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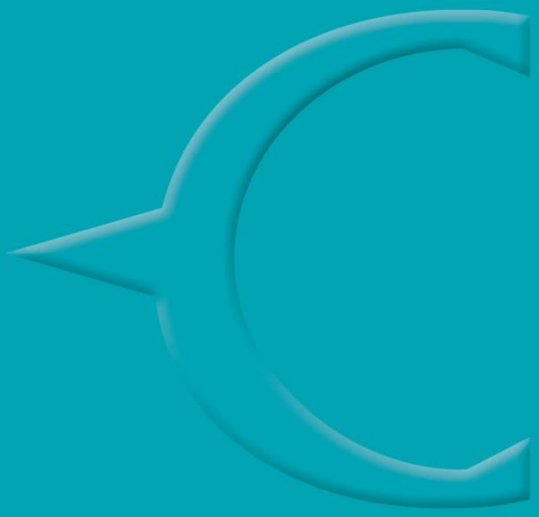

California Public Employees' Retirement System
Public Agency Parallel Valuations and Certification Report as of June 30, 2024

Produced by Cheiron

June 2026

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SECTION I – BOARD SUMMARY

Introduction

Pursuant to Task 1 of Contract 2025-9617, Cheiron has carried out independent parallel actuarial valuations as of June 30, 2024 for a sample of pension plans sponsored by public agencies contracting with the California Public Employees' Retirement System (CalPERS). The objective of this work is to independently verify the contribution rates and accrued liabilities developed by CalPERS' staff actuaries as of that same measurement date, and to reconcile any items where our parallel calculations fall outside the tolerance bands set in the contract.

The sample consists of 20 Public Agency plans: the 10 largest plans (by membership), plus an additional 10 plans selected at random, which include two pooled systems. Consistent with the Statement of Work, the tolerance level for contribution rates is plus or minus five percent (5%) of CalPERS' staff results, and the tolerance level for accrued liabilities is plus or minus three percent (3%) of CalPERS' staff results. If the parallel results fall outside the tolerance levels, the cause of these differences must be researched and reconciled; there were no such differences outside the tolerance levels identified in our review.

In carrying out this engagement, Cheiron has reviewed the results and reports with reference to the Actuarial Standards of Practice issued by the Actuarial Standards Board. Specifically, ASOP No. 27 framed our assessment of the reasonableness of the assumptions and methods adopted by CalPERS' staff, while ASOP Nos. 4, 41, 51, and 56 informed our consideration of the form and content of the valuation reports themselves.

The final valuation data supplied by CalPERS was not subject to audit or independent verification by Cheiron; such review falls outside the agreed scope of this engagement. Appendix A presents a comparison of the data used in each of our parallel valuations compared to the statistics shown in the CalPERS valuation reports.

SECTION I – BOARD SUMMARY

Summary of Valuation Replication Results

Our parallel actuarial models permit a direct comparison of many metrics to the corresponding figures published in the CalPERS valuation reports. For purposes of assessing the overall reasonableness of CalPERS' results, we focused on three actuarial measures:

- **Total Present Value of Benefits** – the present value of all benefits expected to be paid to current members after they separate from active service. A close match here suggests that the actuarial assumptions and benefit provisions have been programmed and applied consistently.
- **Total Accrued Liability** – the portion of the Present Value of Benefits attributed to service rendered prior to the valuation date. A close match here suggests that the Entry Age Normal Cost Method has been implemented in the same manner.
- **Total Normal Cost** – the portion of the Present Value of Benefits attributed to the current year of service. A close match here suggests that annual benefit accruals for active members are being measured consistently between the two valuation systems.

For the non-pooled systems, we also derived a total employer contribution rate from our results for comparison to the results of the CalPERS reports. We derived our comparative employer rate by subtracting the employee contribution rates published in the CalPERS valuation reports from our calculated total normal cost rate, and then adjusted the Unfunded Accrued Liability (UAL) rate shown in the CalPERS reports (which is presented there as a percentage of pay for illustrative purposes only) in proportion to the difference between our calculated UAL and the UAL reported by CalPERS.

The individual plan comparisons for each of the actuarial measures and the employer contribution rates are shown in Section IV of this report. Our match on the Total Present Value of Benefits was within 0.6% of CalPERS's results in aggregate, within 1.0% of CalPERS's results for all but two plans, and within the 3% target threshold for all plans. The comparison on the Total Accrued Liability was also close: within 0.2% in aggregate and within 1.5% for all plans. The differences in the total normal cost amounts were within 1.8% in aggregate, slightly greater but still within 3.0% for all plans. The larger differences in these amounts are to be expected for reasons described in the following pages and as recognized in the higher tolerance level for cost differences of 5%. Finally, our Employer Cost Rates (for the non-pooled plans) were within 3.0% for all but two plans, and within the 5% target threshold for all plans.

SECTION I – BOARD SUMMARY

Technical and Actuarial Communication Observations

OVERALL VALIDATION

Verifying that the actuarial assumptions are properly applied in projecting expected benefit payments is a key component of our actuarial replication. We accomplished this by reviewing detailed sample lives provided by CalPERS' staff. Overall, we were able to validate that the application of the actuarial assumptions is consistent with how we understand the assumptions were developed in the experience study. Our review did not identify any refinements to CalPERS' valuation calculations that we would consider necessary or advisable. We did, however, identify several observations that may warrant CalPERS' consideration, described below.

SALARY SCALE AND ROUNDING CONVENTIONS

We did notice that when determining the projected salaries from a member's entry age into the system, the year zero (0) merit scale does not get reflected in the calculations of the present value of future salaries used in the entry age calculation. In addition, the different rounding conventions used by CalPERS and Cheiron caused the application of the salary scale to be out of alignment by a year in some cases. However, the impact of these inconsistencies is not material; we calculated that the methodology differences would only change the aggregate Present Value of Future Benefits for the 20 systems by 0.2%, and the aggregate Accrued Liability by 0.1%.

DIFFERENCES IN VALUATION SOFTWARE

There are inherent differences in actuarial valuation software used to calculate pension liabilities. Cheiron uses ProVal, a globally recognized valuation system that is one of the industry standards for pension actuaries, while CalPERS has developed their own system. In addition to the rounding differences noted above, the two systems handle new active members, and active members at or past maximum assumed retirement age, somewhat differently:

- ProVal computes an Actuarial Liability of $0 for new actives and a $0 normal cost for those at the maximum assumed retirement age.
- The CalPERS system computes a half-year accrual for a new active (resulting in a small Actuarial Liability in the first year) and a half-year accrual for the active past maximum assumed retirement age.

We observed some large variances at the individual member level due to these methodology differences, but the impact at the plan level is immaterial.

SECTION I – BOARD SUMMARY

THEORETICAL VS. ACTUAL SERVICE IN LIABILITY CALCULATIONS

The present value of a participant's future benefits is based on their actual credited service as of the valuation date. However, as Buck observed in the previous Public Agency valuation review engagement, CalPERS' valuation system determines the accrued liability and normal cost using a theoretical service amount, built up from entry age by assumption. Theoretical service is generally at least as large as actual service, which tends to produce a lower accrued liability and a higher normal cost than would result from using actual service.

While the overall difference in liabilities and costs is minor (as Buck also noted), CalPERS' approach can have a more meaningful impact in certain situations – and, in our opinion, can be more appropriate than using actual service. For example, in the event of a plan amendment, CalPERS may create two records for an active participant: one inactive record reflecting service under the prior plan provisions, and one active record for future service under the new plan provisions. In this case, using the participant's original entry age and corresponding theoretical service in the active record is preferable for targeting a stable normal cost rate over time.

This methodology was particularly important for one of the agencies we reviewed (Los Angeles Unified School District, Safety), for which using actual service on the valuation date – and projecting it back to each active participant's original entry age – would have produced a materially lower normal cost than one based on the current plan provisions and demographic characteristics of the active membership.

EMPLOYEE CONTRIBUTION RATE LEVERAGING

Our replication of total employer contribution rates did not include a recalculation of employee contribution rates for active members, in particular those under PEPRA. We were within the 5% threshold on all 20 agencies without doing so but would note that since the normal cost is actually shared 50/50 (subject to thresholds and rounding), we would expect our employer costs to be somewhat closer to CalPERS' had we recalculated the PEPRA member rates and applied (unrounded) 50/50 cost-sharing to both sets of results.

This affected one of the agencies in particular – Inland Empire Health Plan, Miscellaneous – where approximately 90% of the active population consists of PEPRA members. Our total normal cost rate was only 2.2% higher than CalPERS,' but the calculated employer normal cost rate was 4.0% higher, because the employee portion was held fixed. However, since all of our employer contribution rates were within the 5% threshold we did not find it necessary to make any employee rate adjustments.

SECTION I – BOARD SUMMARY

Reporting and Documentation Observations

Several observations related to documentation rather than calculations:

- In the actuarial assumptions spreadsheet provided by CalPERS, the tables for vested termination rates have the following footnote: "When a member is eligible to retire, the termination with vested benefits probability is set to zero." Following clarification from CalPERS, our understanding is that the rates in the tables – which continue until vested terminated participants are assumed to retire (age 59 for Miscellaneous, age 54 for Safety) – are in fact applied even after retirement eligibility. In addition to updating or removing the footnote, it may be helpful to state explicitly how both vested termination and refund rates are treated once active members become eligible to retire, since it is common for such rates to cease at that point.
- Each agency's valuation report includes a "Plan's Major Benefit Options" exhibit summarizing the benefits for the agency's various membership groups. Though useful, we found the exhibit to be somewhat difficult to interpret, as there is no way to tell which members belong to which group, and some columns appear identical to each other. We recommend adding clarifying language to these exhibits.
- For the two pooled plans (City of La Palma, Miscellaneous and City of Laguna Beach, Safety), we calculated an aggregate normal cost rate for the whole plan for comparison purposes, while the valuation reports present normal cost rates for each rate plan separately.

Conclusion

Our review of CalPERS's calculations did not identify any refinements of the valuation calculations that we would consider necessary or advisable. We found the calculations and reports to be in compliance with the relevant Actuarial Standards of Practice.

SECTION II – CERTIFICATION

The purpose of this report is to present the parallel actuarial valuation results as of June 30, 2024, for 20 Public Agency employers in CalPERS to certify that the work performed by the CalPERS Actuarial Office is reasonable and satisfies applicable actuarial standards.

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

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

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

This report was prepared for CalPERS for the purposes described herein. Other users of this report are not intended users as defined in the Actuarial Standards of Practice, and Cheiron assumes no duty or liability to any other user.

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SECTION III – REVIEW OF ASSUMPTIONS, METHODS, AND ACTUARIAL COMMUNICATIONS

Assumptions

The actuarial assumptions used to project benefits, calculate liabilities, and determine actuarial costs include the following:

- Expected rate of return on investments, net of investment and administrative expenses: 6.80%
- Wage inflation and payroll growth: 2.80%. Wage inflation is used in projecting individual salary increases, while payroll growth is used in the development of unfunded liability amortization payment schedules for bases which use level percentage of payroll amortization (i.e., bases established prior to 2019 for plans that currently have active members).
- Salary scale: Varies by category, entry age, and duration of service.
- Inflation: 2.30%
- Demographic assumptions including mortality, termination, and retirement.

More detailed information concerning the valuation assumptions can be found in the 2021 CalPERS Experience Study Report issued in November 2021. The results of this report were verified by Gabriel Roeder Smith as part of a comprehensive review of the experience study. Actuarial Standard of Practice (ASOP) 27 discusses the selection of assumptions for the measurement of pension liabilities. In our opinion, the assumptions used in the 20 sample Public Agency valuations are reasonable, and the methodology used to select these assumptions is appropriate and consistent with the guidance provided in ASOP 27.

Methods

REASONABLE ADC

Actuarial Standard of Practice No. 4 (ASOP 4) was recently updated to require the calculation and disclosure of a Reasonable Actuarially Determined Contribution. Although there is no reference to a Reasonable Actuarially Determined Contribution, in our opinion, the Annual Required Contributions calculated in the valuation reports meet the requirements:

- The assumptions are reasonable,
- The Entry Age Actuarial Cost Method is appropriate,
- The amortization method is expected to fully amortize the unfunded actuarial liability within a reasonable time period,
- The Market Value of Assets is used without smoothing, and
- The output smoothing method that prevents contributions from being less than the normal cost when a plan is more than 100% funded is appropriate.

SECTION III – REVIEW OF ASSUMPTIONS, METHODS, AND ACTUARIAL COMMUNICATIONS

Implications of Contribution Allocation Procedure or Funding Policy

The recent revisions to ASOP 4 also required some new disclosures on the implications of the Contribution Allocation Procedure or Funding Policy. The actuarial valuation reports address these disclosures comprehensively in the section titled "Fiscal Year 2026-27 Employer Contribution Versus Agency Funding Objectives."

Actuarial Communications

Actuarial communications, including actuarial valuation reports, are subject to the requirements of Actuarial Standard of Practice No. 41, which also incorporates any required disclosures from other relevant standards of practice. In our opinion, the actuarial valuation reports comply with the relevant Actuarial Standards of Practice. A more detailed discussion of the actuarial valuation reports compliance with significant recent revisions to the Actuarial Standards of Practice follows.

Assessment and Disclosure of Risk

Actuarial Standard of Practice No. 51 requires the identification, assessment, and disclosure of risks to help readers of the actuarial valuation report "understand the effects of future experience differing from the assumptions used" and "the potential volatility of future measurements resulting from such differences."

Identification of Risks

The actuary should "identify risks that, in the actuary's professional judgment, may reasonably be anticipated to significantly affect the plan's future financial condition." The valuation reports do not explicitly identify significant risks, but it may be implied that the actuary views the risks assessed (investment returns, changes in the discount rate, and mortality) as the risks that may significantly affect the plan's future financial condition. In our opinion, it would improve the reports to add a short paragraph identifying these risks and explaining how they could significantly affect the plan's financial condition before providing the assessment.

Assessment of Risks

The valuation reports provide good, well-communicated quantitative assessments of risks associated with investment returns, changes in discount rates, and mortality experience.

SECTION III – REVIEW OF ASSUMPTIONS, METHODS, AND ACTUARIAL COMMUNICATIONS

Additional Assessment of Risks

The actuary is required to recommend a more detailed assessment of risks if it "would be significantly beneficial." We found no such recommendation in the valuation reports. Given the assessments already provided, the actuary may believe that a more detailed assessment is not necessary. The report would be improved by making an explicit statement, one way or another.

Plan Maturity Measures and Historical Information

The valuation reports include an excellent section on maturity measures, including historical maturity measures. Other historical information is provided throughout the reports.

Low-Default-Risk Obligation Measure

The recent revisions to ASOP 4 also require disclosure of a Low-Default-Risk Obligation Measure (LDROM), along with commentary explaining its significance with respect to funded status, contributions, and benefit security. The valuation reports include a separate section to convey the LDROM information. The interest rate and actuarial cost method used for the LDROM calculation are consistent with ASOP 4 requirements, and there is an explanation of its significance with respect to benefit security, future contributions, and funded status.

SECTION IV – PARALLEL ACTUARIAL VALUATION RESULTS

Parallel Actuarial Valuation Methodology

Contract 2025-9617 requires "a parallel valuation of the ten (10) largest public agency plans, plus a minimum of ten (10) other public agency plans chosen by a random sampling technique that conforms to industry standards and is approved by CalPERS."

The CalPERS Actuarial Office provided a file with all of the CalPERS Public Agency plans, their key results, and the applicable benefit provisions as of June 30, 2024. Based on this list, we identified various categories of Plans that we wanted to cover: Miscellaneous vs. Safety; City, County, and other Employers / Districts; a sample of different benefit formulas; and, at least two risk-pooled plans.

We randomly selected a set of 10 plans that met these criteria, applying an additional filter to exclude any plans included in the set of 10 random plans selected by Buck as part of the prior Public Agency parallel valuation engagement (under Contract 2021-9096). The Public Agency plans included in each group (Largest and Random) are as follows:

Table IV-1
10 Largest Plans

Employer	Type of Public Agency	Type of Plan
Bay Area Rapid Transit	Other	Miscellaneous
Inland Empire Health Plan	Other	Miscellaneous
Long Beach	City	Miscellaneous
Monterey	County	Miscellaneous
Oakland	City	Miscellaneous
Public Transportation Services Corporation	Other	Miscellaneous
Riverside	County	Miscellaneous
Riverside	County	Safety
Sacramento	City	Miscellaneous
Santa Clara	County	Miscellaneous

SECTION IV – PARALLEL ACTUARIAL VALUATION RESULTS

Table IV-2
10 Randomly Selected Plans

Employer	Type of Public Agency	Type of Plan
Carlsbad	City	Safety
Fullerton	City	Safety
La Palma	City	Miscellaneous
Laguna Beach	City	Safety
Los Angeles Unified School District	Other	Safety
North County Transit District	Other	Miscellaneous
Palm Springs	City	Safety
Roseville	City	Safety
San Luis Obispo	City	Miscellaneous
Yolo	County	Safety

For each of the 20 plans, we requested the final census data used in the valuation and the valuation results on an individual basis and in aggregate. We also requested several active and inactive sample lives to perform a more detailed review.

We independently coded a parallel valuation in ProVal for each of the selected plans. The actuarial assumptions used in our valuations were those provided by the CalPERS Actuarial Office, which we confirmed against the assumptions disclosed in the experience study report and other publicly available sources. The benefit provisions reflected in our valuations were based on our understanding of the plans as summarized in the valuation reports and confirmed against the plan-level data provided by CalPERS. Where additional clarification was needed – for instance, regarding the treatment of part-time members for purposes of service crediting and final average compensation – we requested and received clarification from the Actuarial Office and confirmed it against referred to other public sources, including the CalPERS website.

We then compared our valuation results to those published by CalPERS, focusing on Total Present Value of Benefits, Total Accrued Liability, Total Normal Cost, and, for the non-pooled plans, a derived total employer contribution rate, as described in Section I. The comparative employer rate was developed using the UAL adjustment procedure summarized in that section.

In addition to the actuarial valuation results, we reviewed other calculations used in the CalPERS reports to determine and project costs. For example, for a sample of plans we verified that the UAL amortization payments were calculated correctly for each amortization base and in the aggregate, based on our understanding of CalPERS' funding policies.

SECTION IV – PARALLEL ACTUARIAL VALUATION RESULTS

Comparison of Key Valuation Results By Employer

The table below and the following page compare, by employer, the present value of benefits calculated by CalPERS to the amount calculated by Cheiron.

Table IV-3(a)

Comparison of Present Value of Benefits Calculation (10 Largest)

Top Ten Plans	CalPERS Present Value of Benefits	Cheiron Present Value of Benefits	Percent Difference
City of Long Beach, Miscellaneous	4,004,618,389	4,023,297,222	0.5%
City of Oakland, Miscellaneous	3,988,548,527	4,006,536,405	0.5%
City of Sacramento, Miscellaneous	2,289,125,269	2,299,861,188	0.5%
County of Monterey, Miscellaneous	3,459,274,849	3,483,706,572	0.7%
County of Riverside, Miscellaneous	13,933,089,811	14,049,432,718	0.8%
County of Riverside, Safety	6,236,164,244	6,244,254,434	0.1%
County of Santa Clara, Miscellaneous	19,452,582,168	19,594,439,889	0.7%
Inland Empire Health Plan, Miscellaneous	1,144,915,548	1,179,825,816	3.0%
Public Transportation Services Corporation, Miscellaneous	1,872,403,847	1,890,297,647	1.0%
San Francisco Bay Area Rapid Transit District, Miscellaneous	3,946,919,595	3,961,547,813	0.4%

SECTION IV – PARALLEL ACTUARIAL VALUATION RESULTS

Table IV-3(b)
Comparison of Present Value of Benefits Calculation (10 Selected)

Selected Plans	CalPERS Present Value of Benefits	Cheiron Present Value of Benefits	Percent Difference
City of Carlsbad, Safety	537,026,611	535,186,692	-0.3%
City of Fullerton, Safety	699,185,270	697,675,540	-0.2%
City of La Palma, Miscellaneous	44,686,103	44,656,066	-0.1%
City of Laguna Beach, Safety	264,151,498	264,574,802	0.2%
City of Palm Springs, Safety	460,396,997	459,526,736	-0.2%
City of Roseville, Safety	627,830,343	626,326,325	-0.2%
City of San Luis Obispo, Miscellaneous	347,217,173	349,303,845	0.6%
County of Yolo, Safety	428,138,267	429,681,094	0.4%
Los Angeles Unified School District, Safety	652,038,105	662,617,936	1.6%
North County Transit District, Miscellaneous	197,488,883	199,211,298	0.9%

The table below and the next page compare, by employer, the accrued liability calculated by CalPERS to the amount calculated by Cheiron.

Table IV-4(a)
Comparison of Accrued Liability Calculation (10 Largest)

Top Ten Plans	CalPERS Actuarial Liability	Cheiron Actuarial Liability	Percent Difference
City of Long Beach, Miscellaneous	3,445,521,196	3,441,049,570	-0.1%
City of Oakland, Miscellaneous	3,490,532,657	3,486,501,572	-0.1%
City of Sacramento, Miscellaneous	1,918,563,746	1,914,933,965	-0.2%
County of Monterey, Miscellaneous	2,811,647,418	2,806,718,942	-0.2%
County of Riverside, Miscellaneous	11,465,592,386	11,452,750,721	-0.1%
County of Riverside, Safety	5,201,084,096	5,162,623,108	-0.7%
County of Santa Clara, Miscellaneous	16,244,855,294	16,240,749,949	0.0%
Inland Empire Health Plan, Miscellaneous	607,631,309	613,112,579	0.9%
Public Transportation Services Corporation, Miscellaneous	1,423,574,171	1,420,791,275	-0.2%
San Francisco Bay Area Rapid Transit District, Miscellaneous	3,299,290,210	3,288,257,324	-0.3%

SECTION IV – PARALLEL ACTUARIAL VALUATION RESULTS

Table IV-4(b)
Comparison of Accrued Liability Calculation (10 Selected)

Selected Plans	CalPERS Actuarial Liability	Cheiron Actuarial Liability	Percent Difference
City of Carlsbad, Safety	437,748,382	433,705,990	-0.9%
City of Fullerton, Safety	614,933,388	611,065,751	-0.6%
City of La Palma, Miscellaneous	40,666,001	40,488,101	-0.4%
City of Laguna Beach, Safety	213,137,593	212,262,144	-0.4%
City of Palm Springs, Safety	379,479,710	376,349,179	-0.8%
City of Roseville, Safety	506,944,118	502,657,346	-0.8%
City of San Luis Obispo, Miscellaneous	291,293,527	290,939,467	-0.1%
County of Yolo, Safety	346,315,845	345,596,865	-0.2%
Los Angeles Unified School District, Safety	581,530,278	589,988,851	1.5%
North County Transit District, Miscellaneous	164,969,740	164,871,925	-0.1%

The table below and the following page compare, by employer, the total normal cost calculated by CalPERS to the amount calculated by Cheiron.

Table IV-5(a)
Comparison of Total Normal Cost Calculation (10 Largest)

Top Ten Plans	CalPERS Total Normal Cost	Cheiron Total Normal Cost	Percent Difference
City of Long Beach, Miscellaneous	61,270,057	62,139,969	1.4%
City of Oakland, Miscellaneous	61,421,391	62,381,557	1.6%
City of Sacramento, Miscellaneous	39,273,334	39,642,621	0.9%
County of Monterey, Miscellaneous	69,976,937	71,403,384	2.0%
County of Riverside, Miscellaneous	274,193,073	280,438,149	2.3%
County of Riverside, Safety	109,971,794	111,073,134	1.0%
County of Santa Clara, Miscellaneous	385,504,886	393,957,711	2.2%
Inland Empire Health Plan, Miscellaneous	53,742,889	55,134,445	2.6%
Public Transportation Services Corporation, Miscellaneous	51,672,740	52,548,237	1.7%
San Francisco Bay Area Rapid Transit District, Miscellaneous	73,270,533	74,119,365	1.2%

SECTION IV – PARALLEL ACTUARIAL VALUATION RESULTS

Table IV-5(b)
Comparison of Total Normal Cost Calculation (10 Selected)

Selected Plans	CalPERS Total Normal Cost	Cheiron Total Normal Cost	Percent Difference
City of Carlsbad, Safety	9,447,300	9,429,179	-0.2%
City of Fullerton, Safety	7,866,236	7,878,664	0.2%
City of La Palma, Miscellaneous	440,548	445,476	1.1%
City of Laguna Beach, Safety	5,102,671	5,094,874	-0.2%
City of Palm Springs, Safety	8,029,892	8,001,564	-0.4%
City of Roseville, Safety	12,083,609	11,986,209	-0.8%
City of San Luis Obispo, Miscellaneous	5,381,352	5,457,858	1.4%
County of Yolo, Safety	8,910,165	8,917,482	0.1%
Los Angeles Unified School District, Safety	9,277,317	9,204,753	-0.8%
North County Transit District, Miscellaneous	3,548,655	3,613,284	1.8%

The table below and the next page compare, by employer for the non-pooled plans, the employer contribution rate calculated by CalPERS to the amount calculated by Cheiron.

Table IV-6(a)
Comparison of Employer Contribution Rate Calculation (10 Largest)

Top Ten Plans	CalPERS Employer Contribution Rate	Cheiron Employer Contribution Rate	Percent Difference
City of Long Beach, Miscellaneous	32.60%	32.68%	0.2%
City of Oakland, Miscellaneous	37.96%	38.13%	0.4%
City of Sacramento, Miscellaneous	27.92%	27.92%	0.0%
County of Monterey, Miscellaneous	21.36%	21.55%	0.9%
County of Riverside, Miscellaneous	24.82%	25.11%	1.2%
County of Riverside, Safety	43.22%	42.56%	-1.5%
County of Santa Clara, Miscellaneous	28.38%	28.73%	1.2%
Inland Empire Health Plan, Miscellaneous	10.75%	11.29%	5.0%
Public Transportation Services Corporation, Miscellaneous	18.14%	18.32%	1.0%
San Francisco Bay Area Rapid Transit District, Miscellaneous	25.49%	25.43%	-0.2%

SECTION IV – PARALLEL ACTUARIAL VALUATION RESULTS

Table IV-6(b)
Comparison of Employer Contribution Rate Calculation (10 Selected)

Selected Plans	CalPERS Employer Contribution Rate	Cheiron Employer Contribution Rate	Percent Difference
City of Carlsbad, Safety	51.52%	50.17%	-2.6%
City of Fullerton, Safety	95.14%	93.71%	-1.5%
City of La Palma, Miscellaneous	N/A	N/A	N/A
City of Laguna Beach, Safety	N/A	N/A	N/A
City of Palm Springs, Safety	57.65%	56.99%	-1.1%
City of Roseville, Safety	57.33%	55.94%	-2.4%
City of San Luis Obispo, Miscellaneous	36.35%	36.45%	0.3%
County of Yolo, Safety	50.74%	50.41%	-0.7%
Los Angeles Unified School District, Safety	76.55%	79.04%	3.3%
North County Transit District, Miscellaneous	21.89%	22.03%	0.6%

APPENDIX A – COMPARISON OF ACTIVE MEMBER DATA

Table A-1

10 Largest Public Agency Plans – Actives

Top Ten Plans	CalPERS Active Count	Cheiron Active Count	CalPERS Active Average Age	Cheiron Active Average Age	CalPERS Active Average Service	Cheiron Active Average Service	CalPERS Active Average Pay	Cheiron Active Average Pay
City of Long Beach, Miscellaneous	4,035	4,035	43.26	43.27	8.90	8.92	87,241	87,299
City of Oakland, Miscellaneous	3,044	3,044	47.30	47.31	9.53	9.53	107,185	107,268
City of Sacramento, Miscellaneous	2,751	2,751	44.21	44.21	9.51	9.52	85,706	85,728
County of Monterey, Miscellaneous	5,043	5,043	43.36	43.38	9.38	9.39	91,270	91,394
County of Riverside, Miscellaneous	20,038	20,038	43.54	43.54	8.57	8.57	76,297	76,346
County of Riverside, Safety	3,539	3,539	39.33	39.35	11.03	11.03	101,444	101,446
County of Santa Clara, Miscellaneous	19,283	19,283	46.01	46.02	9.55	9.56	120,717	120,999
Inland Empire Health Plan, Miscellaneous	3,845	3,845	41.36	41.37	5.08	5.08	82,059	82,127
Public Transportation Services Corporation, Miscellaneous	2,835	2,835	47.34	47.35	9.31	9.31	113,498	113,572
San Francisco Bay Area Rapid Transit District, Miscellaneous	4,046	4,046	47.03	47.03	9.80	9.81	109,934	109,993

APPENDIX A – COMPARISON OF ACTIVE MEMBER DATA

Table A-2
10 Selected Public Agency Plans – Actives

Selected Plans	CalPERS Active Count	Cheiron Active Count	CalPERS Active Average Age	Cheiron Active Average Age	CalPERS Active Average Service	Cheiron Active Average Service	CalPERS Active Average Pay	Cheiron Active Average Pay
City of Carlsbad, Safety	219	219	38.80	38.80	9.40	9.41	137,455	137,455
City of Fullerton, Safety	183	183	36.75	36.78	10.30	10.30	139,037	139,037
City of La Palma, Miscellaneous	29	29	43.50	43.52	7.60	7.65	82,038	82,109
City of Laguna Beach, Other Safety	16	16	35.70	35.81	6.40	6.41	113,017	113,017
City of Laguna Beach, Safety Fire	41	41	40.40	40.37	11.70	11.72	154,566	154,566
City of Laguna Beach, Safety Police	59	59	38.00	38.08	6.40	6.36	139,993	140,028
City of Palm Springs, Safety	182	182	39.13	39.14	10.34	10.34	136,359	136,370
City of Roseville, Safety	257	257	39.17	39.14	9.21	9.21	137,413	137,421
City of San Luis Obispo, Miscellaneous	366	366	40.66	40.66	6.30	6.32	87,876	87,882
County of Yolo, Safety	275	275	41.26	41.28	10.87	10.90	108,575	108,587
Los Angeles Unified School District, Safety	239	239	44.25	44.27	14.84	14.84	111,740	111,740
North County Transit District, Miscellaneous	337	337	45.29	45.27	3.13	3.13	79,455	79,576

APPENDIX A – COMPARISON OF ACTIVE MEMBER DATA

Table A-3
10 Largest Public Agency Plans – Inactives

Top Ten Plans	CalPERS Transferred Count	Cheiron Transferred Count	CalPERS Separated Count	Cheiron Separated Count	CalPERS Receiving Payments Count	Cheiron Receiving Payments Count
City of Long Beach, Miscellaneous	2,125	2,125	2,989	2,989	4,994	4,994
City of Oakland, Miscellaneous	865	865	1,445	1,445	4,096	4,095
City of Sacramento, Miscellaneous	2,379	2,379	2,380	2,379	3,839	3,839
County of Monterey, Miscellaneous	1,452	1,452	4,187	4,187	4,371	4,371
County of Riverside, Miscellaneous	5,075	5,075	14,862	14,862	14,672	14,672
County of Riverside, Safety	796	796	1,001	1,001	3,537	3,537
County of Santa Clara, Miscellaneous	1,524	1,524	8,263	8,263	15,701	15,700
Inland Empire Health Plan, Miscellaneous	197	197	1,676	1,676	211	211
Public Transportation Services Corporation, Miscellaneous	333	333	1,099	1,099	1,657	1,657
San Francisco Bay Area Rapid Transit District, Miscellaneous	360	360	1,043	1,043	3,623	3,623

APPENDIX A – COMPARISON OF ACTIVE MEMBER DATA

Table A-4
10 Selected Public Agency Plans – Inactives

Selected Plans	CalPERS Transferred Count	Cheiron Transferred Count	CalPERS Separated Count	Cheiron Separated Count	CalPERS Receiving Payments Count	Cheiron Receiving Payments Count
City of Carlsbad, Safety	62	62	57	57	303	303
City of Fullerton, Safety	88	88	67	67	444	444
City of La Palma, Miscellaneous	57	57	48	48	116	116
City of Laguna Beach, Other Safety	0	0	3	3	7	8
City of Laguna Beach, Safety Fire	9	9	6	6	67	67
City of Laguna Beach, Safety Police	34	34	22	22	123	123
City of Palm Springs, Safety	39	39	47	47	294	294
City of Roseville, Safety	57	57	48	48	304	304
City of San Luis Obispo, Miscellaneous	187	187	344	344	502	502
County of Yolo, Safety	171	171	142	142	408	408
Los Angeles Unified School District, Safety	143	143	99	99	441	441
North County Transit District, Miscellaneous	107	107	399	399	637	637

APPENDIX B – GLOSSARY OF TERMS

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs such as mortality, withdrawal, disability, retirement, changes in compensation, and rates of investment return.

Actuarial Cost Method

A procedure for determining the actuarial present value of pension plan benefits and expenses and for developing an allocation of such value to each year of service, usually in the form of a normal cost and an Accrued Liability.

Accrued Liability

The portion of the actuarial present value of projected benefits that will not be paid by future normal costs. It represents the value of the past normal costs with interest to the valuation date.

Actuarial Present Value (Present Value)

The value as of a given date of a future amount or series of payments. The actuarial present value discounts the payments to the given date at the assumed investment return and includes the probability of the payment being made.

Actuarial Valuation

The determination, as of a specified date, of the normal cost, accrued liability, Actuarial Value of Assets, and related actuarial present values for a pension plan.

Actuarial Value of Assets

The value of cash, investments, and other property belonging to a pension plan as used by the actuary for the purpose of an actuarial valuation. For the CalPERS plans, the Actuarial Value of Assets is equal to market fluctuations.

Amortization Payment

The portion of the pension plan contribution, which is designed to pay interest and principal on the Unfunded Accrued Liability in order to pay for that liability in a given number of years.

APPENDIX B – GLOSSARY OF TERMS

Entry Age Normal Actuarial Cost Method

A method under which the actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis over the earnings of the individual between entry age and assumed exit ages.

Funded Ratio

The ratio of the Actuarial Value of Assets to the Accrued Liability.

Normal Cost

That portion of the actuarial present value of pension plan benefits and expenses that is allocated to a valuation year by the actuarial cost method.

Projected Benefits

Those pension plan benefit amounts which are expected to be paid in the future under a particular set of actuarial assumptions, taking into account such items as increases in future compensation and service credits.

Unfunded Accrued Liability

The excess of the Accrued Liability over the Actuarial Value of Assets. The Unfunded Accrued Liability is not appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the Plans' benefit obligation in the event of a plan termination or other similar action. However, it is an appropriate measure for assessing the need for or the amount of future contributions.

Classic Values, Innovative Advice