State Actuarial Valuation

As of June 30, 2015

Establishing Required Contributions

for the Fiscal Year

July 1, 2016 through June 30, 2017

CALIFORNIA PUBLIC EMPLOYEES' RETIREMENT SYSTEM

State Actuarial Valuation as of June 30, 2015

Actuarial Office

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Actuarial Certification

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 CalPERS State plans. This valuation is based on the member and financial data as of June 30, 2015 provided by the various CalPERS databases and the benefits under these plans 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 and in accordance with standards of practice prescribed by the Actuarial Standards Board. The assumptions and methods are internally consistent and reasonable for these plans, 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 opinion contained herein.

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Introduction

This is the actuarial valuation report as of June 30, 2015 for the State plans. This actuarial valuation was used to set the 2016-17 required employer contribution rates.

On January 1, 2013, the Public Employees' Pension Reform Act of 2013 (PEPRA) took effect. The legislation associated with pension reform (AB 340) also included member contribution rate changes for some State employees. The impact of the changes in employee contribution rates effective July 1, 2013, July 1, 2014, and July 1, 2015 are reflected in this valuation. Information regarding member contribution rates for some PEPRA members can be found in the "Development of PEPRA Member Contribution Rates" in Appendix D of this report. For more information on PEPRA, please refer to the CalPERS website.

The CalPERS Board of Administration adopted a Risk Mitigation Policy which is designed to reduce funding risk over time. The policy establishes a mechanism whereby CalPERS investment performance that significantly outperforms the discount rate triggers adjustments to the discount rate, expected investment return and strategic asset allocation targets. A minimum excess investment return of 4% above the existing discount rate is necessary to cause a funding risk mitigation event. The Risk Mitigation Policy does not have an impact on the current year actuarial valuation. More details on the Risk Mitigation Policy can be found on our website.

Purpose of the Report

This actuarial valuation was performed by the CalPERS Actuarial Office using data as of June 30, 2015. The purpose of the report is to:

- Set forth the assets and accrued liabilities of the State plans as of June 30, 2015
- Determine the required employer contribution rates of these plans for the fiscal year July 1, 2016 through June 30, 2017
- Provide actuarial information as of June 30, 2015 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 Number 68 for an Agent Employer Defined Benefit Pension Plan.

The use of this report for any other purposes may be inappropriate.

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), except for the following:

- Due to the various employee contribution rates within the majority of State plans, we have shown the total normal cost for the plans and shown the average employee portion as "Employee Contribution." More specific employee normal costs are given in Appendix B.

- The unfunded liability amortization schedule does not give the original base amounts of the various components of the unfunded liabilities in the "Schedule of Amortization Bases".

Additionally, this report includes the following "Enhanced Risk Disclosures" also recommended by the CAAP in the Model Disclosure Elements document:

- A "Deterministic Stress Test," projecting future results under different investment income scenarios
- A "Sensitivity Analysis," showing the impact on current valuation results using a 1 percent plus or minus change in the discount rate.

Employer Required Contribution Rates

The actuarially required employer contribution rates for Fiscal Year July 1, 2016 through June 30, 2017 are shown in the table below. For comparison purposes, the corresponding contribution rates for Fiscal Year July 1, 2015 through June 30, 2016 are also provided. The expected contribution amounts that these rates are/were expected to generate are also shown.

	Fiscal Year 2015-16		Fiscal Year 2016-17	
	Expected Employer Contribution	**Required Employer Rate[1]**	**Expected Employer Contribution**	**Required Employer Rate[1]**
State Miscellaneous Tier 1	$2,649,621,776	25.068%	$3,010,002,279	26.646%
State Miscellaneous Tier 2	69,272,826	24.389%	68,229,526	26.095%
State Industrial	103,292,663	17.775%	116,880,314	18.365%
State Safety	368,444,080	18.082%	400,378,501	18.753%
State Peace Officers & Firefighters	1,197,159,805	37.338%	1,343,176,739	40.276%
California Highway Patrol	363,634,308	45.406%	414,975,202	48.719%
Total State	**$4,751,425,458**		**$5,353,642,561**	

[1] Excludes additional contributions pursuant to Government Code Section 20683.2. See "Additional Contributions Section" on page 8 for more information about that requirement.

Note that the payroll used to calculate the expected dollar contributions is the payroll used in the valuation incorporating two years of payroll growth using the payroll growth assumption of 3 percent. To the extent that payroll in the contribution year is different than the projected payroll, the actual contribution amounts will be different than the expected contributions shown in the table above.

The supporting exhibits in this report entitled "Reconciliation of Employer Contribution Rates" on page 41 and "Reconciliation of Employer Contributions" on page 43 provide explanations of the changes in required contribution rates and expected contribution amounts from Fiscal Year 2015-16 to Fiscal Year 2016-17.

A history of the required contribution rates is included on page 45 of this report.

Reasons for Change in Employer Contributions for the State Plans

Overall, the required contributions for the State plans have increased by $602.2 million between Fiscal Year 2015-16 and Fiscal Year 2016-17. This change is mainly driven by the factors listed below.

In February 2014 the CalPERS Board adopted new demographic actuarial assumptions to be used in the June 30, 2013 actuarial valuation for the State plans. The change in liability due to the new actuarial assumptions was amortized over 20 years and phased in over three years, beginning with the contribution requirement for Fiscal Year 2014-15. The rates for Fiscal Year 2016-17 reflect the impact of the final year of the phase-in of the change in accrued liability due to new actuarial assumptions.

CalPERS employs an amortization and smoothing policy that spreads rate increases or decreases over a 5-year period, and amortizes all experience gains and losses over a fixed 30-year period. This means that only one fifth of the total anticipated rate change caused by each gain or loss is realized in the first year, culminating in the full increase in the fifth year. As a result, the progression of these gain or loss amortization bases will affect contribution levels in increasing measure throughout the ramp period. A complete description of the actuarial methods used in the June 30, 2015 valuation is shown in Appendix A.

The total payroll over all State plans increased by 6 percent from the prior year. This is greater than the payroll growth assumption of 3 percent used in our valuation. This is caused by an increase in active counts in many of the plans and also is due to individual salary increases. PEPRA closed the Alternate Retirement Program (ARP) to new entrants effective July 1, 2013. For the June 30, 2015 valuation, the active counts in State Miscellaneous and State Industrial increased due to new entrants hired between July 1, 2014 and June 30, 2015 as well as those who attained two years of service under the ARP.

The Public Employees' Pension Reform Act of 2013 (PEPRA) requires lower benefits for new members as defined by PEPRA, that are hired after January 1, 2013. The normal cost for all of the plans is lower than in the prior year due to the enrollment of new hires into the lower benefit level.

The net return on plan assets for the year ending June 30, 2015 of 2.4 percent was less than the assumed return of 7.5 percent. This has led to an experience loss that must be amortized with additional contributions over the next 30 years.

The table below highlights all major contributors to the change in required contributions.

Reason for Change	Change in Required Contribution (millions)
Third year of phase-in of change in assumptions	$266.7
Change due to normal progression of existing amortization bases	176.4
Change due to increase in overall payroll	109.4
Decrease in normal cost due to new hires in lower benefit level	(33.3)
First installment of the 5-year phased-in 30-year amortization of the following gains and losses:	
• Impact of investment experience	89.5
• Impact of greater than expected contributions received in 2014-15	(5.2)
• Net effect of all other gains and losses	(1.3)
Total Change in Required Contributions	$602.2

Additional Contributions

One of the provisions of pension reform added Government Code Section 20683.2 which changed the contribution rates of many State members that were effective July 1, 2013, July 1, 2014, and July 1, 2015. Government Code Section 20683.2 also requires that the "savings realized by the state employer as a result of the employee contribution rate increases required by this section shall be allocated to any unfunded liability, subject to appropriation in the annual Budget Act." Under the California Constitution, the Board has "plenary" authority over the actuarial function at CalPERS consistent with the fiduciary duties of a trustee. This includes authority to set employer contribution rates. By statute, the State may pay additional contributions in addition to the actuarially-required contribution rates set by the Board and CalPERS will generally accept these payments. Government Code Section 20683.2 effectively augments the contributions of the State when increased employee contributions result in a savings to the employer.

The table below shows the:

- Actuarially required contributions (these are the rates that staff is recommending the Board set for the State plans),
- Additional contributions that the State is to make to offset the savings due to the increased member contributions, and
- Total contributions that the State is to make for each plan.

Plan	Actuarially Required Employer Contribution for 2016-17	Additional Statutory Contribution to Offset Increased Member Contributions	Total Contribution 2016-17
State Miscellaneous Tier 1	26.646%	0.082%	26.728%
State Miscellaneous Tier 2	26.095%	0.889%	26.984%
State Industrial	18.365%	0.881%	19.246%
State Safety	18.753%	1.182%	19.935%
State Peace Officers & Firefighters	40.276%	1.647%	41.923%
California Highway Patrol	48.719%	1.319%	50.038%

In all cases, the savings are less than the actual increase in member contributions. This is because the additional member contributions increase the value of the benefit in some circumstances. The obvious example is when the member terminates and takes a refund. A less obvious example is for Tier 2 members where the members are assumed to elect to receive a Tier 1 benefit with an actuarial equivalent reduction to offset the missed Tier 1 contributions. Because the members will make additional contributions, a smaller reduction will apply in the future.

With the passage of the 2016 Budget Act, the California State Legislature adopted the contribution rates that include the additional contribution to offset the increase in member contributions. The rates and information shown in the remainder of this report reflect the rates set by the Board at its April 2016 meeting (shown above as the actuarially required employer contribution). The additional contribution adopted by the Legislature will be realized in future valuations as actuarial gains.

Expected Future Changes

The table below shows the estimated 2017-18 employer rates for the State plans based on a 0 percent investment return for fiscal year 2015-16. Note that the projected rates assume that all other actuarial assumptions will be realized and assume that no changes to assumptions, contributions, benefits, or funding will occur between now and the beginning of Fiscal Year 2016-17. This projection takes into account the positive impact PEPRA is expected to gradually have on the normal cost.

Plan	Estimated 2017-18 Employer Rates Assuming a 0% Investment Return for 2015-16
State Miscellaneous Tier 1	28.1%
State Miscellaneous Tier 2	27.7%
State Industrial	19.3%
State Safety	19.1%
State Police Officers & Firefighters	42.0%
California Highway Patrol	50.9%

A scenario analysis was performed to determine the effects of various investment returns on future employer contribution rates for three years beyond the estimated 2017-18 employer rates shown above. That information is available in the “Risk Analysis” section of this report.

History of the Expected Contribution Requirements

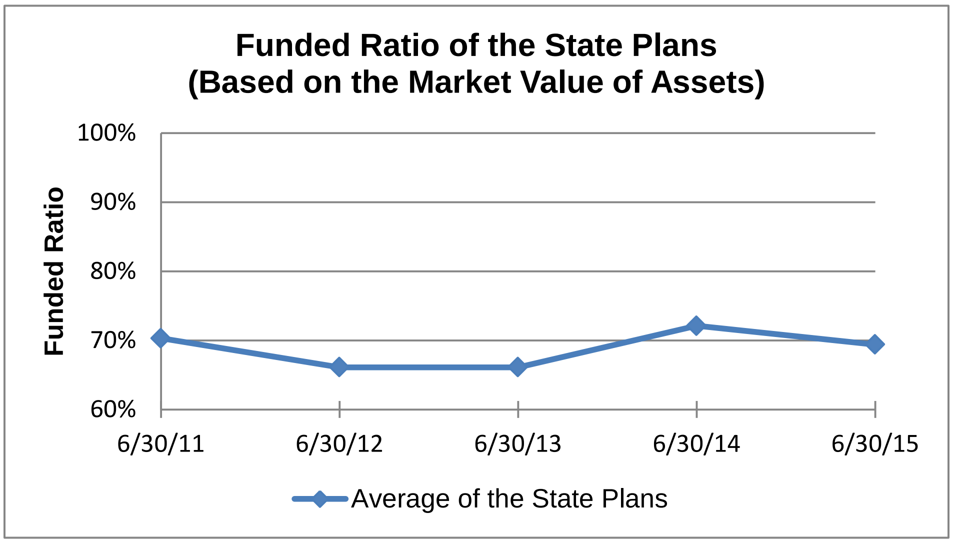
The following table shows a 10-year history of the employer contributions set by CalPERS based on projected payroll for the State plans.

Fiscal Year	Total State Contributions
2007-08	$2,746,929,250
2008-09	3,025,181,372
2009-10	3,287,572,458
2010-11[1]	3,684,715,103
2011-12	3,514,951,156
2012-13	3,876,422,255
2013-14	3,805,086,600
2014-15	4,264,185,911
2015-16	4,751,425,458
2016-17	$5,353,642,561

[1] The State employer contributions for 2010-11 differ from the expected employer contribution of $3,888,278,401 determined by the June 30, 2009 annual valuation due to additional member contributions which resulted in lower expected employer contributions.

Funded Status of the Plans

The funded status of a pension plan is defined as the ratio of assets to a plan's accrued liabilities. Plans with a lower funded ratio are, all other things being equal, more at risk of not being able to meet their future benefit obligations. From June 30, 2014 to June 30, 2015 the funded status for the State plans, on average, decreased by 2.7 percent. This was due to the investment return for 2014-15 being less than expected. The graph below shows the average funded status for the past five years for the State plans.



The table below shows the funded status of the plans using the market value of assets on June 30, 2015.

Funded Status and Unfunded Liability on June 30, 2015

Plan	Entry Age Normal Accrued Liability	Market Value of Assets	Unfunded Liability	Funded Ratio
State Miscellaneous	$97,831,157,779	$68,080,012,254	$29,751,145,525	69.6%
State Industrial	3,669,191,968	2,884,662,214	784,529,754	78.6%
State Safety	10,255,010,865	7,859,091,661	2,395,919,204	76.6%
State Peace Officers and Firefighters	39,393,965,231	26,973,473,591	12,420,491,640	68.5%
California Highway Patrol	10,941,786,412	6,735,006,541	4,206,779,871	61.6%
Total for the State	**$162,091,112,255**	**$112,532,246,261**	**$49,558,865,994**	**69.4%**

The table below shows the funded status for each of the plans for the last five years.

Funded Ratio of the Retirement Program (Based on the Market Value of Assets)					
	June 30, 2011	**June 30, 2012**	**June 30, 2013**	**June 30, 2014**	**June 30, 2015**
State Miscellaneous	70.7%	66.3%	66.5%	72.4%	69.6%
State Industrial	77.0%	73.0%	74.7%	81.7%	78.6%
State Safety	74.6%	70.6%	71.6%	79.2%	76.6%
State Police Officers & Firefighters	69.0%	65.5%	65.0%	71.0%	68.5%
California Highway Patrol	65.1%	60.3%	58.9%	64.3%	61.6%
Total for the State	**70.3%**	**66.1%**	**66.1%**	**72.1%**	**69.4%**

Changes Since the Prior Year's Valuation

Actuarial Methods and Assumptions

No changes were made since the prior valuation. A complete description of the actuarial methods and assumptions used in the June 30, 2015 may be found in Appendix A of this report.

Plan Provisions

No changes were made since the prior valuation. Please refer to Appendix B for a summary of the plan provisions used in this valuation.

Subsequent Events

Risk Mitigation

The CalPERS Board of Administration adopted a Risk Mitigation Policy which is designed to reduce funding risk over time. The policy establishes a mechanism whereby CalPERS investment performance that significantly outperforms the discount rate triggers adjustments to the discount rate, expected investment return and strategic asset allocation targets. A minimum excess investment return of 4 percent above the existing discount rate is necessary to cause a funding risk mitigation event. More details on the Risk Mitigation Policy can be found on our website.

ASSETS

- RECONCILIATION OF THE MARKET VALUE OF ASSETS OVER THE PRIOR FISCAL YEAR
- ASSET ALLOCATION
- CALPERS HISTORY OF INVESTMENT RETURNS

Reconciliation of the Market Value of Assets Over the Prior Fiscal Year

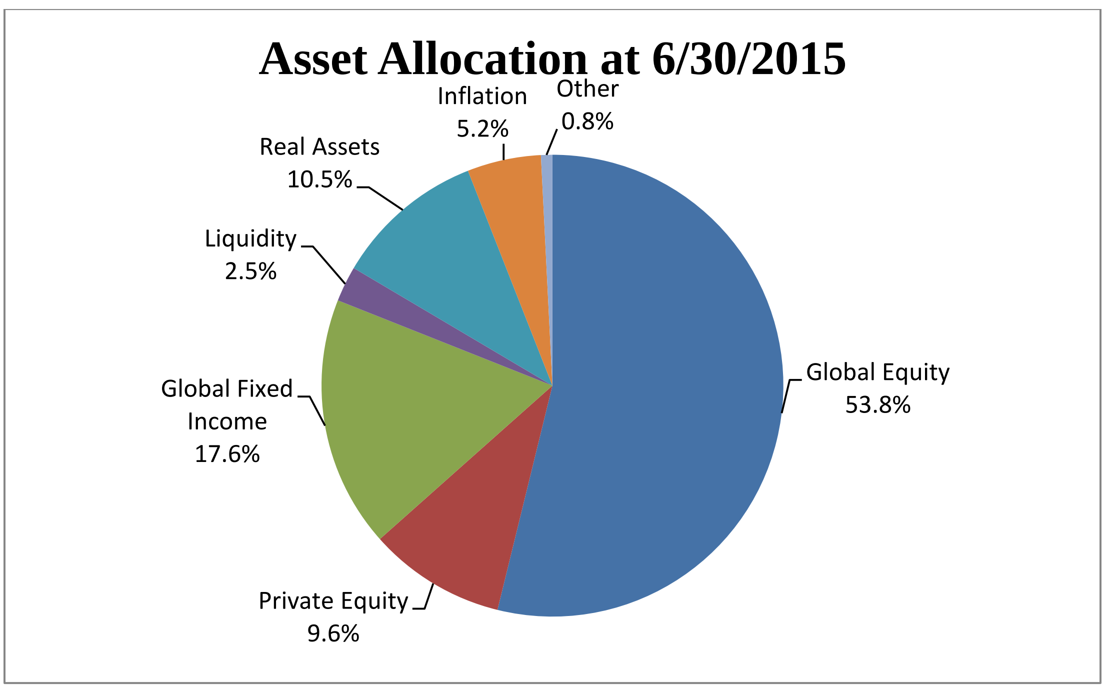
		State Miscellaneous	State Industrial	State Safety	State Peace Officers and Firefighters	California Highway Patrol
1.	Market Value of Assets as of June 30, 2014 Including Receivables for Tier 1 Conversion and Service Buybacks	$68,358,591,216	$2,825,325,889	$7,561,646,144	$26,591,349,889	$6,645,481,580
2.	Receivables for Tier 1 Conversion and Service Buybacks as of June 30, 2014	$363,796,141	$15,870,723	$28,288,212	$104,488,422	$16,643,119
3.	Market Value of Assets as of June 30, 2014	$67,994,795,075	$2,809,455,166	$7,533,357,932	$26,486,861,467	$6,628,838,461
4.	Employer Contributions Received in 2014-15	2,608,784,797	107,237,922	393,925,104	1,146,191,798	351,196,706
5.	Employee Contributions Received in 2014-15	794,198,106	50,026,067	218,923,809	375,645,875	87,872,216
6.	Benefit Payments in 2014-15	(5,072,241,791)	(155,247,920)	(430,015,269)	(1,715,973,071)	(485,964,639)
7.	Refunds in 2014-15	(25,980,211)	(1,780,779)	(9,462,622)	(11,500,362)	(1,096,389)
8.	Administrative Expense	(63,166,384)	(2,980,509)	(8,433,657)	(27,555,042)	(6,965,856)
9.	Transfers In/Out	(353,810)	29,867	499,238	193,917	(214,358)
10.	Investment Return	1,507,733,446	62,836,838	136,430,947	628,026,644	147,390,750
11.	Market Value of Assets as of June 30, 2015 [(3) + (4) + (5) + (6) + (7) + (8) + (9) + (10)]	$67,743,769,228	$2,869,576,652	$7,835,225,482	$26,881,891,226	$6,721,056,891
12.	Receivables for Tier 1 Conversion and Service Buybacks as of June 30, 2015	$336,243,026	$15,085,562	$23,866,179	$91,582,365	$13,949,650
13.	Market Value of Assets as of June 30, 2015 Including Receivables for Tier 1 Conversion and Service Buybacks	$68,080,012,254	$2,884,662,214	$7,859,091,661	$26,973,473,591	$6,735,006,541

Asset Allocation

CalPERS adheres to an Asset Allocation Strategy which establishes asset class allocation policy targets and ranges, and manages those asset class allocations within their policy ranges. CalPERS Investment Belief No. 6 recognizes that strategic asset allocation is the dominant determinant of portfolio risk and return. On February 19, 2014 the CalPERS Board of Administration adopted changes to the current asset allocation as shown in the Policy Target Allocation below expressed as a percentage of total assets. The asset allocation has an expected long term blended rate of return of 7.5 percent.

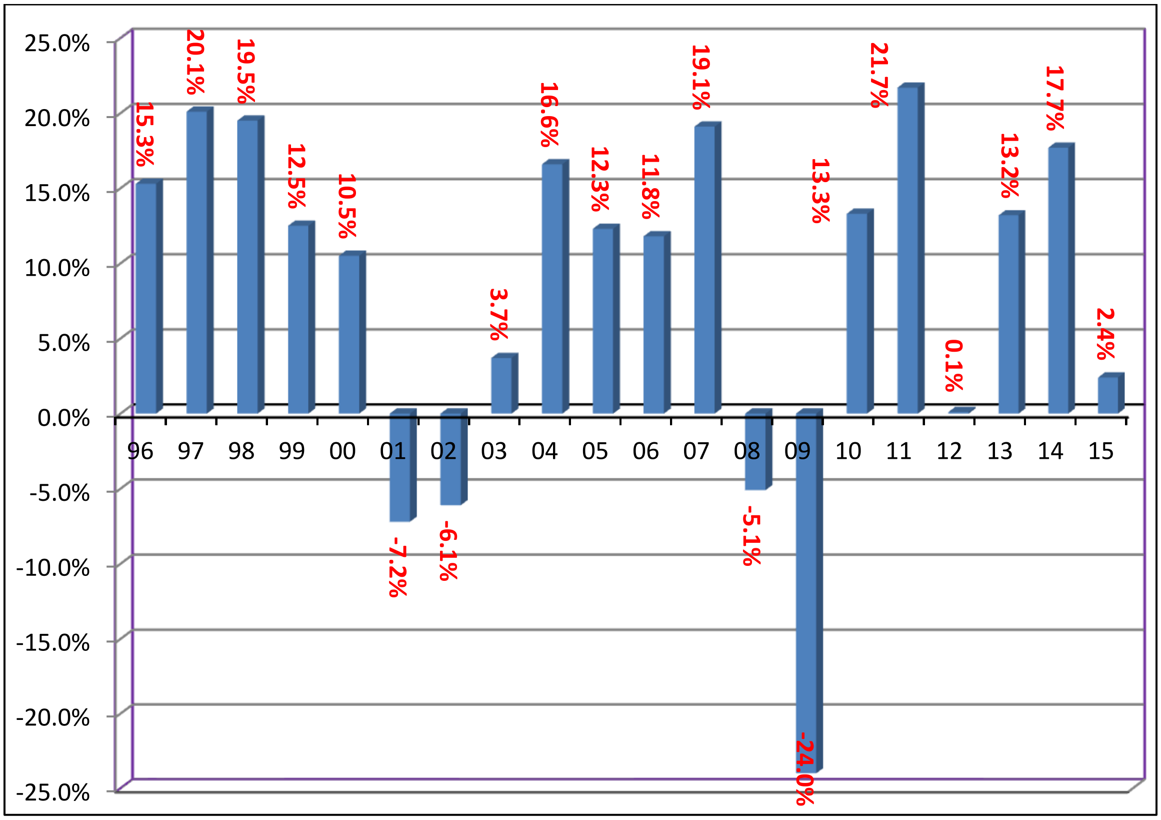
The asset allocation and market value of assets shown below reflect the values of the Public Employees Retirement Fund (PERF) in its entirety as of June 30, 2015. The assets of the State plans are part of the Public Employees Retirement Fund (PERF) and are invested accordingly.

(A) Asset Class	(B) Market Value ($ Billion)	(C) Policy Target Allocation
1) Global Equity	162.5	51.0%
2) Private Equity	29.0	10.0%
3) Global Fixed Income	53.1	20.0%
4) Liquidity	7.5	1.0%
5) Real Assets	31.8	12.0%
6) Inflation Sensitive Assets	15.6	6.0%
7) Other	4.5	0.0%
Total Fund	**$301.9**	**100.0%**



CalPERS History of Investment Returns

The following is a chart with the 20-year historical annual returns of the Public Employees Retirement Fund for each fiscal year ending on June 30. Beginning in 2002, the figures are reported as gross of fees.



The table below shows historical geometric mean annual returns of the Public Employees Retirement Fund for various time periods ending on June 30, 2015, (figures are reported as gross of fees). The geometric mean rate of return is the average rate per period compounded over multiple periods. It should be recognized that in any given year the rate of return is volatile. Although the expected rate of return on the recently adopted new asset allocation is 7.5 percent, the portfolio has an expected volatility of 11.76 percent per year. The volatility is a measure of the risk of the portfolio expressed in the standard deviation of the fund's total return distribution, expressed as a percentage. Consequently when looking at investment returns it is more instructive to look at returns over longer time horizons.

History of CalPERS Geometric Mean Rates of Return and Volatilities

	1 year	5 year	10 year	20 year	30 year
Geometric Return	2.4%	10.7%	6.1%	7.7%	9.1%
Volatility	–	9.4%	14.0%	11.8%	10.5%

LIABILITIES AND RATES

- **COMPARISON OF CURRENT AND PRIOR YEAR**
- **DEVELOPMENT OF ACCRUED AND UNFUNDED LIABILITIES**
- **DEVELOPMENT OF EMPLOYER CONTRIBUTION RATES**
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- **RECONCILIATION OF EMPLOYER CONTRIBUTIONS**
- **EMPLOYER CONTRIBUTION RATE HISTORY**
- **HISTORY OF FUNDED STATUS AND FUNDING PROGRESS**

Comparison of Current and Prior Year

Shown below are the key valuation results for the current valuation compared to the corresponding results from the prior valuation.

STATE MISCELLANEOUS

Participant Information

	June 30, 2014	June 30, 2015
Members Included in the Valuation [1]		
Active Members Tier 1	154,708	163,609
Active Members Tier 2	5,521	4,977
Subtotal Active Members	160,229	168,586
Transfers from Tier 1	25,227	26,372
Transfers from Tier 2	10,105	9,773
Subtotal Transfers	35,332	36,145
Vested Terminations Tier 1	48,200	50,456
Vested Terminations Tier 2	1,517	1,483
Subtotal Vested Terminations [2]	49,717	51,939
Receiving Payments Tier 1	172,195	176,437
Receiving Payments Tier 2	5,630	5,860
Subtotal Receiving Payments	177,825	182,297
Subtotal Tier 1	400,330	416,874
Subtotal Tier 2	22,773	22,093
Grand Total	423,103	438,967
Average Entry Age of Active Members Tier 1	34.6	34.8
Average Entry Age of Active Members Tier 2	31.9	31.8
Average Age of Active Members Tier 1	48.0	47.4
Average Age of Active Members Tier 2	52.0	52.5
Average Age of Retired Members Tier 1	71.9	71.9
Average Age of Retired Members Tier 2	66.5	66.9
Average Pay Tier 1	$ 64,058	$ 64,763
Average Pay Tier 2	58,005	60,000
Average Pay Total	$ 63,850	$ 64,622
Covered Payroll Prior Fiscal Year		
Tier 1	$ 9,910,307,823	$ 10,595,766,755
Tier 2	320,246,687	298,617,875
Total	$ 10,230,554,510	$ 10,894,384,630
Projected Payroll for Contribution Rate		
Tier 1	$ 10,569,566,914	$ 11,296,383,902
Tier 2	284,028,366	261,468,752
Total	$ 10,853,595,280	$ 11,557,852,654

1 Counts of members included in the valuation are counts of the records processed by the valuation. Multiple records may exist for those who have service in more than one coverage group. This does not result in double counting of liabilities.

2 Includes non-vested terminated participants with employee contributions remaining in the plan.

STATE MISCELLANEOUS (CONTINUED)

Funded Status of the Retirement Program

	June 30, 2014	June 30, 2015
Present Value of Benefits	$ 106,666,018,383	$ 110,878,276,615
Accrued Liability	$ 94,442,394,521	$ 97,831,157,779
Market Value of Assets	$ 68,358,591,216	$ 68,080,012,254
Unfunded Liability/(Surplus) on a Market Value of Assets Basis	$ 26,083,803,305	$ 29,751,145,525
Funded Status	72.4%	69.6%

Employer Contribution

	June 30, 2014	June 30, 2015
Tier 1 Contribution Required in Dollars		
Total Normal Cost	$ 1,647,795,482	$ 1,748,115,409
Employee Contribution	707,315,418	761,715,167
Employer Normal Costs	940,480,064	986,400,242
Amortization of Unfunded Liability	1,709,141,712	2,023,602,037
Group Term Life Benefits	0	0
Total	$ 2,649,621,776	$ 3,010,002,279
Tier 1 Contribution Required (Percent of Payroll)		
Total Normal Cost	15.590%	15.475%
Employee Contribution	6.692%	6.743%
Employer Normal Costs	8.898%	8.732%
Amortization of Unfunded Liability	16.170%	17.914%
Group Term Life Benefits	0.000%	0.000%
Total	25.068%	26.646%

	June 30, 2014	June 30, 2015
Tier 2 Contribution Required in Dollars		
Total Normal Cost	$ 33,995,355	$ 31,195,837
Employee Contribution	10,651,064	9,805,078
Employer Normal Costs	23,344,291	21,390,759
Amortization of Unfunded Liability	45,928,535	46,838,767
Group Term Life Benefits	0	0
Total	$ 69,272,826	$ 68,229,526
Tier 2 Contribution Required (Percent of Payroll)		
Total Normal Cost	11.969%	11.931%
Employee Contribution	3.750%	3.750%
Employer Normal Costs	8.219%	8.181%
Amortization of Unfunded Liability	16.170%	17.914%
Group Term Life Benefits	0.000%	0.000%
Total	24.389%	26.095%

STATE INDUSTRIAL

Participant Information

	June 30, 2014	June 30, 2015
Members Included in the Valuation [1]		
Active Members	10,524	11,104
Transfers from Industrial	8,852	8,784
Vested Terminations [2]	3,137	3,202
Receiving Payments	12,065	12,752
Total	34,578	35,842
Average Entry Age of Active Members	36.1	36.0
Average Age of Active Members	46.0	45.6
Average Age of Retired Members	67.4	67.6
Average Pay	$ 52,047	$ 54,026
Covered Payroll Prior Fiscal Year	$ 547,741,659	$ 599,908,510
Projected Payroll for Contribution Rate	$ 581,099,126	$ 636,442,938

1 Counts of members included in the valuation are counts of the records processed by the valuation. Multiple records may exist for those who have service in more than one coverage group. This does not result in double counting of liabilities.

2 Includes non-vested terminated participants with employee contributions remaining in the plan.

Funded Status of the Retirement Program

	June 30, 2014	June 30, 2015
Present Value of Benefits	$ 4,306,799,758	$ 4,594,218,730
Accrued Liability	$ 3,458,104,222	$ 3,669,191,968
Market Value of Assets	$ 2,825,325,889	$ 2,884,662,214
Unfunded Liability/(Surplus) on a Market Value of Assets Basis	$ 632,778,333	$ 784,529,754
Funded Status	81.7%	78.6%

Employer Contribution

	June 30, 2014	June 30, 2015
Contribution Required in Dollars		
Total Normal Cost	$ 106,317,896	$ 114,687,017
Employee Contribution	44,948,017	49,687,100
Employer Normal Costs	61,369,879	64,999,917
Amortization of Unfunded Liability	41,922,784	51,880,397
Group Term Life Benefits	0	0
Total	$ 103,292,663	$ 116,880,314
Contribution Required (Percent of Payroll)		
Total Normal Cost	18.296%	18.020%
Employee Contribution	7.735%	7.807%
Employer Normal Costs	10.561%	10.213%
Amortization of Unfunded Liability	7.214%	8.152%
Group Term Life Benefits	0.000%	0.000%
Total	17.775%	18.365%

STATE SAFETY

Participant Information

	June 30, 2014	June 30, 2015
Members Included in the Valuation [1]		
Active Members	25,589	26,096
Transfers From State Safety	5,076	5,440
Vested Terminations [2]	5,601	5,857
Receiving Payments	21,547	22,687
Total	57,813	60,080
Average Entry Age of Active Members	39.2	39.1
Average Age of Active Members	47.3	47.2
Average Age of Retired Members	67.7	67.9
Average Pay	$ 75,057	$ 77,115
Covered Payroll Prior Fiscal Year	$ 1,920,630,117	$ 2,012,401,157
Projected Payroll for Contribution Rate	$ 2,037,596,491	$ 2,134,956,387

1 Counts of members included in the valuation are counts of the records processed by the valuation. Multiple records may exist for those who have service in more than one coverage group. This does not result in double counting of liabilities.

2 Includes non-vested terminated participants with employee contributions remaining in the plan.

Funded Status of the Retirement Program

	June 30, 2014	June 30, 2015
Present Value of Benefits	$ 12,603,436,272	$ 13,419,044,548
Accrued Liability	$ 9,551,207,082	$ 10,255,010,865
Market Value of Assets	$ 7,561,646,144	$ 7,859,091,661
Unfunded Liability/(Surplus) on a Market Value of Assets Basis	$ 1,989,560,938	$ 2,395,919,204
Funded Status	79.2%	76.6%

Employer Contribution

	June 30, 2014	June 30, 2015
Contribution Required in Dollars		
Total Normal Cost	$ 448,862,131	$ 463,947,373
Employee Contribution	212,949,209	222,740,000
Employer Normal Costs	235,912,922	241,207,373
Amortization of Unfunded Liability	131,064,089	158,082,300
Group Term Life Benefits	1,467,069	1,088,828
Total	$ 368,444,080	$ 400,378,501
Contribution Required (Percent of Payroll)		
Total Normal Cost	22.029%	21.731%
Employee Contribution	10.451%	10.433%
Employer Normal Costs	11.578%	11.298%
Amortization of Unfunded Liability	6.432%	7.404%
Group Term Life Benefits	0.072%	0.051%
Total	18.082%	18.753%

STATE PEACE OFFICERS AND FIREFIGHTERS

Participant Information

	June 30, 2014	June 30, 2015
Members Included in the Valuation [1]		
Active Members	39,418	40,525
Transfers from State POFF	5,902	5,712
Vested Terminations [2]	6,390	6,378
Receiving Payments	32,925	34,781
Total	84,635	87,396
Average Entry Age of Active Members	29.9	29.8
Average Age of Active Members	42.6	42.1
Average Age of Retired Members	62.5	62.8
Average Pay	$ 76,671	$ 77,570
Covered Payroll Prior Fiscal Year	$ 3,022,204,251	$ 3,143,530,530
Projected Payroll for Contribution Rate	$ 3,206,256,490	$ 3,334,971,539

1 Counts of members included in the valuation are counts of the records processed by the valuation. Multiple records may exist for those who have service in more than one coverage group. This does not result in double counting of liabilities.

2 Includes non-vested terminated participants with employee contributions remaining in the plan.

Funded Status of the Retirement Program

	June 30, 2014	June 30, 2015
Present Value of Benefits	$ 44,602,358,902	$ 46,831,518,716
Accrued Liability	$ 37,466,390,118	$ 39,393,965,231
Market Value of Assets	$ 26,591,349,889	$ 26,973,473,591
Unfunded Liability/(Surplus) on a Market Value of Assets Basis	$ 10,875,040,229	$ 12,420,491,640
Funded Status	71.0%	68.5%

Employer Contribution

	June 30, 2014	June 30, 2015
Contribution Required in Dollars		
Total Normal Cost	$ 893,968,435	$ 918,584,561
Employee Contribution	368,655,371	377,185,281
Employer Normal Costs	525,313,063	541,399,280
Amortization of Unfunded Liability	669,442,050	800,210,022
Group Term Life Benefits	2,404,692	1,567,437
Total	$ 1,197,159,805	$ 1,343,176,739
Contribution Required (Percent of Payroll)		
Total Normal Cost	27.882%	27.544%
Employee Contribution	11.498%	11.310%
Employer Normal Costs	16.384%	16.234%
Amortization of Unfunded Liability	20.879%	23.995%
Group Term Life Benefits	0.075%	0.047%
Total	37.338%	40.276%

CALIFORNIA HIGHWAY PATROL

Participant Information

	June 30, 2014	June 30, 2015
Members Included in the Valuation [1]		
Active Members	7,183	7,223
Transfers from CHP	282	270
Vested Terminations [2]	355	366
Receiving Payments	8,523	8,650
Total	16,343	16,509
Average Entry Age of Active Members	26.7	26.8
Average Age of Active Members	40.5	40.6
Average Age of Retired Members	67.6	68.0
Average Pay	$ 105,092	$ 111,156
Covered Payroll Prior Fiscal Year	$ 754,876,371	$ 802,876,775
Projected Payroll for Contribution Rate	$ 800,848,342	$ 851,771,971

1 Counts of members included in the valuation are counts of the records processed by the valuation. Multiple records may exist for those who have service in more than one coverage group. This does not result in double counting of liabilities.

2 Includes non-vested terminated participants with employee contributions remaining in the plan.

Funded Status of the Retirement Program

	June 30, 2014	June 30, 2015
Present Value of Benefits	$ 12,232,096,406	$ 12,924,742,316
Accrued Liability	$ 10,329,332,235	$ 10,941,786,412
Market Value of Assets	$ 6,645,481,580	$ 6,735,006,541
Unfunded Liability/(Surplus) on a Market Value of Assets Basis	$ 3,683,850,655	$ 4,206,779,871
Funded Status	64.3%	61.6%

Employer Contribution

	June 30, 2014	June 30, 2015
Contribution Required in Dollars		
Total Normal Cost	$ 212,513,116	$ 225,276,651
Employee Contribution	83,192,126	88,993,135
Employer Normal Costs	129,320,990	136,283,515
Amortization of Unfunded Liability	233,896,877	278,538,368
Group Term Life Benefits	416,441	153,319
Total	$ 363,634,308	$ 414,975,202
Contribution Required (Percent of Payroll)		
Total Normal Cost	26.536%	26.448%
Employee Contribution	10.388%	10.448%
Employer Normal Costs	16.148%	16.000%
Amortization of Unfunded Liability	29.206%	32.701%
Group Term Life Benefits	0.052%	0.018%
Total	45.406%	48.719%

Development of Accrued and Unfunded Liabilities

The following table shows the development of the accrued liabilities and the unfunded liabilities.

	State Miscellaneous	State Industrial	State Safety	State Peace Officers and Firefighters	California Highway Patrol
1. Present Value of Benefits					
a. Actives and Inactives	$ 53,355,922,008	$ 2,726,023,894	$ 7,856,504,312	$ 22,616,193,122	$ 6,292,061,420
b. Retired	57,522,354,607	1,868,194,836	5,562,540,236	24,215,325,594	6,632,680,896
c. Total	$ 110,878,276,615	$ 4,594,218,730	$ 13,419,044,548	$ 46,831,518,716	$ 12,924,742,316
2. Present Value of Future Employee Contributions	$ 5,875,614,999	$ 426,413,134	$ 1,620,405,805	$ 3,166,881,134	$ 788,201,128
3. Present Value of Future Employer Normal Costs	$ 7,171,503,837	$ 498,613,628	$ 1,543,627,878	$ 4,270,672,351	$ 1,194,754,776
4. Accrued Liability [(1c) - (2) - (3)]	$ 97,831,157,779	$ 3,669,191,968	$ 10,255,010,865	$ 39,393,965,231	$ 10,941,786,412
5. Market Value of Assets (MVA)	$ 68,080,012,254	$ 2,884,662,214	$ 7,859,091,661	$ 26,973,473,591	$ 6,735,006,541
6. Unfunded Liability/(Surplus) [(4) - (5)]	$ 29,751,145,525	$ 784,529,754	$ 2,395,919,204	$ 12,420,491,640	$ 4,206,779,871
7. Funded Status [(5)/(4)]	69.6%	78.6%	76.6%	68.5%	61.6%

Development of Employer Contribution Rates

The following table shows the development of the employer contribution rates.

	State Miscellaneous Tier 1	State Miscellaneous Tier 2	State Industrial	State Safety	State Peace Officers and Firefighters	California Highway Patrol
Employer Contribution Amount						
Normal Cost	$ 986,400,242	$ 21,390,759	$ 64,999,917	$ 241,207,373	$ 541,399,280	$ 136,283,515
Payment on the Unfunded Liability	2,023,602,037	46,838,767	51,880,397	158,082,300	800,210,022	278,538,368
Payment for Term Life Benefits (Sec. 21600-21605)	0	0	0	1,088,828	1,567,437	153,319
Total Employer Contribution Amount	$ 3,010,002,279	$ 68,229,526	$ 116,880,314	$ 400,378,501	$ 1,343,176,739	$ 414,975,202
Projected Payroll	$ 11,296,383,902	$ 261,468,752	$ 636,442,938	$ 2,134,956,387	$ 3,334,971,539	$ 851,771,971
Employer Contribution (as a percent of payroll)						
Normal Cost	8.732%	8.181%	10.213%	11.298%	16.234%	16.000%
Payment on the Unfunded Liability	17.914%	17.914%	8.152%	7.404%	23.995%	32.701%
Payment for Term Life Benefits (Sec. 21600-21605)	0.000%	0.000%	0.000%	0.051%	0.047%	0.018%
Total Employer Contribution Rate	26.646%	26.095%	18.365%	18.753%	40.276%	48.719%

Schedule of Amortization Bases for the Retirement Program

The schedule below shows the development of the payment on the amortization bases used to determine the employer contribution rates. Each row of the schedule gives a brief description of a base (or portion of the Unfunded Actuarial Liability), the date the base was established, the balance of the base on the valuation date, and the number of years remaining in the amortization period. In addition, we show the expected payment for the year immediately following the valuation date, the balance on the date a year after the valuation date, and the scheduled payment for fiscal year 2016-17. Please refer to Appendix A for an explanation of how amortization periods are determined.

State Miscellaneous

Reason for Base	Date Established	Remaining Amortization Period	Balance on 6/30/2015	Expected Payment in 2015-16	Amount Remaining on 6/30/2016	Scheduled Payment for Fiscal Year 2016-17	Payment as Percentage of Payroll
Assumption Change	6/30/2013	18	$5,340,206,934	$295,658,521	$5,434,177,175	$456,792,415	3.952%
Assumption Change	6/30/2011	16	1,734,693,096	145,733,686	1,713,695,177	150,105,697	1.299%
Assumption Change	6/30/2009	14	2,068,294,229	189,599,571	2,026,835,277	195,287,558	1.690%
Reclass of BU 7 Members	6/30/2005	10	(82,075,933)	(9,493,366)	(78,388,697)	(9,778,167)	(0.085%)
New Rate Stabilization Policies	6/30/2004	9	(168,360,963)	(21,001,263)	(159,213,462)	(21,631,301)	(0.187%)
Actuarial Equivalent Reduction Benefits	6/30/2004	9	233,528,507	29,130,230	220,840,280	30,004,137	0.260%
Benefit Change (SB 1801)	6/30/2003	8	(2,114,305)	(287,257)	(1,975,043)	(295,875)	(0.003%)
Assumption Change	6/30/2003	8	724,358,547	98,413,898	676,647,737	101,366,315	0.877%
(Gain)/Loss Prior to 2009	Various	17	10,564,770,971	854,106,402	10,471,572,428	879,729,594	7.612%
(Gain)/Loss in 2009	6/30/2009	24	1,138,647,556	75,258,268	1,146,016,690	77,516,016	0.671%
(Gain)/Loss in 2010	6/30/2010	25	(43,989,219)	(2,845,171)	(44,338,474)	(2,930,526)	(0.025%)
(Gain)/Loss in 2011	6/30/2011	26	23,092,238	1,463,545	23,306,720	1,507,451	0.013%
(Gain)/Loss	Various	28	306,686,920	18,730,616	310,268,123	19,292,535	0.167%
Payment (Gain)/Loss	Various	28	358,558,463	21,898,624	362,745,371	22,555,581	0.195%
(Gain)/Loss	6/30/2014	29	4,173,750,337	58,703,944	4,425,916,068	120,930,125	1.046%
(Gain)/Loss	6/30/2015	30	3,381,098,147	77,670,181	3,554,150,350	49,989,249	0.433%
Total			$29,751,145,525	$1,832,740,429	$30,082,255,718	$2,070,440,804	17.914%

Schedule of Amortization Bases for the Retirement Program (Continued)

State Industrial

Reason for Base	Date Established	Remaining Amortization Period	Balance on 6/30/2015	Expected Payment in 2015-16	Amount Remaining on 6/30/2016	Scheduled Payment for Fiscal Year 2016-17	Payment as Percentage of Payroll
Assumption Change	6/30/2013	18	$165,081,368	$9,139,668	$167,986,261	$14,120,787	2.219%
Assumption Change	6/30/2011	16	63,695,587	5,351,144	62,924,572	5,511,678	0.866%
Assumption Change	6/30/2009	14	68,486,892	6,278,162	67,114,072	6,466,506	1.016%
New Rate Stabilization Policies	6/30/2004	9	(5,779,765)	(720,965)	(5,465,735)	(742,594)	(0.117%)
Actuarial Equivalent Reduction Benefits	6/30/2004	9	10,498,173	1,309,537	9,927,779	1,348,823	0.212%
Assumption Change	6/30/2003	8	77,592,737	10,542,022	72,481,991	10,858,283	1.706%
(Gain)/Loss in 2009	6/30/2009	24	39,376,568	2,602,572	39,631,407	2,680,649	0.421%
(Gain)/Loss in 2010	6/30/2010	25	5,374,696	347,629	5,417,369	358,058	0.056%
(Gain)/Loss in 2011	6/30/2011	26	(7,227,820)	(458,086)	(7,294,953)	(471,829)	(0.074%)
(Gain)/Loss	Various	28	94,674,321	5,782,145	95,779,839	5,955,610	0.936%
Payment (Gain)/Loss	Various	28	(1,429,687)	(87,316)	(1,446,382)	(89,936)	(0.014%)
(Gain)/Loss	6/30/2014	29	130,555,887	1,836,273	138,443,690	3,782,722	0.594%
(Gain)/Loss	6/30/2015	30	143,630,797	4,803,249	149,422,992	2,101,640	0.330%
Total			$784,529,754	$46,726,034	$794,922,902	$51,880,397	8.152%

State Safety

Reason for Base	Date Established	Remaining Amortization Period	Balance on 6/30/2015	Expected Payment in 2015-16	Amount Remaining on 6/30/2016	Scheduled Payment for Fiscal Year 2016-17	Payment as Percentage of Payroll
Assumption Change	6/30/2013	18	$523,070,385	$28,959,593	$532,274,719	$44,742,571	2.096%
Assumption Change	6/30/2011	16	174,714,054	14,677,941	172,599,195	15,118,279	0.708%
Assumption Change	6/30/2009	14	264,795,045	24,273,639	259,487,229	25,001,848	1.171%
New Rate Stabilization Policies	6/30/2004	9	(6,520,847)	(813,407)	(6,166,552)	(837,809)	(0.039%)
Assumption Change	6/30/2003	8	(2,813,518)	(382,254)	(2,628,202)	(393,722)	(0.018%)
Benefit Change (Arnett)	6/30/2002	7	84,637,093	12,679,197	77,838,804	13,059,573	0.612%
(Gain)/Loss in 2009	6/30/2009	24	148,192,244	9,794,683	149,151,319	10,088,523	0.473%
(Gain)/Loss in 2010	6/30/2010	25	(110,610,000)	(7,154,126)	(111,488,194)	(7,368,749)	(0.345%)
(Gain)/Loss in 2011	6/30/2011	26	(10,050,998)	(637,014)	(10,144,353)	(656,125)	(0.031%)
(Gain)/Loss	Various	28	817,751,577	49,943,413	827,300,513	51,441,715	2.409%
Payment (Gain)/Loss	Various	28	(42,383,845)	(2,588,554)	(42,878,763)	(2,666,210)	(0.125%)
(Gain)/Loss	6/30/2014	29	164,306,625	2,310,978	174,233,549	4,760,615	0.223%
(Gain)/Loss	6/30/2015	30	390,831,389	8,060,448	411,786,494	5,791,791	0.271%
Total			$2,395,919,204	$139,124,537	$2,431,365,755	$158,082,300	7.404%

Schedule of Amortization Bases for the Retirement Program (Continued)

State Peace Officers and Firefighters

Reason for Base	Date Established	Remaining Amortization Period	Balance on 6/30/2015	Expected Payment in 2015-16	Amount Remaining on 6/30/2016	Scheduled Payment for Fiscal Year 2016-17	Payment as Percentage of Payroll
Assumption Change	6/30/2013	18	$2,453,952,083	$135,862,121	$2,497,133,644	$209,906,977	6.294%
Assumption Change	6/30/2011	16	735,505,478	61,790,714	726,602,413	63,644,435	1.908%
Assumption Change	6/30/2009	14	686,798,272	62,958,478	673,031,403	64,847,233	1.944%
Benefit Change (SB 65)	6/30/2006	11	262,377,113	28,370,658	252,640,072	29,221,778	0.876%
New Rate Stabilization Policies	6/30/2004	9	(48,232,060)	(6,016,443)	(45,611,484)	(6,196,936)	(0.186%)
Benefit Change (SB 183)	6/30/2004	9	15,739,785	1,963,373	14,884,600	2,022,274	0.061%
Assumption Change	6/30/2003	8	303,916,121	41,291,112	283,898,294	42,529,846	1.275%
(Gain)/Loss in 2009	6/30/2009	24	369,180,625	24,400,785	371,569,900	25,132,809	0.754%
(Gain)/Loss in 2010	6/30/2010	25	43,643,349	2,822,801	43,989,858	2,907,485	0.087%
(Gain)/Loss in 2011	6/30/2011	26	293,521,802	18,602,891	296,248,049	19,160,978	0.575%
(Gain)/Loss	Various	28	4,542,906,046	277,453,737	4,595,953,842	285,777,349	8.569%
Payment (Gain)/Loss	Various	28	(2,515,492)	(153,631)	(2,544,866)	(158,240)	(0.005%)
(Gain)/Loss	6/30/2014	29	1,428,752,517	20,095,454	1,515,073,546	41,396,635	1.241%
(Gain)/Loss	6/30/2015	30	1,334,946,001	11,442,576	1,423,203,035	20,017,400	0.600%
Total			$12,420,491,640	$680,884,626	$12,646,072,307	$800,210,022	23.995%

Schedule of Amortization Bases for the Retirement Program (Continued)

California Highway Patrol

Reason for Base	Date Established	Remaining Amortization Period	Balance on 6/30/2015	Expected Payment in 2015-16	Amount Remaining on 6/30/2016	Scheduled Payment for Fiscal Year 2016-17	Payment as Percentage of Payroll
Assumption Change	6/30/2013	18	$872,475,182	$48,304,256	$887,827,902	$74,630,076	8.762%
Assumption Change	6/30/2011	16	190,717,130	16,022,379	188,408,559	16,503,050	1.937%
Assumption Change	6/30/2009	14	167,896,827	15,391,024	164,531,336	15,852,755	1.861%
Benefit Change (AB 2936)	6/30/2008	13	(198,842,962)	(19,158,714)	(193,892,007)	(19,733,475)	(2.317%)
Benefit Change (SB 439)	6/30/2005	10	154,795,782	17,904,555	147,841,628	18,441,691	2.165%
New Rate Stabilization Policies	6/30/2004	9	(16,447,889)	(2,051,701)	(15,554,232)	(2,113,253)	(0.248%)
Assumption Change	6/30/2003	8	49,918,080	6,782,046	46,630,161	6,985,507	0.820%
Benefit Change (SB 1801)	6/30/2003	8	7,908,447	1,074,469	7,387,547	1,106,704	0.130%
Benefit Change (Arnett)	6/30/2002	7	1,572,597	235,585	1,446,282	242,653	0.028%
Benefit Change (AB 2621)	6/30/2001	6	2,073,857	347,946	1,868,638	358,384	0.042%
(Gain)/Loss Prior to 2009	Various	22	1,559,065,142	108,091,656	1,563,923,213	111,334,405	13.071%
(Gain)/Loss in 2009	6/30/2009	24	298,887,753	19,754,817	300,822,104	20,347,462	2.389%
(Gain)/Loss in 2010	6/30/2010	25	99,249,499	6,419,342	100,037,496	6,611,922	0.776%
(Gain)/Loss in 2011	6/30/2011	26	(43,760,741)	(2,773,478)	(44,167,193)	(2,856,682)	(0.335%)
(Gain)/Loss	Various	28	212,835,747	12,998,744	215,321,043	13,388,706	1.572%
Payment (Gain)/Loss	Various	28	(20,499,258)	(1,251,973)	(20,738,629)	(1,289,532)	(0.151%)
(Gain)/Loss	6/30/2014	29	412,791,307	5,805,924	437,730,945	11,960,203	1.404%
(Gain)/Loss	6/30/2015	30	456,143,371	8,849,865	481,178,389	6,767,791	0.795%
Total			$4,206,779,871	$242,746,742	$4,270,603,182	$278,538,368	32.701%

Gain and Loss Analysis

STATE MISCELLANEOUS

A.	**Total (Gain)/Loss for the Year**		
	1.	Unfunded Liability/(Surplus) as of June 30, 2014	$26,083,803,305
	2.	Expected Payment on the Unfunded Liability during 2014-15	1,610,730,738
	3.	Interest through June 30, 2015 [0.075 x (A1) – ((1+ 0.075)½ – 1) x (A2)]	1,896,974,812
	4.	Expected Unfunded Liability as of June 30, 2015 after all changes [(A1)–(A2)+(A3)]	$26,370,047,379
	5.	Change due to Plan changes	0
	6.	Change due to assumption change	0
	7.	Expected Unfunded Liability after all other changes [(A4) + (A5) + (A6)]	$26,370,047,379
	8.	Actual Unfunded Liability as of June 30, 2015	29,751,145,525
	9.	Total (Gain)/Loss for 2014-15 [(A8) – (A7)]	$3,381,098,146
B.	**Contribution (Gain)/Loss for the Year**		
	1.	Expected Contribution for 2014-15	$3,234,202,326
	2.	Actual Contribution for 2014-15	3,402,982,903
	3.	Contribution (Gain)/Loss for 2014-15 [(B1) – (B2)]	$(168,780,577)
C.	**Asset (Gain)/Loss for the Year**		
	1.	Market Value of Assets as of June 30, 2014	$68,358,591,216
	2.	Receivables as of June 30, 2014	(363,796,141)
	3.	Receivables as of June 30, 2015	336,243,026
	4.	Contributions Received during 2014-15	3,402,982,903
	5.	Benefits and Refunds Paid during 2014-15	(5,098,222,002)
	6.	Transfers In/Out 2014-15	(353,810)
	7.	Expected Interest for 2014-15 [0.075 x (C1 + C2) + ((1+0.075)½ – 1) x ((C4) + (C5)+(C6))]	5,037,174,394
	8.	Expected Assets as of June 30, 2015 [(C1) + (C2) + (C3) + (C4) + (C5) + (C6) + (C7)]	$71,672,619,586
	9.	Actual Market Value of Assets as of June 30, 2015	68,080,012,254
	10.	Asset (Gain)/Loss for 2014-15 [(C8) – (C9)]	$3,592,607,332
D.	**Liability (Gain)/Loss for the Year**		
	1.	Total (Gain)/Loss for 2014-15 (A9)	$3,381,098,146
	2.	Contribution (Gain)/Loss for 2014-15 (B3)	(168,780,577)
	3.	Asset (Gain)/Loss for 2014-15 (C10)	3,592,607,332
	4.	Liability (Gain)/Loss for 2014-15 [(D1) – (D2) – (D3)]	$(42,728,609)

Gain and Loss Analysis (Continued)

STATE INDUSTRIAL

A.	**Total (Gain)/Loss for the Year**		
	1.	Unfunded Liability/(Surplus) as of June 30, 2014	$632,778,333
	2.	Expected Payment on the Unfunded Liability during 2014-15	37,940,695
	3.	Interest through June 30, 2015 [0.075 x (A1) – ((1+ 0.075)½ – 1) x (A2)]	46,061,320
	4.	Expected Unfunded Liability as of June 30, 2015 after all changes [(A1)–(A2)+(A3)]	$640,898,958
	5.	Change due to Plan changes	0
	6.	Change due to assumption change	0
	7.	Expected Unfunded Liability after all other changes [(A4) + (A5) + (A6)]	$640,898,958
	8.	Actual Unfunded Liability as of June 30, 2015	784,529,754
	9.	Total (Gain)/Loss for 2014-15 [(A8) – (A7)]	$143,630,796
B.	**Contribution (Gain)/Loss for the Year**		
	1.	Expected Contribution for 2014-15	$140,236,709
	2.	Actual Contribution for 2014-15	157,263,989
	3.	Contribution (Gain)/Loss for 2014-15 [(B1) – (B2)]	$(17,027,280)
C.	**Asset (Gain)/Loss for the Year**		
	1.	Market Value of Assets as of June 30, 2014	$2,825,325,889
	2.	Receivables as of June 30, 2014	(15,870,723)
	3.	Receivables as of June 30, 2015	15,085,562
	4.	Contributions Received during 2014-15	157,263,989
	5.	Benefits and Refunds Paid during 2014-15	(157,028,699)
	6.	Transfers In/Out 2014-15	29,867
	7.	Expected Interest for 2014-15 [0.075 x (C1 + C2) + ((1+0.075)½ – 1) x ((C4) + (C5)+(C6))]	210,718,901
	8.	Expected Assets as of June 30, 2015 [(C1) + (C2) + (C3) + (C4) + (C5) + (C6) + (C7)]	$3,035,524,786
	9.	Actual Market Value of Assets as of June 30, 2015	2,884,662,214
	10.	Asset (Gain)/Loss for 2014-15 [(C8) – (C9)]	$150,862,572
D.	**Liability (Gain)/Loss for the Year**		
	1.	Total (Gain)/Loss for 2014-15 (A9)	$143,630,796
	2.	Contribution (Gain)/Loss for 2014-15 (B3)	(17,027,280)
	3.	Asset (Gain)/Loss for 2014-15 (C10)	150,862,572
	4.	Liability (Gain)/Loss for 2014-15 [(D1) – (D2) – (D3)]	$9,795,504

Gain and Loss Analysis (Continued)

STATE SAFETY

A.	**Total (Gain)/Loss for the Year**		
	1.	Unfunded Liability/(Surplus) as of June 30, 2014	$1,989,560,938
	2.	Expected Payment on the Unfunded Liability during 2014-15	128,942,271
	3.	Interest through June 30, 2015 [0.075 x (A1) – ((1+ 0.075)½ – 1) x (A2)]	144,469,149
	4.	Expected Unfunded Liability as of June 30, 2015 after all changes [(A1)–(A2)+(A3)]	$2,005,087,816
	5.	Change due to Plan changes	0
	6.	Change due to assumption change	0
	7.	Expected Unfunded Liability after all other changes [(A4) + (A5) + (A6)]	$2,005,087,816
	8.	Actual Unfunded Liability as of June 30, 2015	2,395,919,204
	9.	Total (Gain)/Loss for 2014-15 [(A8) – (A7)]	$390,831,388
B.	**Contribution (Gain)/Loss for the Year**		
	1.	Expected Contribution for 2014-15	$564,137,273
	2.	Actual Contribution for 2014-15	612,848,913
	3.	Contribution (Gain)/Loss for 2014-15 [(B1) – (B2)]	$(48,711,640)
C.	**Asset (Gain)/Loss for the Year**		
	1.	Market Value of Assets as of June 30, 2014	$7,561,646,144
	2.	Receivables as of June 30, 2014	(28,288,212)
	3.	Receivables as of June 30, 2015	23,866,179
	4.	Contributions Received during 2014-15	612,848,913
	5.	Benefits and Refunds Paid during 2014-15	(439,477,891)
	6.	Transfers In/Out 2014-15	499,238
	7.	Expected Interest for 2014-15 [0.075 x (C1 + C2) + ((1+0.075)½ – 1) x ((C4) + (C5)+(C6))]	571,404,107
	8.	Expected Assets as of June 30, 2015 [(C1) + (C2) + (C3) + (C4) + (C5) + (C6) + (C7)]	$8,302,498,478
	9.	Actual Market Value of Assets as of June 30, 2015	7,859,091,661
	10.	Asset (Gain)/Loss for 2014-15 [(C8) – (C9)]	$443,406,817
D.	**Liability (Gain)/Loss for the Year**		
	1.	Total (Gain)/Loss for 2014-15 (A9)	$390,831,388
	2.	Contribution (Gain)/Loss for 2014-15 (B3)	(48,711,640)
	3.	Asset (Gain)/Loss for 2014-15 (C10)	443,406,817
	4.	Liability (Gain)/Loss for 2014-15 [(D1) – (D2) – (D3)]	$(3,863,789)

Gain and Loss Analysis (Continued)

STATE PEACE OFFICERS AND FIREFIGHTERS

A.	**Total (Gain)/Loss for the Year**		
	1.	Unfunded Liability/(Surplus) as of June 30, 2014	$10,875,040,229
	2.	Expected Payment on the Unfunded Liability during 2014-15	583,632,067
	3.	Interest through June 30, 2015 [0.075 x (A1) – ((1+ 0.075)½ – 1) x (A2)]	794,137,478
	4.	Expected Unfunded Liability as of June 30, 2015 after all changes [(A1)–(A2)+(A3)]	$11,085,545,640
	5.	Change due to Plan changes	0
	6.	Change due to assumption change	0
	7.	Expected Unfunded Liability after all other changes [(A4) + (A5) + (A6)]	$11,085,545,640
	8.	Actual Unfunded Liability as of June 30, 2015	12,420,491,640
	9.	Total (Gain)/Loss for 2014-15 [(A8) – (A7)]	$1,334,946,000
B.	**Contribution (Gain)/Loss for the Year**		
	1.	Expected Contribution for 2014-15	$1,443,904,925
	2.	Actual Contribution for 2014-15	1,521,837,673
	3.	Contribution (Gain)/Loss for 2014-15 [(B1) – (B2)]	$(77,932,748)
C.	**Asset (Gain)/Loss for the Year**		
	1.	Market Value of Assets as of June 30, 2014	$26,591,349,889
	2.	Receivables as of June 30, 2014	(104,488,422)
	3.	Receivables as of June 30, 2015	91,582,365
	4.	Contributions Received during 2014-15	1,521,837,673
	5.	Benefits and Refunds Paid during 2014-15	(1,727,473,433)
	6.	Transfers In/Out 2014-15	193,917
	7.	Expected Interest for 2014-15 [0.075 x (C1 + C2) + ((1+0.075)½ – 1) x ((C4) + (C5)+(C6))]	1,978,949,817
	8.	Expected Assets as of June 30, 2015 [(C1) + (C2) + (C3) + (C4) + (C5) + (C6) + (C7)]	$28,351,951,806
	9.	Actual Market Value of Assets as of June 30, 2015	26,973,473,591
	10.	Asset (Gain)/Loss for 2014-15 [(C8) – (C9)]	$1,378,478,215
D.	**Liability (Gain)/Loss for the Year**		
	1.	Total (Gain)/Loss for 2014-15 (A9)	$1,334,946,000
	2.	Contribution (Gain)/Loss for 2014-15 (B3)	(77,932,748)
	3.	Asset (Gain)/Loss for 2014-15 (C10)	1,378,478,215
	4.	Liability (Gain)/Loss for 2014-15 [(D1) – (D2) – (D3)]	$34,400,533

Gain and Loss Analysis (Continued)

CALIFORNIA HIGHWAY PATROL

A.	**Total (Gain)/Loss for the Year**		
	1.	Unfunded Liability/(Surplus) as of June 30, 2014	$3,683,850,655
	2.	Expected Payment on the Unfunded Liability during 2014-15	202,062,589
	3.	Interest through June 30, 2015 [0.075 x (A1) – ((1+ 0.075)½ – 1) x (A2)]	268,848,437
	4.	Expected Unfunded Liability as of June 30, 2015 after all changes [(A1)–(A2)+(A3)]	$3,750,636,503
	5.	Change due to Plan changes	0
	6.	Change due to assumption change	0
	7.	Expected Unfunded Liability after all other changes [(A4) + (A5) + (A6)]	$3,750,636,503
	8.	Actual Unfunded Liability as of June 30, 2015	4,206,779,871
	9.	Total (Gain)/Loss for 2014-15 [(A8) – (A7)]	$456,143,368
B.	**Contribution (Gain)/Loss for the Year**		
	1.	Expected Contribution for 2014-15	$407,849,512
	2.	Actual Contribution for 2014-15	439,068,922
	3.	Contribution (Gain)/Loss for 2014-15 [(B1) – (B2)]	$(31,219,410)
C.	**Asset (Gain)/Loss for the Year**		
	1.	Market Value of Assets as of June 30, 2014	$6,645,481,580
	2.	Receivables as of June 30, 2014	(16,643,119)
	3.	Receivables as of June 30, 2015	13,949,650
	4.	Contributions Received during 2014-15	439,068,922
	5.	Benefits and Refunds Paid during 2014-15	(487,061,028)
	6.	Transfers In/Out 2014-15	(214,358)
	7.	Expected Interest for 2014-15 [0.075 x (C1 + C2) + ((1+0.075)½ – 1) x ((C4) + (C5)+(C6))]	495,387,823
	8.	Expected Assets as of June 30, 2015 [(C1) + (C2) + (C3) + (C4) + (C5) + (C6) + (C7)]	$7,089,969,470
	9.	Actual Market Value of Assets as of June 30, 2015	6,735,006,541
	10.	Asset (Gain)/Loss for 2014-15 [(C8) – (C9)]	$354,962,929
D.	**Liability (Gain)/Loss for the Year**		
	1.	Total (Gain)/Loss for 2014-15 (A9)	$456,143,368
	2.	Contribution (Gain)/Loss for 2014-15 (B3)	(31,219,410)
	3.	Asset (Gain)/Loss for 2014-15 (C10)	354,962,929
	4.	Liability (Gain)/Loss for 2014-15 [(D1) – (D2) – (D3)]	$132,399,849

Development of Group Term Life Insurance Contributions

		State Miscellaneous	State Industrial	State Safety	State Peace Officers and Firefighters	California Highway Patrol
1.	GTLI Market Value of Assets as of June 30, 2014	$11,750,911	$1,582,679	$912,683	$376,904	$137,281
2.	Contributions Received for GTLI During Fiscal Year 2014-15	1,574,038	514	1,199,660	1,456,723	315,033
3.	Benefits Paid for GTLI During Fiscal Year 2014-15	(3,172,717)	(194,855)	(770,261)	(621,525)	(30,000)
4.	Investment Return During Fiscal Year 2014-15	252,590	30,745	23,082	13,724	5,296
5.	GTLI Market Value of Assets as of June 30, 2015	$10,404,822	$1,419,083	$1,365,164	$1,225,826	$427,610
6.	Expected GTLI Benefit Payments for Fiscal Year 2015-16	$6,502,916	$377,133	$1,599,400	$1,826,362	$380,929
7.	Closed Group Projected Payroll for Fiscal Year 2015-16	$10,902,775,653	$609,872,391	$2,012,267,361	$3,204,083,341	$818,409,657
8.	Required GTLI Contribution Rate [(1.5 x (6) - (5), but not less than zero) / (7)]	0.000%	0.000%	0.051%	0.047%	0.018%
9.	Projected Payroll for Contributions	$11,557,852,654	$636,442,938	$2,134,956,387	$3,334,971,539	$851,771,971
10.	Required GTLI Contribution for Fiscal Year 2016-17* [(8) x (9)]	$0	$0	$1,088,828	$1,567,437	$153,319

* The Required GTLI Contribution for Miscellaneous Tier 1 and Tier 2 is divided equally between the two groups as a percentage of payroll.

Reconciliation of Employer Contribution Rates

Change in Normal Cost Rate from 2015-16 to 2016-17 for the Retirement Program

	State Miscellaneous		State	State	State Peace Officers and	California Highway
	Tier 1	Tier 2	Industrial	Safety	Firefighters	Patrol
2015-16 Normal Cost Rate	8.898%	8.219%	10.561%	11.578%	16.384%	16.148%
Effect of (Gain)/Loss	-0.166%	-0.038%	-0.348%	-0.280%	-0.150%	-0.148%
2016-17 Normal Cost Rate	8.732%	8.181%	10.213%	11.298%	16.234%	16.000%

Change in Unfunded Liability Amortization Rate from 2015-16 to 2016-17 for the Retirement Program

	State Miscellaneous		State	State	State Peace Officers and	California Highway
	Tier 1	Tier 2	Industrial	Safety	Firefighters	Patrol
2015-16 Rate to Amortize the Unfunded Liability	16.170%	16.170%	7.214%	6.432%	20.879%	29.206%
Effect of Progression of Amortization Bases	0.541%	0.541%	0.316%	0.113%	0.627%	0.725%
Effect of Ramp in of Change in Assumptions	1.433%	1.433%	0.833%	0.747%	2.136%	3.058%
Effect of (Gain)/Loss and Change in Payroll	-0.230%	-0.230%	-0.211%	0.112%	0.353%	-0.288%
2016-17 Rate to Amortize the Unfunded Liability	17.914%	17.914%	8.152%	7.404%	23.995%	32.701%

Reconciliation of Employer Contribution Rates (Continued)

Change in Group Term Life Rate from 2015-16 to 2016-17

	State Miscellaneous		State	State	State Peace Officers and	California Highway
	Tier 1	Tier 2	Industrial	Safety	Firefighters	Patrol
2015-16 Group Term Life Rate	0.000%	0.000%	0.000%	0.072%	0.075%	0.052%
Effect of (Gain)/Loss	0.000%	0.000%	0.000%	-0.021%	-0.028%	-0.034%
2016-17 Group Term Life Rate	0.000%	0.000%	0.000%	0.051%	0.047%	0.018%

Change in Total Rate from 2015-16 to 2016-17

	State Miscellaneous		State	State	State Peace Officers and	California Highway
	Tier 1	Tier 2	Industrial	Safety	Firefighters	Patrol
2015-16 Employer Rates	25.068%	24.389%	17.775%	18.082%	37.338%	45.406%
Effect of Progression of Amortization Bases	0.541%	0.541%	0.316%	0.113%	0.627%	0.725%
Effect of Ramp in of Change in Assumptions	1.433%	1.433%	0.833%	0.747%	2.136%	3.058%
Effect of (Gain)/Loss and Change in Payroll	-0.396%	-0.268%	-0.559%	-0.189%	0.175%	-0.470%
2016-17 Employer Rates	26.646%	26.095%	18.365%	18.753%	40.276%	48.719%

Reconciliation of Employer Contributions

Change in Normal Cost Contribution from 2015-16 to 2016-17 for the Retirement Program

	State Miscellaneous		State	State	State Peace Officers and	California Highway
	Tier 1	Tier 2	Industrial	Safety	Firefighters	Patrol
2015-16 Normal Cost Contribution	$940,480,064	$23,344,291	$61,369,879	$235,912,922	$525,313,063	$129,320,990
Effect of Change in Payroll	64,672,176	(1,854,175)	5,844,860	11,272,329	21,088,674	8,223,148
Effect of (Gain)/Loss	(18,751,998)	(99,357)	(2,214,822)	(5,977,878)	(5,002,457)	(1,260,623)
2016-17 Normal Cost Contribution	$986,400,242	$21,390,759	$64,999,917	$241,207,373	$541,399,280	$136,283,515

Change in Unfunded Liability Amortization Contribution from 2015-16 to 2016-17 for the Retirement Program

	State Miscellaneous		State	State	State Peace Officers and	California Highway
	Tier 1	Tier 2	Industrial	Safety	Firefighters	Patrol
2015-16 Amortization of the Unfunded Liability	$1,709,141,712	$45,928,535	$41,922,784	$131,064,089	$669,442,050	$233,896,877
Effect of Progression of Amortization Bases	117,322,434	(4,205,264)	3,149,044	6,312,230	40,781,580	12,997,008
Effect of Ramp in of Change in Assumptions	148,279,529	3,984,609	4,706,929	14,914,190	69,968,992	24,876,692
Effect of (Gain)/Loss	48,858,362	1,130,887	2,101,640	5,791,791	20,017,400	6,767,791
2016-17 Amortization of the Unfunded Liability	$2,023,602,037	$46,838,767	$51,880,397	$158,082,300	$800,210,022	$278,538,368

Reconciliation of Employer Contributions (Continued)

Change in Group Term Life Contribution from 2015-16 to 2016-17

	State Miscellaneous Tier 1	State Miscellaneous Tier 2	State Industrial	State Safety	State Peace Officers and Firefighters	California Highway Patrol
2015-16 Group Term Life Contribution	$0	$0	$0	$1,467,069	$2,404,692	$416,441
Effect of Change in Payroll	0	0	0	70,099	96,536	26,480
Effect of (Gain)/Loss	0	0	0	(448,340)	(933,791)	(289,602)
2016-17 Group Term Life Contribution	$0	$0	$0	$1,088,828	$1,567,437	$153,319

Change in Total Contribution from 2015-16 to 2016-17

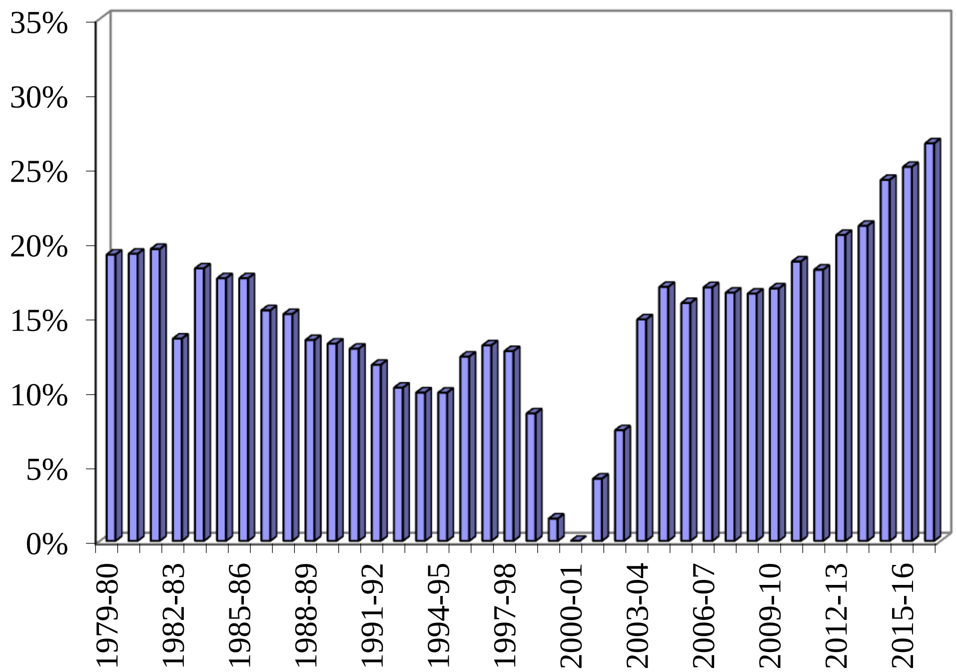
	State Miscellaneous Tier 1	State Miscellaneous Tier 2	State Industrial	State Safety	State Peace Officers and Firefighters	California Highway Patrol
2015-16 Employer Contribution	$2,649,621,776	$69,272,826	$103,292,663	$368,444,080	$1,197,159,805	$363,634,308
Effect of Change in Payroll and Progression of Amortization Bases	181,994,610	(6,059,439)	8,993,904	17,654,658	61,966,790	21,246,636
Effect of Ramp in of Change in Assumptions	148,279,529	3,984,609	4,706,929	14,914,190	69,968,992	24,876,692
Effect of (Gain)/Loss	30,106,364	1,031,530	(113,182)	(634,427)	14,081,152	5,217,566
2016-17 Employer Contribution	$3,010,002,279	$68,229,526	$116,880,314	$400,378,501	$1,343,176,739	$414,975,202

Employer Contribution Rate History

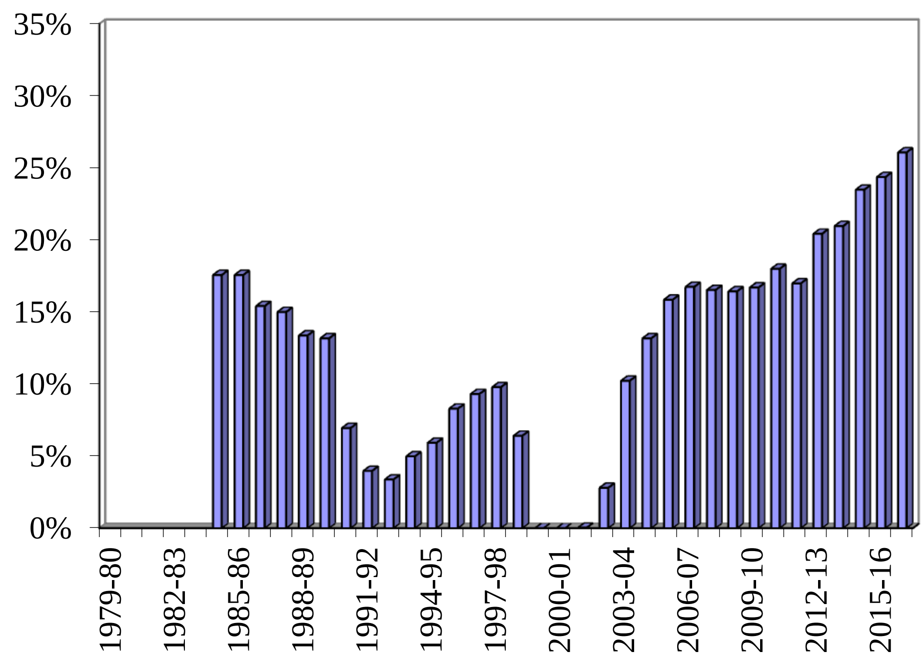
The table below provides a history of the contribution rates for the various State plans. In cases where the contribution rate changed during the course of a fiscal year, the entry shown is the weighted average of the rates effective during the fiscal year.

Fiscal Year	State Miscellaneous Tier 1	State Miscellaneous Tier 2	State Industrial	State Safety	State Peace Officers and Firefighters	California Highway Patrol
1979-80	19.188%		20.040%	20.106%		31.373%
1980-81	19.247%		20.047%	20.145%		31.440%
1981-82	19.563%		20.263%	20.409%		31.995%
1982-83	13.559%		15.013%	16.381%		19.555%
1983-84	18.262%		18.884%	20.615%		24.306%
1984-85	17.604%	17.604%	19.976%	20.518%		25.292%
1985-86	17.604%	17.604%	19.749%	20.518%	24.310%	24.868%
1986-87	15.450%	15.450%	16.638%	22.522%	20.578%	22.150%
1987-88	15.202%	15.038%	15.332%	19.229%	17.171%	20.859%
1988-89	13.464%	13.413%	16.626%	17.296%	16.431%	18.453%
1989-90	13.224%	13.218%	16.783%	17.424%	16.200%	18.318%
1990-91	12.878%	6.975%	16.720%	17.916%	15.702%	18.090%
1991-92	11.804%	3.986%	13.399%	17.376%	17.386%	21.721%
1992-93	10.266%	3.391%	11.995%	15.698%	15.560%	17.074%
1993-94	9.939%	5.005%	11.765%	15.485%	15.202%	16.940%
1994-95	9.934%	5.947%	10.597%	13.927%	12.817%	15.552%
1995-96	12.350%	8.326%	8.981%	14.228%	14.350%	14.778%
1996-97	13.106%	9.345%	9.260%	14.656%	15.401%	15.851%
1997-98	12.721%	9.822%	9.048%	13.754%	15.270%	15.515%
1998-99	8.541%	6.437%	4.583%	9.440%	9.591%	13.541%
1999-00	1.491%	0.000%	0.026%	7.487%	0.000%	13.345%
2000-01	0.000%	0.000%	0.026%	6.808%	2.729%	13.711%
2001-02	4.166%	0.036%	0.350%	12.923%	9.638%	16.897%
2002-03	7.413%	2.813%	2.858%	17.055%	13.925%	23.076%
2003-04	14.843%	10.265%	11.099%	21.930%	20.325%	32.653%
2004-05	17.022%	13.216%	16.386%	20.773%	23.841%	33.434%
2005-06	15.942%	15.890%	17.147%	19.026%	23.563%	26.396%
2006-07	16.997%	16.778%	17.861%	19.294%	24.505%	31.463%
2007-08	16.633%	16.565%	17.345%	18.835%	25.552%	32.212%
2008-09	16.574%	16.470%	17.236%	18.411%	26.064%	32.149%
2009-10	16.917%	16.737%	17.251%	18.099%	25.848%	28.438%
2010-11	18.725%	18.032%	16.433%	18.187%	28.722%	31.291%
2011-12	18.175%	17.025%	14.934%	16.428%	27.415%	31.264%
2012-13	20.503%	20.457%	16.302%	17.503%	30.297%	33.728%
2013-14	21.121%	20.992%	15.682%	17.205%	30.495%	34.616%
2014-15	24.198%	23.510%	17.286%	18.156%	35.180%	42.175%
2015-16	25.068%	24.389%	17.775%	18.082%	37.338%	45.406%
2016-17	26.646%	26.095%	18.365%	18.753%	40.276%	48.719%

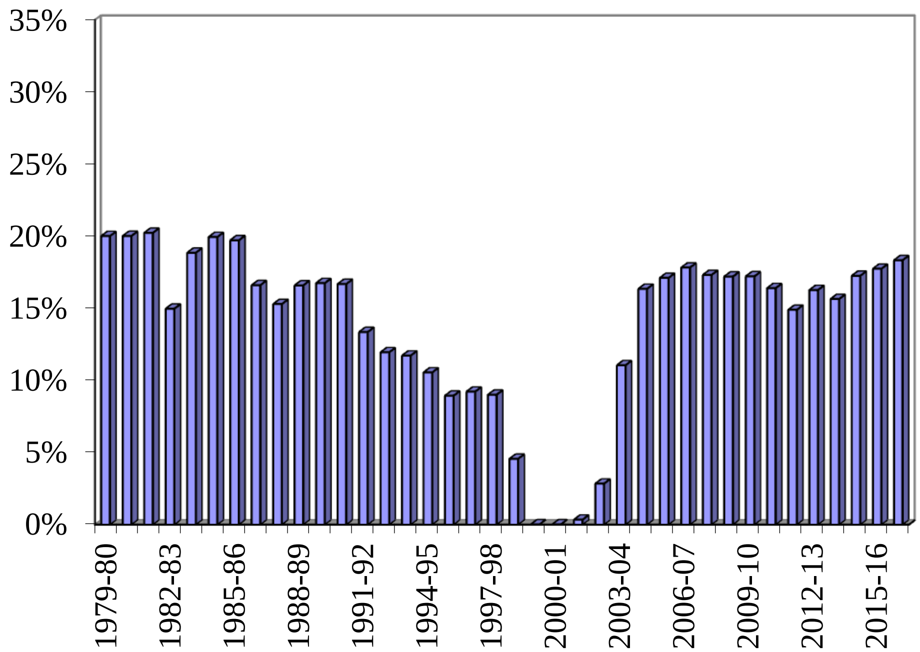
State Miscellaneous Tier 1 Rates



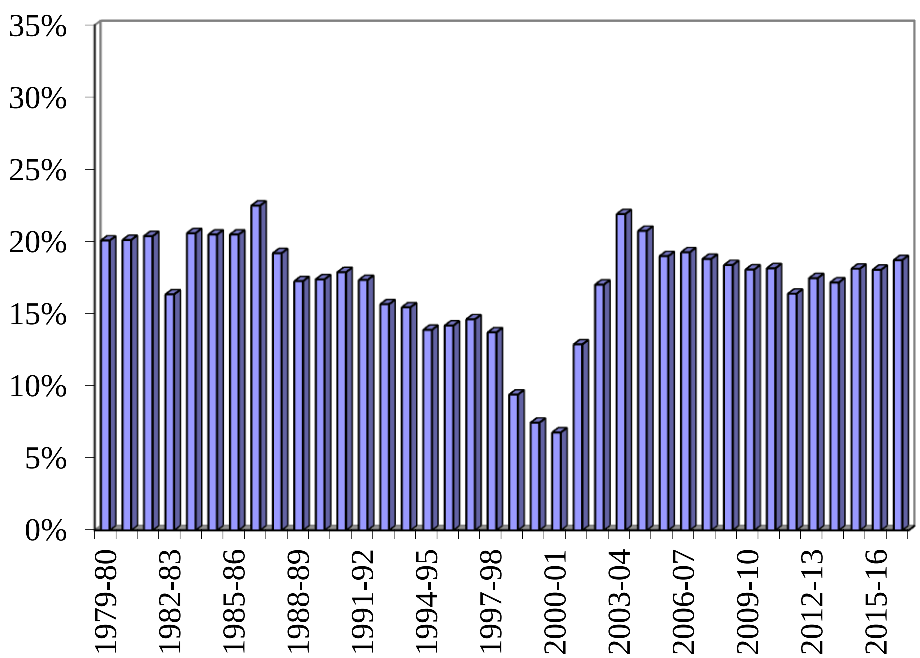
State Miscellaneous Tier 2 Rates



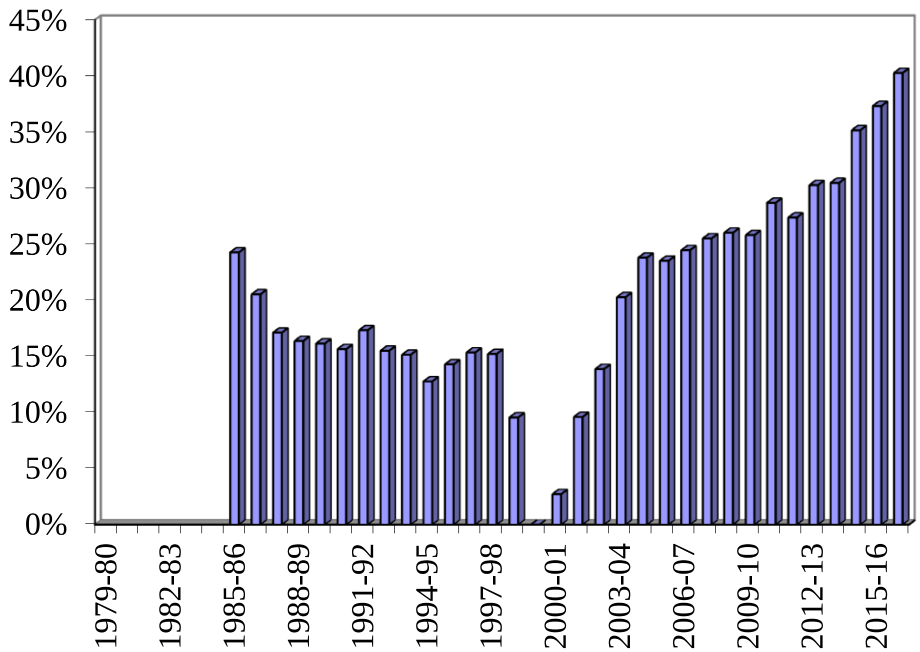
State Industrial Rates



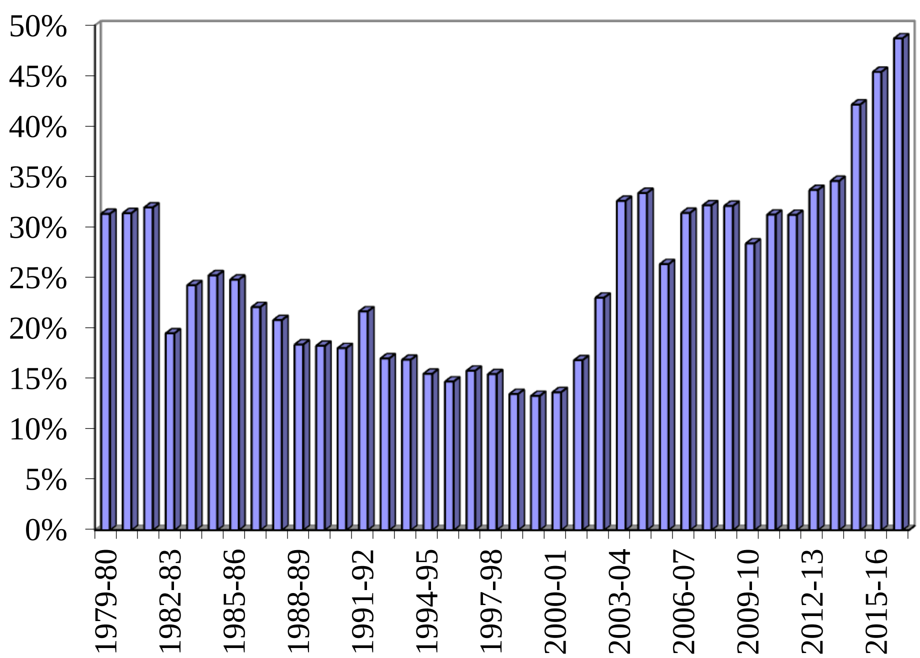
State Safety Rates



State Peace Officers and Firefighters Rates



California Highway Patrol Rates



History of Funded Status and Funding Progress

Shown below is the history of funding progress for the plans. One could view the trend in the ratio of the unfunded liability to covered payroll as a measure of the ability of the employer to address the unfunded liability.

State Miscellaneous

(Dollars in Millions)

Valuation Date	Actuarial Accrued Liabilities	Market Value of Assets (MVA)	Funded Status (MVA)	Unfunded Liabilities/ (Surplus) (MVA)	Projected Payroll for Contribution	Unfunded/ (Surplus) as a % of Payroll
6/30/87	$17,216.59	$14,341.10	83.3%	$2,875.49	$4,632.96	62.1%
6/30/88	18,551.55	14,534.21	78.3%	4,017.34	4,912.26	81.8%
6/30/89	19,971.99	17,132.13	85.8%	2,839.87	5,348.02	53.1%
6/30/90	22,441.71	16,026.60	71.4%	6,415.10	5,815.86	110.3%
6/30/91	23,152.67	22,441.42	96.9%	711.24	6,302.82	11.3%
6/30/92	24,887.16	22,978.69	92.3%	1,908.47	6,242.74	30.6%
6/30/93	26,162.26	24,714.91	94.5%	1,447.35	6,310.21	22.9%
6/30/94	27,820.55	24,278.25	87.3%	3,542.30	6,826.52	51.9%
6/30/95	29,959.51	27,087.75	90.4%	2,871.76	7,009.46	41.0%
6/30/96	31,742.11	30,451.89	95.9%	1,290.22	6,881.12	18.8%
6/30/97	32,557.43	35,958.74	110.4%	(3,401.31)	6,623.62	-51.4%
6/30/98	34,169.38	42,011.09	122.9%	(7,841.72)	6,592.21	-119.0%
6/30/99	35,771.22	46,176.43	129.1%	(10,405.22)	7,332.11	-141.9%
6/30/00	42,386.05	49,207.61	116.1%	(6,821.57)	8,246.46	-82.7%
6/30/01	45,261.49	43,933.20	97.1%	1,328.30	8,815.88	15.1%
6/30/02	48,118.21	39,530.08	82.2%	8,588.13	9,238.43	93.0%
6/30/03	51,558.91	39,324.37	76.3%	12,234.54	9,207.49	132.9%
6/30/04	54,700.51	45,459.67	83.1%	9,240.84	9,078.96	101.8%
6/30/05	58,266.63	50,230.53	86.2%	8,036.10	8,896.91	90.3%
6/30/06	61,298.78	55,050.67	89.8%	6,248.11	8,956.47	69.8%
6/30/07	65,341.72	64,441.85	98.6%	899.87	9,529.56	9.4%
6/30/08	69,647.97	59,978.56	86.1%	9,669.41	10,241.26	94.4%
6/30/09	74,762.62	44,093.66	59.0%	30,668.96	10,464.95	293.1%
6/30/10	76,980.43	48,645.91	63.2%	28,334.52	10,514.72	269.5%
6/30/11	81,271.09	57,451.96	70.7%	23,819.13	10,426.12	228.5%
6/30/12	83,523.53	55,371.26	66.3%	28,152.27	10,253.74	274.6%
6/30/13	90,277.02	60,029.03	66.5%	30,248.00	10,014.03	302.1%
6/30/14	94,442.39	68,358.59	72.4%	26,083.80	10,853.60	240.3%
6/30/15	$97,831.16	$68,080.01	69.6%	$29,751.15	$11,557.85	257.4%

History of Funded Status and Funding Progress (Continued)

State Industrial

(Dollars in Millions)

Valuation Date	Actuarial Accrued Liabilities	Market Value of Assets (MVA)	Funded Status (MVA)	Unfunded Liabilities/ (Surplus) (MVA)	Projected Payroll for Contribution	Unfunded/ (Surplus) as a % of Payroll
6/30/87	$315.86	$350.09	110.8%	($34.22)	$146.17	-23.4%
6/30/88	344.81	347.47	100.8%	(2.66)	166.90	-1.6%
6/30/89	386.48	405.87	105.0%	(19.39)	191.17	-10.1%
6/30/90	459.94	401.13	87.2%	58.81	224.06	26.2%
6/30/91	492.36	579.06	117.6%	(86.71)	256.41	-33.8%
6/30/92	539.59	609.95	113.0%	(70.36)	268.41	-26.2%
6/30/93	596.89	667.52	111.8%	(70.63)	278.37	-25.4%
6/30/94	618.92	665.17	107.5%	(46.25)	235.06	-19.7%
6/30/95	659.45	750.80	113.9%	(91.35)	270.74	-33.7%
6/30/96	721.31	861.49	119.4%	(140.18)	293.77	-47.7%
6/30/97	740.68	1,042.38	140.7%	(301.69)	284.64	-106.0%
6/30/98	789.88	1,226.17	155.2%	(436.29)	296.55	-147.1%
6/30/99	880.05	1,359.58	154.5%	(479.53)	343.75	-139.5%
6/30/00	1,078.75	1,463.21	135.6%	(384.45)	379.44	-101.3%
6/30/01	1,196.07	1,325.06	110.8%	(128.99)	390.17	-33.1%
6/30/02	1,294.63	1,199.71	92.7%	94.92	389.72	24.4%
6/30/03	1,462.07	1,200.75	82.1%	261.32	381.30	68.5%
6/30/04	1,601.67	1,414.67	88.3%	187.01	377.65	49.5%
6/30/05	1,753.85	1,586.13	90.4%	167.72	379.50	44.2%
6/30/06	1,870.23	1,776.30	95.0%	93.93	381.08	24.6%
6/30/07	2,043.85	2,119.42	103.7%	(75.56)	440.39	-17.2%
6/30/08	2,234.92	2,033.97	91.0%	200.95	521.55	38.5%
6/30/09	2,467.30	1,555.77	63.1%	911.53	573.82	158.9%
6/30/10	2,614.48	1,784.90	68.3%	829.58	615.81	134.7%
6/30/11	2,831.50	2,179.95	77.0%	651.54	616.15	105.7%
6/30/12	2,968.40	2,168.10	73.0%	800.30	578.31	138.4%
6/30/13	3,236.22	2,417.77	74.7%	818.45	532.35	153.7%
6/30/14	3,458.10	2,825.33	81.7%	632.78	581.10	108.9%
6/30/15	$3,669.19	$2,884.66	78.6%	$784.53	$636.44	123.3%

History of Funded Status and Funding Progress (Continued)

State Safety

(Dollars in Millions)

Valuation Date	Actuarial Accrued Liabilities	Market Value of Assets (MVA)	Funded Status (MVA)	Unfunded Liabilities/ (Surplus) (MVA)	Projected Payroll for Contribution	Unfunded/ (Surplus) as a % of Payroll
6/30/87	$349.50	$387.09	110.8%	($37.59)	$112.68	-33.4%
6/30/88	369.94	372.43	100.7%	(2.49)	133.51	-1.9%
6/30/89	420.00	440.28	104.8%	(20.28)	184.89	-11.0%
6/30/90	498.73	425.64	85.3%	73.09	231.79	31.5%
6/30/91	548.01	636.70	116.2%	(88.70)	262.42	-33.8%
6/30/92	602.36	679.63	112.8%	(77.27)	262.99	-29.4%
6/30/93	644.22	721.61	112.0%	(77.39)	265.34	-29.2%
6/30/94	761.10	761.74	100.1%	(0.64)	385.40	-0.2%
6/30/95	913.75	936.36	102.5%	(22.61)	408.03	-5.5%
6/30/96	946.58	1,122.60	118.6%	(176.02)	473.79	-37.2%
6/30/97	1,086.00	1,403.64	129.2%	(317.64)	413.78	-76.8%
6/30/98	1,285.33	1,671.77	130.1%	(386.45)	510.51	-75.7%
6/30/99	1,363.94	1,927.29	141.3%	(563.35)	681.63	-82.6%
6/30/00	1,864.69	2,121.78	113.8%	(257.09)	759.19	-33.9%
6/30/01	2,179.43	1,999.67	91.8%	179.76	850.00	21.1%
6/30/02	2,476.47	1,925.90	77.8%	550.56	875.83	62.9%
6/30/03	2,788.06	2,049.31	73.5%	738.75	890.67	82.9%
6/30/04	3,087.45	2,508.66	81.3%	578.79	889.30	65.1%
6/30/05	3,472.58	2,999.91	86.4%	472.67	1,106.95	42.7%
6/30/06	3,906.96	3,486.19	89.2%	420.77	1,225.72	34.3%
6/30/07	4,467.41	4,341.68	97.2%	125.73	1,530.40	8.2%
6/30/08	5,146.24	4,364.99	84.8%	781.25	1,913.63	40.8%
6/30/09	6,005.61	3,514.11	58.5%	2,491.50	2,047.94	121.7%
6/30/10	6,435.65	4,196.17	65.2%	2,239.48	2,004.05	111.7%
6/30/11	7,224.28	5,389.52	74.6%	1,834.76	1,984.10	92.5%
6/30/12	7,827.25	5,524.39	70.6%	2,302.87	1,898.79	121.3%
6/30/13	8,833.76	6,326.95	71.6%	2,506.81	1,880.93	133.3%
6/30/14	9,551.21	7,561.65	79.2%	1,989.56	2,037.60	97.6%
6/30/15	$10,255.01	$7,859.09	76.6%	$2,395.92	$2,134.96	112.2%

History of Funded Status and Funding Progress (Continued)

State Peace Officers and Firefighters

(Dollars in Millions)

Valuation Date	Actuarial Accrued Liabilities	Market Value of Assets (MVA)	Funded Status (MVA)	Unfunded Liabilities/ (Surplus) (MVA)	Projected Payroll for Contribution	Unfunded/ (Surplus) as a % of Payroll
6/30/87	$2,046.60	$1,902.78	93.0%	$143.82	$791.32	18.2%
6/30/88	2,323.22	2,060.31	88.7%	262.91	892.79	29.4%
6/30/89	2,664.98	2,594.85	97.4%	70.13	1,001.85	7.0%
6/30/90	3,439.63	2,585.12	75.2%	854.51	1,150.54	74.3%
6/30/91	3,773.05	3,854.02	102.1%	(80.97)	1,319.96	-6.1%
6/30/92	4,193.43	4,232.07	100.9%	(38.63)	1,332.15	-2.9%
6/30/93	4,475.70	4,867.29	108.7%	(391.58)	1,347.85	-29.1%
6/30/94	4,883.90	5,031.67	103.0%	(147.77)	1,504.71	-9.8%
6/30/95	5,552.00	5,892.10	106.1%	(340.10)	1,592.42	-21.4%
6/30/96	6,128.81	6,860.00	111.9%	(731.19)	1,653.57	-44.2%
6/30/97	6,494.67	8,435.81	129.9%	(1,941.14)	1,409.62	-137.7%
6/30/98	7,015.67	10,321.52	147.1%	(3,305.85)	1,540.44	-214.6%
6/30/99	8,091.24	11,684.90	144.4%	(3,593.66)	2,017.76	-178.1%
6/30/00	10,720.41	12,667.55	118.2%	(1,947.13)	2,227.34	-87.4%
6/30/01	11,949.04	11,574.35	96.9%	374.70	2,303.58	16.3%
6/30/02	12,826.58	10,731.13	83.7%	2,095.45	2,406.97	87.1%
6/30/03	14,219.50	11,037.85	77.6%	3,181.65	2,506.75	126.9%
6/30/04	15,668.42	12,998.58	83.0%	2,669.85	2,603.55	102.5%
6/30/05	17,753.24	14,984.69	84.4%	2,768.54	2,860.33	96.8%
6/30/06	19,737.05	16,972.81	86.0%	2,764.24	3,057.73	90.4%
6/30/07	22,249.94	20,538.69	92.3%	1,711.25	3,420.18	50.0%
6/30/08	24,004.31	19,734.05	82.2%	4,270.26	3,588.76	119.0%
6/30/09	26,291.09	15,083.09	57.4%	11,208.00	3,591.82	312.0%
6/30/10	27,711.53	17,199.10	62.1%	10,512.44	3,454.76	304.3%
6/30/11	30,127.48	20,801.28	69.0%	9,326.20	3,393.39	274.8%
6/30/12	31,335.59	20,525.71	65.5%	10,809.88	3,131.60	345.2%
6/30/13	35,270.98	22,918.57	65.0%	12,352.41	3,087.25	400.1%
6/30/14	37,466.39	26,591.35	71.0%	10,875.04	3,206.26	339.2%
6/30/15	$39,393.97	$26,973.47	68.5%	$12,420.49	$3,334.97	372.4%

History of Funded Status and Funding Progress (Continued)

California Highway Patrol

(Dollars in Millions)

Valuation Date	Actuarial Accrued Liabilities	Market Value of Assets (MVA)	Funded Status (MVA)	Unfunded Liabilities/ (Surplus) (MVA)	Projected Payroll for Contribution	Unfunded/ (Surplus) as a % of Payroll
6/30/87	$1,196.54	$1,325.90	110.8%	($129.35)	$216.42	-59.8%
6/30/88	1,290.70	1,300.19	100.7%	(9.49)	226.20	-4.2%
6/30/89	1,414.86	1,483.64	104.9%	(68.79)	249.06	-27.6%
6/30/90	1,612.80	1,395.26	86.5%	217.54	271.01	80.3%
6/30/91	1,628.94	1,915.61	117.6%	(286.67)	287.52	-99.7%
6/30/92	1,732.68	1,956.27	112.9%	(223.60)	282.14	-79.2%
6/30/93	1,772.76	1,940.50	109.5%	(167.74)	278.84	-60.2%
6/30/94	1,970.53	1,968.32	99.9%	2.21	288.04	0.8%
6/30/95	2,133.61	2,206.59	103.4%	(72.98)	301.83	-24.2%
6/30/96	2,328.09	2,496.33	107.2%	(168.24)	343.47	-49.0%
6/30/97	2,620.57	2,911.76	111.1%	(291.18)	370.66	-78.6%
6/30/98	2,756.37	2,901.44	105.3%	(145.07)	366.98	-39.5%
6/30/99	2,983.40	3,249.25	108.9%	(265.84)	402.37	-66.1%
6/30/00	3,635.32	3,443.17	94.7%	192.15	433.10	44.4%
6/30/01	3,980.87	3,465.65	87.1%	515.22	455.09	113.2%
6/30/02	4,137.94	3,159.30	76.3%	978.64	461.05	212.3%
6/30/03	4,421.26	3,230.38	73.1%	1,190.87	475.73	250.3%
6/30/04	4,741.67	3,733.81	78.7%	1,007.86	508.61	198.2%
6/30/05	5,348.62	4,248.85	79.4%	1,099.77	546.14	201.4%
6/30/06	5,743.98	4,681.57	81.5%	1,062.41	556.30	191.0%
6/30/07	6,248.79	5,546.16	88.8%	702.63	613.03	114.6%
6/30/08	6,608.65	5,237.58	79.3%	1,371.08	674.69	203.2%
6/30/09	7,300.11	3,932.22	53.9%	3,367.89	733.57	459.1%
6/30/10	7,703.86	4,439.50	57.6%	3,264.37	767.42	425.4%
6/30/11	8,193.45	5,335.99	65.1%	2,857.46	779.98	366.4%
6/30/12	8,659.14	5,220.07	60.3%	3,439.07	772.83	445.0%
6/30/13	9,774.59	5,760.25	58.9%	4,014.34	766.80	523.5%
6/30/14	10,329.33	6,645.48	64.3%	3,683.85	800.85	460.0%
6/30/15	$10,941.79	$6,735.01	61.6%	$4,206.78	$851.77	493.9%

RISK ANALYSIS

- PROJECTED RATES
- ANALYSIS OF FUTURE INVESTMENT RETURN SCENARIOS
- ANALYSIS OF DISCOUNT RATE SENSITIVITY & GOVERNMENT CODE SECTION 20229
- VOLATILITY RATIOS

Projected Rates

The table below shows projected employer contribution rates for the next five fiscal years, assuming CalPERS earns 0 percent for fiscal year 2015-16 and 7.50 percent every fiscal year thereafter, and assuming that all other actuarial assumptions will be realized and no changes to assumptions, contributions, benefits, or funding will occur during the projection period. These projections take into account the positive impact PEPRA is expected to gradually have on the normal cost.

Plan	New Rate	Projected Future Employer Contribution Rates				
	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
State Miscellaneous Tier 1	26.646%	28.1%	29.5%	30.9%	31.8%	32.3%
State Miscellaneous Tier 2	26.095%	27.7%	29.3%	30.9%	31.9%	32.5%
State Industrial	18.365%	19.3%	20.2%	21.1%	21.7%	21.9%
State Safety	18.753%	19.1%	19.5%	19.9%	20.2%	20.3%
POFF	40.276%	42.0%	43.8%	45.5%	46.6%	47.1%
CHP	48.719%	50.9%	53.0%	55.2%	56.7%	57.3%

Analysis of Future Investment Return Scenarios

As part of this report, a sensitivity analysis was performed to determine the effects of various investment returns during fiscal years 2016-17, 2017-18 and 2018-19 on the 2018-19, 2019-20 and 2020-21 employer rates. The projected rates assume that all other actuarial assumptions will be realized and that no further changes to assumptions, contributions, benefits, or funding will occur. These projected rates also reflect that new hires will be entering into lower benefit formulas with a lower normal cost.

Five different investment return scenarios were selected.

- The first scenario is what one would expect if the markets were to give us a 5th percentile return from July 1, 2016 through June 30, 2019. The 5th percentile return corresponds to a -3.8 percent return for each of the 2016-17, 2017-18 and 2018-19 fiscal years.

- The second scenario is what one would expect if the markets were to give us a 25th percentile return from July 1, 2016 through June 30, 2019. The 25th percentile return corresponds to a 2.8 percent return for each of the 2016-17, 2017-18 and 2018-19 fiscal years.

- The third scenario assumed the return for 2016-17, 2017-18 and 2018-19 would be our assumed 7.5 percent investment return which represents about a 49th percentile event.

- The fourth scenario is what one would expect if the markets were to give us a 75th percentile return from July 1, 2016 through June 30, 2019. The 75th percentile return corresponds to a 12.0 percent return for each of the 2016-17, 2017-18 and 2018-19 fiscal years.

- Finally, the last scenario is what one would expect if the markets were to give us a 95th percentile return from July 1, 2016 through June 30, 2019. The 95th percentile return corresponds to an 18.9 percent return for each of the 2016-17, 2017-18 and 2018-19 fiscal years.

The tables below show the projected contribution rates for 2018-19 through 2020-21 for the various State Plans under the five different scenarios.

Estimated: 2018-19 Rates as a % of Payroll

	Investment Scenario				
	1st Scenario	2nd Scenario	3rd Scenario	4th Scenario	5th Scenario
Plan	**-3.8%**	**2.8%**	**7.50%**	**12.0%**	**18.9%**
State Miscellaneous Tier 1	30.4%	29.9%	29.5%	29.1%	28.4%
State Miscellaneous Tier 2	30.2%	29.7%	29.3%	28.7%	27.6%
State Industrial	20.9%	20.5%	20.2%	19.9%	19.5%
State Safety	20.1%	19.8%	19.5%	19.3%	18.9%
POFF	45.0%	44.3%	43.8%	43.2%	42.3%
CHP	54.3%	53.6%	53.0%	52.4%	51.5%

Estimated: 2019-20 Rates as a % of Payroll

	Investment Scenario				
	1st Scenario	2nd Scenario	3rd Scenario	4th Scenario	5th Scenario
Plan	**-3.8%**	**2.8%**	**7.50%**	**12.0%**	**18.9%**
State Miscellaneous Tier 1	33.5%	32.0%	30.9%	29.9%	28.4%
State Miscellaneous Tier 2	33.5%	32.0%	30.9%	29.4%	27.1%
State Industrial	23.2%	22.0%	21.1%	20.3%	19.3%
State Safety	21.7%	20.7%	19.9%	19.3%	18.4%
POFF	49.2%	47.1%	45.5%	44.1%	42.1%
CHP	58.9%	56.8%	55.2%	53.8%	51.7%

Estimated: 2020-21 Rates as a % of Payroll

	Investment Scenario				
	1st Scenario	2nd Scenario	3rd Scenario	4th Scenario	5th Scenario
Plan	**-3.8%**	**2.8%**	**7.50%**	**12.0%**	**18.9%**
State Miscellaneous Tier 1	36.9%	34.0%	31.8%	29.9%	27.0%
State Miscellaneous Tier 2	37.0%	34.1%	31.9%	29.4%	25.4%
State Industrial	25.8%	23.5%	21.7%	20.2%	18.2%
State Safety	23.7%	21.7%	20.2%	19.0%	17.4%
POFF	53.9%	49.8%	46.6%	44.0%	40.2%
CHP	63.8%	59.8%	56.7%	54.1%	50.3%

Analysis of Discount Rate Sensitivity & Government Code Section 20229

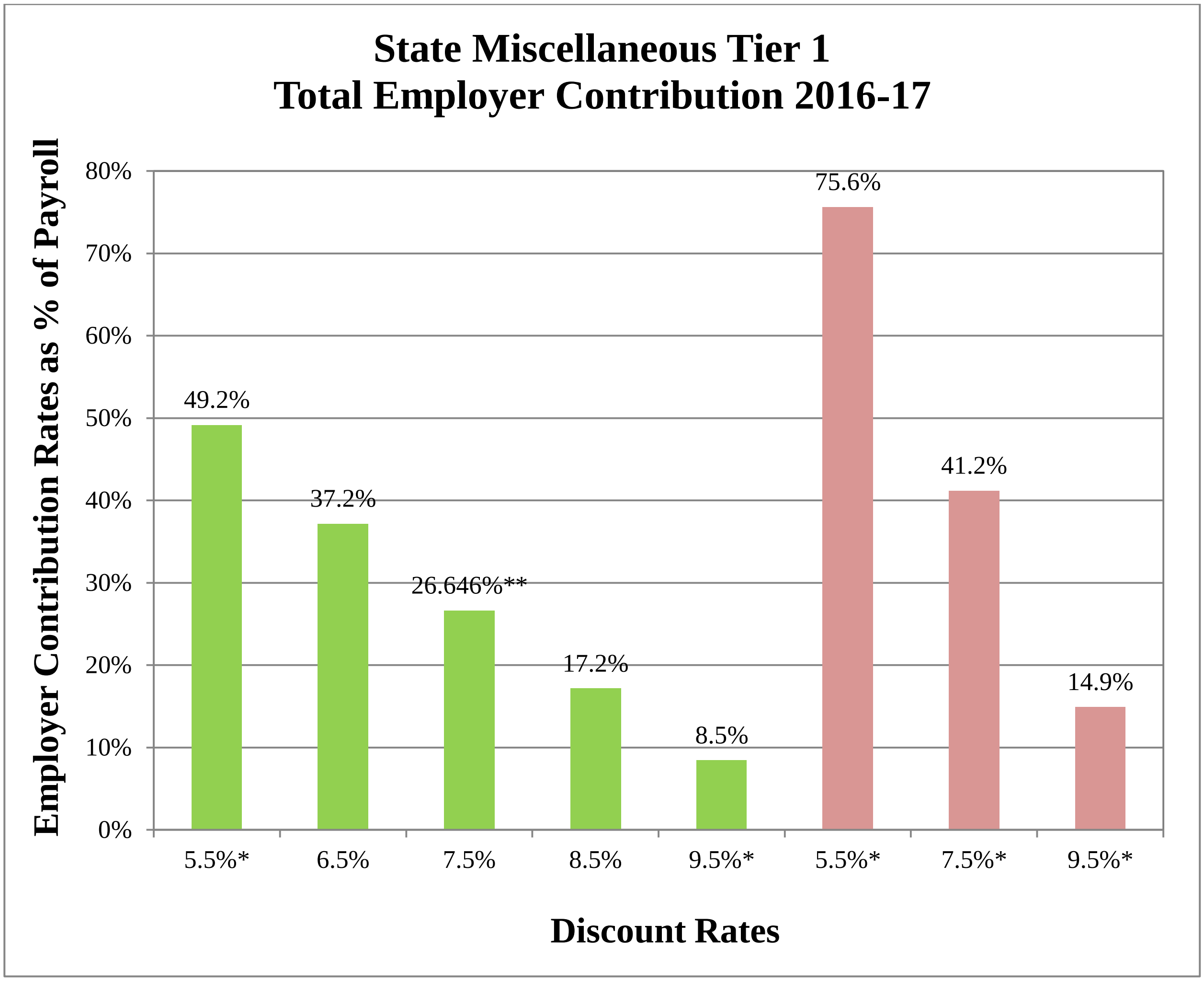
The discount rate reflects expectations of what the markets will deliver in the future and it is calculated based on two components: expected price inflation and real rate of return. A change in either of those components over the long term would necessitate further evaluation of the discount rate.

This section includes an analysis of discount rate sensitivity on employer contribution rates under two different discount rate scenarios. This type of analysis gives the reader a sense of the long-term risk to the employer contribution rates and changes to the funded status on a Market Value of Assets basis.

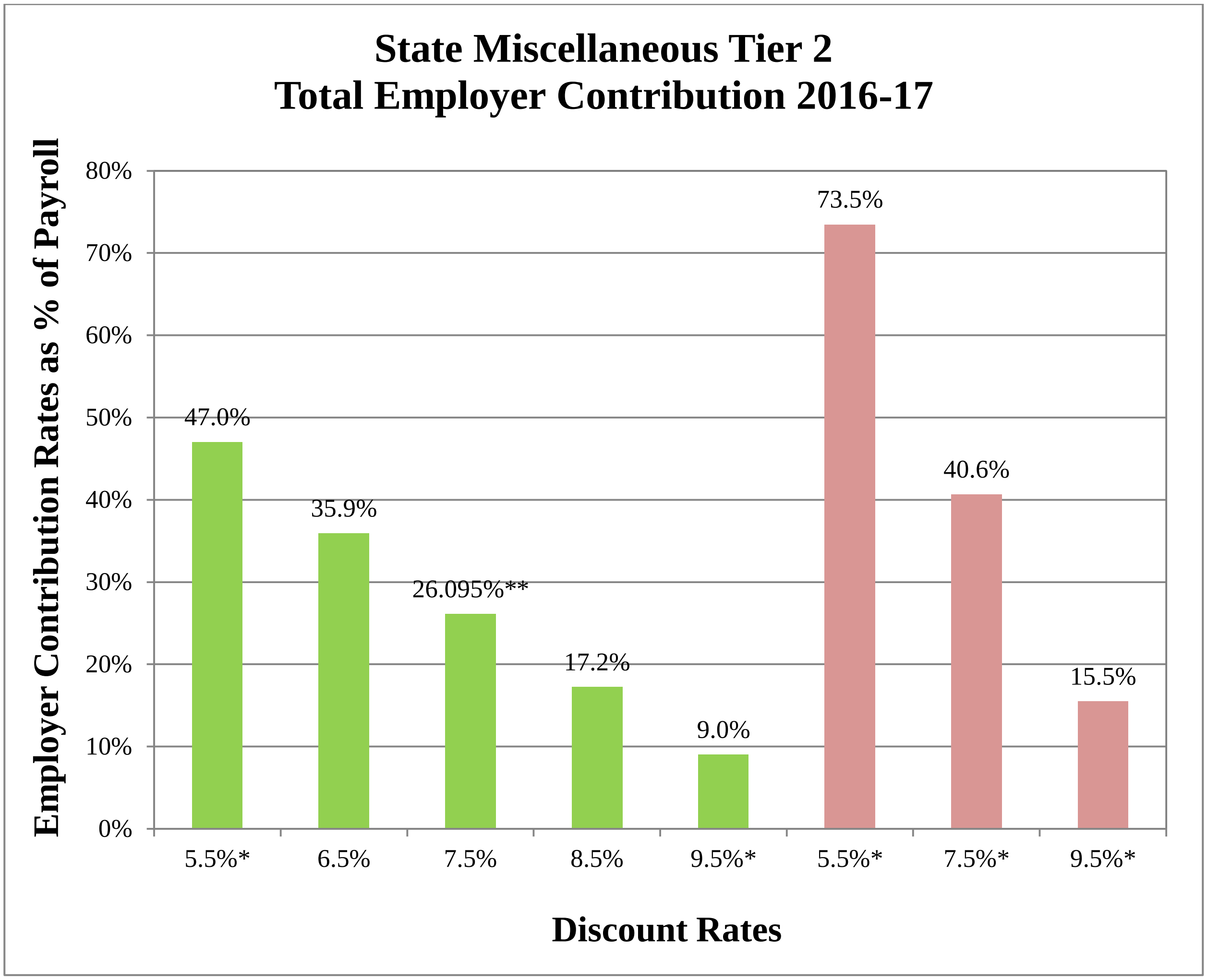
The first section shows the impact on employer contribution rates assuming discount rates that are 1 percentage point above and 1 percentage point below the current valuation discount rate and under current unfunded liability amortization methods. This analysis gives an indication of the potential required employer contribution rates if the discount rate was changed to 6.50 percent or 8.50 percent over the long-term.

The second section is in response to Government Code section 20229 which requires the CalPERS Board to provide an annual report which includes a calculation of the contribution rates and liabilities utilizing investment return and discount rate assumptions which are 2 percentage points above and 2 percentage points below the current investment return and discount rate assumptions utilized by the board, and a calculation of the rates based on an amortization period equal to the estimated average remaining service periods (EARSP) of the employees covered by the contributions. The results are presented for three different investment return assumptions (5.50 percent, 7.50 percent and 9.50 percent) for all the State plans. For comparison, contribution rates for the current fiscal year have been calculated using both the current amortization method and amortization over the estimated average remaining service periods of the employees covered by the contributions.

The results of the analysis are presented in three sections. The first section is a graphical representation of the impact on employer rates for both +/- 1 percent change in discount rate, and +/- 2 percent change in discount rate due to G.C. 20229. The second and third sections are the numeric representations. The reader may use the data points presented in the graph to estimate data points of interest using interpolation.



(green)	Analysis of discount rate sensitivity based on current amortization method (varies from 8 to 30 years) or normal cost if in a surplus position
(red)	Analysis of discount rate sensitivity based on amortization of UL over EARSP (10 years)
*	Required by Government Code Section 20229
**	Actuarially required contribution rate for 2016-17 adopted by the CalPERS Board



(green)	Analysis of discount rate sensitivity based on current amortization method (varies from 8 to 30 years) or normal cost if in a surplus position
(red)	Analysis of discount rate sensitivity based on amortization of UL over EARSP (10 years)
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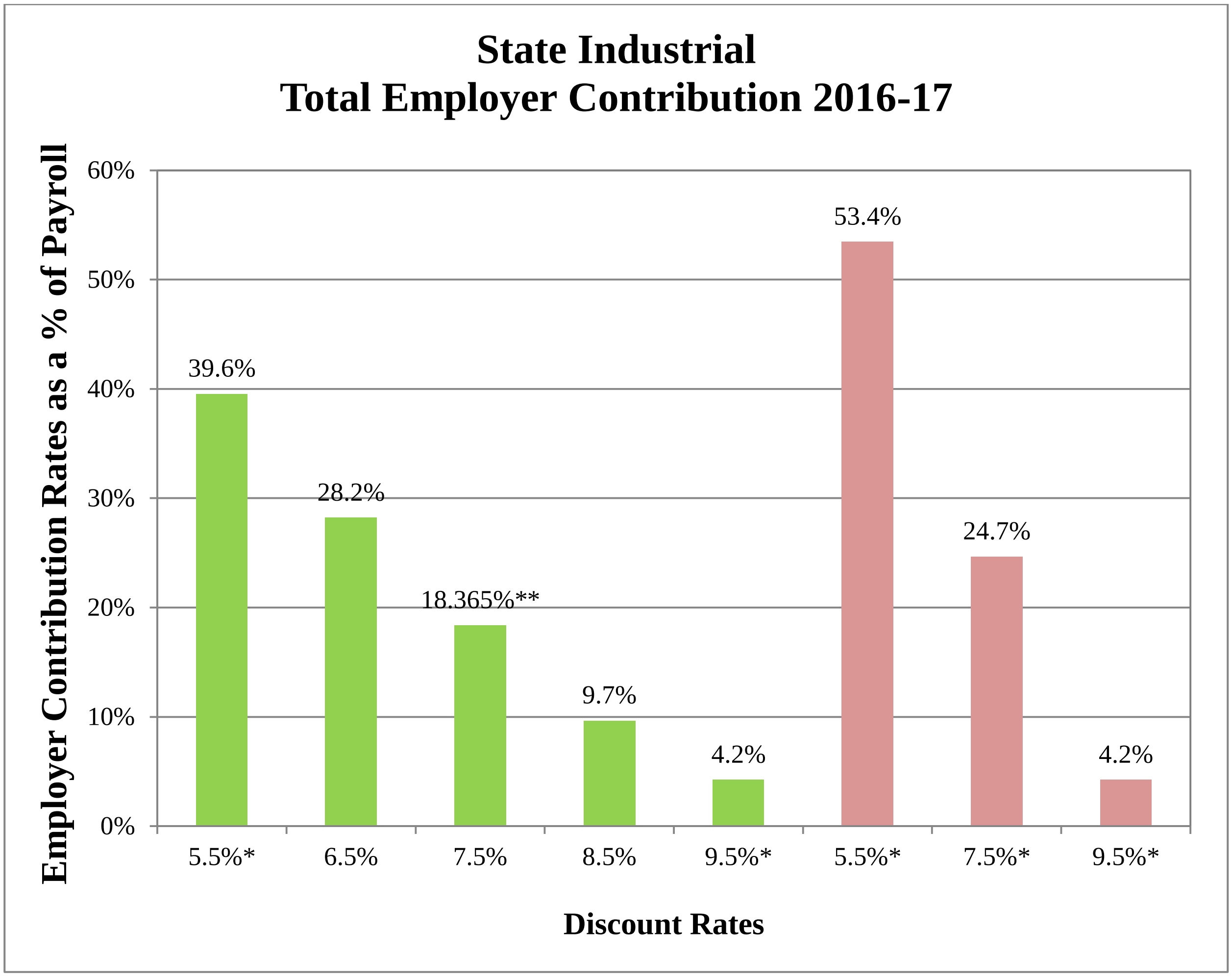
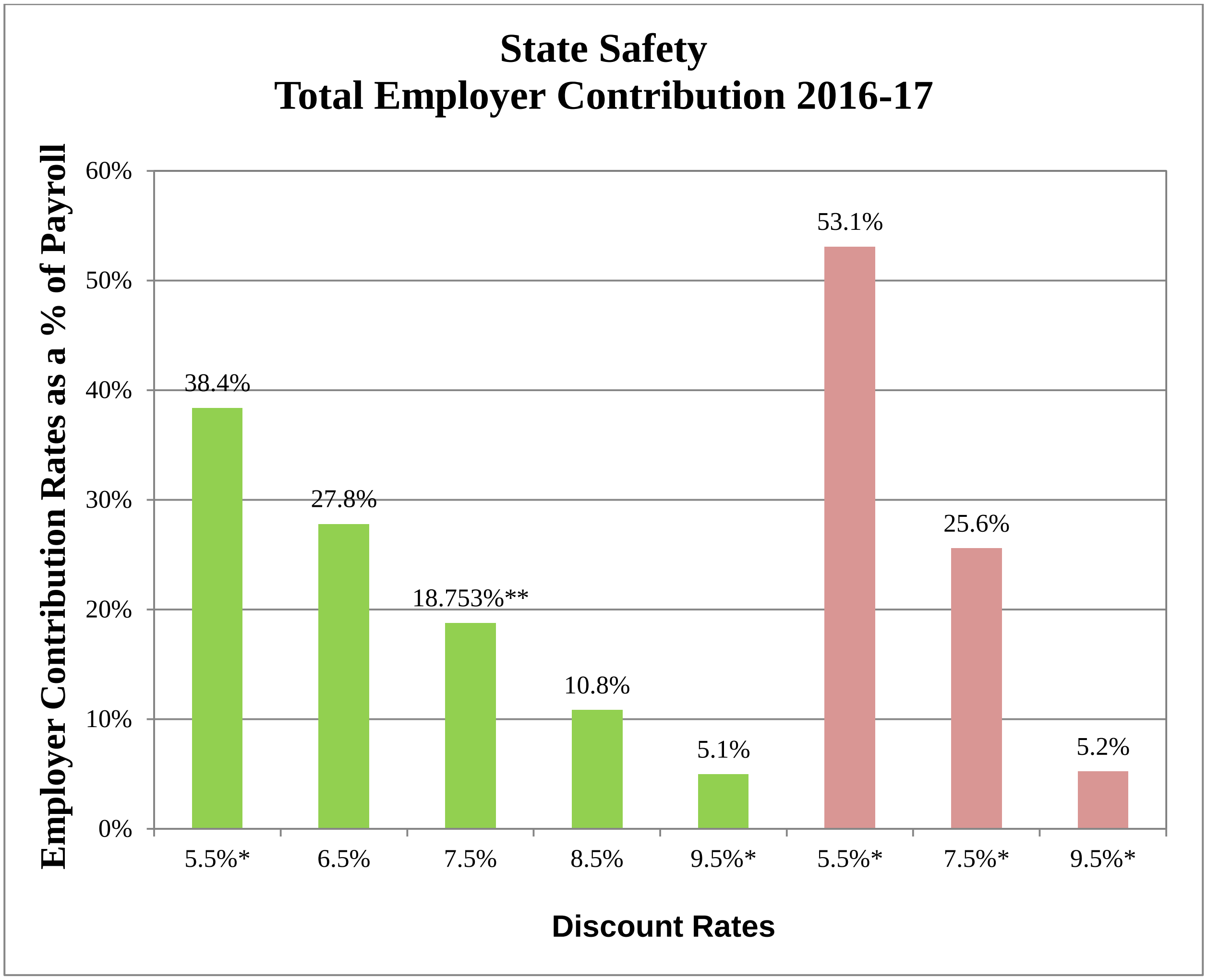
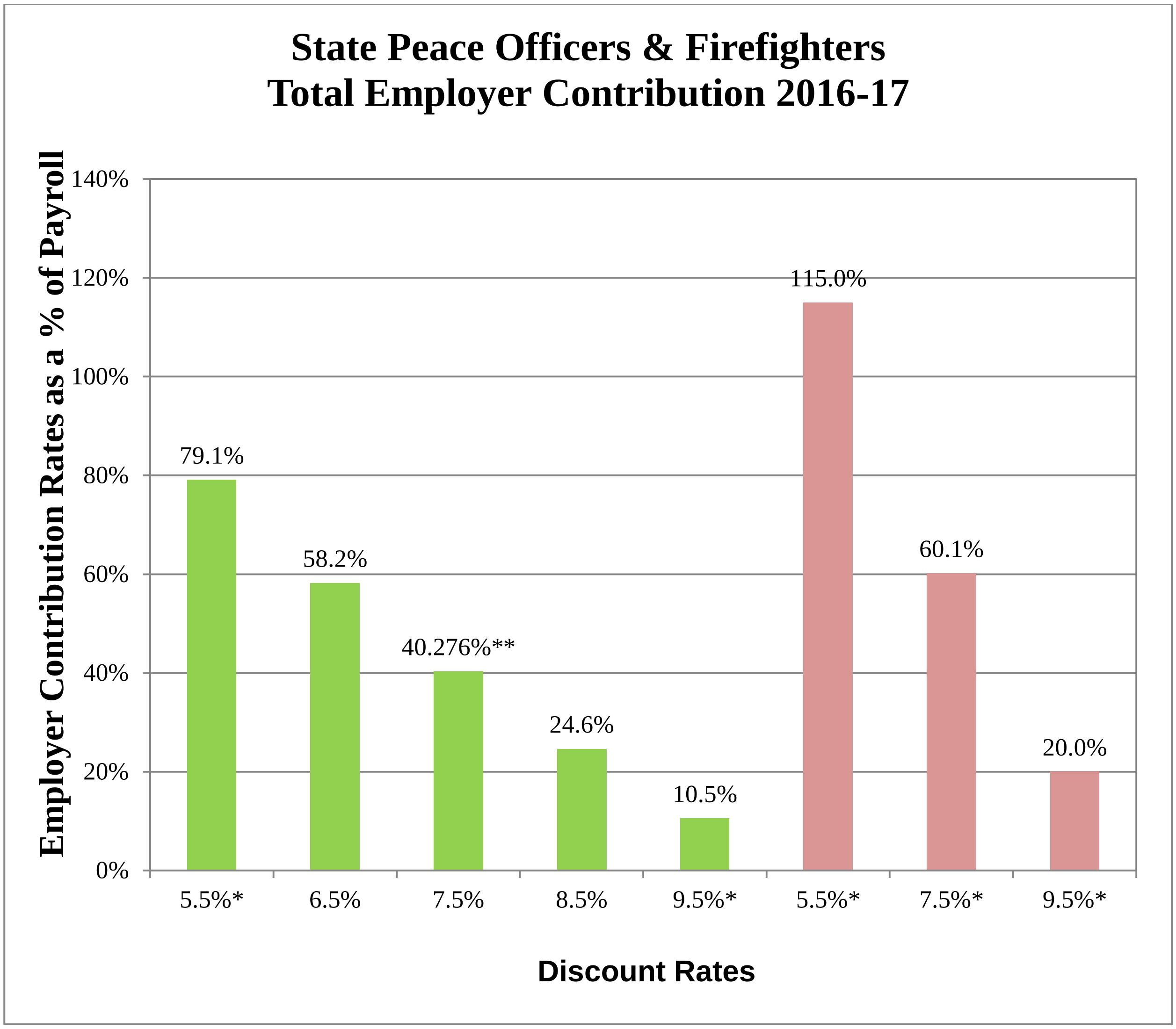


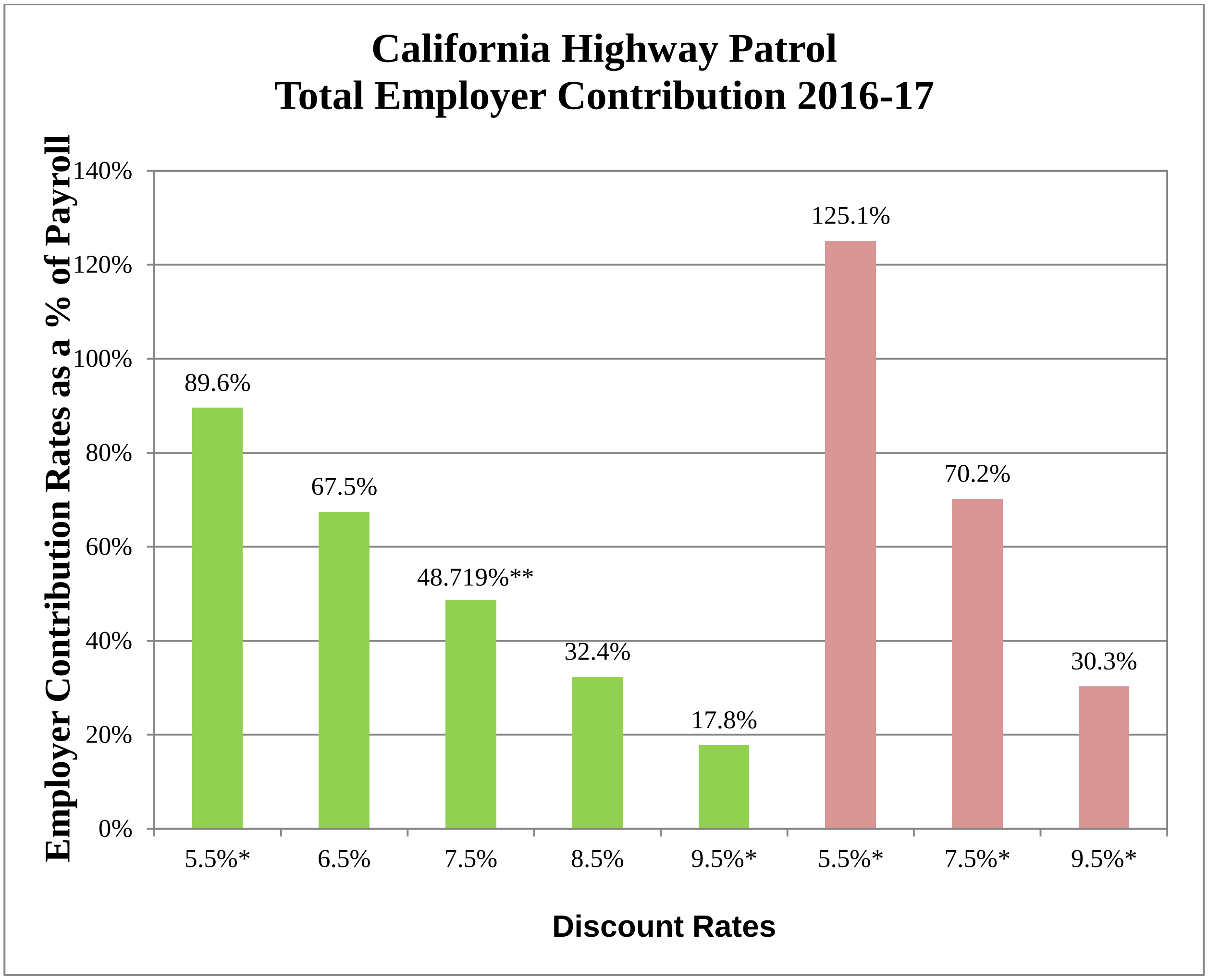
(green)	Analysis of discount rate sensitivity based on current amortization method (varies from 8 to 30 years) or normal cost if in a surplus position
(red)	Analysis of discount rate sensitivity based on amortization of UL over EARSP (11 years)
*	Required by Government Code Section 20229
**	Actuarially required contribution rate for 2016-17 adopted by the CalPERS Board



(green)	Analysis of discount rate sensitivity based on current amortization method (varies from 7 to 30 years) or normal cost if in a surplus position
(red)	Analysis of discount rate sensitivity based on amortization of UL over EARSP (10 years)
*	Required by Government Code Section 20229
**	Actuarially required contribution rate for 2016-17 adopted by the CalPERS Board



(green)	Analysis of discount rate sensitivity based on current amortization method (varies from 8 to 30 years) or normal cost if in a surplus position
(red)	Analysis of discount rate sensitivity based on amortization of UL over EARSP (11 years)
*	Required by Government Code Section 20229
**	Actuarially required contribution rate for 2016-17 adopted by the CalPERS Board



(green)	Analysis of discount rate sensitivity based on current amortization method (varies from 6 to 30 years) or normal cost if in a surplus position
(pink)	Analysis of discount rate sensitivity based on amortization of UL over EARSP (12 years)
*	Required by Government Code Section 20229
**	Actuarially required contribution rate for 2016-17 adopted by the CalPERS Board

Analysis of Discount Rate Sensitivity (+/- 1 percent change in discount rate)

Discount Rate		6.50%	7.50%	8.50%
State Miscellaneous Tier 1	Normal Cost	12.8%	8.732%	5.6%
	UAL Payment	24.4%	17.914%	11.5%
	GTLI	0.0%	0.000%	0.0%
	Total	37.2%	26.646%	17.2%
	Funded Status	62.1%	69.6%	77.5%
State Miscellaneous Tier 2	Normal Cost	11.5%	8.181%	5.7%
	UAL Payment	24.4%	17.914%	11.5%
	GTLI	0.0%	0.000%	0.0%
	Total	35.9%	26.095%	17.2%
	Funded Status	62.1%	69.6%	77.5%
State Industrial	Normal Cost	14.6%	10.213%	6.8%
	UAL Payment	13.6%	8.152%	2.8%
	GTLI	0.0%	0.000%	0.0%
	Total	28.2%	18.365%	9.7%
	Funded Status	69.2%	78.6%	88.6%
State Safety	Normal Cost	15.9%	11.298%	7.7%
	UAL Payment	11.9%	7.404%	3.0%
	GTLI	0.1%	0.051%	0.1%
	Total	27.8%	18.753%	10.8%
	Funded Status	67.5%	76.6%	86.3%
POFF	Normal Cost	23.6%	16.234%	10.7%
	UAL Payment	34.5%	23.995%	13.9%
	GTLI	0.0%	0.047%	0.0%
	Total	58.2%	40.276%	24.6%
	Funded Status	60.1%	68.5%	77.3%
CHP	Normal Cost	23.7%	16.000%	10.2%
	UAL Payment	43.7%	32.701%	22.2%
	GTLI	0.0%	0.018%	0.0%
	Total	67.5%	48.719%	32.4%
	Funded Status	54.0%	61.6%	69.5%

* The change in accrued liability due to the +/-1% discount rate change was amortized over 20 years as a level percentage of pay.
** In the case of a surplus, rates were calculated to equal the employer normal cost rate. This is based on a provision in the Public Employees' Pension Reform Act of 2013 (PEPRA) that requires a minimum employer contribution rate in combination with employee contributions shall not be less than the normal cost rate.
***Numbers may not add due to rounding.

Government Code Section 20229 (+/-2 percent change in discount rate based on current amortization method and amortization over EARSP)

State Miscellaneous Tier 1 & Tier 2			
Discount Rate	**5.50%**	**7.50%**	**9.50%**
Accrued Liability	123,932,154,161	97,831,157,779	79,489,387,732
Market Value of Assets (MVA)	68,080,012,254	68,080,012,254	68,080,012,254
Funded Status MVA basis	54.9%	69.6%	85.6%
Unfunded Liability MVA basis	55,852,141,907	29,751,145,525	11,409,375,478
State Miscellaneous Tier 1			
Current Amortization Method			
Payment on Normal Cost	18.2%	8.732%	3.3%
Payment on UL	31.0%	17.914%	5.2%
Group Term Life Insurance	0.0%	0.000%	0.0%
Total ER Contribution 2016-17	49.2%	26.646%	8.5%
State Miscellaneous Tier 1			
Amortization of UL over EARSP			
Payment on Normal Cost	18.2%	8.7%	3.3%
Payment on UL (over EARSP=10 years)	57.4%	32.5%	11.7%
Group Term Life Insurance	0.0%	0.0%	0.0%
Total ER Contribution 2016-17	75.6%	41.2%	14.9%
State Miscellaneous Tier 2			
Current Amortization Method			
Payment on Normal Cost	16.1%	8.181%	3.8%
Payment on UL	31.0%	17.914%	5.2%
Group Term Life Insurance	0.0%	0.000%	0.0%
Total ER Contribution 2016-17	47.0%	26.095%	9.0%
State Miscellaneous Tier 2			
Amortization of UL over EARSP			
Payment on Normal Cost	16.1%	8.2%	3.8%
Payment on UL (over EARSP=10 years)	57.4%	32.5%	11.7%
Group Term Life Insurance	0.0%	0.0%	0.0%
Total ER Contribution 2016-17	73.5%	40.6%	15.5%

State Industrial			
Discount Rate	**5.50%**	**7.50%**	**9.50%**
Accrued Liability	4,775,911,653	3,669,191,968	2,914,244,568
Market Value of Assets (MVA)	2,884,662,214	2,884,662,214	2,884,662,214
Funded Status MVA basis	60.4%	78.6%	99.0%
Unfunded Liability MVA basis	1,891,249,439	784,529,754	29,582,354
Current Amortization Method			
Payment on Normal Cost	20.3%	10.213%	4.2%
Payment on UL	19.3%	8.152%	0.0%
Group Term Life Insurance	0.0%	0.000%	0.0%
Total ER Contribution 2016-17	39.6%	18.365%	4.2%
Amortization of UL over EARSP			
Payment on Normal Cost	20.3%	10.2%	4.2%
Payment on UL (over EARSP=11 years)	33.2%	14.4%	0.0%
Group Term Life Insurance	0.0%	0.0%	0.0%
Total ER Contribution 2016-17	53.4%	24.7%	4.2%

State Safety			
Discount Rate	**5.50%**	**7.50%**	**9.50%**
Accrued Liability	13,315,284,195	10,255,010,865	8,156,092,182
Market Value of Assets (MVA)	7,859,091,661	7,859,091,661	7,859,091,661
Funded Status MVA basis	59.0%	76.6%	96.4%
Unfunded Liability MVA basis	5,456,192,534	2,395,919,204	297,000,521
Current Amortization Method			
Payment on Normal Cost	21.8%	11.298%	4.9%
Payment on UL	16.5%	7.404%	0.1%
Group Term Life Insurance	0.1%	0.051%	0.1%
Total ER Contribution 2016-17	38.4%	18.753%	5.1%
Amortization of UL over EARSP			
Payment on Normal Cost	21.8%	11.3%	4.9%
Payment on UL (over EARSP=10 years)	31.2%	14.2%	0.3%
Group Term Life Insurance	0.1%	0.1%	0.1%
Total ER Contribution 2016-17	53.1%	25.6%	5.2%

State Peace Officers and Firefighters			
Discount Rate	**5.50%**	**7.50%**	**9.50%**
Accrued Liability	51,652,790,862	39,393,965,231	31,168,804,324
Market Value of Assets (MVA)	26,973,473,591	26,973,473,591	26,973,473,591
Funded Status MVA basis	52.2%	68.5%	86.5%
Unfunded Liability MVA basis	24,679,317,271	12,420,491,640	4,195,330,733
Current Amortization Method			
Payment on Normal Cost	33.4%	16.234%	6.4%
Payment on UL	45.6%	23.995%	4.0%
Group Term Life Insurance	0.0%	0.047%	0.0%
Total ER Contribution 2016-17	79.1%	40.276%	10.5%
Amortization of UL over EARSP			
Payment on Normal Cost	33.4%	16.2%	6.4%
Payment on UL (over EARSP=11 years)	81.5%	43.9%	13.5%
Group Term Life Insurance	0.0%	0.0%	0.0%
Total ER Contribution 2016-17	115.0%	60.1%	20.0%

California Highway Patrol			
Discount Rate	**5.50%**	**7.50%**	**9.50%**
Accrued Liability	14,371,375,149	10,941,786,412	8,644,155,677
Market Value of Assets (MVA)	6,735,006,541	6,735,006,541	6,735,006,541
Funded Status MVA basis	46.9%	61.6%	77.9%
Unfunded Liability MVA basis	7,636,368,608	4,206,779,871	1,909,149,136
Current Amortization Method			
Payment on Normal Cost	34.1%	16.000%	5.8%
Payment on UL	55.4%	32.701%	12.0%
Group Term Life Insurance	0.0%	0.018%	0.0%
Total ER Contribution 2016-17	89.6%	48.719%	17.8%
Amortization of UL over EARSP			
Payment on Normal Cost	34.1%	16.0%	5.8%
Payment on UL (over EARSP=12 years)	91.0%	54.2%	24.5%
Group Term Life Insurance	0.0%	0.0%	0.0%
Total ER Contribution 2016-17	125.1%	70.2%	30.3%

* The change in accrued liability due to the +/-2% discount rate change was amortized over 20 years as a level percentage of pay.

** In the case of a surplus, rates were calculated to equal the employer normal cost rate. This is based on a provision in the Public Employees' Pension Reform Act of 2013 (PEPRA) that requires a minimum employer contribution rate in combination with employee contributions shall not be less than the normal cost rate.

***Numbers may not add due to rounding.

Volatility Ratios

The actuarial calculations supplied in this communication are based on a number of assumptions about very long-term demographic and economic behavior. Unless these assumptions (terminations, deaths, disabilities, retirements, salary growth, and investment return) are exactly realized each year, there will be differences on a year-to-year basis. The year-to-year differences between actual experience and the assumptions are called actuarial gains and losses and serve to lower or raise the employer's rates from one year to the next. Therefore, the rates will inevitably fluctuate, especially due to the ups and downs of investment returns.

Asset Volatility Ratio

Plans that have higher asset to payroll ratios produce more volatile employer rates due to investment return. For example, a plan with an asset to payroll ratio of 8 may experience twice the contribution volatility due to investment return volatility, than a plan with an asset to payroll ratio of 4. Below we have shown the asset volatility ratio, a measure of the plan's current rate volatility. It should be noted that this ratio is a measure of the current situation. It increases over time but generally tends to stabilize as the plan matures.

Liability Volatility Ratio

Plans that have higher liability to payroll ratios produce more volatile employer rates due to investment return and changes in liability. For example, a plan with a liability to payroll ratio of 8 is expected to have twice the contribution volatility of a plan with a liability to payroll ratio of 4. The liability volatility ratio is also included in the table below. It should be noted that this ratio indicates a longer-term potential for contribution volatility and the asset volatility ratio, described above, will tend to move closer to this ratio as the plan matures.

Rate Volatility

Plan	Market Value of Assets without Receivables	Annual Covered Payroll	Asset Volatility Ratio	Accrued Liability	Liability Volatility Ratio
	(1)	(2)	(1)/(2)	(3)	(3)/(2)
State Miscellaneous	67,743,769,228	10,894,384,630	6.2	97,831,157,779	9.0
State Industrial	2,869,576,652	599,908,510	4.8	3,669,191,968	6.1
State Safety	7,835,225,482	2,012,401,157	3.9	10,255,010,865	5.1
POFF	26,881,891,226	3,143,530,530	8.6	39,393,965,231	12.5
CHP	6,721,056,891	802,876,775	8.4	10,941,786,412	13.6

The above analysis shows that the CHP, POFF and Miscellaneous plans are expected to have more volatile contributions than the Industrial and Safety plans. It also shows that the contribution volatility is expected to increase as the plans become better funded. The contribution volatility would be 27 percent to 63 percent greater if the plans were 100 percent funded.

APPENDIX A
STATEMENT OF ACTUARIAL METHODS AND ASSUMPTIONS

- **ACTUARIAL DATA**
- **ACTUARIAL METHODS**
- **ACTUARIAL ASSUMPTIONS APPLICABLE TO ALL PLANS**
- **ECONOMIC ASSUMPTIONS**
  - **DEMOGRAPHIC ASSUMPTIONS**
  - **MISCELLANEOUS LOADING FACTORS**
  - **MISCELLANEOUS ASSUMPTIONS**
- **PLAN SPECIFIC ACTUARIAL ASSUMPTIONS**
  - **STATE MISCELLANEOUS TIER 1**
  - **STATE MISCELLANEOUS TIER 2**
  - **STATE INDUSTRIAL TIER 1**
  - **STATE INDUSTRIAL TIER 2**
  - **STATE SAFETY**
  - **STATE PEACE OFFICERS AND FIREFIGHTERS**
  - **CALIFORNIA HIGHWAY PATROL**

Actuarial Data

As stated in the Actuarial Certification, the data, which serves as the basis for 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. We are unaware of any potential data issues that would have a material effect on the results of this valuation, except that data does not always contain the latest salary information for former members now in reciprocal systems and does not recognize the potential for unusually large salary deviation in certain cases such as elected officials. Therefore, salary information in these cases may not be accurate. These situations are relatively infrequent, however, and when they do occur, they generally do not have a material impact on the employer contribution rates.

Actuarial Methods

Actuarial Cost Method

The actuarial cost method used for this report is the Entry Age Normal Cost Method. Under this method, projected benefits are determined for all members and the associated liabilities are spread in a manner that produces level annual cost as a percent of pay in each year from the member's age of hire (entry age) to their assumed retirement age on the valuation date. 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 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.

Amortization of Unfunded Actuarial Accrued Liability

The excess of the total actuarial accrued liability over the market value of plan assets is called the unfunded actuarial accrued liability (UAL). Funding requirements are determined by adding the normal cost and an amortization payment toward the unfunded liability. Commencing with the June 30, 2014 valuation, all new gains or losses are tracked and 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), changes in actuarial assumptions, or changes in actuarial methodology are amortized separately 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 5 years.

<u>Exceptions for Inconsistencies:</u>

An exception to the amortization rules above is used whenever their application results in inconsistencies. In these cases, a "fresh start" approach is used. This means that the current unfunded actuarial liability is projected and amortized over a set number of years. For example, a fresh start is needed in the following situations:

1) When a positive payment would be required on a negative unfunded actuarial liability (or conversely a negative payment on a positive unfunded actuarial liability); or
2) When there are excess assets, rather than an unfunded liability. In this situation, a 30-year fresh start is used.

It should be noted that the actuary may determine that a fresh start is necessary under other circumstances. In all cases of a fresh start, the period is set by the actuary at what is deemed appropriate; however, the period will not be greater than 30 years.

By State statute for California Highway Patrol only, a portion of the assets in excess of the Entry Age Normal accrued liability can be applied as a direct offset to required employer and employee contributions.

The 1959 Survivor Program valuation is not provided in this report. A separate report for that program is available.

The Term Insurance Method is used for the State Group Term Life Insurance Program. The required contribution for the coming fiscal year is the difference between the reserves for that benefit and one and one-half times the expected benefit payments, but not less than zero.

Purchasing Power Protection Act (PPPA) Method

PPPA benefits are cost-of-living adjustments intended to maintain the individual's current retirement benefit at 75 percent of the original benefit at retirement adjusted for inflation since retirement. The PPPA benefit is paid, if necessary, in addition to any other cost-of-living adjustment provided under the terms of the plan. Prior to January 1, 2001, there was a single PPPA pool covering all CalPERS employers. However, commencing January 1, 2001, separate PPPA pools were established. A pool was set up for all State plans and a separate pool for School employers. The public agencies were removed entirely from PPPA pooling resulting in each public agency plan paying for its own PPPA benefits. The creation of separate pools effectively eliminates the cross subsidization between the State, Schools and public agencies. Because there is a single PPPA pool for all State plans, cross subsidization between State plans still occurs.

For the State plans, the total annual outlay for PPPA benefits is limited by State statute to earnings of up to 1.1 percent of accumulated member contributions. If this annual outlay is insufficient to provide the PPPA benefits in a given fiscal year, the 75 percent maintenance target would be proportionately reduced. Since the inception of the PPPA benefit program, 1.1 percent has proved more than sufficient to provide the 75 percent maintenance. Under the inflation assumption of 2.75 percent compounded annually, the 1.1 percent appears to remain more than sufficient in the foreseeable future.

The actuarial model mimics the PPPA administrative procedure by deriving the employer contribution rate for the plan as the lesser of two separate actuarially computed rates:

1) The rate that results if a full 1.1 percent investment return on the value of each future year's employee assets in the plan is used for that plan's PPPA payments; or

2) The rate that results if the plan pays the full 75 percent purchasing power for itself.

In this way, those plans for which future PPPA costs equal or exceed a 1.1 percent return on current and future employee assets are charged an employer rate that replaces the 1.1 percent return on employee assets. Those plans that require less than the 1.1 percent return on current and future employee assets to maintain 75 percent purchasing power are charged the rate necessary to maintain the 75 percent purchasing power. It must be noted that nothing is charged in the rates for any cross-subsidization. That is, the model assumes that cross subsidization for PPPA for State plans will remain so small that it can be ignored.

Internal Revenue Code Section 415

The limitations on benefits imposed by Internal Revenue Code Section 415 are taken into account in this valuation.

Internal Revenue Code Section 401(a)(17)

The limitations on compensation imposed by Internal Revenue Code Section 401(a)(17) are taken into account in this valuation. Each year, the impact of any changes in the compensation limitation since the prior valuation is included and amortized as part of the actuarial gain or loss base.

PEPRA Assumptions

The Public Employees' Pension Reform Act of 2013 (PEPRA) mandated new benefit formulas and new member contributions for new members (as defined by PEPRA) hired after January 1, 2013. Different assumptions for these new PEPRA members are disclosed below.

Asset Valuation Method

It is the policy of the CalPERS Board of Administration to use professionally accepted amortization methods to eliminate a surplus or an unfunded accrued liability in a manner that maintains benefit security for the members of the System while minimizing substantial variations in required employer contribution rates. On April 17, 2013, the CalPERS Board of Administration approved a recommendation to change the CalPERS amortization and rate smoothing policies. Beginning with the June 30, 2014 valuations for the State plans that set the 2015-16 rates, CalPERS employs a policy that amortizes all gains and losses over a fixed 30-year period. The increase or decrease in the rate is then spread directly over a 5-year period. This method is referred to as "direct rate smoothing." CalPERS no longer uses an actuarial value of assets and only uses the market value of assets. The direct rate smoothing method is equivalent to a method using a 5-year asset smoothing period with no actuarial value of asset corridor and a 25-year amortization period for gains and losses.

Accounts Receivable

In preparing valuations and setting employer contribution rates, the asset figures used include accounts receivable. The CalPERS Actuarial Office assumes that all assets are accruing interest at the actuarially assumed rate. Therefore, the rates depicted assume that all payments have been made and are accruing interest.

Actuarial Assumptions Applicable to All Plans

In 2014, CalPERS completed a 2-year asset liability management study incorporating actuarial assumptions and strategic asset allocation. On February 19, 2014, the CalPERS Board of Administration adopted relatively modest changes to the current asset allocation that will reduce the expected volatility of returns. The adopted asset allocation is expected to have a long-term blended return that continues to support a discount rate assumption of 7.5 percent. The Board also approved several changes to the demographic assumptions that more closely align with actual experience. The most significant of these is mortality improvement to acknowledge the greater life expectancies we are seeing in our membership and expected continued improvements. The new actuarial assumptions were first are used in the June 30, 2013 valuation to set the Fiscal Year 2014-15 contribution for the state plans. The increase in liability due to new actuarial assumptions is amortized over a 20-year period with a 3-year ramp-up/ramp-down. These new actuarial assumptions are set forth in this section.

For more details and additional rationale for the selection of the actuarial assumptions, please refer to the CalPERS Experience Study and Review of Actuarial Assumptions report from January 2014 that can be found on the CalPERS website under: “Forms and Publications”. Click on “View All” and search for Experience Study.

All actuarial assumptions represent an estimate of future experience rather than observations of the estimates inherent in market data.

Economic Assumptions:

Discount Rate

7.5% compounded annually (net of administrative expenses).

Salary Growth

Annual increases vary by entry age and duration of service. A sample of assumed increases is shown below.

Annual Percentage Increase

Duration of Service	State Miscellaneous Tier 1 & Tier 2 Entry Age 20	30	40	Industrial Entry Age 20	30	40
0	9.50%	8.60%	7.30%	10.00%	10.00%	9.20%
3	7.50%	6.80%	5.60%	7.70%	7.40%	6.60%
5	6.90%	6.20%	5.20%	7.00%	6.60%	5.80%
10	5.20%	4.70%	4.10%	5.90%	5.30%	4.60%
15	4.30%	4.10%	3.70%	5.00%	4.70%	4.30%
20	3.80%	3.70%	3.50%	4.40%	4.30%	4.10%
25	3.50%	3.50%	3.40%	3.90%	3.90%	3.80%
30	3.50%	3.50%	3.40%	3.60%	3.60%	3.60%

Duration of Service	Safety Entry Age 20	30	40	POFF Entry Age 20	30	40
0	11.20%	10.00%	8.30%	17.30%	18.20%	18.60%
3	6.50%	6.10%	5.60%	9.70%	9.70%	9.40%
5	5.10%	4.90%	4.80%	7.50%	7.20%	6.70%
10	3.60%	3.60%	3.60%	4.20%	4.00%	3.70%
15	3.60%	3.50%	3.40%	4.20%	4.00%	3.70%
20	3.60%	3.50%	3.20%	4.20%	4.00%	3.70%
25	3.60%	3.50%	3.20%	4.20%	4.00%	3.70%
30	3.60%	3.50%	3.20%	4.20%	4.00%	3.70%

Duration of Service	CHP Entry Age 20	30	40
0	8.00%	8.00%	8.00%
3	6.50%	6.50%	6.50%
5	5.40%	5.40%	5.40%
10	3.80%	3.80%	3.80%
15	3.80%	3.80%	3.80%
20	4.50%	4.50%	4.50%
25	4.50%	4.50%	4.50%
30	3.80%	3.80%	3.80%

Overall Payroll Growth

3 percent compounded annually (used in projecting the payroll over which the unfunded liability is amortized). For the State Miscellaneous plan, the payroll of the Second Tier members is assumed to decrease in accordance with actuarial assumptions based on the assumption that all new entrants will elect the State Miscellaneous First Tier. The payroll of the First Tier members is assumed to grow at the rate necessary for the overall payroll of the State Miscellaneous plan to grow annually at a rate of 3 percent.

Inflation

2.75 percent compounded annually.

Demographic Assumptions:

Post-retirement Mortality

Rates vary by age, type of retirement and gender. See sample rates in the table below. These rates are used for all plans.

	Healthy Recipients		Non-Industrially Disabled (Not Job-Related)		Industrially Disabled (Job-Related)	
Age	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**
50	0.00501	0.00466	0.01680	0.01158	0.00501	0.00466
55	0.00599	0.00416	0.01973	0.01149	0.00599	0.00416
60	0.00710	0.00436	0.02289	0.01235	0.00754	0.00518
65	0.00829	0.00588	0.02451	0.01607	0.01122	0.00838
70	0.01305	0.00993	0.02875	0.02211	0.01635	0.01395
75	0.02205	0.01722	0.03990	0.03037	0.02834	0.02319
80	0.03899	0.02902	0.06083	0.04725	0.04899	0.03910
85	0.06969	0.05243	0.09731	0.07762	0.07679	0.06251
90	0.12974	0.09887	0.14804	0.12890	0.12974	0.09887
95	0.22444	0.18489	0.22444	0.21746	0.22444	0.18489
100	0.32536	0.30017	0.32536	0.30017	0.32536	0.30017

The post-retirement mortality rates above include 20 years of projected on-going mortality improvement using Scale BB published by the Society of Actuaries.

Marital Status

For active members, a percentage who is married upon retirement is assumed according to the following table.

Plan	Percent Married
State Miscellaneous, Tier 1	85%
State Miscellaneous, Tier 2	85%
State Industrial	85%
State Safety	90%
State Police Officers/Firefighters	90%
California Highway Patrol	90%

Age of Spouse

It is assumed that female spouses are 3 years younger than male spouses.

Terminated Members

It is assumed that terminated members refund immediately if non-vested. Terminated members who are vested are assumed to follow the same service retirement pattern as active members but with a load to reflect the expected higher rates of retirement, especially at lower ages. The following table shows the load factors that are applied to the service retirement assumption for active members to obtain the service retirement pattern for separated vested members:

	Load Factor	
Age	Miscellaneous Plans	Safety Plans
50	190%	310%
51	110%	190%
52	110%	105%
53 through 54	100%	105%
55	100%	140%
56 and above	100%	100%

Miscellaneous Loading Factors:

Credit for Unused Sick Leave

Total years of service is increased by 1 percent for those plans with the provision providing Credit for Unused Sick Leave.

Norris Decision (Best Factors)

Employees hired prior to July 1, 1982 have projected benefit amounts increased in order to reflect the use of "Best Factors" in the calculation of optional benefit forms. This is due to a 1983 Supreme Court decision, known as the Norris decision, which required males and females to be treated equally in the determination of benefit amounts. Consequently, anyone already employed at that time is given the best possible conversion factor when optional benefits are determined. No loading is necessary for employees hired after July 1, 1982.

Miscellaneous Assumptions:

Tier 2 Members electing Tier 1 benefits

Tier 2 members of both the State Miscellaneous and State Industrial plans have the right to convert their Tier 2 service to Tier 1 service provided that they make up the shortfall in their accumulated contributions with interest. In this valuation, we have assumed that all Tier 2 members will elect to convert their Tier 2 service to Tier 1 service.

Plan Specific Actuarial Assumptions

STATE MISCELLANEOUS TIER 1

Service Retirement – Classic Members

Rates vary by age and service. See sample rates in the table below.

Attained Age	Years of Service 5	10	15	20	25	30	35
50	0.002	0.008	0.014	0.017	0.024	0.036	0.041
52	0.002	0.009	0.013	0.016	0.024	0.036	0.040
54	0.007	0.022	0.031	0.038	0.052	0.068	0.077
56	0.014	0.039	0.057	0.070	0.090	0.113	0.129
58	0.017	0.048	0.069	0.086	0.108	0.134	0.155
60	0.027	0.074	0.105	0.130	0.163	0.198	0.228
62	0.050	0.136	0.192	0.238	0.295	0.353	0.406
65	0.054	0.146	0.207	0.255	0.316	0.378	0.435
70	0.047	0.128	0.181	0.223	0.278	0.332	0.383
75	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Service Retirement – PEPRA Members

Rates vary by age and service. See sample rates in the table below.

Attained Age	Years of Service 5	10	15	20	25	30	35
50	0.000	0.000	0.000	0.000	0.000	0.000	0.000
52	0.003	0.008	0.011	0.014	0.018	0.020	0.023
54	0.006	0.015	0.021	0.026	0.032	0.038	0.043
56	0.010	0.027	0.038	0.046	0.057	0.067	0.076
58	0.014	0.038	0.053	0.065	0.080	0.093	0.108
60	0.021	0.056	0.078	0.097	0.118	0.138	0.160
62	0.038	0.100	0.141	0.174	0.213	0.249	0.287
65	0.049	0.131	0.184	0.225	0.276	0.323	0.374
70	0.050	0.134	0.188	0.231	0.284	0.331	0.383
75	1.000	1.000	1.000	1.000	1.000	1.000	1.000

STATE MISCELLANEOUS TIER 1 (CONTINUED)

Termination with Refund

Rates vary by entry age and service. See sample rates in the table below.

Duration of Service	Entry Age 20	25	30	35	40
0	0.1401	0.1340	0.1280	0.1220	0.1160
1	0.1249	0.1189	0.1128	0.1068	0.1009
2	0.1097	0.1037	0.0978	0.0917	0.0857
3	0.0945	0.0886	0.0826	0.0766	0.0705
4	0.0794	0.0734	0.0674	0.0614	0.0553
5	0.0104	0.0094	0.0084	0.0075	0.0065
10	0.0059	0.0051	0.0042	0.0034	0.0026
15	0.0040	0.0033	0.0025	0.0018	0.0011
20	0.0025	0.0019	0.0013	0.0007	0.0001
25	0.0013	0.0008	0.0003	0.0001	0.0001
30	0.0005	0.0001	0.0001	0.0001	0.0001

Terminations with Vested Deferred Benefits

Rates vary by entry age and service. See sample rates in the table below.

Duration of Service	Entry Age 20	25	30	35	40
5	0.0556	0.0504	0.0452	0.0400	0.0349
6	0.0526	0.0472	0.0420	0.0368	0.0316
7	0.0495	0.0441	0.0389	0.0335	0.0280
8	0.0463	0.0409	0.0356	0.0299	0.0245
9	0.0430	0.0374	0.0321	0.0264	0.0209
10	0.0395	0.0340	0.0283	0.0226	-
14	0.0349	0.0289	0.0229	0.0171	-
15	0.0335	0.0275	0.0216	-	-
19	0.0277	0.0213	0.0150	-	-
20	0.0262	0.0198	-	-	-
24	0.0196	0.0130	-	-	-
25	0.0179	-	-	-	-
29	0.0103	-	-	-	-
30	-	-	-	-	-

- When a member is eligible to retire, the termination with vested benefits probability is set to zero.
- After termination with vested benefits, a miscellaneous member is assumed to retire at age 59 and a safety member at age 54.

STATE MISCELLANEOUS TIER 1 (CONTINUED)

Non-Industrial (Not Job-Related) Death

Rates vary by age and gender. See sample rates in the table below.

Non-Industrial (Not Job-Related) Disability

Rates vary by age and gender. See sample rates in the table below.

	Male		**Female**	
Attained Age	**Non-Industrial Death**	**Non-Industrial Disability**	**Non-Industrial Death**	**Non-Industrial Disability**
20	0.00031	0.0002	0.00020	0.0004
25	0.00040	0.0002	0.00023	0.0004
30	0.00049	0.0002	0.00025	0.0005
35	0.00057	0.0004	0.00035	0.0010
40	0.00075	0.0010	0.00050	0.0021
45	0.00106	0.0020	0.00071	0.0035
50	0.00155	0.0027	0.00100	0.0042
55	0.00228	0.0024	0.00138	0.0033
60	0.00308	0.0020	0.00182	0.0026

STATE MISCELLANEOUS TIER 2

Service Retirement – Classic Members

Rates vary by age and service. See sample rates in the table below.

	Years of Service						
Attained Age	**5**	**10**	**15**	**20**	**25**	**30**	**35**
50	0.002	0.008	0.014	0.017	0.024	0.036	0.041
52	0.002	0.009	0.013	0.016	0.024	0.036	0.040
54	0.007	0.022	0.031	0.038	0.052	0.068	0.077
56	0.014	0.039	0.057	0.070	0.090	0.113	0.129
58	0.017	0.048	0.069	0.086	0.108	0.134	0.155
60	0.027	0.074	0.105	0.130	0.163	0.198	0.228
62	0.050	0.136	0.192	0.238	0.295	0.353	0.406
65	0.054	0.146	0.207	0.255	0.316	0.378	0.435
70	0.047	0.128	0.181	0.223	0.278	0.332	0.383
75	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Service Retirement – PEPRA Members

Rates vary by age and service. See sample rates in the table below.

	Years of Service						
Attained Age	**5**	**10**	**15**	**20**	**25**	**30**	**35**
50	0.000	0.000	0.000	0.000	0.000	0.000	0.000
52	0.003	0.008	0.011	0.014	0.018	0.020	0.023
54	0.006	0.015	0.021	0.026	0.032	0.038	0.043
56	0.010	0.027	0.038	0.046	0.057	0.067	0.076
58	0.014	0.038	0.053	0.065	0.080	0.093	0.108
60	0.021	0.056	0.078	0.097	0.118	0.138	0.160
62	0.038	0.100	0.141	0.174	0.213	0.249	0.287
65	0.049	0.131	0.184	0.225	0.276	0.323	0.374
70	0.050	0.134	0.188	0.231	0.284	0.331	0.383
75	1.000	1.000	1.000	1.000	1.000	1.000	1.000

STATE MISCELLANEOUS TIER 2 (CONTINUED)

Termination with Refund

Rates vary by entry age and service. See sample rates in the table below.

Duration of Service	Entry Age 20	25	30	35	40
0	0.1496	0.1433	0.1370	0.1307	0.1244
1	0.1365	0.1302	0.1239	0.1176	0.1113
2	0.1234	0.1172	0.1109	0.1046	0.0983
3	0.1104	0.1041	0.0978	0.0915	0.0852
4	0.0973	0.0910	0.0848	0.0785	0.0722
5	0.0843	0.0780	0.0717	0.0654	0.0591
6	0.0792	0.0729	0.0666	0.0603	0.0540
7	0.0741	0.0678	0.0615	0.0553	0.0490
8	0.0691	0.0628	0.0565	0.0502	0.0439
9	0.0640	0.0577	0.0514	0.0451	0.0388

Terminations with Vested Deferred Benefits

Rates vary by entry age and service. See sample rates in the table below.

Duration of Service	Entry Age 20	25	30	35	40
10	0.0589	0.0526	0.0463	0.0400	-
14	0.0480	0.0417	0.0354	0.0291	-
15	0.0453	0.0390	0.0327	-	-
19	0.0344	0.0281	0.0218	-	-
20	0.0317	0.0254	-	-	-
24	0.0208	0.0145	-	-	-
25	0.0180	-	-	-	-
29	0.0071	-	-	-	-
30	-	-	-	-	-

- When a member is eligible to retire, the termination with vested benefits probability is set to zero.

- After termination with vested benefits, a miscellaneous member is assumed to retire at age 59 and a safety member at age 54.

STATE MISCELLANEOUS TIER 2 (CONTINUED)

Non-Industrial (Not Job-Related) Death

Rates vary by age and gender. See sample rates in the table below.

Non-Industrial (Not Job-Related) Disability

Rates vary by age and gender. See sample rates in the table below.

	Male		Female	
Attained Age	Non-Industrial Death	Non-Industrial Disability	Non-Industrial Death	Non-Industrial Disability
20	0.00031	0.0001	0.00020	0.0001
25	0.00040	0.0002	0.00023	0.0004
30	0.00049	0.0003	0.00025	0.0006
35	0.00057	0.0003	0.00035	0.0017
40	0.00075	0.0023	0.00050	0.0041
45	0.00106	0.0042	0.00071	0.0068
50	0.00155	0.0058	0.00100	0.0099
55	0.00228	0.0073	0.00138	0.0123
60	0.00308	0.0081	0.00182	0.0134

STATE INDUSTRIAL TIER 1

Service Retirement – Classic Members

Rates vary by age and service. See sample rates in the table below.

Attained Age	Years of Service 5	10	15	20	25	30	35
50	0.006	0.011	0.018	0.026	0.031	0.033	0.039
52	0.006	0.011	0.018	0.026	0.031	0.033	0.039
54	0.016	0.029	0.045	0.067	0.079	0.084	0.100
56	0.020	0.037	0.057	0.085	0.100	0.106	0.126
58	0.025	0.046	0.071	0.106	0.125	0.132	0.157
60	0.038	0.070	0.109	0.162	0.191	0.202	0.240
62	0.076	0.139	0.217	0.321	0.378	0.402	0.476
65	0.083	0.153	0.238	0.353	0.416	0.442	0.523
70	0.089	0.163	0.254	0.376	0.444	0.472	0.559
75	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Service Retirement – PEPRA Members

Rates vary by age and service. See sample rates in the table below.

Attained Age	Years of Service 5	10	15	20	25	30	35
50	0.000	0.000	0.000	0.000	0.000	0.000	0.000
52	0.004	0.008	0.013	0.018	0.022	0.023	0.027
54	0.011	0.020	0.032	0.047	0.055	0.059	0.070
56	0.014	0.026	0.040	0.060	0.070	0.074	0.088
58	0.019	0.035	0.053	0.080	0.094	0.099	0.118
60	0.030	0.056	0.087	0.130	0.153	0.162	0.192
62	0.061	0.111	0.174	0.257	0.302	0.322	0.381
65	0.075	0.138	0.214	0.318	0.374	0.398	0.471
70	0.089	0.163	0.254	0.376	0.444	0.472	0.559
75	1.000	1.000	1.000	1.000	1.000	1.000	1.000

STATE INDUSTRIAL TIER 1 (CONTINUED)

Termination with Refund

Rates vary by entry age and service. See sample rates in the table below.

Duration of Service	Entry Age 20	25	30	35	40
0	0.0829	0.0794	0.0758	0.0723	0.0687
1	0.0740	0.0704	0.0669	0.0633	0.0598
2	0.0650	0.0615	0.0579	0.0544	0.0507
3	0.0560	0.0524	0.0489	0.0453	0.0418
4	0.0470	0.0435	0.0399	0.0364	0.0328
5	0.0095	0.0086	0.0077	0.0068	0.0059
10	0.0054	0.0046	0.0039	0.0031	0.0024
15	0.0036	0.0030	0.0023	0.0017	0.0010
20	0.0023	0.0017	0.0011	0.0006	0.0002
25	0.0011	0.0007	0.0003	0.0002	0.0002
30	0.0005	0.0002	0.0002	0.0002	0.0002

Terminations with Vested Deferred Benefits

Rates vary by entry age and service. See sample rates in the table below.

Duration of Service	Entry Age 20	25	30	35	40
5	0.0496	0.0449	0.0405	0.0356	0.0311
6	0.0470	0.0421	0.0377	0.0328	0.0281
7	0.0442	0.0393	0.0346	0.0297	0.0250
8	0.0414	0.0365	0.0316	0.0267	0.0220
9	0.0384	0.0335	0.0285	0.0234	0.0187
10	0.0353	0.0302	0.0253	0.0201	-
14	0.0311	0.0257	0.0206	0.0152	-
15	0.0302	0.0246	0.0194	-	-
19	0.0248	0.0190	0.0136	-	-
20	0.0232	0.0176	-	-	-
24	0.0173	0.0115	-	-	-
25	0.0159	-	-	-	-
29	0.0091	-	-	-	-
30	-	-	-	-	-

- When a member is eligible to retire, the termination with vested benefits probability is set to zero.

- After termination with vested benefits, a miscellaneous member is assumed to retire at age 59 and a safety member at age 54.

STATE INDUSTRIAL TIER 1 (CONTINUED)

Non-Industrial (Not Job-Related) Death

Rates vary by age and gender. See sample rates in the table below.

Non-Industrial (Not Job-Related) Disability, Industrial (Job-Related) Disability & Industrial (Job-Related) Death

Rates vary by age. See sample rates in the table below.

	Non-Industrial Death		Non-Industrial Disability	Industrial Disability	Industrial Death
Attained Age	**Male**	**Female**	**Male and Female**	**Male and Female**	**Male and Female**
20	0.00031	0.00020	0.00043	0.00015	0.00003
25	0.00040	0.00023	0.00085	0.00015	0.00007
30	0.00049	0.00025	0.00136	0.00015	0.00010
35	0.00057	0.00035	0.00204	0.00029	0.00012
40	0.00075	0.00050	0.00315	0.00029	0.00013
45	0.00106	0.00071	0.00468	0.00044	0.00014
50	0.00155	0.00100	0.00621	0.00044	0.00015
55	0.00228	0.00138	0.00791	0.00058	0.00016
60	0.00308	0.00182	0.00918	0.00058	0.00017

STATE INDUSTRIAL TIER 2

Service Retirement – Classic Members

Rates vary by age and service. See sample rates in the table below.

Attained Age	Years of Service 5	10	15	20	25	30	35
50	0.006	0.011	0.018	0.026	0.031	0.033	0.039
52	0.006	0.011	0.018	0.026	0.031	0.033	0.039
54	0.016	0.029	0.045	0.067	0.079	0.084	0.100
56	0.020	0.037	0.057	0.085	0.100	0.106	0.126
58	0.025	0.046	0.071	0.106	0.125	0.132	0.157
60	0.038	0.070	0.109	0.162	0.191	0.202	0.240
62	0.076	0.139	0.217	0.321	0.378	0.402	0.476
65	0.083	0.153	0.238	0.353	0.416	0.442	0.523
70	0.089	0.163	0.254	0.376	0.444	0.472	0.559
75	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Service Retirement – PEPRA Members

Rates vary by age and service. See sample rates in the table below.

Attained Age	Years of Service 5	10	15	20	25	30	35
50	0.000	0.000	0.000	0.000	0.000	0.000	0.000
52	0.004	0.008	0.013	0.018	0.022	0.023	0.027
54	0.011	0.020	0.032	0.047	0.055	0.059	0.070
56	0.014	0.026	0.040	0.060	0.070	0.074	0.088
58	0.019	0.035	0.053	0.080	0.094	0.099	0.118
60	0.030	0.056	0.087	0.130	0.153	0.162	0.192
62	0.061	0.111	0.174	0.257	0.302	0.322	0.381
65	0.075	0.138	0.214	0.318	0.374	0.398	0.471
70	0.089	0.163	0.254	0.376	0.444	0.472	0.559
75	1.000	1.000	1.000	1.000	1.000	1.000	1.000

STATE INDUSTRIAL TIER 2 (CONTINUED)

Termination with Refund

Rates vary by entry age and service. See sample rates in the table below.

Duration of Service	Entry Age 20	25	30	35	40
0	0.0829	0.0794	0.0758	0.0723	0.0687
1	0.0740	0.0704	0.0669	0.0633	0.0598
2	0.0650	0.0615	0.0579	0.0544	0.0507
3	0.0560	0.0524	0.0489	0.0453	0.0418
4	0.0470	0.0435	0.0399	0.0364	0.0328
5	0.0095	0.0086	0.0077	0.0068	0.0059
10	0.0054	0.0046	0.0039	0.0031	0.0024
15	0.0036	0.0030	0.0023	0.0017	0.0010
20	0.0023	0.0017	0.0011	0.0006	0.0002
25	0.0011	0.0007	0.0003	0.0002	0.0002
30	0.0005	0.0002	0.0002	0.0002	0.0002

Terminations with Vested Deferred Benefits

Rates vary by entry age and service. See sample rates in the table below.

Duration of Service	Entry Age 20	25	30	35	40
5	0.0496	0.0449	0.0405	0.0356	0.0311
6	0.0470	0.0421	0.0377	0.0328	0.0281
7	0.0442	0.0393	0.0346	0.0297	0.0250
8	0.0414	0.0365	0.0316	0.0267	0.0220
9	0.0384	0.0335	0.0285	0.0234	0.0187
10	0.0353	0.0302	0.0253	0.0201	-
14	0.0311	0.0257	0.0206	0.0152	-
15	0.0302	0.0246	0.0194	-	-
19	0.0248	0.0190	0.0136	-	-
20	0.0232	0.0176	-	-	-
24	0.0173	0.0115	-	-	-
25	0.0159	-	-	-	-
29	0.0091	-	-	-	-
30	-	-	-	-	-

- When a member is eligible to retire, the termination with vested benefits probability is set to zero.
- After termination with vested benefits, a miscellaneous member is assumed to retire at age 59 and a safety member at age 54.

STATE INDUSTRIAL TIER 2 (CONTINUED)

Non-Industrial (Not Job-Related) Death

Rates vary by age and gender. See sample rates in the table below.

Non-Industrial (Not Job-Related) Disability, Industrial (Job-Related) Disability & Industrial (Job-Related) Death

Rates vary by age. See sample rates in the table below.

	Non-Industrial Death		Non-Industrial Disability	Industrial Disability	Industrial Death
Attained Age	**Male**	**Female**	**Male and Female**	**Male and Female**	**Male and Female**
20	0.00031	0.00020	0.00043	0.00015	0.00003
25	0.00040	0.00023	0.00085	0.00015	0.00007
30	0.00049	0.00025	0.00136	0.00015	0.00010
35	0.00057	0.00035	0.00204	0.00029	0.00012
40	0.00075	0.00050	0.00315	0.00029	0.00013
45	0.00106	0.00071	0.00468	0.00044	0.00014
50	0.00155	0.00100	0.00621	0.00044	0.00015
55	0.00228	0.00138	0.00791	0.00058	0.00016
60	0.00308	0.00182	0.00918	0.00058	0.00017

STATE SAFETY

Service Retirement – Classic Members

Rates vary by age and service. See sample rates in the table below.

Attained Age	Years of Service 5	10	15	20	25	30	35
50	0.005	0.012	0.018	0.035	0.039	0.067	0.075
52	0.003	0.009	0.014	0.032	0.034	0.061	0.067
54	0.017	0.032	0.046	0.067	0.075	0.113	0.131
56	0.031	0.056	0.077	0.105	0.117	0.167	0.195
58	0.035	0.062	0.087	0.115	0.128	0.182	0.212
60	0.042	0.073	0.102	0.134	0.148	0.208	0.243
62	0.067	0.115	0.158	0.199	0.222	0.305	0.357
65	0.086	0.148	0.203	0.252	0.281	0.382	0.448
70	0.083	0.143	0.196	0.244	0.271	0.368	0.433
75	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Service Retirement – PEPRA Members

Rates vary by age and service. See sample rates in the table below.

Attained Age	Years of Service 5	10	15	20	25	30	35
50	0.010	0.018	0.024	0.028	0.031	0.041	0.048
52	0.007	0.012	0.016	0.020	0.021	0.028	0.033
54	0.018	0.031	0.041	0.048	0.054	0.070	0.083
56	0.029	0.048	0.065	0.076	0.085	0.110	0.131
58	0.032	0.054	0.074	0.086	0.096	0.124	0.147
60	0.039	0.065	0.088	0.104	0.115	0.149	0.177
62	0.056	0.094	0.127	0.149	0.166	0.216	0.256
65	0.086	0.144	0.195	0.229	0.256	0.332	0.393
70	0.086	0.144	0.195	0.229	0.255	0.331	0.393
75	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Termination with Refund

Rates vary by service. See sample rates in the table below.

Duration of Service 0	1	2	3	4	5	10	15	20	25	30
0.1313	0.0967	0.0622	0.0461	0.0374	0.0080	0.0058	0.0039	0.0025	0.0013	0.0009

STATE SAFETY (CONTINUED)

Terminations with Vested Deferred Benefits

Rates vary by service. See sample rates in the table below.

Duration of Service										
5	6	7	8	9	10	15	20	25	30	35
0.0369	0.0363	0.0357	0.0349	0.0341	0.0333	0.0286	0.0226	0.0159	0.0131	0.000

- When a member is eligible to retire, the termination with vested benefits probability is set to zero.
- After termination with vested benefits, a miscellaneous member is assumed to retire at age 59 and a safety member at age 54.

Non-Industrial (Not Job-Related) Death

Rates vary by age and gender. See sample rates in the table below.

Non-Industrial (Not Job-Related) Disability, Industrial (Job-Related) Disability & Industrial (Job-Related) Death

Rates vary by age. See sample rates in the table below.

	Non-Industrial Death		Non-Industrial Disability	Industrial Disability	Industrial Death
Attained Age	Male	Female	Male and Female	Male and Female	Male and Female
20	0.00031	0.00020	0.00036	0.00002	0.00003
25	0.00040	0.00023	0.00054	0.00076	0.00007
30	0.00049	0.00025	0.00063	0.00170	0.00010
35	0.00057	0.00035	0.00072	0.00264	0.00012
40	0.00075	0.00050	0.00072	0.00360	0.00013
45	0.00106	0.00071	0.00108	0.00457	0.00014
50	0.00155	0.00100	0.00216	0.00557	0.00015
55	0.00228	0.00138	0.00306	0.00658	0.00016
60	0.00308	0.00182	0.00387	0.00762	0.00017

STATE PEACE OFFICERS AND FIREFIGHTERS

Service Retirement – Classic Members

Rates vary by age and service. See sample rates in the table below.

Attained	Years of Service						
Age	5	10	15	20	25	30	35
50	0.016	0.052	0.070	0.091	0.146	0.213	0.247
52	0.014	0.044	0.060	0.080	0.125	0.180	0.209
54	0.019	0.064	0.087	0.110	0.176	0.261	0.302
56	0.022	0.074	0.100	0.126	0.203	0.301	0.350
58	0.025	0.081	0.109	0.137	0.220	0.328	0.381
60	0.026	0.088	0.120	0.149	0.241	0.360	0.418
62	0.030	0.099	0.133	0.164	0.267	0.401	0.467
65	0.030	0.103	0.139	0.171	0.277	0.418	0.486
70	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Service Retirement – PEPRA Members – 2.5% @ 57

Rates vary by age and service. See sample rates in the table below.

Attained	Years of Service						
Age	5	10	15	20	25	30	35
50	0.011	0.036	0.049	0.064	0.102	0.149	0.173
52	0.010	0.031	0.042	0.056	0.088	0.126	0.146
54	0.014	0.048	0.065	0.083	0.132	0.196	0.227
56	0.018	0.059	0.080	0.101	0.162	0.241	0.280
58	0.023	0.073	0.098	0.123	0.198	0.295	0.343
60	0.025	0.084	0.114	0.142	0.229	0.342	0.397
62	0.030	0.099	0.133	0.164	0.267	0.401	0.467
65	0.030	0.103	0.139	0.171	0.277	0.418	0.486
70	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Service Retirement – PEPRA Members – 2.7% @ 57

Rates vary by age and service. See sample rates in the table below.

Attained	Years of Service						
Age	5	10	15	20	25	30	35
50	0.011	0.036	0.049	0.064	0.102	0.149	0.173
52	0.011	0.033	0.045	0.060	0.094	0.135	0.157
54	0.015	0.051	0.070	0.088	0.141	0.209	0.242
56	0.019	0.063	0.085	0.107	0.173	0.256	0.298
58	0.025	0.081	0.109	0.137	0.220	0.328	0.381
60	0.026	0.088	0.120	0.149	0.241	0.360	0.418
62	0.030	0.099	0.133	0.164	0.267	0.401	0.467
65	0.030	0.103	0.139	0.171	0.277	0.418	0.486
70	1.000	1.000	1.000	1.000	1.000	1.000	1.000

STATE PEACE OFFICERS AND FIREFIGHTERS (CONTINUED)

Termination with Refund

Rates vary by service. See sample rates in the table below.

Duration of Service										
0	1	2	3	4	5	10	15	20	25	30
0.1217	0.0779	0.0431	0.0353	0.0275	0.0056	0.0039	0.0025	0.0015	0.0006	0.0003

Terminations with Vested Deferred Benefits

Rates vary by service. See sample rates in the table below.

Duration of Service										
5	6	7	8	9	10	15	20	25	30	35
0.0173	0.0168	0.0164	0.0159	0.0155	0.0149	0.0120	0.0086	0.0046	0.0030	0.0000

- When a member is eligible to retire, the termination with vested benefits probability is set to zero.
- After termination with vested benefits, a miscellaneous member is assumed to retire at age 59 and a safety member at age 54.

Non-Industrial (Not Job-Related) Death

Rates vary by age and gender. See sample rates in the table below.

Non-Industrial (Not Job-Related) Disability, Industrial (Job-Related) Disability & Industrial (Job-Related) Death

Rates vary by age. See sample rates in the table below.

	Non-Industrial Death		Non-Industrial Disability	Industrial Disability	Industrial Death
Attained Age	Male	Female	Male and Female	Male and Female	Male and Female
20	0.00031	0.00020	0.00010	0.00039	0.00003
25	0.00040	0.00023	0.00010	0.00087	0.00007
30	0.00049	0.00025	0.00010	0.00167	0.00010
35	0.00057	0.00035	0.00020	0.00289	0.00012
40	0.00075	0.00050	0.00040	0.00464	0.00013
45	0.00106	0.00071	0.00060	0.00706	0.00014
50	0.00155	0.00100	0.00098	0.01027	0.00015
55	0.00228	0.00138	0.00143	0.01442	0.00016
60	0.00308	0.00182	0.00188	0.01966	0.00017

CALIFORNIA HIGHWAY PATROL

Service Retirement – Classic Members

Rates vary by age and service. See sample rates in the table below.

Attained Age	Years of Service						
	5	**10**	**15**	**20**	**25**	**30**	**35**
50	0.050	0.050	0.050	0.050	0.149	0.283	0.326
52	0.040	0.040	0.040	0.040	0.121	0.230	0.265
54	0.051	0.051	0.051	0.051	0.153	0.290	0.334
56	0.051	0.051	0.051	0.051	0.152	0.288	0.332
58	0.049	0.049	0.049	0.049	0.146	0.277	0.319
60	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Service Retirement – PEPRA Members

Rates vary by age and service. See sample rates in the table below.

Attained Age	Years of Service						
	5	**10**	**15**	**20**	**25**	**30**	**35**
50	0.035	0.035	0.035	0.035	0.104	0.198	0.228
52	0.030	0.030	0.030	0.030	0.091	0.173	0.199
54	0.041	0.041	0.041	0.041	0.122	0.232	0.267
56	0.043	0.043	0.043	0.043	0.129	0.245	0.282
58	0.044	0.044	0.044	0.044	0.131	0.249	0.287
60	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Termination with Refund

Rates vary by service. See sample rates in the table below.

Duration of Service										
0	**1**	**2**	**3**	**4**	**5**	**10**	**15**	**20**	**25**	**30**
0.0129	0.0124	0.0121	0.0116	0.0113	0.0040	0.0029	0.0019	0.0011	0.0006	0.0003

CALIFORNIA HIGHWAY PATROL (CONTINUED)

Terminations with Vested Deferred Benefits

Rates vary by service. See sample rates in the table below.

Duration of Service										
5	**6**	**7**	**8**	**9**	**10**	**15**	**20**	**25**	**30**	**35**
0.0093	0.0091	0.0090	0.0087	0.0085	0.0082	0.0070	0.0053	0.0033	0.0026	0.0000

- When a member is eligible to retire, the termination with vested benefits probability is set to zero.
- After termination with vested benefits, a miscellaneous member is assumed to retire at age 59 and a safety member at age 54.

Non-Industrial (Not Job-Related) Death

Rates vary by age and gender. See sample rates in the table below.

Non-Industrial (Not Job-Related) Disability, Industrial (Job-Related) Disability & Industrial (Job-Related) Death

Rates vary by age. See sample rates in the table below.

	Non-Industrial Death		Non-Industrial Disability	Industrial Disability	Industrial Death
Attained Age	**Male**	**Female**	**Male and Female**	**Male and Female**	**Male and Female**
20	0.00031	0.00020	0.00014	0.00026	0.00003
25	0.00040	0.00023	0.00014	0.00058	0.00007
30	0.00049	0.00025	0.00014	0.00114	0.00010
35	0.00057	0.00035	0.00014	0.00204	0.00012
40	0.00075	0.00050	0.00014	0.00337	0.00013
45	0.00106	0.00071	0.00028	0.00527	0.00014
50	0.00155	0.00100	0.00028	0.02023	0.00015
55	0.00228	0.00138	0.00028	0.09011	0.00016
60	0.00308	0.00182	0.00028	0.34051	0.00017

APPENDIX B
PRINCIPAL PLAN PROVISIONS

- **STATE MISCELLANEOUS TIER 1**
- **STATE MISCELLANEOUS TIER 2**
- **STATE INDUSTRIAL TIER 1**
- **STATE INDUSTRIAL TIER 2**
- **STATE SAFETY**
- **STATE PEACE OFFICERS AND FIREFIGHTERS**
- **CALIFORNIA HIGHWAY PATROL**

Principal Plan Provisions

STATE MISCELLANEOUS TIER 1

The following is a summary of the major plan provisions for the most representative group used in calculating the liabilities of this plan. Many of the statements in this summary are general in nature, and are intended to provide a summary of the complex Public Employees' Retirement Law. The law itself governs in all situations.

RETIREMENT PROGRAM

Service Retirement

Eligibility
A CalPERS Classic and Safety PEPRA members become eligible for Service Retirement upon attainment of age 50 with at least 5 years of credited service (total service across all CalPERS employers, and with certain other Retirement Systems with which CalPERS has reciprocity agreements). PEPRA Miscellaneous members become eligible for Service Retirement upon attainment of age 52 with at least 5 years of service.

Benefit
The Service Retirement benefit calculated for service earned by this group of employees is a monthly allowance equal to the product of the *benefit factor*, *years of service*, and *final compensation*, where

- The *benefit factor* for this group of employees comes from the **2% at 55** benefit factor table. New Classic members hired on or after January 15, 2011 are subject to the **2% at 60** benefit factor table. New PEPRA members hired on or after January 1, 2013 are subject to the **2% at 62** benefit factor table. The factor depends on the member's age at retirement. Listed below are the factors for retirement at whole year ages:

Retirement Age	2% at 55 Factor	Retirement Age	2% at 60 Factor	Retirement Age	2% at 62 Factor
50	1.100%	50	1.092%	50	N/A
51	1.280%	51	1.156%	51	N/A
52	1.460%	52	1.224%	52	1.000%
53	1.640%	53	1.296%	53	1.100%
54	1.820%	54	1.376%	54	1.200%
55	2.000%	55	1.460%	55	1.300%
56	2.064%	56	1.552%	56	1.400%
57	2.126%	57	1.650%	57	1.500%
58	2.188%	58	1.758%	58	1.600%
59	2.250%	59	1.874%	59	1.700%
60	2.314%	60	2.000%	60	1.800%
61	2.376%	61	2.134%	61	1.900%
62	2.438%	62	2.272%	62	2.000%
63 & Up	2.500%	63 & Up	2.418%	63	2.100%

64	2.200%
65	2.300%
66	2.400%
67 & Up	2.500%

- The *years of service* is the amount credited by CalPERS to a member while he or she is employed in this group (or for other periods that are recognized under the employer's contract with CalPERS). For a member who has earned service with multiple CalPERS employers, the benefit from each employer is calculated separately according to each employer's contract, and then added together for the total allowance. Any unused sick leave accumulated at the time of retirement will be converted to credited service at the rate of 0.004 years of service for each day of sick leave.

- The *final compensation* is the monthly average of the member's highest 12 consecutive months' full-time equivalent monthly pay (no matter which CalPERS employer paid this compensation). For some new members hired after July 1, 2006 and for all new members hired on or after January 15, 2011, final compensation is based on the monthly average of the member's highest 36 consecutive months' full-time equivalent monthly pay. PEPRA members have a cap on the annual salary that can be used to calculate final compensation for all new members based on the Social Security Contribution and Benefit Base. For employees that participate in Social Security this cap is $117,020 for 2015 and for those employees that do not participate in social security the cap for 2015 is $140,424. Adjustments to the caps are permitted annually based on changes to the CPI for All Urban Consumers.

- Employees may or may not be covered by Social Security. For employees covered by Social Security, the final compensation is offset by $133.33 (or by one third if the final compensation is less than $400). For some PEPRA members, the final compensation is not offset.

- The Service Retirement benefit is not capped.

Vested Deferred Retirement

Eligibility for Deferred Status

A CalPERS member becomes eligible for a deferred vested retirement benefit when he or she leaves employment, keeps his or her contribution account balance on deposit with CalPERS, **and** has earned at least 5 years of credited service (total service across all CalPERS employers, and with certain other Retirement Systems with which CalPERS has reciprocity agreements).

Eligibility to Start Receiving Benefits

The CalPERS Classic and Safety PEPRA members become eligible to receive the deferred retirement benefit upon satisfying the eligibility requirements for Deferred Status and upon attainment of age 50. PEPRA Miscellaneous members become eligible to receive the deferred retirement benefit upon satisfying the eligibility requirements for Deferred Status and upon attainment of age 52.

Benefit

The vested deferred retirement benefit is the same as the Service Retirement benefit, where the benefit factor is based on the member's age at allowance commencement. For members who have earned service with multiple CalPERS employers, the benefit from each employer is calculated separately according to each employer's contract, and then added together for the total allowance.

Non-Industrial (Non-Job Related) Disability Retirement

Eligibility

A CalPERS member is eligible for Non-Industrial Disability Retirement if he or she becomes *disabled* and has at least 5 years of credited service (total service across all PERS employers, and with certain other Retirement Systems with which PERS has reciprocity agreements). There is no special age requirement. *Disabled* means the member is unable to perform his or her job because of an illness or injury which is expected to be permanent or to last indefinitely. The illness or injury does not have to be job related. A CalPERS member must be actively working with any CalPERS employer at the time of disability in order to be eligible for this benefit.

Benefit

The Non-Industrial Disability Retirement benefit is a monthly allowance equal to 1.8 percent of final compensation, multiplied by *service*, which is determined as follows:

- *Service* is CalPERS credited service, for members with less than 10 years of service or greater than 18.518 years of service; or
- *Service* is CalPERS credited service plus the additional number of years that the member would have worked until age 60, for members with at least 10 years but not more than 18.518 years of service. The maximum benefit in this case is 33 1/3 percent of Final Compensation.

Members who are eligible for a larger service retirement benefit may choose to receive that benefit in lieu of a disability benefit. Members eligible to retire, and who have attained the normal retirement age determined by their service retirement benefit formula, will receive the same dollar amount for disability retirement as that payable for service retirement. For members who have earned service with multiple CalPERS employers, the benefit attributed to each employer is the total disability allowance multiplied by the ratio of service with a particular employer to the total CalPERS service.

Post-Retirement Death Benefit

Lump Sum Payment

Upon the death of a retiree, a one-time lump sum payment of $2,000 will be made to the retiree's designated survivor(s), or to the retiree's estate.

Form of Payment for Retirement Allowance

Generally, the retirement allowance is paid to the retiree in the form of an annuity for as long as he or she is alive. The retiree may choose to provide for a portion of his or her allowance to be paid to any designated beneficiary after the retiree's death. CalPERS provides for a variety of such benefit options, which the retiree pays for by taking a reduction in his or her retirement allowance. Such reduction takes into account the amount to be provided to the beneficiary and the probable duration of payments (based on the ages of the member and beneficiary) made subsequent to the member's death.

For retirement allowances with respect to service earned by employment in this group, 25 percent of the retirement allowance will automatically be continued to certain statutory beneficiaries upon the death of the retiree, *without* a reduction in the retiree's allowance. This additional benefit is often referred to as *post retirement survivor allowance* (PRSA) or simply as *survivor continuance.*

In other words, 25 percent of the allowance, the *continuance portion*, is paid to the retiree for as long as he or she is alive, and that same amount is continued to the retiree's spouse (or if no eligible spouse, to unmarried children until they attain age 18; or, if no eligible children, to a qualifying dependent parent) for the rest of his or her lifetime.

The remaining 75 percent of the retirement allowance, which may be referred to as the *option portion* of the benefit, is paid to the retiree as an annuity for as long as he or she is alive. Or, the retiree may choose to provide for some of this *option portion* to be paid to **any** designated beneficiary after the retiree's death. Benefit options applicable to the *option portion* are the same as those offered with the standard form. The reduction is calculated in the same manner but is applied only to the *option portion*.

Pre-Retirement Death Benefits

Group Term Life Insurance

Eligibility
An employee's beneficiary (or estate) will receive the Group Term Life Insurance benefit if the member dies while actively employed. A CalPERS member who is no longer actively employed with **any** CalPERS employer is not eligible for this benefit. This benefit is in addition to other pre-retirement death benefits.

Benefit
The benefit is a lump sum payment of $5,000 plus an additional amount equal to 50 percent of the annual compensation earned by the deceased member during the 12 months immediately preceding the member's death. The additional amount shall not be paid if the member is eligible for service retirement or the Alternate Death Benefit.

For members with less than 20 years of service credit and not age-eligible to retire:

Basic Death Benefit

Eligibility
An employee's beneficiary (or estate) may receive the Basic Death benefit if the member dies while actively employed. A CalPERS member who is no longer actively employed with **any** CalPERS employer is not eligible for this benefit. A member's survivor who is eligible for any other pre-retirement death benefit described below may choose to receive that death benefit instead of this Basic Death benefit.

Benefit
The Basic Death Benefit is a lump sum in the amount of the member's accumulated contributions, where interest is currently credited at 7.5 percent per year. In addition, a lump sum in the amount of six months' salary shall be paid only if the member is eligible for service retirement or eligible for the Alternate Death Benefit. For purposes of this benefit, one month's salary is defined as the member's average monthly full-time rate of compensation during the 12 months preceding death.

For members with more than 20 years of service credit and not age-eligible to retire:

In addition to the above pre-retirement death benefits, members are eligible for:

Alternate Death Benefit

Eligibility
This benefit may be received in lieu of the lump sum Basic Death Benefit if there is a surviving spouse or minor child of the member. The member must have died before reaching the minimum retirement age and must have been credited with at least 20 years of state service.

Benefit
The Alternate Death Benefit is calculated as though the member were the minimum retirement age and elected an optional form of benefit that provided 100 percent continuance to the member's spouse. If the member did not have a spouse at the time of death, one-half of the formula benefit would be paid to the surviving child. If the benefit is payable to a surviving child, the benefit will be discontinued upon death or the attainment of age 18.

For members who are age-eligible to retire:

In addition to the above pre-retirement death benefits, members are eligible for:

1957 Survivor Benefit

Eligibility
An employee's *eligible survivor(s)* may receive the 1957 Survivor benefit if the member dies while actively employed, has attained at least age 50 for Classic and Safety PEPRA members and age 52 for Miscellaneous PEPRA members, and has at least 5 years of credited service (total service across all CalPERS employers and with certain other Retirement Systems with which CalPERS has reciprocity agreements). A CalPERS member who is no longer actively employed with **any** CalPERS employer is not eligible for this benefit. An *eligible survivor* means the surviving spouse to whom the member was married at least one year before death or, if there is no eligible spouse, to the member's unmarried children under age 18. A member's survivor may choose this benefit in lieu of the Basic Death benefit or the Optional Settlement 2W Death benefit.

Benefit
The 1957 Survivor benefit is a monthly allowance equal to one-half of the unmodified Service Retirement benefit that the member would have been entitled to receive if the member had retired on

the date of his or her death. If the benefit is payable to the spouse, the benefit is discontinued upon the death of the spouse. If the benefit is payable to a dependent child, the benefit will be discontinued upon death or attainment of age 18, unless the child is disabled. There is a guarantee that the total amount paid will at least equal the Basic Death benefit.

Optional Settlement 2W Death Benefit

Eligibility
An employee's *eligible survivor* may receive the Optional Settlement 2W Death benefit if the member dies while actively employed, has attained at least age 50 for Classic and Safety PEPRA members and age 52 for Miscellaneous PEPRA members, and has at least 5 years of credited service (total service across all CalPERS employers and with certain other Retirement Systems with which CalPERS has reciprocity agreements). A CalPERS member who is no longer actively employed with **any** CalPERS employer is not eligible for this benefit. An *eligible survivor* means the surviving spouse to whom the member was married at least one year before death. A member's survivor may choose this benefit in lieu of the Basic Death benefit or the 1957 Survivor benefit.

Benefit
The Optional Settlement 2W Death benefit is a monthly allowance equal to the Service Retirement benefit that the member would have received had the member retired on the date of his or her death and elected Optional Settlement 2W. (A retiree who elects Optional Settlement 2W receives an allowance that has been reduced so that it will continue to be paid after his or her death to a surviving beneficiary.) The allowance is payable as long as the surviving spouse lives. Upon the death of the surviving spouse, the benefit shall be continued to minor children. There is a guarantee that the total amount paid will at least equal the Basic Death Benefit.

Cost-of-Living Adjustments

Retirement and survivor allowances are adjusted each year in May for cost of living, beginning the second calendar year after the year of retirement. The standard cost-of-living adjustment (COLA) is 2 percent. Annual adjustments are calculated by first determining the lesser of 1) 2 percent compounded from the end of the year of retirement or 2) actual rate of inflation. The resulting increase is divided by the total increase provided in prior years. For any particular year, the COLA adjustment may be less than 2 percent (when the rate of inflation is low), may be greater than the rate of inflation (when the rate of inflation is low after several years of high inflation) or may even be greater than 2 percent (when inflation is high after several years of low inflation).

Purchasing Power Protection Allowance (PPPA)

Retirement and survivor allowances are protected against inflation by PPPA. PPPA benefits are cost-of-living adjustments that are intended to maintain an individual's allowance at 75 percent of the initial allowance at retirement adjusted for inflation since retirement. The PPPA benefit will be coordinated with other cost-of-living adjustments provided under the plan. The total annual outlay for PPPA is limited to 1.1 percent of accumulated member contributions. If this amount of member contributions were insufficient to provide for PPPA payments, the 75 percent target would be proportionately reduced.

Employee Contributions

Each employee contributes toward his or her retirement based upon one of the following schedules. The employer may choose to "pick-up" these contributions for the employees.

For employees covered by Social Security, the monthly compensation breakpoint is $513 and the contribution schedule is as follows:

Approximately 21 percent of the active population is subject to the following schedule:

The percent contributed below the monthly compensation breakpoint is 0 percent.
The percent contributed above the monthly compensation breakpoint is 5 percent.

Approximately 5 percent of the active population is subject to the following schedule:

The percent contributed below the monthly compensation breakpoint is 0 percent.
The percent contributed above the monthly compensation breakpoint is 6 percent.

Approximately 65 percent of the active population is subject to the following schedule:

The percent contributed below the monthly compensation breakpoint is 0 percent.
The percent contributed above the monthly compensation breakpoint is 8 percent.

Approximately 2 percent of the active population is subject to the following schedule:

The percent contributed below the monthly compensation breakpoint is 0 percent.
The percent contributed above the monthly compensation breakpoint is 9 percent.

Approximately 7 percent of the active population is subject to the following schedule:

The percent contributed below the monthly compensation breakpoint is 0 percent.
The percent contributed above the monthly compensation breakpoint is 10 percent.

There are a small number of employees not covered by Social Security in this plan. For those employees, the monthly compensation breakpoint is $317 and contributions are as follows:

The percent contributed below the monthly compensation breakpoint is 0 percent.
The percent contributed above the monthly compensation breakpoint is 1 percent greater than those covered by Social Security.

For some new PEPRA members, the monthly compensation breakpoint is $0 and contributions are as follows:

The percent contributed below the monthly compensation breakpoint is 0 percent.
The percent contributed above the monthly compensation breakpoint is 6 percent.

Refund of Employee Contributions

If the member's service with the employer ends, and if the member does not satisfy the eligibility conditions for any of the retirement benefits above, the member may elect to receive a refund of his or her employee contributions, which are credited annually with 6 percent interest.

1959 SURVIVOR BENEFITS PROGRAM

For these benefits, please refer to the 1959 Survivor Report.

STATE MISCELLANEOUS TIER 2

The following is a summary of the major plan provisions applicable to State Miscellaneous Tier 2 members. Many of the statements in this summary are general in nature, and are intended to provide an easily understood summary of the complex Public Employees' Retirement Law. The law itself governs in all situations.

RETIREMENT PROGRAM

Tier 2 Members electing Tier 1 benefits

State Miscellaneous Tier 2 members have the right to convert their Tier 2 service to Tier 1 service provided that they make up the shortfall in their accumulated contributions with interest. In this valuation, we have assumed that all State Miscellaneous Tier 2 members will elect to convert their Tier 2 service to Tier 1 service.

Service Retirement

Eligibility
A CalPERS member becomes eligible for Service Retirement upon attainment of age 55 with at least 10 years of credited service (total service across all CalPERS employers, and with certain other Retirement Systems with which CalPERS has reciprocity agreements).

Benefit
The Service Retirement benefit calculated for service earned by this group of employees is a monthly allowance equal to the product of the benefit factor, years of service, and final compensation, where

- The benefit factor for Classic employees comes from the **1.25% at 65** Tier 2 benefit factor table. New PEPRA members hired on or after January 1, 2013 are subject to the **1.25% at 67** benefit factor table. The factor depends on the member's age at retirement. Listed below are the factors for retirement at whole year ages:

Retirement Age	1.25% at 65 Tier 2 Factor	Retirement Age	1.25% at 67 Tier 2 Factor
50	0.5000%	50	N/A
51	0.5500%	51	N/A
52	0.6000%	52	0.6500%
53	0.6500%	53	0.6900%
54	0.7000%	54	0.7300%
55	0.7500%	55	0.7700%
56	0.8000%	56	0.8100%
57	0.8500%	57	0.8500%
58	0.9000%	58	0.8900%
59	0.9500%	59	0.9300%
60	1.0000%	60	0.9700%

61	1.0500%	61	1.0100%
62	1.1000%	62	1.0500%
63	1.1500%	63	1.0900%
64	1.2000%	64	1.1300%
65 & Up	1.2500%	65	1.1700%
		66	1.2100%
		67 & Up	1.2500%

- The *years of service* is the amount credited by CalPERS to a member while he or she is employed in this group (or for other periods that are recognized under the employer's contract with CalPERS). For a member who has earned service with multiple CalPERS employers, the benefit from each employer is calculated separately according to each employer's contract, and then added together for the total allowance. Any unused sick leave accumulated at the time of retirement will be converted to credited service at the rate of 0.004 years of service for each day of sick leave.

- The *final compensation* is the monthly average of the member's highest 12 consecutive months' full-time equivalent monthly pay (no matter which CalPERS employer paid this compensation). For some new members hired after July 1, 2006 and for all new members hired on or after January 15, 2011, final compensation is based on the monthly average of the member's highest 36 consecutive months' full-time equivalent monthly pay. PEPRA members have a cap on the annual salary that can be used to calculate final compensation for all new members based on the Social Security Contribution and Benefit Base. For employees that participate in Social Security this cap is $117,020 for 2015 and for those employees that do not participate in social security the cap for 2015 is $140,424. Adjustments to the caps are permitted annually based on changes to the CPI for All Urban Consumers

- Employees may or may not be covered by Social Security. The final compensation is not offset by a dollar amount.

- The Service Retirement benefit is not capped.

Vested Deferred Retirement

Eligibility for Deferred Status

A CalPERS member becomes eligible for a deferred vested retirement benefit when he or she leaves employment, keeps his or her contribution account balance on deposit with CalPERS, and has earned at least 10 years of credited service (total service across all CalPERS employers, and with certain other Retirement Systems with which CalPERS has reciprocity agreements).

Eligibility to Start Receiving Benefits

The CalPERS member becomes eligible to receive the deferred retirement benefit upon satisfying the eligibility requirements for Deferred Status and upon attainment of age 55. Members with 5 years of service before January 1, 1985, are eligible at age 50.

Benefit

The vested deferred retirement benefit is the same as the Service Retirement benefit, where the benefit factor is based on the member's age at allowance commencement. For members who have earned service with multiple CalPERS employers, the benefit from each employer is calculated separately according to each employer's contract, and then added together for the total allowance.

Non-Industrial (Non-Job Related) Disability Retirement

Eligibility

A CalPERS member is eligible for Non-Industrial Disability Retirement if he or she becomes disabled and has at least 10 years of credited service (total service across all PERS employers, and with certain other Retirement Systems with which PERS has reciprocity agreements). There is no special age requirement. Disabled means the member is unable to perform his or her job because of an illness or injury which is expected to be permanent or to last indefinitely. The illness or injury does not have to be job related. A CalPERS member must be actively working with any CalPERS employer at the time of disability in order to be eligible for this benefit. Members with 5 years of service before January 1, 1985 are also eligible.

Benefit

The Non-Industrial Disability Retirement benefit is a monthly allowance equal to 1.125 percent of final compensation, multiplied by service, which is determined as follows:

- Service is CalPERS credited service, for members with less than 10 years of service or greater than 29.628 years of service; or
- Service is CalPERS credited service plus the additional number of years that the member would have worked until age 65, for members with at least 10 years but not more than 29.628 years of service. The maximum benefit in this case is 33 1/3 percent of Final Compensation.

Members who are eligible for a larger service retirement benefit may choose to receive that benefit in lieu of a disability benefit. Members eligible to retire, and who have attained the normal retirement age determined by their service retirement benefit formula, will receive the same dollar amount for disability retirement as that payable for service retirement. For members who have earned service with multiple CalPERS employers, the benefit attributed to each employer is the total disability allowance multiplied by the ratio of service with a particular employer to the total CalPERS service.

Post-Retirement Death Benefit

Lump Sum Payment

Upon the death of a retiree, a one-time lump sum payment of $2,000 will be made to the retiree's designated survivor(s), or to the retiree's estate.

Form of Payment for Retirement Allowance

Generally, the retirement allowance is paid to the retiree in the form of an annuity for as long as he or she is alive. The retiree may choose to provide for a portion of his or her allowance to be paid to any designated beneficiary after the retiree's death. CalPERS provides for a variety of such benefit options, which the retiree pays for by taking a reduction in his or her retirement allowance. Such reduction takes into account the amount to be provided to the beneficiary and the probable duration of payments (based on the ages of the member and beneficiary) made subsequent to the member's death.

For retirement allowances with respect to service earned by employment in this group, 25 percent of the retirement allowance will automatically be continued to certain statutory beneficiaries upon the death of the retiree, without a reduction in the retiree's allowance. This additional benefit is often referred to as post retirement survivor allowance (PRSA) or simply as survivor continuance.

In other words, 25 percent of the allowance, the continuance portion, is paid to the retiree for as long as he or she is alive, and that same amount is continued to the retiree's spouse (or if no eligible spouse, to unmarried children until they attain age 18; or, if no eligible children, to a qualifying dependent parent) for the rest of his or her lifetime.

The remaining 75 percent of the retirement allowance, which may be referred to as the option portion of the benefit, is paid to the retiree as an annuity for as long as he or she is alive. Or, the retiree may choose to provide for some of this option portion to be paid to any designated beneficiary after the retiree's death. Benefit options applicable to the *option portion* are the same as those offered with the standard form. The reduction is calculated in the same manner but is applied only to the *option portion*.

Pre-Retirement Death Benefits

Group Term Life Insurance

Eligibility

An employee's beneficiary (or estate) will receive the Group Term Life Insurance benefit if the member dies while actively employed. A CalPERS member who is no longer actively employed with **any** CalPERS employer is not eligible for this benefit. This benefit is in addition to other pre-retirement death benefits.

Benefit

The benefit is a lump sum payment of $5,000 plus an additional amount equal to 50 percent of the annual compensation earned by the deceased member during the 12 months immediately preceding

the member's death. The additional amount shall not be paid if the member is eligible for service retirement or the Alternate Death Benefit.

For members with less than 20 years of service credit and not age-eligible to retire:

Basic Death Benefit

Eligibility
An employee's beneficiary (or estate) may receive the Basic Death benefit if the member dies while actively employed. A CalPERS member who is no longer actively employed with **any** CalPERS employer is not eligible for this benefit. A member's survivor who is eligible for any other pre-retirement death benefit described below may choose to receive that death benefit instead of this Basic Death benefit.

Benefit
The Basic Death Benefit is a lump sum in the amount of the member's accumulated contributions, where interest is currently credited at 7.5 percent per year. In addition, a lump sum in the amount of six months' salary shall be paid only if the member is eligible for service retirement or eligible for the Alternate Death Benefit. For purposes of this benefit, one month's salary is defined as the member's average monthly full-time rate of compensation during the 12 months preceding death.

For members with more than 20 years of service credit and not age-eligible to retire:

In addition to the above pre-retirement death benefits, members are eligible for:

Alternate Death Benefit

Eligibility
This benefit may be received in lieu of the lump sum Basic Death Benefit if there is a surviving spouse or minor child of the member. The member must have died before reaching the minimum retirement age and must have been credited with at least 20 years of state service.

Benefit
The Alternate Death Benefit is calculated as though the member were the minimum retirement age and elected an optional form of benefit that provided 100 percent continuance to the member's spouse. If the member did not have a spouse at the time of death, one-half of the formula benefit would be paid to the surviving child. If the benefit is payable to a surviving child, the benefit will be discontinued upon death or the attainment of age 18.

For members who are age-eligible to retire:

In addition to the above pre-retirement death benefits, members are eligible for:

1957 Survivor Benefit

Eligibility
An employee's *eligible survivor(s)* may receive the 1957 Survivor benefit if the member dies while actively employed and has attained retirement eligibility. A CalPERS member who is no longer

actively employed with **any** CalPERS employer is not eligible for this benefit. An *eligible survivor* means the surviving spouse to whom the member was married at least one year before death or, if there is no eligible spouse, to the member's unmarried children under age 18. A member's survivor may choose this benefit in lieu of the Basic Death benefit or the Optional Settlement 2W Death benefit.

Benefit
The 1957 Survivor benefit is a monthly allowance equal to one-half of the unmodified Service Retirement benefit that the member would have been entitled to receive if the member had retired on the date of his or her death. If the benefit is payable to the spouse, the benefit is discontinued upon the death of the spouse. If the benefit is payable to a dependent child, the benefit will be discontinued upon death or attainment of age 18, unless the child is disabled. There is a guarantee that the total amount paid will at least equal the Basic Death benefit.

Optional Settlement 2W Death Benefit

Eligibility
An employee's *eligible survivor* may receive the Optional Settlement 2W Death benefit if the member dies while actively employed and has attained retirement eligibility. A CalPERS member who is no longer actively employed with **any** CalPERS employer is not eligible for this benefit. An *eligible survivor* means the surviving spouse to whom the member was married at least one year before death. A member's survivor may choose this benefit in lieu of the Basic Death benefit or the 1957 Survivor benefit.

Benefit
The Optional Settlement 2W Death benefit is a monthly allowance equal to the Service Retirement benefit that the member would have received had the member retired on the date of his or her death and elected Optional Settlement 2W. (A retiree who elects Optional Settlement 2W receives an allowance that has been reduced so that it will continue to be paid after his or her death to a surviving beneficiary.) The allowance is payable as long as the surviving spouse lives. Upon the death of the surviving spouse, the benefit shall be continued to minor children. There is a guarantee that the total amount paid will at least equal the Basic Death Benefit.

Cost-of-Living Adjustments

Beginning the second calendar year after the year of retirement, retirement and survivor allowances will be annually adjusted on a compound basis by 3 percent.

Purchasing Power Protection Allowance (PPPA)

Retirement and survivor allowances are protected against inflation by PPPA. PPPA benefits are cost-of-living adjustments that are intended to maintain an individual's allowance at 75 percent of the initial allowance at retirement adjusted for inflation since retirement. The PPPA benefit will be coordinated with other cost-of-living adjustments provided under the plan. The total annual outlay for PPPA is limited to 1.1 percent of accumulated member contributions. If this amount of member contributions were insufficient to provide for PPPA payments, the 75 percent target would be proportionately reduced.

Employee Contributions

Each employee contributes toward his or her retirement based upon one of the following schedules. The employer may choose to “pick-up” these contributions for the employees.

The percent contributed above the monthly compensation breakpoint is 3.75 percent.
The monthly compensation breakpoint is $0.
The percent contributed below the monthly compensation breakpoint is 0 percent.

Refund of Employee Contributions

If the member’s service with the employer ends, and if the member does not satisfy the eligibility conditions for any of the retirement benefits above, the member may elect to receive a refund of his or her employee contributions, which are credited annually with 6 percent interest.

1959 SURVIVOR BENEFITS PROGRAM

For these benefits, please refer to the 1959 Survivor Report.

STATE INDUSTRIAL TIER 1

The following is a summary of the major plan provisions for the most representative group used in calculating the liabilities of the plan. Many of the statements in this summary are general in nature, and are intended to provide an easily understood summary of the complex Public Employees' Retirement Law. The law itself governs in all situations.

RETIREMENT PROGRAM

Service Retirement

Eligibility
A CalPERS Classic and Safety PEPRA members become eligible for Service Retirement upon attainment of age 50 with at least 5 years of credited service (total service across all CalPERS employers, and with certain other Retirement Systems with which CalPERS has reciprocity agreements). PEPRA Miscellaneous members become eligible for Service Retirement upon attainment of age 52 with at least 5 years of service.

Benefit
The Service Retirement benefit calculated for service earned by this group of employees is a monthly allowance equal to the product of the *benefit factor*, *years of service*, and *final compensation*, where

- The *benefit factor* for this group of employees comes from the **2% at 55** benefit factor table. New Classic members hired on or after January 15, 2011 are subject to the **2% at 60** benefit factor table. New PEPRA members hired on or after January 1, 2013 are subject to the **2% at 62** benefit factor table. The factor depends on the member's age at retirement. Listed below are the factors for retirement at whole year ages:

Retirement Age	2% at 55 Factor	Retirement Age	2% at 60 Factor	Retirement Age	2% at 62 Factor
50	1.100%	50	1.092%	50	N/A
51	1.280%	51	1.156%	51	N/A
52	1.460%	52	1.224%	52	1.000%
53	1.640%	53	1.296%	53	1.100%
54	1.820%	54	1.376%	54	1.200%
55	2.000%	55	1.460%	55	1.300%
56	2.064%	56	1.552%	56	1.400%
57	2.126%	57	1.650%	57	1.500%
58	2.188%	58	1.758%	58	1.600%
59	2.250%	59	1.874%	59	1.700%
60	2.314%	60	2.000%	60	1.800%
61	2.376%	61	2.134%	61	1.900%
62	2.438%	62	2.272%	62	2.000%
63 & Up	2.500%	63 & Up	2.418%	63	2.100%
				64	2.200%
				65	2.300%

66	2.400%
67 & Up	2.500%

- The years of service is the amount credited by CalPERS to a member while he or she is employed in this group (or for other periods that are recognized under the employer's contract with CalPERS). For a member who has earned service with multiple CalPERS employers, the benefit from each employer is calculated separately according to each employer's contract, and then added together for the total allowance. Any unused sick leave accumulated at the time of retirement will be converted to credited service at the rate of 0.004 years of service for each day of sick leave.

- The *final compensation* is the monthly average of the member's highest 12 consecutive months' full-time equivalent monthly pay (no matter which CalPERS employer paid this compensation). For some new members hired after July 1, 2006 and for all new members hired on or after January 15, 2011, final compensation is based on the monthly average of the member's highest 36 consecutive months' full-time equivalent monthly pay. PEPRA members have a cap on the annual salary that can be used to calculate final compensation for all new members based on the Social Security Contribution and Benefit Base. For employees that participate in Social Security this cap is $117,020 for 2015 and for those employees that do not participate in social security the cap for 2015 is $140,424. Adjustments to the caps are permitted annually based on changes to the CPI for All Urban Consumers.

- Employees may or may not be covered by Social Security. For employees covered by Social Security, the final compensation is offset by $133.33 (or by one third if the final compensation is less than $400). For some PEPRA members, the final compensation is not offset.

- The Service Retirement benefit is not capped.

Vested Deferred Retirement

Eligibility for Deferred Status

A CalPERS member becomes eligible for a deferred vested retirement benefit when he or she leaves employment, keeps his or her contribution account balance on deposit with CalPERS, and has earned at least 5 years of credited service (total service across all CalPERS employers, and with certain other Retirement Systems with which CalPERS has reciprocity agreements).

Eligibility to Start Receiving Benefits

The CalPERS Classic and Safety PEPRA members become eligible to receive the deferred retirement benefit upon satisfying the eligibility requirements for Deferred Status and upon attainment of age 50. PEPRA Miscellaneous members become eligible to receive the deferred retirement benefit upon satisfying the eligibility requirements for Deferred Status and upon attainment of age 52.

Benefit

The vested deferred retirement benefit is the same as the Service Retirement benefit, where the benefit factor is based on the member's age at allowance commencement. For members who have earned service with multiple CalPERS employers, the benefit from each employer is calculated separately according to each employer's contract, and then added together for the total allowance.

Non-Industrial (Non-Job Related) Disability Retirement

Eligibility

A CalPERS member is eligible for Non-Industrial Disability Retirement if he or she becomes disabled and has at least 5 years of credited service (total service across all PERS employers, and with certain other Retirement Systems with which PERS has reciprocity agreements). There is no special age requirement. Disabled means the member is unable to perform his or her job because of an illness or injury which is expected to be permanent or to last indefinitely. The illness or injury does not have to be job related. A CalPERS member must be actively working with any CalPERS employer at the time of disability in order to be eligible for this benefit.

Benefit

The Non-Industrial Disability Retirement benefit is a monthly allowance equal to 1.8 percent of final compensation, multiplied by *service*, which is determined as follows:

- *service* is CalPERS credited service, for members with less than 10 years of service or greater than 18.518 years of service; or
- *service* is CalPERS credited service plus the additional number of years that the member would have worked until age 60, for members with at least 10 years but not more than 18.518 years of service. The maximum benefit in this case is 33 1/3 percent of Final Compensation.

Members who are eligible for a larger service retirement benefit may choose to receive that benefit in lieu of a disability benefit. Members eligible to retire, and who have attained the normal retirement age determined by their service retirement benefit formula, will receive the same dollar amount for disability retirement as that payable for service retirement. For members who have earned service with multiple CalPERS employers, the benefit attributed to each employer is the total disability allowance multiplied by the ratio of service with a particular employer to the total CalPERS service.

Industrial (Job-Related) Disability Retirement

Eligibility

An employee is eligible for Industrial Disability Retirement if he or she becomes *disabled* while working, where *disabled* means the member is unable to perform the duties of the job because of a work-related illness or injury which is expected to be permanent or to last indefinitely. A CalPERS member who has left active employment within this group is not eligible for this benefit, except to the extent described in the next paragraph.

Benefit

The Industrial Disability Retirement benefit is a monthly allowance equal to 50 percent of final compensation. However, if a member is eligible for Service Retirement and if the Service Retirement benefit is more than the Industrial Disability Retirement benefit, the member may choose to receive the larger benefit. For a CalPERS member not actively employed in this group who became disabled while employed by some other CalPERS employer, the benefit is a return or annuitization of the accumulated member contributions with respect to employment in this group.

Post-Retirement Death Benefit

Lump Sum Payment
Upon the death of a retiree, a one-time lump sum payment of $2,000 will be made to the retiree's designated survivor(s), or to the retiree's estate.

Form of Payment for Retirement Allowance

Generally, the retirement allowance is paid to the retiree in the form of an annuity for as long as he or she is alive. The retiree may choose to provide for a portion of his or her allowance to be paid to any designated beneficiary after the retiree's death. CalPERS provides for a variety of such benefit options, which the retiree pays for by taking a reduction in his or her retirement allowance. Such reduction takes into account the amount to be provided to the beneficiary and the probable duration of payments (based on the ages of the member and beneficiary) made subsequent to the member's death.

For retirement allowances with respect to service earned by employment in this group, 25 percent of the retirement allowance will automatically be continued to certain statutory beneficiaries upon the death of the retiree, *without* a reduction in the retiree's allowance. This additional benefit is often referred to as *post retirement survivor allowance* (PRSA) or simply as *survivor continuance.*

In other words, 25 percent of the allowance, the *continuance portion*, is paid to the retiree for as long as he or she is alive, and that same amount is continued to the retiree's spouse (or if no eligible spouse, to unmarried children until they attain age 18; or, if no eligible children, to a qualifying dependent parent) for the rest of his or her lifetime.

The remaining 75 percent of the retirement allowance, which may be referred to as the *option portion* of the benefit, is paid to the retiree as an annuity for as long as he or she is alive. Or, the retiree may choose to provide for some of this *option portion* to be paid to **any** designated beneficiary after the retiree's death. Benefit options applicable to the *option portion* are the same as those offered with the standard form. The reduction is calculated in the same manner but is applied only to the *option portion*.

Pre-Retirement Death Benefits

Group Term Life Insurance

Eligibility
An employee's beneficiary (or estate) will receive the Group Term Life Insurance benefit if the member dies while actively employed. A CalPERS member who is no longer actively employed with **any** CalPERS employer is not eligible for this benefit. This benefit is in addition to other pre-retirement death benefits.

Benefit
The benefit is a lump sum payment of $5,000 plus an additional amount equal to 50 percent of the annual compensation earned by the deceased member during the 12 months immediately preceding the member's death. The additional amount shall not be paid if the member is eligible for service retirement or the Alternate Death Benefit.

For members with less than 20 years of service credit and not age-eligible to retire:

Basic Death Benefit

Eligibility
An employee's beneficiary (or estate) may receive the Basic Death benefit if the member dies while actively employed. A CalPERS member who is no longer actively employed with **any** CalPERS employer is not eligible for this benefit. A member's survivor who is eligible for any other pre-retirement death benefit described below may choose to receive that death benefit instead of this Basic Death benefit.

Benefit
The Basic Death Benefit is a lump sum in the amount of the member's accumulated contributions, where interest is currently credited at 7.5 percent per year. In addition, a lump sum in the amount of six months' salary shall be paid only if the member is eligible for service retirement or eligible for the Alternate Death Benefit. For purposes of this benefit, one month's salary is defined as the member's average monthly full-time rate of compensation during the 12 months preceding death.

Special Death Benefit

Eligibility
An employee's *eligible survivor(s)* may receive the Special Death benefit if the member dies while actively employed and the death is job-related. A CalPERS member who is no longer actively employed with **any** CalPERS employer is not eligible for this benefit. An *eligible survivor* means the surviving spouse to whom the member was married prior to the onset of the injury or illness that resulted in death. If there is no eligible spouse, an eligible survivor means the member's unmarried children under age 22. An eligible survivor who chooses to receive this benefit will not receive any other death benefit.

Benefit
The Special Death benefit is a monthly allowance equal to 50 percent of final compensation, and will be increased whenever the compensation paid to active employees is increased but ceasing to increase when the member would have attained age 50. The allowance is payable to the surviving spouse until death, at which time the allowance is continued to any unmarried children under age 22. There is a guarantee that the total amount paid will at least equal the Basic Death Benefit.

If the member's death is the result of an accident or injury caused by external violence or physical force incurred in the performance of the member's duty, and there are *eligible* surviving children (*eligible* means unmarried children under age 22) in addition to an eligible spouse, then an **additional monthly allowance** is paid equal to the following:

- if 1 eligible child: 12.5% of final compensation
- if 2 eligible children: 20.0% of final compensation
- if 3 or more eligible children: 25.0% of final compensation

For members with more than 20 years of service credit and not age-eligible to retire:

In addition to the above pre-retirement death benefits, members are eligible for:

Alternate Death Benefit

Eligibility
This benefit may be received in lieu of the lump sum Basic Death Benefit if there is a surviving spouse or minor child of the member. The member must have died before reaching the minimum retirement age and must have been credited with at least 20 years of state service.

Benefit
The Alternate Death Benefit is calculated as though the member were the minimum retirement age and elected an optional form of benefit that provided 100 percent continuance to the member's spouse. If the member did not have a spouse at the time of death, one-half of the formula benefit would be paid to the surviving child. If the benefit is payable to a surviving child, the benefit will be discontinued upon death or the attainment of age 18.

For members who are age-eligible to retire:

In addition to the above pre-retirement death benefits, members are eligible for:

1957 Survivor Benefit

Eligibility
An employee's *eligible survivor(s)* may receive the 1957 Survivor benefit if the member dies while actively employed, has attained at least age 50 for Classic and Safety PEPRA members and age 52 for Miscellaneous PEPRA members, and has at least 5 years of credited service (total service across all CalPERS employers and with certain other Retirement Systems with which CalPERS has reciprocity agreements). A CalPERS member who is no longer actively employed with **any** CalPERS employer is not eligible for this benefit. An *eligible survivor* means the surviving spouse to whom the member was married at least one year before death or, if there is no eligible spouse, to the member's unmarried children under age 18. A member's survivor may choose this benefit in lieu of the Basic Death benefit or the Special Death benefit.

Benefit
The 1957 Survivor benefit is a monthly allowance equal to one-half of the unmodified Service Retirement benefit that the member would have been entitled to receive if the member had retired on the date of his or her death. If the benefit is payable to the spouse, the benefit is discontinued upon the death of the spouse. If the benefit is payable to a dependent child, the benefit will be discontinued upon death or attainment of age 18, unless the child is disabled. There is a guarantee that the total amount paid will at least equal the Basic Death benefit.

Optional Settlement 2W Death Benefit

Eligibility

An employee's *eligible survivor* may receive the Optional Settlement 2W Death benefit if the member dies while actively employed, has attained at least age 50 for Classic and Safety PEPRA members and age 52 for Miscellaneous PEPRA members, and has at least 5 years of credited service (total service across all CalPERS employers and with certain other Retirement Systems with which CalPERS has reciprocity agreements). A CalPERS member who is no longer actively employed with **any** CalPERS employer is not eligible for this benefit. An *eligible survivor* means the surviving spouse to whom the member was married at least one year before death. A member's survivor may choose this benefit in lieu of the Basic Death benefit or the 1957 Survivor benefit.

Benefit

The Optional Settlement 2W Death benefit is a monthly allowance equal to the Service Retirement benefit that the member would have received had the member retired on the date of his or her death and elected Optional Settlement 2W. (A retiree who elects Optional Settlement 2W receives an allowance that has been reduced so that it will continue to be paid after his or her death to a surviving beneficiary.) The allowance is payable as long as the surviving spouse lives. Upon the death of the surviving spouse, the benefit shall be continued to minor children. There is a guarantee that the total amount paid will at least equal the Basic Death Benefit.

Cost-of-Living Adjustments

Retirement and survivor allowances are adjusted each year in May for cost of living, beginning the second calendar year after the year of retirement. The standard cost-of-living adjustment (COLA) is 2 percent. Annual adjustments are calculated by first determining the lesser of 1) 2 percent compounded from the end of the year of retirement or 2) actual rate of inflation. The resulting increase is divided by the total increase provided in prior years. For any particular year, the COLA adjustment may be less than 2 percent (when the rate of inflation is low), may be greater than the rate of inflation (when the rate of inflation is low after several years of high inflation) or may even be greater than 2 percent (when inflation is high after several years of low inflation).

Purchasing Power Protection Allowance (PPPA)

Retirement and survivor allowances are protected against inflation by PPPA. PPPA benefits are cost-of-living adjustments that are intended to maintain an individual's allowance at 75 percent of the initial allowance at retirement adjusted for inflation since retirement. The PPPA benefit will be coordinated with other cost-of-living adjustments provided under the plan. The total annual outlay for PPPA is limited to 1.1 percent of accumulated member contributions. If this amount of member contributions were insufficient to provide for PPPA payments, the 75 percent target would be proportionately reduced.

Employee Contributions

Each employee contributes toward his or her retirement based upon one of the following schedules. The employer may choose to "pick-up" these contributions for the employees.

For employees covered by Social Security, the monthly compensation breakpoint is $513 and the contribution schedule is as follows:

Approximately 96 percent of the active population is subject to the following schedule:

The percent contributed below the monthly compensation breakpoint is 0 percent.
The percent contributed above the monthly compensation breakpoint is 9 percent.

Approximately 3 percent of the active population is subject to the following schedule:

The percent contributed below the monthly compensation breakpoint is 0 percent.
The percent contributed above the monthly compensation breakpoint is 10 percent.

There are a small number of employees not covered by Social Security in this plan. For those employees, the monthly compensation breakpoint is $317 and contributions are as follows:

The percent contributed below the monthly compensation breakpoint is 0 percent.
The percent contributed above the monthly compensation breakpoint is 1 percent greater than those covered by Social Security.

Refund of Employee Contributions

If the member's service with the employer ends, and if the member does not satisfy the eligibility conditions for any of the retirement benefits above, the member may elect to receive a refund of his or her employee contributions, which are credited annually with 6 percent interest.

1959 SURVIVOR BENEFITS PROGRAM

For these benefits, please refer to the 1959 Survivor Report

STATE INDUSTRIAL TIER 2

The following is a summary of the major plan provisions applicable to State Industrial Tier 2 Members. Many of the statements in this summary are general in nature, and are intended to provide an easily understood summary of the complex Public Employees' Retirement Law. The law itself governs in all situations.

RETIREMENT PROGRAM

Tier 2 Members electing Tier 1 benefits

State Industrial Tier 2 members have the right to convert their Tier 2 service to Tier 1 service provided that they make up the shortfall in their accumulated contributions with interest. In this valuation, we have assumed that all Stat Industrial Tier 2 members will elect to convert their Tier 2 service to Tier 1 service.

Service Retirement

Eligibility
A CalPERS member becomes eligible for Service Retirement upon attainment of age 55 with at least 10 years of credited service (total service across all CalPERS employers, and with certain other Retirement Systems with which CalPERS has reciprocity agreements). Members with 5 years of service before January 1, 1985 are also eligible.

Benefit
The Service Retirement benefit calculated for service earned by this group of employees is a monthly allowance equal to the product of the *benefit factor*, *years of service*, and *final compensation,* where

- The *benefit factor* for Classic employees comes from the **1.25% at 65** Tier 2 benefit factor table. New PEPRA members hired on or after January 1, 2013 are subject to the **1.25% at 67** benefit factor table. The factor depends on the member's age at retirement. Listed below are the factors for retirement at whole year ages:

Retirement Age	1.25% at 65 Tier 2 Factor	Retirement Age	1.25% at 67 Tier 2 Factor
50	0.5000%	50	N/A
51	0.5500%	51	N/A
52	0.6000%	52	0.6500%
53	0.6500%	53	0.6900%
54	0.7000%	54	0.7300%
55	0.7500%	55	0.7700%
56	0.8000%	56	0.8100%
57	0.8500%	57	0.8500%
58	0.9000%	58	0.8900%
59	0.9500%	59	0.9300%
60	1.0000%	60	0.9700%

61	1.0500%	61	1.0100%
62	1.1000%	62	1.0500%
63	1.1500%	63	1.0900%
64	1.2000%	64	1.1300%
65 & Up	1.2500%	65	1.1700%
		66	1.2100%
		67 & Up	1.2500%

- The *years of service* is the amount credited by CalPERS to a member while he or she is employed in this group (or for other periods that are recognized under the employer's contract with CalPERS). For a member who has earned service with multiple CalPERS employers, the benefit from each employer is calculated separately according to each employer's contract, and then added together for the total allowance. Any unused sick leave accumulated at the time of retirement will be converted to credited service at the rate of 0.004 years of service for each day of sick leave.

- The *final compensation* is the monthly average of the member's highest 12 consecutive months' full-time equivalent monthly pay (no matter which CalPERS employer paid this compensation). For some new members hired after July 1, 2006 and for all new members hired on or after January 15, 2011, final compensation is based on the monthly average of the member's highest 36 consecutive months' full-time equivalent monthly pay. PEPRA members have a cap on the annual salary that can be used to calculate final compensation for all new members based on the Social Security Contribution and Benefit Base. For employees that participate in Social Security this cap is $117,020 for 2015 and for those employees that do not participate in social security the cap for 2015 is $140,424. Adjustments to the caps are permitted annually based on changes to the CPI for All Urban Consumers.

- The employees in this group may or may not be covered by Social Security. The final compensation is not offset by a dollar amount.

- The Service Retirement benefit is not capped.

Vested Deferred Retirement

Eligibility for Deferred Status

A CalPERS member becomes eligible for a deferred vested retirement benefit when he or she leaves employment, keeps his or her contribution account balance on deposit with CalPERS, **and** has earned at least 10 years of credited service (total service across all CalPERS employers, and with certain other Retirement Systems with which CalPERS has reciprocity agreements). Members with 5 years of service before January 1, 1985 are also eligible.

Eligibility to Start Receiving Benefits

The CalPERS member becomes eligible to receive the deferred retirement benefit upon satisfying the eligibility requirements for Deferred Status and upon attainment of age 55. Members with 5 years of service before January 1, 1985 are eligible at age 50.

Benefit
The vested deferred retirement benefit is the same as the Service Retirement benefit, where the benefit factor is based on the member's age at allowance commencement. For members who have earned service with multiple CalPERS employers, the benefit from each employer is calculated separately according to each employer's contract, and then added together for the total allowance.

Non-Industrial (Non-Job Related) Disability Retirement

Eligibility
A CalPERS member is eligible for Non-Industrial Disability Retirement if he or she becomes *disabled* and has at least 10 years of credited service (total service across all PERS employers, and with certain other Retirement Systems with which PERS has reciprocity agreements). There is no special age requirement. *Disabled* means the member is unable to perform his or her job because of an illness or injury which is expected to be permanent or to last indefinitely. The illness or injury does not have to be job related. A CalPERS member must be actively working with any CalPERS employer at the time of disability in order to be eligible for this benefit. Members with 5 years of service before January 1, 1985 are also eligible.

Benefit
The Non-Industrial Disability Retirement benefit is a monthly allowance equal to 1.125 percent of final compensation, multiplied by *service*, which is determined as follows:

- *service* is CalPERS credited service, for members with less than 10 years of service or greater than 29.628 years of service; or
- *service* is CalPERS credited service plus the additional number of years that the member would have worked until age 65, for members with at least 10 years but not more than 29.628 years of service. The maximum benefit in this case is 33 1/3 percent of Final Compensation.

Members who are eligible for a larger service retirement benefit may choose to receive that benefit in lieu of a disability benefit. Members eligible to retire, and who have attained the normal retirement age determined by their service retirement benefit formula, will receive the same dollar amount for disability retirement as that payable for service retirement. For members who have earned service with multiple CalPERS employers, the benefit attributed to each employer is the total disability allowance multiplied by the ratio of service with a particular employer to the total CalPERS service.

Industrial (Job-Related) Disability Retirement

Eligibility
An employee is eligible for Industrial Disability Retirement if he or she becomes *disabled* while working, where *disabled* means the member is unable to perform the duties of the job because of a work-related illness or injury which is expected to be permanent or to last indefinitely. A CalPERS member who has left active employment within this group is not eligible for this benefit, except to the extent described in the next paragraph.

Benefit
The Industrial Disability Retirement benefit is a monthly allowance equal to 50 percent of final compensation. However, if a member is eligible for Service Retirement and if the Service Retirement benefit is more than the Industrial Disability Retirement benefit, the member may choose to receive the larger benefit. For a CalPERS member not actively employed in this group who became disabled while employed by some other CalPERS employer, the benefit is a return or annuitization of the accumulated member contributions with respect to employment in this group.

Post-Retirement Death Benefit

Lump Sum Payment
Upon the death of a retiree, a one-time lump sum payment of $2,000 will be made to the retiree's designated survivor(s), or to the retiree's estate.

Form of Payment for Retirement Allowance

Generally, the retirement allowance is paid to the retiree in the form of an annuity for as long as he or she is alive. The retiree may choose to provide for a portion of his or her allowance to be paid to any designated beneficiary after the retiree's death. CalPERS provides for a variety of such benefit options, which the retiree pays for by taking a reduction in his or her retirement allowance. Such reduction takes into account the amount to be provided to the beneficiary and the probable duration of payments (based on the ages of the member and beneficiary) made subsequent to the member's death.

For retirement allowances with respect to service earned by employment in this group, 25 percent of the retirement allowance will automatically be continued to certain statutory beneficiaries upon the death of the retiree, *without* a reduction in the retiree's allowance. This additional benefit is often referred to as *post retirement survivor allowance* (PRSA) or simply as *survivor continuance.*

In other words, 25 percent of the allowance, the *continuance portion*, is paid to the retiree for as long as he or she is alive, and that same amount is continued to the retiree's spouse (or if no eligible spouse, to unmarried children until they attain age 18; or, if no eligible children, to a qualifying dependent parent) for the rest of his or her lifetime.

The remaining 75 percent of the retirement allowance, which may be referred to as the *option portion* of the benefit, is paid to the retiree as an annuity for as long as he or she is alive. Or, the retiree may choose to provide for some of this *option portion* to be paid to **any** designated beneficiary after the retiree's death. Benefit options applicable to the *option portion* are the same as those offered with the standard form. The reduction is calculated in the same manner but is applied only to the *option portion*.

Pre-Retirement Death Benefits

Group Term Life Insurance

Eligibility
An employee's beneficiary (or estate) will receive the Group Term Life Insurance benefit if the member dies while actively employed. A CalPERS member who is no longer actively employed with **any** CalPERS employer is not eligible for this benefit. This benefit is in addition to other pre-retirement death benefits.

Benefit
The benefit is a lump sum payment of $5,000 plus an additional amount equal to 50 percent of the annual compensation earned by the deceased member during the 12 months immediately preceding the member's death. The additional amount shall not be paid if the member is eligible for service retirement or the Alternate Death Benefit.

For members with less than 20 years of service credit and not age-eligible to retire:

Basic Death Benefit

Eligibility
An employee's beneficiary (or estate) may receive the Basic Death benefit if the member dies while actively employed. A CalPERS member who is no longer actively employed with **any** CalPERS employer is not eligible for this benefit. A member's survivor who is eligible for any other pre-retirement death benefit described below may choose to receive that death benefit instead of this Basic Death benefit.

Benefit
The Basic Death Benefit is a lump sum in the amount of the member's accumulated contributions, where interest is currently credited at 7.5 percent per year. In addition, a lump sum in the amount of six months' salary shall be paid only if the member is eligible for service retirement or eligible for the Alternate Death Benefit. For purposes of this benefit, one month's salary is defined as the member's average monthly full-time rate of compensation during the 12 months preceding death.

Special Death Benefit

Eligibility
An employee's *eligible survivor(s)* may receive the Special Death benefit if the member dies while actively employed and the death is job-related. A CalPERS member who is no longer actively employed with **any** CalPERS employer is not eligible for this benefit. An *eligible survivor* means the surviving spouse to whom the member was married prior to the onset of the injury or illness that resulted in death. If there is no eligible spouse, an eligible survivor means the member's unmarried children under age 22. An eligible survivor who chooses to receive this benefit will not receive any other death benefit.

Benefit
The Special Death benefit is a monthly allowance equal to 50 percent of final compensation, and will be increased whenever the compensation paid to active employees is increased but ceasing to increase when the member would have attained age 50. The allowance is payable to the surviving spouse until death, at which time the allowance is continued to any unmarried children under age 22. There is a guarantee that the total amount paid will at least equal the Basic Death Benefit.

If the member's death is the result of an accident or injury caused by external violence or physical force incurred in the performance of the member's duty, and there are *eligible* surviving children (*eligible* means unmarried children under age 22) in addition to an eligible spouse, then an **additional monthly allowance** is paid equal to the following:

- if 1 eligible child: 12.5% of final compensation
- if 2 eligible children: 20.0% of final compensation
- if 3 or more eligible children: 25.0% of final compensation

For members with more than 20 years of service credit and not age-eligible to retire:

In addition to the above pre-retirement death benefits, members are eligible for:

Alternate Death Benefit

Eligibility
This benefit may be received in lieu of the lump sum Basic Death Benefit if there is a surviving spouse or minor child of the member. The member must have died before reaching the minimum retirement age and must have been credited with at least 20 years of state service.

Benefit
The Alternate Death Benefit is calculated as though the member were the minimum retirement age and elected an optional form of benefit that provided 100 percent continuance to the member's spouse. If the member did not have a spouse at the time of death, one-half of the formula benefit would be paid to the surviving child. If the benefit is payable to a surviving child, the benefit will be discontinued upon death or the attainment of age 18.

For members who are age-eligible to retire:

In addition to the above pre-retirement death benefits, members are eligible for:

1957 Survivor Benefit

Eligibility
An employee's *eligible survivor(s)* may receive the 1957 Survivor benefit if the member dies while actively employed and has attained retirement eligibility. A CalPERS member who is no longer actively employed with **any** CalPERS employer is not eligible for this benefit. An *eligible survivor* means the surviving spouse to whom the member was married at least one year before death or, if

there is no eligible spouse, to the member's unmarried children under age 18. A member's survivor may choose this benefit in lieu of the Basic Death benefit or the Special Death benefit.

Benefit

The 1957 Survivor benefit is a monthly allowance equal to one-half of the unmodified Service Retirement benefit that the member would have been entitled to receive if the member had retired on the date of his or her death. If the benefit is payable to the spouse, the benefit is discontinued upon the death of the spouse. If the benefit is payable to a dependent child, the benefit will be discontinued upon death or attainment of age 18, unless the child is disabled. There is a guarantee that the total amount paid will at least equal the Basic Death benefit.

Optional Settlement 2W Death Benefit

Eligibility

An employee's *eligible survivor* may receive the Optional Settlement 2W Death benefit if the member dies while actively employed and has attained retirement eligibility. A CalPERS member who is no longer actively employed with **any** CalPERS employer is not eligible for this benefit. An *eligible survivor* means the surviving spouse to whom the member was married at least one year before death. A member's survivor may choose this benefit in lieu of the Basic Death benefit or the 1957 Survivor benefit.

Benefit

The Optional Settlement 2W Death benefit is a monthly allowance equal to the Service Retirement benefit that the member would have received had the member retired on the date of his or her death and elected Optional Settlement 2W. (A retiree who elects Optional Settlement 2W receives an allowance that has been reduced so that it will continue to be paid after his or her death to a surviving beneficiary.) The allowance is payable as long as the surviving spouse lives. Upon the death of the surviving spouse, the benefit shall be continued to minor children. There is a guarantee that the total amount paid will at least equal the Basic Death Benefit.

Cost-of-Living Adjustments

Beginning the second calendar year after the year of retirement, retirement and survivor allowances will be annually adjusted on a compound basis by 3 percent.

Purchasing Power Protection Allowance (PPPA)

Retirement and survivor allowances are protected against inflation by PPPA. PPPA benefits are cost-of-living adjustments that are intended to maintain an individual's allowance at 75 percent of the initial allowance at retirement adjusted for inflation since retirement. The PPPA benefit will be coordinated with other cost-of-living adjustments provided under the plan. The total annual outlay for PPPA is limited to 1.1 percent of accumulated member contributions. If this amount of member contributions were insufficient to provide for PPPA payments, the 75 percent target would be proportionately reduced.

Employee Contributions

Each employee contributes toward his or her retirement based upon one of the following schedules. The employer may choose to "pick-up" these contributions for the employees.

The percent contributed above the monthly compensation breakpoint is 3.75 percent.
The monthly compensation breakpoint is $0.
The percent contributed below the monthly compensation breakpoint is 0 percent.

Refund of Employee Contributions

If the member's service with the employer ends, and if the member does not satisfy the eligibility conditions for any of the retirement benefits above, the member may elect to receive a refund of his or her employee contributions, which are credited annually with 6 percent interest.

1959 SURVIVOR BENEFITS PROGRAM

For these benefits, please refer to the 1959 Survivor Report.

STATE SAFETY

The following is a summary of the major plan provisions for the most representative group used in calculating the liabilities of the plan. Many of the statements in this summary are general in nature, and are intended to provide an easily understood summary of the complex Public Employees' Retirement Law. The law itself governs in all situations.

RETIREMENT PROGRAM

Service Retirement

Eligibility

A CalPERS Classic and Safety PEPRA members become eligible for Service Retirement upon attainment of age 50 with at least 5 years of credited service (total service across all CalPERS employers, and with certain other Retirement Systems with which CalPERS has reciprocity agreements). PEPRA Miscellaneous members become eligible for Service Retirement upon attainment of age 52 with at least 5 years of service.

Benefit

The Service Retirement benefit calculated for service earned by this group of employees is a monthly allowance equal to the product of the *benefit factor*, *years of service*, and *final compensation*, where

- The *benefit factor* for this group of employees comes from the **2.5% at 55 Safety** benefit factor table. New Classic members hired on or after January 15, 2011 are subject to either the **2% at 55 Safety** or the **2.5% at 60 Safety** benefit factor table. New PEPRA members hired on or after January 1, 2013 are subject to the **2% at 57** benefit factor table. The factor depends on the member's age at retirement. Listed below are the factors for retirement at whole year ages:

Retirement Age	2.5% at 55 Factor	Retirement Age	2% at 55 Factor
50	1.700%	50	1.426%
51	1.800%	51	1.522%
52	1.900%	52	1.628%
53	2.000%	53	1.742%
54	2.250%	54	1.866%
55 & Up	2.500%	55 & Up	2.000%

Retirement Age	2.5% at 60 Factor	Retirement Age	2% at 57 Factor
50	1.426%	50	1.426%
51	1.522%	51	1.508%
52	1.628%	52	1.590%
53	1.742%	53	1.672%
54	1.866%	54	1.754%
55	2.000%	55	1.836%
56	2.100%	56	1.918%

57	2.200%	57 & Up	2.000%
58	2.300%		
59	2.400%		
60 & Up	2.500%		

- The *years of service* is the amount credited by CalPERS to a member while he or she is employed in this group (or for other periods that are recognized under the employer's contract with CalPERS). For a member who has earned service with multiple CalPERS employers, the benefit from each employer is calculated separately according to each employer's contract, and then added together for the total allowance. Any unused sick leave accumulated at the time of retirement will be converted to credited service at the rate of 0.004 years of service for each day of sick leave.

- The *final compensation* is the monthly average of the member's highest 12 consecutive months' full-time equivalent monthly pay (no matter which CalPERS employer paid this compensation). For some new members hired after July 1, 2006 and for all new members hired on or after January 15, 2011, final compensation is based on the monthly average of the member's highest 36 consecutive months' full-time equivalent monthly pay. PEPRA members have a cap on the annual salary that can be used to calculate final compensation for all new members based on the Social Security Contribution and Benefit Base. For employees that participate in Social Security this cap is $117,020 for 2015 and for those employees that do not participate in social security the cap for 2015 is $140,424. Adjustments to the caps are permitted annually based on changes to the CPI for All Urban Consumers.

- The employees in this group are not covered by Social Security. The final compensation is not offset by a dollar amount.

- The Service Retirement benefit is capped at 80 percent of final compensation.

Vested Deferred Retirement

Eligibility for Deferred Status

A CalPERS member becomes eligible for a deferred vested retirement benefit when he or she leaves employment, keeps his or her contribution account balance on deposit with CalPERS, **and** has earned at least 5 years of credited service (total service across all CalPERS employers, and with certain other Retirement Systems with which CalPERS has reciprocity agreements).

Eligibility to Start Receiving Benefits

The CalPERS Classic and Safety PEPRA members become eligible to receive the deferred retirement benefit upon satisfying the eligibility requirements for Deferred Status and upon attainment of age 50. PEPRA Miscellaneous members become eligible to receive the deferred retirement benefit upon satisfying the eligibility requirements for Deferred Status and upon attainment of age 52.

Benefit

The vested deferred retirement benefit is the same as the Service Retirement benefit, where the benefit factor is based on the member's age at allowance commencement. For members who have earned service with multiple CalPERS employers, the benefit from each employer is calculated separately according to each employer's contract, and then added together for the total allowance.

Non-Industrial (Non-Job Related) Disability Retirement

Eligibility

A CalPERS member is eligible for Non-Industrial Disability Retirement if he or she becomes *disabled* and has at least 5 years of credited service (total service across all PERS employers, and with certain other Retirement Systems with which PERS has reciprocity agreements). There is no special age requirement. *Disabled* means the member is unable to perform his or her job because of an illness or injury which is expected to be permanent or to last indefinitely. The illness or injury does not have to be job related. A CalPERS member must be actively working with any CalPERS employer at the time of disability in order to be eligible for this benefit.

Benefit

The Non-Industrial Disability Retirement benefit is a monthly allowance equal to 1.8 percent of final compensation, multiplied by *service*, which is determined as follows:

- *service* is CalPERS credited service, for members with less than 10 years of service or greater than 18.518 years of service; or
- *service* is CalPERS credited service plus the additional number of years that the member would have worked until age 60, for members with at least 10 years but not more than 18.518 years of service. The maximum benefit in this case is 33 1/3 percent of Final Compensation.

Members who are eligible for a larger service retirement benefit may choose to receive that benefit in lieu of a disability benefit. Members eligible to retire, and who have attained the normal retirement age determined by their service retirement benefit formula, will receive the same dollar amount for disability retirement as that payable for service retirement. For members who have earned service with multiple CalPERS employers, the benefit attributed to each employer is the total disability allowance multiplied by the ratio of service with a particular employer to the total CalPERS service.

Industrial (Job-Related) Disability Retirement

Eligibility

An employee is eligible for Industrial Disability Retirement if he or she becomes *disabled* while working, where *disabled* means the member is unable to perform the duties of the job because of a work-related illness or injury which is expected to be permanent or to last indefinitely. A CalPERS member who has left active employment within this group is not eligible for this benefit, except to the extent described in the next paragraph.

Benefit

The Industrial Disability Retirement benefit is a monthly allowance equal to 50 percent of final compensation. However, if a member is eligible for Service Retirement and if the Service Retirement benefit is more than the Industrial Disability Retirement benefit, the member may choose to receive the larger benefit. For a CalPERS member not actively employed in this group who became disabled while employed by some other CalPERS employer, the benefit is a return or annuitization of the accumulated member contributions with respect to employment in this group.

Post-Retirement Death Benefit

Lump Sum Payment
Upon the death of a retiree, a one-time lump sum payment of $2,000 will be made to the retiree's designated survivor(s), or to the retiree's estate.

Form of Payment for Retirement Allowance

Generally, the retirement allowance is paid to the retiree in the form of an annuity for as long as he or she is alive. The retiree may choose to provide for a portion of his or her allowance to be paid to any designated beneficiary after the retiree's death. CalPERS provides for a variety of such benefit options, which the retiree pays for by taking a reduction in his or her retirement allowance. Such reduction takes into account the amount to be provided to the beneficiary and the probable duration of payments (based on the ages of the member and beneficiary) made subsequent to the member's death.

For retirement allowances with respect to service earned by employment in this group, 50 percent of the retirement allowance will automatically be continued to certain statutory beneficiaries upon the death of the retiree, *without* a reduction in the retiree's allowance. This additional benefit is often referred to as *post retirement survivor allowance* (PRSA) or simply as *survivor continuance.*

In other words, 50 percent of the allowance, the *continuance portion*, is paid to the retiree for as long as he or she is alive, and that same amount is continued to the retiree's spouse (or if no eligible spouse, to unmarried children until they attain age 18; or, if no eligible children, to a qualifying dependent parent) for the rest of his or her lifetime.

The remaining 50 percent of the retirement allowance, which may be referred to as the *option portion* of the benefit, is paid to the retiree as an annuity for as long as he or she is alive. Or, the retiree may choose to provide for some of this *option portion* to be paid to **any** designated beneficiary after the retiree's death. Benefit options applicable to the *option portion* are the same as those offered with the standard form. The reduction is calculated in the same manner but is applied only to the *option portion*.

Pre-Retirement Death Benefits

Group Term Life Insurance

Eligibility
An employee's beneficiary (or estate) will receive the Group Term Life Insurance benefit if the member dies while actively employed. A CalPERS member who is no longer actively employed with **any** CalPERS employer is not eligible for this benefit. This benefit is in addition to other pre-retirement death benefits.

Benefit

The benefit is a lump sum payment of $5,000 plus an additional amount equal to 50 percent of the annual compensation earned by the deceased member during the 12 months immediately preceding the member's death. The additional amount shall not be paid if the member is eligible for service retirement or the Alternate Death Benefit.

For members with less than 20 years of service credit and not age-eligible to retire:

Basic Death Benefit

Eligibility

An employee's beneficiary (or estate) may receive the Basic Death benefit if the member dies while actively employed. A CalPERS member who is no longer actively employed with **any** CalPERS employer is not eligible for this benefit. A member's survivor who is eligible for any other pre-retirement death benefit described below may choose to receive that death benefit instead of this Basic Death benefit.

Benefit

The Basic Death Benefit is a lump sum in the amount of the member's accumulated contributions, where interest is currently credited at 7.5 percent per year. In addition, a lump sum in the amount of six months' salary shall be paid only if the member is eligible for service retirement or eligible for the Alternate Death Benefit. For purposes of this benefit, one month's salary is defined as the member's average monthly full-time rate of compensation during the 12 months preceding death.

Special Death Benefit

Eligibility

An employee's *eligible survivor(s)* may receive the Special Death benefit if the member dies while actively employed and the death is job-related. A CalPERS member who is no longer actively employed with **any** CalPERS employer is not eligible for this benefit. An *eligible survivor* means the surviving spouse to whom the member was married prior to the onset of the injury or illness that resulted in death. If there is no eligible spouse, an eligible survivor means the member's unmarried children under age 22. An eligible survivor who chooses to receive this benefit will not receive any other death benefit.

Benefit

The Special Death benefit is a monthly allowance equal to 50 percent of final compensation, and will be increased whenever the compensation paid to active employees is increased but ceasing to increase when the member would have attained age 50. The allowance is payable to the surviving spouse until death, at which time the allowance is continued to any unmarried children under age 22. There is a guarantee that the total amount paid will at least equal the Basic Death Benefit.

If the member's death is the result of an accident or injury caused by external violence or physical force incurred in the performance of the member's duty, and there are *eligible* surviving children (*eligible* means unmarried children under age 22) in addition to an eligible spouse, then an **additional monthly allowance** is paid equal to the following:

- if 1 eligible child: 12.5% of final compensation
- if 2 eligible children: 20.0% of final compensation
- if 3 or more eligible children: 25.0% of final compensation

For members with more than 20 years of service credit and not age-eligible to retire:

In addition to the above pre-retirement death benefits, members are eligible for:

Alternate Death Benefit

Eligibility
This benefit may be received in lieu of the lump sum Basic Death Benefit if there is a surviving spouse or minor child of the member. The member must have died before reaching the minimum retirement age and must have been credited with at least 20 years of state service.

Benefit
The Alternate Death Benefit is calculated as though the member were the minimum retirement age and elected an optional form of benefit that provided 100 percent continuance to the member's spouse. If the member did not have a spouse at the time of death, one-half of the formula benefit would be paid to the surviving child. If the benefit is payable to a surviving child, the benefit will be discontinued upon death or the attainment of age 18.

For members who are age-eligible to retire:

In addition to the above pre-retirement death benefits, members are eligible for:

1957 Survivor Benefit

Eligibility
An employee's *eligible survivor(s)* may receive the 1957 Survivor benefit if the member dies while actively employed, has attained at least age 50 for Classic and Safety PEPRA members and age 52 for Miscellaneous PEPRA members, and has at least 5 years of credited service (total service across all CalPERS employers and with certain other Retirement Systems with which CalPERS has reciprocity agreements). A CalPERS member who is no longer actively employed with **any** CalPERS employer is not eligible for this benefit. An *eligible survivor* means the surviving spouse to whom the member was married at least one year before death or, if there is no eligible spouse, to the member's unmarried children under age 18. A member's survivor may choose this benefit in lieu of the Basic Death benefit or the Special Death benefit.

Benefit
The 1957 Survivor benefit is a monthly allowance equal to one-half of the unmodified Service Retirement benefit that the member would have been entitled to receive if the member had retired on the date of his or her death. If the benefit is payable to the spouse, the benefit is discontinued upon the death of the spouse. If the benefit is payable to a dependent child, the benefit will be discontinued upon death or attainment of age 18, unless the child is disabled. There is a guarantee that the total amount paid will at least equal the Basic Death benefit.

Optional Settlement 2W Death Benefit

Eligibility

An employee's *eligible survivor* may receive the Optional Settlement 2W Death benefit if the member dies while actively employed, has attained at least age 50 for Classic and Safety PEPRA members and age 52 for Miscellaneous PEPRA members, and has at least 5 years of credited service (total service across all CalPERS employers and with certain other Retirement Systems with which CalPERS has reciprocity agreements). A CalPERS member who is no longer actively employed with **any** CalPERS employer is not eligible for this benefit. An *eligible survivor* means the surviving spouse to whom the member was married at least one year before death. A member's survivor may choose this benefit in lieu of the Basic Death benefit or the 1957 Survivor benefit.

Benefit

The Optional Settlement 2W Death benefit is a monthly allowance equal to the Service Retirement benefit that the member would have received had the member retired on the date of his or her death and elected Optional Settlement 2W. (A retiree who elects Optional Settlement 2W receives an allowance that has been reduced so that it will continue to be paid after his or her death to a surviving beneficiary.) The allowance is payable as long as the surviving spouse lives. Upon the death of the surviving spouse, the benefit shall be continued to minor children. There is a guarantee that the total amount paid will at least equal the Basic Death Benefit.

Cost-of-Living Adjustments

Retirement and survivor allowances are adjusted each year in May for cost of living, beginning the second calendar year after the year of retirement. The standard cost-of-living adjustment (COLA) is 2 percent. Annual adjustments are calculated by first determining the lesser of 1) 2 percent compounded from the end of the year of retirement or 2) actual rate of inflation. The resulting increase is divided by the total increase provided in prior years. For any particular year, the COLA adjustment may be less than 2 percent (when the rate of inflation is low), may be greater than the rate of inflation (when the rate of inflation is low after several years of high inflation) or may even be greater than 2 percent (when inflation is high after several years of low inflation).

Purchasing Power Protection Allowance (PPPA)

Retirement and survivor allowances are protected against inflation by PPPA. PPPA benefits are cost-of-living adjustments that are intended to maintain an individual's allowance at 75 percent of the initial allowance at retirement adjusted for inflation since retirement. The PPPA benefit will be coordinated with other cost-of-living adjustments provided under the plan. The total annual outlay for PPPA is limited to 1.1 percent of accumulated member contributions. If this amount of member contributions were insufficient to provide for PPPA payments, the 75 percent target would be proportionately reduced.

Employee Contributions

Each employee contributes toward his or her retirement based upon the following schedule. The employer may choose to "pick-up" these contributions for the employees.

The active population is subject to the following schedule:

The percent contributed below the monthly compensation breakpoint is 0 percent.
The monthly compensation breakpoint is $317.
The percent contributed above the monthly compensation breakpoint is 11 percent.

Refund of Employee Contributions

If the member's service with the employer ends, and if the member does not satisfy the eligibility conditions for any of the retirement benefits above, the member may elect to receive a refund of his or her employee contributions, which are credited annually with 6 percent interest.

1959 SURVIVOR BENEFITS PROGRAM

For these benefits, please refer to the 1959 Survivor Report

STATE PEACE OFFICERS AND FIREFIGHTERS

The following is a summary of the major plan provisions for the most representative group used in calculating the liabilities of this plan. Many of the statements in this summary are general in nature, and are intended to provide an easily understood summary of the complex Public Employees' Retirement Law. The law itself governs in all situations.

RETIREMENT PROGRAM

Service Retirement

Eligibility
A CalPERS Classic and Safety PEPRA members become eligible for Service Retirement upon attainment of age 50 with at least 5 years of credited service (total service across all CalPERS employers, and with certain other Retirement Systems with which CalPERS has reciprocity agreements). PEPRA Miscellaneous members become eligible for Service Retirement upon attainment of age 52 with at least 5 years of service.

Benefit
The Service Retirement benefit calculated for service earned by this group of employees is a monthly allowance equal to the product of the *benefit factor*, *years of service*, and *final compensation*, where

- The *benefit factor* for this group of employees comes from either the **3% at 55** or the **3% at 50** benefit factor table. New Classic members, except firefighters, hired on or after January 15, 2011 are subject to the **2.5% at 55 Safety** benefit factor table. New Classic firefighters hired on or after October 31, 2010 are subject to the **3% at 55** benefit factor table. The factor depends on the member's age at retirement. New PEPRA members hired on or after January 1, 2013 are subject to the **2.5% at 57** or **2.7% at 57** benefit factor table. Listed below are the factors for retirement at whole year ages:

Retirement Age	3% at 55 Factor	Retirement Age	3% at 50 Factor	Retirement Age	2.5% at 55 Factor
50	2.400%	50 & Up	3.000%	50	2.000%
51	2.520%			51	2.100%
52	2.640%			52	2.200%
53	2.760%			53	2.300%
54	2.880%			54	2.400%
55 & Up	3.000%			55 & Up	2.500%

Retirement Age	2.5% at 57 Factor	Retirement Age	2.7% at 57 Factor
50	2.000%	50	2.000%
51	2.071%	51	2.100%
52	2.143%	52	2.200%
53	2.214%	53	2.300%
54	2.286%	54	2.400%
55	2.357%	55	2.500%

56	2.429%	56	2.600%
57 & Up	2.500%	57 & Up	2.700%

- The *years of service* is the amount credited by CalPERS to a member while he or she is employed in this group (or for other periods that are recognized under the employer's contract with CalPERS). For a member who has earned service with multiple CalPERS employers, the benefit from each employer is calculated separately according to each employer's contract, and then added together for the total allowance. Any unused sick leave accumulated at the time of retirement will be converted to credited service at the rate of 0.004 years of service for each day of sick leave.

- The *final compensation* is the monthly average of the member's highest 12 consecutive months' full-time equivalent monthly pay (no matter which CalPERS employer paid this compensation). For some new members hired after January 1, 2007 and for all new members hired on or after January 15, 2011, final compensation is based on the monthly average of the member's highest 36 consecutive months' full-time equivalent monthly pay. PEPRA members have a cap on the annual salary that can be used to calculate final compensation for all new members based on the Social Security Contribution and Benefit Base. For employees that participate in Social Security this cap is $117,020 for 2015 and for those employees that do not participate in social security the cap for 2015 is $140,424. Adjustments to the caps are permitted annually based on changes to the CPI for All Urban Consumers.

- The employees in this group are not covered by Social Security. The final compensation is not offset by a dollar amount.

- The Service Retirement benefit is capped at 90 percent of final compensation.

Vested Deferred Retirement

Eligibility for Deferred Status

A CalPERS member becomes eligible for a deferred vested retirement benefit when he or she leaves employment, keeps his or her contribution account balance on deposit with CalPERS, **and** has earned at least 5 years of credited service (total service across all CalPERS employers, and with certain other Retirement Systems with which CalPERS has reciprocity agreements).

Eligibility to Start Receiving Benefits

The CalPERS Classic and Safety PEPRA members become eligible to receive the deferred retirement benefit upon satisfying the eligibility requirements for Deferred Status and upon attainment of age 50. PEPRA Miscellaneous members become eligible to receive the deferred retirement benefit upon satisfying the eligibility requirements for Deferred Status and upon attainment of age 52.

Benefit

The vested deferred retirement benefit is the same as the Service Retirement benefit, where the benefit factor is based on the member's age at allowance commencement. For members who have earned service with multiple CalPERS employers, the benefit from each employer is calculated separately according to each employer's contract, and then added together for the total allowance.

Non-Industrial (Non-Job Related) Disability Retirement

Eligibility

A CalPERS member is eligible for Non-Industrial Disability Retirement if he or she becomes *disabled* and has at least 5 years of credited service (total service across all PERS employers, and with certain other Retirement Systems with which PERS has reciprocity agreements). There is no special age requirement. *Disabled* means the member is unable to perform his or her job because of an illness or injury which is expected to be permanent or to last indefinitely. The illness or injury does not have to be job related. A CalPERS member must be actively working with any CalPERS employer at the time of disability in order to be eligible for this benefit.

Benefit

The Non-Industrial Disability Retirement benefit is a monthly allowance equal to 1.8 percent of final compensation, multiplied by *service*, which is determined as follows:

- *service* is CalPERS credited service, for members with less than 10 years of service or greater than 18.518 years of service; or
- *service* is CalPERS credited service plus the additional number of years that the member would have worked until age 60, for members with at least 10 years but not more than 18.518 years of service. The maximum benefit in this case is 33 1/3 percent of Final Compensation.

Members who are eligible for a larger service retirement benefit may choose to receive that benefit in lieu of a disability benefit. Members eligible to retire, and who have attained the normal retirement age determined by their service retirement benefit formula, will receive the same dollar amount for disability retirement as that payable for service retirement. For members who have earned service with multiple CalPERS employers, the benefit attributed to each employer is the total disability allowance multiplied by the ratio of service with a particular employer to the total CalPERS service.

Industrial (Job-Related) Disability Retirement

Eligibility

An employee is eligible for Industrial Disability Retirement if he or she becomes *disabled* while working, where *disabled* means the member is unable to perform the duties of the job because of a work-related illness or injury which is expected to be permanent or to last indefinitely. A CalPERS member who has left active employment within this group is not eligible for this benefit, except to the extent described in the next paragraph.

Benefit

The Industrial Disability Retirement benefit is a monthly allowance equal to 50 percent of final compensation. However, if a member is eligible for Service Retirement and if the Service Retirement benefit is more than the Industrial Disability Retirement benefit, the member may choose to receive the larger benefit. For a CalPERS member not actively employed in this group who became disabled while employed by some other CalPERS employer, the benefit is a return or annuitization of the accumulated member contributions with respect to employment in this group.

Post-Retirement Death Benefit

Lump Sum Payment

Upon the death of a retiree, a one-time lump sum payment of $2,000 will be made to the retiree's designated survivor(s), or to the retiree's estate.

Form of Payment for Retirement Allowance

Generally, the retirement allowance is paid to the retiree in the form of an annuity for as long as he or she is alive. The retiree may choose to provide for a portion of his or her allowance to be paid to any designated beneficiary after the retiree's death. CalPERS provides for a variety of such benefit options, which the retiree pays for by taking a reduction in his or her retirement allowance. Such reduction takes into account the amount to be provided to the beneficiary and the probable duration of payments (based on the ages of the member and beneficiary) made subsequent to the member's death.

For retirement allowances with respect to service earned by employment in this group, 50 percent of the retirement allowance will automatically be continued to certain statutory beneficiaries upon the death of the retiree, *without* a reduction in the retiree's allowance. This additional benefit is often referred to as *post retirement survivor allowance* (PRSA) or simply as *survivor continuance.*
In other words, 50 percent of the allowance, the *continuance portion*, is paid to the retiree for as long as he or she is alive, and that same amount is continued to the retiree's spouse (or if no eligible spouse, to unmarried children until they attain age 18; or, if no eligible children, to a qualifying dependent parent) for the rest of his or her lifetime.

The remaining 50 percent of the retirement allowance, which may be referred to as the *option portion* of the benefit, is paid to the retiree as an annuity for as long as he or she is alive. Or, the retiree may choose to provide for some of this *option portion* to be paid to **any** designated beneficiary after the retiree's death. Benefit options applicable to the *option portion* are the same as those offered with the standard form. The reduction is calculated in the same manner but is applied only to the *option portion*.

Pre-Retirement Death Benefits

Group Term Life Insurance

Eligibility

An employee's beneficiary (or estate) will receive the Group Term Life Insurance benefit if the member dies while actively employed. A CalPERS member who is no longer actively employed with **any** CalPERS employer is not eligible for this benefit. This benefit is in addition to other pre-retirement death benefits.

Benefit

The benefit is a lump sum payment of $5,000 plus an additional amount equal to 50 percent of the annual compensation earned by the deceased member during the 12 months immediately preceding

the member's death. The additional amount shall not be paid if the member is eligible for service retirement or the Alternate Death Benefit.

For members with less than 20 years of service credit and not age-eligible to retire:

Basic Death Benefit

Eligibility
An employee's beneficiary (or estate) may receive the Basic Death benefit if the member dies while actively employed. A CalPERS member who is no longer actively employed with **any** CalPERS employer is not eligible for this benefit. A member's survivor who is eligible for any other pre-retirement death benefit described below may choose to receive that death benefit instead of this Basic Death benefit.

Benefit
The Basic Death Benefit is a lump sum in the amount of the member's accumulated contributions, where interest is currently credited at 7.5 percent per year. In addition, a lump sum in the amount of six months' salary shall be paid only if the member is eligible for service retirement or eligible for the Alternate Death Benefit. For purposes of this benefit, one month's salary is defined as the member's average monthly full-time rate of compensation during the 12 months preceding death.

Special Death Benefit

Eligibility
An employee's *eligible survivor(s)* may receive the Special Death benefit if the member dies while actively employed and the death is job-related. A CalPERS member who is no longer actively employed with **any** CalPERS employer is not eligible for this benefit. An *eligible survivor* means the surviving spouse to whom the member was married prior to the onset of the injury or illness that resulted in death. If there is no eligible spouse, an eligible survivor means the member's unmarried children under age 22. An eligible survivor who chooses to receive this benefit will not receive any other death benefit.

Benefit

The Special Death benefit is a monthly allowance equal to 50 percent of final compensation, and will be increased whenever the compensation paid to active employees is increased but ceasing to increase when the member would have attained age 50. The allowance is payable to the surviving spouse until death, at which time the allowance is continued to any unmarried children under age 22. There is a guarantee that the total amount paid will at least equal the Basic Death Benefit.

If the member's death is the result of an accident or injury caused by external violence or physical force incurred in the performance of the member's duty, and there are *eligible* surviving children (*eligible* means unmarried children under age 22) in addition to an eligible spouse, then an **additional monthly allowance** is paid equal to the following:

- if 1 eligible child: 12.5% of final compensation

- if 2 eligible children: 20.0% of final compensation
- if 3 or more eligible children: 25.0% of final compensation

For members with more than 20 years of service credit and not age-eligible to retire:

In addition to the above pre-retirement death benefits, members are eligible for:

Alternate Death Benefit

Eligibility
This benefit may be received in lieu of the lump sum Basic Death Benefit if there is a surviving spouse or minor child of the member. The member must have died before reaching the minimum retirement age and must have been credited with at least 20 years of state service.

Benefit
The Alternate Death Benefit is calculated as though the member were the minimum retirement age and elected an optional form of benefit that provided 100 percent continuance to the member's spouse. If the member did not have a spouse at the time of death, one-half of the formula benefit would be paid to the surviving child. If the benefit is payable to a surviving child, the benefit will be discontinued upon death or the attainment of age 18.

For members who are age-eligible to retire:

In addition to the above pre-retirement death benefits, members are eligible for:

1957 Survivor Benefit

Eligibility
An employee's *eligible survivor(s)* may receive the 1957 Survivor benefit if the member dies while actively employed, has attained at least age 50 for Classic and Safety PEPRA members and age 52 for Miscellaneous PEPRA members, and has at least 5 years of credited service (total service across all CalPERS employers and with certain other Retirement Systems with which CalPERS has reciprocity agreements). A CalPERS member who is no longer actively employed with **any** CalPERS employer is not eligible for this benefit. An *eligible survivor* means the surviving spouse to whom the member was married at least one year before death or, if there is no eligible spouse, to the member's unmarried children under age 18. A member's survivor may choose this benefit in lieu of the Basic Death benefit or the Special Death benefit.

Benefit
The 1957 Survivor benefit is a monthly allowance equal to one-half of the unmodified Service Retirement benefit that the member would have been entitled to receive if the member had retired on the date of his or her death. If the benefit is payable to the spouse, the benefit is discontinued upon the death of the spouse. If the benefit is payable to a dependent child, the benefit will be discontinued upon death or attainment of age 18, unless the child is disabled. There is a guarantee that the total amount paid will at least equal the Basic Death benefit.

Optional Settlement 2W Death Benefit

Eligibility
An employee's *eligible survivor* may receive the Optional Settlement 2W Death benefit if the member dies while actively employed, has attained at least age 50 for Classic and Safety PEPRA members and age 52 for Miscellaneous PEPRA members, and has at least 5 years of credited service (total service across all CalPERS employers and with certain other Retirement Systems with which CalPERS has reciprocity agreements). A CalPERS member who is no longer actively employed with **any** CalPERS employer is not eligible for this benefit. An *eligible survivor* means the surviving spouse to whom the member was married at least one year before death. A member's survivor may choose this benefit in lieu of the Basic Death benefit or the 1957 Survivor benefit.

Benefit
The Optional Settlement 2W Death benefit is a monthly allowance equal to the Service Retirement benefit that the member would have received had the member retired on the date of his or her death and elected Optional Settlement 2W. (A retiree who elects Optional Settlement 2W receives an allowance that has been reduced so that it will continue to be paid after his or her death to a surviving beneficiary.) The allowance is payable as long as the surviving spouse lives. Upon the death of the surviving spouse, the benefit shall be continued to minor children. There is a guarantee that the total amount paid will at least equal the Basic Death Benefit.

Cost-of-Living Adjustments

Retirement and survivor allowances are adjusted each year in May for cost of living, beginning the second calendar year after the year of retirement. The standard cost-of-living adjustment (COLA) is 2 percent. Annual adjustments are calculated by first determining the lesser of 1) 2 percent compounded from the end of the year of retirement or 2) actual rate of inflation. The resulting increase is divided by the total increase provided in prior years. For any particular year, the COLA adjustment may be less than 2 percent (when the rate of inflation is low), may be greater than the rate of inflation (when the rate of inflation is low after several years of high inflation) or may even be greater than 2 percent (when inflation is high after several years of low inflation).

Purchasing Power Protection Allowance (PPPA)

Retirement and survivor allowances are protected against inflation by PPPA. PPPA benefits are cost-of-living adjustments that are intended to maintain an individual's allowance at 75 percent of the initial allowance at retirement adjusted for inflation since retirement. The PPPA benefit will be coordinated with other cost-of-living adjustments provided under the plan. The total annual outlay for PPPA is limited to 1.1 percent of accumulated member contributions. If this amount of member contributions were insufficient to provide for PPPA payments, the 75 percent target would be proportionately reduced.

Employee Contributions

Each employee contributes toward his or her retirement based upon one of the following schedules. The employer may choose to "pick-up" these contributions for the employees.

Approximately 91 percent of the active population has a monthly compensation breakpoint of $863 and is subject to the following schedule:

The percent contributed below the monthly compensation breakpoint is 0 percent.
The percent contributed above the monthly compensation breakpoint is 13 percent.

Approximately 8 percent of the active population has a monthly compensation breakpoint of $513 and is subject to the following schedule:

The percent contributed below the monthly compensation breakpoint is 0 percent.
The percent contributed above the monthly compensation breakpoint is 13 percent.

Approximately 1 percent of the active population has a monthly compensation breakpoint of $238 and is subject to the following schedule:

The percent contributed below the monthly compensation breakpoint is 0 percent.
The percent contributed above the monthly compensation breakpoint is 8 percent.

For some new PEPRA members, the monthly compensation breakpoint is $0 and contributions are as follows:

The percent contributed below the monthly compensation breakpoint is 0 percent.
The percent contributed above the monthly compensation breakpoint is 11 percent.

Refund of Employee Contributions

If the member’s service with the employer ends, and if the member does not satisfy the eligibility conditions for any of the retirement benefits above, the member may elect to receive a refund of his or her employee contributions, which are credited annually with 6 percent interest.

1959 SURVIVOR BENEFITS PROGRAM

For these benefits, please refer to the 1959 Survivor Report

CALIFORNIA HIGHWAY PATROL

The following is a summary of the major plan provisions used in calculating the liabilities of the plan. Many of the statements in this summary are general in nature, and are intended to provide an easily understood summary of the complex Public Employees' Retirement Law. The law itself governs in all situations.

RETIREMENT PROGRAM

Service Retirement

Eligibility

A CalPERS Classic and Safety PEPRA members become eligible for Service Retirement upon attainment of age 50 with at least 5 years of credited service (total service across all CalPERS employers, and with certain other Retirement Systems with which CalPERS has reciprocity agreements). PEPRA Miscellaneous members become eligible for Service Retirement upon attainment of age 52 with at least 5 years of service.

Benefit

The Service Retirement benefit calculated for service earned by this group of employees is a monthly allowance equal to the product of the *benefit factor*, *years of service*, and *final compensation*, where

- The *benefit factor* for this group of employees is **3% at all ages,** it does not depend on the member's age at retirement. New Classic members hired on or after October 31, 2010 are subject to the **3% at 55** benefit factor table. New PEPRA members hired on or after January 1, 2013 are subject to the **2.7% at 57** benefit factor table.

Retirement Age	3% at 55 Factor	Retirement Age	2.7% at 57 Factor
50	2.400%	50	2.000%
51	2.520%	51	2.100%
52	2.640%	52	2.200%
53	2.760%	53	2.300%
54	2.880%	54	2.400%
55 & Up	3.000%	55	2.500%
		56	2.600%
		57 & Up	2.700%

- The *years of service* is the amount credited by CalPERS to a member while he or she is employed in this group (or for other periods that are recognized under the employer's contract with CalPERS including service at the CHP Academy for graduating members). For a member who has earned service with multiple CalPERS employers, the benefit from each employer is calculated separately according to each employer's contract, and then added together for the total allowance. Any unused sick leave accumulated at the time of retirement will be converted to credited service at the rate of 0.004 years of service for each day of sick leave.

- The *final compensation* is the monthly average of the member's highest 12 consecutive months' full-time equivalent monthly pay (no matter which CalPERS employer paid this compensation). The *final compensation* for an employee hired on or after October 31, 2010 is the monthly average of the member's highest 36 consecutive months' full-time equivalent monthly pay. PEPRA members have a cap on the annual salary that can be used to calculate final compensation for all new members based on the Social Security Contribution and Benefit Base. For employees that participate in Social Security this cap is $117,020 for 2015 and for those employees that do not participate in social security the cap for 2015 is $140,424. Adjustments to the caps are permitted annually based on changes to the CPI for All Urban Consumers.

- The employees in this group are not covered by Social Security. The final compensation is not offset by a dollar amount.

- The Service Retirement benefit is capped at 90 percent of final compensation.

Vested Deferred Retirement

Eligibility for Deferred Status
A CalPERS member becomes eligible for a deferred vested retirement benefit when he or she leaves employment, keeps his or her contribution account balance on deposit with CalPERS, **and** has earned at least 5 years of credited service (total service across all CalPERS employers, and with certain other Retirement Systems with which CalPERS has reciprocity agreements).

Eligibility to Start Receiving Benefits
The CalPERS Classic and Safety PEPRA members become eligible to receive the deferred retirement benefit upon satisfying the eligibility requirements for Deferred Status and upon attainment of age 50. PEPRA Miscellaneous members become eligible to receive the deferred retirement benefit upon satisfying the eligibility requirements for Deferred Status and upon attainment of age 52.

Benefit
The vested deferred retirement benefit is the same as the Service Retirement benefit, where the benefit factor is based on the member's age at allowance commencement. For members who have earned service with multiple CalPERS employers, the benefit from each employer is calculated separately according to each employer's contract, and then added together for the total allowance.

Non-Industrial (Non-Job Related) Disability Retirement

Eligibility
A CalPERS member is eligible for Non-Industrial Disability Retirement if he or she becomes *disabled* and has at least 5 years of credited service (total service across all PERS employers, and with certain other Retirement Systems with which PERS has reciprocity agreements). There is no special age requirement. *Disabled* means the member is unable to perform his or her job because of an illness or injury which is expected to be permanent or to last indefinitely. The illness or injury does not have to be job related. A CalPERS member must be actively working with any CalPERS employer at the time of disability in order to be eligible for this benefit.

Benefit

The Non-Industrial Disability Retirement benefit is a monthly allowance equal to 1.8 percent of final compensation, multiplied by *service*, which is determined as follows:

- *service* is CalPERS credited service, for members with less than 10 years of service or greater than 18.518 years of service; or
- *service* is CalPERS credited service plus the additional number of years that the member would have worked until age 60, for members with at least 10 years but not more than 18.518 years of service. The maximum benefit in this case is 33 1/3 percent of Final Compensation.

Members who are eligible for a larger service retirement benefit may choose to receive that benefit in lieu of a disability benefit. Members eligible to retire, and who have attained the normal retirement age determined by their service retirement benefit formula, will receive the same dollar amount for disability retirement as that payable for service retirement. For members who have earned service with multiple CalPERS employers, the benefit attributed to each employer is the total disability allowance multiplied by the ratio of service with a particular employer to the total CalPERS service.

Industrial (Job-Related) Disability Retirement

Eligibility

An employee is eligible for Industrial Disability Retirement if he or she becomes *disabled* while working, where *disabled* means the member is unable to perform the duties of the job because of a work-related illness or injury which is expected to be permanent or to last indefinitely. A CalPERS member who has left active employment within this group is not eligible for this benefit, except to the extent described in the next paragraph.

Benefit

The Industrial Disability Retirement benefit is a monthly allowance equal to 50 percent of final compensation. For members who, as a result of a single event, incur serious bodily injury, the benefit provided is equal to the greater of 50 percent of final compensation, or, three percent of final compensation multiplied by the number of years of service credited to the member, plus an annuity purchased with the accumulated additional contributions, if any. However, if a member is eligible for Service Retirement and if the Service Retirement benefit is more than the Industrial Disability Retirement benefit, the member may choose to receive the larger benefit, plus an annuity purchased with the accumulated additional contributions, if any. For a CalPERS member not actively employed in this group who became disabled while employed by some other CalPERS employer, the benefit is a return or annuitization of the accumulated member contributions with respect to employment in this group.

Post-Retirement Death Benefit

Lump Sum Payment
Upon the death of a retiree, a one-time lump sum payment of $2,000 will be made to the retiree's designated survivor(s), or to the retiree's estate.

Form of Payment for Retirement Allowance

Generally, the retirement allowance is paid to the retiree in the form of an annuity for as long as he or she is alive. The retiree may choose to provide for a portion of his or her allowance to be paid to any designated beneficiary after the retiree's death. CalPERS provides for a variety of such benefit options, which the retiree pays for by taking a reduction in his or her retirement allowance. Such reduction takes into account the amount to be provided to the beneficiary and the probable duration of payments (based on the ages of the member and beneficiary) made subsequent to the member's death.

For retirement allowances with respect to service earned by employment in this group, 50 percent of the retirement allowance will automatically be continued to certain statutory beneficiaries upon the death of the retiree, *without* a reduction in the retiree's allowance. This additional benefit is often referred to as *post retirement survivor allowance* (PRSA) or simply as *survivor continuance.*

In other words, 50 percent of the allowance, the *continuance portion*, is paid to the retiree for as long as he or she is alive, and that same amount is continued to the retiree's spouse (or if no eligible spouse, to unmarried children until they attain age 18; or, if no eligible children, to a qualifying dependent parent) for the rest of his or her lifetime.

The remaining 50 percent of the retirement allowance, which may be referred to as the *option portion* of the benefit, is paid to the retiree as an annuity for as long as he or she is alive. Or, the retiree may choose to provide for some of this *option portion* to be paid to **any** designated beneficiary after the retiree's death. Benefit options applicable to the *option portion* are the same as those offered with the standard form. The reduction is calculated in the same manner but is applied only to the *option portion*.

Pre-Retirement Death Benefits

Group Term Life Insurance

Eligibility
An employee's beneficiary (or estate) will receive the Group Term Life Insurance benefit if the member dies while actively employed. A CalPERS member who is no longer actively employed with **any** CalPERS employer is not eligible for this benefit. This benefit is in addition to other pre-retirement death benefits.

Benefit
The benefit is a lump sum payment of $5,000 plus an additional amount equal to 50 percent of the annual compensation earned by the deceased member during the 12 months immediately preceding

the member's death. The additional amount shall not be paid if the member is eligible for service retirement or the Alternate Death Benefit.

For members with less than 20 years of service credit and not age-eligible to retire:

Basic Death Benefit

Eligibility

An employee's beneficiary (or estate) may receive the Basic Death benefit if the member dies while actively employed. A CalPERS member who is no longer actively employed with **any** CalPERS employer is not eligible for this benefit. A member's survivor who is eligible for any other pre-retirement death benefit described below may choose to receive that death benefit instead of this Basic Death benefit.

Benefit

The Basic Death Benefit is a lump sum in the amount of the member's accumulated contributions, where interest is currently credited at 7.5 percent per year. In addition, a lump sum in the amount of six months' salary shall be paid only if the member is eligible for service retirement or eligible for the Alternate Death Benefit. For purposes of this benefit, one month's salary is defined as the member's average monthly full-time rate of compensation during the 12 months preceding death.

Special Death Benefit

Eligibility

An employee's *eligible survivor(s)* may receive the Special Death benefit if the member dies while actively employed and the death is job-related. A CalPERS member who is no longer actively employed with **any** CalPERS employer is not eligible for this benefit. An *eligible survivor* means the surviving spouse to whom the member was married prior to the onset of the injury or illness that resulted in death. If there is no eligible spouse, an eligible survivor means the member's unmarried children under age 22. An eligible survivor who chooses to receive this benefit will not receive any other death benefit.

Benefit

The Special Death benefit is a monthly allowance equal to 50 percent of final compensation, and will be increased whenever the compensation paid to active employees is increased but ceasing to increase when the member would have attained age 50. The allowance is payable to the surviving spouse until death, at which time the allowance is continued to any unmarried children under age 22. There is a guarantee that the total amount paid will at least equal the Basic Death Benefit.

If the member's death is the result of an accident or injury caused by external violence or physical force incurred in the performance of the member's duty, and there are *eligible* surviving children (*eligible* means unmarried children under age 22) in addition to an eligible spouse, then an **additional monthly allowance** is paid equal to the following:

- if 1 eligible child: 12.5% of final compensation
- if 2 eligible children: 20.0% of final compensation

- if 3 or more eligible children: 25.0% of final compensation

For members with more than 20 years of service credit and not age-eligible to retire:

In addition to the above pre-retirement death benefits, members are eligible for:

Alternate Death Benefit

Eligibility
This benefit may be received in lieu of the lump sum Basic Death Benefit if there is a surviving spouse or minor child of the member. The member must have died before reaching the minimum retirement age and must have been credited with at least 20 years of state service.

Benefit
The Alternate Death Benefit is calculated as though the member were the minimum retirement age and elected an optional form of benefit that provided 100 percent continuance to the member's spouse. If the member did not have a spouse at the time of death, one-half of the formula benefit would be paid to the surviving child. If the benefit is payable to a surviving child, the benefit will be discontinued upon death or the attainment of age 18.

For members who are age-eligible to retire:

In addition to the above pre-retirement death benefits, members are eligible for:

1957 Survivor Benefit

Eligibility
An employee's *eligible survivor(s)* may receive the 1957 Survivor benefit if the member dies while actively employed, has attained at least age 50 for Classic and Safety PEPRA members and age 52 for Miscellaneous PEPRA members, and has at least 5 years of credited service (total service across all CalPERS employers and with certain other Retirement Systems with which CalPERS has reciprocity agreements). A CalPERS member who is no longer actively employed with **any** CalPERS employer is not eligible for this benefit. An *eligible survivor* means the surviving spouse to whom the member was married at least one year before death or, if there is no eligible spouse, to the member's unmarried children under age 18. A member's survivor may choose this benefit in lieu of the Basic Death benefit or the Special Death benefit.

Benefit
The 1957 Survivor benefit is a monthly allowance equal to one-half of the unmodified Service Retirement benefit that the member would have been entitled to receive if the member had retired on the date of his or her death. If the benefit is payable to the spouse, the benefit is discontinued upon the death of the spouse. If the benefit is payable to a dependent child, the benefit will be discontinued upon death or attainment of age 18, unless the child is disabled. There is a guarantee that the total amount paid will at least equal the Basic Death benefit.

Optional Settlement 2W Death Benefit

Eligibility

An employee's *eligible survivor* may receive the Optional Settlement 2W Death benefit if the member dies while actively employed, has attained at least age 50 for Classic and Safety PEPRA members and age 52 for Miscellaneous PEPRA members, and has at least 5 years of credited service (total service across all CalPERS employers and with certain other Retirement Systems with which CalPERS has reciprocity agreements). A CalPERS member who is no longer actively employed with **any** CalPERS employer is not eligible for this benefit. An *eligible survivor* means the surviving spouse to whom the member was married at least one year before death. A member's survivor may choose this benefit in lieu of the Basic Death benefit or the 1957 Survivor benefit.

Benefit

The Optional Settlement 2W Death benefit is a monthly allowance equal to the Service Retirement benefit that the member would have received had the member retired on the date of his or her death and elected Optional Settlement 2W. (A retiree who elects Optional Settlement 2W receives an allowance that has been reduced so that it will continue to be paid after his or her death to a surviving beneficiary.) The allowance is payable as long as the surviving spouse lives. Upon the death of the surviving spouse, the benefit shall be continued to minor children. There is a guarantee that the total amount paid will at least equal the Basic Death Benefit.

Cost-of-Living Adjustments

Retirement and survivor allowances are adjusted each year in May for cost of living, beginning the second calendar year after the year of retirement. The standard cost-of-living adjustment (COLA) is 2 percent. Annual adjustments are calculated by first determining the lesser of 1) 2 percent compounded from the end of the year of retirement or 2) actual rate of inflation. The resulting increase is divided by the total increase provided in prior years. For any particular year, the COLA adjustment may be less than 2 percent (when the rate of inflation is low), may be greater than the rate of inflation (when the rate of inflation is low after several years of high inflation) or may even be greater than 2 percent (when inflation is high after several years of low inflation).

Purchasing Power Protection Allowance (PPPA)

Retirement and survivor allowances are protected against inflation by PPPA. PPPA benefits are cost-of-living adjustments that are intended to maintain an individual's allowance at 75 percent of the initial allowance at retirement adjusted for inflation since retirement. The PPPA benefit will be coordinated with other cost-of-living adjustments provided under the plan. The total annual outlay for PPPA is limited to 1.1 percent of accumulated member contributions. If this amount of member contributions were insufficient to provide for PPPA payments, the 75 percent target would be proportionately reduced.

Employee Contributions

Each employee contributes toward his or her retirement based upon the following schedule. The employer may choose to "pick-up" these contributions for the employees.

The percent contributed below the monthly compensation breakpoint is 0 percent.
The monthly compensation breakpoint is $863.
The percent contributed above the monthly compensation breakpoint is 11.5 percent.

Refund of Employee Contributions

If the member's service with the employer ends, and if the member does not satisfy the eligibility conditions for any of the retirement benefits above, the member may elect to receive a refund of his or her employee contributions, which are credited annually with 6 percent interest.

1959 SURVIVOR BENEFITS PROGRAM

For these benefits, please refer to the 1959 Survivor Report

APPENDIX C
PARTICIPANT DATA

- **SOURCE OF THE PARTICIPANT DATA**
- **DATA VALIDATION TESTS AND ADJUSTMENTS**
- **DATA STATEMENT**
- **RECONCILIATION OF PARTICIPANTS**
- **ACTIVE MEMBERS**
- **TERMINATED AND TRANSFERRED PARTICIPANTS**
- **RETIRED MEMBERS AND BENEFICIARIES**

Source of the Participant Data

The data was extracted from various databases within CalPERS and placed in a data warehouse by a series of extract programs. Included in this data is:

- Individual member and beneficiary information,
- Employment and payroll information,
- Accumulated contributions with interest,
- Service information,
- Benefit payment information,
- Information about the various organizations which contract with CalPERS, and
- Detailed information about the plan provisions applicable to each group of members.

Data Validation Tests and Adjustments

Once the information is extracted from the various computer systems into the data warehouse, update queries are then run against this data to correct for flaws found in the data. This part of the process is intended to validate the participant data for all CalPERS plans. It is not specific to the State plans.

Checks on the data included:

- A reconciliation of the membership of the plans,
- Comparisons of various member statistics (average attained age, average entry age, average salary, etc.) for each plan with those from the prior valuation
- Pension amounts for each retiree and beneficiary receiving payments were compared with the pension amounts from the prior valuation
- Checks for invalid ages and dates, and
- Reasonableness checks on various key data elements such as service and salary.

As a result of the tests on the data, a number of adjustments were determined to be necessary. These included:

- Dates of hire and dates of entry were adjusted where necessary to be consistent with the service fields, the date of birth and each other, and

In addition, it is also known that records relating to pre-1984 State Safety retirees who were transferred to the State Peace Officers and Firefighters plan upon its creation have not had their records updated to reflect the transfer. In this valuation, as in prior valuations, this deficiency has been handled by adjusting the assets and liabilities rather than by trying to correct the data. The member counts and summary of retiree data have not been adjusted to correct for this deficiency.

Data Statement

The data does not contain information about reciprocal systems and hence salary information for terminated participants covered by reciprocal systems may not be up to date. This situation is not expected to have a material impact on the employer contribution rates since the total present value for all terminated participants represents less than 2 percent of the present value of benefits for all members.

We are unaware of any other data issues that would have a material effect on the results of this valuation.

It is our opinion that, after the adjustments noted above, the participant data was sufficient and reliable for the purposes of the valuation.

Reconciliation of Participants

For the Fiscal Year Ending June 30, 2015

State Miscellaneous Tier 1

	Active	Transfer	Terminated	Receiving	Total
As of June 30, 2014	**154,708**	**25,227**	**48,200**	**172,195**	**400,330**
Retirements	(6,235)	(1,106)	(568)	7,909	0
Industrial Disabilities	0	(60)	(2)	62	0
Ordinary Disabilities	(311)	(33)	(57)	401	0
Deaths[2]	(245)	(39)	(96)	(6,176)	(6,556)
New Survivors	n/a	n/a	n/a	1,978	1,978
Non-vested Terminations[1]	(2,869)	(444)	3,314	(1)	0
Vested Terminations	(1,323)	(107)	1,433	(3)	0
Refunds of Contributions	(474)	(118)	(953)	0	(1,545)
Transfers	(2,149)	2,901	(720)	(32)	0
Redeposits/Rehires	1,829	(522)	(1,234)	(73)	0
First Year in Status	20,826	774	1,752	578	23,930
Moved from Tier 2	221	403	55	30	709
Data Corrections[3]	(369)	(504)	(668)	(431)	(1,972)
As of June 30, 2015	**163,609**	**26,372**	**50,456**	**176,437**	**416,874**

State Miscellaneous Tier 2

	Active	Transfer	Terminated	Receiving	Total
As of June 30, 2014	**5,521**	**10,105**	**1,517**	**5,630**	**22,773**
Retirements	(45)	(206)	(53)	304	0
Industrial Disabilities	(1)	(1)	0	2	0
Ordinary Disabilities	(15)	(26)	(11)	52	0
Deaths[2]	(14)	(15)	(120)	(160)	(309)
New Survivors	n/a	n/a	n/a	60	60
Non-vested Terminations[1]	(29)	(118)	147	0	0
Vested Terminations	(55)	(16)	72	(1)	0
Refunds of Contributions	(5)	(25)	(38)	0	(68)
Transfers	(280)	493	(209)	(4)	0
Redeposits/Rehires	49	(28)	(21)	0	0
First Year in Status	70	36	237	35	378
Moved to Tier 1	(221)	(403)	(55)	(30)	(709)
Data Corrections[3]	2	(23)	17	(28)	(32)
As of June 30, 2015	**4,977**	**9,773**	**1,483**	**5,860**	**22,093**

[1] Includes non-vested terminated participants with employee contributions left in the plan.
[2] Includes both deaths without survivors and deaths with survivors receiving a benefit.
[3] May include the combining of data records into a single record.

Reconciliation of Participants (Continued)

For the Fiscal Year Ending June 30, 2015

State Industrial

	Active	Transfer	Terminated	Receiving	Total
As of June 30, 2014	**10,524**	**8,852**	**3,137**	**12,065**	**34,578**
Retirements	(306)	(372)	(41)	719	0
Industrial Disabilities	(1)	(13)	0	14	0
Ordinary Disabilities	(54)	(23)	(15)	92	0
Deaths[2]	(18)	(13)	(9)	(270)	(310)
New Survivors	n/a	n/a	n/a	113	113
Non-vested Terminations[1]	(101)	(21)	122	0	0
Vested Terminations	(106)	(84)	190	0	0
Refunds of Contributions	(64)	(30)	(69)	0	(163)
Transfers	(591)	713	(111)	(11)	0
Redeposits/Rehires	256	(179)	(69)	(8)	0
First Year in Status	1,614	119	90	47	1,870
Data Corrections[3]	(49)	(165)	(23)	(9)	(246)
As of June 30, 2015	**11,104**	**8,784**	**3,202**	**12,752**	**35,842**

State Safety

	Active	Transfer	Terminated	Receiving	Total
As of June 30, 2014	**25,589**	**5,076**	**5,601**	**21,547**	**57,813**
Retirements	(860)	(242)	(55)	1,157	0
Industrial Disabilities	(188)	(27)	(12)	227	0
Ordinary Disabilities	(48)	(18)	(6)	72	0
Deaths[2]	(40)	(8)	(14)	(561)	(623)
New Survivors	n/a	n/a	n/a	204	204
Non-vested Terminations[1]	(403)	(20)	423	0	0
Vested Terminations	(209)	(61)	272	(2)	0
Refunds of Contributions	(226)	(21)	(214)	0	(461)
Transfers	(595)	726	(111)	(20)	0
Redeposits/Rehires	313	(127)	(164)	(22)	0
First Year in Status	2,790	147	256	121	3,314
Data Corrections[3]	(27)	15	(119)	(36)	(167)
As of June 30, 2015	**26,096**	**5,440**	**5,857**	**22,687**	**60,080**

[1] Includes non-vested terminated participants with employee contributions left in the plan.
[2] Includes both deaths without survivors and deaths with survivors receiving a benefit.
[3] May include the combining of data records into a single record.

Reconciliation of Participants (Continued)

For the Fiscal Year Ending June 30, 2015

State Peace Officers and Firefighters

	Active	Transfer	Terminated	Receiving	Total
As of June 30, 2014	**39,418**	**5,902**	**6,390**	**32,925**	**84,635**
Retirements	(1,265)	(150)	(77)	1,492	0
Industrial Disabilities	(383)	(31)	(36)	450	0
Ordinary Disabilities	(27)	(8)	(2)	37	0
Deaths[2]	(31)	(3)	(6)	(436)	(476)
New Survivors	n/a	n/a	n/a	230	230
Non-vested Terminations[1]	(287)	(38)	325	0	0
Vested Terminations	(206)	(44)	252	(2)	0
Refunds of Contributions	(76)	(16)	(137)	0	(229)
Transfers	(217)	409	(181)	(11)	0
Redeposits/Rehires	310	(129)	(171)	(10)	0
First Year in Status	3,373	83	219	89	3,764
Data Corrections[3]	(84)	(263)	(198)	17	(528)
As of June 30, 2015	**40,525**	**5,712**	**6,378**	**34,781**	**87,396**

California Highway Patrol

	Active	Transfer	Terminated	Receiving	Total
As of June 30, 2014	**7,183**	**282**	**355**	**8,523**	**16,343**
Retirements	(156)	(6)	(16)	178	0
Industrial Disabilities	(42)	(1)	(1)	44	0
Ordinary Disabilities	(1)	(1)	0	2	0
Deaths[2]	(5)	0	(3)	(201)	(209)
New Survivors	n/a	n/a	n/a	108	108
Non-vested Terminations[1]	(7)	0	7	0	0
Vested Terminations	(34)	(6)	40	0	0
Refunds of Contributions	(5)	0	(11)	0	(16)
Transfers	(5)	11	(6)	0	0
Redeposits/Rehires	7	(1)	(6)	0	0
First Year in Status	271	1	15	5	292
Data Corrections[3]	17	(9)	(8)	(9)	(9)
As of June 30, 2015	**7,223**	**270**	**366**	**8,650**	**16,509**

[1] Includes non-vested terminated participants with employee contributions left in the plan.
[2] Includes both deaths without survivors and deaths with survivors receiving a benefit.
[3] May include the combining of data records into a single record.

Active Members

Distribution of Active Members By Age and Service

As of June 30, 2015

State Miscellaneous Tier 1

Attained Age	Years of Service at Valuation Date 0-4	5-9	10-14	15-19	20-24	25+	Total	Payroll
15-24	2,601	8	0	0	0	0	2,609	$88,256,301
25-29	9,677	1,244	20	0	0	0	10,941	476,352,746
30-34	9,790	5,032	962	75	0	0	15,859	849,497,151
35-39	7,283	5,475	3,465	1,065	77	0	17,365	1,053,542,653
40-44	5,685	5,062	4,497	3,141	796	74	19,255	1,267,598,524
45-49	5,042	4,547	4,862	4,010	2,640	1,406	22,507	1,541,800,081
50-54	4,683	4,302	4,593	4,344	3,327	5,599	26,848	1,887,093,728
55-59	3,769	3,609	4,007	3,808	2,793	7,047	25,033	1,765,326,645
60-64	2,255	2,523	2,762	2,444	1,774	4,102	15,860	1,135,401,847
65 and Over	1,106	1,372	1,306	1,181	749	1,618	7,332	530,897,080
Total	**51,891**	**33,174**	**26,474**	**20,068**	**12,156**	**19,846**	**163,609**	**$10,595,766,755**

Counts of members included in the valuation are counts of the records processed by the valuation. Multiple records may exist for those who have service in more than one valuation group. This does not result in double counting of liabilities.

Distribution of Average Annual Salaries By Age and Service

As of June 30, 2015

State Miscellaneous Tier 1

Attained Age	Years of Service at Valuation Date 0-4	5-9	10-14	15-19	20-24	25+	Average Salary
15-24	$33,809	$39,952	$0	$0	$0	$0	$33,828
25-29	42,468	51,656	56,468	0	0	0	43,538
30-34	49,803	59,069	61,766	70,293	0	0	53,566
35-39	54,144	63,142	65,861	73,814	86,936	0	60,670
40-44	55,175	65,247	69,765	76,481	79,842	82,885	65,832
45-49	54,113	64,158	69,269	77,666	81,350	81,258	68,503
50-54	53,782	62,046	69,114	76,027	79,804	81,283	70,288
55-59	53,157	61,365	67,442	74,025	79,810	80,668	70,520
60-64	54,155	62,818	67,932	74,010	79,498	84,168	71,589
65 and Over	50,729	63,534	68,063	76,159	86,498	89,000	72,408
Average	**$50,062**	**$62,204**	**$68,123**	**$75,669**	**$80,556**	**$82,294**	**$64,763**

Distribution of Active Members By Age and Service

As of June 30, 2015

State Miscellaneous Tier 2

Attained Age	Years of Service at Valuation Date							
	0-4	5-9	10-14	15-19	20-24	25+	Total	Payroll
15-24	5	0	0	0	0	0	5	$205,648
25-29	21	1	0	0	0	0	22	958,732
30-34	27	7	3	2	0	0	39	2,194,530
35-39	29	21	30	129	1	0	210	12,275,796
40-44	33	33	65	370	115	4	620	37,245,140
45-49	33	33	76	445	347	85	1,019	61,494,210
50-54	18	26	53	424	342	279	1,142	69,566,793
55-59	23	23	39	338	280	291	994	58,434,969
60-64	10	18	38	222	153	209	650	39,420,528
65 and Over	12	11	15	97	62	79	276	16,821,528
Total	**211**	**173**	**319**	**2,027**	**1,300**	**947**	**4,977**	**$ 298,617,875**

Counts of members included in the valuation are counts of the records processed by the valuation. Multiple records may exist for those who have service in more than one valuation group. This does not result in double counting of liabilities.

Distribution of Average Annual Salaries By Age and Service

As of June 30, 2015

State Miscellaneous Tier 2

Attained Age	Years of Service at Valuation Date						Average Salary
	0-4	5-9	10-14	15-19	20-24	25+	
15-24	$41,130	$0	$0	$0	$0	$0	$41,130
25-29	44,392	26,498	0	0	0	0	43,579
30-34	56,292	60,371	52,164	47,776	0	0	56,270
35-39	59,485	59,622	58,116	57,780	101,580	0	58,456
40-44	52,646	52,930	54,036	61,833	61,665	69,834	60,073
45-49	54,149	52,446	57,280	57,991	64,754	62,916	60,348
50-54	48,887	52,550	53,604	56,995	64,337	65,629	60,917
55-59	49,840	47,075	45,475	55,603	60,709	64,056	58,788
60-64	61,188	44,541	47,353	59,322	61,679	65,077	60,647
65 and Over	57,621	31,416	59,211	58,883	63,040	66,788	60,948
Average	**$53,255**	**$50,722**	**$53,504**	**$58,250**	**$63,084**	**$64,895**	**$60,000**

Distribution of Active Members By Age and Service

As of June 30, 2015

State Industrial

Attained Age	Years of Service at Valuation Date							
	0-4	5-9	10-14	15-19	20-24	25+	Total	Payroll
15-24	233	0	0	0	0	0	233	$7,556,125
25-29	695	188	2	0	0	0	885	36,579,825
30-34	709	525	60	0	0	0	1,294	60,675,531
35-39	527	496	182	58	2	0	1,265	65,677,536
40-44	507	481	258	158	35	5	1,444	80,404,176
45-49	495	515	297	226	114	42	1,689	95,565,270
50-54	464	518	284	264	167	142	1,839	107,352,430
55-59	274	394	233	237	134	116	1,388	80,759,734
60-64	158	230	140	114	46	49	737	43,845,871
65 and Over	56	110	61	65	25	13	330	21,492,010
Total	**4,118**	**3,457**	**1,517**	**1,122**	**523**	**367**	**11,104**	**$599,908,510**

Counts of members included in the valuation are counts of the records processed by the valuation. Multiple records may exist for those who have service in more than one valuation group. This does not result in double counting of liabilities.

Distribution of Average Annual Salaries By Age and Service

As of June 30, 2015

State Industrial

Attained Age	Years of Service at Valuation Date						Average Salary
	0-4	5-9	10-14	15-19	20-24	25+	
15-24	$32,430	$0	$0	$0	$0	$0	$32,430
25-29	40,290	44,945	64,392	0	0	0	41,333
30-34	45,478	47,970	54,120	0	0	0	46,890
35-39	50,498	52,158	53,000	59,027	62,643	0	51,919
40-44	54,115	54,240	58,080	59,808	61,549	58,032	55,682
45-49	53,182	55,755	57,366	60,996	61,349	64,523	56,581
50-54	55,090	58,817	56,355	58,516	63,147	65,667	58,375
55-59	54,050	56,857	56,506	58,415	64,114	68,508	58,184
60-64	65,102	59,416	54,348	56,308	58,711	64,600	59,492
65 and Over	76,020	58,687	66,341	60,527	78,738	63,840	65,127
Average	**$49,318**	**$54,179**	**$56,605**	**$59,095**	**$63,249**	**$66,123**	**$54,026**

Distribution of Active Members By Age and Service

As of June 30, 2015

State Safety

Attained Age	Years of Service at Valuation Date							
	0-4	5-9	10-14	15-19	20-24	25+	Total	Payroll
15-24	311	0	0	0	0	0	311	$13,733,490
25-29	1,432	227	3	0	0	0	1,662	93,739,148
30-34	1,725	797	116	2	0	0	2,640	167,689,502
35-39	1,437	1,170	343	41	0	0	2,991	214,672,707
40-44	1,366	1,307	596	181	14	1	3,465	275,502,490
45-49	1,236	1,255	728	360	97	15	3,691	289,271,773
50-54	1,101	1,233	894	491	219	119	4,057	318,870,846
55-59	879	1,133	835	490	229	105	3,671	300,277,371
60-64	431	797	549	437	149	74	2,437	217,879,212
65 and Over	156	390	297	195	89	44	1,171	120,764,617
Total	**10,074**	**8,309**	**4,361**	**2,197**	**797**	**358**	**26,096**	**$2,012,401,157**

Counts of members included in the valuation are counts of the records processed by the valuation. Multiple records may exist for those who have service in more than one valuation group. This does not result in double counting of liabilities.

Distribution of Average Annual Salaries By Age and Service

As of June 30, 2015

State Safety

Attained Age	Years of Service at Valuation Date						Average Salary
	0-4	5-9	10-14	15-19	20-24	25+	
15-24	$44,159	$0	$0	$0	$0	$0	$44,159
25-29	55,724	60,614	60,884	0	0	0	56,401
30-34	62,147	66,490	63,535	61,895	0	0	63,519
35-39	67,657	76,481	73,533	66,976	0	0	71,773
40-44	71,611	87,743	79,015	82,001	71,894	60,094	79,510
45-49	70,912	86,006	75,850	82,575	78,703	73,770	78,372
50-54	72,053	82,720	77,849	83,615	81,331	76,326	78,598
55-59	73,809	87,915	78,921	87,247	79,820	84,411	81,797
60-64	78,267	97,702	84,825	92,215	87,057	87,022	89,405
65 and Over	102,793	107,317	96,333	110,502	96,980	92,842	103,129
Average	**$67,242**	**$84,267**	**$79,285**	**$87,888**	**$83,229**	**$82,786**	**$77,115**

Distribution of Active Members By Age and Service

As of June 30, 2015

State Peace Officers and Firefighters

Attained Age	Years of Service at Valuation Date							
	0-4	5-9	10-14	15-19	20-24	25+	Total	Payroll
15-24	1,410	0	0	0	0	0	1,410	$58,660,308
25-29	2,765	475	0	0	0	0	3,240	165,424,189
30-34	1,914	3,193	559	3	0	0	5,669	389,729,909
35-39	958	2,500	2,381	690	6	0	6,535	504,614,968
40-44	618	1,735	2,018	2,400	596	8	7,375	607,422,484
45-49	356	1,173	1,429	2,155	1,831	672	7,616	661,386,437
50-54	228	780	873	1,228	1,053	947	5,109	448,279,970
55-59	121	336	427	631	516	407	2,438	210,906,634
60-64	44	134	169	252	162	135	896	76,365,239
65 and Over	11	26	60	63	32	45	237	20,740,391
Total	**8,425**	**10,352**	**7,916**	**7,422**	**4,196**	**2,214**	**40,525**	**$ 3,143,530,530**

Counts of members included in the valuation are counts of the records processed by the valuation. Multiple records may exist for those who have service in more than one valuation group. This does not result in double counting of liabilities.

Distribution of Average Annual Salaries By Age and Service

As of June 30, 2015

State Peace Officers and Firefighters

Attained Age	Years of Service at Valuation Date						Average Salary
	0-4	5-9	10-14	15-19	20-24	25+	
15-24	$41,603	$0	$0	$0	$0	$0	$41,603
25-29	47,899	69,441	0	0	0	0	51,057
30-34	52,596	76,078	82,103	83,258	0	0	68,748
35-39	55,750	77,479	82,604	87,256	103,991	0	77,217
40-44	60,418	78,796	82,959	87,455	92,809	94,210	82,362
45-49	64,055	79,985	82,942	88,043	92,869	98,897	86,842
50-54	70,491	81,560	83,660	87,127	91,474	97,404	87,743
55-59	71,387	80,632	83,006	86,187	90,815	94,566	86,508
60-64	71,760	80,605	83,548	84,347	90,775	91,306	85,229
65 and Over	86,922	79,523	83,674	88,511	86,871	96,448	87,512
Average	**$51,530**	**$77,638**	**$82,887**	**$87,347**	**$92,147**	**$96,933**	**$77,570**

Distribution of Active Members By Age and Service

As of June 30, 2015

California Highway Patrol

Attained Age	Years of Service at Valuation Date							
	0-4	5-9	10-14	15-19	20-24	25+	Total	Payroll
15-24	74	0	0	0	0	0	74	$5,371,204
25-29	345	223	0	0	0	0	568	52,858,147
30-34	311	738	116	0	0	0	1,165	119,813,006
35-39	149	560	573	196	1	0	1,479	159,097,555
40-44	49	268	541	662	239	0	1,759	197,741,971
45-49	0	12	202	429	401	325	1,369	163,954,449
50-54	1	0	4	105	171	389	670	85,529,718
55-59	0	0	1	9	21	108	139	18,510,725
60-64	0	0	0	0	0	0	0	0
65 and Over	0	0	0	0	0	0	0	0
Total	**929**	**1,801**	**1,437**	**1,401**	**833**	**822**	**7,223**	**$802,876,775**

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Distribution of Average Annual Salaries By Age and Service

As of June 30, 2015

California Highway Patrol

Attained	Years of Service at Valuation Date						Average
Age	0-4	5-9	10-14	15-19	20-24	25+	Salary
15-24	$72,584	$0	$0	$0	$0	$0	$72,584
25-29	84,410	106,443	0	0	0	0	93,060
30-34	90,940	106,828	109,412	0	0	0	102,844
35-39	91,579	107,047	109,838	114,512	124,500	0	107,571
40-44	97,662	106,737	109,610	114,513	122,361	0	112,417
45-49	0	111,843	108,471	114,714	120,191	133,207	119,762
50-54	73,320	0	118,389	116,762	121,901	133,362	127,656
55-59	0	0	138,386	126,613	126,899	134,888	133,171
60-64	0	0	0	0	0	0	0
65 and Over	0	0	0	0	0	0	0
Average	**$87,491**	**$106,868**	**$109,569**	**$114,821**	**$121,339**	**$133,501**	**$111,156**

Terminated and Transferred Participants

Distributions By Age and Service

Transfers to Other CalPERS Plans

As of June 30, 2015

State Miscellaneous Tier 1

Attained Age	0-4	5-9	10-14	15-19	20-24	25+	Total	Average Salary
	Years of Service at Valuation Date							
15-24	183	0	0	0	0	0	183	$50,986
25-29	1,576	67	1	0	0	0	1,644	55,601
30-34	2,477	384	37	0	0	0	2,898	61,653
35-39	2,586	601	134	10	0	0	3,331	68,054
40-44	2,272	734	226	41	11	1	3,285	70,939
45-49	2,262	859	397	156	68	15	3,757	74,377
50-54	2,323	902	527	316	170	71	4,309	76,511
55-59	2,121	719	391	264	130	98	3,723	74,151
60-64	1,331	447	217	116	63	46	2,220	73,572
65 and Over	711	182	66	38	18	7	1,022	73,858
Total	**17,842**	**4,895**	**1,996**	**941**	**460**	**238**	**26,372**	**$70,648**

Distributions By Age and Service

Terminated Participants With Funds on Deposit

As of June 30, 2015

State Miscellaneous Tier 1

Attained Age	0-4	5-9	10-14	15-19	20-24	25+	Total	Average Salary
	Years of Service at Valuation Date							
15-24	447	0	0	0	0	0	447	$30,849
25-29	2,876	70	0	0	0	0	2,946	34,934
30-34	5,600	600	45	3	0	0	6,248	38,754
35-39	6,199	1,069	216	24	1	0	7,509	42,845
40-44	5,296	1,286	381	58	8	0	7,029	47,698
45-49	4,656	1,498	602	169	76	11	7,012	50,069
50-54	4,347	1,476	648	282	94	39	6,886	49,273
55-59	3,851	1,090	443	164	60	24	5,632	45,513
60-64	3,146	738	269	78	26	12	4,269	44,001
65 and Over	2,072	279	91	22	7	7	2,478	42,194
Total	**38,490**	**8,106**	**2,695**	**800**	**272**	**93**	**50,456**	**$44,691**

Distributions By Age and Service

Transfers to Other CalPERS Plans

As of June 30, 2015

State Miscellaneous Tier 2

Attained Age	Years of Service at Valuation Date 0-4	5-9	10-14	15-19	20-24	25+	Total	Average Salary
15-24	1	0	0	0	0	0	1	$44,772
25-29	3	0	0	0	0	0	3	45,794
30-34	18	2	0	1	0	0	21	68,121
35-39	489	57	28	12	0	0	586	68,157
40-44	1,229	346	91	48	14	0	1,728	71,843
45-49	1,320	695	279	76	51	4	2,425	70,618
50-54	1,178	568	395	137	65	27	2,370	68,224
55-59	786	325	236	119	93	52	1,611	67,743
60-64	403	130	123	46	40	22	764	67,517
65 and Over	145	54	30	13	8	14	264	70,184
Total	**5,572**	**2,177**	**1,182**	**452**	**271**	**119**	**9,773**	**$69,363**

Distributions By Age and Service

Terminated Participants With Funds on Deposit

As of June 30, 2015

State Miscellaneous Tier 2

Attained Age	Years of Service at Valuation Date 0-4	5-9	10-14	15-19	20-24	25+	Total	Average Salary
15-24	0	0	0	0	0	0	0	$0
25-29	0	0	0	0	0	0	0	0
30-34	0	0	0	0	0	0	0	0
35-39	0	0	17	5	0	0	22	50,425
40-44	0	0	83	25	3	1	112	49,588
45-49	0	0	216	49	15	2	282	50,469
50-54	0	0	268	87	27	4	386	47,807
55-59	0	0	256	74	15	5	350	41,970
60-64	0	0	156	55	17	2	230	37,304
65 and Over	0	0	69	23	6	3	101	38,359
Total	**0**	**0**	**1,065**	**318**	**83**	**17**	**1,483**	**$44,852**

Distributions By Age and Service

Transfers to Other CalPERS Plans

As of June 30, 2015

State Industrial

Attained Age	Years of Service at Valuation Date 0-4	5-9	10-14	15-19	20-24	25+	Total	Average Salary
15-24	16	0	0	0	0	0	16	$35,816
25-29	320	25	0	0	0	0	345	46,547
30-34	610	116	3	0	0	0	729	56,318
35-39	681	165	31	4	0	0	881	62,724
40-44	880	228	74	24	3	0	1,209	66,892
45-49	1,155	349	141	43	18	1	1,707	67,687
50-54	1,155	371	130	63	27	9	1,755	71,002
55-59	867	260	115	33	18	6	1,299	69,070
60-64	422	111	50	26	8	6	623	68,894
65 and Over	171	34	12	3	0	0	220	75,275
Total	**6,277**	**1,659**	**556**	**196**	**74**	**22**	**8,784**	**$66,391**

Distributions By Age and Service

Terminated Participants With Funds on Deposit

As of June 30, 2015

State Industrial

Attained Age	Years of Service at Valuation Date 0-4	5-9	10-14	15-19	20-24	25+	Total	Average Salary
15-24	13	0	0	0	0	0	13	$33,268
25-29	119	5	0	0	0	0	124	35,555
30-34	255	30	2	0	0	0	287	38,563
35-39	283	48	11	1	0	0	343	38,171
40-44	367	82	18	8	0	0	475	38,862
45-49	407	96	37	10	5	0	555	40,708
50-54	349	111	41	14	5	1	521	41,177
55-59	299	52	15	1	1	0	368	37,415
60-64	209	37	4	2	0	0	252	37,116
65 and Over	229	30	2	1	2	0	264	38,654
Total	**2,530**	**491**	**130**	**37**	**13**	**1**	**3,202**	**38,986**

Distributions By Age and Service

Transfers to Other CalPERS Plans

As of June 30, 2015

State Safety

Attained Age	0-4	5-9	Years of Service at Valuation Date 10-14	15-19	20-24	25+	Total	Average Salary
15-24	15	0	0	0	0	0	15	$39,663
25-29	138	11	0	0	0	0	149	54,699
30-34	398	65	3	0	0	0	466	64,972
35-39	537	123	6	0	0	0	666	73,362
40-44	612	164	29	2	0	0	807	79,186
45-49	653	182	29	13	4	0	881	79,566
50-54	682	204	66	30	11	1	994	82,882
55-59	588	172	51	24	5	3	843	84,969
60-64	304	100	29	12	4	0	449	82,352
65 and Over	132	25	9	4	0	0	170	88,311
Total	**4,059**	**1,046**	**222**	**85**	**24**	**4**	**5,440**	**$78,655**

Distributions By Age and Service

Terminated Participants With Funds on Deposit

As of June 30, 2015

State Safety

Attained Age	0-4	5-9	Years of Service at Valuation Date 10-14	15-19	20-24	25+	Total	Average Salary
15-24	33	0	0	0	0	0	33	$39,340
25-29	254	11	0	0	0	0	265	45,688
30-34	547	58	0	0	0	0	605	52,752
35-39	661	101	8	0	0	0	770	63,721
40-44	681	118	23	6	3	0	831	65,902
45-49	747	146	34	10	0	0	937	67,296
50-54	659	134	30	14	4	0	841	63,859
55-59	643	80	15	8	1	0	747	62,429
60-64	487	37	10	1	2	1	538	63,960
65 and Over	267	19	3	0	1	0	290	64,820
Total	**4,979**	**704**	**123**	**39**	**11**	**1**	**5,857**	**$62,239**

Distributions By Age and Service

Transfers to Other CalPERS Plans

As of June 30, 2015

State Peace Officers and Fire Fighters

Attained Age	Years of Service at Valuation Date 0-4	5-9	10-14	15-19	20-24	25+	Total	Average Salary
15-24	28	0	0	0	0	0	28	$52,041
25-29	367	11	0	0	0	0	378	63,119
30-34	709	80	1	0	0	0	790	75,141
35-39	920	98	18	2	0	0	1,038	83,574
40-44	918	153	31	5	0	0	1,107	85,820
45-49	831	170	55	13	3	1	1,073	90,428
50-54	613	115	49	12	4	7	800	88,631
55-59	239	56	21	3	2	1	322	81,521
60-64	113	22	7	2	1	1	146	74,542
65 and Over	21	4	3	1	1	0	30	87,952
Total	**4,759**	**709**	**185**	**38**	**11**	**10**	**5,712**	**$83,007**

Distributions By Age and Service

Terminated Participants With Funds on Deposit

As of June 30, 2015

State Peace Officers and Firefighters

Attained Age	Years of Service at Valuation Date 0-4	5-9	10-14	15-19	20-24	25+	Total	Average Salary
15-24	122	0	0	0	0	0	122	$32,920
25-29	567	7	0	0	0	0	574	33,681
30-34	1,000	101	3	0	0	0	1,104	35,857
35-39	917	142	38	4	0	0	1,101	37,673
40-44	816	147	77	28	4	0	1,072	40,381
45-49	752	189	97	62	19	5	1,124	45,241
50-54	517	112	52	14	5	2	702	38,358
55-59	275	42	18	3	2	1	341	36,941
60-64	128	20	8	5	2	1	164	37,632
65 and Over	64	5	4	1	0	0	74	37,370
Total	**5,158**	**765**	**297**	**117**	**32**	**9**	**6,378**	**$38,680**

Distributions By Age and Service

Transfers to Other CalPERS Plans

As of June 30, 2015

California Highway Patrol

Attained Age	0-4	5-9	Years of Service at Valuation Date 10-14	15-19	20-24	25+	Total	Average Salary
15-24	0	0	0	0	0	0	0	$0
25-29	11	1	0	0	0	0	12	63,458
30-34	17	1	0	0	0	0	18	72,218
35-39	31	6	1	0	0	0	38	83,806
40-44	62	16	8	1	0	0	87	88,396
45-49	39	8	5	3	0	0	55	97,582
50-54	28	7	1	1	0	0	37	76,548
55-59	8	3	1	1	0	0	13	74,288
60-64	5	2	0	0	0	0	7	94,196
65 and Over	2	1	0	0	0	0	3	61,333
Total	**203**	**45**	**16**	**6**	**0**	**0**	**270**	**$84,981**

Distributions By Age and Service

Terminated Participants With Funds on Deposit

As of June 30, 2015

California Highway Patrol

Attained Age	0-4	5-9	Years of Service at Valuation Date 10-14	15-19	20-24	25+	Total	Average Salary
15-24	0	0	0	0	0	0	0	$0
25-29	10	3	0	0	0	0	13	74,877
30-34	16	11	0	0	0	0	27	82,832
35-39	37	24	5	0	0	0	66	77,357
40-44	49	31	18	5	4	0	107	77,835
45-49	46	22	13	9	4	2	96	69,279
50-54	20	9	3	3	0	0	35	65,141
55-59	9	6	3	0	0	0	18	68,889
60-64	4	0	0	0	0	0	4	36,113
65 and Over	0	0	0	0	0	0	0	0
Total	**191**	**106**	**42**	**17**	**8**	**2**	**366**	**$73,658**

Retired Members and Beneficiaries

Number of Retirees and Beneficiaries

By Age and Retirement Type

As of June 30, 2015

State Miscellaneous Tier 1

Attained Age	Service Retirement	Non-Industrial Disability	Industrial Disability	Non-Industrial Death	Industrial Death	Death After Retirement	Total
Under 30	0	1	0	11	2	183	197
30-34	0	11	6	1	0	131	149
35-39	0	36	17	7	3	176	239
40-44	0	117	36	16	3	208	380
45-49	0	354	71	30	9	330	794
50-54	1,520	986	276	92	13	520	3,407
55-59	10,409	1,746	428	218	11	954	13,766
60-64	23,886	2,144	489	284	9	1,446	28,258
65-69	32,451	2,031	464	332	7	2,204	37,489
70-74	24,010	1,508	261	291	5	2,743	28,818
75-79	17,189	1,015	186	261	10	3,334	21,995
80-84	12,793	587	105	196	5	3,889	17,575
85 and Over	14,606	557	55	271	3	7,878	23,370
Total	**136,864**	**11,093**	**2,394**	**2,010**	**80**	**23,996**	**176,437**

Counts of members do not include alternate payees receiving benefits while the member is still working. Multiple records may exist for those who have service in more than one coverage group. This does not result in double counting of liabilities.

Annual Allowance Amounts for

Retirees and Beneficiaries

By Age and Retirement Type

As of June 30, 2015

Annual Amounts not Including PPPA Payments

State Miscellaneous Tier 1

Attained Age	Service Retirement	Non-Industrial Disability	Industrial Disability	Non-Industrial Death	Industrial Death	Death After Retirement	Total
Under 30	$0	$2,030	$0	$69,459	$372	$1,339,525	$1,411,386
30-34	0	80,073	321	36,189	0	1,223,702	1,340,285
35-39	0	380,848	24,811	120,656	35,081	1,772,328	2,333,724
40-44	0	1,160,698	91,877	352,962	27,796	2,362,607	3,995,940
45-49	0	4,187,011	200,438	641,819	55,534	4,615,471	9,700,273
50-54	16,978,924	14,482,333	651,922	2,158,754	128,676	7,041,364	41,441,973
55-59	282,410,009	27,043,514	1,808,547	5,283,180	161,323	14,690,487	331,397,060
60-64	780,250,585	34,119,439	1,888,735	7,131,721	34,935	27,524,338	850,949,753
65-69	1,091,987,785	31,570,853	1,954,906	9,118,382	55,479	48,172,029	1,182,859,434
70-74	813,499,306	24,783,072	1,199,809	7,764,054	24,191	66,964,692	914,235,124
75-79	572,756,778	16,395,425	907,694	7,152,537	11,601	85,092,591	682,316,626
80-84	405,672,424	8,861,436	418,045	5,228,096	6,276	100,246,014	520,432,291
85 and Over	402,811,478	7,315,011	105,416	6,855,457	1,670	167,343,622	584,432,654
Total	**$4,366,367,289**	**$170,381,743**	**$9,252,521**	**$51,913,266**	**$542,934**	**$528,388,770**	**$5,126,846,523**

Counts of members do not include alternate payees receiving benefits while the member is still working. Multiple records may exist for those who have service in more than one coverage group. This does not result in double counting of liabilities.

Number of Retirees and Beneficiaries

By Years Retired and Retirement Type

As of June 30, 2015

State Miscellaneous Tier 1

Years Retired	Service Retirement	Non-Industrial Disability	Industrial Disability	Non-Industrial Death	Industrial Death	Death After Retirement	Total
Under 5 Yrs	37,949	1,892	325	381	8	7,933	48,488
5-9	31,668	1,467	310	373	14	5,739	39,571
10-14	27,359	2,108	489	309	7	4,162	34,434
15-19	15,403	2,309	415	261	16	2,683	21,087
20-24	12,061	1,439	406	229	6	1,702	15,843
25-29	6,754	887	244	171	13	995	9,064
30 and Over	5,674	991	205	286	16	778	7,950
Total	**136,868**	**11,093**	**2,394**	**2,010**	**80**	**23,992**	**176,437**

Counts of members do not include alternate payees receiving benefits while the member is still working. Multiple records may exist for those who have service in more than one coverage group. This does not result in double counting of liabilities.

Annual Allowance Amounts for Retirees and Beneficiaries

By Years Retired and Retirement Type

As of June 30, 2015

Annual Amounts not Including PPPA Payments

State Miscellaneous Tier 1

Years Retired	Service Retirement	Non-Industrial Disability	Industrial Disability	Non-Industrial Death	Industrial Death	Death After Retirement	Total
Under 5 Yrs	$1,253,325,652	$28,792,985	$1,818,980	$9,745,490	$141,993	$196,013,988	$1,489,839,088
5-9	1,094,577,593	23,475,515	1,876,679	10,195,603	98,457	133,027,044	1,263,250,891
10-14	961,904,646	35,566,846	2,633,031	8,202,940	5,748	91,069,797	1,099,383,008
15-19	456,573,704	36,907,221	1,358,630	7,315,159	248,137	53,546,154	555,949,005
20-24	354,200,377	22,619,090	1,012,782	6,171,112	30,190	31,019,845	415,053,396
25-29	159,732,441	12,172,337	395,257	4,616,959	10,003	14,939,976	191,866,973
30 and Over	86,052,876	10,847,749	157,162	5,666,003	8,406	8,771,966	111,504,162
Total	**$4,366,367,289**	**$170,381,743**	**$9,252,521**	**$51,913,266**	**$542,934**	**$528,388,770**	**$5,126,846,523**

Counts of members do not include alternate payees receiving benefits while the member is still working. Multiple records may exist for those who have service in more than one coverage group. This does not result in double counting of liabilities.

Number of Retirees and Beneficiaries

By Age and Retirement Type

As of June 30, 2015

State Miscellaneous Tier 2

Attained Age	Service Retirement	Non-Industrial Disability	Industrial Disability	Non-Industrial Death	Industrial Death	Death After Retirement	Total
Under 30	0	0	0	1	0	22	23
30-34	0	0	0	0	0	11	11
35-39	0	3	0	1	0	20	24
40-44	0	17	3	1	0	18	39
45-49	0	84	10	6	0	24	124
50-54	114	166	12	7	0	43	342
55-59	351	282	14	20	0	73	740
60-64	686	340	8	40	2	112	1,188
65-69	866	289	13	18	0	136	1,322
70-74	554	165	4	10	0	113	846
75-79	414	86	3	9	0	101	613
80-84	280	30	1	2	0	78	391
85 and Over	133	5	1	3	0	55	197
Total	**3,398**	**1,467**	**69**	**118**	**2**	**806**	**5,860**

Counts of members do not include alternate payees receiving benefits while the member is still working. Multiple records may exist for those who have service in more than one coverage group. This does not result in double counting of liabilities.

Annual Allowance Amounts for

Retirees and Beneficiaries

By Age and Retirement Type

As of June 30, 2015

Annual Amounts not Including PPPA Payments

State Miscellaneous Tier 2

Attained Age	Service Retirement	Non-Industrial Disability	Industrial Disability	Non-Industrial Death	Industrial Death	Death After Retirement	Total
Under 30	$0	$0	$0	$2,267	$0	$118,272	$120,539
30-34	0	0	0	0	0	40,625	40,625
35-39	0	20,741	0	95	0	117,121	137,957
40-44	0	183,078	82,536	2,674	0	115,385	383,673
45-49	0	823,770	218,482	21,949	0	157,399	1,221,600
50-54	195,891	1,929,266	240,611	44,446	0	425,624	2,835,838
55-59	1,530,780	3,700,165	274,027	152,145	0	627,939	6,285,056
60-64	4,127,519	5,011,857	195,838	411,580	51,561	1,223,586	11,021,941
65-69	6,123,460	4,484,929	302,681	178,448	0	1,560,265	12,649,783
70-74	4,078,164	2,626,177	27,948	98,200	0	1,281,949	8,112,438
75-79	3,919,118	1,460,382	77,352	125,196	0	1,022,992	6,605,040
80-84	3,278,893	460,741	26,052	14,313	0	990,432	4,770,431
85 and Over	1,527,663	106,259	34,377	130,137	0	618,037	2,416,473
Total	**$24,781,488**	**$20,807,365**	**$1,479,904**	**$1,181,450**	**$51,561**	**$8,299,626**	**$56,601,394**

Counts of members do not include alternate payees receiving benefits while the member is still working. Multiple records may exist for those who have service in more than one coverage group. This does not result in double counting of liabilities.

Number of Retirees and Beneficiaries

By Years Retired and Retirement Type

As of June 30, 2015

State Miscellaneous Tier 2

Years Retired	Service Retirement	Non-Industrial Disability	Industrial Disability	Non-Industrial Death	Industrial Death	Death After Retirement	Total
Under 5 Yrs	1,425	250	9	30	0	248	1,962
5-9	520	121	2	35	0	179	857
10-14	393	252	17	23	0	182	867
15-19	728	482	27	15	1	126	1,379
20-24	239	237	9	10	1	55	551
25-29	88	121	5	5	0	16	235
30 and Over	5	4	0	0	0	0	9
Total	**3,398**	**1,467**	**69**	**118**	**2**	**806**	**5,860**

Counts of members do not include alternate payees receiving benefits while the member is still working. Multiple records may exist for those who have service in more than one coverage group. This does not result in double counting of liabilities.

Annual Allowance Amounts for Retirees and Beneficiaries

By Years Retired and Retirement Type

As of June 30, 2015

Annual Amounts not Including PPPA Payments

State Miscellaneous Tier 2

Years Retired	Service Retirement	Non-Industrial Disability	Industrial Disability	Non-Industrial Death	Industrial Death	Death After Retirement	Total
Under 5 Yrs	$9,251,276	$2,300,716	$77,277	$219,044	$0	$1,926,526	$13,774,839
5-9	3,208,060	1,360,563	59,061	256,927	0	1,667,975	6,552,586
10-14	1,825,640	3,251,392	362,064	158,757	0	2,043,369	7,641,222
15-19	6,979,681	7,355,878	589,529	272,377	35,186	1,625,428	16,858,079
20-24	2,648,862	4,469,331	287,695	208,360	16,375	798,453	8,429,076
25-29	830,482	1,999,178	104,278	65,985	0	237,875	3,237,798
30 and Over	37,487	70,307	0	0	0	0	107,794
Total	**$24,781,488**	**$20,807,365**	**$1,479,904**	**$1,181,450**	**$51,561**	**$8,299,626**	**$56,601,394**

Counts of members do not include alternate payees receiving benefits while the member is still working. Multiple records may exist for those who have service in more than one coverage group. This does not result in double counting of liabilities.

Number of Retirees and Beneficiaries

By Age and Retirement Type

As of June 30, 2015

State Industrial

Attained Age	Service Retirement	Non-Industrial Disability	Industrial Disability	Non-Industrial Death	Industrial Death	Death After Retirement	Total
Under 30	0	1	0	1	0	20	22
30-34	0	2	0	0	0	8	10
35-39	0	10	1	0	0	19	30
40-44	0	29	12	0	0	17	58
45-49	0	91	23	2	0	22	138
50-54	230	187	64	7	1	37	526
55-59	1,336	278	84	14	0	75	1,787
60-64	2,343	274	112	14	1	104	2,848
65-69	2,434	235	79	15	0	132	2,895
70-74	1,533	147	53	16	2	157	1,908
75-79	858	86	25	15	2	115	1,101
80-84	529	32	20	6	2	141	730
85 and Over	435	25	8	5	4	222	699
Total	**9,698**	**1,397**	**481**	**95**	**12**	**1,069**	**12,752**

Counts of members do not include alternate payees receiving benefits while the member is still working. Multiple records may exist for those who have service in more than one coverage group. This does not result in double counting of liabilities.

Annual Allowance Amounts for

Retirees and Beneficiaries

By Age and Retirement Type

As of June 30, 2015

Annual Amounts not Including PPPA Payments

State Industrial

Attained Age	Service Retirement	Non-Industrial Disability	Industrial Disability	Non-Industrial Death	Industrial Death	Death After Retirement	Total
Under 30	$0	$1,541	$0	$5,110	$0	$56,812	$63,463
30-34	0	13,618	0	0	0	32,647	46,265
35-39	0	86,578	69	0	0	94,281	180,928
40-44	0	175,107	98,222	0	0	131,045	404,374
45-49	0	771,905	196,129	4,864	0	125,877	1,098,775
50-54	1,415,607	1,605,911	190,808	80,528	1,114	130,576	3,424,544
55-59	15,764,709	2,617,685	599,164	150,318	0	569,694	19,701,570
60-64	30,295,695	2,288,191	669,066	108,249	65	728,648	34,089,914
65-69	33,092,891	2,177,750	547,783	99,663	0	1,139,889	37,057,976
70-74	21,801,866	1,378,046	323,601	236,444	20,097	1,461,509	25,221,563
75-79	12,861,482	956,754	214,088	412,876	21,831	1,248,270	15,715,301
80-84	8,366,393	479,870	176,146	71,987	52,356	1,822,371	10,969,123
85 and Over	7,538,816	346,747	122,349	115,098	107,621	3,520,773	11,751,404
Total	**$131,137,459**	**$12,899,703**	**$3,137,425**	**$1,285,137**	**$203,084**	**$11,062,392**	**$159,725,200**

Counts of members do not include alternate payees receiving benefits while the member is still working. Multiple records may exist for those who have service in more than one coverage group. This does not result in double counting of liabilities.

Number of Retirees and Beneficiaries

By Years Retired and Retirement Type

As of June 30, 2015

State Industrial

Years Retired	Service Retirement	Non-Industrial Disability	Industrial Disability	Non-Industrial Death	Industrial Death	Death After Retirement	Total
Under 5 Yrs	3,579	394	103	22	1	403	4,502
5-9	2,705	202	75	19	1	280	3,282
10-14	1,827	346	132	19	0	162	2,486
15-19	817	245	69	14	1	118	1,264
20-24	424	126	54	15	0	54	673
25-29	203	56	27	2	1	33	322
30 and Over	143	28	21	4	8	19	223
Total	**9,698**	**1,397**	**481**	**95**	**12**	**1,069**	**12,752**

Counts of members do not include alternate payees receiving benefits while the member is still working. Multiple records may exist for those who have service in more than one coverage group. This does not result in double counting of liabilities.

Annual Allowance Amounts for Retirees and Beneficiaries

By Years Retired and Retirement Type

As of June 30, 2015

Annual Amounts not Including PPPA Payments

State Industrial

Years Retired	Service Retirement	Non-Industrial Disability	Industrial Disability	Non-Industrial Death	Industrial Death	Death After Retirement	Total
Under 5 Yrs	$48,070,902	$3,539,011	$778,651	$259,626	$65	$4,176,592	$56,824,847
5-9	38,207,028	1,976,966	627,173	371,400	1,114	2,715,321	43,899,002
10-14	25,569,235	3,271,382	718,609	212,557	0	1,911,567	31,683,350
15-19	9,215,777	2,259,447	321,709	180,063	76	1,286,262	13,263,334
20-24	5,711,510	1,029,835	322,887	208,365	0	405,785	7,678,382
25-29	2,591,923	530,299	187,600	16,937	1,472	351,674	3,679,905
30 and Over	1,771,084	292,763	180,796	36,189	200,357	215,191	2,696,380
Total	**$131,137,459**	**$12,899,703**	**$3,137,425**	**$1,285,137**	**$203,084**	**$11,062,392**	**$159,725,200**

Counts of members do not include alternate payees receiving benefits while the member is still working. Multiple records may exist for those who have service in more than one coverage group. This does not result in double counting of liabilities.

Number of Retirees and Beneficiaries

By Age and Retirement Type

As of June 30, 2015

State Safety

Attained Age	Service Retirement	Non-Industrial Disability	Industrial Disability	Non-Industrial Death	Industrial Death	Death After Retirement	Total
Under 30	0	0	4	0	2	24	30
30-34	0	0	25	0	0	19	44
35-39	0	2	52	1	0	17	72
40-44	0	13	99	0	1	27	140
45-49	0	33	157	4	2	36	232
50-54	370	73	349	21	3	75	891
55-59	1,991	122	590	42	8	156	2,909
60-64	3,300	174	850	57	18	235	4,634
65-69	3,955	162	906	59	14	310	5,406
70-74	2,463	89	539	30	7	399	3,527
75-79	1,388	50	306	32	17	356	2,149
80-84	675	29	193	13	14	398	1,322
85 and Over	529	16	128	15	10	633	1,331
Total	**14,671**	**763**	**4,198**	**274**	**96**	**2,685**	**22,687**

Counts of members do not include alternate payees receiving benefits while the member is still working. Multiple records may exist for those who have service in more than one coverage group. This does not result in double counting of liabilities.

Annual Allowance Amounts for

Retirees and Beneficiaries

By Age and Retirement Type

As of June 30, 2015

Annual Amounts not Including PPPA Payments

State Safety

Attained Age	Service Retirement	Non-Industrial Disability	Industrial Disability	Non-Industrial Death	Industrial Death	Death After Retirement	Total
Under 30	$0	$0	$103,828	$0	$25,928	$199,872	$329,628
30-34	0	0	719,484	0	0	158,747	878,231
35-39	0	28,654	1,349,729	25,319	0	168,364	1,572,066
40-44	0	75,734	2,696,209	0	28,686	205,048	3,005,677
45-49	0	299,300	4,585,896	79,440	72,844	353,943	5,391,423
50-54	3,074,772	638,134	9,035,052	444,924	69,461	1,044,111	14,306,454
55-59	40,576,675	1,150,236	14,706,145	638,604	288,319	2,241,706	59,601,685
60-64	71,755,219	2,274,545	22,296,064	981,744	485,865	3,778,350	101,571,787
65-69	85,952,781	2,017,932	23,362,437	1,108,505	412,558	4,603,362	117,457,575
70-74	52,185,103	1,030,491	14,366,731	492,945	231,970	6,381,076	74,688,316
75-79	27,414,492	921,982	8,384,733	574,137	486,416	5,233,532	43,015,292
80-84	12,398,330	447,710	5,174,356	269,886	381,459	6,322,339	24,994,080
85 and Over	10,757,834	263,252	3,580,926	315,756	288,600	9,585,241	24,791,609
Total	**$304,115,206**	**$9,147,970**	**$110,361,590**	**$4,931,260**	**$2,772,106**	**$40,275,691**	**$471,603,823**

Counts of members do not include alternate payees receiving benefits while the member is still working. Multiple records may exist for those who have service in more than one coverage group. This does not result in double counting of liabilities.

Number of Retirees and Beneficiaries

By Years Retired and Retirement Type

As of June 30, 2015

State Safety

Years Retired	Service Retirement	Non-Industrial Disability	Industrial Disability	Non-Industrial Death	Industrial Death	Death After Retirement	Total
Under 5 Yrs	5,709	275	1,008	58	3	1,043	8,096
5-9	4,357	140	632	75	9	631	5,844
10-14	2,645	136	821	67	11	398	4,078
15-19	1,050	117	491	32	10	267	1,967
20-24	438	44	333	9	6	181	1,011
25-29	176	19	207	9	6	68	485
30 and Over	296	32	706	24	51	97	1,206
Total	**14,671**	**763**	**4,198**	**274**	**96**	**2,685**	**22,687**

Counts of members do not include alternate payees receiving benefits while the member is still working. Multiple records may exist for those who have service in more than one coverage group. This does not result in double counting of liabilities.

Annual Allowance Amounts for Retirees and Beneficiaries

By Years Retired and Retirement Type

As of June 30, 2015

Annual Amounts not Including PPPA Payments

State Safety

Years Retired	Service Retirement	Non-Industrial Disability	Industrial Disability	Non-Industrial Death	Industrial Death	Death After Retirement	Total
Under 5 Yrs	$136,182,689	$4,348,475	$32,816,743	$1,333,461	$188,757	$16,529,492	$191,399,617
5-9	97,556,481	1,949,510	18,477,643	1,382,365	338,477	9,900,349	129,604,825
10-14	44,250,092	1,256,652	20,586,740	978,339	194,041	5,704,978	72,970,842
15-19	12,315,848	890,481	11,567,572	462,872	351,425	3,493,953	29,082,151
20-24	5,314,857	291,847	7,109,884	130,558	197,238	2,389,792	15,434,176
25-29	2,655,613	100,021	4,304,073	131,013	109,628	909,918	8,210,266
30 and Over	5,839,626	310,984	15,498,935	512,652	1,392,540	1,347,209	24,901,946
Total	**$304,115,206**	**$9,147,970**	**$110,361,590**	**$4,931,260**	**$2,772,106**	**$40,275,691**	**$471,603,823**

Counts of members do not include alternate payees receiving benefits while the member is still working. Multiple records may exist for those who have service in more than one coverage group. This does not result in double counting of liabilities.

Number of Retirees and Beneficiaries

By Age and Retirement Type

As of June 30, 2015

State Peace Officers and Firefighters

Attained Age	Service Retirement	Non-Industrial Disability	Industrial Disability	Non-Industrial Death	Industrial Death	Death After Retirement	Total
Under 30	0	1	2	6	3	42	54
30-34	0	6	68	0	1	19	94
35-39	0	7	214	0	5	34	260
40-44	0	23	530	2	8	33	596
45-49	0	42	835	14	20	47	958
50-54	3,358	103	1,618	30	27	105	5,241
55-59	4,709	98	1,708	38	22	237	6,812
60-64	4,951	88	1,605	49	23	343	7,059
65-69	4,477	91	1,402	53	21	416	6,460
70-74	2,470	37	743	26	12	391	3,679
75-79	1,267	31	316	10	12	347	1,983
80-84	639	11	127	10	2	252	1,041
85 and Over	322	5	47	5	0	165	544
Total	**22,193**	**543**	**9,215**	**243**	**156**	**2,431**	**34,781**

Counts of members do not include alternate payees receiving benefits while the member is still working. Multiple records may exist for those who have service in more than one coverage group. This does not result in double counting of liabilities.

Annual Allowance Amounts for

Retirees and Beneficiaries

By Age and Retirement Type

As of June 30, 2015

Annual Amounts not Including PPPA Payments

State Peace Officers and Firefighters

Attained Age	Service Retirement	Non-Industrial Disability	Industrial Disability	Non-Industrial Death	Industrial Death	Death After Retirement	Total
Under 30	$0	$6,027	$50,744	$68,399	$55,334	$508,703	$689,207
30-34	0	54,972	2,182,749	0	37,872	160,711	2,436,304
35-39	0	81,094	7,271,573	0	213,077	738,302	8,304,046
40-44	0	392,759	18,209,865	52,872	433,360	721,004	19,809,860
45-49	0	646,405	29,117,390	783,431	896,115	1,162,009	32,605,350
50-54	211,658,189	2,054,638	62,989,872	1,378,943	1,098,906	3,320,721	282,501,269
55-59	295,826,493	2,323,205	66,945,576	1,590,081	811,257	8,461,843	375,958,455
60-64	292,709,917	2,342,155	67,440,261	2,015,443	801,203	12,679,782	377,988,761
65-69	246,980,778	2,357,279	59,642,944	2,132,070	748,244	15,703,608	327,564,923
70-74	123,307,112	938,482	30,330,229	1,039,773	420,789	14,678,638	170,715,023
75-79	57,596,643	990,391	12,550,581	333,825	460,230	12,386,394	84,318,064
80-84	26,618,083	183,550	4,732,510	319,858	63,485	8,680,729	40,598,215
85 and Over	11,851,986	88,609	1,619,330	181,505	0	4,949,975	18,691,405
Total	**$1,266,549,201**	**$12,459,566**	**$363,083,624**	**$9,896,200**	**$6,039,872**	**$84,152,419**	**$1,742,180,882**

Counts of members do not include alternate payees receiving benefits while the member is still working. Multiple records may exist for those who have service in more than one coverage group. This does not result in double counting of liabilities.

Number of Retirees and Beneficiaries

By Years Retired and Retirement Type

As of June 30, 2015

State Peace Officers and Firefighters

Years Retired	Service Retirement	Non-Industrial Disability	Industrial Disability	Non-Industrial Death	Industrial Death	Death After Retirement	Total
Under 5 Yrs	8,246	158	2,092	53	16	1,050	11,615
5-9	7,079	89	1,405	58	30	636	9,297
10-14	3,653	118	2,140	52	35	382	6,380
15-19	1,700	109	1,537	46	34	205	3,631
20-24	917	45	1,210	23	12	104	2,311
25-29	476	23	765	7	24	54	1,349
30 and Over	122	1	66	4	5	0	198
Total	**22,193**	**543**	**9,215**	**243**	**156**	**2,431**	**34,781**

Counts of members do not include alternate payees receiving benefits while the member is still working. Multiple records may exist for those who have service in more than one coverage group. This does not result in double counting of liabilities.

Annual Allowance Amounts for Retirees and Beneficiaries

By Years Retired and Retirement Type

As of June 30, 2015

Annual Amounts not Including PPPA Payments

State Peace Officers and Firefighters

Years Retired	Service Retirement	Non-Industrial Disability	Industrial Disability	Non-Industrial Death	Industrial Death	Death After Retirement	Total
Under 5 Yrs	$475,550,084	$3,909,767	$92,383,691	$2,335,976	$804,531	$39,762,159	$614,746,208
5-9	455,410,059	2,904,107	68,609,868	2,684,165	1,333,449	21,688,077	552,629,725
10-14	196,404,874	2,348,160	84,058,573	1,910,472	1,214,915	12,492,376	298,429,370
15-19	73,800,994	2,055,782	53,596,502	1,757,220	1,294,886	5,999,393	138,504,777
20-24	42,266,073	792,497	41,683,697	858,755	447,886	2,859,018	88,907,926
25-29	18,868,242	448,488	21,097,841	189,862	821,733	1,351,396	42,777,562
30 and Over	4,248,875	765	1,653,452	159,750	122,472	0	6,185,314
Total	**$1,266,549,201**	**$12,459,566**	**$363,083,624**	**$9,896,200**	**$6,039,872**	**$84,152,419**	**$1,742,180,882**

Counts of members do not include alternate payees receiving benefits while the member is still working. Multiple records may exist for those who have service in more than one coverage group. This does not result in double counting of liabilities.

Number of Retirees and Beneficiaries

By Age and Retirement Type

As of June 30, 2015

California Highway Patrol

Attained Age	Service Retirement	Non-Industrial Disability	Industrial Disability	Non-Industrial Death	Industrial Death	Death After Retirement	Total
Under 30	0	0	0	0	5	10	15
30-34	0	0	5	0	4	3	12
35-39	0	1	13	0	4	4	22
40-44	0	1	55	0	10	5	71
45-49	0	2	91	5	19	7	124
50-54	465	3	278	0	20	19	785
55-59	852	8	425	6	12	42	1,345
60-64	590	4	419	7	8	69	1,097
65-69	517	5	600	8	19	148	1,297
70-74	589	6	796	6	13	225	1,635
75-79	293	6	509	5	17	237	1,067
80-84	143	3	273	2	9	197	627
85 and Over	142	2	144	1	9	255	553
Total	**3,591**	**41**	**3,608**	**40**	**149**	**1,221**	**8,650**

Counts of members do not include alternate payees receiving benefits while the member is still working. Multiple records may exist for those who have service in more than one coverage group. This does not result in double counting of liabilities.

Annual Allowance Amounts for

Retirees and Beneficiaries

By Age and Retirement Type

As of June 30, 2015

Annual Amounts not Including PPPA Payments

California Highway Patrol

Attained Age	Service Retirement	Non-Industrial Disability	Industrial Disability	Non-Industrial Death	Industrial Death	Death After Retirement	Total
Under 30	$0	$0	$0	$0	$86,747	$163,843	$250,590
30-34	0	0	237,166	0	271,091	12,556	520,813
35-39	0	32,480	581,652	0	301,456	50,032	965,620
40-44	0	7,235	2,532,221	0	643,619	24,370	3,207,445
45-49	0	9,239	3,865,359	319,556	1,280,217	215,359	5,689,730
50-54	42,149,540	153,619	15,667,443	0	1,290,525	902,255	60,163,382
55-59	79,288,332	202,380	27,290,459	413,883	722,501	2,190,650	110,108,205
60-64	49,588,106	47,093	27,304,007	466,351	303,879	2,630,962	80,340,398
65-69	33,985,155	342,962	37,275,573	470,917	479,042	5,252,393	77,806,042
70-74	31,027,615	187,885	39,108,094	267,476	346,161	7,586,822	78,524,053
75-79	12,801,017	80,392	20,854,909	176,873	469,170	6,958,563	41,340,924
80-84	5,990,638	91,943	11,148,503	34,954	228,135	5,518,813	23,012,986
85 and Over	5,318,893	41,905	5,408,019	32,852	242,006	5,524,935	16,568,610
Total	**$260,149,296**	**$1,197,133**	**$191,273,405**	**$2,182,862**	**$6,664,549**	**$37,031,553**	**$498,498,798**

Counts of members do not include alternate payees receiving benefits while the member is still working. Multiple records may exist for those who have service in more than one coverage group. This does not result in double counting of liabilities.

Number of Retirees and Beneficiaries

By Years Retired and Retirement Type

As of June 30, 2015

California Highway Patrol

Years Retired	Service Retirement	Non-Industrial Disability	Industrial Disability	Non-Industrial Death	Industrial Death	Death After Retirement	Total
Under 5 Yrs	953	5	292	3	17	404	1,674
5-9	1,036	2	410	6	27	278	1,759
10-14	565	5	635	9	13	199	1,426
15-19	505	11	516	9	12	144	1,197
20-24	246	4	562	4	10	75	901
25-29	133	6	470	6	8	57	680
30 and Over	153	8	723	3	62	64	1,013
Total	**3,591**	**41**	**3,608**	**40**	**149**	**1,221**	**8,650**

Counts of members do not include alternate payees receiving benefits while the member is still working. Multiple records may exist for those who have service in more than one coverage group. This does not result in double counting of liabilities.

Annual Allowance Amounts for Retirees and Beneficiaries

By Years Retired and Retirement Type

As of June 30, 2015

Annual Amounts not Including PPPA Payments

California Highway Patrol

Years Retired	Service Retirement	Non-Industrial Disability	Industrial Disability	Non-Industrial Death	Industrial Death	Death After Retirement	Total
Under 5 Yrs	$85,615,966	$254,379	$23,523,484	$198,765	$956,932	$15,435,263	$125,984,789
5-9	91,864,348	242,952	34,579,656	384,621	1,917,558	8,435,353	137,424,488
10-14	35,679,970	219,590	46,669,142	728,833	687,050	5,577,020	89,561,605
15-19	25,665,366	217,212	27,151,305	432,938	641,428	3,457,836	57,566,085
20-24	10,541,825	41,536	24,088,893	181,871	375,311	1,673,022	36,902,458
25-29	5,325,221	126,050	16,581,829	208,701	406,409	1,278,683	23,926,893
30 and Over	5,456,600	95,414	18,679,096	47,133	1,679,861	1,174,376	27,132,480
Total	**$260,149,296**	**$1,197,133**	**$191,273,405**	**$2,182,862**	**$6,664,549**	**$37,031,553**	**$498,498,798**

Counts of members do not include alternate payees receiving benefits while the member is still working. Multiple records may exist for those who have service in more than one coverage group. This does not result in double counting of liabilities.

Retirees and Beneficiaries

Number Counts and Benefits

By Year of Retirement

As of June 30, 2015

State Miscellaneous Tier 1

Years Retired	Total Retirement	Total Benefits	Average Benefits
2015	2,553[1]	68,855,775	26,971
2014	8,643	275,507,639	31,876
2013	7,428	220,917,677	29,741
2012	8,293	264,011,062	31,835
2011	8,377	263,518,292	31,457
2010	9,215	318,068,665	34,516
2009	8,066	291,022,124	36,080
2008	6,824	233,842,531	34,268
2007	6,536	208,687,582	31,929
2006	6,311	184,625,367	29,255
2005	7,146	224,762,916	31,453
2004	8,447	280,640,205	33,224
2003	5,889	177,494,297	30,140
2002	5,804	180,557,628	31,109
2001	5,932	206,389,227	34,793
2000	7,914	276,809,531	34,977
1999	2,927	64,773,812	22,130
1998	4,254	108,300,144	25,458
1997	4,280	111,831,150	26,129
1996	4,032	107,916,991	26,765
1995	3,682	99,905,309	27,133
1994	3,665	97,452,040	26,590
1993	2,787	59,513,930	21,354
1992	4,406	126,937,266	28,810
1991	4,846	160,752,348	33,172
1990	2,680	65,957,501	24,611
1989	2,444	52,317,668	21,407
1988	2,619	62,835,440	23,992
1987	2,808	64,602,770	23,007
1986	2,205	46,321,014	21,007
1985	2,182	39,674,826	18,183
1984 and Earlier	13,242	182,043,796	13,747
Totals	**176,437**	**$5,126,846,523**	**$29,058**

Counts of members include alternate payees receiving benefits while the member is still working. Multiple records may exist for those who have service in more than one coverage group. This does not result in double counting of liabilities.

1 – The numbers for 2015 are for the first 6 months of the calendar year only.

Retirees and Beneficiaries

Number Counts and Benefits

By Year of Retirement

As of June 30, 2015

State Miscellaneous Tier 2

Years Retired	Total Retirement	Total Benefits	Average Benefits
2015	138[1]	1,008,276	7,306
2014	381	2,599,064	6,822
2013	385	2,705,911	7,028
2012	437	2,991,133	6,845
2011	318	2,215,649	6,967
2010	201	1,298,459	6,460
2009	169	1,110,902	6,573
2008	145	1,179,557	8,135
2007	133	1,079,110	8,114
2006	128	819,410	6,402
2005	147	1,155,061	7,858
2004	120	954,575	7,955
2003	129	1,173,762	9,099
2002	157	1,289,127	8,211
2001	202	1,462,646	7,241
2000	250	2,255,726	9,023
1999	281	2,916,783	10,380
1998	356	4,002,887	11,244
1997	339	4,295,602	12,671
1996	275	3,532,245	12,845
1995	223	3,331,490	14,939
1994	149	2,376,566	15,950
1993	138	2,029,170	14,704
1992	130	1,851,666	14,244
1991	140	2,026,136	14,472
1990	77	1,073,857	13,946
1989	90	1,251,385	13,904
1988	87	1,129,605	12,984
1987	52	599,432	11,528
1986	46	508,097	11,046
1985	29	316,477	10,913
1984 and Earlier	8	61,628	7,704
Totals	**5,860**	**$56,601,394**	**$9,659**

Counts of members include alternate payees receiving benefits while the member is still working. Multiple records may exist for those who have service in more than one coverage group. This does not result in double counting of liabilities.

1 – The numbers for 2015 are for the first 6 months of the calendar year only.

Retirees and Beneficiaries

Number Counts and Benefits

By Year of Retirement

As of June 30, 2015

State Industrial

Years Retired	Total Retirement	Total Benefits	Average Benefits
2015	272[1]	3,193,441	11,741
2014	832	10,396,508	12,496
2013	773	9,170,623	11,864
2012	895	12,197,015	13,628
2011	817	10,282,297	12,585
2010	944	13,457,474	14,256
2009	767	10,589,560	13,806
2008	606	7,964,661	13,143
2007	508	6,553,239	12,900
2006	545	6,513,925	11,952
2005	541	7,338,784	13,565
2004	655	8,539,660	13,038
2003	456	5,319,954	11,667
2002	450	5,412,844	12,029
2001	440	6,031,747	13,709
2000	558	7,435,705	13,326
1999	192	1,697,372	8,840
1998	287	2,651,648	9,239
1997	269	2,732,383	10,158
1996	221	2,006,940	9,081
1995	199	1,937,513	9,736
1994	169	1,720,529	10,181
1993	143	1,340,629	9,375
1992	184	2,659,464	14,454
1991	167	2,581,478	15,458
1990	104	964,153	9,271
1989	114	1,135,943	9,964
1988	71	883,239	12,440
1987	90	1,218,815	13,542
1986	50	757,258	15,145
1985	65	792,358	12,190
1984 and Earlier	368	4,248,041	11,544
Totals	**12,752**	**$159,725,200**	**$12,526**

Counts of members include alternate payees receiving benefits while the member is still working. Multiple records may exist for those who have service in more than one coverage group. This does not result in double counting of liabilities.

1 – The numbers for 2015 are for the first 6 months of the calendar year only.

Retirees and Beneficiaries

Number Counts and Benefits

By Year of Retirement

As of June 30, 2015

State Safety

Years Retired	Total Retirement	Total Benefits	Average Benefits
2015	537[1]	12,648,931	$23,555
2014	1,425	33,972,791	23,841
2013	1,371	33,969,394	24,777
2012	1,493	36,418,038	24,393
2011	1,423	35,639,888	25,046
2010	1,600	44,029,007	27,518
2009	1,336	34,717,036	25,986
2008	1,024	23,948,704	23,387
2007	949	19,540,888	20,591
2006	928	16,309,581	17,575
2005	1,005	18,360,684	18,269
2004	1,035	19,353,876	18,699
2003	786	14,160,174	18,015
2002	741	12,768,247	17,231
2001	702	12,191,571	17,367
2000	842	14,908,641	17,706
1999	382	5,363,199	14,040
1998	407	5,461,616	13,419
1997	365	5,441,753	14,909
1996	324	4,822,961	14,886
1995	251	3,316,926	13,215
1994	268	3,597,498	13,424
1993	179	2,856,859	15,960
1992	242	4,282,129	17,695
1991	225	3,356,615	14,918
1990	145	2,280,106	15,725
1989	154	2,504,579	16,264
1988	111	1,641,737	14,790
1987	127	2,140,303	16,853
1986	91	1,599,544	17,577
1985	142	2,235,254	15,741
1984 and Earlier	2,085	37,897,808	18,176
Totals	**22,687**	**$471,603,823**	**$20,787**

Counts of members include alternate payees receiving benefits while the member is still working. Multiple records may exist for those who have service in more than one coverage group. This does not result in double counting of liabilities.

1 – The numbers for 2015 are for the first 6 months of the calendar year only.

Retirees and Beneficiaries

Number Counts and Benefits

By Year of Retirement

As of June 30, 2015

State Peace Officers and Firefighters

Years Retired	Total Retirement	Total Benefits	Average Benefits
2015	599[1]	29,552,903	$49,337
2014	2,094	110,342,258	52,694
2013	2,032	104,839,666	51,594
2012	2,386	132,400,348	55,491
2011	2,112	114,315,660	54,127
2010	2,309	134,897,082	58,422
2009	2,087	131,693,384	63,102
2008	1,513	93,280,700	61,653
2007	1,712	107,996,945	63,082
2006	1,960	118,506,510	60,463
2005	1,229	62,687,792	51,007
2004	1,412	67,180,493	47,578
2003	1,205	55,246,857	45,848
2002	1,321	61,654,756	46,673
2001	1,233	56,477,999	45,805
2000	1,640	81,150,871	49,482
1999	616	19,767,696	32,090
1998	714	23,569,748	33,011
1997	745	26,851,547	36,042
1996	676	26,411,465	39,070
1995	594	23,216,460	39,085
1994	531	18,764,845	35,339
1993	505	18,273,659	36,185
1992	620	24,518,185	39,545
1991	597	25,445,552	42,622
1990	333	10,631,098	31,925
1989	368	11,442,153	31,093
1988	358	11,412,515	31,879
1987	437	14,262,692	32,638
1986	352	10,573,672	30,039
1985	266	7,880,649	29,627
1984 and Earlier	225	6,934,722	30,821
Totals	**34,781**	**$1,742,180,882**	**$50,090**

Counts of members include alternate payees receiving benefits while the member is still working. Multiple records may exist for those who have service in more than one coverage group. This does not result in double counting of liabilities.

1 – The numbers for 2015 are for the first 6 months of the calendar year only.

Retirees and Beneficiaries

Number Counts and Benefits

By Year of Retirement

As of June 30, 2015

California Highway Patrol

Years Retired	Total Retirement	Total Benefits	Average Benefits
2015	55[1]	4,245,509	77,191
2014	241	21,232,237	88,101
2013	245	20,626,816	84,191
2012	304	26,807,055	88,181
2011	310	27,958,412	90,188
2010	334	30,721,364	91,980
2009	297	28,905,455	97,325
2008	240	21,172,128	88,217
2007	239	19,197,188	80,323
2006	284	21,504,489	75,720
2005	317	25,417,595	80,182
2004	257	17,880,696	69,575
2003	182	11,044,285	60,683
2002	260	17,609,410	67,729
2001	300	20,765,130	69,217
2000	427	26,966,467	63,153
1999	143	6,765,387	47,310
1998	193	9,196,375	47,650
1997	239	11,440,276	47,867
1996	265	13,972,434	52,726
1995	233	11,126,113	47,752
1994	189	7,988,750	42,269
1993	236	10,322,526	43,740
1992	184	7,169,899	38,967
1991	203	8,605,400	42,391
1990	132	4,934,237	37,381
1989	177	6,305,532	35,624
1988	181	6,854,424	37,870
1987	138	4,883,057	35,384
1986	165	5,420,595	32,852
1985	130	4,128,666	31,759
1984 and Earlier	1,550	37,330,891	24,084
Totals	**8,650**	**$498,498,798**	**$57,630**

Counts of members include alternate payees receiving benefits while the member is still working. Multiple records may exist for those who have service in more than one coverage group. This does not result in double counting of liabilities.

1 – The numbers for 2015 are for the first 6 months of the calendar year only.

APPENDIX D
NORMAL COST INFORMATION

- **NORMAL COST CHART**
- **DEVELOPMENT OF PEPRA MEMBER CONTRIBUTION RATES**

Normal Cost Chart

The normal cost is determined using the Entry Age Cost method. Some important features of this method are that the costs are dependent upon a member's entry age in the plan and benefit level of the plan. In general the lower the entry age the lower the total normal cost. Note that future costs may vary as the entry age of the members change. FAC means Final Average Compensation.

	STATE PLANS	TOTAL NORMAL COST	EMPLOYEE CONTRIBUTION[2]	Range of Breakpoints[3]	Average Effective Member Rate[4,5]	Employer Normal Cost
	State Miscellaneous (Including CSU) - 2% @ 62	13.2%	6% - 11%	$317 - $513	6.7%	6.5%
P	State Miscellaneous - 2nd Tier 2% @ 62[5]	11.0%	3.75%	$0	3.8%	7.3%
E	State Industrial - 2% @ 62	15.4%	6% - 11%	$317 - $513	7.7%	7.7%
P	State Safety - 2% @ 57	18.2%	11%	$317	10.3%	7.9%
R	POFF (90% of current members) - 2.5% @ 57	22.1%	11% - 13%	$238 - $863	10.3%	11.8%
A	POFF (10% of current members) - 2.7% @ 57	23.1%	13%	$863	9.4%	13.7%
	CHP - 2.7% @ 57	21.3%	11.5%	$863	9.9%	11.4%
	State Miscellaneous - 2% @ 60 & 3 Year FAC	15.1%	5% - 11%	$317 - $513	6.5%	8.6%
	State Miscellaneous - 2% @ 55[1]	15.7%	5% - 11%	$317 - $513	6.8%	8.9%
	State Miscellaneous - 2nd Tier 2% @ 55[5]	11.9%	3.75%	$0	3.8%	8.2%
C	State Industrial - 2% @ 60 & 3 Year FAC	16.9%	5% - 11%	$317 - $513	8.1%	8.8%
L	State Industrial - 2% @ 55[1]	18.7%	5% - 11%	$317 - $513	8.0%	10.7%
A	State Industrial - 2nd Tier 2% @ 55[5]	14.5%	3.75%	$0	3.8%	10.8%
S	State Safety - 2% @ 55 & 3 Year FAC	18.9%	11%	$317	10.3%	8.6%
S	State Safety - 2.5% @ 60 & 3 Year FAC	20.3%	11%	$317	10.5%	9.8%
I	State Safety - 2.5% @ 55[1]	22.9%	11%	$317	10.5%	12.4%
C	State POFF - 2.5% @ 55 & 3 Year FAC	25.7%	8% - 13%	$238 - $863	10.7%	15.0%
	State POFF - 3% @ 55 & 3 Year FAC	28.9%	8% - 13%	$238 - $863	10.6%	18.3%
	State POFF - 3% @ 50[1]	28.0%	8% - 13%	$238 - $863	11.4%	16.6%
	CHP - 3% @ 55 & 3 Year FAC	26.3%	11.5%	$863	10.2%	16.1%
	CHP - 3% @ 50[1]	26.6%	11.5%	$863	10.5%	16.1%

Notes:

1-Most current employees have benefits based on a final one year compensation period while new hires' benefits are based on a final three compensation period.

2-Employee contribution rates are based on rates in effect at the valuation date.

3-Employees only make contributions to the pension plan based on salaries earned above the breakpoint.

4-The average effective member rate was calculated based on data as of June 30, 2015 and is reflective of the breakpoint and the different contribution rates paid by members within the same plans. For example, a member earning $6,000 a month with an 8 percent contribution rate and a breakpoint of $513 will pay $438.96 and have an effective contribution rate of 7.316 percent of salary. This is calculated as ($6,000-$513) * 8% divided by $6,000.

5-Reflects the Total Normal cost assuming conversion to Tier 1 benefits for members with Tier 2 service.

Development of PEPRA Member Contribution Rates

With the enactment of PEPRA, new PEPRA members are required to contribute at least 50 percent of the total annual normal cost of their pension benefit as determined by the actuary. As per Government Code Section 7522.30, State employees are excluded from this requirement except for employees of the Legislature, California State University (CSU), and the judicial branch. The PEPRA total normal cost for the plan is calculated assuming the entire active population, including the classic members, is subject to the adopted PEPRA formula and applicable compensation limits. Should the total normal cost of the plan change by one percent or more from the base total normal cost established for the plan, the new member rate shall be 50 percent of the new normal cost rounded up to the next highest quarter percent.

The table below shows the determination of the Member contribution rates based on 50 percent of the Total Normal Cost for each respective plan on June 30, 2015.

	Basis for Current Rate		Rates Effective July 1, 2016			
Plan	Total Normal Cost	Member Rate	Total Normal Cost	Change	Change Needed	Member Rate
State Miscellaneous - CSU, Legislature and Judicial	12.11%	6.00%	13.16%	1.05%	Yes	6.75%
POFF- CSU, Legislature and Judicial	22.04%	11.00%	22.06%	0.02%	No	11.00%

APPENDIX E
GLOSSARY OF ACTUARIAL TERMS

- **GLOSSARY OF ACTUARIAL TERMS**

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 Bases
Separate payment schedules for different portions of the Unfunded Liability. The total Unfunded Liability of a Risk Pool or non-pooled plan can be segregated by "cause," creating "bases" and each such base will be separately amortized and paid for over a specific period of time. However, all bases are amortized using investment and payroll assumptions from the current valuation. This can be likened to a home having a first mortgage of 24 years remaining payments and a second mortgage that has 10 years remaining payments. Each base or each mortgage note has its own terms (payment period, principal, etc.)

Generally, in an actuarial valuation, the separate bases consist of changes in unfunded liability due to contract amendments, actuarial assumption changes, actuarial methodology changes, and or gains and losses. Payment periods are determined by Board policy and vary based on the cause of the change.

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

Classic Member (under PEPRA)
A classic member is a member who joined CalPERS prior to January, 1, 2013 and who is not defined as a new member under PEPRA. (See definition of new member below)

Discount Rate Assumption

The actuarial assumption that was called “investment return” in earlier CalPERS reports or “actuarial interest rate” in Section 20014 of the California Public Employees’ Retirement Law (PERL).

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.)

Fresh Start

A Fresh Start is when multiple amortization bases are collapsed to one base and amortized together over a new funding period.

Funded Status

A measure of how well funded, or how "on track" a plan or risk pool is with respect to assets verses 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.

GASB 68

Statement No. 68 of the Governmental Accounting Standards Board. The accounting standard governing a state or local governmental employer’s accounting and financial reporting for pensions. GASB 68 replaces GASB 27 effective the first fiscal year beginning after June 15, 2014.

New Member (under PEPRA)

A new member includes an individual who becomes a member of a public retirement system for the first time on or after January 1, 2013, and who was not a member of another public retirement system prior to that date, and who is not subject to reciprocity with another public retirement system.

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.

PEPRA

The California Public Employees' Pension Reform Act of 2013

Prepayment Contribution

A payment made by the employer to reduce or eliminate the year's required employer contribution.

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.

Superfunded

A condition existing when a plan's Market Value of Assets exceeds its Present Value of Benefits. Prior to the passage of PEPRA, when this condition existed on a given valuation date for a given plan, employee contributions for the rate year covered by that valuation could be waived.

Unfunded Liability

When a plan or pool's Market 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.