



**Government Accounting Standards
(GASB) Statements 67 and 68
Crossover Testing Report for
Measurement Date June 30, 2025,
based on June 30, 2024, Valuations**

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Introduction

This report describes CalPERS approach for crossover testing to fulfill Government Accounting Standards Board Statements 67 and 68 reporting requirements on discount rates used for measuring Total Pension Liabilities as of the measurement date June 30, 2025, based on financial information as of June 30, 2025, and census information as of our last valuation date on June 30, 2024.

Background

History

The Government Accounting Standards Board adopted Statements 67 and 68 on June 25, 2012.

Statement 68 (Accounting and Financial Reporting for Pensions) paragraphs 26 to 31 contain requirements for determining the discount rate to be used in a pension plan. A 100-year cash flow projection for each agent plan is among the requirements.

CalPERS Structure

The California Public Employees' Retirement System (CalPERS) provides retirement benefits services to almost 2.4 million members.

Led by a 13-member Board of Administration ("CalPERS Board") consisting of member-elected, appointed, and ex officio members, CalPERS membership consists of 1,561,579 active and inactive members and 827,954 retirees, beneficiaries, and survivors as of June 30, 2025.

Public Employees Retirement Fund

The Public Employees Retirement Fund (PERF) provides retirement benefits to State of California, schools and other California public agency employees. The PERF benefits are funded by member and employer contributions and by earnings on investments.

The PERF is comprised of and reported as three separate entities for accounting purposes:

- PERF A is comprised of agent-multiple-employer plans, which includes State of California and most public agencies' rate plans with more than 100 active members.
- PERF B is a cost-sharing multiple-employer plan of Schools Pooled employers consisting of non-teaching and non-certified employees.
- PERF C is a cost-sharing multiple-employer plan of public agencies' plans with generally less than 100 active members.

In addition to the PERF, there are three other defined benefit plans:

- Legislators' Retirement Fund (LRF) provides retirement benefits to California Legislators elected to office before November 7, 1990, and to constitutional and statutory officers elected or appointed prior to January 1, 2013. The number of LRF members has been declining as eligible incumbent Legislators leave office and are replaced by those who are ineligible to participate in the LRF.
- Judges' Retirement Fund (JRF) provides retirement benefits to California Supreme and Appellate Court Justices and Superior Court Judges appointed or elected before November 9, 1994. The State of California does not pre-fund for this fund. The benefits are funded on a pay-as-you-go basis.
- Judges' Retirement Fund II (JRF II) provides retirement benefits to California Supreme and Appellate Court Justices and Superior Court Judges first appointed or elected on or after November 9, 1994.

CalPERS Long-Term Expected Rate of Return

CalPERS used the following methodology to set the long-term expected rate of return pertaining to the ACFR as of June 30, 2025.

The expected long-term rate of return on pension plan investments was determined using a building-block method in which expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class.

In determining the long-term expected rate of return, CalPERS considered both the short-term and long-term market return expectations as well as the expected pension fund cash flows. Using historical returns of all funds' asset classes, expected compound (geometric) returns were calculated over the short term (first 10 years) and the long term (11+ years) using a building-block approach. Using the expected nominal returns for both short term and long term, the present value of benefits was calculated for each fund. The expected rate of return was set by calculating the rounded single equivalent expected return that arrived at the same present value of benefits for cash flows as the one calculated using both short-term and long-term returns. The expected rate of return was then set equal to the single equivalent rate calculated above and adjusted to account for assumed administrative expenses.

CalPERS Retirement Fund Discount Rates

The discount rates used in the actuarial valuations used to measure the total pension liability as of June 30, 2025, reflect the long-term expected rates of return for the respective plans. This excludes the JRF I, which is funded on a pay-as-you-go basis and does not have accumulated assets adequate to pay future benefits.

The discount rates used to measure the total pension liability as of June 30, 2025, for the PERF A, PERF B, LRF, and JRF II were 6.90%, 6.90%, 4.85%, and 6.15%, respectively. The financial reporting discount rates are consistent with the expected long-term investment rate of return used to determine Actuarially Determined Contributions after adjustments for administrative expense assumptions.

CalPERS Funding Policy

The CalPERS Board of Administration adopts these actuarial policies to ensure the proper funding of member benefits.

- [Actuarial Amortization Policy \(PDF\)](#)
- [Actuarial Assumptions Policy \(PDF\)](#)
- [Actuarial Cost Method Policy \(PDF\)](#)
- [Contribution Allocation Policy \(PDF\)](#)

CalPERS Amortization Methods and Actuarial Assumptions

Amortization Methods

Prior Policy (Bases Established prior to June 30, 2019)

The unfunded liability is amortized as a “level percent of pay”. All new gains or losses are amortized over a fixed 30-year period with a 5-year ramp up at the beginning and a 5-year ramp down at the end of the amortization period. All changes in liability due to plan amendments (other than golden handshakes) are amortized over a 20-year period with no ramp. Changes in actuarial assumptions or changes in actuarial methodology are amortized over a 20-year period with a 5-year ramp up at the beginning and a 5-year ramp down at the end of the amortization period. Changes in unfunded accrued liability due to a Golden Handshake will be amortized over a period of five years. The 5-year ramp up means that the payments in the first four years of the amortization period are 20%, 40%, 60% and 80% of the “full” payment which begins in year five. The 5-year ramp down means that the reverse is true in the final four years of the amortization period.

Current Policy (Bases Established on or after June 30, 2019)

Amortization payments established on or after June 30, 2019, are determined as a level dollar amount. Investment gains or losses are amortized over a fixed 20-year period with a 5-year ramp up at the beginning of the amortization period. Non-investment gains or losses are amortized over a fixed 20-year period with no ramps. All changes in liability due to plan amendments (other than golden handshakes) are amortized over a 20-year period with no ramps. Changes in actuarial assumptions or changes in actuarial methodology are amortized over a 20-year period with no ramps. Changes in unfunded accrued liability due to a Golden Handshake are amortized over a fixed period of five years.

Actuarial Assumptions

The actuarial assumptions used in determining actuarial liabilities and required employer contributions include both economic and non-economic assumptions. These assumptions represent the actuary’s best estimate of anticipated future experiences and are reviewed in depth periodically.

Actuarial assumptions used in the crossover testing of individual plans are assumptions adopted by the Board in November of 2021 for the PERF defined benefit plans as well as for the LRF and JRS II plans. For more details, refer to the [2021 CalPERS Experience Study](#) report which can be found on the CalPERS website.

Approach

Crossover Testing

CalPERS conducted cash flow projections to determine if assets would run out under the assumed discount rate. CalPERS refers to these projections as “crossover tests”.

Each crossover test requires running multiple valuations, completing additional calculations and verifying the results. CalPERS cannot currently support crossover testing for the approximately 2,100 public agency rate plans it administers. Instead, CalPERS chose representative plans that had a higher likelihood of a crossover event (see Selection of Plans for more details).

CalPERS performed crossover tests on the following plans within the PERF as of the measurement date on June 30, 2025:

- PERF A
 - California Highway Patrol
 - State Miscellaneous (Tiers 1 and 2)
 - State Peace Officers and Fire Fighters (POFF)
 - One Public Agency Miscellaneous Plan
 - One Public Agency Safety Plan
- PERF B
 - Schools Pool
- PERF C
 - No plans were selected (see Selection of Plans section)

CalPERS also performed crossover tests on the following additional defined benefit plans as of the measurement date on June 30, 2025:

- Legislators' Retirement Fund
- Judges' Retirement Fund II

Selection of Plans

For PERF A, CalPERS tested a combination of State and Public Agency agent multiple-employer plans with the lowest funded status and lowest active to retiree ratio.

Funded status is one of several indicators of the financial health of a plan. Active to retiree ratio indicates how many actives a plan has to fund for future benefits. Plans with low measures in these two areas tend to have a higher probability of a crossover event compared to other CalPERS agencies' plans.

For PERF B, CalPERS conducted a crossover test on the Schools Pool (a cost-sharing multiple-employer plan).

For PERF C, by demonstrating crossover event does not occur for plans which have a lower funded status and active to retiree ratio within the PERF C risk pools, is sufficient to validate crossover event has a very low probability to occur for the entire PERF C risk pools. As of June 30, 2024, the funded status and active to retiree ratio for the PERF C Miscellaneous pool are 77.9% and 87.5%, respectively; and for the PERF C Safety pool are 74.8% and 49.8%.

CalPERS conducted crossover tests on LRS and JRS II.

CalPERS did not perform a crossover test on the Judges' Retirement Fund I (JRF) because the State adopted the pay-as-you-go funding policy. Under the pay-as-you-go method, the pension plan's fiduciary net position, if any, was projected not to be sufficient to cover the projected future benefit payments of current active and inactive employees. Therefore, the discount rate used to measure Total Pension Liability was based on a yield rate or index for the 20-year tax-exempt General Obligation Municipal Bonds with an average rating of AA/Aa or higher (Bond Buyer 20-year AA General Obligation Bond Index) was used.

The table below shows the funded status and active to retiree ratios for the plans tested for a crossover event.

Plan Characteristics (as of June 30, 2024)

Plan	Funded Status (Based on 06/30/2024 funding valuation results)	Active to Retiree Ratio
PERF A - Agency		
California Highway Patrol	69.2%	0.62
State Miscellaneous (Tiers 1 and 2)	74.5%	0.88
State POFF	75.7%	0.80
PA Miscellaneous Plan	57.4%	0.63
PA Safety Plan	60.8%	0.40
PERF B – Cost-Sharing Schools		
Schools	69.6%	1.38
PERF C – Cost-Sharing Agency		
Pooled Miscellaneous Plan	77.9%	0.88
Pooled Safety Plan	74.8%	0.50
Other Defined Benefit Plans		
Legislators' Retirement Fund	96.0%	0.00
Judges' II Retirement Fund	103.3%	2.68

Crossover Testing Methodology

This report was prepared in accordance with generally accepted actuarial principles and practices and based on the following testing methodologies:

- Benefit provisions provided by CalPERS's Retirement Benefit Service division, as administered by the Board. Included plan amendments (if any) adopted before the measurement date of June 30, 2025.
- Census information of covered active, transfer, separated, retired and beneficiaries' members are as of June 30, 2024, provided by Retirement Benefit Service division of CalPERS.
- Audited fair value of assets of the Plan as of June 30, 2025, provided by Financial Reporting & Accounting Services division of CalPERS.
- Economic assumptions regarding inflation, future salary increases, and investment returns adopted by the Board for the June 30, 2024, actuarial valuations.
- Other actuarial assumptions, regarding employee terminations, retirements, disabilities, deaths, etc. adopted by the Board for the June 30, 2024, valuations.

Crossover Testing Assumptions

The following assumptions are used in performing the crossover tests.

- Plan's projected fiduciary net position amounts shown have not been adjusted for the time value of money.
- Projected total contributions include employee and employer normal cost contributions based on closed group projections (actual contributions were used in Fiscal Year (FY) 2024-25), contributions beginning FY 2025-26 were based on covered active members as of June 30, 2024; plus, annual employer contributions to the unfunded actuarial accrued liability; plus, any additional discretionary payments to the unfunded liability in FY 2024-25, if exist. Contributions and benefit payments are assumed to occur in the middle of the year.
- Projected benefit payments (actual benefit payments were used in FY 2024-25) beginning FY 2025-26 have been determined in accordance with paragraph 39 of GASB Statement No. 67, and are based on the closed group of active, transfers, inactive vested, retired members, and beneficiaries as of June 30, 2024.
- 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.
- Beginning in FY 2025-26, the long-term expected rate of return on Plan investments of 6.90% per annum for PERF A & B (LRF, and JRF II' are 5.15% and 6.15%), was applied to all periods of projected benefit payments to determine the discount rate to the extent that Plan's beginning of the year's FNP was projected to be available to make projected future benefit payments and administrative expenses in that year. Otherwise, yield rate of 5.20% for the 20-year tax-exempt General Obligation Municipal Bonds was used.

- Projected administrative expenses (actual administrative expenses were used in FY 2024-25) are calculated as approximately 0.10 % for the PERF (0.15% for JRF II, 0.35 % for LRF) of the average cash flow of Fiduciary Net Position amount during the year.

Results

Crossover Testing Results

Projected cash flows are used to develop the projected Fiduciary Net Position for each pension plan. The pension plan's projected Fiduciary Net Position is compared to the projected benefit payments in each period. A crossover event occurs if the projected benefit payments exceed the projected beginning of year Fiduciary Net Position in any given year.

There is no crossover event that is projected to occur for any CalPERS plan tested (plans include in PERF A, PERF B, LRF and JRF II). This report summarizes the findings for each plan tested by displaying the year in which the projected Fiduciary Net Position is at its lowest value and above zero. Therefore, no crossover event is expected to occur. It also presents the projected Fiduciary Net Position, projected benefit payments, and "funded" portion and "unfunded" portion of benefit payments for the periods within two years of that point, in addition to the first five (5) years and the 100th year of the crossover testing data. Detailed projections and calculations used to identify a potential crossover event for each plan are shown in Appendix A of this report.

Crossover testing results are very sensitive to the long-term expected rate of return. Initially, Fiduciary Net Position increases as contributions plus investment earnings exceed projected benefit payments. When active payroll decreases, Fiduciary Net Position decreases as contributions plus investment earnings not enough to cover projected benefit payments. As time progress, retiree population decreases lead to projected benefit payments of the closed group decrease. At a certain point, expected investment earnings will exceed benefit payments plus administration expenses and the Trust will be cashflow positive. Therefore, no crossover event is expected to occur thereafter.

California Highway Patrol Crossover Test Results (PERF A)

A crossover event did not occur.

As illustrated in the following Exhibit and Appendix A-4, the Plan's fiduciary net position was projected to be available to make all projected future benefit payments for current Plan members plus administrative expenses. There is no projected "cross-over date" when projected benefits are not covered by projected assets. Therefore, the long-term expected rate of return on Plan investments of 6.90% per annum was applied to all periods of projected benefit payments to determine the total pension liability as of June 30, 2025, pursuant to paragraph 44 of GASB Statement No. 67.

Year	Projected Beginning Fiduciary Net Position (\$)	Projected Benefit Payments (\$)	"Funded" Portion of Benefit Payments (\$)	Unfunded Portion of Benefit Payments (\$)
1	\$12,828,948,576	\$902,461,771	\$902,461,771	\$0
2	14,403,665,122	944,388,297	944,388,297	0
3	15,325,535,891	994,069,256	994,069,256	0
4	16,219,254,508	1,046,200,355	1,046,200,355	0
5	17,144,775,759	1,101,129,068	1,101,129,068	0
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56	10,939,521,523	819,223,684	819,223,684	0
57	10,836,789,763	757,303,820	757,303,820	0
58	10,791,062,760	696,999,249	696,999,249	0
59	10,804,547,529	638,543,421	638,543,421	0
60	10,879,359,902	582,150,159	582,150,159	0
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100	106,676,018,174	5,442	5,442	0

State Miscellaneous (Tier 1 and 2) Crossover Test Results (PERF A)

A crossover event did not occur.

As illustrated in the following Exhibit and Appendix A-7, the Plan's fiduciary net position was projected to be available to make all projected future benefit payments for current Plan members plus administrative expenses. There is no projected "cross-over date" when projected benefits are not covered by projected assets. Therefore, the long-term expected rate of return on Plan investments of 6.90% per annum was applied to all periods of projected benefit payments to determine the total pension liability as of June 30, 2025, pursuant to paragraph 44 of GASB Statement No. 67.

Year	Projected Beginning Fiduciary Net Position (\$)	Projected Benefit Payments (\$)	"Funded" Portion of Benefit Payments (\$)	Unfunded Portion of Benefit Payments (\$)
1	\$110,046,650,413	\$8,253,271,703	\$8,253,271,703	\$0
2	121,197,399,827	8,727,729,183	8,727,729,183	0
3	127,243,701,859	9,087,270,102	9,087,270,102	0
4	133,198,313,843	9,439,392,038	9,439,392,038	0
5	139,379,850,262	9,792,451,363	9,792,451,363	0
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56	82,205,402,385	6,216,201,410	6,216,201,410	0
57	81,371,293,249	5,708,145,354	5,708,145,354	0
58	81,005,510,577	5,210,165,724	5,210,165,724	0
59	81,129,487,177	4,725,184,242	4,725,184,242	0
60	81,763,093,864	4,256,102,714	4,256,102,714	0
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100	836,467,358,716	83,166	83,166	0

State POFF Crossover Test Results (PERF A)

A crossover event did not occur.

As illustrated in the following Exhibit and Appendix A-10, the Plan's fiduciary net position was projected to be available to make all projected future benefit payments for current Plan members plus administrative expenses. There is no projected "cross-over date" when projected benefits are not covered by projected assets. Therefore, the long-term expected rate of return on Plan investments of 6.90% per annum was applied to all periods of projected benefit payments to determine the total pension liability as of June 30, 2025, pursuant to paragraph 44 of GASB Statement No. 67.

Year	Projected Beginning Fiduciary Net Position (\$)	Projected Benefit Payments (\$)	"Funded" Portion of Benefit Payments (\$)	Unfunded Portion of Benefit Payments (\$)
1	\$50,778,064,322	\$3,345,966,874	\$3,345,966,874	\$0
2	55,703,063,892	3,507,337,752	3,507,337,752	0
3	58,709,031,620	3,698,243,236	3,698,243,236	0
4	61,586,034,216	3,896,597,046	3,896,597,046	0
5	64,521,171,560	4,098,520,882	4,098,520,882	0
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57	45,768,253,482	3,249,001,167	3,249,001,167	0
58	45,522,844,175	3,028,592,121	3,028,592,121	0
59	45,488,526,749	2,809,837,823	2,809,837,823	0
60	45,677,945,367	2,593,489,385	2,593,489,385	0
61	46,103,827,766	2,380,417,336	2,380,417,336	0
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100	427,421,989,212	84,574	84,574	0

PA Miscellaneous Plan (PERF A)

A crossover event did not occur.

As illustrated in the following Exhibit and Appendix A-13, the Plan's fiduciary net position was projected to be available to make all projected future benefit payments for current Plan members plus administrative expenses. There is no projected "cross-over date" when projected benefits are not covered by projected assets. Therefore, the long-term expected rate of return on Plan investments of 6.90% per annum was applied to all periods of projected benefit payments to determine the total pension liability as of June 30, 2025, pursuant to paragraph 44 of GASB Statement No. 67.

Year	Projected Beginning Fiduciary Net Position (\$)	Projected Benefit Payments (\$)	"Funded" Portion of Benefit Payments (\$)	Unfunded Portion of Benefit Payments (\$)
1	\$124,815,014	\$13,704,582	\$13,704,582	\$0
2	136,573,597	14,038,154	14,038,154	0
3	142,287,315	14,504,203	14,504,203	0
4	148,473,064	14,999,861	14,999,861	0
5	154,473,345	15,525,792	15,525,792	0
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52	91,246,640	6,638,078	6,638,078	0
53	90,591,351	6,270,277	6,270,277	0
54	90,271,602	5,907,337	5,907,337	0
55	90,305,188	5,546,095	5,546,095	0
56	90,714,379	5,184,738	5,184,738	0
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100	1,072,707,140	0	0	0

PA Safety Plan (PERF A)

A crossover event did not occur.

As illustrated in the following Exhibit and Appendix A-16, the Plan's fiduciary net position was projected to be available to make all projected future benefit payments for current Plan members plus administrative expenses. There is no projected "cross-over date" when projected benefits are not covered by projected assets. Therefore, the long-term expected rate of return on Plan investments of 6.90% per annum was applied to all periods of projected benefit payments to determine the total pension liability as of June 30, 2025, pursuant to paragraph 44 of GASB Statement No. 67.

Year	Projected Beginning Fiduciary Net Position (\$)	Projected Benefit Payments (\$)	"Funded" Portion of Benefit Payments (\$)	Unfunded Portion of Benefit Payments (\$)
1	\$338,191,948	\$30,820,402	\$30,820,402	\$0
2	374,355,364	32,152,965	32,152,965	0
3	394,236,200	33,899,806	33,899,806	0
4	415,127,744	35,612,041	35,612,041	0
5	435,142,341	37,298,368	37,298,368	0
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54	274,085,301	19,934,230	19,934,230	0
55	272,122,253	18,461,008	18,461,008	0
56	271,548,206	17,037,433	17,037,433	0
57	272,406,305	15,664,759	15,664,759	0
58	274,741,331	14,344,376	14,344,376	0
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100	3,078,375,430	0	0	0

Schools Crossover Test Results (PERF B)

A crossover event did not occur.

As illustrated in the following Exhibit and Appendix A-19, the Plan's fiduciary net position was projected to be available to make all projected future benefit payments for current Plan members plus administrative expenses. There is no projected "cross-over date" when projected benefits are not covered by projected assets. Therefore, the long-term expected rate of return on Plan investments of 6.90% per annum was applied to all periods of projected benefit payments to determine the total pension liability as of June 30, 2025, pursuant to paragraph 44 of GASB Statement No. 67.

Year	Projected Beginning Fiduciary Net Position (\$)	Projected Benefit Payments (\$)	"Funded" Portion of Benefit Payments (\$)	Unfunded Portion of Benefit Payments (\$)
1	\$93,233,655,349	\$6,323,366,902	\$6,323,366,902	\$0
2	105,552,456,733	6,983,674,694	6,983,674,694	0
3	112,763,185,676	7,375,328,861	7,375,328,861	0
4	119,940,841,932	7,768,702,066	7,768,702,066	0
5	127,292,518,430	8,164,488,373	8,164,488,373	0
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56	99,127,102,967	7,105,631,251	7,105,631,251	0
57	98,524,496,335	6,558,665,468	6,558,665,468	0
58	98,446,169,240	6,022,985,732	6,022,985,732	0
59	98,916,109,227	5,501,200,531	5,501,200,531	0
60	99,957,239,276	4,995,841,082	4,995,841,082	0
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100	1,017,668,352,676	117,517	117,517	0

Legislators' Retirement Fund (LRF)

A crossover event did not occur.

As illustrated in the following Exhibit and Appendix A-22, the Plan's fiduciary net position was projected to be available to make all projected future benefit payments for current Plan members plus administrative expenses. There is no projected "cross-over date" when projected benefits are not covered by projected assets using a long-term expected rate of return on Plan investments of 5.15% per annum (based on interim Asset Liability Modeling study of November 2024). However, to be consistent with last year's discount rate, 4.85% was used to all periods of projected benefit payments to determine the total pension liability as of June 30, 2025, pursuant to paragraph 44 of GASB Statement No. 67.

Year	Projected Beginning Fiduciary Net Position (\$)	Projected Benefit Payments (\$)	"Funded" Portion of Benefit Payments (\$)	Unfunded Portion of Benefit Payments (\$)
1	\$92,475,068	\$7,336,117	\$7,336,117	\$0
2	90,954,131	7,410,222	7,410,222	0
3	88,238,880	7,253,967	7,253,967	0
4	85,431,139	7,087,586	7,087,586	0
5	82,658,952	6,913,840	6,913,840	0
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34	32,648,402	1,624,654	1,624,654	0
35	32,552,340	1,531,862	1,531,862	0
36	32,546,660	1,452,789	1,452,789	0
37	32,621,656	1,386,904	1,386,904	0
38	32,767,699	1,333,148	1,333,148	0
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100	262,465,212	0	0	0

Judges' II Retirement Fund (JRF II)

A crossover event did not occur.

As illustrated in the following Exhibit and Appendix A-25, the Plan's fiduciary net position was projected to be available to make all projected future benefit payments for current Plan members plus administrative expenses. There is no projected "cross-over date" when projected benefits are not covered by projected assets. Therefore, the long-term expected rate of return on Plan investments of 6.15% per annum was applied to all periods of projected benefit payments to determine the total pension liability as of June 30, 2025, pursuant to paragraph 44 of GASB Statement No. 67.

Year	Projected Beginning Fiduciary Net Position (\$)	Projected Benefit Payments (\$)	"Funded" Portion of Benefit Payments (\$)	Unfunded Portion of Benefit Payments (\$)
1	\$2,633,650,369	\$106,519,601	\$106,519,601	\$0
2	2,979,129,729	118,831,712	118,831,712	0
3	3,166,027,938	132,681,821	132,681,821	0
4	3,343,667,437	146,714,277	146,714,277	0
5	3,511,318,035	161,322,999	161,322,999	0
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37	3,374,821,657	220,996,490	220,996,490	0
38	3,349,865,381	207,195,141	207,195,141	0
39	3,337,586,132	193,328,269	193,328,269	0
40	3,338,824,223	179,466,087	179,466,087	0
41	3,354,395,912	165,694,497	165,694,497	0
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100	73,896,248,178	0	0	0

Conclusion

Public Employees Retirement Fund

CalPERS selected plans from the PERF that were the likeliest candidates for a crossover event. As no crossover event occurred on any of the tested plans, CalPERS has determined that using the 6.90% long-term expected rate of return gross of administrative expenses to determine the total pension liability as of June 30, 2025, for all plans in the PERF is appropriate, pursuant to paragraph 44 of GASB Statement no. 67.

Legislators' Retirement Fund

As no crossover event occurred on the Legislators' Retirement Fund, CalPERS has determined that using the 5.15% long-term expected rate of return gross of administrative expenses, using a lower discount rate of 4.85% to determine total pension liability as of June 30, 2025, for the plan in the LRF is appropriate.

Judges' Retirement Fund

CalPERS did not perform a crossover test on the Judges' Retirement Fund because the State adopted a pay-as-you-go funding policy for the Plan. Therefore, the discount rate used to determine total pension liability as of June 30, 2025, was based on the yields of 20-year tax-exempt General Obligation Municipal Bonds with an average rating of AA/Aa or higher, (Bond Buyer 20-year AA General Obligation Bond Index as of June 30, 2025, at 5.20% was used).

Judges' II Retirement Fund

As no crossover event occurred on the Judges' II Retirement Fund, CalPERS has determined that using the 6.15% long-term expected rate of return gross of administrative expenses to determine the total pension liability as of June 30, 2025, for the plan in the JRF II is appropriate, pursuant to paragraph 44 of GASB Statement no. 67.

Appendix A

Appendix A

Plan Specific Projections and Calculations

- **California Highway Patrol (PERF A)**
- **State Miscellaneous (Tier 1 and 2) (PERF A)**
- **State POFF (PERF A)**
- **PA Miscellaneous Plan (PERF A)**
- **PA Safety Plan (PERF A)**
- **Schools (PERF B)**
- **Legislators' Retirement Fund**
- **Judges' II Retirement Fund**

Appendix A

The tables in this Appendix show the projections and calculations to identify a crossover event and to determine the discount rate according to the Government Accounting Standards Board Statements 67 and 68. The tables for each plan include:

- Projection of Contributions (Table 1)
- Projection of the Pension Plan's Fiduciary Net Position (Table 2)
- Actuarial Present Values of Projected Benefit Payments (Table 3)

Projected values in the tables are displayed for each plan as following:

- The first five (5) years of crossover testing data.
- The two (2) years preceding the closest point to a crossover event.
- The closest point to a crossover event.
- The two (2) years after the closest point to a crossover event.
- The 100th year of the crossover test.

Appendix A

California Highway Patrol (PERF A)

Table 1. Projection of Contributions for California Highway Patrol (PERF A)

Year	Closed Group Employee Payroll (a)	Total Employee Payroll (b)	Contributions to Total Normal Cost (c)	Unfunded Actuarial Contribution as a percent of Payroll (d)	Contributions to the Unfunded Actuarial Liability (e) = (b) * (d)	Additional Discretionary Payments (f)	Total Contributions (g) = (c) + (e) + (f)
1	\$1,038,695,921	\$1,042,762,906	\$405,442,061	50.340%	\$524,926,847	0	\$930,368,908
2	1,030,142,499	1,071,960,267	337,680,711	51.400%	550,992,293	0	888,673,004
3	1,017,823,466	1,101,975,155	317,713,595	48.344%	532,740,452	0	850,454,047
4	1,001,312,224	1,132,830,459	310,266,606	49.812%	564,285,751	0	874,552,356
5	980,775,842	1,164,549,712	301,470,878	47.802%	556,681,013	0	858,151,892
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56	0	4,762,191,767	0	0.000%	0	0	0
57	0	4,895,533,136	0	0.000%	0	0	0
58	0	5,032,608,064	0	0.000%	0	0	0
59	0	5,173,521,090	0	0.000%	0	0	0
60	0	5,318,379,680	0	0.000%	0	0	0
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100	0	16,051,067,638	0	0.000%	0	0	0

Table 2. Projection of the Pension Plan's Fiduciary Net Position for California Highway Patrol (PERF A)

Year	Projected Beginning Fiduciary Net Position (a)	Projected Total Contributions (b)	Projected Benefit Payments (c)	Projected Administrative Expenses (d)	Projected Investment Earnings (e)	Projected Ending Fiduciary Position (f) = (a) + (b) - (c) - (d) + (e)	Projected Investment Earnings (e) - {Projected Benefit Payments (c) + Projected Administrative Expenses (d)}
1	\$12,828,948,576	\$930,368,908	\$902,461,771	\$9,167,494	1,555,976,903	\$14,403,665,122	\$644,347,638
2	14,403,665,122	888,673,004	944,388,297	14,376,715	991,962,777	15,325,535,891	33,197,765
3	15,325,535,891	850,454,047	994,069,256	15,256,068	1,052,589,893	16,219,254,508	43,264,570
4	16,219,254,508	874,552,356	1,046,200,355	16,136,227	1,113,305,478	17,144,775,759	50,968,896
5	17,144,775,759	858,151,892	1,101,129,068	17,027,246	1,174,746,633	18,059,517,971	56,590,320
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56	10,939,521,523	0	819,223,684	10,543,257	727,035,180	10,836,789,763	(102,731,760)
57	10,836,789,763	0	757,303,820	10,470,476	722,047,293	10,791,062,760	(45,727,003)
58	10,791,062,760	0	696,999,249	10,453,919	720,937,936	10,804,547,529	13,484,769
59	10,804,547,529	0	638,543,421	10,495,679	723,851,474	10,879,359,902	74,812,373
60	10,879,359,902	0	582,150,159	10,597,770	730,926,644	11,017,538,617	138,178,716
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100	106,676,018,174	0	5,442	106,676,016	7,360,645,069	113,929,981,786	7,253,963,612

Appendix A

Table 3. Actuarial Present Values of Projected Benefit Payments for California Highway Patrol (PERF A)

Year (a)	Projected Beginning Fiduciary Net Position (b)	Projected Benefit Payments (c)	"Funded" Portion of Benefit Payments (d)	"Unfunded" Portion of Benefit Payments (e)	Present Value of 'Funded' Benefit Payments (f) = (d) ÷ (1 + 6.90%)^(a)	Present Value of 'Unfunded' Benefit Payments (g) = (e) ÷ (1 + 5.20%)^(a)	Present Value of Benefit Payments Using the Single Discount Rate (h) = (c) ÷ (1 + 6.90%)^(a)
1	\$12,828,948,576	\$902,461,771	\$902,461,771	\$0	\$872,850,693	\$0	\$872,850,693
2	14,403,665,122	944,388,297	944,388,297	0	854,444,854	0	854,444,854
3	15,325,535,891	994,069,256	994,069,256	0	841,341,631	0	841,341,631
4	16,219,254,508	1,046,200,355	1,046,200,355	0	828,309,982	0	828,309,982
5	17,144,775,759	1,101,129,068	1,101,129,068	0	815,527,394	0	815,527,394
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56	10,939,521,523	819,223,684	819,223,684	0	20,190,165	0	20,190,165
57	10,836,789,763	757,303,820	757,303,820	0	17,459,420	0	17,459,420
58	10,791,062,760	696,999,249	696,999,249	0	15,031,913	0	15,031,913
59	10,804,547,529	638,543,421	638,543,421	0	12,882,338	0	12,882,338
60	10,879,359,902	582,150,159	582,150,159	0	10,986,556	0	10,986,556
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100	106,676,018,174	5,442	5,442	0	7	0	7
Total					\$21,101,865,224	\$0	\$21,101,865,224

Appendix A

State Miscellaneous (Tier 1 and 2) (PERF A)

Table 1. Projection of Contributions for State Miscellaneous (Tier 1 and 2) (PERF A)

Year	Closed Group Employee Payroll (a)	Total Employee Payroll (b)	Contributions to Total Normal Cost (c)	Unfunded Actuarial Contribution as a percent of Payroll (d)	Contributions to the Unfunded Actuarial Liability (e) = (b) * (d)	Additional Discretionary Payments (f)	Total Contributions (g) = (c) + (e) + (f)
1	\$16,784,084,485	\$17,129,673,422	\$3,308,591,904	16.190%	\$2,773,294,127	\$185,316,955	\$6,267,202,986
2	16,221,074,194	17,609,304,278	2,840,310,091	21.371%	3,763,329,313	0	6,603,639,404
3	15,750,443,809	18,102,364,797	2,726,716,832	20.715%	3,749,896,133	0	6,476,612,966
4	15,312,200,078	18,609,231,012	2,639,976,415	21.584%	4,016,528,812	0	6,656,505,228
5	14,884,480,253	19,130,289,480	2,554,176,811	20.608%	3,942,433,887	0	6,496,610,698
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56	0	78,229,470,273	0	0.000%	0	0	0
57	0	80,419,895,441	0	0.000%	0	0	0
58	0	82,671,652,513	0	0.000%	0	0	0
59	0	84,986,458,783	0	0.000%	0	0	0
60	0	87,366,079,629	0	0.000%	0	0	0
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100	0	263,674,077,022	0	0.000%	0	0	0

Appendix A

Table 2. Projection of the Pension Plan's Fiduciary Net Position for State Miscellaneous (Tier 1 and 2) (PERF A)

Year	Projected Beginning Fiduciary Net Position (a)	Projected Total Contributions (b)	Projected Benefit Payments (c)	Projected Administrative Expenses (d)	Projected Investment Earnings (e)	Projected Ending Fiduciary Position (f) = (a) + (b) - (c) - (d) + (e)	Projected Investment Earnings (e) - {Projected Benefit Payments (c) + Projected Administrative Expenses (d)}
1	\$110,046,650,413	\$6,267,202,986	\$8,253,271,703	\$78,638,714	\$13,215,456,845	\$121,197,399,827	\$4,883,546,428
2	121,197,399,827	6,603,639,404	8,727,729,183	120,169,962	8,290,561,773	127,243,701,859	(557,337,373)
3	127,243,701,859	6,476,612,966	9,087,270,102	125,980,908	8,691,250,028	133,198,313,843	(522,000,981)
4	133,198,313,843	6,656,505,228	9,439,392,038	131,852,211	9,096,275,439	139,379,850,262	(474,968,810)
5	139,379,850,262	6,496,610,698	9,792,451,363	137,785,628	9,505,399,717	145,451,623,686	(424,837,274)
.
56	82,205,402,385	0	6,216,201,410	79,198,580	5,461,290,854	81,371,293,249	(834,109,136)
57	81,371,293,249	0	5,708,145,354	78,610,221	5,420,972,903	81,005,510,577	(365,782,672)
58	81,005,510,577	0	5,210,165,724	78,485,315	5,412,627,639	81,129,487,177	123,976,600
59	81,129,487,177	0	4,725,184,242	78,843,880	5,437,634,809	81,763,093,864	633,606,687
60	81,763,093,864	0	4,256,102,714	79,704,385	5,497,267,056	82,924,553,821	1,161,459,957
.
100	836,467,358,716	-	83,166	836,467,318	57,716,244,930	893,347,053,162	56,879,694,446

Table 3. Actuarial Present Values of Projected Benefit Payments for State Miscellaneous (Tier 1 and 2) (PERF A)

Year (a)	Projected Beginning Fiduciary Net Position (b)	Projected Benefit Payments (c)	"Funded" Portion of Benefit Payments (d)	"Unfunded" Portion of Benefit Payments (e)	Present Value of 'Funded' Benefit Payments (f) = (d) ÷ (1 + 6.90%)^(a)	Present Value of 'Unfunded' Benefit Payments (g) = (e) ÷ (1 + 5.20%)^(a)	Present Value of Benefit Payments Using the Single Discount Rate (h) = (c) ÷ (1 + 6.90%)^(a)
1	\$110,046,650,413	\$8,253,271,703	\$8,253,271,703	\$0	\$7,982,469,907	\$0	\$7,982,469,907
2	121,197,399,827	8,727,729,183	8,727,729,183	0	7,896,501,170	0	7,896,501,170
3	127,243,701,859	9,087,270,102	9,087,270,102	0	7,691,112,674	0	7,691,112,674
4	133,198,313,843	9,439,392,038	9,439,392,038	0	7,473,465,868	0	7,473,465,868
5	139,379,850,262	9,792,451,363	9,792,451,363	0	7,252,567,003	0	7,252,567,003
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56	82,205,402,385	6,216,201,410	6,216,201,410	0	153,201,296	0	153,201,296
57	81,371,293,249	5,708,145,354	5,708,145,354	0	131,599,633	0	131,599,633
58	81,005,510,577	5,210,165,724	5,210,165,724	0	112,365,629	0	112,365,629
59	81,129,487,177	4,725,184,242	4,725,184,242	0	95,328,551	0	95,328,551
60	81,763,093,864	4,256,102,714	4,256,102,714	0	80,322,763	0	80,322,763
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100	836,467,358,716	83,166	83,166	0	109	0	109
Total					\$171,690,416,627	\$0	\$171,690,416,627

Appendix A

State POFF (PERF A)

Table 1. Projection of Contributions for State POFF (PERF A)

Year	Closed Group Employee Payroll (a)	Total Employee Payroll (b)	Contributions to Total Normal Cost (c)	Unfunded Actuarial Contribution as a percent of Payroll (d)	Contributions to the Unfunded Actuarial Liability (e) = (b) * (d)	Additional Discretionary Payments (f)	Total Contributions (g) = (c) + (e) + (f)
1	\$4,334,978,115	\$4,362,753,738	\$1,567,492,638	10.270%	\$448,054,809	\$126,610,000	\$2,142,157,447
2	4,257,594,510	4,484,910,842	1,366,687,838	30.861%	1,384,108,683	0	2,750,796,520
3	4,169,906,861	4,610,488,346	1,259,061,678	29.499%	1,360,056,857	0	2,619,118,534
4	4,069,919,379	4,739,582,020	1,219,592,041	30.906%	1,464,828,249	0	2,684,420,290
5	3,962,675,821	4,872,290,316	1,177,984,641	29.082%	1,416,944,763	0	2,594,929,404
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57	0	20,482,130,090	0	0.000%	0	0	0
58	0	21,055,629,732	0	0.000%	0	0	0
59	0	21,645,187,365	0	0.000%	0	0	0
60	0	22,251,252,611	0	0.000%	0	0	0
61	0	22,874,287,684	0	0.000%	0	0	0
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100	0	67,155,107,791	0	0.000%	0	0	0

Appendix A

Table 2. Projection of the Pension Plan's Fiduciary Net Position for State POFF (PERF A)

Year	Projected Beginning Fiduciary Net Position (a)	Projected Total Contributions (b)	Projected Benefit Payments (c)	Projected Administrative Expenses (d)	Projected Investment Earnings (e)	Projected Ending Fiduciary Position (f) = (a) + (b) - (c) - (d) + (e)	Projected Investment Earnings (e) - {Projected Benefit Payments (c) + Projected Administrative Expenses (d)}
1	\$50,778,064,322	\$2,142,157,447	\$3,345,966,874	\$36,285,718	\$6,165,094,715	\$55,703,063,892	\$2,782,842,123
2	55,703,063,892	2,750,796,520	3,507,337,752	55,337,119	3,817,846,079	58,709,031,620	255,171,208
3	58,709,031,620	2,619,118,534	3,698,243,236	58,187,051	4,014,314,349	61,586,034,216	257,884,062
4	61,586,034,216	2,684,420,290	3,896,597,046	60,999,695	4,208,313,795	64,521,171,560	250,717,054
5	64,521,171,560	2,594,929,404	4,098,520,882	63,793,873	4,400,952,155	67,354,738,364	238,637,400
.
57	45,768,253,482	0	3,249,001,167	44,196,687	3,047,788,549	45,522,844,175	(245,409,306)
58	45,522,844,175	0	3,028,592,121	44,057,892	3,038,332,587	45,488,526,749	(34,317,426)
59	45,488,526,749	0	2,809,837,823	44,129,387	3,043,385,828	45,677,945,367	189,418,618
60	45,677,945,367	0	2,593,489,385	44,423,455	3,063,795,239	46,103,827,766	425,882,399
61	46,103,827,766	0	2,380,417,336	44,952,402	3,100,409,500	46,778,867,528	675,039,762
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100	427,421,989,212	0	84,574	427,421,948	29,492,114,386	456,486,597,076	29,064,607,865

Table 3. Actuarial Present Values of Projected Benefit Payments for State POFF (PERF A)

Year (a)	Projected Beginning Fiduciary Net Position (b)	Projected Benefit Payments (c)	"Funded" Portion of Benefit Payments (d)	"Unfunded" Portion of Benefit Payments (e)	Present Value of 'Funded' Benefit Payments (f) = (d) ÷ (1 + 6.90%)^(a)	Present Value of 'Unfunded' Benefit Payments (g) = (e) ÷ (1 + 5.20%)^(a)	Present Value of Benefit Payments Using the Single Discount Rate (h) = (c) ÷ (1 + 6.90%)^(a)
1	\$50,778,064,322	\$3,345,966,874	\$3,345,966,874	0	\$3,236,180,856	0	\$3,236,180,856
2	55,703,063,892	3,507,337,752	3,507,337,752	0	3,173,299,271	0	3,173,299,271
3	58,709,031,620	3,698,243,236	3,698,243,236	0	3,130,049,521	0	3,130,049,521
4	61,586,034,216	3,896,597,046	3,896,597,046	0	3,085,059,388	0	3,085,059,388
5	64,521,171,560	4,098,520,882	4,098,520,882	0	3,035,480,720	0	3,035,480,720
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57	45,768,253,482	3,249,001,167	3,249,001,167	0	74,904,778	0	74,904,778
58	45,522,844,175	3,028,592,121	3,028,592,121	0	65,316,475	0	65,316,475
59	45,488,526,749	2,809,837,823	2,809,837,823	0	56,687,264	0	56,687,264
60	45,677,945,367	2,593,489,385	2,593,489,385	0	48,945,302	0	48,945,302
61	46,103,827,766	2,380,417,336	2,380,417,336	0	42,024,440	0	42,024,440
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100	427,421,989,212	84,574	84,574	0	111	0	111
Total					\$77,745,751,776	\$0	\$77,745,751,776

Appendix A

PA Miscellaneous Plan (PERF A)

Table 1. Projection of Contributions for PA Miscellaneous Plan (PERF A)

Year	Closed Group Employee Payroll (a)	Total Employee Payroll (b)	Contributions to Total Normal Cost (c)	Unfunded Actuarial Contribution as a percent of Payroll (d)	Contributions to the Unfunded Actuarial Liability (e) = (b) * UAL Rate	Additional Discretionary Payments (f)	Total Contributions (g) = (c) + (e) + (f)
1	\$13,794,163	\$14,080,040	\$2,634,274	53.778%	\$7,572,024	\$0	\$10,206,298
2	13,267,960	14,474,281	2,554,082	55.453%	8,026,412	0	10,580,494
3	12,786,706	14,879,561	2,421,802	58.507%	8,705,538	0	11,127,340
4	12,276,676	15,296,189	2,312,435	57.034%	8,724,077	0	11,036,512
5	11,766,636	15,724,482	2,201,891	58.452%	9,191,253	0	11,393,144
⋮	⋮	⋮	⋮		⋮	⋮	⋮
52	0	57,577,491	0	0.000%	0	0	0
53	0	59,189,661	0	0.000%	0	0	0
54	0	60,846,971	0	0.000%	0	0	0
55	0	62,550,687	0	0.000%	0	0	0
56	0	64,302,106	0	0.000%	0	0	0
⋮	⋮	⋮	⋮		⋮	⋮	⋮
100	0	216,731,602	0	0.000%	0	0	0

Table 2. Projection of the Pension Plan's Fiduciary Net Position for PA Miscellaneous Plan (PERF A)

Year	Projected Beginning Fiduciary Net Position (a)	Projected Total Contributions (b)	Projected Benefit Payments (c)	Projected Administrative Expenses (d)	Projected Investment Earnings (e)	Projected Ending Fiduciary Position (f) = (a) + (b) - (c) - (d) + (e)	Projected Investment Earnings (e) - {Projected Benefit Payments (c) + Projected Administrative Expenses (d)}
1	\$124,815,014	\$10,206,298	\$13,704,582	\$89,192	\$15,346,059	\$136,573,597	\$1,552,285
2	136,573,597	10,580,494	14,038,154	134,901	9,306,279	142,287,315	(4,866,777)
3	142,287,315	11,127,340	14,504,203	140,654	9,703,266	148,473,064	(4,941,591)
4	148,473,064	11,036,512	14,999,861	146,556	10,110,187	154,473,345	(5,036,231)
5	154,473,345	11,393,144	15,525,792	152,474	10,518,463	160,706,686	(5,159,803)
.
52	91,246,640	0	6,638,078	88,036	6,070,824	90,591,351	(655,289)
53	90,591,351	0	6,270,277	87,558	6,038,087	90,271,602	(319,748)
54	90,271,602	0	5,907,337	87,414	6,028,337	90,305,188	33,585
55	90,305,188	0	5,546,095	87,623	6,042,909	90,714,379	409,191
56	90,714,379	0	5,184,738	88,206	6,083,402	91,524,837	810,458
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100	1,072,707,140	0	0	1,072,707	74,016,793	1,145,651,226	72,944,086

Table 3. Actuarial Present Values of Projected Benefit Payments for PA Miscellaneous Plan (PERF A)

Year (a)	Projected Beginning Fiduciary Net Position (b)	Projected Benefit Payments (c)	"Funded" Portion of Benefit Payments (d)	"Unfunded" Portion of Benefit Payments (e)	Present Value of 'Funded' Benefit Payments (f) = (d) ÷ (1 + 6.90%)^(a)	Present Value of 'Unfunded' Benefit Payments (g) = (e) ÷ (1 + 5.20%)^(a)	Present Value of Benefit Payments Using the Single Discount Rate (h) = (c) ÷ (1 + 6.90%)^(a)
1	\$124,815,014	\$13,704,582	\$13,704,582	\$0	\$13,254,915	\$0	\$13,254,915
2	136,573,597	14,038,154	14,038,154	0	12,701,162	0	12,701,162
3	142,287,315	14,504,203	14,504,203	0	12,275,794	0	12,275,794
4	148,473,064	14,999,861	14,999,861	0	11,875,866	0	11,875,866
5	154,473,345	15,525,792	15,525,792	0	11,498,841	0	11,498,841
.
.
52	91,246,640	6,638,078	6,638,078	0	213,644	0	213,644
53	90,591,351	6,270,277	6,270,277	0	188,781	0	188,781
54	90,271,602	5,907,337	5,907,337	0	166,374	0	166,374
55	90,305,188	5,546,095	5,546,095	0	146,118	0	146,118
56	90,714,379	5,184,738	5,184,738	0	127,780	0	127,780
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100	1,072,707,140	0	0	0	0	0	0
Total					\$236,383,862		\$236,383,862

Appendix A

PA Safety Plan (PERF A)

Table 1. Projection of Contributions for PA Safety Plan (PERF A)

Year	Closed Group Employee Payroll (a)	Total Employee Payroll (b)	Contributions to Total Normal Cost (c)	Unfunded Actuarial Contribution as a percent of Payroll (d)	Contributions to the Unfunded Actuarial Liability (e) = (b) * UAL Rate	Additional Discretionary Payments (f)	Total Contributions (g) = (c) + (e) + (f)
1	\$26,507,267	\$26,912,460	\$9,138,000	61.016%	\$16,420,813	\$0	\$25,558,813
2	25,561,503	27,666,009	8,890,291	64.584%	17,867,757	0	26,758,048
3	24,448,401	28,440,657	8,346,684	69.717%	19,828,055	0	28,174,739
4	23,306,134	29,236,996	7,887,495	67.641%	19,776,254	0	27,663,749
5	22,212,328	30,055,632	7,446,239	69.491%	20,886,090	0	28,332,329
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54	0	116,302,347	0	0.000%	0	0	0
55	0	119,558,812	0	0.000%	0	0	0
56	0	122,906,459	0	0.000%	0	0	0
57	0	126,347,840	0	0.000%	0	0	0
58	0	129,885,579	0	0.000%	0	0	0
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100	0	414,258,809	0	0.000%	0	0	0

Table 2. Projection of the Pension Plan's Fiduciary Net Position for PA Safety Plan (PERF A)

Year	Projected Beginning Fiduciary Net Position (a)	Projected Total Contributions (b)	Projected Benefit Payments (c)	Projected Administrative Expenses (d)	Projected Investment Earnings (e)	Projected Ending Fiduciary Position (f) = (a) + (b) - (c) - (d) + (e)	Projected Investment Earnings (e) - {Projected Benefit Payments (c) + Projected Administrative Expenses (d)}
1	\$338,191,948	\$25,558,813	\$30,820,402	\$241,670	\$41,666,675	\$374,355,364	\$10,604,603
2	374,355,364	26,758,048	32,152,965	371,746	25,647,500	394,236,200	(6,877,211)
3	394,236,200	28,174,739	33,899,806	391,467	27,008,077	415,127,744	(7,283,195)
4	415,127,744	27,663,749	35,612,041	411,283	28,374,172	435,142,341	(7,649,152)
5	435,142,341	28,332,329	37,298,368	430,805	29,720,653	455,466,149	(8,008,521)
.
54	274,085,301	0	19,934,230	264,443	18,235,626	272,122,253	(1,963,047)
55	272,122,253	0	18,461,008	263,193	18,150,154	271,548,206	(574,047)
56	271,548,206	0	17,037,433	263,307	18,158,839	272,406,305	858,099
57	272,406,305	0	15,664,759	264,829	18,264,615	274,741,331	2,335,026
58	274,741,331	0	14,344,376	267,803	18,470,525	278,599,678	3,858,347
.
100	3,078,375,430	0	0	3,078,375	212,407,905	3,287,704,959	209,329,529

Table 3. Actuarial Present Values of Projected Benefit Payments for PA Safety Plan (PERF A)

Year (a)	Projected Beginning Fiduciary Net Position (b)	Projected Benefit Payments (c)	"Funded" Portion of Benefit Payments (d)	"Unfunded" Portion of Benefit Payments (e)	Present Value of 'Funded' Benefit Payments (f) = (d) ÷ (1 + 6.90%)^(a)	Present Value of 'Unfunded' Benefit Payments (g) = (e) ÷ (1 + 5.20%)^(a)	Present Value of Benefit Payments Using the Single Discount Rate (h) = (c) ÷ (1 + 6.90%)^(a)
1	\$338,191,948	\$30,820,402	\$30,820,402	\$0	\$29,809,140	\$0	\$29,809,140
2	374,355,364	32,152,965	32,152,965	0	29,090,720	0	29,090,720
3	394,236,200	33,899,806	33,899,806	0	28,691,480	0	28,691,480
4	415,127,744	35,612,041	35,612,041	0	28,195,181	0	28,195,181
5	435,142,341	37,298,368	37,298,368	0	27,624,229	0	27,624,229
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54	274,085,301	19,934,230	19,934,230	0	561,426	0	561,426
55	272,122,253	18,461,008	18,461,008	0	486,374	0	486,374
56	271,548,206	17,037,433	17,037,433	0	419,896	0	419,896
57	272,406,305	15,664,759	15,664,759	0	361,146	0	361,146
58	274,741,331	14,344,376	14,344,376	0	309,360	0	309,360
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100	3,078,375,430	0	0	0	0	0	0
Total					\$617,026,754		\$617,026,754

Appendix A

Schools (PERF B)

Table 1. Projection of Contributions for Schools (PERF B)

Year	Closed Group Employee Payroll (a)	Total Employee Payroll (b)	Contributions to Total Normal Cost (c)	Unfunded Actuarial Contribution as a percent of Payroll (d)	Contributions to the Unfunded Actuarial Liability (e) = (b) * (d)	Additional Discretionary Payments (f)	Total Contributions (g) = (c) + (e) + (f)
1	\$20,291,026,433	\$20,865,342,051	\$3,716,805,366	17.470%	\$3,645,175,256	0	\$7,361,980,622
2	19,317,041,595	21,449,571,628	3,274,238,550	17.443%	3,741,524,952	0	7,015,763,503
3	18,485,776,563	22,050,159,634	3,126,499,390	17.118%	3,774,452,666	0	6,900,952,056
4	17,722,061,009	22,667,564,103	2,988,293,927	17.656%	4,002,133,553	0	6,990,427,480
5	16,987,079,799	23,302,255,898	2,853,319,794	16.945%	3,948,587,143	0	6,801,906,937
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56	0	95,289,887,641	0	0.000%	0	0	0
57	0	97,958,004,495	0	0.000%	0	0	0
58	0	100,700,828,621	0	0.000%	0	0	0
59	0	103,520,451,822	0	0.000%	0	0	0
60	0	106,419,024,473	0	0.000%	0	0	0
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100	0	321,176,573,043	0	0.000%	0	0	0

Table 2. Projection of the Pension Plan's Fiduciary Net Position for Schools (PERF B)

Year	Projected Beginning Fiduciary Net Position (a)	Projected Total Contributions (b)	Projected Benefit Payments (c)	Projected Administrative Expenses (d)	Projected Investment Earnings (e)	Projected Ending Fiduciary Position (f) = (a) + (b) - (c) - (d) + (e)	Projected Investment Earnings (e) - {Projected Benefit Payments (c) + Projected Administrative Expenses (d)}
1	\$93,233,655,349	\$7,361,980,622	\$6,323,366,902	\$68,132,672	\$11,348,320,336	\$105,552,456,733	\$4,956,820,762
2	105,552,456,733	7,015,763,503	6,983,674,694	105,567,978	7,284,208,113	112,763,185,676	194,965,441
3	112,763,185,676	6,900,952,056	7,375,328,861	112,533,726	7,764,566,786	119,940,841,932	276,704,199
4	119,940,841,932	6,990,427,480	7,768,702,066	119,564,385	8,249,515,469	127,292,518,430	361,249,018
5	127,292,518,430	6,801,906,937	8,164,488,373	126,633,428	8,736,958,793	134,540,262,360	445,836,993
.
56	99,127,102,967	0	7,105,631,251	95,690,056	6,598,714,676	98,524,496,335	(602,606,631)
57	98,524,496,335	0	6,558,665,468	95,352,021	6,575,690,394	98,446,169,240	(78,327,095)
58	98,446,169,240	0	6,022,985,732	95,532,806	6,588,458,524	98,916,109,227	469,939,986
59	98,916,109,227	0	5,501,200,531	96,255,138	6,638,585,718	99,957,239,276	1,041,130,049
60	99,957,239,276	0	4,995,841,082	97,540,714	6,727,567,789	101,591,425,269	1,634,185,993
.
100	1,017,668,352,676	0	117,517	1,017,668,296	70,219,112,348	1,086,869,679,211	69,201,326,535

Table 3. Actuarial Present Values of Projected Benefit Payments for Schools (PERF B)

Year (a)	Projected Beginning Fiduciary Net Position (b)	Projected Benefit Payments (c)	"Funded" Portion of Benefit Payments (d)	"Unfunded" Portion of Benefit Payments (e)	Present Value of 'Funded' Benefit Payments (f) = (d) ÷ (1 + 6.90%)^(a)	Present Value of 'Unfunded' Benefit Payments (g) = (e) ÷ (1 + 5.20%)^(a)	Present Value of Benefit Payments Using the Single Discount Rate (h) = (c) ÷ (1 + 6.90%)^(a)
1	\$93,233,655,349	\$6,323,366,902	\$6,323,366,902	0	\$6,115,888,077	0	\$6,115,888,077
2	105,552,456,733	6,983,674,694	6,983,674,694	0	6,318,550,247	0	6,318,550,247
3	112,763,185,676	7,375,328,861	7,375,328,861	0	6,242,192,061	0	6,242,192,061
4	119,940,841,932	7,768,702,066	7,768,702,066	0	6,150,727,663	0	6,150,727,663
5	127,292,518,430	8,164,488,373	8,164,488,373	0	6,046,851,475	0	6,046,851,475
.
.
56	99,127,102,967	7,105,631,251	7,105,631,251	0	175,121,725	0	175,121,725
57	98,524,496,335	6,558,665,468	6,558,665,468	0	151,208,128	0	151,208,128
58	98,446,169,240	6,022,985,732	6,022,985,732	0	129,895,404	0	129,895,404
59	98,916,109,227	5,501,200,531	5,501,200,531	0	110,984,345	0	110,984,345
60	99,957,239,276	4,995,841,082	4,995,841,082	0	94,283,383	0	94,283,383
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100	1,017,668,352,676	117,517	117,517	0	154	0	154
Total					\$159,932,363,276		\$159,932,363,276

Legislators' Retirement Fund

Table 1. Projection of Contributions for Legislators' Retirement Fund

Year	Closed Group Employee Payroll (a)	Total Employee Payroll (b)	Contributions to Total Normal Cost (c)	Unfunded Actuarial Contribution as a percent of Payroll (d)	Contributions to the Unfunded Actuarial Liability (e) = (b) * (d)	Additional Discretionary Payments (f)	Total Contributions (g) = (c) + (e) + (f)
1	\$0	\$0	\$0	N/A	\$75,085	\$0	\$75,085
2	0	0	0	N/A	493,219	0	493,219
3	0	0	0	N/A	373,928	0	373,928
4	0	0	0	N/A	373,928	0	373,928
5	0	0	0	N/A	373,928	0	373,928
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34	0	0	0	N/A	0	0	0
35	0	0	0	N/A	0	0	0
36	0	0	0	N/A	0	0	0
37	0	0	0	N/A	0	0	0
38	0	0	0	N/A	0	0	0
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100	0	0	0	N/A	0	0	0

Table 2. Projection of the Pension Plan's Fiduciary Net Position for Legislators' Retirement Fund

Year	Projected Beginning Fiduciary Net Position (a)	Projected Total Contributions (b)	Projected Benefit Payments (c)	Projected Administrative Expenses (d)	Projected Investment Earnings (e)	Projected Ending Fiduciary Position (f) = (a) + (b) - (c) - (d) + (e)	Projected Investment Earnings (e) - {Projected Benefit Payments (c) + Projected Administrative Expenses (d)}
1	\$92,475,068	\$75,085	\$7,336,117	\$712,318	\$6,452,413	\$90,954,131	\$(1,596,022)
2	90,954,131	493,219	7,410,222	306,508	4,508,261	88,238,880	(3,208,470)
3	88,238,880	373,928	7,253,967	297,068	4,369,365	85,431,139	(3,181,669)
4	85,431,139	373,928	7,087,586	287,525	4,228,997	82,658,952	(3,146,115)
5	82,658,952	373,928	6,913,840	278,120	4,090,647	79,931,567	(3,101,313)
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34	32,648,402	0	1,624,654	111,490	1,640,083	32,552,340	(96,062)
35	32,552,340	0	1,531,862	111,313	1,637,495	32,546,660	(5,679)
36	32,546,660	0	1,452,789	111,428	1,639,213	32,621,656	74,996
37	32,621,656	0	1,386,904	111,804	1,644,751	32,767,699	146,043
38	32,767,699	0	1,333,148	112,407	1,653,639	32,975,784	208,084
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100	262,465,212	0	0	918,628	13,516,958	275,063,543	12,598,330

Table 3. Actuarial Present Values of Projected Benefit Payments for Legislators' Retirement Fund

Year (a)	Projected Beginning Fiduciary Net Position (b)	Projected Benefit Payments (c)	"Funded" Portion of Benefit Payments (d)	"Unfunded" Portion of Benefit Payments (e)	Present Value of 'Funded' Benefit Payments (f) = (d) ÷ (1 + 4.85%)^(a)	Present Value of 'Unfunded' Benefit Payments (g) = (e) ÷ (1 + 5.20%)^(a)	Present Value of Benefit Payments Using the Single Discount Rate (h) = (c) ÷ (1 + 4.85%)^(a)
1	\$92,475,068	\$7,336,117	\$7,336,117	\$0	\$7,164,436	\$0	\$7,164,436
2	90,954,131	7,410,222	7,410,222	0	6,902,058	0	6,902,058
3	88,238,880	7,253,967	7,253,967	0	6,443,984	0	6,443,984
4	85,431,139	7,087,586	7,087,586	0	6,004,942	0	6,004,942
5	82,658,952	6,913,840	6,913,840	0	5,586,778	0	5,586,778
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34	32,648,402	1,624,654	1,624,654	0	332,444	0	332,444
35	32,552,340	1,531,862	1,531,862	0	298,957	0	298,957
36	32,546,660	1,452,789	1,452,789	0	270,410	0	270,410
37	32,621,656	1,386,904	1,386,904	0	246,206	0	246,206
38	32,767,699	1,333,148	1,333,148	0	225,716	0	225,716
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100	262,465,212	0	0	0	0	0	0
Total					\$93,881,512	0	\$93,881,512

Judges' II Retirement Fund

Table 1. Projection of Contributions for Judges' II Retirement Fund

Year	Closed Group Employee Payroll (a)	Total Employee Payroll (b)	Contributions to Total Normal Cost (c)	Unfunded Actuarial Contribution as a percent of Payroll (d)	Contributions to the Unfunded Actuarial Liability (e) = (b) * (d)	Additional Discretionary Payments (f)	Total Contributions (g) = (c) + (e) + (f)
1	\$401,728,914	\$417,220,517	\$143,799,374	0.870%	\$3,629,818	\$0	\$147,429,192
2	382,116,686	428,902,691	126,748,105	0.000%	0	0	126,748,105
3	364,000,437	440,911,967	120,713,465	0.000%	0	0	120,713,465
4	346,019,181	453,257,502	114,691,518	0.000%	0	0	114,691,518
5	327,511,554	465,948,712	108,471,827	0.000%	0	0	108,471,827
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37	273,712	1,127,503,204	81,818	0.000%	0	0	81,818
38	164,383	1,159,073,293	47,867	0.000%	0	0	47,867
39	90,771	1,191,527,346	25,795	0.000%	0	0	25,795
40	48,731	1,224,890,111	13,482	0.000%	0	0	13,482
41	27,414	1,259,187,034	7,334	0.000%	0	0	7,334
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100	0	6,422,202,690	0	0.000%	0	0	0

Table 2. Projection of the Pension Plan's Fiduciary Net Position for Judges' II Retirement Fund

Year	Projected Beginning Fiduciary Net Position (a)	Projected Total Contributions (b)	Projected Benefit Payments (c)	Projected Administrative Expenses (d)	Projected Investment Earnings (e)	Projected Ending Fiduciary Position (f) = (a) + (b) - (c) - (d) + (e)	Projected Investment Earnings (e) - {Projected Benefit Payments (c) + Projected Administrative Expenses (d)}
1	\$2,633,650,369	\$147,429,192	\$106,519,601	\$2,909,052	\$307,478,821	\$2,979,129,729	\$198,050,168
2	2,979,129,729	126,748,105	118,831,712	4,474,459	183,456,276	3,166,027,938	60,150,104
3	3,166,027,938	120,713,465	132,681,821	4,740,326	194,348,182	3,343,667,437	56,926,035
4	3,343,667,437	114,691,518	146,714,277	4,992,182	204,665,539	3,511,318,035	52,959,080
5	3,511,318,035	108,471,827	161,322,999	5,228,490	214,345,133	3,667,583,505	47,793,644
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
37	3,374,821,657	81,818	220,996,490	4,901,361	200,859,757	3,349,865,381	(25,038,094)
38	3,349,865,381	47,867	207,195,141	4,873,952	199,741,977	3,337,586,132	(12,327,116)
39	3,337,586,132	25,795	193,328,269	4,865,615	199,406,179	3,338,824,223	1,212,295
40	3,338,824,223	13,482	179,466,087	4,877,558	199,901,851	3,354,395,912	15,558,206
41	3,354,395,912	7,334	165,694,497	4,910,939	201,276,482	3,385,074,291	30,671,046
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
100	73,896,248,178	0	0	110,844,372	4,544,619,263	78,330,023,069	4,433,774,891

Table 3. Actuarial Present Values of Projected Benefit Payments for Judges' II Retirement Fund

Year (a)	Projected Beginning Fiduciary Net Position (b)	Projected Benefit Payments (c)	"Funded" Portion of Benefit Payments (d)	"Unfunded" Portion of Benefit Payments (e)	Present Value of 'Funded' Benefit Payments (f) = (d) ÷ (1 + 6.15%)^(a)	Present Value of 'Unfunded' Benefit Payments (g) = (e) ÷ (1 + 5.20%)^(a)	Present Value of Benefit Payments Using the Single Discount Rate (h) = (c) ÷ (1 + 6.15%)^(a)
1	\$2,633,650,369	\$106,519,601	\$106,519,601	\$0	\$103,387,857	\$0	\$103,387,857
2	2,979,129,729	118,831,712	118,831,712	0	108,655,661	0	108,655,661
3	3,166,027,938	132,681,821	132,681,821	0	114,290,841	0	114,290,841
4	3,343,667,437	146,714,277	146,714,277	0	119,056,300	0	119,056,300
5	3,511,318,035	161,322,999	161,322,999	0	123,326,468	0	123,326,468
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37	3,374,821,657	220,996,490	220,996,490	0	25,021,044	0	25,021,044
38	3,349,865,381	207,195,141	207,195,141	0	22,099,356	0	22,099,356
39	3,337,586,132	193,328,269	193,328,269	0	19,425,644	0	19,425,644
40	3,338,824,223	179,466,087	179,466,087	0	16,988,008	0	16,988,008
41	3,354,395,912	165,694,497	165,694,497	0	14,775,703	0	14,775,703
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100	73,896,248,178	0	0	0	0	0	0
Total					\$3,589,796,932		\$3,589,796,932