Judges' Retirement System
Actuarial Valuation

As of June 30, 2017

CalPERS

Table of Contents

Actuarial Certification

February 2018

To the best of our knowledge, this report is complete and accurate and contains sufficient information to fully and fairly disclose the actuarial funded condition of the Judges' Retirement System. This valuation is based on the member and financial data as of June 30, 2017 provided by the various CalPERS databases and the benefits under this plan with CalPERS as of the date this report was produced. In our opinion this valuation has been performed in accordance with generally accepted actuarial principles, in accordance with standards of practice prescribed by the Actuarial Standards Board, and that the assumptions and methods are internally consistent and reasonable for this plan, as prescribed by the CalPERS Board of Administration according to provisions set forth in the California Public Employees' Retirement Law.

The undersigned are actuaries for CalPERS, who are members of the American Academy of Actuaries and the Society of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

Stuart Bennett, ASA, MAAA
Senior Pension Actuary, CalPERS

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

Highlights and Executive Summary

Highlights and Executive Summary

INTRODUCTION

This is the actuarial valuation report as of June 30, 2017 for the Judges' Retirement System. This actuarial valuation is used to recommend the Fiscal Year 2018-19 employer contributions. The Judges' Retirement System provides retirement and ancillary benefits to judges elected or appointed prior to November 9, 1994. The employer and member contribution rates for the plan are set by State statute and are each equal to 8 percent of payroll. The State currently funds the System using a pay-as-you-go approach since the 8 percent of payroll contributions made by both the State and members are ***not adequate to meet the System's current benefit payouts.***

PURPOSE OF REPORT

This actuarial valuation of the Judges' Retirement System of the State of California was performed by CalPERS staff actuaries as of June 30, 2017 in order to:

- Set forth the assets, accrued liabilities and funded status of the System as of June 30, 2017;
- Provide expected benefit payouts and funding alternatives;
- Provide actuarial information as of June 30, 2017, to the CalPERS Board of Administration and other interested parties.

The pension funding information presented in this report should not be used in financial reports subject to Governmental Accounting Standards Board (GASB) Statement No. 68. A separate accounting valuation report for such purposes is available from CalPERS. The measurements shown in this actuarial valuation may not be applicable for other purposes.

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

California Actuarial Advisory Panel Recommendations

This report includes all the basic disclosure elements as described in the *Model Disclosure Elements for Actuarial Valuation Reports* recommended in 2011 by the California Actuarial Advisory Panel (CAAP) that would be applicable to a pay-as-you-go plan.

EMPLOYER CONTRIBUTION

The State contributes to the plan on a pay-as-you-go basis. In other words, member contributions plus employer contributions are designed to cover only benefit payments and expenses each year, with nothing left over for pre-funding. A pay-as-you-go approach is easy to understand. However, from an accounting viewpoint, pensions in the aggregate are considered a form of deferred wages and should generally be charged over the period of employment. Also, from the member's point of view, it is generally not satisfactory that his/her future benefit payments are dependent upon the continued willingness and ability of the employer to cover the benefit payments each year.

A comparison of the pay-as-you-go costs reduced by expected member contributions for the prior and current valuation is shown below.

	Fiscal Year 2017/2018	Fiscal Year 2018/2019
Estimated Employer Pay-as-You-Go Cost (PAYG)	$208,334,913	$207,313,847

EMPLOYER CONTRIBUTION (CONTINUED)

The average expected remaining service for current actives is approximately 4.2 years. Some believe that pensions should be funded over a period similar to the remaining service life. CalPERS recognizes that making contributions equal to the entire Unfunded Actuarial Liability (UAL) within 4 years is not realistic at this time. However, the lack of any accumulation of assets remains a serious concern. Advance funding of the System's benefits enables the pension assets to grow with investment earnings and would reduce future contribution requirements needed on a pay-as-you-go basis. It is recommended that the State consider some form of advanced funding.

In the following table, we have shown three possible funding amounts, equal to the Normal Cost plus a 15-year, a 10-year and a 5-year level dollar amortization of the UAL, in addition to the PAYG amount. We recommend a 10-year or shorter amortization, since most, if not all, active members would be expected to retire within that time and the duration of benefit payments is 8.7. We have also shown the expected total amount of payments expected to be made over the life of the plan under each scenario. This demonstrates the amount of earnings that can be realized when assets are invested.

	Fiscal Year 2018-19			
	Pay-as-You-Go	Funding, 15-Year Amortization	Funding, 10-Year Amortization	Funding, 5-Year Amortization
Total Normal Cost	N/A	$22,911,679	$22,911,679	$22,911,679
Less Estimated Employee Contributions	N/A	($2,338,924)	($2,338,924)	($2,338,924)
Unfunded Accrued Liability Payment	N/A	$281,914,771	$394,536,953	$734,867,994
Total	**$207,313,847**	**$302,487,526**	**$415,109,708**	**$755,440,749**
Expected Total Payout over the Life of the Plan (Employer and Employee)	$4,896,235,504	$4,345,935,191	$4,062,583,157	$3,791,553,599

CalPERS is ready to work with the Administration in establishing an acceptable advance-funding basis that satisfies both the recommendation for advanced funding and current fiscal limitations.

PLAN'S FUNDED STATUS

The table below summarizes the funded status of the Judges' Retirement System as of June 30, 2017.

	June 30, 2016	June 30, 2017
1) Present Value of Projected Benefits	$3,543,516,613	$3,416,716,154
2) Entry Age Normal Accrued Liability	3,428,743,441	3,315,731,052
3) Market Value of Assets (MVA)	39,793,891	48,274,516
4) Unfunded Accrued Liability [(2) - (3)]	**$3,388,949,550**	**$3,267,456,536**
5) Funded Ratio [(3) / (2)]	**1.2%**	**1.5%**

This measure of funded status is an assessment of the need for future employer contributions. The Unfunded Liability, if positive, is the present value of future employer contributions for service that has already been earned and is in addition to future normal cost contributions for active members. This measure of funded status is not appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the employer's benefit obligations.

CHANGES SINCE THE PRIOR YEAR'S VALUATION

Actuarial Methods and Assumptions

Consistent with the decision made by the CalPERS Board of Administration for plans participating in the Public Employees' Retirement Fund (PERF), the mortality assumption was changed in this valuation. The mortality table used in last year's valuation was developed from the February 2014 experience study and includes 20-years of projected on-going mortality improvement using Scale BB table published by the Society of Actuaries. The new mortality table used in this valuation was developed from the December 2017 experience study and includes 15 years of projected on-going mortality improvement using 90 percent of scale MP 2016 published by the Society of Actuaries. The complete 2017 experience study can be found on our website.

CHANGES SINCE THE PRIOR YEAR'S VALUATION (CONTINUED)

The inflation assumption is reduced from 2.75 percent to 2.50 percent. The assumptions for individual salary increases and overall payroll growth are reduced from 3.00 percent to 2.75 percent.

A change to the discount rate from 3.25 percent to 3.00 percent was made. The decision to reduce the discount rate was primarily based on revised capital market assumptions provided by CalPERS investment staff and the Board's external investment consultants. A discount rate of 3.00 percent is consistent with the expected 10-year return of a fixed income portfolio used in the recently approved Asset Liability Management process.

A complete description of the actuarial methods and assumptions used in the June 30, 2017 valuation may be found in Appendix A of this report.

Plan Provisions

There were no plan changes since the prior valuation. A description of the principal plan provisions may be found in Appendix B of this report.

SUBSEQUENT EVENTS

Plan Data

In the case of Robert M. Mallano, et al. v. John Chiang, Controller of the State of California (SCO), the Judges' Retirement System (JRS), and the Judges' Retirement System II (JRS II), the judge issued a Statement of Decision, which orders judicial salary increases to be given to the judges for the fiscal years 2008-09, 2009-10, 2010-11 and 2013-14 plus 10 percent interest per annum for each year that the judicial salaries were not increased within those fiscal years. The increases and amounts owed have not been calculated yet. We anticipate the impact of this lawsuit to be reflected as part of the valuation for the year in the valuation following the decision.

For the 2018 valuation, a data adjustment will be made to the optional settlement benefits to Judges retiring after 2012 through February 14, 2018. This is expected to have an immaterial impact on the plan's total liability.

Assets

Assets

RECONCILIATION OF THE MARKET VALUE OF ASSETS

The following displays the change in the market value of assets from the prior valuation date to June 30, 2017.

	Market Value
Beginning Balance as of June 30, 2016	$39,793,891
Prior Period Adjustment	—
Adjusted Beginning Balance as of June 30, 2016	$39,793,891
Contributions (Employer plus Employee)	8,571,040
Other Income	2,394,690
Transfer from General Fund	199,302,000
Investment Earnings Credit	424,781
Less Other Investment Expenses	(866)
Contribution Refund	—
Administrative Costs	(1,771,173)
Benefit Payments	(200,439,847)
Ending Balance as of June 30, 2017	**$48,274,516**

ASSET ALLOCATION

Shown below is the market value of assets, by asset type, as of the valuation date.

	June 30, 2017
Cash	$5,230
Investments at Market Value	
Investment in Short Term Domestic Securities	$46,048,077
Accounts Receivable	
Member, Agency, State, School and Other	$2,386,533
Due from PERF	130,325
Accrued Interest Receivable	76,919
Subtotal of Accounts Receivable	$2,593,777
Accounts Payable	
Retirement Benefits in Process of Payment	($120)
Due to General Fund	(73,611)
Due to Other Funds	(141,656)
Other Program Liabilities	(157,181)
Subtotal of Accounts Payable	($372,568)
Fund Balance at Market Value on 6/30/2017	**$48,274,516**

Liabilities and Required Employer Contribution

Liabilities and Funding Requirements

COMPARISON OF CURRENT AND PRIOR YEAR RESULTS

Shown below are the comparisons of key valuation results for the current valuation date compared to corresponding values from the prior valuation date.

		June 30, 2017	
	June 30, 2016	Old Assumptions	New Assumptions
1) Members Included in the Valuation			
a) Active Members	216	192	192
b) Deferred Vested Terminated Members & QDRO's	12	8	8
c) Receiving Payments	1,897	1,861	1,861
d) Total	**2,125**	**2,061**	**2,061**
2) Payroll			
a) Covered Annual Payroll	$42,429,926	$38,330,347	$38,330,347
b) Projected Covered Annual Payroll	39,409,598	35,502,410	35,500,875
c) Average Covered Annual Payroll [(2a) / (1a)]	$196,435	$199,637	$199,637
3) Age and Service for Actives			
a) Average Attained Age for Actives	69.24	70.40	70.40
b) Average Service for Actives	28.56	29.69	29.69
c) Average Future Service for Actives	4.33	4.20	4.19
4) Present Value of Benefits at Valuation Date			
a) Active Members	$572,645,131	$500,684,679	$501,862,438
b) Deferred Vested Terminated Members & QDRO's	25,746,748	10,710,149	10,689,041
c) Receiving Benefits	2,945,124,734	2,901,780,749	2,904,164,675
d) Total	**$3,543,516,613**	**$3,413,175,577**	**$3,416,716,154**
5) Present Value of Future Normal Costs at Valuation Date			
a) Member Contributions	$14,785,410	$12,956,038	$12,909,443
b) Employer Normal Costs	99,987,762	87,818,518	88,075,659
6) Unfunded Accrued Actuarial Liability			
a) Accrued Actuarial Liability			
i) Active Members	$457,871,959	$399,910,123	$400,877,336
ii) Deferred Vested Terminated Members & QDRO's	25,746,748	10,710,149	10,689,041
iii) Receiving Benefits	2,945,124,734	2,901,780,749	2,904,164,675
iv) Total	**$3,428,743,441**	**$3,312,401,021**	**$3,315,731,052**
b) Assets (Market Value)	$39,793,891	$48,274,516	$48,274,516
c) Unfunded Accrued Actuarial Liability [(6 a iv) - (6b)]	$3,388,949,550	$3,264,126,505	$3,267,456,536
d) Funded Ratio [(6b) / (6 a iv)]	1.2%	1.5%	1.5%
7) Normal Cost	$24,521,456	$22,179,612	$22,244,349
8) Employer Contributions			
a) Recommended 10-Year Funding			
i) Normal Cost [(7) * (1 + interest rate)]	$25,318,403	$22,900,449	$22,911,679
ii) Estimated Employee Contributions	2,613,540	2,350,976	2,338,924
iii) Payment on Unfunded Liability	415,450,757	400,148,721	394,536,953
iv) TOTAL [(8 a i) - (8 a ii) + (8 a iii)]	**$438,155,620**	**$420,698,194**	**$415,109,708**
b) Estimated Pay-as-You-Go Costs (PAYG)			
i) Estimated Benefit Payments	$210,948,453	$210,175,101	$209,652,771
ii) Estimated Employee Contributions	2,613,540	2,350,976	2,338,924
iii) Estimated Employer Contributions [(10 b i) - (10 b ii)]	$208,334,913	$207,824,125	$207,313,847

(GAIN)/LOSS ANALYSIS

Shown below is an analysis of the (Gain)/Loss for the fiscal year ending on the valuation date. The Gain or Loss is shown separately for assets and liabilities.

1) Total (Gain)/Loss for the Year	
a) Unfunded Accrued Liability (UAL) as of 6/30/16	$3,388,949,550
b) Expected Normal Cost During 2016/2017	24,521,456
c) Contributions During 2016/2017	(210,267,731)
d) Interest Through 6/30/17	99,273,421
e) Expected UAL Before All Other Changes [1a + 1b + 1c + 1d]	$3,302,476,696
f) Change Due to Revised Actuarial Methods	—
g) Change Due to New Actuarial Assumptions	(3,330,031)
h) Expected UAL After All Changes [1e + 1f + 1g]	$3,305,806,727
i) Actual Unfunded Accrued Liability as of 6/30/17	3,267,456,536
j) Total (Gain)/Loss for 2016/2017 [1i - 1h]	**($38,350,191)**
2) Asset (Gain)/Loss for the Year	
a) Market Value of Assets as of 6/30/16	$39,793,891
b) Contributions Received	210,267,731
c) Benefits, Refunds Paid and Administrative Costs	(202,211,021)
d) Expected Interest [0.0300 x 2a + $((1.0300)^{1/2}$ - 1) x (2b + 2c)]	1,313,774
e) Expected Assets as of 6/30/17 [2a + 2b + 2c + 2d]	49,164,375
f) Actual Market Value of Assets as of 6/30/17	48,274,516
g) Asset (Gain)/Loss [2e - 2f]	**$889,859**
3) Liability (Gain)/Loss for the Year	
a) Total (Gain)/Loss (1j)	($38,350,191)
b) Asset (Gain)/Loss (2g)	889,859
c) Liability (Gain)/Loss [3a - 3b]	**($39,240,050)**

FUNDING HISTORY

The Funding History below shows the recent history of the actuarial accrued liability, the market value of assets, funded ratio, the annual covered payroll and the Pay-As-You-Go Cost (PAYG).

Valuation Date	Entry Age Normal Accrued Liability	Market Value of Assets (MVA)	Unfunded Accrued Liability	Funded Ratio (MVA)	Payroll	PAYG
6/30/17	$3,315,731,052	$48,274,516	$3,267,456,536	1.5%	$38,330,347	$207,313,847
6/30/16	3,428,743,441	39,793,891	3,388,949,550	1.2%	42,429,926	208,334,913
6/30/15	3,322,609,989	41,177,519	3,281,432,470	1.2%	44,284,467	227,341,695
6/30/14	3,414,779,730	57,198,659	3,357,581,071	1.7%	52,335,325	225,157,030
6/30/13	3,383,309,964	53,819,947	3,329,490,017	1.6%	60,593,543	217,464,586
6/30/12	3,172,276,086	72,693,177	3,099,582,909	2.3%	69,227,033	213,556,754
6/30/11	3,296,537,803	54,383,026	3,242,154,777	1.6%	75,919,674	212,005,561
6/30/10	3,429,380,904	63,828,344	3,365,552,560	1.9%	85,947,377	210,566,972
6/30/09	3,582,992,463	41,390,491	3,541,601,972	1.2%	96,648,907	206,226,920
6/30/08	3,606,845,149	19,289,333	3,587,555,816	0.5%	111,464,465	198,969,351

Projections of Contributions & Payouts

10-YEAR PROJECTION OF CONTRIBUTIONS AND BENEFITS

Shown below is a 10-year projection of expected State and member statutory contributions and expected benefit payouts.

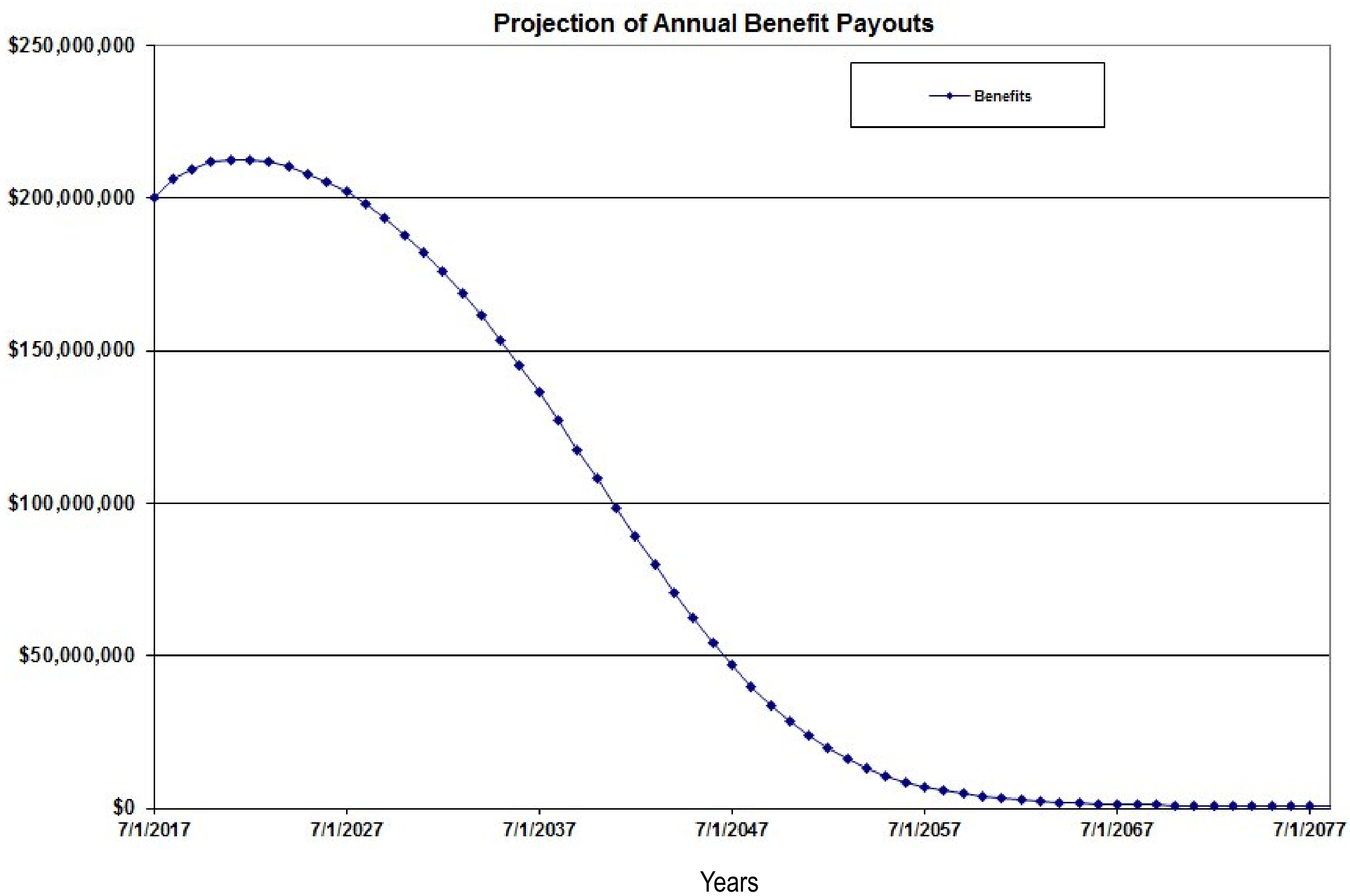
Fiscal Years Beginning July 1	State Statutory Contributions[1]	Member Statutory Contributions[1]	Future Benefit Payouts
2018	$2,338,924	$2,338,924	$209,652,771
2019	1,916,187	1,916,187	211,954,090
2020	1,553,512	1,553,512	212,697,168
2021	1,254,828	1,254,828	212,586,152
2022	1,011,529	1,011,529	211,831,081
2023	808,377	808,377	210,379,257
2024	643,491	643,491	208,124,634
2025	513,305	513,305	205,301,365
2026	405,463	405,463	202,027,737
2027	314,960	314,960	198,037,960

(1) Statutory state contributions and statutory member contributions both equal eight percent (8%) of pay.

GRAPH OF PROJECTED BENEFIT PAYOUTS

The graph below shows a projection of future annual benefit payouts from the System. Total benefit payments from the System are projected to decline from a peak of $213 million during the 2020-2021 Fiscal Year.

Annual Benefit Payouts



Appendix A
Statement of Actuarial Methods and Assumptions

ACTUARIAL DATA

As stated in the Actuarial Certification, the data, which serves as the basis of this valuation, has been obtained from the various CalPERS databases. We have reviewed the valuation data and believe that it is reasonable and appropriate in aggregate.

ACTUARIAL FUNDING METHOD

The method used to determine the optional funding schedules was the Entry Age Normal actuarial cost method.

Under this funding method the actuarial present value of projected pension benefits for members and beneficiaries are determined as of the valuation date using the actuarial assumptions set forth below.

The cost allocated to the current fiscal year is called the normal cost. The actuarial accrued liability for active members is then calculated as the portion of the total cost of the plan allocated to prior years. The actuarial accrued liability for members currently receiving benefits, for active members beyond the assumed retirement age, and for members entitled to deferred benefits, is equal to the present value of the benefits expected to be paid. No normal costs are applicable for these participants. The excess of the total actuarial accrued liability over the value of plan assets is called the unfunded actuarial accrued liability. Funding requirements are determined by adding the normal cost and an amortization of the unfunded liability over the average remaining service for current active members.

The following table provides a brief history of the actuarial cost method.

Valuation Year June 30	Funding Method
1998 to 2009	Aggregate
2010 to Current	Entry Age Normal

AMORTIZATION PERIOD

No formal amortization of the unfunded liability is currently in use, since contributions are being made on a pay-as-you-go basis. However, we have included a recommended contribution using an amortization period of 10 years.

ASSET VALUATION METHOD

The value of assets equals the market value of the fund.

ACTUARIAL ASSUMPTIONS

The actuarial assumptions used in the June 30, 2017 actuarial valuation are shown below.

The assumptions for inflation, individual salary increase and overall payroll growth are based on the 2017 experience study performed by CalPERS staff and adopted by the CalPERS board of Administration on December 19, 2017. The discount rate assumption was decreased from 3.25 percent to 3.00 percent since the prior valuation. The 3.00 percent assumption is equal to the expected return on fixed income investment reflecting the 2017 10-Year Capital Market Assumptions adopted by CalPERS in June 2017.

ECONOMIC ASSUMPTIONS

Investment Return: 3.00 percent per annum, compounded annually.

Salary Increases: 2.75 percent per annum, compounded annually.

Inflation: 2.50 percent per annum, compounded annually.

Cost-of-Living Adjustment: Benefits are fully adjusted for increases in wages for the active judges of the same court from which the member retired. Therefore, we assume that benefits will increase by 2.75 percent per annum compounded annually.

ESIP Interest Crediting Rate: Based on the rate for 30-year U.S. Treasuries, or their equivalent, for the month of June of the valuation year. This rate for June 2017 equals 2.80 percent (a change from 2.45 percent as of June 2016).

INVESTMENT RETURN (INTEREST)

3.00 percent compounded per year, net of expenses.

The following table provides a brief history of the Investment Return Assumption.

Time Frame	Investment Return
7/1/1998 - 6/30/2003	7.50%
7/1/2003 - 6/30/2010	7.00%
7/1/2010 - 6/30/2011	4.50%
7/1/2011 - 6/30/2016	4.25%
7/1/2016 - 6/30/2017	3.25%
7/1/2017 - Current	3.00%

INDIVIDUAL SALARY INCREASES

2.75 percent compounded per year.

INFLATION

2.50 percent compounded per year. The current inflation assumption is based on the most recent CalPERS Experience Study adopted by the CalPERS Board in December 2017. The following table provides a brief history of the Inflation Return Assumption.

Time Frame	Inflation
7/1/1998 - 6/30/2003	3.50%
7/1/2003 - 6/30/2010	3.00%
7/1/2011 - 6/30/2017	2.75%
7/1/2017 - Current	2.50%

DEMOGRAPHIC ASSUMPTIONS

The following decrements apply to all members.

Probability of Termination and Disability

No pre-retirement termination or disability rates were assumed.

Probability of Service Retirement

Age	Rate	Age	Rate
60	0.2	68	0.2
61	0.2	69	0.3
62	0.2	70	0.1
63	0.2	71	0.1
64	0.2	72 - 79	0.2
65	0.2	80 - 84	0.3
66	0.2	85 - 89	0.5
67	0.2	> 89	1.0

Mortality: For purposes of the mortality rates, the revised rates include 15 years of projected on-going mortality improvement using 90 percent of Scale MP 2016 published by the Society of Actuaries. For more details, please refer to the experience study report that can be found on the CalPERS website.

Rates vary by age as shown in the table below.

Pre-Retirement Mortality

Attained Age	Male	Female
35	0.00049	0.00027
40	0.00064	0.00037
45	0.00080	0.00054
50	0.00116	0.00079
55	0.00172	0.00120
60	0.00255	0.00166
65	0.00363	0.00233
70	0.00623	0.00388
75	0.01057	0.00623
80	0.01659	0.00939

DEMOGRAPHIC ASSUMPTIONS (CONTINUED)

Sample rates are shown in the following table.

Post-Retirement Mortality

	Standard		Disability	
Attained Age	Male	Female	Male	Female
35	0.00049	0.00027	0.00049	0.00027
40	0.00064	0.00037	0.00064	0.00037
45	0.00080	0.00054	0.00080	0.00054
50	0.00372	0.00346	0.01183	0.01083
55	0.00437	0.00410	0.01613	0.01178
60	0.00671	0.00476	0.02166	0.01404
65	0.00928	0.00637	0.02733	0.01757
70	0.01339	0.00926	0.03358	0.02183
75	0.02316	0.01635	0.04277	0.02969
80	0.03977	0.03007	0.06272	0.04641
85	0.07122	0.05418	0.09793	0.07847
90	0.13044	0.10089	0.14616	0.13220
95	0.21658	0.17698	0.21658	0.21015
100	0.32222	0.28151	0.32222	0.32226
105	0.46691	0.43491	0.46691	0.43491
110	1.00000	1.00000	1.00000	1.00000

Marital Status

90 percent of non-retired members are assumed to be married.

Age of Spouse

Female spouses are assumed to be four years younger than male spouses. For retired members receiving some form of joint and survivor annuity, the spouse's actual date of birth was used in the valuation if such information was furnished. Otherwise, wives were assumed to be four years younger than their husbands.

Form of Payment

For retired members for whom no optional form of payment was elected, the assumed form of payment was 1) 50 percent joint and survivor if beneficiary information was provided or 2) a life annuity if no beneficiary information was provided.

Appendix B
Summary of Principal Plan Provisions

ELIGIBILITY OF MEMBERSHIP
All Supreme Court, District Court of Appeal, Superior Court, and Municipal Court Judges and Justices were immediately eligible for membership, if elected or appointed before November 9, 1994.

MEMBERSHIP CONTRIBUTIONS
8 percent of pay. Withdrawal of contributions results in forfeiture of all other benefits.

SERVICE RETIREMENT
Eligibility

To qualify for a Service Retirement, you must be at least age 60. The table below illustrates the percent of active judicial salary that the unmodified allowance is based upon given age and years of service.

Retirement age	Minimum Required Years of Service	Percent of Active Judicial Salary
60+	20	75 percent
66	18	65 percent
67	16	65 percent
68	14	65 percent
69	12	65 percent
70+	10	65 percent

* At least 5 years of service must immediately precede retirement.

Benefit

Members retiring after age 60 with at least 20 years of service receive 75 percent of pay of the last judicial office held. With less than 20 years of service, the benefit percentage is 65 percent.

Form of Payment

50 percent of the retirement allowance will automatically be continued to the spouse upon the death of the retiree, without a reduction in the retiree's allowance. For post-January 1, 1980 judges, there is a one-year marriage requirement at benefit commencement. The remaining 50 percent, often referred to as the option portion, is paid to the retiree as an annuity for as long as he or she is alive. The retiree may choose to provide for some, or all, of the option portion to be paid to any designated beneficiary after the retiree's death, paid for by a reduction to the option portion of the allowance.

TERMINATION BENEFIT
Eligibility

Completion of five years of service.

Benefit

3.75 percent of pay of last judicial office held had he or she remained continuously in service as a judge of a court of record multiplied by years of service to a maximum of 20 years. Benefit percentage is reduced by 0.25 percent for each year of service less than 12 years. Benefit begins at the earliest age that member would have been eligible for service retirement had he remained in service; and, the member is at least age 63, or age 60 with 20 years of service.

TERMINATION BENEFIT (CONTINUED)

Minimum benefit for pre-January 1, 1974 judges: 5 percent of pay of last judicial office held multiplied by years of service, to a maximum of 8 years. Benefit is payable at age 65.

Form of Payment: 50 percent contingent annuity with spouse as contingent annuitant. Minimum benefit is paid as life annuity only.

DISABILITY RETIREMENT

Eligibility

Four years of service (no service requirement is necessary for a work-related disability), two years of service for pre-January 1, 1989 judges. No service requirement for pre-January 1, 1980 judges.

Benefit

With 20 years of service, 75 percent of pay of last judicial office held, payable immediately. With less than 20 years of service, the benefit is 65 percent of pay.

PRE-RETIREMENT DEATH BENEFITS

Spouses Benefit

25 percent of pay of last judicial office held, payable for spouse's lifetime if not eligible for retirement. If a member dies after being eligible to retire, the surviving spouse will receive a monthly allowance equal to 50 percent of the monthly allowance the member would have received, had he/she retired, for life.

Contributory Benefit

After 10 years of service, spouse or minor child receives 1.625 percent of pay of last judicial office held multiplied by years of service, to a maximum of 20 years. Spouse's benefit is payable for life. Child's benefit ceases at age 18, or at age 22 if a full-time student. Requires $2 monthly contribution.

Benefit with No Spouse or Children

Refund of accumulated member contributions plus one month's pay multiplied by years of service, to a maximum of 6 years.

POST-RETIREMENT ADJUSTMENTS

The retirement allowances of retired judges, beneficiaries and individuals receiving benefits under domestic relation orders will increase proportionately according to increases in judicial salary increases for the judicial office last held by the member.

EXTENDED SERVICE INCENTIVE PROGRAM (ESIP)

Eligibility

An active member shall automatically participate in the program if he/she has 20 or more years of creditable service and has attained the age of 60 or more on or after January 1, 2001.

Vesting

36 months of creditable service after the later of January 1, 2001 or the date the judge first becomes eligible to participate in the program. However, the 36 months of creditable service requirement is waived in the event of the member's death, disability, or because he/she was unsuccessful in his/her efforts to be reelected or retained in office.

Benefit

For the first 60 months of participation in the program, 20 percent of the judge's monthly salaries and 8 percent of the judge's monthly salaries for the 61st to the 120th months of participation plus interest based on market yield on 30-year constant maturity U.S. Treasury Bonds shall be credited to the judge. The benefit shall be paid in the form of a single, lump sum payment.

Appendix C
Participant Data

SUMMARY OF VALUATION DATA

The table below illustrates counts of records processed by the valuation.

	June 30, 2016	June 30, 2017
1) Active Members		
a) Counts	216	192
b) Average Attained Age	69.24	70.40
c) Average Entry Age to Rate Plan	40.68	40.71
d) Average Years of Service	28.56	29.69
e) Average Annual Covered Pay	196,435	$199,637
f) Annual Covered Payroll	42,429,926	38,330,347
g) Projected Annual Payroll	39,409,598	35,500,875
h) Present Value of Future Payroll	184,817,481	161,367,962
2) Transferred and Vested Termination Members and QDRO's		
a) Counts	12	8
3) Receiving Payments		
a) Counts	1,897	1,861
b) Average Attained Age	78.09	77.88
c) Average Annual Benefits	102,256	$104,611
4) Active to Retired Ratio [(1a) / (3)]	0.11	0.10

RECONCILIATION OF PARTICIPANTS

The table below provides a reconciliation of the member data over the course of the valuation year.

Reconciliation of Participants For the Fiscal Year Ending June 30, 2017

						QDRO[1]		
	Active Judges	Vested Terminated Judges	Disabled Judges	Retired Judges	Benefi-ciaries	Receiving Benefits	Not Receiving Benefits	Total Participants
As of June 30, 2016	**216**	**8**	**37**	**1,208**	**526**	**126**	**4**	**2,125**
New Entrants	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
Rehires	0	0	0	0	N/A	N/A	N/A	0
Disability Retirements	0	N/A	0	N/A	N/A	N/A	N/A	0
Service Retirements	(23)	(5)	N/A	28	N/A	0	0	0
Vested Terminations	0	0	N/A	N/A	N/A	N/A	N/A	0
Termination with Refund	0	0	0	0	0	0	0	0
Died, With Beneficiaries' Benefit Payable	(1)	0	0	(39)	42	0	N/A	2
Divorce Settlements	0	0	0	0	0	6	1	7
Died, WIthout Beneficiary; and Other Terminations	0	0	0	(31)	N/A	(4)	0	(35)
Beneficiary Deaths	N/A	N/A	N/A	N/A	(37)	N/A	N/A	(37)
Data Corrections	0	0	0	0	(2)	1	0	(1)
As of June 30, 2017	**192**	**3**	**37**	**1,166**	**529**	**129**	**5**	**2,061**

(1) Qualified Domestic Relations Order

DISTRIBUTION OF ACTIVE PARTICIPANTS

The following table displays the number of active members by age and service as of June 30, 2017.

Attained Age	Years of Service at Valuation Date[1]						Total	Valuation Payroll
	0 - 4	5 - 9	10 - 14	15 - 19	20 - 29	30+		
15 - 19	0	0	0	0	0	0	0	$0
20 - 24	—	—	—	—	—	—	—	—
25 - 29	—	—	—	—	—	—	—	—
30 - 34	—	—	—	—	—	—	—	—
35 - 39	—	—	—	—	—	—	—	—
40 - 44	—	—	—	—	—	—	—	—
45 - 49	—	—	—	—	—	—	—	—
50 - 54	—	—	—	—	—	—	—	—
55 - 59	—	—	—	—	6	—	6	1,205,226
60 - 64	—	—	2	3	22	1	28	5,484,408
65 - 69	—	—	1	3	36	20	60	11,834,223
70 - 74	—	—	—	1	25	24	50	10,094,372
75+	—	—	1	—	22	25	48	9,712,118
Total	**—**	**—**	**4**	**7**	**111**	**70**	**192**	**$38,330,347**

(1) Years of Service at Valuation Date may include service related to a Qualified Domestic Relations Order.

DISTRIBUTION OF AVERAGE ANNUAL PAYROLL

The following table displays the average annual payroll of active members by age and service as of June 30, 2017.

Attained Age	Years of Service at Valuation Date[1]								Average Valuation Payroll
	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35+	
15 - 19	$0	$0	$0	$0	$0	$0	$0	$0	$0
20 - 24	—	—	—	—	—	—	—	—	—
25 - 29	—	—	—	—	—	—	—	—	—
30 - 34	—	—	—	—	—	—	—	—	—
35 - 39	—	—	—	—	—	—	—	—	—
40 - 44	—	—	—	—	—	—	—	—	—
45 - 49	—	—	—	—	—	—	—	—	—
50 - 54	—	—	—	—	—	—	—	—	—
55 - 59	—	—	—	—	191,914	218,785	—	—	200,871
60 - 64	—	—	191,914	210,383	191,914	196,531	191,914	—	195,872
65 - 69	—	—	219,618	191,914	191,914	193,372	205,812	201,149	197,237
70 - 74	—	—	—	219,618	196,531	202,121	199,302	207,305	201,887
75+	—	—	219,618	—	191,914	200,559	208,536	204,843	202,336
All Ages	**$0**	**$0**	**$205,766**	**$203,787**	**$192,516**	**$198,732**	**$203,851**	**$205,253**	**$199,637**

(1) Years of Service at Valuation Date may include service related to a Qualified Domestic Relations Order.

DISTRIBUTION OF TERMINATED VESTED MEMBERS & QDRO's NOT RECEIVING BENEFITS

The following table displays the number of terminated vested members and QDRO's not receiving benefits by age and service as of June 30, 2017.

	Years of Service at Valuation Date							
Attained Age	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30+	Total
15 - 19	0	0	0	0	0	0	0	0
20 - 24	—	—	—	—	—	—	—	—
25 - 29	—	—	—	—	—	—	—	—
30 - 34	—	—	—	—	—	—	—	—
35 - 39	—	—	—	—	—	—	—	—
40 - 44	—	—	—	—	—	—	—	—
45 - 49	—	—	—	—	—	—	—	—
50 - 54	—	—	—	—	—	—	—	—
55 - 59	—	1	—	2	1	—	—	4
60 - 64	—	—	—	1	3	—	—	4
65 - 69	—	—	—	—	—	—	—	—
70 - 74	—	—	—	—	—	—	—	—
75+	—	—	—	—	—	—	—	—
Total	**0**	**1**	**0**	**3**	**4**	**0**	**0**	**8**

DISTRIBUTION OF RETIRED JUDGES, BENEFICIARIES & QDRO'S RECEIVING BENEFITS

The following table displays the distribution of retired judges, beneficiaries & QDRO's receiving benefits by age as of June 30, 2017.

Attained Age	Service & Disability Retired Judges	Beneficiaries & QDRO's	Total
Under 30	0	2	2
30 - 34	—	3	3
35 - 39	—	—	—
40 - 44	—	—	—
45 - 49	—	4	4
50 - 54	—	6	6
55 - 59	—	5	5
60 - 64	31	33	64
65 - 69	192	50	242
70 - 74	292	90	382
75 - 79	271	109	380
80 - 84	187	107	294
85+	230	249	479
Total	**1,203**	**658**	**1,861**

DISTRIBUTION OF ANNUAL BENEFITS FOR RETIRED JUDGES, BENEFICIARIES & QDRO'S

The following table displays the distribution of annual benefits for retirees, beneficiaries & QDRO's by age as of June 30, 2017.

Attained Age	Service & Disability Retired Judges	Beneficiaries & QDRO's	Total
Under 30	$0	$30,313	$30,313
30 - 34	—	34,017	34,017
35 - 39	—	—	—
40 - 44	—	—	—
45 - 49	—	117,932	117,932
50 - 54	—	300,252	300,252
55 - 59	—	252,546	252,546
60 - 64	4,170,988	1,880,901	6,051,889
65 - 69	23,739,725	3,175,670	26,915,395
70 - 74	37,168,022	5,959,692	43,127,714
75 - 79	33,998,329	7,516,598	41,514,927
80 - 84	23,776,467	7,512,857	31,289,324
85+	28,989,309	16,057,273	45,046,582
Total[1]	**$151,842,840**	**$42,838,051**	**$194,680,891**
Average	**$126,220**	**$65,103**	**$104,611**

(1) Total does not include ESIP benefit payments.

Appendix D
Glossary of Actuarial Terms

Accrued Liability: (also called Actuarial Accrued Liability or Entry Age Normal Accrued Liability) The total dollars needed as of the valuation date to fund all benefits earned in the past for *current* members.

Actuarial Assumptions: Assumptions made about certain events that will affect pension costs. Assumptions generally can be broken down into two categories: demographic and economic. Demographic assumptions include such things as mortality, disability and retirement rates. Economic assumptions include discount rate, salary growth and inflation.

Actuarial Methods: Procedures employed by actuaries to achieve certain funding goals of a pension plan. Actuarial methods include funding method, setting the length of time to fund the Accrued Liability and determining the Value of Assets.

Actuarial Valuation: The determination, as of a valuation date of the Normal Cost, Accrued Liability, and related actuarial present values for a pension plan. These valuations are performed annually or when an employer is contemplating a change to their plan provisions.

Amortization Period: The number of years required to pay off an Amortization Base.

Entry Age: The earliest age at which a plan member begins to accrue benefits under a defined benefit pension plan. In most cases, this is the age of the member on their date of hire.

Entry Age Normal Cost Method: An actuarial cost method designed to fund a member's total plan benefit over the course of his or her career. This method is designed to yield a rate expressed as a level percentage of payroll.
(The assumed retirement age less the entry age is the amount of time required to fund a member's total benefit. Generally, the older a member on the date of hire, the greater the entry age normal cost. This is mainly because there is less time to earn investment income to fund the future benefits.)

Funded Status: A measure of how well funded, or how "on track" a plan or risk pool is with respect to assets versus accrued liabilities. A ratio greater than 100 percent means the plan or risk pool has more assets than liabilities and a ratio less than 100 percent means liabilities are greater than assets.

Normal Cost: The annual cost of service accrual for the upcoming fiscal year for active employees. The normal cost should be viewed as the long term contribution rate.

Pension Actuary: A business professional that is authorized by the Society of Actuaries, and the American Academy of Actuaries to perform the calculations necessary to properly fund a pension plan.

Present Value of Benefits (PVB): The total dollars needed as of the valuation date to fund all benefits earned in the past or expected to be earned in the future for *current* members.

Unfunded Liability (UAL): When a plan or pool's Value of Assets is less than its Accrued Liability, the difference is the plan or pool's Unfunded Liability. If the Unfunded Liability is positive, the plan or pool will have to pay contributions exceeding the Normal Cost.

Actuarial Office
P.O. Box 942709
Sacramento, CA 94229-2709
TTY - (877) 249-7442
(888) 225-7377
FAX (916) 795-2744

Available online at www.calpers.ca.gov

CalPERS

California Public Employees' Retirement System
A Component Unit of the State of California