San Bernardino County Employees' Retirement Association

Governmental Accounting Standards Board Statement No. 67 (GASB 67) Actuarial Valuation

As of June 30, 2023

October 23, 2023

Board of Retirement
San Bernardino County Employees' Retirement Association
348 West Hospitality Lane, Suite 100
San Bernardino, CA 92408

Dear Board Members:

We are pleased to submit this Governmental Accounting Standards Board Statement No. 67 (GASB 67) Actuarial Valuation as of June 30, 2023. It contains various information that will need to be disclosed in order to comply with GASB 67. Please refer to the Actuarial Valuation as of June 30, 2023, for the data, assumptions, and plan of benefits underlying these calculations.

This report was prepared in accordance with generally accepted actuarial principles and practices at the request of the Board to assist SBCERA in preparing items related to the pension plan in their financial report. The census and financial information on which our calculations were based was prepared by SBCERA. That assistance is gratefully acknowledged.

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

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

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

Sincerely,

Segal

Paul Angelo, FSA, EA, MAAA, FCA Senior Vice President and Actuary	Molly Calcagno, ASA, EA, MAAA Senior Actuary	Todd Tauzer, FSA, MAAA, FCA, CERA Senior Vice President and Actuary

Section 1: Actuarial Valuation Summary

Purpose and basis

This report has been prepared by Segal to present certain disclosure information required by Governmental Accounting Standards Board Statement No. 67 (GASB 67) as of June 30, 2023. This report is based on financial information as of June 30, 2023 and the Actuarial Valuation and Review as of June 30, 2023, which reflects:

- The benefit provisions of SBCERA, as administered by the Board;
- The characteristics of covered active members, inactive vested members, and retired members and beneficiaries as of May 31, 2023, provided by SBCERA;
- The assets of the Plan as of June 30, 2023, provided by SBCERA;
- Economic assumptions regarding future salary increases and investment earnings adopted by the Board for the June 30, 2023 valuation; and
- Other actuarial assumptions regarding employee terminations, retirement, death, etc. adopted by the Board for the June 30, 2023 valuation.

General observations on GASB 67 actuarial valuation

1. It is important to note that Governmental Accounting Standards Board (GASB) rules only define pension liability and expense for financial reporting purposes, and do not apply to contribution amounts for pension funding purposes. Employers and plans should develop and adopt funding policies under current practices.
2. When measuring pension liability, GASB uses the same actuarial cost method (Entry Age method) and the same type of discount rate (expected return on assets) as SBCERA uses for funding. This means that the Total Pension Liability (TPL) measure for financial reporting shown in this report is determined on the same basis as SBCERA's Actuarial Accrued Liability (AAL) measure for funding. We note that the same is generally true for the Normal Cost component of the annual plan cost for funding and financial reporting.
3. The TPL and the Plan's Fiduciary Net Position include liabilities and assets held for Survivor Benefit and Burial Allowance Plans. In the case of the Burial Allowance, the TPL only includes a liability up to the amount in the Burial Allowance Reserve because we understand that the $250 portion of the Burial Allowance is a nonvested benefit and once the Reserve is depleted, no further benefits would need to be paid.

4. The Net Pension Liability (NPL) is equal to the difference between the TPL and the Plan's Fiduciary Net Position. The Plan's Fiduciary Net Position is equal to the market value of assets and therefore, the NPL measure is very similar to an Unfunded Actuarial Accrued Liability (UAAL) calculated on a market value basis. The NPL reflects all investment gains and losses as of the measurement date. This is different from the UAAL on an actuarial value of assets basis in the funding valuation that reflects investment gains and losses over five-year periods.
5. Based on discussions with SBCERA and their auditors, starting with the June 30, 2015 measurement date for the Plan, member paid employer contributions are included as part of the Actuarially Determined Contribution (ADC). Previously these amounts were classified as member contributions and excluded from the ADC.

Highlights of the valuation

1. For this report, the reporting dates for the Plan are June 30, 2023 and June 30, 2022. The NPLs measured as of June 30, 2023 and June 30, 2022 have been determined from the actuarial valuations as of June 30, 2023 and June 30, 2022, respectively.
2. The NPL increased from $2.32 billion as of June 30, 2022 to $2.37 billion as of June 30, 2023. Changes in these values during the last two fiscal years ending June 30, 2023 and June 30, 2022 can be found in *Section 2, Schedules of changes in Net Pension Liability* on page 19.
3. The discount rate used to determine the TPL and NPL as of June 30, 2023 and June 30, 2022 was 7.25%, following the same assumptions used by the Association in the funding valuations as of the same dates. Details on the derivation of the discount rates can be found in *Section 3, Appendices A and B*. Various other information that is required to be disclosed can be found throughout *Section 2*.
4. It is important to note that this actuarial valuation is based on plan assets as of June 30, 2023. The plan's funded status does not reflect short-term fluctuations of the market, but rather is based on the market values on the last day of the plan year. Moreover, this actuarial valuation does not include any possible short-term or long-term impacts on mortality of the covered population that may emerge after May 31, 2023 due to COVID-19. Segal is available to prepare projections of potential outcomes of market conditions and other demographic experience upon request.

Summary of key valuation results

Measurement Date		June 30, 2023	June 30, 2022
Disclosure elements for fiscal year ending June 30:	• Service cost[1,2]	$370,324,634	$366,075,626
	• Total Pension Liability	16,444,144,652	15,627,644,402
	• Plan's Fiduciary Net Position	14,071,349,533	13,302,916,299
	• Net Pension Liability	2,372,795,119	2,324,728,103
Schedule of contributions for fiscal year ending June 30:	• Actuarially determined contributions[3]	$555,741,684	$550,295,377
	• Actual employer contributions	555,891,684	550,345,540
	• Contribution deficiency / (excess)[4]	(150,000)	(50,163)
Demographic data for plan year ending June 30:	• Number of retired members and beneficiaries	15,389	14,878
	• Number of inactive vested members[5]	10,324	9,188
	• Number of active members	22,084	21,276
Key assumptions as of June 30:	• Investment rate of return	7.25%	7.25%
	• Inflation rate	2.50%	2.75%
	• Projected salary increases[6]	General: 4.30% to 9.50% and Safety: 4.75% to 10.00%	General: 4.55% to 12.75% and Safety: 4.75% to 12.25%
	• Cost of living adjustments	2.00% of retirement income	2.00% of retirement income

1 The service cost is based on the previous year's valuation, meaning the 2023 and 2022 values are based on the valuations as of June 30, 2022 and June 30, 2021, respectively. Both service costs have been calculated using the assumptions shown in the June 30, 2022 measurement date column, as there were no changes in the actuarial assumptions between the June 30, 2022 and June 30, 2021 valuations.

2 Excludes administrative expense load.

3 See footnote (1) under *Section 2, Schedule of contributions* on page 20.

4 Includes additional contributions made by LAFCO and Law Library towards the reduction of their UAALs.

5 Includes terminated members due a refund of member contributions plus accumulated interest.

6 Includes inflation at 2.50% for 2023 and 2.75% for 2022 plus real across-the-board salary increase of 0.50% plus merit and promotion increases.

Important information about actuarial valuations

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

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

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

The valuation is prepared at the request of the Board to assist SBCERA in preparing items related to the pension plan in their financial reports. Segal is not responsible for the use or misuse of its report, particularly by any other party.
An actuarial valuation is a measurement at a specific date – it is not a prediction of a plan's future financial condition. Accordingly, except where otherwise noted, Segal did not perform an analysis of the potential range of future financial measures. The actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.
Actuarial results in this report are not rounded, but that does not imply precision.
If SBCERA is aware of any event or trend that was not considered in this valuation that may materially change the results of the valuation, Segal should be advised, so that we can evaluate it.
Segal does not provide investment, legal, accounting, or tax advice. Segal's valuation is based on our understanding of applicable guidance in these areas and of the plan's provisions, but they may be subject to alternative interpretations. The Board should look to their other advisors for expertise in these areas.
While Segal maintains extensive quality assurance procedures, an actuarial valuation involves complex computer models and numerous inputs. In the event that an inaccuracy is discovered after presentation of Segal's valuation, Segal may revise that valuation or make an appropriate adjustment in the next valuation.
Segal's report shall be deemed to be final and accepted by the Association upon delivery and review. The Association should notify Segal immediately of any questions or concerns about the final content.

As Segal has no discretionary authority with respect to the management or assets of SBCERA, it is not a fiduciary in its capacity as actuaries and consultants with respect to SBCERA.

Section 2: GASB 67 Information

General information about the pension plan

Plan Description

Plan administration. The San Bernardino County Employees' Retirement Association (SBCERA) was established by the County of San Bernardino in 1945. SBCERA is governed by the County Employees' Retirement Law of 1937 (California Government Code Section 31450 et. seq), the California Public Employees' Pension Reform Act of 2013 (CalPEPRA), and the regulations, procedures, and policies adopted by SBCERA's Board of Retirement. SBCERA is a cost-sharing multiple employer defined benefit public employee Retirement Association whose main function is to provide service retirement, disability, death and survivor benefits to the General and Safety members employed by the County of San Bernardino. SBCERA also provides retirement benefits to the employee members for 14 other employers, which are members of SBCERA.

The management of SBCERA is vested with the SBCERA Board of Retirement. The Board consists of twelve trustees. Of the twelve members, three are alternates. Four trustees are appointed by the San Bernardino County Board of Supervisors; two General member trustees are elected by the General members; two Safety member trustees (including one alternate) are elected by the Safety members; two Retired member trustees (including one alternate) are elected by the Retired members; and the San Bernardino County Treasurer serves as an ex-officio member who has designated an alternate. Board members serve three-year terms, with the exception of the County Treasurer, who serves during his tenure in office.

Plan membership. At June 30, 2023, pension plan membership consisted of the following:

San Bernardino County Employees' Retirement Association
June 30, 2023

	Tier 1			Tier 2			
	General	Safety	Sub-Total	General	Safety	Sub-Total	Total
Active members - vested	7,739	1,160	8,899	4,138	758	4,896	13,795
Active members - nonvested	21	2	23	7,572	694	8,266	8,289
Inactive plan members or beneficiaries currently receiving benefits							
Retirees currently receiving benefits	10,996	2,044	13,040	152	34	186	13,226
Beneficiaries and dependents currently receiving benefits	1,648	500	2,148	14	1	15	2,163
Inactive plan members entitled to but not yet receiving benefits							
Inactive members eligible for, but not yet receiving benefits	2,678	187	2,865	905	136	1,041	3,906
Inactive members eligible for refund value of account only[1]	1,727	47	1,774	4,425	219	4,644	6,418
Total	24,809	3,940	28,749	17,206	1,842	19,048	47,797

[1] *Inactive members with less than 5 years of service are entitled to withdraw their refundable contributions made, together with accumulated interest only.*

Benefits provided. SBCERA provides service retirement, disability, death and survivor benefits to eligible employees. Generally, any employee of the County of San Bernardino or participating employers who is appointed to a regular position whose service is at least fifty percent of the full standard of hours required by a participating SBCERA employer (e.g., 20 hours per week or more) must become a member of SBCERA effective on the first day of employment. There are separate retirement benefits for General and Safety member employees. Safety membership is extended to those involved in active law enforcement and fire suppression. All other members are classified as General members.

There are currently two tiers applicable to both General and Safety members. Members with membership dates before January 1, 2013 are included in General Tier 1 or Safety Tier 1. Any new member who becomes a member on or after January 1, 2013 is designated as General Tier 2 or Safety Tier 2 and is subject to the provisions of CalPEPRA and California Government Code 7522 et seq.

General Tier 1 members are eligible for Early Retirement once they attain the age of 70 regardless of service or at age 50 and have acquired 10 or more years of retirement service credit or with 30 years of service regardless of age. General Tier 2 members are eligible for Early Retirement once they attain the age of 70 regardless of service or at age 52 and have acquired five or more years of retirement service credit.

Safety Tier 1 members are eligible for Early Retirement once they attain the age of 70 regardless of service or at age 50 and have acquired 10 or more years of retirement service credit or with 20 years of service regardless of age. Safety Tier 2 members are eligible for Early Retirement once they attain the age of 70 regardless of service or at age 50 and have acquired five or more years of retirement service credit.

The retirement benefit the member will receive is based upon age at retirement, final average compensation, years of retirement service credit and retirement plan and tier.

General Tier 1 benefit is calculated pursuant to the provisions of California Government Code of Section 31676.15. The monthly allowance is equal to 2% of final compensation times years of accrued retirement service credit times age factor from Section 31676.15. General Tier 2 benefit is calculated pursuant to the provisions found in California Government Code Section 7522.20(a). The monthly allowance is equal to the final compensation multiplied by years of accrued retirement credit multiplied by the age factor from Section 7522.20(a).

Safety Tier 1 benefit is calculated pursuant to the provisions of California Government Code Section 31664.1. The monthly allowance is equal to 3% of final compensation times years of accrued retirement service credit times age factor from Section 31664.1. Safety Tier 2 benefit is calculated pursuant to the provisions found in California Government Code Section 7522.25(d). The monthly allowance is equal to the final compensation multiplied by years of accrued retirement credit multiplied by the age factor from Section 7522.25(d).

For Tier 1 members, the maximum monthly retirement allowance is 100% of final compensation. There is no final compensation limit on the maximum retirement benefit for Tier 2 members. However, the maximum amount of compensation earnable that can be taken into account for 2023 for Tier 1 members with membership dates on or after July 1, 1996 is $330,000. The maximum amount of pensionable compensation for Tier 2 members that can be taken into account for 2023 is equal to $175,250. These limits are adjusted on an annual basis. Tier 1 members and employers are exempt from paying contributions on compensation earnable paid in excess of the annual cap. In addition, Tier 1 members are exempt from paying member contributions once they have reached 30 or more years of service. Tier 2 members and employers are exempt from paying contributions on pensionable compensation paid in excess of the annual cap.

Final average compensation consists of the highest 12 consecutive months for Tier 1 members and the highest 36 consecutive months for Tier 2 members.

The member may elect an unmodified retirement allowance, or choose an optional retirement allowance. The unmodified retirement allowance provides the highest monthly benefit and a 60% continuance to an eligible surviving spouse or domestic partner. An eligible surviving spouse or domestic partner is one married to or registered with the member one year prior to the effective retirement date or at least two years prior to the date of death and has attained age 55 on or prior to the date of death. There are four optional retirement allowances the member may choose. Each of the optional retirement allowances requires a reduction in the unmodified retirement allowance in order to allow the member the ability to provide certain benefits to a surviving spouse, domestic partner, or named beneficiary having an insurable interest in the life of the member.

SBCERA provides an annual cost-of-living adjustment (COLA) benefit to all retirees. The COLA, based upon the ratio of the past two November Consumer Price Indices for All Urban Consumers for the Riverside-San Bernardino-Ontario Area, is capped at 2.0%.

The County of San Bernardino and 14 other participating employers contribute to the retirement plan based upon actuarially determined contribution rates adopted by the Board of Retirement. Employer contribution rates are adopted annually based upon recommendations received from SBCERA’s actuary after the completion of the annual actuarial valuation. The average employer contribution rate as of June 30, 2023 for 2022-2023 (based on the June 30, 2021 valuation) was 32.63% of compensation.

Members are required to make contributions to SBCERA regardless of the retirement plan or tier in which they are included. Tier 1 members with 30 or more years of service are exempt from paying member contributions. The average member contribution rate as of June 30, 2023 for 2022-2023 (based on the June 30, 2021 valuation) was 10.96% of compensation.

Net Pension Liability

Measurement Date	June 30, 2023	June 30, 2022
Components of the Net Pension Liability		
Total Pension Liability	$16,444,144,652	$15,627,644,402
Plan's Fiduciary Net Position	(14,071,349,533)	(13,302,916,299)
Net Pension Liability	**$2,372,795,119**	**$2,324,728,103**
Plan's Fiduciary Net Position as a percentage of the Total Pension Liability[1]	85.57%	85.12%

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

The Net Pension Liability (NPL) for the Plan was measured as of June 30, 2023 and June 30, 2022. The Plan's Fiduciary Net Position (plan assets) and Total Pension Liability (TPL) were valued as of the measurement date and are from actuarial valuations as of June 30, 2023 and June 30, 2022, respectively.

Plan provisions. The plan provisions used in the measurement of the NPL are the same as those used in the SBCERA actuarial valuations as of June 30, 2023 and June 30, 2022, respectively. The TPL and the Plan's Fiduciary Net Position include liabilities and assets held for Survivor Benefit and Burial Allowance Plans.

Actuarial assumptions and actuarial cost method. The TPLs as of June 30, 2023 and June 30, 2022 that were measured by actuarial valuations as of June 30, 2023 and June 30, 2022, respectively, used the same actuarial assumptions and actuarial cost method as the June 30, 2023 and June 30, 2022 funding valuations. The actuarial assumptions used in the June 30, 2023 valuation were based on the results of an experience study for the period from July 1, 2019 through June 30, 2022. In particular, the following actuarial assumptions were applied to all periods included in the measurement:

Exhibit C: Page 14

Inflation:	2.50%
Salary increases:	General: 4.30% to 9.50% and Safety: 4.75% to 10.00%, varying by service, including inflation
Investment rate of return:	7.25%, net of pension plan investment expense, including inflation
Consumer Price Index (CPI) and Cost of Living Adjustments (COLA):	CPI increases of 2.50% per year Retiree COLA increases of 2.00% per year
Administrative expenses:	0.90% of payroll allocated to both the employer and member based on components of the total contribution rate (before expenses) for the employer and member
Mortality:	Mortality rates are based on the Pub-2010 Amount-Weighted Above-Median Mortality Table projected generationally with the two-dimensional MP-2021 projection scale. For healthy General members, the General Healthy Retiree rates (increased by 10%) were used. For healthy Safety members, the Safety Healthy Retiree rates (decreased by 5% for females) were used. For disabled General members, the Non-Safety Disabled Retiree rates (decreased by 5% for females) were used. For disabled Safety members, the Safety Disabled Retiree rates were used. For beneficiaries not currently in Pay Status, the General Healthy Retiree rates (increased by 10%) were used. For beneficiaries currently in Pay Status, the General Contingent Survivor rates (increased by 5% for males and 15% for females) were used.
Other assumptions:	Same as those used in the June 30, 2023 funding valuation. These assumptions were developed in the actuarial experience study for the period July 1, 2019 through June 30, 2022.

The TPL as of June 30, 2022 that was measured by actuarial valuation as of June 30, 2022 used the following actuarial assumptions, applied to all periods included in the measurement:

Inflation:	2.75%
Salary increases:	General: 4.55% to 12.75% and Safety: 4.75% to 12.25%, varying by service, including inflation
Investment rate of return:	7.25%, net of pension plan investment expense, including inflation
Consumer Price Index (CPI) and Cost of Living Adjustments (COLA):	CPI increases of 2.75% per year Retiree COLA increases of 2.00% per year
Administrative expenses:	0.85% of payroll allocated to both the employer and member based on components of the total contribution rate (before expenses) for the employer and member
Mortality:	Mortality rates are based on the Pub-2010 Amount-Weighted Above-Median Mortality Table projected generationally with the two-dimensional MP-2019 projection scale. For healthy General members, the General Healthy Retiree rates increased by 10% were used. For healthy Safety members, the Safety Healthy Retiree rates were used. For disabled General members, the Non-Safety Disabled Retiree rates were used. For disabled Safety members, the Safety Disabled Retiree rates were used. For beneficiaries, the General Contingent Survivor rates increased by 10% were used.
Other assumptions:	Same as those used in the June 30, 2022 funding valuation. These assumptions were developed in the actuarial experience study for the period July 1, 2016 through June 30, 2019.

The Entry Age Actuarial Cost Method used in SBCERA's annual actuarial valuations for funding purposes has also been applied in measuring the Service Cost and TPL with one exception. For purposes of measuring the Service Cost and TPL, we have applied the Entry Age method with costs allocated as a level percent of compensation. This is different from the version of this method applied in SBCERA's annual funding valuation for the Survivor Benefit, where costs are allocated as a level dollar amount based on service. The Service Cost associated with the Survivor Benefit as of June 30, 2023 was $1,081,000 while the TPL was $25,038,000.

Determination of discount rate and investment rates of return

The long-term expected rate of return on pension plan investments was determined using a building-block method in which expected arithmetic real rates of return (expected returns, net of inflation and, beginning with June 30, 2023, any applicable investment management expenses) are developed for each major asset class. These returns are combined to produce the long-term expected arithmetic rate of return for the portfolio by weighting the expected arithmetic real rates of return by the target asset allocation percentage, adding expected inflation and subtracting expected investment expenses (beginning with June 30, 2023 including only investment consulting fees, custodian fees and other miscellaneous investment expenses) and a risk margin. Beginning with June 30, 2023 this portfolio return is also adjusted to an expected geometric real rate of return for the portfolio. The target allocation and projected arithmetic real rates of return for each major asset class (after deducting inflation) are shown in the following tables. For June 30, 2022 these rates are before deducting investment management expenses while for June 30, 2023 they are after deducting applicable investment management expenses. This information was used in the derivation of the long-term expected investment rate of return assumption in the June 30, 2023 and June 30, 2022 actuarial valuations. This information will change every three years based on the actuarial experience study.

June 30, 2023

Asset Class	Target Allocation	Long-Term Expected Arithmetic Real Rate of Return
Large Cap U.S. Equity	14.50%	6.00%
Small Cap U.S. Equity	2.50%	6.65%
Developed International Equity	7.00%	7.01%
Emerging Markets Equity	6.00%	8.80%
U.S. Core Fixed Income	2.00%	1.97%
Emerging Market Debt	6.00%	4.76%
Real Estate - Core	2.50%	3.86%
Cash & Equivalents	2.00%	0.63%
Private Equity	18.00%	9.84%
High Yield/Credit Strategies	13.00%	6.48%
Absolute Return	7.00%	7.10%
Real Estate - Non-Core	2.50%	5.40%
Real Assets	6.00%	10.10%
International Credit	11.00%	7.10%
Total	**100.00%**	**7.12%**

June 30, 2022

Asset Class	Target Allocation	Long-Term Expected Arithmetic Real Rate of Return
Large Cap Equity	11.00%	5.42%
Small Cap Equity	2.00%	6.21%
International Developed Equity	9.00%	6.50%
Emerging Markets Equity	6.00%	8.80%
Core Bonds	2.00%	1.13%
High Yield Bonds	13.00%	3.40%
Global Bonds	1.00%	-0.04%
Emerging Market Debt	8.00%	3.44%
Real Estate	3.50%	4.57%
Cash	2.00%	-0.03%
Value Added Real Estate	3.50%	6.53%
Real Assets	5.00%	10.64%
Absolute Return	7.00%	3.69%
International Credit	11.00%	5.89%
Private Equity	16.00%	10.70%
Total	**100.00%**	**6.11%**

Discount rate. The discount rate used to measure the TPL was 7.25% for both June 30, 2023 and June 30, 2022. The projection of cash flows used to determine the discount rate assumed employer and member contributions will be made at rates equal to the actuarially determined contribution rates. For this purpose, only employee and employer contributions that are intended to fund benefits for current plan members and their beneficiaries are included. Projected employer contributions that are intended to fund the service costs for future plan members and their beneficiaries, as well as projected contributions from future plan members, are not included. Based on those assumptions, the Plan's Fiduciary Net Position was projected to be available to make all projected future benefit payments for current plan members. Therefore, the long-term expected rate of returns on pension plan investments of 7.25% was applied to all periods of projected benefit payments to determine the TPL as of both June 30, 2023 and June 30, 2022.

Discount rate sensitivity

Sensitivity of the June 30, 2023 Net Pension Liability to changes in the discount rate. The following presents the NPL as of June 30, 2023, calculated using the discount rate of 7.25%, as well as what the NPL would be if it were calculated using a discount rate that is 1-percentage-point lower (6.25%) or 1-percentage-point higher (8.25%) than the current rate:

	1% Decrease (6.25%)	Current Discount Rate (7.25%)	1% Increase (8.25%)
Net Pension Liability as of June 30, 2023	$4,567,766,818	$2,372,795,119	$577,723,496

Sensitivity of the June 30, 2022 Net Pension Liability to changes in the discount rate. The following presents the NPL as of June 30, 2022, calculated using the discount rate of 7.25%, as well as what the NPL would be if it were calculated using a discount rate that is 1-percentage-point lower (6.25%) or 1-percentage-point higher (8.25%) than the current rate:

	1% Decrease (6.25%)	Current Discount Rate (7.25%)	1% Increase (8.25%)
Net Pension Liability as of June 30, 2022	$4,423,367,718	$2,324,728,103	$608,206,070

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

Measurement Date	June 30, 2023	June 30, 2022
Total Pension Liability		
• Service cost	$370,324,634	$366,075,626
• Interest	1,132,274,295	1,084,886,277
• Differences between expected and actual experience	197,314,416	(64,113,139)
• Changes of assumptions	(122,628,000)	0
• Changes in benefit terms	0	0
• Benefit payments, including refunds of member contributions	(760,785,095)	(714,154,767)
Net change in Total Pension Liability	**$816,500,250**	**$672,693,997**
Total Pension Liability – beginning	**15,627,644,402**	**14,954,950,405**
Total Pension Liability – ending	**$16,444,144,652**	**$15,627,644,402**
Plan's Fiduciary Net Position		
• Contributions – employer[1]	$555,891,684	$550,345,800
• Contributions – plan member[2]	188,090,607	178,892,641
• Net investment income	802,595,553	(322,403,598)
• Benefit payments, including refunds of member contributions	(760,785,095)	(714,154,767)
• Administrative expense	(11,779,661)	(10,453,834)
• Other expenses	(5,579,854)	(3,869,468)
• Other[3]	0	(12,293,237)
Net change in Plan's Fiduciary Net Position	**$768,433,234**	**$(333,936,463)**
Plan's Fiduciary Net Position – beginning	**13,302,916,299**	**13,636,852,762**
Plan's Fiduciary Net Position – ending	**$14,071,349,533**	**$13,302,916,299**
Net Pension Liability – ending	**$2,372,795,119**	**$2,324,728,103**
Plan's Fiduciary Net Position as a percentage of the Total Pension Liability	**85.57%**	**85.12%**
Covered payroll[4]	**$1,663,990,875**	**$1,626,448,779**
Net Pension Liability as percentage of covered payroll	**142.60%**	**142.93%**

1 Includes $260 withdrawn employer contributions in the June 30, 2022 valuation.

2 Includes $93 withdrawn employer contributions in the June 30, 2022 valuation.

3 On July 30, 2020, the California Supreme Court issued a decision in the Alameda County Deputy Sheriff's Assn. et al., v. Alameda County Employees' Retirement Assn. litigation that clarified what should be considered compensation earnable for Tier 1 members and pensionable compensation for Tier 2 members for that and other similarly situated 1937 Act county employees retirement systems. This reflects the $12.3 million in refunds of member contributions previously paid in conjunction with these pay items in the June 30, 2022 valuation.

4 Covered payroll represents payroll on which contributions to the pension plan are based. The covered payroll shown is an estimate based on the prior year's valuation for each date shown.

Note to Schedule: Results include Survivor Benefit and Burial Allowance. In the case of the Burial Allowance, the TPL only includes a liability up to the amount in the Burial Allowance Reserve because we understand that the $250 portion of the Burial Allowance is a nonvested benefit and once the Reserve is depleted, no further benefits would need to be paid.

Schedule of contributions – Last ten fiscal years

Year Ended June 30	Actuarially Determined Contributions[1]	Contributions in Relation to the Actuarially Determined Contributions[1]	Contribution Deficiency / (Excess)	Covered Payroll[2]	Contributions as a Percentage of Covered Payroll
2014	$278,352,174	$278,352,174	$0	$1,262,751,964	22.04%
2015	303,243,387	303,243,387	0	1,267,666,810	23.92%
2016	340,511,616	340,511,616	0	1,309,095,254	26.01%
2017	360,477,890	360,477,890	0	1,346,408,201	26.77%
2018	378,667,309	378,667,309	0	1,406,470,110	26.92%
2019	446,110,014	446,294,977	(184,963)[3]	1,477,131,264	30.21%
2020	467,943,068	467,985,568	(42,500)[3]	1,542,495,237	30.34%
2021	493,671,903	493,715,755	(43,852)[3]	1,587,324,431	31.10%
2022	550,295,377	550,345,540	(50,163)[3]	1,626,448,779	33.84%
2023	555,741,684	555,891,684	(150,000)[3,4]	1,663,990,875	33.41%

1 The Board has approved all contribution rates recommended by the actuary. Actuarially determined contributions include contributions required for the Survivor Benefit, and exclude employer paid member contributions, UAAL prepayments, golden handshake payments, funds deposited for purchase of service credit, payments made by withdrawn employers, member paid employer contributions and member contributions. Starting from 2015, actuarially determined contributions include member paid employer contributions.

2 Covered payroll represents payroll on which contributions to the pension plan are based. The covered payroll shown is an estimate based on the prior year's valuation for each date shown.

3 Includes additional contributions made by LAFCO towards the reduction of their UAAL.

4 Includes additional contributions made by Law Library towards the reduction of their UAAL.

See accompanying notes to this schedule on the next page.

Notes to Schedule:

Methods and assumptions used to establish "actuarially determined contribution" rates:

Valuation date:	Actuarially determined contribution rates are calculated as of June 30, two years prior to the end of the fiscal year in which contributions are reported
Actuarial cost method:	Entry Age Actuarial Cost Method
Amortization method:	Level percent of payroll
Remaining amortization period:	20 years for all UAAL prior to June 30, 2002. Any changes in UAAL after June 30, 2002 are amortized over a 20-year closed period effective with each valuation. Effective June 30, 2012, any changes in UAAL due to actuarial gains or losses or due to changes in actuarial assumptions or methods will be amortized over a 20-year closed period effective with each valuation. Any change in unfunded actuarial accrued liability that arises due to plan amendments is amortized over its own declining 15-year period (with exception of a change due to retirement incentives, which is amortized over a declining period of up to 5 years).
Asset valuation method:	Market value of assets less unrecognized returns from each of the last five years. Unrecognized returns are equal to the difference between the actual market return and the expected return on a market value basis and are recognized over a five-year period. The Actuarial Value of Assets is reduced by the value of the non-valuation reserves.

Actuarial assumptions:	
Valuation Date:	**June 30, 2021 Valuation Date (for year ended 2023 ADC)**
Investment rate of return:	7.25%, net of pension plan investment expenses, including inflation
Inflation rate:	2.75%
Real across-the-board salary increase:	0.50%
Projected salary increases:[1]	General: 4.55% to 12.75% and Safety: 4.75% to 12.25%
Administrative expenses:	0.85% of payroll allocated to both the employer and member based on the components of the total contribution rate (before expenses) for the employer and member.
Consumer Price Index (CPI) and Cost of Living Adjustments (COLA):	CPI increases of 2.75% per year Retiree COLA increases of 2.00% per year
Other assumptions:	Same as those used in the June 30, 2021 funding actuarial valuation

[1] Includes inflation at 2.75% plus real across-the-board salary increases of 0.50% plus merit and promotion increases that vary by service.

Section 3: Appendices

Appendix A: Projection of Plan's Fiduciary Net Position for use in the Calculation of Discount Rate as of June 30, 2023 ($ in millions)

Year Beginning July 1,	Projected Beginning Plan's Fiduciary Net Position (a)	Projected Total Contributions (b)	Projected Benefit Payments (c)	Projected Administrative Expenses (d)	Projected Investment Earnings (e)	Projected Ending Plan's Fiduciary Net Position (f) = (a) + (b) - (c) - (d) + (e)
2023	$14,071	$700	$884	$15	$1,013	$14,886
2024	14,886	672	888	14	1,071	15,726
2025	15,726	628	936	14	1,129	16,533
2026	16,533	651	985	14	1,186	17,371
2027	17,371	653	1,033	13	1,245	18,223
2028	18,223	649	1,082	13	1,305	19,083
2029	19,083	618	1,135	12	1,365	19,918
2030	19,918	551	1,190	12	1,421	20,687
2031	20,687	457	1,246	12	1,471	21,358
2032	21,358	432	1,303	11	1,517	21,992
2048	25,704	84	2,022	4	1,794	25,556
2049	25,556	75	2,045	4	1,783	25,365
2050	25,365	67	2,065	4	1,768	25,131
2051	25,131	59	2,081	3	1,750	24,855
2052	24,855	51	2,096	3	1,729	24,536
2062	20,086	8	2,007	0 *	1,385	19,471
2072	13,934	0 *	1,501	0 *	957	13,390
2082	10,138	0	824	0	706	10,019
2092	12,041	0	249	0	864	12,657
2102	22,348	0	23	0	1,619	23,944
2112	44,870	0	1	0	3,253	48,122
2122	90,343	0	0 *	0	6,550	96,893
2132	181,914	0	0 *	0	13,189	195,103
2142	366,302	0	0 *	0	26,557	392,859
2143	392,859					
2143 Discounted Value:	88 **					

* Less than $1 million, when rounded.

** $392,859 million when discounted with interest at the rate of 7.25% per annum has a value of $88 million as of June 30, 2023.

Appendix A: Projection of Plan's Fiduciary Net Position for use in the Calculation of Discount Rate as of June 30, 2023 (continued)

Notes:

(1) Amounts may not total exactly due to rounding.

(2) Certain years have been omitted from the table.

(3) Column (a): Except for the "discounted value" shown for 2143, none of the projected beginning Plan's Fiduciary Net Position amounts shown have been adjusted for the time value of money.

(4) Column (b): Projected total contributions include employee and employer normal cost rates applied to closed group projected payroll (based on covered active members as of May 31, 2023), plus employer contributions to the unfunded actuarial accrued liability, plus employee and employer contributions to fund each year's annual administrative expenses. Contributions are assumed to occur halfway through the year, on average.

(5) Column (c): Projected benefit payments have been determined in accordance with Paragraph 39 of GASB Statement No. 67, and are based on the closed group of active, inactive vested, retired members, and beneficiaries as of May 31, 2023. The projected benefit payments are assumed to occur halfway through the year, on average and reflect the cost-of-living increase assumptions used in the June 30, 2023 valuation report.

(6) Column (d): Projected administrative expenses are assumed to be 0.90% of closed group projected payroll and are assumed to occur halfway through the year, on average.

(7) Column (e): Projected investment earnings are based on the assumed investment rate of return of 7.25% per annum.

(8) As illustrated in this appendix, the Plan's Fiduciary Net Position was projected to be available to make all projected future benefit payments for current plan members. In other words, there is no projected "cross-over date" when projected benefits are not covered by projected assets. Therefore, the long-term expected rate of return on plan investments of 7.25% per annum was applied to all periods of projected benefit payments to determine the Total Pension Liability as of June 30, 2023 shown earlier in this report, pursuant to Paragraph 44 of GASB Statement No. 67.

(9) This projection is based on a model developed by our Actuarial Technology and Systems unit, comprised of both actuaries and programmers. The model allows the client team, under the supervision of the responsible actuary, control over the entry of future expected contribution income, benefit payments and administrative expenses. The projection of Plan Fiduciary Net Position and the discounting of benefits is part of the model.

Appendix B: Projection of Plan's Fiduciary Net Position for use in the Calculation of Discount Rate as of June 30, 2022 ($ in millions)

Year Beginning July 1,	Projected Beginning Plan's Fiduciary Net Position (a)	Projected Total Contributions (b)	Projected Benefit Payments (c)	Projected Administrative Expenses (d)	Projected Investment Earnings (e)	Projected Ending Plan's Fiduciary Net Position (f) = (a) + (b) - (c) - (d) + (e)
2022	$13,303	$668	$831	$13	$958	$14,085
2023	14,085	667	838	13	1,015	14,916
2024	14,916	639	884	12	1,072	15,731
2025	15,731	596	929	12	1,128	16,514
2026	16,514	617	977	12	1,184	17,326
2027	17,326	618	1,024	11	1,241	18,150
2028	18,150	616	1,074	11	1,299	18,981
2029	18,981	585	1,125	11	1,356	19,786
2030	19,786	518	1,179	10	1,411	20,526
2031	20,526	424	1,233	10	1,459	21,166
2047	25,070	82	1,958	4	1,751	24,942
2048	24,942	73	1,981	4	1,740	24,770
2049	24,770	65	2,003	3	1,727	24,556
2050	24,556	57	2,021	3	1,710	24,299
2051	24,299	49	2,036	3	1,691	24,000
2061	19,728	5	1,962	0 *	1,361	19,131
2071	13,721	0 *	1,486	0 *	942	13,177
2081	9,660	0	854	0	670	9,475
2091	10,468	0	299	0	748	10,917
2101	18,635	0	36	0	1,350	19,949
2111	37,317	0	1	0	2,705	40,021
2121	75,137	0	0 *	0	5,447	80,584
2131	151,296	0	0 *	0	10,969	162,265
2138	246,949	0	0 *	0	17,904	264,853
2139	264,853					
2139 Discounted Value:	74 **					

* Less than $1 million, when rounded.

** $264,853 million when discounted with interest at the rate of 7.25% per annum has a value of $74 million as of June 30, 2022.

Appendix B: Projection of Plan's Fiduciary Net Position for use in the Calculation of Discount Rate as of June 30, 2022 (continued)

Notes:

(1) Amounts may not total exactly due to rounding.

(2) Certain years have been omitted from the table.

(3) Column (a): Except for the "discounted value" shown for 2139, none of the projected beginning Plan's Fiduciary Net Position amounts shown have been adjusted for the time value of money.

(4) Column (b): Projected total contributions include employee and employer normal cost rates applied to closed group projected payroll (based on covered active members as of May 31, 2022), plus employer contributions to the unfunded actuarial accrued liability, plus employee and employer contributions to fund each year's annual administrative expenses. Contributions are assumed to occur halfway through the year, on average.

(5) Column (c): Projected benefit payments have been determined in accordance with Paragraph 39 of GASB Statement No. 67, and are based on the closed group of active, inactive vested, retired members, and beneficiaries as of May 31, 2022. The projected benefit payments are assumed to occur halfway through the year, on average and reflect the cost-of-living increase assumptions used in the June 30, 2022 valuation report.

(6) Column (d): Projected administrative expenses are assumed to be 0.85% of closed group projected payroll and are assumed to occur halfway through the year, on average.

(7) Column (e): Projected investment earnings are based on the assumed investment rate of return of 7.25% per annum.

(8) As illustrated in this appendix, the Plan's Fiduciary Net Position was projected to be available to make all projected future benefit payments for current plan members. In other words, there is no projected "cross-over date" when projected benefits are not covered by projected assets. Therefore, the long-term expected rate of return on plan investments of 7.25% per annum was applied to all periods of projected benefit payments to determine the Total Pension Liability as of June 30, 2022 shown earlier in this report, pursuant to Paragraph 44 of GASB Statement No. 67.

(9) This projection is based on a model developed by our Actuarial Technology and Systems unit, comprised of both actuaries and programmers. The model allows the client team, under the supervision of the responsible actuary, control over the entry of future expected contribution income, benefit payments and administrative expenses. The projection of Plan Fiduciary Net Position and the discounting of benefits is part of the model.

Appendix C: Definition of Terms

Definitions of certain terms as they are used in Statement 67. The terms may have different meanings in other contexts.

Actuarial Present Value of Projected Benefit Payments:	Projected benefit payments discounted to reflect the expected effects of the time value (present value) of money and the probabilities of payment.
Actuarial Valuation:	The determination, as of a point in time (the actuarial valuation date), of the service cost, Total Pension Liability, and related actuarial present value of projected benefit payments for pensions performed in conformity with Actuarial Standards of Practice unless otherwise specified by the GASB.
Actuarial Valuation Date:	The date as of which an actuarial valuation is performed.
Actuarially Determined Contribution:	A target or recommended contribution to a defined benefit pension plan for the reporting period, determined in conformity with Actuarial Standards of Practice based on the most recent measurement available when the contribution for the reporting period was adopted.
Ad Hoc Cost-of-Living Adjustments (Ad Hoc COLAs):	Cost-of-living adjustments that require a decision to grant by the authority responsible for making such decisions.
Ad Hoc Postemployment Benefit Changes:	Postemployment benefit changes that require a decision to grant by the authority responsible for making such decisions.
Automatic Cost-of-Living Adjustments (Automatic COLAs):	Cost-of-living adjustments that occur without a requirement for a decision to grant by a responsible authority, including those for which the amounts are determined by reference to a specified experience factor (such as the earnings experience of the pension plan) or to another variable (such as an increase in the consumer price index).
Automatic Postemployment Benefit Changes:	Postemployment benefit changes that occur without a requirement for a decision to grant by a responsible authority, including those for which the amounts are determined by reference to a specified experience factor (such as the earnings experience of the pension plan) or to another variable (such as an increase in the consumer price index).
Cost-of-Living Adjustments:	Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.
Cost-Sharing Multiple-Employer Defined Benefit Pension Plan (Cost-Sharing Pension Plan):	A multiple-employer defined benefit pension plan in which the pension obligations to the employees of more than one employer are pooled and pension plan assets can be used to pay the benefits of the employees of any employer that provides pensions through the pension plan.
Covered Payroll:	Payroll on which contributions to the pension plan are based.
Defined Benefit Pension Plans:	Pension plans that are used to provide defined benefit pensions.

Defined Benefit Pensions:	Pensions for which the income or other benefits that the employee will receive at or after separation from employment are defined by the benefit terms. The pensions may be stated as a specified dollar amount or as an amount that is calculated based on one or more factors such as age, years of service, and compensation. (A pension that does not meet the criteria of a defined contribution pension is classified as a defined benefit pension for purposes of Statement 67.)
Defined Contribution Pension Plans:	Pension plans that are used to provide defined contribution pensions.
Defined Contribution Pensions:	Pensions having terms that (1) provide an individual account for each employee; (2) define the contributions that an employer is required to make (or the credits that it is required to provide) to an active employee's account for periods in which that employee renders service; and (3) provide that the pensions an employee will receive will depend only on the contributions (or credits) to the employee's account, actual earnings on investments of those contributions (or credits), and the effects of forfeitures of contributions (or credits) made for other employees, as well as pension plan administrative costs, that are allocated to the employee's account.
Discount Rate:	The single rate of return that, when applied to all projected benefit payments, results in an actuarial present value of projected benefit payments equal to the total of the following: 1. The actuarial present value of benefit payments projected to be made in future periods in which (a) the amount of the pension Plan's Fiduciary Net Position is projected (under the requirements of Statement 67) to be greater than the benefit payments that are projected to be made in that period and (b) pension plan assets up to that point are expected to be invested using a strategy to achieve the long-term expected rate of return, calculated using the long-term expected rate of return on pension plan investments. 2. The actuarial present value of projected benefit payments not included in (1), calculated using the municipal bond rate.
Entry Age Actuarial Cost Method:	A method under which the actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis over the earnings or service of the individual between entry age and assumed exit age(s). The portion of this actuarial present value allocated to a valuation year is called the normal cost. The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future normal costs is called the actuarial accrued liability.
Inactive Employees:	Terminated individuals that have accumulated benefits but are not yet receiving them, and retirees or their beneficiaries currently receiving benefits.
Multiple-Employer Defined Benefit Pension Plan:	A defined benefit pension plan that is used to provide pensions to the employees of more than one employer.
Net Pension Liability (NPL):	The liability of employers and non-employer contributing entities to employees for benefits provided through a defined benefit pension plan.

Other Postemployment Benefits:	All postemployment benefits other than retirement income (such as death benefits, life insurance, disability, and long-term care) that are provided separately from a pension plan, as well as postemployment healthcare benefits, regardless of the manner in which they are provided. Other postemployment benefits do not include termination benefits.
Pension Plans:	Arrangements through which pensions are determined, assets dedicated for pensions are accumulated and managed and benefits are paid as they come due.
Pensions:	Retirement income and, if provided through a pension plan, postemployment benefits other than retirement income (such as death benefits, life insurance, and disability benefits). Pensions do not include postemployment healthcare benefits and termination benefits.
Plan Members:	Individuals that are covered under the terms of a pension plan. Plan members generally include (1) employees in active service (active plan members) and (2) terminated employees who have accumulated benefits but are not yet receiving them and retirees or their beneficiaries currently receiving benefits (inactive plan members).
Postemployment:	The period after employment.
Postemployment Benefit Changes:	Adjustments to the pension of an inactive employee.
Postemployment Healthcare Benefits:	Medical, dental, vision, and other health-related benefits paid subsequent to the termination of employment.
Projected Benefit Payments:	All benefits estimated to be payable through the pension plan to current active and inactive employees as a result of their past service and their expected future service.
Public Employee Retirement System:	A special-purpose government that administers one or more pension plans; also may administer other types of employee benefit plans, including postemployment healthcare plans and deferred compensation plans.
Real Rate of Return:	The rate of return on an investment after adjustment to eliminate inflation.
Service Costs:	The portions of the actuarial present value of projected benefit payments that are attributed to valuation years.
Single-Employer Defined Benefit Pension Plan (Single-Employer Pension Plan):	A defined benefit pension plan that is used to provide pensions to employees of only one employer.
Termination Benefits:	Inducements offered by employers to active employees to hasten the termination of services, or payments made in consequence of the early termination of services. Termination benefits include early-retirement incentives, severance benefits, and other termination-related benefits.
Total Pension Liability (TPL):	The portion of the actuarial present value of projected benefit payments that is attributed to past periods of employee service in conformity with the requirements of Statement 67.