.01% – 8.50%	-1.50%	-2.00%	-2.00%
8.51% – 10.00%	-1.00%	-1.50%	-1.50%
10.01% – 11.00%	-0.50%	-0.50%	-0.50%
11.01% – 12.00%	0.00%	0.00%	0.00%
12.01% – 13.00%	0.50%	0.50%	0.50%
13.01% – 15.00%	1.00%	1.50%	1.50%
15.01% – 17.50%	1.50%	2.00%	2.00%
17.51% – 20.00%	2.00%	2.50%	3.00%
20.01% –22.50%	2.50%	3.00%	3.50%
22.51% – 25.00%	3.50%	4.00%	4.50%
25.01% – 27.50%	3.50%	4.00%	4.50%
27.51% – 30.00%	3.75%	4.25%	4.75%
30.01% – 32.50%	3.75%	4.25%	4.75%
32.51% – 35.00%	4.00%	4.50%	5.00%
35.01% +	4.00%	5.00%	6.00%

Group 1: Miscellaneous members earning between $24 per hour and $48 per hour, and Police or Fire members hired after June 30, 2010 earning less than $48 per hour.

Group 2: Miscellaneous members earning $48 per hour or more, and Police or Fire members hired after June 30, 2010 earning $48 per hour or more.

There is no adjustment for Miscellaneous members earning less than $24 per hour.

The hourly rates shown above are for the fiscal year ending 2013. Each fiscal year these hourly rates are adjusted by the percentage increase, not to exceed 3.5%, in the cost-of-living during the previous calendar year determined by the CPI-U for San Francisco-Oakland-Hayward, CA.

Group 3: Police and Fire members hired before July 1, 2010.

APPENDIX C – SUMMARY OF PLAN PROVISIONS
(COST SHARING PROVISIONS)

Note: The summary of major plan provisions is designed to outline principal plan benefits. If the SFERS staff should find the plan summary not in accordance with the actual provisions, the actuary should immediately be alerted so the proper provisions are valued.

APPENDIX D – PROJECTION DETAILS

Historical and Projected Employer Contribution Rates By Scenario
Before Cost-Sharing Adjustments

		1-Year Shock		5-Year Moderate		5-Year Significant	
FYE	Baseline	Negative	Positive	Negative	Positive	Negative	Positive
2015	26.76%						
2016	22.80%						
2017	21.40%						
2018	23.46%						
2019	23.31%						
2020	25.19%						
2021	26.90%						
2022	24.42%						
2023	21.35%						
2024	18.24%						
2025	16.91%	16.91%	16.91%	16.91%	16.91%	16.91%	16.91%
2026	16.43%	17.97%	13.07%	16.04%	16.72%	16.70%	15.96%
2027	16.31%	20.32%	9.11%	15.91%	15.17%	17.89%	12.68%
2028	17.81%	24.37%	6.83%	17.82%	14.51%	21.69%	9.19%
2029	18.97%	28.11%	4.26%	19.82%	12.75%	26.08%	3.39%
2030	17.66%	29.35%	0.00%	19.76%	7.82%	28.81%	0.00%
2031	17.62%	30.60%	0.00%	22.25%	3.54%	33.50%	0.00%
2032	17.64%	30.96%	0.00%	24.54%	1.62%	37.39%	0.00%
2033	17.65%	31.13%	0.41%	26.41%	0.56%	40.32%	0.00%
2034	17.48%	31.02%	0.95%	27.69%	0.12%	42.17%	0.00%
2035	16.94%	30.49%	1.18%	28.19%	0.08%	42.80%	0.00%

APPENDIX D – PROJECTION DETAILS

Historical and Projected Funded Ratio Based on Market Assets By Scenario Before Cost-Sharing Adjustments

		1-Year Shock		5-Year Moderate		5-Year Significant	
Valuation	Baseline	Negative	Positive	Negative	Positive	Negative	Positive
2013	84.1%						
2014	94.3%						
2015	88.9%						
2016	82.6%						
2017	87.2%						
2018	89.8%						
2019	90.6%						
2020	90.2%						
2021	111.8%						
2022	97.6%						
2023	95.3%	95.3%	95.3%	95.3%	95.3%	95.3%	95.3%
2024	95.5%	77.0%	119.5%	92.5%	99.5%	87.1%	105.6%
2025	95.5%	76.5%	120.2%	89.5%	103.9%	79.3%	117.1%
2026	95.4%	76.1%	120.5%	86.4%	108.6%	72.0%	130.2%
2027	95.4%	75.9%	120.4%	83.4%	113.4%	65.1%	144.6%
2028	95.5%	76.2%	120.0%	80.5%	118.6%	59.1%	160.7%
2029	95.8%	76.9%	119.3%	80.5%	118.8%	59.1%	161.3%
2030	95.9%	77.8%	118.2%	80.4%	118.6%	59.4%	161.6%
2031	96.1%	78.8%	117.0%	80.6%	117.8%	60.2%	162.0%
2032	96.2%	79.9%	115.8%	81.0%	116.9%	61.5%	162.4%
2033	96.4%	81.0%	114.7%	81.7%	115.8%	63.2%	162.8%

APPENDIX D – PROJECTION DETAILS

Historical and Projected UAL Based on Market Assets By Scenario
Before Cost-Sharing Adjustments
(Amounts in millions)

		1-Year Shock		5-Year Moderate		5-Year Significant	
FYE	Baseline	Negative	Positive	Negative	Positive	Negative	Positive
2013	3,213						
2014	1,202						
2015	2,543						
2016	4,249						
2017	3,296						
2018	2,777						
2019	2,720						
2020	2,880						
2021	(3,769)						
2022	793						
2023	1,664	1,664	1,664	1,664	1,664	1,664	1,664
2024	1,670	8,435	(7,215)	2,760	172	4,709	(2,068)
2025	1,732	8,970	(7,777)	3,988	(1,511)	7,847	(6,620)
2026	1,817	9,492	(8,204)	5,336	(3,463)	11,034	(12,170)
2027	1,910	9,934	(8,469)	6,776	(5,651)	14,205	(18,792)
2028	1,930	10,198	(8,632)	8,211	(8,149)	17,235	(26,671)
2029	1,884	10,271	(8,665)	8,561	(8,574)	17,899	(27,938)
2030	1,893	10,257	(8,457)	8,928	(8,768)	18,448	(29,103)
2031	1,895	10,145	(8,210)	9,174	(8,731)	18,755	(30,331)
2032	1,887	9,971	(7,921)	9,291	(8,565)	18,827	(31,626)
2033	1,868	9,740	(7,610)	9,283	(8,303)	18,687	(32,991)

APPENDIX E – GLOSSARY OF TERMS

1. Actuarial Liability

The Actuarial Liability is the difference between the present value of all future system benefits and the present value of total future normal costs. This is also referred to by some actuaries as the "accrued liability" or "actuarial accrued liability."

2. Actuarial Assumptions

Estimates of future experience with respect to rates of mortality, disability, turnover, retirement rate or rates of investment income, and salary increases. Demographic actuarial assumptions (rates of mortality, disability, turnover, and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (salary increases and investment income) consist of an underlying rate in an inflation-free environment plus a provision for a long-term average rate of inflation.

3. Accrued Service

Service credited under the System which was rendered before the date of the actuarial valuation.

4. Actuarial Equivalent

A single amount or series of amounts of equal actuarial value to another single amount or series of amounts, computed on the basis of appropriate actuarial assumptions.

5. Actuarial Cost Method

A mathematical budgeting procedure for allocating the dollar amount of the actuarial present value of a retirement system benefit between future normal cost and actuarial accrued liability. Sometimes referred to as the "actuarial funding method."

6. Actuarial Gain (Loss)

The difference between actual experience and actuarial assumption anticipated experience during the period between two actuarial valuation dates.

7. Actuarial Present Value

The amount of funds currently required to provide a payment or series of payments in the future. It is determined by discounting future payments at predetermined rates of interest, and by probabilities of payment.

APPENDIX E – GLOSSARY OF TERMS

8. Amortization

Paying off an interest-discounted amount with periodic payments of interest and principal – as opposed to paying off with a lump sum payment.

9. Normal Cost

The actuarial present value of retirement system benefits allocated to the current year by the actuarial funding method.

10. Unfunded Actuarial Liability (UAL)

The Unfunded Actuarial Liability represents the difference between Actuarial Liability and valuation assets. This value is sometimes referred to as "unfunded actuarial accrued liability."

Most retirement systems have Unfunded Actuarial Liabilities. They typically arise each time new benefits are added and each time experience losses are realized.

The existence of unfunded actuarial accrued liability is not in itself an indicator of poor funding. Also, Unfunded Actuarial Liabilities do not represent a debt that is payable today. What is important is the ability of the plan sponsor to amortize the Unfunded Actuarial Liability and the trend in its amount (after due allowance for devaluation of the dollar).

Classic Values, Innovative Advice