

Alameda County Employees' Retirement Association (ACERA)

Governmental Accounting Standards Board Statement 68 (GASB 68) Actuarial Valuation

Actuarial Valuation Based on December 31, 2022
Measurement Date for Employer Reporting
as of June 30, 2023



This report has been prepared at the request of the Board of Retirement to assist the sponsors of the Fund in preparing their financial report for their liabilities associated with the ACERA pension plan. This valuation report may not otherwise be copied or reproduced in any form without the consent of the Board of Retirement and may only be provided to other parties in its entirety, unless expressly authorized by Segal. The measurements shown in this actuarial valuation may not be applicable for other purposes.

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June 6, 2023

Board of Retirement
Alameda County Employees' Retirement Association
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Dear Board Members:

We are pleased to submit this Governmental Accounting Standards Board Statement 68 (GASB 68) Actuarial Valuation based on a December 31, 2022 measurement date for employer reporting as of June 30, 2023. It contains various information that will need to be disclosed in order for ACERA employers to comply with GASB 68.

This report was prepared in accordance with generally accepted actuarial principles and practices at the request of the Board to assist the sponsors in preparing their financial report for their liabilities associated with the ACERA pension plan. The census and financial information on which our calculations were based were provided by ACERA. 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; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period); and changes in plan provisions or applicable law.

The actuarial calculations were completed under the supervision of Eva Yum, FSA, MAAA, Enrolled Actuary. We are members of the American Academy of Actuaries and we meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. To the best of our knowledge, the information supplied in the actuarial valuation is complete and accurate. Further, in our opinion, the assumptions as approved by the Board are reasonably related to the experience of and expectations for the Retirement Association.

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

Sincerely,

Segal

A handwritten signature in black ink that reads "Andy Yeung".

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

A handwritten signature in black ink that reads "Eva Yum".

Eva Yum, FSA, MAAA, EA
Vice President and Actuary

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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 68 (GASB 68) for employer reporting as of June 30, 2023. The results used in preparing this GASB 68 report are comparable to those used in preparing the Governmental Accounting Standards Board (GASB) Statement 67 report for the plan based on a reporting date and a measurement date as of December 31, 2022. This valuation is based on:

- The benefit provisions of ACERA, as administered by the Board of Retirement;
- The characteristics of covered active members, inactive vested members, and retired members and beneficiaries as of November 30, 2021, provided by ACERA;
- The assets of the Plan as of December 31, 2022, provided by ACERA;
- Economic assumptions regarding future salary increases and investment earnings adopted by the Board for the December 31, 2022 valuation; and
- Other actuarial assumptions, regarding employee terminations, retirement, death, etc. adopted by the Board for the December 31, 2022 valuation.

General observations on GASB 68 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 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 ACERA uses for funding. This means that the Total Pension Liability (TPL) measure for financial reporting shown in this report is determined on generally the same basis as ACERA'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 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 fair value of assets and therefore, the NPL measure is very similar to an Unfunded Actuarial Accrued Liability (UAAL) calculated on a market value basis.

Section 1: Actuarial Valuation Summary

Highlights of the valuation

1. For this report, the reporting dates for the employers are June 30, 2023 and June 30, 2022. The NPLs measured as of December 31, 2022 and 2021 have been determined by rolling forward the TPL as of December 31, 2021 and 2020, respectively. The Plan's Fiduciary Net Positions were valued as of the measurement dates. In addition, any changes in actuarial assumptions or plan provisions that occurred between the valuation date and the measurement date have been reflected. Consistent with the provisions of GASB 68, the assets and liabilities measured as of December 31, 2022 and 2021 are not adjusted or rolled forward to the June 30, 2023 and June 30, 2022 reporting dates, respectively.
2. The NPL increased from \$792 million as of December 31, 2021 to \$2,231 million as of December 31, 2022 primarily as a result of unfavorable investment return during calendar year 2022 of about \$1,463 million¹ less than assumed. Changes in these values during the last two fiscal years ending December 31, 2021 and December 31, 2022 can be found in *Section 2, Schedule of changes in Net Pension Liability* on page 19.
3. As we disclosed in our December 31, 2022 funding valuation report, the 7.00% investment return assumption that the Board approved on October 15, 2020 for determining the liabilities for funding purposes and used for establishing the employer and employee contribution rates has continued to be developed without considering the impact of any future 50/50 excess earnings allocation. This is based on our understanding that Article 5.5 of the Statute, which authorizes the allocation of 50% of excess earnings to the SRBR, does not allow for the use of a different investment return for funding than is used for interest crediting. This would appear in effect to preclude the prefunding of the SRBR through the use of an assumption lower than the market earnings assumption of 7.00%.

As required by the Actuarial Standard of Practice (ASOP) No. 4 (“Measuring Pension Obligations and Determining Pension Plan Costs or Contributions”), we performed a stochastic model to estimate the impact of the 50% allocation of future excess earnings to the SRBR. The results of our model indicated that the 50/50 allocation of future excess earnings would have about the same impact as an “outflow” (i.e., assets not available to fund the benefits included in the determination of the TPL) that would average approximately 0.65% of assets over time. This approximated outflow was incorporated into our GASB crossover test² (Appendix A), along with the additional future employer contributions that would result from those future allocations of excess earnings to the SRBR under ACERA's funding policy.

¹ This amount represents the investment income on the Plan's Fiduciary Net Position for the Pension Plan and non-OPEB SRBR that is below the assumed earnings (actual market return of -7.5% versus 7.00% assumed in the valuation) for the year ending December 31, 2022. It also includes the change in the Contingency Reserve from last year to this year.

² The purpose of the GASB crossover test is to determine if the full expected return (or 7.00% in this case) can be used as the discount rate to determine the TPL and the NPL. That is, if there is no crossover point where the projected benefit payments would exceed the Plan's Fiduciary Net Position, then the full expected return assumption can be used. As detailed later in this report, ACERA does pass the crossover test, which means that the full 7.00% investment rate of return assumption can be used as the discount rate to determine the TPL and the resulting NPL.

Section 1: Actuarial Valuation Summary

4. The NPL measured as of December 31, 2022 was determined by rolling forward the TPL for the funded benefits as of December 31, 2021. Similar to last year, we have included in the TPL as of December 31, 2022 the non-OPEB unlimited Actuarial Accrued Liability (AAL) of \$144.8 million, which was calculated by rolling forward the total unlimited non-OPEB AAL as of December 31, 2021.
5. As of December 31, 2022, the deferred investment loss for the entire Plan was \$794 million. The proportionate share of the net deferred investment loss as of December 31, 2022 for the Pension Plan was equal to \$716.5 million and in calculating the Plan's Fiduciary Net Position we have adjusted the Pension Plan's valuation value of assets in the funding valuation to reflect that amount. We have also continued the practice of adjusting the Plan's Fiduciary Net Position as of December 31, 2022 to include the \$54.9 million set aside by the Retirement Board in the SRBR reserve to pay non-vested Supplemental COLA and retired member death benefits¹ as of December 31, 2022. We have subtracted from the Plan's Fiduciary Net Position the proportionate share of the net deferred investment loss that is commensurate with the size of the non-OPEB SRBR reserve, or \$3.6 million. The net effect of the adjustments to the Plan's Fiduciary Net Position as of December 31, 2022 for non-OPEB SRBR benefits was an addition of \$51.3 million.
6. The \$93.5 million difference between the \$144.8 million added to the TPL and the net \$51.3 million added to the Plan's Fiduciary Net Position as of December 31, 2022 represents the NPL attributable to non-OPEB SRBR benefits.
7. The Alameda County Office of Education (ACOE) made a lump sum contribution of \$750,000 in 2019 to partially pay off their UAAL. That lump sum is greater than the amount that ACOE would have to make on an installment basis over 20 years. In order to have a more level allocation of the NPL to ACOE, ACERA approved an approach outlined in our March 2, 2020 letter to determine ACOE's proportionate share of the non-OPEB SRBR NPL by using ACOE's required contributions determined as if they had not made the additional lump sum contribution in 2019. We have continued to use that method in determining ACOE's proportionate share of the non-OPEB SRBR NPL in this valuation.
8. The County made voluntary County Safety contributions of \$800 million on around June 29, 2021 to reduce their Safety UAAL and associated contribution rates. The Livermore Area Recreation and Park District (LARPD) also made voluntary LARPD General contributions of \$12.611 million on around June 29, 2021 to reduce their General UAAL and associated contribution rates. We amortized the voluntary County Safety UAAL contributions over 13 years effective FY 21-22 to provide a UAAL contribution rate credit for County Safety and the voluntary LARPD General UAAL contributions over 16 years effective FY 21-22 to provide a UAAL contribution rate credit for LARPD General. Similar to the approach approved by ACERA as described in the previous item for determining ACOE's proportionate share of the non-OPEB SRBR NPL, we have determined the County Safety and LARPD's proportionate share of the non-OPEB SRBR NPL by using the County Safety and LARPD's required contributions, respectively, as if they had not made the voluntary UAAL contributions in 2021.

¹ We have excluded the liability and the assets associated with the OPEB component of the SRBR reserve account because it is our understanding that those amounts are reportable under GASB 74/75.

Section 1: Actuarial Valuation Summary

9. There was an increase in the total employer pension expense from \$135.2 million calculated last year to \$451.3 million calculated this year. The primary cause of the increase is the recognition of an expense of \$292.6 million in this year's pension expense that is associated with investment income on the Plan's Fiduciary Net Position that is below the assumed earnings (at 7.00%) for the year ending December 31, 2022 for a loss of \$1,463 million.
10. The discount rate used to measure the TPL and NPL as of December 31, 2022 and December 31, 2021 was 7.00%, following the same assumptions used by ACERA in the pension funding valuations as of December 31, 2022 and December 31, 2021, respectively. The detailed calculations used in the derivation of the discount rate of 7.00% as of December 31, 2022 can be found in *Section 3, Appendix A*. Various other information that is required to be disclosed can be found throughout *Section 2*.

Section 1: Actuarial Valuation Summary

Summary of key valuation results

Reporting Date for Employer under GASB 68 ¹		June 30, 2023	June 30, 2022
Measurement Date for Employer under GASB 68		December 31, 2022	December 31, 2021
Disclosure elements for fiscal year ending December 31:	• Service cost ²	\$245,467,025	\$235,098,619
	• Total Pension Liability	11,489,051,341	11,009,508,484
	• Plan's Fiduciary Net Position ³	9,257,791,490	10,217,221,404
	• Net Pension Liability	2,231,259,851	792,287,080
	• Pension expense	451,270,666	135,216,687
Schedule of contributions for plan year ending December 31:	• Actuarially determined contributions	\$281,646,702	\$303,964,590
	• Actual contributions ⁴	281,646,702	1,116,575,840
	• Contribution deficiency / (excess)	0	(812,611,250)
Demographic data for plan year ending December 31: ⁵	• Number of retired members and beneficiaries	10,798	10,536
	• Number of inactive vested members ⁶	3,564	3,265
	• Number of active members	11,346	11,326
Key assumptions as of December 31:	• Investment rate of return	7.00%	7.00%
	• Inflation rate	2.75%	2.75%
	• Real across-the-board salary increase	0.50%	0.50%
	• Projected salary increases ⁷	General: 8.35% to 3.65%	General: 8.35% to 3.65%
		Safety: 11.25% to 4.05%	Safety: 11.25% to 4.05%

¹ The reporting date and measurement date for the plan are December 31, 2022 and December 31, 2021, respectively.

² The Service Cost is based on the previous year's valuation, meaning the December 31, 2022 and December 31, 2021 measurement date values are based on the valuations as of December 31, 2021 and December 31, 2020, respectively. Both service costs have been calculated using the assumptions shown in the December 31, 2021 measurement date column, as there had been no changes in the actuarial assumptions between the December 31, 2020 and December 31, 2021 valuations.

³ For the December 31, 2022 measurement date, the Plan's Fiduciary Net Position amount shown (\$9,257,791,490) includes the net fair value of assets (\$10,298,512,063) less OPEB-related SRBR assets (\$1,040,720,573). The OPEB-related SRBR assets include \$1,105,725,871 in the SRBR-OPEB reserve (after reducing the reserve by the \$7,981,476 SRBR implicit subsidy transfer), and \$8,979,234 in the 401(h) reserve, minus a proportionate share of the deferred market losses commensurate with the size of the OPEB to total SRBR and 401(h) reserve to valuation and 401(h) reserves (\$73,984,532). For the December 31, 2021 measurement date, the Plan's Fiduciary Net Position amount shown (\$10,217,221,404) includes the net fair value of assets (\$11,840,862,896) less OPEB-related SRBR assets (\$1,623,641,492). The OPEB-related SRBR assets include \$1,073,475,020 in the SRBR-OPEB reserve (after reducing the reserve by the \$5,652,613 SRBR implicit subsidy transfer), and \$9,229,285 in the 401(h) reserve, plus a proportionate share of one half of the deferred market gains (after adjustment to replenish the balance in the Contingency Reserve, if any) commensurate with the size of the OPEB to total SRBR and 401(h) reserve to valuation and 401(h) reserves (\$540,937,187).

⁴ Employer contributions are on a net basis after (i) considering the total cash contributions made by the employers, (ii) reducing by the employer contributions made to the 401(h) account, and (iii) increasing by the amount of transfer from the SRBR to the Employers Advance Reserve for employer contributions made to the 401(h) account in (ii). For the year ending December 31, 2021, the actual employer contributions are greater than the actuarially determined contributions by \$813 million due to voluntary County Safety and LARPD General contributions to reduce their UAAL and associated contribution rates.

⁵ Data as of December 31, 2021 is used in the measurement of the TPL as of December 31, 2022.

⁶ Includes members who left their contributions on deposit even though they have less than five years of service.

⁷ Includes inflation at 2.75% plus real across-the-board salary increase of 0.50% plus merit and promotion increases.

Section 1: Actuarial Valuation Summary

Important information about actuarial valuations

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

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

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 description in this report (as well as the plan summary included in our funding valuation 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 ACERA. 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	This valuation is based on the fair value of assets as of the valuation date, as provided by ACERA. The Association uses an “actuarial value of assets” that differs from fair value to gradually reflect six-month changes in the fair value of assets in determining contribution requirements.
Actuarial assumptions	In preparing an actuarial valuation, Segal starts by developing a forecast of the benefits to be paid to existing plan participants for the rest of their lives and the lives of their beneficiaries. 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.

Section 1: Actuarial Valuation Summary

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 ACERA 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, Segal did not perform an analysis of the potential range of future financial measurements, except where otherwise noted.

If ACERA 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 ACERA upon delivery and review. Trustees 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 ACERA, it is not a fiduciary in its capacity as actuaries and consultants with respect to ACERA.

Section 2: GASB 68 Information

General information about the pension plan

Plan Description

Plan administration. The Alameda County Employees' Retirement Association (ACERA) was established by the Alameda County Board of Supervisors in 1947. ACERA is administered by the Board of Retirement and governed by the County Employees' Retirement Law of 1937 (California Government Code Section 31450 et. seq.). ACERA is a cost-sharing, multiple employer, defined benefit, public employee retirement system whose main function is to provide service retirement, disability, death, and survivor benefits to the General and Safety members employed by the County of Alameda. ACERA also provides retirement benefits to the employee members of First 5 Alameda County, Housing Authority of the County of Alameda, Alameda Health System, Livermore Area Recreation and Park District (LARPD), Superior Court of California—County of Alameda, and Alameda County Office of Education.

The management of ACERA is vested with the ACERA Board of Retirement. The Board consists of nine members and two alternates. The County Treasurer is a member of the Board of Retirement by law and is elected by the general public. Four members are appointed by the Board of Supervisors, one of whom may be a County Supervisor. Two active members are elected by the General members; one active member and one alternate are elected by the Safety members; one retired member and one alternate are elected by the retired members. All members of the Board of Retirement serve terms of three years except for the County Treasurer whose term runs concurrent with his term as County Treasurer.

Plan membership. At December 31, 2022, pension plan membership consisted of the following:

Retired members or beneficiaries currently receiving benefits	10,798
Inactive vested members entitled to but not yet receiving benefits ¹	3,564
Active members	<u>11,346</u>
Total	25,708

Note: Data as of December 31, 2022 is not used in the measurement of the TPL as of December 31, 2022.

¹ Includes terminated members due a refund of member contributions.

Section 2: GASB 68 Information

Benefits provided. ACERA provides service retirement, disability, death, and survivor benefits to eligible employees. The first date of ACERA membership varies by employer, as follows:

- Alameda County, Alameda Health System and Alameda Superior Court Employees: Membership for these employees is effective on the first day of the second pay period following the employee's hire date in an ACERA covered position. This is the date of entry into ACERA membership. As of the date of entry, payroll deductions for retirement contributions begin and service credit for each hour worked is earned. During the short period between the beginning of employment and the ACERA plan date of entry, the employee does not pay contributions or earn service credit. A member may purchase this service credit (referred to as "days prior to entry") any time before retirement without changing the membership, but date of entry does not change.
- Housing Authority and Livermore Area Recreation and Park District Employees: Membership for these employees is effective on the first day of employee's hire in an ACERA covered position. The first date of employment is the date of entry into ACERA membership. As of this date of entry, payroll deductions for retirement contributions begin and service credit for each hour work is earned.
- First 5 Employees: Membership for these employees is effective on the first day of the second pay period following the employee's hire date.
- Office of Education Employees: This is a closed plan with no more active employees (i.e., there is no new ACERA membership. However, the employer does retain retired members and beneficiaries in the Retirement Association as of the December 31, 2022 valuation date).

There are separate retirement benefits for General and Safety members. Safety membership is extended to those involved in active law enforcement, deferred firefighters, or positions that have been designated as Safety by the Board of Retirement (e.g. Juvenile Hall Group Counselor, Probation Officer, etc.). All other employees are classified as General members.

Any new member who becomes a member on or after January 1, 2013 is placed into Tier 4 and is subject to the provisions of California Public Employees' Pension Reform Act of 2013 (PEPRA), California Government Code 7522 et seq. and Assembly Bill (AB) 197.

General members enrolled in Tiers 1, 2, or 3 are eligible to retire once they attain the age of 70 regardless of service or at age 50 with five or more years of retirement service credit and a total of 10 years of qualifying membership. A non-Tier 4 General member with 30 years of service is eligible to retire regardless of age. General members enrolled in Tier 4 are eligible to retire once they have attained the age of 52 and have acquired five years of retirement service credit, or at age 70 regardless of service.

Safety members enrolled in Tiers 1, 2, 2C, or 2D are eligible to retire once they attain the age of 70 regardless of service or at age 50 with five or more years of retirement service credit and a total of 10 years of qualifying membership. A non-Tier 4 Safety member with 20 years of service is eligible to retire regardless of age. Safety members enrolled in Tier 4 are eligible to retire once they have attained the age of 50 and have acquired five years of retirement service credit, or at age 70 regardless of service.

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.

Section 2: GASB 68 Information

The tiers and their basic provisions are listed below:

Tier Name	Service Retirement Governing Code Section	Effective Date	Basic Provisions	Final Average Salary Period	Plan Sponsors
General Tier 1	§31676.12	Various	2.0% at 57; maximum 3% COLA	Highest 1-year	All
General Tier 2	§31676.1	June 30, 1983*	2.0% at 61; maximum 2% COLA	Highest 3-years	All except LARPD
General Tier 3	§31676.18	October 1, 2008	2.5% at 55; maximum 3% COLA	Highest 1-year	LARPD
General Tier 4	§7522.20(a)	January 1, 2013	2.5% at 67; maximum 2% COLA	Highest 3-years	All
Safety Tier 1	§31664.1	Various	3.0% at 50; maximum 3% COLA	Highest 1-year	County
Safety Tier 2	§31664.1	June 30, 1983	3.0% at 50; maximum 2% COLA	Highest 3-years	County
Safety Tier 2C	§31664	October 17, 2010	2.6% at 55; maximum 2% COLA	Highest 3-years	County
Safety Tier 2D	§31664.2	October 17, 2010	3.0% at 55; maximum 2% COLA	Highest 3-years	County
Safety Tier 4	§7522.25(d)	January 1, 2013	2.7% at 57; maximum 2% COLA	Highest 3-years	County

* For Housing Authority members, the effective date is September 30, 2011.

For members enrolled in Tiers 1, 2, 2C, 2D, or 3, the maximum monthly retirement allowance is 100% of final compensation. There is no maximum for members enrolled in Tier 4.

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. 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.

Section 2: GASB 68 Information

ACERA provides an annual cost-of-living benefit to all retirees. The cost-of-living adjustment, based upon the Consumer Price Index for the San Francisco-Oakland-Hayward Area (with 1982-84 as the base period), is capped at 3.0% for General Tiers 1 and 3 and Safety Tier 1, and at 2.0% for General Tiers 2 and 4 and Safety Tiers 2, 2C, 2D, and 4.

The County of Alameda and the other participating agencies 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 ACERA's actuary after the completion of the annual actuarial valuation. The average employer contribution rate as of December 31, 2022 for 2022 (based on the December 31, 2020 valuation for the second half of 2021/2022 and on the December 31, 2021 valuation for the first half of 2022/2023) was 23.49% of compensation.

Members are required to make contributions to ACERA regardless of the retirement plan or tier in which they are included. The average member contribution rate as of December 31, 2022 for 2022 (based on the December 31, 2020 valuation for the second half of 2021/2022 and on the December 31, 2021 valuation for the first half of 2022/2023) was 10.06% of compensation.

Section 2: GASB 68 Information

Net Pension Liability

Reporting Date for Employer under GASB 68	June 30, 2023	June 30, 2022
Measurement Date for Employer under GASB 68	December 31, 2022	December 31, 2021
Components of the Net Pension Liability		
Total Pension Liability	\$11,489,051,341	\$11,009,508,484
Plan's Fiduciary Net Position	<u>(9,257,791,490)</u>	<u>(10,217,221,404)</u>
Net Pension Liability	\$2,231,259,851	\$792,287,080
Plan's Fiduciary Net Position as a percentage of the Total Pension Liability	80.58%	92.80%

The Net Pension Liability (NPL) was measured as of December 31, 2022 and 2021. The Plan's Fiduciary Net Position (plan assets) was valued as of the measurement date and the Total Pension Liability (TPL) was determined based upon rolling forward the TPL from actuarial valuations as of December 31, 2021 and 2020, respectively.

Plan provisions. The plan provisions used in the measurement of the NPL as of December 31, 2022 and 2021 are the same as those used in the ACERA actuarial valuations as of December 31, 2022 and 2021, respectively.

Actuarial assumptions. The TPLs as of December 31, 2022 and 2021 that were measured by actuarial valuations as of December 31, 2021 and 2020, respectively, used the same actuarial assumptions as the December 31, 2022 and 2021 funding valuations, respectively. The actuarial assumptions used in the December 31, 2022 and 2021 funding valuations were based on the results of an experience study for the period December 1, 2016 through November 30, 2019. In particular, the following actuarial assumptions were applied to all periods included in the measurement:

Investment rate of return:	7.00%, net of pension plan investment expense, including inflation
Inflation rate:	2.75%
Real across-the-board salary increase:	0.50%
Projected salary increases:	General: 8.35% to 3.65% and Safety: 11.25% to 4.05%, vary by service, including inflation and across-the-board salary increase
Cost of living adjustments:	2.75% of retirement income for General Tiers 1 and 3, and Safety Tier 1; 2.00% for General Tiers 2 and 4, and Safety Tiers 2, 2C, 2D, and 4
Other assumptions:	See analysis of actuarial experience during the period December 1, 2016 through November 30, 2019

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Determination of discount rate and investment rates of return

The long-term expected rate of return on pension plan investments¹ was determined in 2020 using a building-block method in which expected future real rates of return (expected returns, net of inflation) are developed for each major asset class. These returns are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage, adding expected inflation and subtracting expected investment expenses and a risk margin. The target allocation (approved by the Board) and projected arithmetic real rates of return for each major asset class, after deducting inflation, but before investment expenses are shown in the following table. This information was used in the derivation of the long-term expected investment rate of return assumption for the December 31, 2022 actuarial valuation. This information will be subject to change every three years based on the results of an actuarial experience study.

Asset Class	Target Allocation	Long-Term Expected Arithmetic Real Rate of Return
US Large Cap Equity	22.40%	5.43%
US Small Cap Equity	2.50%	6.21%
International Developed Equity	17.00%	6.67%
International Small Cap Equity	3.00%	7.36%
Emerging Markets Equity	5.00%	8.58%
Core Plus Fixed Income	11.50%	1.10%
High Yield Bonds	1.60%	2.91%
Global Fixed Income	3.00%	-0.63%
Private Equity	10.50%	10.00%
Core Real Estate	8.00%	4.58%
Commodities	0.75%	3.46%
Infrastructure	1.75%	7.80%
Private Credit	4.00%	8.50%
Absolute Return	9.00%	3.70%
Total	100.00%	5.56%

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

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Discount rate. The discount rate used to measure the Total Pension Liability (TPL) was 7.00% as of December 31, 2022 and December 31, 2021. Our understanding is that Article 5.5 of the Statute, which authorizes the allocation of 50% of excess earnings to the SRBR, does not allow for the use of a different investment return assumption for funding than is used for interest crediting. In order to reflect the provisions of Article 5.5, we have treated future allocations to the SRBR as an additional outflow against the Plan's Fiduciary Net Position in the GASB crossover test, as mentioned earlier in Section 1. Again, we are estimating that the additional outflow would average approximately 0.65% of assets over time, based on the results of our stochastic modeling of the 50% allocation of future excess earnings to the SRBR.

The projection of cash flows used to determine the discount rate assumes plan member contributions will be made at the current contribution rates and that employer contributions will be made at rates equal to the actuarially determined contribution rates¹ plus additional future contributions that would follow from the future allocation of excess earnings to the SRBR. 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 pension plan's Fiduciary Net Position was projected to be available to make all projected future benefit payments for current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the Total Pension Liability as of both December 31, 2022 and December 31, 2021.

¹ For this purpose, only employer contributions that are intended to fund benefits of current plan members and their beneficiaries are included.

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Discount rate sensitivity

Sensitivity of the Net Pension Liability to changes in the discount rate. The following presents the NPL as of December 31, 2022, calculated using the discount rate of 7.00%, as well as what the NPL would be if it were calculated using a discount rate that is 1-percentage-point lower (6.00%) or 1-percentage-point higher (8.00%) than the current rate:

	1% Decrease (6.00%)	Current Discount Rate (7.00%)	1% Increase (8.00%)
Alameda County	\$2,692,099,613	\$1,581,785,390	\$668,121,764
Health System	800,343,845	512,556,871	274,654,371
Superior Court	163,246,391	104,546,389	56,021,341
First 5	21,050,650	13,481,275	7,223,961
Housing Authority	18,721,478	11,989,624	6,424,658
LARPD	13,412,664	5,617,872	(714,560)
ACOE	<u>1,657,088</u>	<u>1,282,430</u>	<u>954,542</u>
Total for all Employers	\$3,710,531,729	\$2,231,259,851	\$1,012,686,077

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Schedule of changes in Net Pension Liability — Last two plan years

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68	June 30, 2023 December 31, 2022	June 30, 2022 December 31, 2021
Total Pension Liability		
• Service cost ¹	\$245,467,025	\$235,098,619
• Interest	767,151,503	741,738,512
• Change of benefit terms	0	0
• Differences between expected and actual experience	58,260,983	(50,359,948)
• Changes of assumptions	0	0
• Benefit payments, including refunds of member contributions	(591,336,654)	(556,269,070)
Net change in Total Pension Liability	\$479,542,857	\$370,208,113
Total Pension Liability – beginning	<u>11,009,508,484</u>	<u>10,639,300,371</u>
Total Pension Liability – ending	<u>\$11,489,051,341</u>	<u>\$11,009,508,484</u>
Plan’s Fiduciary Net Position		
• Contributions – employer ²	\$281,646,702	\$1,116,575,840
• Contributions – member	120,673,520	111,091,264
• Net investment income	(755,044,439)	1,115,978,652
• Benefit payments, including refunds of member contributions	(591,336,654)	(556,269,070)
• Administrative expense	(15,369,043)	(15,039,778)
• Other	0	0
Net change in Plan’s Fiduciary Net Position	\$ (959,429,914)	\$1,772,336,908
Plan’s Fiduciary Net Position³ – beginning	<u>10,217,221,404</u>	<u>8,444,884,496</u>
Plan’s Fiduciary Net Position³ – ending	<u>\$9,257,791,490</u>	<u>\$10,217,221,404</u>
Net Pension Liability – ending	<u>\$2,231,259,851</u>	<u>\$792,287,080</u>
Plan’s Fiduciary Net Position as a percentage of the Total Pension Liability	80.58%	92.80%
Covered payroll⁴	\$1,198,970,345	\$1,153,918,121
Plan Net Pension Liability as percentage of covered payroll	186.10%	68.66%

¹ The Service Cost is based on the previous year’s valuation, meaning the December 31, 2022 and December 31, 2021 measurement date values are based on the valuations as of December 31, 2021 and December 31, 2020, respectively. See page 8 for the assumptions used in calculating the Service Cost.

² Employer contributions are on a net basis after (i) considering the total cash contributions made by the employers, (ii) reducing by the employer contributions made to the 401(h) account, and (iii) increasing by the amount of transfer from the SRBR to the Employers Advance Reserve for employer contributions made to the 401(h) account in (ii). Also, the County and LARPD made voluntary contributions of \$800 million (County Safety) and \$12.611 million (LARPD General), respectively, in 2021.

³ See footnote (3) on page 8 for a discussion on the development of the December 31, 2022 measurement date “Plan’s Fiduciary Net Position – beginning” amount of \$10,217,221,404 and the December 31, 2022 measurement date “Plan’s Fiduciary Net Position – ending” amount of \$9,257,791,490.

⁴ Covered payroll represents Compensation Earnable and Pensionable Compensation and is defined as the payroll on which contributions to the pension plan are based.

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Schedule of employer contributions — Last ten plan years

Year Ended December 31	Actuarially Determined Contributions	Contributions in Relation to the Actuarially Determined Contributions	Contribution Deficiency / (Excess)	Covered Payroll ¹	Contributions as a Percentage of Covered Payroll
2013	\$191,180,146	\$191,180,146	\$0	\$853,349,657	22.40%
2014	213,254,775	213,254,775	0	886,924,862	24.04%
2015	224,607,104	224,607,104	0	945,858,017 ²	23.75%
2016	241,728,451	241,728,451	0	947,567,631	25.51%
2017	247,063,550	247,063,550	0	995,178,209	24.83%
2018	269,684,809	269,684,809	0	1,046,033,851	25.78%
2019	298,526,950	298,526,950	0	1,081,586,887	27.60%
2020	309,758,947	309,752,998	5,949 ³	1,111,848,569	27.86%
2021	303,964,590	1,116,575,840	(812,611,250) ⁴	1,153,918,121	96.76% ⁵
2022	281,646,702	281,646,702	0	1,198,970,345	23.49%

¹ For years ended December 31, 2017 and later, covered payroll represents Compensation Earnable and Pensionable Compensation and is defined as the payroll on which contributions to the pension plan are based. For the years ended before December 31, 2017, covered payroll was referred to as covered-employee payroll and only Compensation Earnable and Pensionable Compensation that would go into the determination of retirement benefits was included.

² ACERA indicated that this amount is based on 27 pay periods for 2015.

³ Actuarially Determined Contribution for the Alameda County Office of Education of \$78,000 less actual contributions paid of \$72,051.

⁴ Voluntary County Safety contributions of \$800,000,000 and LARPD General contributions of \$12,611,250 to reduce their UAAL contribution rates.

⁵ Contributions as a percentage of covered payroll is 26.34% if excluding the voluntary County Safety and LARPD General contributions.

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Notes to Schedule:

Methods and assumptions used to establish “actuarially determined contribution” rates:

Valuation Date:	Actuarially determined contribution rates for the first six months of calendar year 2022 (or the second half of fiscal year 2021/2022) are calculated based on the December 31, 2020 valuation. Actuarially determined contribution rates for the last six months of calendar year 2022 (or the first half of fiscal year 2022/2023) are calculated based on the December 31, 2021
Actuarial Cost Method:	Entry Age Actuarial Cost Method
Amortization Method	Level percent of payroll (3.25% payroll growth assumed in the December 31, 2021 valuation and 3.50% payroll growth assumed in the December 31, 2020 valuation)
Remaining Amortization Period:	<p><u>December 31, 2020 valuation</u></p> <p>Prior to January 1, 2012, the total UAAL was amortized on a 30-year decreasing period, with 21 years remaining as of December 31, 2011 (and 12 years remaining as of December 31, 2020). On or after January 1, 2012, any new UAAL resulting from plan amendments are amortized over separate decreasing 15-year periods; early retirement incentive programs (ERIPs) are amortized over separate decreasing 5-year periods; assumption and method changes are amortized over separate decreasing 20-year periods; and experience gains/losses are also amortized over separate decreasing 20-year periods. The County made voluntary County Safety contributions of \$800 million on around June 29, 2021 to reduce their Safety UAAL and associated contribution rates. LARPD also made voluntary LARPD General contributions of \$12.611 million on around June 29, 2021 to reduce their General UAAL and associated contribution rates. The contribution rate credits associated with these voluntary contributions, determined using bases in the December 31, 2020 valuation, are provided effective July 1, 2021. The voluntary County Safety UAAL contributions are amortized over a 13-year period effective July 1, 2021. The voluntary LARPD General UAAL contributions are amortized over a 16-year period effective July 1, 2021.</p> <p><u>December 31, 2021 valuation</u></p> <p>Prior to January 1, 2012, the total UAAL was amortized on a 30-year decreasing period, with 21 years remaining as of December 31, 2011 (and 11 years remaining as of December 31, 2021). On or after January 1, 2012, any new UAAL resulting from plan amendments are amortized over separate decreasing 15-year periods; early retirement incentive programs (ERIPs) are amortized over separate decreasing 5-year periods; assumption and method changes are amortized over separate decreasing 20-year periods; and experience gains/losses are also amortized over separate decreasing 20-year periods. The voluntary County Safety UAAL contributions are amortized over a 13-year period effective July 1, 2021 (with 12.5 years remaining as of December 31, 2021). The voluntary LARPD General UAAL contributions are amortized over a 16-year period effective July 1, 2021 (with 15.5 years remaining as of December 31, 2021). Effective December 31, 2021, the existing LARPD General UAAL layers are amortized over 15.5 years.</p>
Asset Valuation Method:	The actuarial value of assets is determined by recognizing any difference between the actual and the expected market return over 10 six-month interest crediting periods. The actuarial value of assets is further adjusted, if necessary, to be within 40% of the market value of assets. The valuation value of assets is the actuarial value of assets reduced by the value of the non-valuation reserves.

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Actuarial assumptions		
Valuation Date	December 31, 2020 Valuation	December 31, 2021 Valuation
Investment rate of return:	7.00%, net of pension plan administrative and investment expense, including inflation	7.00%, net of pension plan administrative and investment expense, including inflation
Inflation rate:	2.75%	2.75%
Real across-the-board salary increase:	0.50%	0.50%
Projected salary increases:	General: 8.35% to 3.65% and Safety: 11.25% to 4.05%, vary by service, including inflation and across-the-board salary increase	General: 8.35% to 3.65% and Safety: 11.25% to 4.05%, vary by service, including inflation and across-the-board salary increase
Cost of living adjustments:	2.75% of retirement income for General Tiers 1 and 3, and Safety Tier 1; 2.00% for General Tiers 2 and 4, and Safety Tiers 2, 2C, 2D, and 4	2.75% of retirement income for General Tiers 1 and 3, and Safety Tier 1; 2.00% for General Tiers 2 and 4, and Safety Tiers 2, 2C, 2D, and 4
Other assumptions:	Same as those used in the December 31, 2020 funding actuarial valuation	Same as those used in the December 31, 2021 funding actuarial valuation

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Determination of proportionate share

Schedule of Employer Allocations as of December 31, 2021

Actual Employer Contributions by Employer and Membership Class January 1, 2021 to December 31, 2021

Employer	General Members, Excluding ACOE and LARP		General ACOE Members Only		General LARP Members Only		All General Members Combined	
	Contributions	Percentage ¹	Contributions	Percentage	Contributions	Percentage	Contributions	Percentage
Alameda County	\$139,147,479	65.206%	\$0	0.000%	\$0	0.000%	\$139,147,479	61.251%
Health System	59,357,100	27.815%	0	0.000%	0	0.000%	59,357,100	26.128%
Superior Court	12,018,963	5.632%	0	0.000%	0	0.000%	12,018,963	5.290%
First 5	1,477,674	0.692%	0	0.000%	0	0.000%	1,477,674	0.650%
Housing Authority	1,398,011	0.655%	0	0.000%	0	0.000%	1,398,011	0.615%
LARP	0	0.000%	0	0.000%	13,692,329	100.000%	13,692,329	6.027%
ACOE	0	0.000%	89,000	100.000%	0	0.000%	89,000	0.039%
Total for all Employers	\$213,399,227	100.000%	\$89,000	100.000%	\$13,692,329	100.000%	\$227,180,556	100.000%

¹ The unrounded percentages are used in the allocation of the NPL amongst the employers.

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Schedule of Employer Allocations as of December 31, 2021

Actual Employer Contributions by Employer and Membership Class January 1, 2021 to December 31, 2021

Employer	Safety Members		Total		Adjusted Total ^{1,2,3}	
	Contributions	Percentage	Contributions	Percentage	Contributions	Percentage ⁴
Alameda County	\$889,395,284	100.000%	\$1,028,542,763	92.117%	\$256,292,148 ¹	77.170%
Health System	0	0.000%	59,357,100	5.316%	59,357,100	17.872%
Superior Court	0	0.000%	12,018,963	1.076%	12,018,963	3.619%
First 5	0	0.000%	1,477,674	0.132%	1,477,674	0.445%
Housing Authority	0	0.000%	1,398,011	0.125%	1,398,011	0.421%
LARPD	0	0.000%	13,692,329	1.226%	1,422,470 ²	0.428%
ACOE	0	0.000%	89,000	0.008%	148,854 ³	0.045%
Total for all Employers	\$889,395,284	100.000%	\$1,116,575,840	100.000%	\$332,115,220	100.000%

- ¹ This includes \$139,147,479 of County General actual employer contributions and \$117,144,669 of County Safety adjusted employer contributions used for purposes of determining the proportionate share of the non-OPEB SRBR NPL for the County. The County made voluntary County Safety contributions of \$800,000,000 on around June 29, 2021 to reduce their Safety UAAL and associated contribution rates. We have amortized the voluntary County Safety UAAL contributions to provide a UAAL contribution rate credit for County Safety over 13 years effective FY 21-22. Similar to the approach approved by ACERA for ACOE to determine ACOE's proportionate share of the non-OPEB SRBR NPL, we determined the County Safety's proportionate share of the non-OPEB SRBR NPL by using the County Safety's actual contributions (but excluding \$800 million of voluntary UAAL contributions) made in 2021 in the amount of \$89,395,284 plus the contribution credit applied in 2021 in the amount of \$27,749,385 for a total adjusted County Safety contribution of \$117,144,669.
- ² LARPD made voluntary LARPD General contributions of \$12,611,250 on around June 29, 2021 to reduce their General UAAL and associated contribution rates. We have amortized the voluntary LARPD General UAAL contributions to provide a UAAL contribution rate credit for LARPD General over 16 years effective FY 21-22. Similar to the approach approved by ACERA for ACOE to determine ACOE's proportionate share of the non-OPEB SRBR NPL, we determined LARPD's proportionate share of the non-OPEB SRBR NPL by using LARPD's actual contributions (but excluding \$12,611,250 of voluntary UAAL contributions) made in 2021 in the amount of \$1,081,079 plus the contribution credit applied in 2021 in the amount of \$341,391 for a total adjusted LARPD contribution of \$1,422,470.
- ³ ACOE made a lump sum contribution of \$750,000 in 2019 to partially pay off their UAAL. That lump sum is greater than the amount that ACOE would have to make on an installment basis over 20 years. In order to have a more level allocation of the NPL to ACOE, ACERA approved an approach outlined in our March 2, 2020 letter to determine ACOE's proportionate share of the non-OPEB SRBR NPL by using ACOE's required contributions determined in our December 31, 2019 valuation in the amount of \$89,000 based on an April 1, 2021 payment date plus the amortization of the remaining balance of the original \$750,000 lump sum amount (an amount of \$59,854 which represents the additional UAAL contribution ACOE would have been required to pay had they not made the additional lump sum contribution in 2019).
- ⁴ The unrounded percentages are used in the allocation of the NPL amongst the employers.

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Schedule of Employer Allocations as of December 31, 2021

Allocation of December 31, 2021 Net Pension Liability

Employer	General NPL, Excluding ACOE and LARPD (Excl. non-OPEB SRBR NPL)		General ACOE NPL Only (Excl. non-OPEB SRBR NPL)		General LARPD NPL Only (Excl. non-OPEB SRBR NPL)		Total General NPL (Excl. non-OPEB SRBR NPL)	
	NPL	Percentage ¹	NPL	Percentage ¹	NPL	Percentage ¹	NPL	Percentage
Alameda County	\$574,956,681	65.206%	\$0	0.000%	\$0	0.000%	\$574,956,681	65.532%
Health System	245,263,238	27.815%	0	0.000%	0	0.000%	245,263,238	27.954%
Superior Court	49,662,295	5.632%	0	0.000%	0	0.000%	49,662,295	5.660%
First 5	6,105,742	0.692%	0	0.000%	0	0.000%	6,105,742	0.696%
Housing Authority	5,776,574	0.655%	0	0.000%	0	0.000%	5,776,574	0.658%
LARPD	0	0.000%	0	0.000%	(5,048,710)	100.000%	(5,048,710)	(0.575)%
ACOE	0	0.000%	657,384	100.000%	0	0.000%	657,384	0.075%
Total for all Employers	\$881,764,530	100.000%	\$657,384	100.000%	\$(5,048,710)	100.000%	\$877,373,204	100.000%

Allocation of December 31, 2021 Net Pension Liability

Employer	Safety NPL (Excl. non-OPEB SRBR NPL)		General & Safety Total (Excl. non-OPEB SRBR NPL)		General & Safety Non-OPEB SRBR NPL		Total	
	NPL	Percentage ¹	NPL	Percentage	NPL	Percentage ²	NPL	Percentage
Alameda County	\$(123,928,424)	100.000%	\$451,028,257	59.863%	\$29,974,467	77.170%	\$481,002,724	60.710%
Health System	0	0.000%	245,263,238	32.552%	6,942,068	17.872%	252,205,306	31.833%
Superior Court	0	0.000%	49,662,295	6.591%	1,405,669	3.619%	51,067,964	6.446%
First 5	0	0.000%	6,105,742	0.810%	172,820	0.445%	6,278,562	0.792%
Housing Authority	0	0.000%	5,776,574	0.767%	163,503	0.421%	5,940,077	0.750%
LARPD	0	0.000%	(5,048,710)	(0.670)%	166,364	0.428%	(4,882,346)	(0.616)%
ACOE	0	0.000%	657,384	0.087%	17,409	0.045%	674,793	0.085%
Total for all Employers	\$(123,928,424)	100.000%	\$753,444,780	100.000%	\$38,842,300	100.000%	\$792,287,080	100.000%

¹ Allocated based on the actual employer contributions within each membership class.

² Allocated based on the actual employer contributions in total, with an adjustment to reflect the total annual UAAL contribution ACOE would have been required to make of \$148,854 in 2021 had they not made the additional contribution in 2019 to partially pay off their UAAL. This approach is outlined in our March 2, 2020 letter and is approved by ACERA. Following this approach, there is an adjustment to reflect the total annual contribution County Safety would have been required to make of \$117,144,669 in 2021 had they not made the voluntary County Safety UAAL contribution in 2021. There is also an adjustment to reflect the total annual contribution LARPD would have been required to make of \$1,422,470 in 2021 had they not made the voluntary LARPD General UAAL contribution in 2021.

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Notes regarding determination of proportionate share as of December 31, 2021 measurement date

Based on the January 1, 2021 through December 31, 2021 employer contributions as provided by ACERA.

Pension (excluding non-OPEB SRBR)

The Net Pension Liability (NPL) for each membership class is the Total Pension Liability (TPL) minus the Plan's Fiduciary Net Position (plan assets). The Total Pension Liability for each membership class is obtained from internal valuation results.

As of December 31, 2021, the total Plan's Fiduciary Net Position for Pension (excluding non-OPEB SRBR) is \$686.1 million **higher** than the valuation value of assets as of the same date. Out of the \$686.1 million, \$565.9 million is due to the inclusion of deferred market **gains** and \$120.2 million is due to inclusion of the Contingency Reserve in the total Plan's Fiduciary Net Position. The Plan's Fiduciary Net Position for Pension for each membership class is obtained as follows:

- The deferred market gains and losses accumulated up to June 30, 2021 are allocated to each membership class proportionately based on the valuation value of assets for each membership class relative to the total valuation value of assets for all membership classes, both excluding the valuation value of assets for the County Safety UAAL Advance Reserve and the LARPD General UAAL Advance Reserve.¹
- The deferred market gains and losses accumulated after June 30, 2021 are allocated to each membership class proportionately based on the valuation value of asset for each membership class relative to the total valuation value of assets for all membership classes, both including the valuation value of assets for the County Safety UAAL Advance Reserve and the LARPD General UAAL Advance Reserve.
- The Contingency Reserve is allocated to each membership class proportionately based on the valuation value of asset for each membership class relative to the total valuation value of assets for all membership classes, both including the valuation value of assets for the County Safety UAAL Advance Reserve and the LARPD General UAAL Advance Reserve.

The total Plan's Fiduciary Net Position for pension as of December 31, 2021 includes the net fair value of assets less SRBR assets. The SRBR assets include the SRBR-OPEB reserve (after reducing the reserve by the SRBR implicit subsidy transfer), the 401(h) reserve, and the Non-OPEB SRBR reserve, plus a proportionate share of one half of the deferred market gains (after adjustment to replenish the balance in the Contingency Reserve, if applicable) commensurate with the size of those SRBR reserves and 401(h) reserve to valuation and 401(h) reserves.

The General ACOE membership class has only one employer (ACOE), so all of the NPL for General ACOE is allocated to the ACOE. The General LARPD membership class has only one employer (LARPD), so all of the NPL for General LARPD is allocated to LARPD. The Safety membership class also has only one employer (County), so all of the NPL for Safety is allocated to the County.

For General excluding ACOE and LARPD, the NPL is allocated based on the actual employer contributions within the General membership class excluding any contributions made by ACOE and LARPD. The steps used for the allocation are as follows:

- First calculate the ratio of the employer's contributions to the total contributions for the membership class.
- This ratio is multiplied by the NPL for the membership class to determine the employer's proportionate share of the NPL for the membership class.

Non-OPEB SRBR

The non-OPEB SRBR assets include the Non-OPEB SRBR reserve, plus a proportionate share of one half of the deferred market gains (after adjustment to replenish the balance in the Contingency Reserve, if applicable) commensurate with the size of the non-OPEB to total SRBR reserves.

¹ Based on the Board's funding policy and interest crediting policy, the County Safety UAAL Advance Reserve and LARPD General Advance Reserve are subject to a separate 5-year asset smoothing schedule that excludes the allocation of any deferred investment gains or losses accumulated up to June 30, 2021 for interest crediting purposes.

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For non-OPEB SRBR, the NPL is allocated based on the actual employer contributions in total.¹ The steps used for the allocation are as follows:

- First calculate the ratio of the employer's total contributions to the total contributions for all employers.
- This ratio is multiplied by the NPL for the non-OPEB SRBR to determine the employer's proportionate share of the NPL for the non-OPEB SRBR.

Total

The employer's total allocated NPL is the sum of its allocated pension NPL from each membership class and the non-OPEB SRBR. The proportionate share of the total plan NPL is then the ratio of the employer's total allocated NPL to the total NPL of all employers.

¹ Includes an adjustment to reflect the total annual UAAL contribution ACOE would have been required to make of \$148,854 in 2021 had they not made the additional contribution to partially pay off their UAAL. This approach is outlined in our March 2, 2020 letter and is approved by ACERA. Following this approach, there is an adjustment to reflect the total annual contribution County Safety would have been required to make of \$117,144,669 in 2021 had they not made the voluntary County Safety UAAL contribution in 2021. There is also an adjustment to reflect the total annual contribution LARPD would have been required to make of \$1,422,470 in 2021 had they not made the voluntary LARPD General UAAL contribution in 2021.

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Schedule of Employer Allocations as of December 31, 2022

Actual Employer Contributions by Employer and Membership Class January 1, 2022 to December 31, 2022

Employer	General Members, Excluding ACOE and LARP		General ACOE Members Only		General LARP Members Only		All General Members Combined	
	Contributions	Percentage ¹	Contributions	Percentage	Contributions	Percentage	Contributions	Percentage
Alameda County	\$151,823,933	65.256%	\$0	0.000%	\$0	0.000%	\$151,823,933	65.082%
Health System	64,478,768	27.714%	0	0.000%	0	0.000%	64,478,768	27.640%
Superior Court	13,151,755	5.653%	0	0.000%	0	0.000%	13,151,755	5.638%
First 5	1,695,921	0.729%	0	0.000%	0	0.000%	1,695,921	0.727%
Housing Authority	1,508,274	0.648%	0	0.000%	0	0.000%	1,508,274	0.647%
LARP	0	0.000%	0	0.000%	519,392	100.000%	519,392	0.223%
ACOE	0	0.000%	100,000	100.000%	0	0.000%	100,000	0.043%
Total for all Employers	\$232,658,651	100.000%	\$100,000	100.000%	\$519,392	100.000%	\$233,278,043	100.000%

¹ The unrounded percentages are used in the allocation of the NPL amongst the employers.

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Schedule of Employer Allocations as of December 31, 2022

Actual Employer Contributions by Employer and Membership Class January 1, 2022 to December 31, 2022

Employer	Safety Members		Total		Adjusted Total ^{1,2,3}	
	Contributions	Percentage	Contributions	Percentage	Contributions	Percentage ⁴
Alameda County	\$48,368,659	100.000%	\$200,192,592	71.079%	\$283,811,533 ¹	77.476%
Health System	0	0.000%	64,478,768	22.893%	64,478,768	17.602%
Superior Court	0	0.000%	13,151,755	4.670%	13,151,755	3.590%
First 5	0	0.000%	1,695,921	0.602%	1,695,921	0.463%
Housing Authority	0	0.000%	1,508,274	0.536%	1,508,274	0.412%
LARPD	0	0.000%	519,392	0.184%	1,514,139 ²	0.413%
ACOE	0	0.000%	100,000	0.036%	159,854 ³	0.044%
Total for all Employers	\$48,368,659	100.000%	\$281,646,702	100.000%	\$366,320,244	100.000%

- ¹ This includes \$151,823,933 of County General actual employer contributions and \$131,987,600 of County Safety adjusted employer contributions used for purposes of determining the proportionate share of the non-OPEB SRBR NPL for the County. The County made voluntary County Safety contributions of \$800,000,000 on around June 29, 2021 to reduce their Safety UAAL and associated contribution rates. We have amortized the voluntary County Safety UAAL contributions to provide a UAAL contribution rate credit for County Safety over 13 years effective FY 21-22. Similar to the approach approved by ACERA for ACOE to determine ACOE's proportionate share of the non-OPEB SRBR NPL, we determined the County Safety's proportionate share of the non-OPEB SRBR NPL by using the County Safety's actual contributions made in 2022 in the amount of \$48,368,659 plus the contribution credit applied in 2022 in the amount of \$83,618,941 for a total adjusted County Safety contribution of \$131,987,600.
- ² LARPD made voluntary LARPD General contributions of \$12,611,250 on around June 29, 2021 to reduce their General UAAL and associated contribution rates. We have amortized the voluntary LARPD General UAAL contributions to provide a UAAL contribution rate credit for LARPD General over 16 years effective FY 21-22. Similar to the approach approved by ACERA for ACOE to determine ACOE's proportionate share of the non-OPEB SRBR NPL, we determined LARPD's proportionate share of the non-OPEB SRBR NPL by using LARPD's actual contributions made in 2022 in the amount of \$519,392 plus the contribution credit applied in 2022 in the amount of \$994,747 for a total adjusted LARPD contribution of \$1,514,139.
- ³ ACOE made a lump sum contribution of \$750,000 in 2019 to partially pay off their UAAL. That lump sum is greater than the amount that ACOE would have to make on an installment basis over 20 years. In order to have a more level allocation of the NPL to ACOE, ACERA approved an approach outlined in our March 2, 2020 letter to determine ACOE's proportionate share of the non-OPEB SRBR NPL by using ACOE's required contributions determined in our December 31, 2020 valuation in the amount of \$100,000 based on an April 1, 2022 payment date plus the amortization of the remaining balance of the original \$750,000 lump sum amount (an amount of \$59,854 which represents the additional UAAL contribution ACOE would have been required to pay had they not made the additional lump sum contribution in 2019).
- ⁴ The unrounded percentages are used in the allocation of the NPL amongst the employers.

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Schedule of Employer Allocations as of December 31, 2022

Allocation of December 31, 2022 Net Pension Liability

Employer	General NPL, Excluding ACOE and LARPD (Excl. non-OPEB SRBR NPL)		General ACOE NPL Only (Excl. non-OPEB SRBR NPL)		General LARPD NPL Only (Excl. non-OPEB SRBR NPL)		Total General NPL (Excl. non-OPEB SRBR NPL)	
	NPL	Percentage ¹	NPL	Percentage ¹	NPL	Percentage ¹	NPL	Percentage
Alameda County	\$1,168,107,079	65.256%	\$0	0.000%	\$0	0.000%	\$1,168,107,079	65.022%
Health System	496,088,488	27.714%	0	0.000%	0	0.000%	496,088,488	27.614%
Superior Court	101,187,328	5.653%	0	0.000%	0	0.000%	101,187,328	5.632%
First 5	13,048,123	0.729%	0	0.000%	0	0.000%	13,048,123	0.726%
Housing Authority	11,604,399	0.648%	0	0.000%	0	0.000%	11,604,399	0.646%
LARPD	0	0.000%	0	0.000%	5,231,149	100.000%	5,231,149	0.291%
ACOE	0	0.000%	1,241,602	100.000%	0	0.000%	1,241,602	0.069%
Total for all Employers	\$1,790,035,417	100.000%	\$1,241,602	100.000%	\$5,231,149	100.000%	\$1,796,508,168	100.000%

Allocation of December 31, 2022 Net Pension Liability

Employer	Safety NPL (Excl. non-OPEB SRBR NPL)		General & Safety Total (Excl. non-OPEB SRBR NPL)		General & Safety Non-OPEB SRBR NPL		Total	
	NPL	Percentage ¹	NPL	Percentage	NPL	Percentage ²	NPL	Percentage
Alameda County	\$341,190,621	100.000%	\$1,509,297,700	70.604%	\$72,487,690	77.476%	\$1,581,785,390	70.892%
Health System	0	0.000%	496,088,488	23.207%	16,468,383	17.602%	512,556,871	22.972%
Superior Court	0	0.000%	101,187,328	4.733%	3,359,061	3.590%	104,546,389	4.686%
First 5	0	0.000%	13,048,123	0.610%	433,152	0.463%	13,481,275	0.604%
Housing Authority	0	0.000%	11,604,399	0.543%	385,225	0.412%	11,989,624	0.537%
LARPD	0	0.000%	5,231,149	0.245%	386,723	0.413%	5,617,872	0.252%
ACOE	0	0.000%	1,241,602	0.058%	40,828	0.044%	1,282,430	0.057%
Total for all Employers	\$341,190,621	100.000%	\$2,137,698,789	100.000%	\$93,561,062	100.000%	\$2,231,259,851	100.000%

¹ Allocated based on the actual employer contributions within each membership class.

² Allocated based on the actual employer contributions in total, with an adjustment to reflect the total annual UAAL contribution ACOE would have been required to make of \$159,854 in 2022 had they not made the additional contribution in 2019 to partially pay off their UAAL. This approach is outlined in our March 2, 2020 letter and is approved by ACERA. Following this approach, there is an adjustment to reflect the total annual contribution County Safety would have been required to make of \$131,987,600 in 2022 had they not made the voluntary County Safety UAAL contribution in 2021. There is also an adjustment to reflect the total annual contribution LARPD would have been required to make of \$1,514,139 in 2022 had they not made the voluntary LARPD General UAAL contribution in 2021.

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Notes regarding determination of proportionate share as of December 31, 2022 measurement date

Based on the January 1, 2022 through December 31, 2022 employer contributions as provided by ACERA.

Pension (excluding non-OPEB SRBR)

The Net Pension Liability (NPL) for each membership class is the Total Pension Liability (TPL) minus the Plan's Fiduciary Net Position (plan assets). The Total Pension Liability for each membership class is obtained from internal valuation results.

As of December 31, 2022, the total Plan's Fiduciary Net Position for Pension (excluding non-OPEB SRBR) is \$716.5 million **lower** than the valuation value of assets as of the same date, due to the inclusion of deferred market **losses**. The Plan's Fiduciary Net Position for Pension for each membership class is obtained as follows:

- The deferred market gains and losses accumulated up to June 30, 2021 are allocated to each membership class proportionately based on the valuation value of assets for each membership class relative to the total valuation value of assets for all membership classes, both excluding the valuation value of assets for the County Safety UAAL Advance Reserve and the LARPD General UAAL Advance Reserve.¹
- The deferred market gains and losses accumulated after June 30, 2021 are allocated to each membership class proportionately based on the valuation value of asset for each membership class relative to the total valuation value of assets for all membership classes, both including the valuation value of assets for the County Safety UAAL Advance Reserve and the LARPD General UAAL Advance Reserve.
- The Contingency Reserve, if any, is allocated to each membership class proportionately based on the valuation value of asset for each membership class relative to the total valuation value of assets for all membership classes, both including the valuation value of assets for the County Safety UAAL Advance Reserve and the LARPD General UAAL Advance Reserve.

The total Plan's Fiduciary Net Position for pension as of December 31, 2022 includes the net fair value of assets less SRBR assets. The SRBR assets include the SRBR-OPEB reserve (after reducing the reserve by the SRBR implicit subsidy transfer), the 401(h) reserve, and the Non-OPEB SRBR reserve, minus a proportionate share of the deferred market losses commensurate with the size of those SRBR reserves and 401(h) reserve to valuation and 401(h) reserves.

The General ACOE membership class has only one employer (ACOE), so all of the NPL for General ACOE is allocated to the ACOE. The General LARPD membership class has only one employer (LARPD), so all of the NPL for General LARPD is allocated to LARPD. The Safety membership class also has only one employer (County), so all of the NPL for Safety is allocated to the County.

For General excluding ACOE and LARPD, the NPL is allocated based on the actual employer contributions within the General membership class excluding any contributions made by ACOE and LARPD. The steps used for the allocation are as follows:

- First calculate the ratio of the employer's contributions to the total contributions for the membership class.
- This ratio is multiplied by the NPL for the membership class to determine the employer's proportionate share of the NPL for the membership class.

Non-OPEB SRBR

The non-OPEB SRBR assets include the non-OPEB SRBR reserve, minus a proportionate share of the deferred market losses commensurate with the size of the non-OPEB to total SRBR reserves.

¹ Based on the Board's funding policy and interest crediting policy, the County Safety UAAL Advance Reserve and LARPD General Advance Reserve are subject to a separate 5-year asset smoothing schedule that excludes the allocation of any deferred investment gains or losses accumulated up to June 30, 2021 for interest crediting purposes.

Section 2: GASB 68 Information

For non-OPEB SRBR, the NPL is allocated based on the actual employer contributions in total.¹ The steps used for the allocation are as follows:

- First calculate the ratio of the employer's total contributions to the total contributions for all employers.
- This ratio is multiplied by the NPL for the non-OPEB SRBR to determine the employer's proportionate share of the NPL for the non-OPEB SRBR.

Total

The employer's total allocated NPL is the sum of its allocated pension NPL from each membership class and the non-OPEB SRBR. The proportionate share of the total plan NPL is then the ratio of the employer's total allocated NPL to the total NPL of all employers.

¹ Includes an adjustment to reflect the total annual UAAL contribution ACOE would have been required to make of \$159,854 in 2022 had they not made the additional contribution to partially pay off their UAAL. This approach is outlined in our March 2, 2020 letter and is approved by ACERA. Following this approach, there is an adjustment to reflect the total annual contribution County Safety would have been required to make of \$131,987,600 in 2022 had they not made the voluntary County Safety UAAL contribution in 2021. There is also an adjustment to reflect the total annual contribution LARPD would have been required to make of \$1,514,139 in 2022 had they not made the voluntary LARPD General UAAL contribution in 2021.

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The following items are allocated based on the corresponding proportionate share within each membership class:

- a. Net Pension Liability
- b. Service cost
- c. Interest on the Total Pension Liability
- d. Current-period benefit changes
- e. Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability
- f. Expensed portion of current-period changes of assumptions or other inputs
- g. Member contributions
- h. Projected earnings on plan investments
- i. Expensed portion of current-period differences between actual and projected earnings on plan investments
- j. Administrative expense
- k. Recognition of beginning of year deferred outflows of resources as pension expense
- l. Recognition of beginning of year deferred inflows of resources as pension expense

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Pension expense

Total for All Employers

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68	June 30, 2023 December 31, 2022	June 30, 2022 December 31, 2021
Components of Pension Expense		
• Service cost	\$245,467,025	\$235,098,619
• Interest on the Total Pension Liability	767,151,503	741,738,512
• Expensed portion of current-period changes in proportion and differences between employer's contributions and proportionate share of contributions	0	0
• Current-period benefit changes	0	0
• Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	11,698,992	(9,972,267)
• Expensed portion of current-period changes of assumptions or other inputs	0	0
• Member contributions	(120,673,520)	(111,091,264)
• Projected earnings on plan investments	(708,052,007)	(614,114,454)
• Expensed portion of current-period differences between actual and projected earnings on plan investments	292,619,289	(100,372,840)
• Administrative expense	15,369,043	15,039,778
• Other	0	0
• Recognition of beginning of year deferred outflows of resources as pension expense	257,320,677	311,790,480
• Recognition of beginning of year deferred inflows of resources as pension expense	(309,630,336)	(332,899,877)
• Net amortization of deferred amounts from changes in proportion and differences between employer's contributions and proportionate share of contributions	<u>0</u>	<u>0</u>
Pension Expense	\$451,270,666	\$135,216,687

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Pension expense (continued)

Alameda County

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68	June 30, 2023 December 31, 2022	June 30, 2022 December 31, 2021
Components of Pension Expense		
• Service cost	\$183,094,825	\$174,741,981
• Interest on the Total Pension Liability	572,186,316	552,831,551
• Expensed portion of current-period changes in proportion and differences between employer's contributions and proportionate share of contributions	197,146	81,077
• Current-period benefit changes	0	0
• Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	8,748,151	(7,480,608)
• Expensed portion of current-period changes of assumptions or other inputs	0	0
• Member contributions	(90,173,480)	(82,567,544)
• Projected earnings on plan investments	(535,415,730)	(458,384,522)
• Expensed portion of current-period differences between actual and projected earnings on plan investments	223,105,162	(74,975,696)
• Administrative expense	11,624,240	11,046,245
• Other	0	0
• Recognition of beginning of year deferred outflows of resources as pension expense	191,112,849	233,277,760
• Recognition of beginning of year deferred inflows of resources as pension expense	(229,792,774)	(244,045,734)
• Net amortization of deferred amounts from changes in proportion and differences between employer's contributions and proportionate share of contributions	2,335,716	1,419,059
Pension Expense	\$337,022,421	\$105,943,569

Section 2: GASB 68 Information

Pension expense (continued)

Health System

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68	June 30, 2023 December 31, 2022	June 30, 2022 December 31, 2021
Components of Pension Expense		
• Service cost	\$49,039,663	\$47,532,536
• Interest on the Total Pension Liability	151,742,393	147,148,518
• Expensed portion of current-period changes in proportion and differences between employer's contributions and proportionate share of contributions	(305,686)	1,480,424
• Current-period benefit changes	0	0
• Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	2,228,152	(1,479,103)
• Expensed portion of current-period changes of assumptions or other inputs	0	0
• Member contributions	(23,974,402)	(22,443,518)
• Projected earnings on plan investments	(133,719,425)	(121,118,278)
• Expensed portion of current-period differences between actual and projected earnings on plan investments	53,748,723	(19,774,523)
• Administrative expense	2,899,405	3,113,741
• Other	0	0
• Recognition of beginning of year deferred outflows of resources as pension expense	50,572,685	60,314,822
• Recognition of beginning of year deferred inflows of resources as pension expense	(61,649,364)	(69,362,112)
• Net amortization of deferred amounts from changes in proportion and differences between employer's contributions and proportionate share of contributions	(1,763,531)	(2,007,928)
Pension Expense	\$88,818,613	\$23,404,579

Section 2: GASB 68 Information

Pension expense (continued)

Superior Court

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68	June 30, 2023 December 31, 2022	June 30, 2022 December 31, 2021
Components of Pension Expense		
• Service cost	\$10,002,636	\$9,624,658
• Interest on the Total Pension Liability	30,950,945	29,795,469
• Expensed portion of current-period changes in proportion and differences between employer's contributions and proportionate share of contributions	41,036	(1,587,646)
• Current-period benefit changes	0	0
• Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	454,476	(299,497)
• Expensed portion of current-period changes of assumptions or other inputs	0	0
• Member contributions	(4,890,066)	(4,544,491)
• Projected earnings on plan investments	(27,274,794)	(24,524,717)
• Expensed portion of current-period differences between actual and projected earnings on plan investments	10,963,144	(4,004,058)
• Administrative expense	591,393	630,488
• Other	0	0
• Recognition of beginning of year deferred outflows of resources as pension expense	10,315,327	12,212,888
• Recognition of beginning of year deferred inflows of resources as pension expense	(12,574,641)	(14,044,834)
• Net amortization of deferred amounts from changes in proportion and differences between employer's contributions and proportionate share of contributions	(730,442)	504,989
Pension Expense	\$17,849,014	\$3,763,249

Section 2: GASB 68 Information

Pension expense (continued)

First 5

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68	June 30, 2023 December 31, 2022	June 30, 2022 December 31, 2021
Components of Pension Expense		
• Service cost	\$1,289,842	\$1,183,305
• Interest on the Total Pension Liability	3,991,130	3,663,210
• Expensed portion of current-period changes in proportion and differences between employer's contributions and proportionate share of contributions	89,965	67,253
• Current-period benefit changes	0	0
• Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	58,605	(36,821)
• Expensed portion of current-period changes of assumptions or other inputs	0	0
• Member contributions	(630,575)	(558,723)
• Projected earnings on plan investments	(3,517,089)	(3,015,197)
• Expensed portion of current-period differences between actual and projected earnings on plan investments	1,413,699	(492,280)
• Administrative expense	76,260	77,515
• Other	0	0
• Recognition of beginning of year deferred outflows of resources as pension expense	1,330,163	1,501,516
• Recognition of beginning of year deferred inflows of resources as pension expense	(1,621,502)	(1,726,745)
• Net amortization of deferred amounts from changes in proportion and differences between employer's contributions and proportionate share of contributions	<u>310,095</u>	<u>258,267</u>
Pension Expense	\$2,790,593	\$921,300

Section 2: GASB 68 Information

Pension expense (continued)

Housing Authority

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68	June 30, 2023 December 31, 2022	June 30, 2022 December 31, 2021
Components of Pension Expense		
• Service cost	\$1,147,125	\$1,119,512
• Interest on the Total Pension Liability	3,549,527	3,465,723
• Expensed portion of current-period changes in proportion and differences between employer's contributions and proportionate share of contributions	(18,345)	(26,610)
• Current-period benefit changes	0	0
• Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	52,121	(34,836)
• Expensed portion of current-period changes of assumptions or other inputs	0	0
• Member contributions	(560,804)	(528,602)
• Projected earnings on plan investments	(3,127,937)	(2,852,644)
• Expensed portion of current-period differences between actual and projected earnings on plan investments	1,257,279	(465,740)
• Administrative expense	67,822	73,337
• Other	0	0
• Recognition of beginning of year deferred outflows of resources as pension expense	1,182,986	1,420,568
• Recognition of beginning of year deferred inflows of resources as pension expense	(1,442,089)	(1,633,654)
• Net amortization of deferred amounts from changes in proportion and differences between employer's contributions and proportionate share of contributions	(137,081)	(137,141)
Pension Expense	\$1,970,604	\$399,913

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Pension expense (continued)

LARPD

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68	June 30, 2023 December 31, 2022	June 30, 2022 December 31, 2021
Components of Pension Expense		
• Service cost	\$891,858	\$895,576
• Interest on the Total Pension Liability	4,422,394	4,520,572
• Expensed portion of current-period changes in proportion and differences between employer's contributions and proportionate share of contributions	(3,815)	(14,500)
• Current-period benefit changes	0	0
• Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	132,210	(648,976)
• Expensed portion of current-period changes of assumptions or other inputs	0	0
• Member contributions	(444,193)	(448,386)
• Projected earnings on plan investments	(4,732,221)	(3,963,018)
• Expensed portion of current-period differences between actual and projected earnings on plan investments	2,025,038	(620,619)
• Administrative expense	103,988	91,645
• Other	0	0
• Recognition of beginning of year deferred outflows of resources as pension expense	2,446,907	2,704,023
• Recognition of beginning of year deferred inflows of resources as pension expense	(2,423,540)	(1,997,357)
• Net amortization of deferred amounts from changes in proportion and differences between employer's contributions and proportionate share of contributions	(9,681)	(18,886)
Pension Expense	\$2,408,945	\$500,074

Section 2: GASB 68 Information

Pension expense (continued)

ACOE

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68 Components of Pension Expense	June 30, 2023 December 31, 2022	June 30, 2022 December 31, 2021
• Service cost	\$1,076	\$1,051
• Interest on the Total Pension Liability	308,798	313,469
• Expensed portion of current-period changes in proportion and differences between employer's contributions and proportionate share of contributions	(301)	2
• Current-period benefit changes	0	0
• Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	25,277	7,574
• Expensed portion of current-period changes of assumptions or other inputs	0	0
• Member contributions	0	0
• Projected earnings on plan investments	(264,811)	(256,078)
• Expensed portion of current-period differences between actual and projected earnings on plan investments	106,244	(39,924)
• Administrative expense	5,935	6,807
• Other	0	0
• Recognition of beginning of year deferred outflows of resources as pension expense	359,760	358,903
• Recognition of beginning of year deferred inflows of resources as pension expense	(126,426)	(89,441)
• Net amortization of deferred amounts from changes in proportion and differences between employer's contributions and proportionate share of contributions	(5,076)	(18,360)
Pension Expense	\$410,476	\$284,003

Section 2: GASB 68 Information

Deferred outflows of resources and deferred inflows of resources

Total For All Employers

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68	June 30, 2023 December 31, 2022	June 30, 2022 December 31, 2021	
Deferred Outflows of Resources			
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$15,067,259	\$21,621,959	
• Changes of assumptions or other inputs	143,399,695	239,193,104	
• Net difference between projected and actual earnings on pension plan investments	656,205,117	0	
• Difference between expected and actual experience in the Total Pension Liability	<u>69,662,072</u>	<u>39,157,510</u>	
• Total Deferred Outflows of Resources	\$884,334,143	\$299,972,573	
Deferred Inflows of Resources			
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$15,067,259	\$21,621,959	
• Changes of assumptions or other inputs	41,779,901	65,394,554	
• Net difference between projected and actual earnings on pension plan investments	0	643,664,678	
• Difference between expected and actual experience in the Total Pension Liability	<u>31,985,063</u>	<u>43,138,269</u>	
• Total Deferred Inflows of Resources	\$88,832,223	\$773,819,460	
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:			
Reporting Date for Employer under GASB 68 Year Ended June 30:			
	2023	N/A	\$(52,309,659)
	2024	\$76,380,297	(227,937,984)
	2025	208,240,424	(96,077,857)
	2026	207,295,507	(97,022,774)
	2027	303,585,692	(498,613)
	2028	0	0
	Thereafter	0	0

¹ Calculated in accordance with Paragraphs 54 and 55 of GASB 68.

Section 2: GASB 68 Information

Deferred outflows of resources and deferred inflows of resources (continued)

Alameda County

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68	June 30, 2023 December 31, 2022	June 30, 2022 December 31, 2021	
Deferred Outflows of Resources			
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$6,331,747	\$8,697,305	
• Changes of assumptions or other inputs	107,621,239	180,070,279	
• Net difference between projected and actual earnings on pension plan investments	510,684,110	0	
• Difference between expected and actual experience in the Total Pension Liability	<u>51,616,393</u>	<u>28,649,387</u>	
• Total Deferred Outflows of Resources	\$676,253,489	\$217,416,971	
Deferred Inflows of Resources			
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$0	\$814,486	
• Changes of assumptions or other inputs	32,369,540	50,464,747	
• Net difference between projected and actual earnings on pension plan investments	0	477,916,604	
• Difference between expected and actual experience in the Total Pension Liability	<u>24,013,009</u>	<u>32,303,031</u>	
• Total Deferred Inflows of Resources	\$56,382,549	\$561,498,868	
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:			
Reporting Date for Employer under GASB 68 Year Ended June 30:			
	2023	N/A	\$(36,248,792)
	2024	\$66,334,851	(165,563,745)
	2025	162,181,982	(69,765,034)
	2026	159,852,899	(72,134,356)
	2027	231,501,208	(369,970)
	2028	0	0
	Thereafter	0	0

¹ Calculated in accordance with Paragraphs 54 and 55 of GASB 68.

Section 2: GASB 68 Information

Deferred outflows of resources and deferred inflows of resources (continued)

Health System

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68	June 30, 2023 December 31, 2022	June 30, 2022 December 31, 2021	
Deferred Outflows of Resources			
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$4,569,214	\$7,298,377	
• Changes of assumptions or other inputs	27,976,705	46,336,602	
• Net difference between projected and actual earnings on pension plan investments	111,944,639	0	
• Difference between expected and actual experience in the Total Pension Liability	<u>13,081,204</u>	<u>6,443,361</u>	
• Total Deferred Outflows of Resources	\$157,571,762	\$60,078,340	
Deferred Inflows of Resources			
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$9,546,476	\$12,822,543	
• Changes of assumptions or other inputs	7,353,993	11,687,604	
• Net difference between projected and actual earnings on pension plan investments	0	129,131,936	
• Difference between expected and actual experience in the Total Pension Liability	<u>4,773,932</u>	<u>6,550,616</u>	
• Total Deferred Inflows of Resources	\$21,674,401	\$160,192,699	
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:			
Reporting Date for Employer under GASB 68 Year Ended June 30:			
	2023	N/A	\$(12,937,140)
	2024	\$6,564,305	(49,325,878)
	2025	35,616,977	(20,173,647)
	2026	38,082,818	(17,677,762)
	2027	55,633,261	68
	2028	0	0
	Thereafter	0	0

¹ Calculated in accordance with Paragraphs 54 and 55 of GASB 68.

Section 2: GASB 68 Information

Deferred outflows of resources and deferred inflows of resources (continued)

Superior Court

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68	June 30, 2023 December 31, 2022	June 30, 2022 December 31, 2021	
Deferred Outflows of Resources			
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$2,925,105	\$4,307,021	
• Changes of assumptions or other inputs	5,706,418	9,382,499	
• Net difference between projected and actual earnings on pension plan investments	22,833,384	0	
• Difference between expected and actual experience in the Total Pension Liability	<u>2,668,177</u>	<u>1,304,688</u>	
• Total Deferred Outflows of Resources	\$34,133,084	\$14,994,208	
Deferred Inflows of Resources			
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$5,072,327	\$7,348,006	
• Changes of assumptions or other inputs	1,499,996	2,366,572	
• Net difference between projected and actual earnings on pension plan investments	0	26,147,369	
• Difference between expected and actual experience in the Total Pension Liability	<u>973,740</u>	<u>1,326,406</u>	
• Total Deferred Inflows of Resources	\$7,546,063	\$37,188,353	
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:			
Reporting Date for Employer under GASB 68 Year Ended June 30:			
	2023	N/A	\$(2,992,937)
	2024	\$1,831,505	(9,602,984)
	2025	7,121,787	(4,333,836)
	2026	6,279,362	(5,170,028)
	2027	11,354,367	(94,360)
	2028	0	0
	Thereafter	0	0

¹ Calculated in accordance with Paragraphs 54 and 55 of GASB 68.

Section 2: GASB 68 Information

Deferred outflows of resources and deferred inflows of resources (continued)

First 5

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68 Deferred Outflows of Resources	June 30, 2023 December 31, 2022	June 30, 2022 December 31, 2021
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$974,936	\$930,231
• Changes of assumptions or other inputs	735,843	1,153,533
• Net difference between projected and actual earnings on pension plan investments	2,944,369	0
• Difference between expected and actual experience in the Total Pension Liability	<u>344,062</u>	<u>160,405</u>
• Total Deferred Outflows of Resources	\$4,999,210	\$2,244,169
Deferred Inflows of Resources		
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$0	\$3,261
• Changes of assumptions or other inputs	193,425	290,959
• Net difference between projected and actual earnings on pension plan investments	0	3,214,694
• Difference between expected and actual experience in the Total Pension Liability	<u>125,564</u>	<u>163,075</u>
• Total Deferred Inflows of Resources	\$318,989	\$3,671,989
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:		
Reporting Date for Employer under GASB 68 Year Ended June 30:		
	2023	N/A
	2024	\$643,426
	2025	1,300,732
	2026	1,175,340
	2027	1,560,723
	2028	0
	Thereafter	0

¹ Calculated in accordance with Paragraphs 54 and 55 of GASB 68.

Section 2: GASB 68 Information

Deferred outflows of resources and deferred inflows of resources (continued)

Housing Authority

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68	June 30, 2023 December 31, 2022	June 30, 2022 December 31, 2021	
Deferred Outflows of Resources			
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$226,256	\$326,368	
• Changes of assumptions or other inputs	654,425	1,091,345	
• Net difference between projected and actual earnings on pension plan investments	2,618,586	0	
• Difference between expected and actual experience in the Total Pension Liability	<u>305,993</u>	<u>151,758</u>	
• Total Deferred Outflows of Resources	\$3,805,260	\$1,569,471	
Deferred Inflows of Resources			
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$387,041	\$551,220	
• Changes of assumptions or other inputs	172,023	275,273	
• Net difference between projected and actual earnings on pension plan investments	0	3,041,386	
• Difference between expected and actual experience in the Total Pension Liability	<u>111,670</u>	<u>154,283</u>	
• Total Deferred Inflows of Resources	\$670,734	\$4,022,162	
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:			
Reporting Date for Employer under GASB 68 Year Ended June 30:			
	2023	N/A	\$(400,246)
	2024	\$114,078	(1,189,554)
	2025	873,835	(422,980)
	2026	859,285	(436,838)
	2027	1,287,328	(3,073)
	2028	0	0
	Thereafter	0	0

¹ Calculated in accordance with Paragraphs 54 and 55 of GASB 68.

Section 2: GASB 68 Information

Deferred outflows of resources and deferred inflows of resources (continued)

LARPD

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68 Deferred Outflows of Resources	June 30, 2023 December 31, 2022	June 30, 2022 December 31, 2021	
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$29,656	\$44,796	
• Changes of assumptions or other inputs	683,344	1,127,513	
• Net difference between projected and actual earnings on pension plan investments	4,965,270	0	
• Difference between expected and actual experience in the Total Pension Liability	<u>1,363,341</u>	<u>1,982,931</u>	
• Total Deferred Outflows of Resources	\$7,041,611	\$3,155,240	
Deferred Inflows of Resources			
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$60,215	\$69,851	
• Changes of assumptions or other inputs	172,692	280,089	
• Net difference between projected and actual earnings on pension plan investments	0	3,954,693	
• Difference between expected and actual experience in the Total Pension Liability	<u>1,984,200</u>	<u>2,636,768</u>	
• Total Deferred Inflows of Resources	\$2,217,107	\$6,941,401	
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:			
Reporting Date for Employer under GASB 68 Year Ended June 30:			
	2023	N/A	\$9,591
	2024	\$725,438	(1,431,661)
	2025	1,038,353	(1,118,889)
	2026	943,007	(1,212,029)
	2027	2,117,706	(33,173)
	2028	0	0
	Thereafter	0	0

¹ Calculated in accordance with Paragraphs 54 and 55 of GASB 68.

Section 2: GASB 68 Information

Deferred outflows of resources and deferred inflows of resources (continued)

ACOE

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68 Deferred Outflows of Resources	June 30, 2023 December 31, 2022	June 30, 2022 December 31, 2021	
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$10,345	\$17,861	
• Changes of assumptions or other inputs	21,721	31,333	
• Net difference between projected and actual earnings on pension plan investments	214,759	0	
• Difference between expected and actual experience in the Total Pension Liability	<u>282,902</u>	<u>464,980</u>	
• Total Deferred Outflows of Resources	\$529,727	\$514,174	
Deferred Inflows of Resources			
• Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$1,200	\$12,592	
• Changes of assumptions or other inputs	18,232	29,310	
• Net difference between projected and actual earnings on pension plan investments	0	257,996	
• Difference between expected and actual experience in the Total Pension Liability	<u>2,948</u>	<u>4,090</u>	
• Total Deferred Inflows of Resources	\$22,380	\$303,988	
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:			
Reporting Date for Employer under GASB 68 Year Ended June 30:			
	2023	N/A	\$227,935
	2024	\$166,694	35,185
	2025	106,758	(24,762)
	2026	102,796	(28,550)
	2027	131,099	378
	2028	0	0
	Thereafter	0	0

¹ Calculated in accordance with Paragraphs 54 and 55 of GASB 68.

Section 2: GASB 68 Information

Deferred outflows of resources and deferred inflows of resources (continued)

There are changes in each employer's proportionate share of the total NPL during the measurement period ended December 31, 2022. The net effect of the change on the employer's proportionate share of the collective NPL and collective deferred outflows of resources and deferred inflows of resources for the current period (i.e., 2022) is recognized over the average of the expected remaining service lives of all employees that are provided with pensions through ACERA which is 4.98 years determined as of December 31, 2021 (the beginning of the measurement period ended December 31, 2022). This is described in Paragraph 33a. of GASB 68.

In addition, the difference between the actual employer contributions and the proportionate share of the employer contributions during the measurement period ended December 31, 2022 is recognized over the same period.

The net effects of the change on the employer's proportionate share of the collective NPL and collective deferred outflows of resources and deferred inflows of resources for prior periods are continued to be recognized based on the expected remaining service lives of all employees calculated as of those prior measurement dates.

The average of the expected service lives of all employees is determined by:

- Calculating each active employees' expected remaining service life as the present value of \$1 per year of future service at zero percent interest.
- Setting the remaining service life to zero for each nonactive or retired member.
- Dividing the sum of the above amounts by the total number of active employee, nonactive and retired members.

Section 2: GASB 68 Information

Schedule of proportionate share of the Net Pension Liability

Total for All Employers

Reporting Date for Employer under GASB 68 as of June 30	Proportion of the Net Pension Liability	Proportionate share of Net Pension Liability	Covered payroll ¹	Proportionate share of the Net Pension Liability as a percentage of its covered payroll	Plan's Fiduciary Net Position as a percentage of the Total Pension Liability
2014	100.000%	\$1,282,020,543	\$853,349,657	150.23%	81.62%
2015	100.000%	1,740,642,540	886,924,862	196.26%	77.26%
2016	100.000%	2,118,448,018	945,858,017	223.97%	73.43%
2017	100.000%	2,243,194,227	947,567,631	236.73%	73.33%
2018	100.000%	2,013,675,939	995,178,209	202.34%	77.93%
2019	100.000%	2,764,001,975	1,046,033,851	264.24%	71.01%
2020	100.000%	2,140,692,960	1,081,586,887	197.92%	78.51%
2021	100.000%	2,194,415,875	1,111,848,569	197.37%	79.37%
2022	100.000%	792,287,080	1,153,918,121	68.66%	92.80%
2023	100.000%	2,231,259,851	1,198,970,345	186.10%	80.58%

¹ For reporting dates on or after June 30, 2018, covered payroll shown represents Compensation Earnable and Pensionable Compensation and is defined as the payroll on which contributions to the pension plan are based. For reporting dates before June 30, 2018, covered payroll was referred to as covered-employee payroll and only Compensation Earnable and Pensionable Compensation that would go into the determination of retirement benefits was included.

Section 2: GASB 68 Information

Schedule of proportionate share of the Net Pension Liability (continued)

Alameda County

Reporting Date for Employer under GASB 68 as of June 30	Proportion of the Net Pension Liability	Proportionate share of Net Pension Liability	Covered payroll ¹	Proportionate share of the Net Pension Liability as a percentage of its covered payroll	Plan's Fiduciary Net Position as a percentage of the Total Pension Liability
2014	79.664%	\$1,021,302,378	\$597,886,511	170.82%	80.13%
2015	78.293%	1,362,794,384	624,890,234	218.09%	75.95%
2016	77.434%	1,640,381,401	669,324,559	245.08%	72.23%
2017	77.697%	1,742,898,513	670,675,915	259.87%	72.10%
2018	78.526%	1,581,250,705	696,359,743	227.07%	76.50%
2019	76.913%	2,125,856,592	728,698,264	291.73%	69.77%
2020	78.452%	1,679,429,417	757,563,567	221.69%	77.25%
2021	78.572%	1,724,179,473	784,654,614	219.74%	78.25%
2022	60.710%	481,002,724	816,272,092	58.93%	94.15%
2023	70.892%	1,581,785,390	849,473,056	186.21%	81.52%

¹ For reporting dates on or after June 30, 2018, covered payroll shown represents Compensation Earnable and Pensionable Compensation and is defined as the payroll on which contributions to the pension plan are based. For reporting dates before June 30, 2018, covered payroll was referred to as covered-employee payroll and only Compensation Earnable and Pensionable Compensation that would go into the determination of retirement benefits was included.

Section 2: GASB 68 Information

Schedule of proportionate share of the Net Pension Liability (continued)

Health System

Reporting Date for Employer under GASB 68 as of June 30	Proportion of the Net Pension Liability	Proportionate share of Net Pension Liability	Covered payroll ¹	Proportionate share of the Net Pension Liability as a percentage of its covered payroll	Plan's Fiduciary Net Position as a percentage of the Total Pension Liability
2014	15.499%	\$198,700,381	\$197,865,572	100.42%	85.92%
2015	16.779%	292,060,821	205,303,352	142.26%	81.06%
2016	17.436%	369,372,264	217,863,121	169.54%	76.89%
2017	17.285%	387,733,901	216,685,931	178.94%	76.88%
2018	16.959%	341,501,682	239,207,087	142.76%	81.93%
2019	18.147%	501,587,358	255,247,270	196.51%	74.56%
2020	16.608%	355,519,355	257,591,438	138.02%	82.22%
2021	16.248%	356,559,512	257,126,856	138.67%	82.77%
2022	31.833%	252,205,306	270,985,189	93.07%	88.38%
2023	22.972%	512,556,871	279,653,188	183.28%	77.51%

¹ For reporting dates on or after June 30, 2018, covered payroll shown represents Compensation Earnable and Pensionable Compensation and is defined as the payroll on which contributions to the pension plan are based. For reporting dates before June 30, 2018, covered payroll was referred to as covered-employee payroll and only Compensation Earnable and Pensionable Compensation that would go into the determination of retirement benefits was included.

Section 2: GASB 68 Information

Schedule of proportionate share of the Net Pension Liability (continued)

Superior Court

Reporting Date for Employer under GASB 68 as of June 30	Proportion of the Net Pension Liability	Proportionate share of Net Pension Liability	Covered payroll ¹	Proportionate share of the Net Pension Liability as a percentage of its covered payroll	Plan's Fiduciary Net Position as a percentage of the Total Pension Liability
2014	3.554%	\$45,564,584	\$45,426,844	100.30%	85.92%
2015	3.695%	64,323,516	44,783,132	143.63%	81.06%
2016	3.880%	82,205,987	45,883,436	179.16%	76.89%
2017	3.806%	85,372,076	46,866,752	182.16%	76.88%
2018	3.413%	68,718,793	46,437,348	147.98%	81.93%
2019	3.507%	96,943,208	48,293,563	200.74%	74.56%
2020	3.522%	75,388,579	52,163,782	144.52%	82.22%
2021	3.703%	81,267,099	55,376,411	146.75%	82.77%
2022	6.446%	51,067,964	52,057,810	98.10%	88.38%
2023	4.686%	104,546,389	54,680,732	191.19%	77.51%

¹ For reporting dates on or after June 30, 2018, covered payroll shown represents Compensation Earnable and Pensionable Compensation and is defined as the payroll on which contributions to the pension plan are based. For reporting dates before June 30, 2018, covered payroll was referred to as covered-employee payroll and only Compensation Earnable and Pensionable Compensation that would go into the determination of retirement benefits was included.

Section 2: GASB 68 Information

Schedule of proportionate share of the Net Pension Liability (continued)

First 5

Reporting Date for Employer under GASB 68 as of June 30	Proportion of the Net Pension Liability	Proportionate share of Net Pension Liability	Covered payroll ¹	Proportionate share of the Net Pension Liability as a percentage of its covered payroll	Plan's Fiduciary Net Position as a percentage of the Total Pension Liability
2014	0.321%	\$4,116,118	\$4,191,989	98.19%	85.92%
2015	0.326%	5,674,306	3,957,401	143.38%	81.06%
2016	0.349%	7,383,341	4,239,645	174.15%	76.89%
2017	0.358%	8,035,666	4,416,769	181.94%	76.88%
2018	0.334%	6,731,962	4,562,701	147.54%	81.93%
2019	0.366%	10,129,093	4,952,333	204.53%	74.56%
2020	0.368%	7,872,042	5,423,220	145.15%	82.22%
2021	0.398%	8,730,366	5,953,576	146.64%	82.77%
2022	0.792%	6,278,562	6,311,029	99.49%	88.38%
2023	0.604%	13,481,275	6,796,789	198.35%	77.51%

¹ For reporting dates on or after June 30, 2018, covered payroll shown represents Compensation Earnable and Pensionable Compensation and is defined as the payroll on which contributions to the pension plan are based. For reporting dates before June 30, 2018, covered payroll was referred to as covered-employee payroll and only Compensation Earnable and Pensionable Compensation that would go into the determination of retirement benefits was included.

Section 2: GASB 68 Information

Schedule of proportionate share of the Net Pension Liability (continued)

Housing Authority

Reporting Date for Employer under GASB 68 as of June 30	Proportion of the Net Pension Liability	Proportionate share of Net Pension Liability	Covered payroll ¹	Proportionate share of the Net Pension Liability as a percentage of its covered payroll	Plan's Fiduciary Net Position as a percentage of the Total Pension Liability
2014	0.423%	\$5,418,947	\$4,112,203	131.78%	85.92%
2015	0.428%	7,455,335	4,002,650	186.26%	81.06%
2016	0.455%	9,644,104	4,272,082	225.75%	76.89%
2017	0.460%	10,314,924	4,354,275	236.89%	76.88%
2018	0.409%	8,244,509	4,299,288	191.76%	81.93%
2019	0.435%	12,014,705	4,512,036	266.28%	74.56%
2020	0.370%	7,919,662	4,347,895	182.15%	82.22%
2021	0.396%	8,693,280	4,675,355	185.94%	82.77%
2022	0.750%	5,940,077	4,748,361	125.10%	88.38%
2023	0.537%	11,989,624	4,871,447	246.12%	77.51%

¹ For reporting dates on or after June 30, 2018, covered payroll shown represents Compensation Earnable and Pensionable Compensation and is defined as the payroll on which contributions to the pension plan are based. For reporting dates before June 30, 2018, covered payroll was referred to as covered-employee payroll and only Compensation Earnable and Pensionable Compensation that would go into the determination of retirement benefits was included.

Section 2: GASB 68 Information

Schedule of proportionate share of the Net Pension Liability (continued)

LARPD

Reporting Date for Employer under GASB 68 as of June 30	Proportion of the Net Pension Liability	Proportionate share of Net Pension Liability	Covered payroll ¹	Proportionate share of the Net Pension Liability as a percentage of its covered payroll	Plan's Fiduciary Net Position as a percentage of the Total Pension Liability
2014	0.532%	\$6,824,150	\$3,796,820	179.73%	78.70%
2015	0.471%	8,203,447	3,919,778	209.28%	76.82%
2016	0.438%	9,288,497	4,203,012	221.00%	75.39%
2017	0.385%	8,644,696	4,487,952	192.62%	77.76%
2018	0.359%	7,228,288	4,312,042	167.63%	82.99%
2019	0.572%	15,804,862	4,330,385	364.98%	72.74%
2020	0.640%	13,701,573	4,496,985	304.68%	77.82%
2021	0.644%	14,126,234	4,061,757	347.79%	78.44%
2022	(0.616)%	(4,882,346)	3,543,640	(137.78)%	107.51%
2023	0.252%	5,617,872	3,495,133	160.73%	91.51%

¹ For reporting dates on or after June 30, 2018, covered payroll shown represents Compensation Earnable and Pensionable Compensation and is defined as the payroll on which contributions to the pension plan are based. For reporting dates before June 30, 2018, covered payroll was referred to as covered-employee payroll and only Compensation Earnable and Pensionable Compensation that would go into the determination of retirement benefits was included.

Section 2: GASB 68 Information

Schedule of proportionate share of the Net Pension Liability (continued)

ACOE

Reporting Date for Employer under GASB 68 as of June 30	Proportion of the Net Pension Liability	Proportionate share of Net Pension Liability	Covered payroll ¹	Proportionate share of the Net Pension Liability as a percentage of its covered payroll	Plan's Fiduciary Net Position as a percentage of the Total Pension Liability
2014	0.007%	\$93,985	\$69,718	134.81%	85.92%
2015	0.008%	130,731	68,314	191.37%	81.06%
2016	0.008%	172,424	72,162	238.94%	76.89%
2017	0.009%	194,451	80,037	242.95%	76.88%
2018	0.000%	0	0	N/A	N/A
2019	0.060%	1,666,157	0	N/A	63.63%
2020	0.040%	862,332	0	N/A	81.56%
2021	0.039%	859,911	0	N/A	81.63%
2022	0.085%	674,793	0	N/A	85.29%
2023	0.057%	1,282,430	0	N/A	72.43%

¹ For reporting dates on or after June 30, 2018, covered payroll shown represents Compensation Earnable and Pensionable Compensation and is defined as the payroll on which contributions to the pension plan are based. For reporting dates before June 30, 2018, covered payroll was referred to as covered-employee payroll and only Compensation Earnable and Pensionable Compensation that would go into the determination of retirement benefits was included.

Section 2: GASB 68 Information

Schedule of reconciliation of Net Pension Liability

Total for All Employers

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68 Reconciliation of Net Pension Liability	June 30, 2023 December 31, 2022	June 30, 2022 December 31, 2021
Beginning Net Pension Liability	\$792,287,080	\$2,194,415,875
• Pension Expense	451,270,666	135,216,687
• Employer Contributions	(281,646,702)	(1,116,575,840)
• New Net Deferred Inflows/Outflows	1,217,039,148	(441,879,039)
• Change in Allocation of Prior Deferred Inflows/Outflows	0	0
• New Net Deferred Flows Due to Change in Proportion ¹	0	0
• Recognition of Prior Deferred Inflows/Outflows	52,309,659	21,109,397
• Recognition of Prior Deferred Flows Due to Change in Proportion ¹	<u>0</u>	<u>0</u>
Ending Net Pension Liability	\$2,231,259,851	\$792,287,080

¹ Includes differences between employer contributions and proportionate share of contributions.

Section 2: GASB 68 Information

Schedule of reconciliation of Net Pension Liability (continued)

Alameda County

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68 Reconciliation of Net Pension Liability	June 30, 2023 December 31, 2022	June 30, 2022 December 31, 2021
Beginning Net Pension Liability	\$481,002,724	\$1,724,179,473
• Pension Expense	337,022,421	105,943,569
• Employer Contributions	(200,192,592)	(1,028,542,763)
• New Net Deferred Inflows/Outflows	927,238,291	(330,199,242)
• Change in Allocation of Prior Deferred Inflows/Outflows	(414,306)	(55,594)
• New Net Deferred Flows Due to Change in Proportion ¹	784,644	328,366
• Recognition of Prior Deferred Inflows/Outflows	38,679,924	10,767,974
• Recognition of Prior Deferred Flows Due to Change in Proportion ¹	(2,335,716)	(1,419,059)
Ending Net Pension Liability	\$1,581,785,390	\$481,002,724

¹ Includes differences between employer contributions and proportionate share of contributions.

Section 2: GASB 68 Information

Schedule of reconciliation of Net Pension Liability (continued)

Health System

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68 Reconciliation of Net Pension Liability	June 30, 2023 December 31, 2022	June 30, 2022 December 31, 2021
Beginning Net Pension Liability	\$252,205,306	\$356,559,512
• Pension Expense	88,818,613	23,404,579
• Employer Contributions	(64,478,768)	(59,357,100)
• New Net Deferred Inflows/Outflows	223,862,934	(85,088,457)
• Change in Allocation of Prior Deferred Inflows/Outflows	525,203	(364,163)
• New Net Deferred Flows Due to Change in Proportion ¹	(1,216,627)	5,995,718
• Recognition of Prior Deferred Inflows/Outflows	11,076,679	9,047,289
• Recognition of Prior Deferred Flows Due to Change in Proportion ¹	<u>1,763,531</u>	<u>2,007,928</u>
Ending Net Pension Liability	\$512,556,871	\$252,205,306

¹ Includes differences between employer contributions and proportionate share of contributions.

Section 2: GASB 68 Information

Schedule of reconciliation of Net Pension Liability (continued)

Superior Court

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68 Reconciliation of Net Pension Liability	June 30, 2023 December 31, 2022	June 30, 2022 December 31, 2021
Beginning Net Pension Liability	\$51,067,964	\$81,267,099
• Pension Expense	17,849,014	3,763,249
• Employer Contributions	(13,151,755)	(12,018,963)
• New Net Deferred Inflows/Outflows	45,661,395	(17,229,194)
• Change in Allocation of Prior Deferred Inflows/Outflows	(33,306)	388,785
• New Net Deferred Flows Due to Change in Proportion ¹	163,321	(6,429,969)
• Recognition of Prior Deferred Inflows/Outflows	2,259,314	1,831,946
• Recognition of Prior Deferred Flows Due to Change in Proportion ¹	<u>730,442</u>	<u>(504,989)</u>
Ending Net Pension Liability	\$104,546,389	\$51,067,964

¹ Includes differences between employer contributions and proportionate share of contributions.

Section 2: GASB 68 Information

Schedule of reconciliation of Net Pension Liability (continued)

First 5

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68 Reconciliation of Net Pension Liability	June 30, 2023 December 31, 2022	June 30, 2022 December 31, 2021
Beginning Net Pension Liability	\$6,278,562	\$8,730,366
• Pension Expense	2,790,593	921,300
• Employer Contributions	(1,695,921)	(1,477,674)
• New Net Deferred Inflows/Outflows	5,888,045	(2,118,247)
• Change in Allocation of Prior Deferred Inflows/Outflows	(119,309)	(16,515)
• New Net Deferred Flows Due to Change in Proportion ¹	358,061	272,370
• Recognition of Prior Deferred Inflows/Outflows	291,339	225,229
• Recognition of Prior Deferred Flows Due to Change in Proportion ¹	<u>(310,095)</u>	<u>(258,267)</u>
Ending Net Pension Liability	\$13,481,275	\$6,278,562

¹ Includes differences between employer contributions and proportionate share of contributions.

Section 2: GASB 68 Information

Schedule of reconciliation of Net Pension Liability (continued)

Housing Authority

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68 Reconciliation of Net Pension Liability	June 30, 2023 December 31, 2022	June 30, 2022 December 31, 2021
Beginning Net Pension Liability	\$5,940,077	\$8,693,280
• Pension Expense	1,970,604	399,913
• Employer Contributions	(1,508,274)	(1,398,011)
• New Net Deferred Inflows/Outflows	5,236,555	(2,004,050)
• Change in Allocation of Prior Deferred Inflows/Outflows	27,491	6,488
• New Net Deferred Flows Due to Change in Proportion ¹	(73,014)	(107,771)
• Recognition of Prior Deferred Inflows/Outflows	259,104	213,087
• Recognition of Prior Deferred Flows Due to Change in Proportion ¹	<u>137,081</u>	<u>137,141</u>
Ending Net Pension Liability	\$11,989,624	\$5,940,077

¹ Includes differences between employer contributions and proportionate share of contributions.

Section 2: GASB 68 Information

Schedule of reconciliation of Net Pension Liability (continued)

LARPD

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68 Reconciliation of Net Pension Liability	June 30, 2023 December 31, 2022	June 30, 2022 December 31, 2021
Beginning Net Pension Liability	\$(4,882,346)	\$14,126,234
• Pension Expense	2,408,945	500,074
• Employer Contributions	(519,392)	(13,692,329)
• New Net Deferred Inflows/Outflows	8,626,350	(5,110,827)
• Change in Allocation of Prior Deferred Inflows/Outflows	13,186	41,006
• New Net Deferred Flows Due to Change in Proportion ¹	(15,185)	(58,724)
• Recognition of Prior Deferred Inflows/Outflows	(23,367)	(706,666)
• Recognition of Prior Deferred Flows Due to Change in Proportion ¹	<u>9,681</u>	<u>18,886</u>
Ending Net Pension Liability	\$5,617,872	\$(4,882,346)

¹ Includes differences between employer contributions and proportionate share of contributions.

Section 2: GASB 68 Information

Schedule of reconciliation of Net Pension Liability (continued)

ACOE

Reporting Date for Employer under GASB 68 Measurement Date for Employer under GASB 68 Reconciliation of Net Pension Liability	June 30, 2023 December 31, 2022	June 30, 2022 December 31, 2021
Beginning Net Pension Liability	\$674,793	\$859,911
• Pension Expense	410,476	284,003
• Employer Contributions	(100,000)	(89,000)
• New Net Deferred Inflows/Outflows	525,578	(129,022)
• Change in Allocation of Prior Deferred Inflows/Outflows	1,041	(7)
• New Net Deferred Flows Due to Change in Proportion ¹	(1,200)	10
• Recognition of Prior Deferred Inflows/Outflows	(233,334)	(269,462)
• Recognition of Prior Deferred Flows Due to Change in Proportion ¹	<u>5,076</u>	<u>18,360</u>
Ending Net Pension Liability	\$1,282,430	\$674,793

¹ Includes differences between employer contributions and proportionate share of contributions.

Section 2: GASB 68 Information

Schedule of recognition of changes in total Net Pension Liability

Increase (Decrease) in Pension Expense Arising from the Recognition of the Effects of Differences between Expected and Actual Experience on Total Pension Liability

Reporting Date for Employer Under GASB 68 Year Ended June 30	Differences between Expected and Actual Experience	Recognition Period (Years)	Reporting Date for Employer under GASB 68 Year Ended June 30:								
			2022	2023	2024	2025	2026	2027	2028	Thereafter	
2017	\$(68,175,766)	5.60	\$(7,304,546)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2018	17,516,316	5.47	3,202,252	1,505,056	0	0	0	0	0	0	0
2019	13,710,084	5.43	2,524,878	2,524,878	1,085,694	0	0	0	0	0	0
2020	24,548,055	5.37	4,571,332	4,571,332	4,571,332	1,691,395	0	0	0	0	0
2021	33,007,683	5.26	6,275,224	6,275,224	6,275,224	6,275,224	1,631,563	0	0	0	0
2022	(50,359,948)	5.05	(9,972,267)	(9,972,267)	(9,972,267)	(9,972,267)	(9,972,267)	(498,613)	0	0	0
2023	58,260,983	4.98	<u>N/A</u>	<u>11,698,992</u>	<u>11,698,992</u>	<u>11,698,992</u>	<u>11,698,992</u>	<u>11,465,015</u>	<u>0</u>	<u>0</u>	<u>0</u>
Net increase (decrease) in pension expense			\$(703,127)	\$16,603,215	\$13,658,975	\$9,693,344	\$3,358,288	\$10,966,402	\$0	\$0	\$0

As described in the Schedule of Deferred Outflows of Resources and Deferred Inflows of Resources, for the current period, the average of the expected remaining service lives of all employees that are provided with pensions through ACERA (active and inactive employees) determined as of December 31, 2021 (the beginning of the measurement period ending December 31, 2022) is 4.98 years.

Amortization amounts prior to June 30, 2022 have been omitted from this schedule. Those amounts can be found in prior years' GASB 68 Reports.

Section 2: GASB 68 Information

Schedule of recognition of changes in total Net Pension Liability (continued)

Increase (Decrease) in Pension Expense Arising from the Recognition
of the Effects of Assumption Changes

Reporting Date for Employer Under GASB 68 Year Ended June 30	Effects of Assumption Changes	Recognition Period (Years)	Reporting Date for Employer under GASB 68 Year Ended June 30:								
			2022	2023	2024	2025	2026	2027	2028	Thereafter	
2017	\$150,676,929	5.60	\$16,143,959	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2018	316,727,508	5.47	57,902,653	27,214,243	0	0	0	0	0	0	0
2019	0	5.43	0	0	0	0	0	0	0	0	0
2020	0	5.37	0	0	0	0	0	0	0	0	0
2021	236,513,333	5.26	44,964,513	44,964,513	44,964,513	44,964,513	11,690,768	0	0	0	0
2022	0	5.05	0	0	0	0	0	0	0	0	0
2023	0	4.98	<u>N/A</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Net increase (decrease) in pension expense			\$119,011,125	\$72,178,756	\$44,964,513	\$44,964,513	\$11,690,768	\$0	\$0	\$0	\$0

As described in the Schedule of Deferred Outflows of Resources and Deferred Inflows of Resources, for the current period, the average of the expected remaining service lives of all employees that are provided with pensions through ACERA (active and inactive employees) determined as of December 31, 2021 (the beginning of the measurement period ending December 31, 2022) is 4.98 years.

Amortization amounts prior to June 30, 2022 have been omitted from this schedule. Those amounts can be found in prior years' GASB 68 Reports.

Section 2: GASB 68 Information

Schedule of recognition of changes in total Net Pension Liability (continued)

Increase (Decrease) in Pension Expense Arising from the Recognition of
Differences between Projected and Actual Earnings on Pension Plan Investments

Reporting Date for Employer Under GASB 68 Year Ended June 30	Differences between Projected and Actual Earnings	Recognition Period (Years)	Reporting Date for Employer under GASB 68 Year Ended June 30:								
			2022	2023	2024	2025	2026	2027	2028	Thereafter	
2017	\$16,987,820	5.00	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2018	(601,849,317)	5.00	(120,369,861)	0	0	0	0	0	0	0	0
2019	727,349,183	5.00	145,469,836	145,469,839	0	0	0	0	0	0	0
2020	(679,128,753)	5.00	(135,825,750)	(135,825,750)	(135,825,753)	0	0	0	0	0	0
2021	(193,319,430)	5.00	(38,663,887)	(38,663,887)	(38,663,887)	(38,663,882)	0	0	0	0	0
2022	(501,864,198)	5.00	(100,372,840)	(100,372,840)	(100,372,840)	(100,372,840)	(100,372,838)	0	0	0	0
2023	1,463,096,446	5.00	<u>N/A</u>	<u>292,619,289</u>	<u>292,619,289</u>	<u>292,619,289</u>	<u>292,619,289</u>	<u>292,619,290</u>	<u>292,619,290</u>	<u>0</u>	<u>0</u>
Net increase (decrease) in pension expense			\$(249,762,502)	\$163,226,651	\$17,756,809	\$153,582,567	\$192,246,451	\$292,619,290	\$0	\$0	\$0

The differences between projected and actual earnings on pension plan investments are recognized over a five-year period per Paragraph 33b. of GASB 68.

Amortization amounts prior to June 30, 2022 have been omitted from this schedule. Those amounts can be found in prior years' GASB 68 Reports.

Section 2: GASB 68 Information

Schedule of recognition of changes in total Net Pension Liability (continued)

Total Increase (Decrease) in Pension Expense

Reporting Date for Employer Under GASB 68 Year Ended June 30	Total Differences and Changes	Reporting Date for Employer under GASB 68 Year Ended June 30:							
		2022	2023	2024	2025	2026	2027	2028	Thereafter
2017	\$99,488,983	\$8,839,413	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2018	(267,605,493)	(59,264,956)	28,719,299	0	0	0	0	0	0
2019	741,059,267	147,994,714	147,994,717	1,085,694	0	0	0	0	0
2020	(654,580,698)	(131,254,418)	(131,254,418)	(131,254,421)	1,691,395	0	0	0	0
2021	76,201,586	12,575,850	12,575,850	12,575,850	12,575,855	13,322,331	0	0	0
2022	(552,224,146)	(110,345,107)	(110,345,107)	(110,345,107)	(110,345,107)	(110,345,105)	(498,613)	0	0
2023	1,521,357,429	<u>N/A</u>	<u>304,318,281</u>	<u>304,318,281</u>	<u>304,318,281</u>	<u>304,318,281</u>	<u>304,084,305</u>	<u>0</u>	<u>0</u>
Net increase (decrease) in pension expense		\$(131,454,504)	\$252,008,622	\$76,380,297	\$208,240,424	\$207,295,507	\$303,585,692	\$0	\$0

Amortization amounts prior to June 30, 2022 have been omitted from this schedule. Those amounts can be found in prior years' GASB 68 Reports.

Section 2: GASB 68 Information

Allocation of changes in total Net Pension Liability

In addition to the amounts shown in the Schedule of Recognition of Changes in Total Net Pension Liability, there are changes in each employer's proportionate share of the total Net Pension Liability (NPL) during the measurement period ending on December 31, 2022. The net effect of the change in the employer's proportionate share of the collective NPL and collective deferred outflows of resources and deferred inflows of resources is also recognized over the average of the expected remaining service lives of all employees shown above. The difference between the actual employer contributions and the proportionate share of the employer contributions during the measurement period ending on December 31, 2022 is recognized over the same periods. These amounts are shown on the following table, with the corresponding amounts for the measurement periods ending on December 31 beginning in 2017 shown on the following pages. While these amounts are different for each employer, they sum to zero over the entire ACERA.

Section 2: GASB 68 Information

Allocation of changes in total Net Pension Liability (continued)

Increase (Decrease) in Pension Expense Arising from the Recognition of the Effects of the Change in Proportion and Change in Employer Contributions for the Year Ended December 31, 2022

	Total Change to be Recognized	Recognition Period (Years)	2023	2024	2025	2026	2027	2028	Thereafter
Alameda County	\$981,790	4.98	\$197,146	\$197,146	\$197,146	\$197,146	\$193,206	\$0	\$0
Health System	(1,522,313)	4.98	(305,686)	(305,686)	(305,686)	(305,686)	(299,569)	0	0
Superior Court	204,357	4.98	41,036	41,036	41,036	41,036	40,213	0	0
First 5	448,026	4.98	89,965	89,965	89,965	89,965	88,166	0	0
Housing Authority	(91,359)	4.98	(18,345)	(18,345)	(18,345)	(18,345)	(17,979)	0	0
LARPD	(19,000)	4.98	(3,815)	(3,815)	(3,815)	(3,815)	(3,740)	0	0
ACOE	(1,501)	4.98	(301)	(301)	(301)	(301)	(297)	0	0
Total for all Employers	\$0		\$0						

Section 2: GASB 68 Information

Allocation of changes in total Net Pension Liability (continued)

Increase (Decrease) in Pension Expense Arising from the Recognition of the Effects of the Change in Proportion and Change in Employer Contributions for the Year Ended December 31, 2021

	Total Change to be Recognized	Recognition Period (Years)	2022	2023	2024	2025	2026	2027	Thereafter
Alameda County	\$409,443	5.05	\$81,077	\$81,077	\$81,077	\$81,077	\$81,077	\$4,058	\$0
Health System	7,476,142	5.05	1,480,424	1,480,424	1,480,424	1,480,424	1,480,424	74,022	0
Superior Court	(8,017,615)	5.05	(1,587,646)	(1,587,646)	(1,587,646)	(1,587,646)	(1,587,646)	(79,385)	0
First 5	339,623	5.05	67,253	67,253	67,253	67,253	67,253	3,358	0
Housing Authority	(134,381)	5.05	(26,610)	(26,610)	(26,610)	(26,610)	(26,610)	(1,331)	0
LARPD	(73,224)	5.05	(14,500)	(14,500)	(14,500)	(14,500)	(14,500)	(724)	0
ACOE	<u>12</u>	5.05	<u>2</u>	<u>2</u>	<u>2</u>	<u>2</u>	<u>2</u>	<u>2</u>	<u>0</u>
Total for all Employers	\$0		\$0	\$0	\$0	\$0	\$0	\$0	\$0

Section 2: GASB 68 Information

Allocation of changes in total Net Pension Liability (continued)

Increase (Decrease) in Pension Expense Arising from the Recognition of the Effects of the Change in Proportion and Change in Employer Contributions for the Year Ended December 31, 2020

	Total Change to be Recognized	Recognition Period (Years)	2021	2022	2023	2024	2025	2026	Thereafter
Alameda County	\$8,250,590	5.26	\$1,568,554	\$1,568,554	\$1,568,554	\$1,568,554	\$1,568,554	\$407,820	\$0
Health System	(12,853,687)	5.26	(2,443,667)	(2,443,667)	(2,443,667)	(2,443,667)	(2,443,667)	(635,352)	0
Superior Court	3,403,342	5.26	647,023	647,023	647,023	647,023	647,023	168,227	0
First 5	620,220	5.26	117,913	117,913	117,913	117,913	117,913	30,655	0
Housing Authority	526,592	5.26	100,112	100,112	100,112	100,112	100,112	26,032	0
LARPD	52,689	5.26	10,017	10,017	10,017	10,017	10,017	2,604	0
ACOE	<u>254</u>	5.26	<u>48</u>	<u>48</u>	<u>48</u>	<u>48</u>	<u>48</u>	<u>14</u>	<u>0</u>
Total for all Employers	\$0		\$0	\$0	\$0	\$0	\$0	\$0	\$0

Section 2: GASB 68 Information

Allocation of changes in total Net Pension Liability (continued)

Increase (Decrease) in Pension Expense Arising from the Recognition of the Effects of the Change in Proportion and Change in Employer Contributions for the Year Ended December 31, 2019

	Total Change to be Recognized	Recognition Period (Years)	2020	2021	2022	2023	2024	2025	Thereafter
Alameda County	\$6,339,140	5.37	\$1,180,474	\$1,180,474	\$1,180,474	\$1,180,474	\$1,180,474	\$436,770	\$0
Health System	(11,003,271)	5.37	(2,049,027)	(2,049,027)	(2,049,027)	(2,049,027)	(2,049,027)	(758,136)	0
Superior Court	4,979,652	5.37	927,309	927,309	927,309	927,309	927,309	343,107	0
First 5	515,062	5.37	95,915	95,915	95,915	95,915	95,915	35,487	0
Housing Authority	(898,184)	5.37	(167,260)	(167,260)	(167,260)	(167,260)	(167,260)	(61,884)	0
LARPD	27,510	5.37	5,123	5,123	5,123	5,123	5,123	1,895	0
ACOE	<u>40,091</u>	5.37	<u>7,466</u>	<u>7,466</u>	<u>7,466</u>	<u>7,466</u>	<u>7,466</u>	<u>2,761</u>	<u>0</u>
Total for all Employers	\$0		\$0	\$0	\$0	\$0	\$0	\$0	\$0

Section 2: GASB 68 Information

Allocation of changes in total Net Pension Liability (continued)

Increase (Decrease) in Pension Expense Arising from the Recognition of the Effects of the Change in Proportion and Change in Employer Contributions for the Year Ended December 31, 2018

	Total Change to be Recognized	Recognition Period (Years)	2019	2020	2021	2022	2023	2024	Thereafter
Alameda County	\$1,738,127	5.43	\$320,097	\$320,097	\$320,097	\$320,097	\$320,097	\$137,642	\$0
Health System	680,885	5.43	125,393	125,393	125,393	125,393	125,393	53,920	0
Superior Court	(2,537,099)	5.43	(467,238)	(467,238)	(467,238)	(467,238)	(467,238)	(200,909)	0
First 5	175,250	5.43	32,275	32,275	32,275	32,275	32,275	13,875	0
Housing Authority	(46,967)	5.43	(8,649)	(8,649)	(8,649)	(8,649)	(8,649)	(3,722)	0
LARPD	(10,196)	5.43	(1,878)	(1,878)	(1,878)	(1,878)	(1,878)	(806)	0
ACOE	<u>0</u>	5.43	<u>0</u>						
Total for all Employers	\$0		\$0						

Section 2: GASB 68 Information

Allocation of changes in total Net Pension Liability (continued)

Increase (Decrease) in Pension Expense Arising from the Recognition of the Effects of the Change in Proportion and Change in Employer Contributions for the Year Ended December 31, 2017

	Total Change to be Recognized	Recognition Period (Years)	2018	2019	2020	2021	2022	2023	Thereafter
Alameda County	\$(9,479,381)	5.47	\$(1,732,979)	\$(1,732,979)	\$(1,732,979)	\$(1,732,979)	\$(1,732,979)	\$(814,486)	\$0
Health System	13,073,831	5.47	2,390,097	2,390,097	2,390,097	2,390,097	2,390,097	1,123,346	0
Superior Court	(2,908,250)	5.47	(531,672)	(531,672)	(531,672)	(531,672)	(531,672)	(249,890)	0
First 5	(37,941)	5.47	(6,936)	(6,936)	(6,936)	(6,936)	(6,936)	(3,261)	0
Housing Authority	(403,509)	5.47	(73,767)	(73,767)	(73,767)	(73,767)	(73,767)	(34,674)	0
LARPD	(98,213)	5.47	(17,954)	(17,954)	(17,954)	(17,954)	(17,954)	(8,443)	0
ACOE	<u>(146,537)</u>	5.47	<u>(26,789)</u>	<u>(26,789)</u>	<u>(26,789)</u>	<u>(26,789)</u>	<u>(26,789)</u>	<u>(12,592)</u>	<u>0</u>
Total for all Employers	\$0		\$0	\$0	\$0	\$0	\$0	\$0	\$0

Section 3: Actuarial Assumptions and Methods and Appendices

Actuarial assumptions and methods

For December 31, 2022 Measurement Date and Employer Reporting as of June 30, 2023

Rationale for Assumptions:	The information and analysis used in selecting each assumption that has a significant effect on this actuarial valuation is shown in the December 1, 2016 through November 30, 2019 Actuarial Experience Study report dated September 9, 2020. Unless otherwise noted, all actuarial assumptions and methods shown below apply to all tiers. These assumptions were adopted by the Board.
<u>Economic Assumptions</u>	
Net Investment Return:	7.00%, net of investment expenses.
Employee Contribution Crediting Rate:	7.00%, compounded semi-annually.
Consumer Price Index:	Increase of 2.75% per year. Retiree COLA increases due to CPI are subject to a 2.75% maximum change per year for General Tier 1, General Tier 3, and Safety Tier 1, and 2% maximum change per year for General Tier 2, General Tier 4, Safety Tier 2, Safety Tier 2C, Safety Tier 2D, and Safety Tier 4. (For General Tier 1, General Tier 3, and Safety Tier 1 members with a sufficient COLA bank, withdrawals from the bank can be made to increase the retiree COLA up to 3% per year.) The actual COLA granted by ACERA on April 1, 2022 has been reflected in the December 31, 2021 valuation.
Payroll Growth:	Inflation of 2.75% per year plus real “across the board” salary increases of 0.50% per year, used to amortize the Unfunded Actuarial Accrued Liability as a level percentage of payroll.
Increase in Internal Revenue Code Section 401(a)(17) Compensation Limit:	Increase of 2.75% per year from the valuation date.
Increase in Section 7522.10 Compensation Limit:	Increase of 2.75% per year from the valuation date.

Section 3: Actuarial Assumptions and Methods and Appendices

Salary Increases:

The annual rate of compensation increase includes:

- Inflation at 2.75%, plus
- “Across the board” salary increases of 0.50% per year, plus
- The following merit and promotion increases:

Years of Service	Rate (%)	
	General	Safety
0-1	5.10	8.00
1-2	5.10	8.00
2-3	4.50	8.00
3-4	2.90	4.90
4-5	2.10	3.70
5-6	1.60	2.10
6-7	1.50	1.30
7-8	1.50	1.20
8-9	1.00	0.90
9-10	0.90	0.90
10-11	0.70	0.80
11 & Over	0.40	0.80

Additional Cashout Assumptions:

Additional pay elements are expected to be received during a member’s final average earnings period. The percentages, added to the final average salary, used in this valuation are:

	Service Retirement	Disability Retirement
General Tier 1	7.5%	6.5%
General Tier 2	3.0%	1.4%
General Tier 3	7.5%	6.5%
General Tier 4	N/A	N/A
Safety Tier 1	7.5%	6.4%
Safety Tier 2	2.5%	1.9%
Safety Tier 2C	2.5%	1.9%
Safety Tier 2D	2.5%	1.9%
Safety Tier 4	N/A	N/A

Section 3: Actuarial Assumptions and Methods and Appendices

Demographic Assumptions:

Post-Retirement Mortality Rates:

Healthy

- **General Members:** Pub-2010 General Healthy Retiree Amount-Weighted Above-Median Mortality Tables (separate tables for males and females), projected generationally with the two-dimensional mortality improvement scale MP-2019.
- **Safety Members:** Pub-2010 Safety Healthy Retiree Amount-Weighted Above-Median Mortality Tables (separate tables for males and females), projected generationally with the two-dimensional mortality improvement scale MP-2019.

Disabled

- **General Members:** Pub-2010 Non-Safety Disabled Retiree Amount-Weighted Mortality Tables (separate tables for males and females) with rates decreased by 10% for females, projected generationally with the two-dimensional mortality improvement scale MP-2019.
- **Safety Members:** Pub-2010 Safety Disabled Retiree Amount-Weighted Mortality Tables (separate tables for males and females) with rates increased by 5% for males, projected generationally with the two-dimensional mortality improvement scale MP-2019.

Beneficiaries

- **All Beneficiaries:** Pub-2010 General Contingent Survivor Amount-Weighted Above-Median Mortality Tables (separate tables for males and females) with rates increased by 5% for males, projected generationally with the two-dimensional mortality improvement scale MP-2019.

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

Section 3: Actuarial Assumptions and Methods and Appendices

Pre-Retirement Mortality Rates:

- **General Members:** Pub-2010 General Employee Amount-Weighted Above-Median Mortality Tables (separate tables for males and females), projected generationally with the two-dimensional mortality improvement scale MP-2019.
- **Safety Members:** Pub-2010 Safety Employee Amount-Weighted Above-Median Mortality Tables (separate tables for males and females), projected generationally with the two-dimensional mortality improvement scale MP-2019.

Age	Rate (%)			
	General ¹		Safety ¹	
	Male	Female	Male	Female
20	0.04	0.01	0.04	0.02
25	0.02	0.01	0.03	0.02
30	0.04	0.01	0.04	0.02
35	0.04	0.02	0.04	0.03
40	0.06	0.03	0.05	0.04
45	0.09	0.05	0.07	0.06
50	0.13	0.08	0.10	0.08
55	0.19	0.11	0.15	0.11
60	0.28	0.17	0.23	0.15
65	0.41	0.27	0.35	0.20

All pre-retirement deaths are assumed to be non-service connected.

¹ Generational projections beyond the base year (2010) are not reflected in the above mortality rates.

Mortality Rates for Member Contributions:

- **General Members:** Pub-2010 General Healthy Retiree Amount-Weighted Above-Median Mortality Tables (separate tables for males and females), projected 30 years (from 2010) with the two-dimensional mortality improvement scale MP-2019, weighted 30% male and 70% female.
- **Safety Members:** Pub-2010 Safety Healthy Retiree Amount-Weighted Above-Median Mortality Tables (separate tables for males and females), projected 30 years (from 2010) with the two-dimensional mortality improvement scale MP-2019, weighted 75% male and 25% female.

Section 3: Actuarial Assumptions and Methods and Appendices

Optional Forms of Benefit:

Service Retirement and All Beneficiaries

- **General Members:** Pub-2010 General Healthy Retiree Amount-Weighted Above-Median Mortality Tables (separate tables for males and females), projected 25 years (from 2010) with the two-dimensional mortality improvement scale MP-2019, weighted 30% male and 70% female.
- **General Beneficiaries:** Pub-2010 General Contingent Survivor Amount-Weighted Above-Median Mortality Tables (separate tables for males and females) with rates increased by 5% for males, projected 25 years (from 2010) with the two-dimensional mortality improvement scale MP-2019, weighted 70% male and 30% female.
- **Safety Members:** Pub-2010 Safety Healthy Retiree Amount-Weighted Above-Median Mortality Tables (separate tables for males and females), projected 25 years (from 2010) with the two-dimensional mortality improvement scale MP-2019, weighted 75% male and 25% female.
- **Safety Beneficiaries:** Pub-2010 General Contingent Survivor Amount-Weighted Above-Median Mortality Tables (separate tables for males and females) with rates increased by 5% for males, projected 25 years (from 2010) with the two-dimensional mortality improvement scale MP-2019, weighted 25% male and 75% female.

Disability Retirement

- **General Members:** Pub-2010 Non-Safety Disabled Retiree Amount-Weighted Mortality Tables (separate tables for males and females) with rates decreased by 10% for females, projected 25 years (from 2010) with the two-dimensional mortality improvement scale MP-2019, weighted 30% male and 70% female.
- **Safety Members:** Pub-2010 Safety Disabled Retiree Amount-Weighted Mortality Tables (separate tables for males and females) with rates increased by 5% for males, projected 25 years (from 2010) with the two-dimensional mortality improvement scale MP-2019, weighted 75% male and 25% female.

Disability Incidence:

Age	Rate (%)	
	General	Safety
20	0.00	0.00
25	0.01	0.03
30	0.03	0.26
35	0.07	0.64
40	0.09	1.22
45	0.16	1.50
50	0.26	2.10
55	0.33	2.65
60	0.38	3.80

65% of General disabilities are assumed to be service connected disabilities. The other 35% are assumed to be non-service connected disabilities.

100% of Safety disabilities are assumed to be service connected disabilities.

Section 3: Actuarial Assumptions and Methods and Appendices

Termination:

Years of Service	Rate (%)	
	General	Safety
0-1	12.00	4.00
1-2	9.00	4.00
2-3	8.00	4.00
3-4	6.00	3.50
4-5	6.00	3.00
5-6	6.00	2.00
6-7	5.25	1.80
7-8	4.25	1.70
8-9	3.75	1.60
9-16	3.50	1.50
16-17	3.40	1.40
17-18	3.30	1.30
18-19	3.20	1.20
19-20	3.10	1.10
20 or more	3.00	1.00

For members with less than five years of service, 55% of all terminated members are assumed to choose a refund of contributions and the other 45% are assumed to choose a deferred vested benefit. For members with five or more years of service, 30% of all terminated members are assumed to choose a refund of contributions and the other 70% are assumed to choose a deferred vested benefit.

No termination is assumed after a member is eligible for retirement.

Section 3: Actuarial Assumptions and Methods and Appendices

Retirement Rates:

Age	Rate (%) ¹									
	General					Safety				
	Tier 1	Tier 2 ²		Tier 3	Tier 4	Tier 1 ³	Tier 2, 2D ²		Tier 2C ³	Tier 4
		< 30	30+				< 30	30+		
49	0.0	0.0	0.0	0.0	0.0	0.0	12.0	18.0	0.0	0.0
50	2.0	2.0	4.0	10.0	0.0	35.0	12.0	18.0	4.0	4.0
51	4.0	2.0	4.0	10.0	0.0	30.0	10.0	24.0	2.0	2.0
52	4.0	2.0	4.0	10.0	4.0	25.0	10.0	24.0	2.0	2.0
53	5.0	2.0	4.0	10.0	2.0	35.0	10.0	25.0	3.0	3.0
54	5.0	2.0	4.0	10.0	2.0	45.0	12.0	27.0	6.0	6.0
55	6.0	2.0	4.0	12.0	5.0	45.0	12.0	29.0	10.0	10.0
56	10.0	2.5	4.5	14.0	2.5	45.0	14.0	32.0	12.0	12.0
57	12.0	4.0	5.0	16.0	3.5	45.0	16.0	32.0	20.0	20.0
58	12.0	4.0	5.0	18.0	3.5	45.0	18.0	30.0	10.0	10.0
59	14.0	4.5	8.0	20.0	4.5	45.0	18.0	30.0	15.0	15.0
60	20.0	8.0	8.5	20.0	5.0	45.0	25.0	30.0	60.0	60.0
61	20.0	9.0	13.5	20.0	5.0	45.0	25.0	30.0	60.0	60.0
62	35.0	15.0	22.5	30.0	18.0	45.0	25.0	30.0	60.0	60.0
63	30.0	15.0	22.5	25.0	15.0	45.0	25.0	30.0	60.0	60.0
64	30.0	18.0	27.0	25.0	17.0	45.0	30.0	30.0	60.0	60.0
65	30.0	25.0	27.5	50.0	25.0	100.0	100.0	100.0	100.0	100.0
66	30.0	30.0	33.0	50.0	30.0	100.0	100.0	100.0	100.0	100.0
67	30.0	30.0	33.0	50.0	30.0	100.0	100.0	100.0	100.0	100.0
68	30.0	30.0	33.0	50.0	30.0	100.0	100.0	100.0	100.0	100.0
69	35.0	35.0	38.5	50.0	35.0	100.0	100.0	100.0	100.0	100.0
70	40.0	40.0	40.0	65.0	25.0	100.0	100.0	100.0	100.0	100.0
71	40.0	40.0	40.0	65.0	25.0	100.0	100.0	100.0	100.0	100.0
72	40.0	40.0	40.0	65.0	25.0	100.0	100.0	100.0	100.0	100.0
73	40.0	40.0	40.0	65.0	25.0	100.0	100.0	100.0	100.0	100.0
74	40.0	40.0	40.0	65.0	25.0	100.0	100.0	100.0	100.0	100.0
75 & Over	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

¹ The retirement rates only apply to members that are eligible to retire at the age shown.

² Different retirement rates are assumed for General Tier 2 and Safety Tier 2 & 2D members who have accrued less than 30 years of service and those who have accrued at least 30 years of service.

³ Retirement rate is 100% after a member accrues a benefit of 100% of final average earnings.

Section 3: Actuarial Assumptions and Methods and Appendices

Retirement Age and Benefit for Deferred Vested Members:	<p>General Retirement Age: 61 Safety Retirement Age: 55</p> <p>Future deferred vested members who terminate with less than five years of service and are not vested are assumed to retire at age 70 for both General and Safety if they decide to leave their contributions on deposit. 25% of future General and 50% of future Safety deferred vested members are assumed to continue to work for a reciprocal employer. For reciprocals, 3.65% and 4.05% compensation increases are assumed per annum for General and Safety, respectively.</p>
Future Benefit Accruals:	1.0 year of service per year of employment, plus 0.003 years of additional service for General members and 0.007 years of additional service for Safety members, to anticipate conversion of unused sick leave for each year of employment.
Unknown Data for Members:	Same as those exhibited by members with similar known characteristics. If not specified, members are assumed to be male.
Inclusion of Deferred Vested Members:	All deferred vested members are included in the valuation.
Data Adjustment:	Data as of November 30 has been adjusted to December 31 by adding one month of age and, for active members, one month of service.
Form of Payment:	All active and inactive vested members are assumed to elect the unmodified option at retirement.
Percent Married:	70% of male members; 50% of female members.
Age and Gender of Spouse:	For all active and inactive members, male members are assumed to have a female spouse who is 3 years younger than the member and female members are assumed to have a male spouse who is 2 years older than the member.
<u>Actuarial Funding Policy</u>	
Actuarial Cost Method:	Entry Age Actuarial Cost Method. Entry Age is the age on the valuation date minus years of service. Normal Cost and Actuarial Accrued Liability are calculated on an individual basis and are based on costs allocated as a level percentage of compensation.
Expected Remaining Service Lives:	<p>The average of the expected service lives of all employees is determined by:</p> <ul style="list-style-type: none"> • Calculating each active employee's expected remaining service life as the present value of \$1 per year of future service at zero percent interest. • Setting the remaining service life to zero for each nonactive or retired member. <p>Dividing the sum of the above amounts by the total number of active employee, nonactive and retired members.</p>
Changed Actuarial Assumptions:	There were no changes in actuarial assumptions since the prior valuation.

Section 3: Actuarial Assumptions and Methods and Appendices

Appendix A: Projection of Pension Plan's Fiduciary Net Position (\$ in millions) for use in the Calculation of Discount Rate as of December 31, 2022

Year Beginning January 1,	Projected Beginning Plan Fiduciary Net Position (a)	Projected Total Contributions (b)	Projected Benefit Payments (c)	Projected Administrative Expenses (d)	Projected Investment Earnings (e)	Projected Ending Plan Fiduciary Net Position (f) = (a) + (b) - (c) - (d) + (e)
2022	10,217	402	591	15	-755	9,258
2023	9,258	375	686	14	633	9,566
2024	9,566	386	718	14	654	9,873
2025	9,873	401	750	15	674	10,183
2026	10,183	415	782	15	695	10,496
2027	10,496	447	814	16	717	10,831
2028	10,831	455	846	16	739	11,163
2029	11,163	462	878	17	762	11,491
2030	11,491	470	911	17	783	11,817
2046	13,044	298	1,252	20	872	12,943
2047	12,943	245	1,260	19	863	12,771
2048	12,771	239	1,266	19	851	12,576
2049	12,576	237	1,270	19	837	12,361
2091	1,574	50	137	2	106	1,590
2092	1,590	47	119	2	108	1,624
2093	1,624	44	102	2	111	1,674
2094	1,674	41	87	3	115	1,740
2095	1,740	39	75	3	120	1,821
2096	1,821	37	64	3	126	1,917
2097	1,917	35	55	3	133	2,027
2098	2,027	33	47	3	141	2,151
2099	2,151	32	41	3	150	2,289
2100	2,289	31	37	3	160	2,439
2101	2,439	31	33	4	170	2,604
2102	2,604	30	30	4	182	2,782
2112	5,096	42	35	8	356	5,452
2113	5,452	45	37	8	381	5,833
2114	5,833	48	39	9	408	6,241
2115	6,241	51	41	9	437	6,677
2116	6,677	54	44	10	467	7,145
2134	22,570	181	147	34	1,579	24,150
2135	24,150	194	157 *	36	1,690	25,840
2135	Discounted Value: 12					

* Projected benefit payments for the closed group of active, inactive vested, retired members and beneficiaries as of November 30, 2021 is \$0. This amount represents the 0.65% of the beginning-of-year market value to reflect the approximated outflow of future allocations to the SRBR. See Note 6.

Section 3: Actuarial Assumptions and Methods and Appendices

Notes

1. Amounts may not total exactly due to rounding.
2. Amounts shown in the year beginning January 1, 2022 row are actual amounts, based on the financial statements provided by ACERA.
3. Years 2031-2045, 2050-2090, 2103-2111, and 2117-2133 have been omitted from this table.
4. Column (a): Except for the "discounted value" shown for 2135, all of the projected beginning plan fiduciary net position amounts shown have not been adjusted for the time value of money.
5. Column (b): Projected total contributions include employee and employer normal cost contributions based on closed group projections (based on covered active members as of November 30, 2021); plus employer contributions to the unfunded actuarial accrued liability; plus employer contributions to fund each year's annual administrative expenses as well as future allocations of excess earnings to the SRBR under ACERA's funding policy, both reflecting a 20-year amortization schedule. Contributions are assumed to occur halfway through the year, on average.
6. 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 November 30, 2021. The projected benefit payments reflect the cost of living increase assumption of 2.75% per annum for Tiers 1 and 3, and 2.00% per annum for Tiers 2 and 4. The projected benefit payments include the Non-OPEB Supplemental Retiree Benefits Reserve (SRBR) benefits to the extent the current Non-OPEB SRBR supports those benefits. Benefit payments are assumed to occur halfway through the year, on average. In accordance with paragraph 31.b.(1)(e) of GASB Statement No. 67, the long-term expected rate of return on Plan investments of 7.00% per annum was applied to all periods of projected benefit payments to determine the discount rate.

In addition, the projected benefit payments in column (c) include an amount equal to 0.65% of the beginning-of-year market value to reflect the approximated outflow of future allocations to the SRBR. This outflow has an estimated present value of \$1.06 billion. This present value of outflow is expected to be sufficient to pay for the remaining present value of the non-OPEB SRBR benefits of \$0.11 billion as well as the remaining present value of the OPEB SRBR benefits of \$0.44 billion.
7. Column (d): Projected administrative expenses are calculated as approximately 0.15% of the beginning plan fiduciary net position amount. The 0.15% portion was based on the actual fiscal year 2022 administrative expenses as a percentage of the beginning plan fiduciary net position amount as of January 1, 2022. Administrative expenses are assumed to occur halfway through the year, on average.
8. Column (e): Projected investment earnings are based on the assumed investment rate of return of 7.00% per annum.
9. As illustrated in this Exhibit, 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 7.00% per annum was applied to all periods of projected benefit payments to determine the total pension liability as of December 31, 2022 shown earlier in this report, pursuant to paragraph 44 of GASB Statement No. 67.
10. 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 fiduciary net position and the discounting of benefits is part of the model.

Section 3: Actuarial Assumptions and Methods and Appendices

Appendix B: Definition of Terms

Definitions of certain terms as they are used in Statement 68. The terms may have different meanings in other contexts.

Active Employees	Individuals employed at the end of the reporting or measurement period, as applicable.
Actual Contributions	Cash contributions recognized as additions to a Pension Plan's Fiduciary Net Position.
Actuarial Present Value of Projected Benefit Payments	Projected benefit payments discounted to reflect the expected effects of the time value (present value) of money and the probabilities of payment.
Actuarial Valuation	The determination, as of a point in time (the actuarial valuation date), of the service cost, Total Pension Liability, and related actuarial present value of projected benefit payments for pensions performed in conformity with Actuarial Standards of Practice unless otherwise specified by the GASB.
Actuarial Valuation Date	The date as of which an actuarial valuation is performed.
Actuarially Determined Contribution	A target or recommended contribution to a defined benefit pension plan for the reporting period, determined in conformity with Actuarial Standards of Practice based on the most recent measurement available when the contribution for the reporting period was adopted.
Ad Hoc Cost-of-Living Adjustments (Ad Hoc COLAs)	Cost-of-living adjustments that require a decision to grant by the authority responsible for making such decisions.
Ad Hoc Postemployment Benefit Changes	Postemployment benefit changes that require a decision to grant by the authority responsible for making such decisions.
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).
Closed Period	A specific number of years that is counted from one date and declines to zero with the passage of time. For example, if the recognition period initially is five years on a closed basis, four years remain after the first year, three years after the second year, and so forth.
Collective Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions	Deferred outflows of resources and deferred inflows of resources related to pensions arising from certain changes in the collective Net Pension Liability.

Section 3: Actuarial Assumptions and Methods and Appendices

Collective Net Pension Liability	The Net Pension Liability for benefits provided through (1) a cost-sharing pension plan or (2) a single-employer or agent pension plan in circumstances in which there is a special funding situation.
Collective Pension Expense	Pension expense arising from certain changes in the collective Net Pension Liability.
Contributions	Additions to a Pension Plan's Fiduciary Net Position for amounts from employers, nonemployer contributing entities (for example, state government contributions to a local government pension plan), or employees. Contributions can result from cash receipts by the pension plan or from recognition by the pension plan of a receivable from one of these sources.
Cost-of-Living Adjustments	Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.
Cost-Sharing Employer	An employer whose employees are provided with pensions through a cost-sharing multiple-employer defined benefit pension plan.
Cost-Sharing Multiple-Employer Defined Benefit Pension Plan (Cost-Sharing Pension Plan)	A multiple-employer defined benefit pension plan in which the pension obligations to the employees of more than one employer are pooled and pension plan assets can be used to pay the benefits of the employees of any employer that provides pensions through the pension plan.
Covered Payroll	Payroll on which contributions to a pension plan are based.
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 68.)
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.

Section 3: Actuarial Assumptions and Methods and Appendices

Discount Rate	<p>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:</p> <ol style="list-style-type: none"> 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	<p>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 <i>normal cost</i>. 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 <i>actuarial accrued liability</i>.</p>
Inactive Employees	<p>Terminated individuals that have accumulated benefits but are not yet receiving them, and retirees or their beneficiaries currently receiving benefits.</p>
Measurement Period	<p>The period between the prior and the current measurement dates.</p>
Multiple-Employer Defined Benefit Pension Plan	<p>A defined benefit pension plan that is used to provide pensions to the employees of more than one employer.</p>
Net Pension Liability (NPL)	<p>The liability of employers and nonemployer contributing entities to employees for benefits provided through a defined benefit pension plan.</p>
Other Postemployment Benefits	<p>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.</p>
Pension Plans	<p>Arrangements through which pensions are determined, assets dedicated for pensions are accumulated and managed, and benefits are paid as they come due.</p>
Pensions	<p>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.</p>
Plan Members	<p>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).</p>

Section 3: Actuarial Assumptions and Methods and Appendices

Postemployment	The period after employment.
Postemployment Benefit Changes	Adjustments to the pension of an inactive employee.
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.
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 68.

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