Legislators' Retirement System
Actuarial Valuation

As of June 30, 2016

CalPERS

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Actuarial Certification

April 2017

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 Legislators' Retirement System. This valuation is based on the member and financial data as of June 30, 2016 provided by the various CalPERS databases and the benefits under this plan with CalPERS as of the date this report was produced. In our opinion, this valuation has been performed in accordance with generally accepted actuarial principles, and in accordance with the standards of practice prescribed by the Actuarial Standards Board. The assumptions and methods are internally consistent and reasonable for this plan, as prescribed by the CalPERS Board of Administration according to provisions set forth in the California Public Employee's 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.

[redacted]

David Clement, ASA, EA, MAAA
Senior Pension Actuary, CalPERS

[redacted]

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

Highlights and Executive Summary

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Highlights and Executive Summary

INTRODUCTION

This is the actuarial valuation report as of June 30, 2016 for the Legislators' Retirement System. This actuarial valuation was used to set the 2017-2018 required employer contribution rates. The information included provides information regarding retirement and ancillary benefits for Senators and Members of the Assembly (first elected prior to November 7, 1990), Constitutional Officers (first elected prior to December 31, 2012), and Legislative Statutory Officers (first appointed prior to December 31, 2012).

Effective January 1, 2013, the system is closed to new members. The system was partially closed as a result of the Political Reform Act of 1990 (to Senators and Members of the Assembly first elected after November 7, 1990). As a result of Assembly Bill 340 which was signed by the Governor on September 12, 2012, the Legislative Retirement System is also closed to Constitutional and Statutory Officers effective January 1, 2013.

Section 7522.52 requires that a public employer's contribution to a defined benefit plan, in combination with employee contributions to that defined benefit plan, shall not be less than the normal cost rate.

Effective December 7, 2009, elected officials salaries were reduced 18 percent. For the purposes of determining the present value of benefits, salaries prior to the reduction were used. However, actual salaries were used to calculate employer contribution rates.

PURPOSE OF REPORT

This actuarial valuation of the Legislators' Retirement System was performed by the CalPERS Actuarial Office using data as of June 30, 2016 in order to:

- Set forth the funded status, assets and accrued liabilities of this plan as of June 30, 2016.
- Establish the actuarially required contributions of the System for the fiscal year July 1, 2017 through June 30, 2018.
- Provide actuarial information as of June 30, 2016 to the CalPERS Board of Administration and other interested parties.

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

The measurements shown in this actuarial valuation may not be applicable for other purposes. The employer should contact their actuary before disseminating any portion of this report for any reason that is not explicitly described above.

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

California Actuarial Advisory Panel Recommendations

This report includes all the basic disclosure elements as described in the Model Disclosure Elements for Actuarial Valuation Reports recommended in 2011 by the California Actuarial Advisory Panel (CAAP), with the exception of including the original base amounts of the various components of the unfunded liability in the Schedule of Amortization Bases shown on page 9. 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.

REQUIRED EMPLOYER CONTRIBUTION

This actuarial valuation sets forth the employer contribution rate for the fiscal year July 1, 2017 through June 30, 2018. The following table shows the Required Employer Contribution. The Required Employer Contribution is shown in dollars and as a percentage of projected payroll.

Actuarially Determined Employer Contribution

	Fiscal Year 2016/2017	Fiscal Year 2017/2018
1) Contribution in Projected Dollars		
a) Total Normal Cost	$653,303	$668,562
b) Employee Contribution	103,294	104,283
c) Employer Normal Cost [(1a) - (1b)]	$550,009	$584,279
d) Unfunded Contribution	(550,009)	(563,861)
e) Actuarially Determined Employer Contribution [(1c) + (1d)]	**$0**	**$20,418**
Projected Annual Payroll for Contribution Year	$1,352,735	$1,401,283
2) Contribution as a Percentage of Payroll		
a) Total Normal Cost	48.295%	49.138%
b) Employee Contribution	7.636%	7.442%
c) Employer Normal Cost [(2a) - (2b)]	40.659%	41.696%
d) Unfunded Rate	(40.659%)	(40.239%)
e) Actuarially Determined Employer Contribution [(2c) + (2d)]	**0.000%**	**1.457%**
MINIMUM EMPLOYER CONTRIBUTION RATE[1]	**40.659%**	**41.696%**

(1) The Minimum Employer Contribution Rate under PEPRA is the greater of the Actuarially Determined Employer Contribution or the Employer Normal Cost.

PLAN'S FUNDED STATUS

The table below summarizes the funded status of the Legislative Retirement System over the last two years.

	June 30, 2015	June 30, 2016
1) Present Value of Projected Benefits	$107,404,268	$108,950,519
2) Entry Age Normal Accrued Liability	105,746,107	106,974,655
3) Market Value of Assets (MVA)	121,468,928	119,049,997
4) Unfunded Liability [(2) - (3)]	**($15,722,821)**	**($12,075,342)**
5) Funded Ratio [(3) / (2)]	**114.9%**	**111.3%**

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

CHANGES SINCE THE PRIOR YEAR'S VALUATION

Actuarial Assumptions

The discount rate for this valuation is 5.00 percent. The decision to reduce the discount rate was primarily based on reduced capital market assumptions provided by external investment consultants and CalPERS investment staff. A complete description of the actuarial assumptions used in the June 30, 2016 valuation may be found in Appendix A of this report.

Plan Provisions

No changes were made since the prior valuation. A complete description of the principal plan provisions used in the June 30, 2016 valuation may be found in Appendix B of this report.

SUBSEQUENT EVENTS

No events that occurred after the valuation date are expected to have a material impact on this valuation.

Assets

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Assets

RECONCILIATION OF THE MARKET VALUE OF ASSETS

The table below illustrates a reconciliation of the market value of assets between years ending 2015 and 2016.

	Market Value
Beginning Balance as of June 30, 2015	$121,468,928
Member Contributions	96,637
Employer Contributions	548,690
Disbursements and Refunds	(7,407,340)
Administration Expenses	(202,286)
Investment Earnings	4,545,368
Ending Balance as of June 30, 2016	**$119,049,997**

ASSET ALLOCATION

Shown below is the Market Value of Assets, by asset type, as of the valuation date.

	June 30, 2016
Cash	$74,632
Investments at Market Value	
Global Equity Securities	$37,104,847
Global Debt Securities	79,361,776
Short Term Investments	8,494,814
Securities Lending Collateral	3,514,405
Accounts Receivable	13,335,846
Subtotal of Investments	$141,886,320
Liabilities	
Accounts Payable	($19,319,768)
Securities Lending Obligation	(3,516,555)
Subtotal of Accounts Receivable	($22,836,323)
Fund Balance at Market Value on 6/30/2016	$119,049,997

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Liabilities and Required Employer Contribution Rate

COMPARISON OF CURRENT AND PRIOR YEAR RESULTS

Shown below is the comparison of key valuation results for the current valuation date to the corresponding values from the prior valuation date.

	June 30, 2015	June 30, 2016
1) Members Included in the Valuation		
a) Active Members	9	9
b) Deferred Vested Terminated Members & QDRO's	14	11
c) Receiving Payments	244	238
d) Total	**267**	**258**
2) Payroll		
a) Covered Annual Payroll	$1,275,083	$1,320,844
b) Projected Covered Annual Payroll	1,352,736	1,401,283
c) Average Covered Annual Payroll [(2a) / (1a)]	$141,676	$146,760
3) Age and Service for Actives		
a) Average Attained Age for Actives	61.21	62.21
b) Average Service for Actives	8.12	9.12
4) Present Value of Benefits at Valuation Date		
a) Active Members	$6,746,121	$7,550,347
b) Inactive Members	7,596,266	4,856,124
c) Receiving Benefits	93,061,881	96,544,048
d) Total	**$107,404,268**	**$108,950,519**
5) Present Value of Future Employee Contributions	$253,084	$303,105
6) Present Value of Future Employer Normal Cost	$1,405,077	$1,672,759
7) Accrued Actuarial Liability		
a) Active Members	$5,087,960	$5,574,483
b) Inactive Members	7,596,266	4,856,124
c) Receiving Benefits	93,061,881	96,544,048
d) Total	**$105,746,107**	**$106,974,655**
8) Assets		
a) Market Value of Assets	$121,468,928	$119,049,997
b) Unfunded Accrued Actuarial Liability [(7d) - (8a)]	($15,722,821)	($12,075,342)
c) Funded Ratio [(8a) / (7d)]	114.9%	111.3%

(GAIN)/LOSS ANALYSIS

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

1) Total (Gain)/Loss for the Year	
a) Unfunded Accrued Liability (UAL) as of 6/30/15	($15,722,821)
b) Expected Payment on UAL During 2015/2016	21,092
c) Interest Through 6/30/16 [0.0575 x 1a - ((1.0575)$^{1/2}$ - 1) x 1b]	(904,661)
d) Expected UAL Before All Other Changes [1a - 1b + 1c]	($16,648,574)
e) Change Due to Revised Actuarial Methods	—
f) Change Due to New Actuarial Assumptions	8,262,423
g) Expected UAL After All Changes [1d + 1e + 1f]	($8,386,151)
h) Actual Unfunded Accrued Liability as of 6/30/16	(12,075,342)
i) Total (Gain)/Loss for 2015/2016 [1h - 1g]	**($3,689,191)**
2) Contribution (Gain)/Loss for the Year	
a) Expected Contribution (Employer and Employee)	$655,367
b) Interest on Expected Contributions [((1.0575)$^{1/2}$ - 1) x 2a]	18,578
c) Actuarial Contribution	645,327
d) Interest on Actual Contributions [((1.0575)$^{1/2}$ - 1) x 2c]	18,294
e) Contribution (Gain)/Loss [(2a + 2b) - (2c + 2d)]	**$10,325**
3) Asset (Gain)/Loss for the Year	
a) Market Value of Assets as of 6/30/15	$121,468,928
b) Contributions Received	645,327
c) Benefits, Refunds Paid and Administrative Costs	(7,609,626)
d) Expected Interest [0.0575 x 3a + ((1.0575)$^{1/2}$ - 1) x (3b + 3c)]	6,787,038
e) Expected Assets as of 6/30/15 [3a + 3b + 3c + 3d]	121,291,667
f) Market Value of Assets as of 6/30/16	119,049,997
g) Asset (Gain)/Loss [3e - 3f]	**$2,241,670**
4) Liability (Gain)/Loss for the Year	
a) Total (Gain)/Loss (1i)	($3,689,191)
b) Contribution (Gain)/Loss (2e)	10,325
c) Asset (Gain)/Loss (3g)	2,241,670
d) Liability (Gain)/Loss [4a - 4b - 4c]	**($5,941,186)**

SCHEDULE OF AMORTIZATION BASES

The schedule below shows the development of the proposed payment on the Amortization Bases[1]. In accordance with Board policy, the surplus of a plan must be amortized over a minimum of 30 years

Reason For Base	Date Established	Remaining Period	Balance on 6/30/16	Expected Payment on UAL 16-17	6/30/2017	Scheduled Payment Fiscal Year 2017-2018
Fresh Start	6/30/2016	30	(12,075,342)	($14,108)	($12,664,652)	($563,861)
Total			**($12,075,342)**	**($14,108)**	**($12,664,652)**	**($563,861)**

(1) The amortization bases shown above are used in developing the actuarially determined employer contribution but not in the recommended contribution because of the minimum contribution requirement pursuant to G.C. Section 7522.22.

RECONCILIATION OF EMPLOYER CONTRIBUTIONS RATES

This table illustrates how the contribution rate is calculated and, more importantly, why the Employer Contribution Rate differs this year from the previous year.

	Percentage of Projected Payroll	Estimated $ Based on Projected Payroll
1) 2016-17 Actuarially Determined Employer Contribution (from prior year annual report)	0.000%	$0
2) Effect of Changes Since the Prior Annual Valuation		
a) Effect of Change in Payroll	0.000%	$0
b) Effect of (Gain)/Loss	(1.521%)	(21,315)
c) Effect of Plan Changes	0.000%	0
d) Effect of Method Changes	0.000%	0
e) Effect of Assumption Changes	15.641%	219,179
f) Effect of Fresh Start	(12.663%)	(177,446)
g) Net Effect of Changes [Sum of a - f]	**1.457%**	**$20,418**
3) 2017-18 Actuarially Determined Employer Contribution	**1.457%**	**$20,418**
4) 2017-18 Minimum Employer Contribution	**41.696%**	**$584,279**

EMPLOYER CONTRIBUTION RATE HISTORY

This table provides the 10-year history of employer contribution rates for the Legislators' Retirement System.

Fiscal Year	Actuarially Determined Employer Contribution	Minimum Employer Contribution Rate
2017-18	1.457%	41.696%
2016-17	0.000%	40.659%
2015-16	8.859%	42.265%
2014-15	17.166%	42.257%
2013-14	1.554%	38.381%
2012-13	5.380%	N/A
2011-12	0.000%	N/A
2010-11	0.000%	N/A
2009-10	0.000%	N/A
2008-09	0.000%	N/A

FUNDING HISTORY

The Funding History below shows the recent history of the actuarial accrued liability, the market value of assets, funded ratios and the annual covered payroll. The funded ratio based on the Market Value of Assets is an indicator of the short-term solvency of the plan.

Valuation Date	Entry Age Normal Accrued Liability[1]	Market Value of Assets (MVA)	Funded Ration (MVA)	Annual Covered Payroll
6/30/16	$106,974,655	$119,049,997	111.3%	$1,320,844
6/30/15	105,746,107	121,468,928	114.9%	1,275,083
6/30/14	111,274,434	130,353,307	117.1%	1,500,257
6/30/13	115,805,781	122,147,891	105.5%	1,427,241
6/30/12	108,585,275	123,029,188	113.3%	1,983,348
6/30/11	108,976,845	123,569,795	113.4%	2,269,390
6/30/10	112,355,875	114,104,852	101.6%	2,159,181
6/30/09	111,898,151	111,829,179	99.9%	2,057,335
6/30/08	103,035,982	134,140,160	130.2%	2,216,469
6/30/07	101,571,369	142,209,494	140.0%	2,105,830

(1) The aggregate funding method was used in the June 30, 2010 and prior valuations. The Entry Age Normal Accrued Liability (EANAL) was not used for funding purposes. However, the EANAL was disclosed for accounting purposes due to GASB Statement #50.

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RISK ANALYSIS

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 your 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	As of June 30, 2016
1) Market Value of Assets	$119,049,997
2) Payroll	$1,320,844
3) Asset Volatility Ration [(1) / (2)]	**90.1**
4) Accrued Liability	$106,974,655
5) Liability Volatility Ratio [(4) / (2)]	**81.0**

The volatility ratios for this plan are extremely high due to the closed nature of the plan. This would normally indicate a very high level of contribution volatility. However, while the plan remains in surplus, that may not be the case due to the effect of the minimum contribution requirement pursuant to G.C. Section 7522.22.

ANALYSIS OF FUTURE INVESTMENT RETURN SCENARIOS

As of December 31, 2016, the investment return for the fiscal year to date was announced to be negative 0.2 percent. For purposes of projecting future employer rates, we are assuming a negative 0.2 percent investment return for fiscal year 2016-17.

The investment return realized during a fiscal year first affects the contribution rate for the fiscal year one year later. Specifically, the investment return for 2016-17 will first be reflected in the June 30, 2017 actuarial valuation that will be used to set the 2018-19 employer contribution rates. The 2017-18 investment return will first be reflected in the June 30, 2018 actuarial valuation that will be used to set the 2019-20 employer contribution rates and so forth.

Based on a negative 0.2 percent investment return for Fiscal Year 2016-17 and assuming that all other actuarial assumptions will be realized and that no further changes to assumptions, contributions, benefits, or funding will occur between now and the beginning of The Fiscal Year 2018-19, the effect on the 2018-19 Employer Rate is as follows:

Estimated 2018-19 Actuarially Determined Employer Contribution	Estimated Increase in the Actuarially Determined Employer Contribution Between 2017-18 and 2018-19
12.7%	11.2%

ANALYSIS OF FUTURE INVESTMENT RETURN SCENARIOS (CONTINUED)

As mentioned earlier, due to the closed nature of this plan, the volatility of the actuarially determined employer contribution can be very high. However, as can be seen in the table below, that may not be the case for this plan since this plan is in surplus and in effect pays the normal cost pursuant to G.C. Section 7522.22.

Estimated 2018-19 Minimum Employer Contribution	Estimated Increase in the Minimum Employer Contribution Between 2017-18 and 2018-19
41.7%	0.0%

As part of this report, a sensitivity analysis was performed to determine the effects of various investment returns during Fiscal Years 2017-18, 2018-19 and 2019-20 on the 2019-20, 2020-21 and 2021-22 employer rates. Once again, the projected rate increases assume that all other actuarial assumptions will be realized and that no further changes to assumptions, contributions, benefits, or funding will occur.

Five different 2017-20 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, 2017 through June 30, 2020. The 5th percentile return corresponds to a negative 3.00 percent return for each of the 2017-18, 2018-19 and 2019-20 Fiscal Years .
- The second scenario is what one would expect if the markets were to give us a 25th percentile return from July 1, 2017 through June 30, 2020. The 25th percentile return corresponds to a 1.50 percent return for each of the 2017-18, 2018-19 and 2019-20 Fiscal Years .
- The third scenario assumed the return for 2017-18, 2018-19 and 2019-20 would be our assumed 5.00 percent investment return.
- The fourth scenario is what one would expect if the markets were to give us a 75th percentile return from July 1, 2017 through June 30, 2020. The 75th percentile return corresponds to a 7.50 percent return for each of the 2017-18, 2018-19 and 2019-20 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, 2017 through June 30, 2020. The 95th percentile return corresponds to a 12.00 percent return for each of the 2017-18, 2018-19 and 2019-20 Fiscal Years .

The table below shows the estimated projected actuarially determined employer contribution along with the minimum employer contribution rates and the estimated increases for the plan under the five investment different scenarios.

2017-2020 Investment Return Scenario	Estimated Actuarially Determined/ Minimum Employer Rate			Estimated Increase in Employer Rate Between 2018-19 and 2021-22
	2019-20	2020-21	2021-22	
(3.00%) (5th Percentile)	41.3% / 41.7%	74.7% / 74.7%	79.6% / 79.6%	66.9% / 37.9%
1.50% (25th Percentile)	25.6% / 41.7%	37.2% / 41.7%	49.8% / 49.8%	37.1% / 8.1%
5.00%	13.4% / 41.7%	14.1% / 41.7%	14.8% / 41.7%	2.1% / 0.0%
7.50% (75th Percentile)	4.7% / 41.7%	0.0% / 41.7%	0.0% / 41.7%	(12.7)% / 0.0%
12.00% (95th Percentile)	0.0% / 41.7%	0.0% / 41.7%	0.0% / 41.7%	(12.7)% / 0.0%

The volatility of the actuarially determined employer contribution can be very high. However, as can be seen in the table above, that may not be the case for this plan when the plan is in surplus and in effect pays the normal cost (41.7 percent) pursuant to G.C. Section 7522.22.

ANALYSIS OF DISCOUNT RATE SENSITIVITY

The following analysis looks at the 2017-18 employer contribution rates under two different discount rate scenarios. Shown below are the employer contribution rates assuming discount rates that are 1 percent lower and 1 percent higher than the current valuation discount rate.

This type of analysis gives the reader a sense of the long-term risk to the employer contribution rates.

2017-18 Employer Contribution			
As of June 30, 2016	4.00% Discount Rate (-1%)	5.00% Return (Assumed Rate)	6.00% Discount Rate (+1%)
Normal Cost	51.6%	41.7%	33.8%
UAL Payment	5.6%	(40.2%)	(33.8%)
Actuarially Determined	57.2%	1.5%	0.0%
Minimum	57.2%	41.7%	33.8%

The minimum contribution would be equal to the normal cost shown for each discount rate in the table above where the UAL Payment is negative.

The following table presents the funded status on a MVA basis of the Legislative Retirement System calculated using the discount rate of 5.00 percent, as well as what the Legislative Retirement System's funded status would be if it were calculated using a discount rate that is 1-percentage-point lower, 4.00 percent, or 1-percentage-point higher, 6.00 percent, than the current rate:

Funded Status on a MVA Basis			
As of June 30, 2016	4.00% Discount Rate (-1%)	5.00% Return (Assumed Rate)	6.00% Discount Rate (+1%)
AL	$120,250,683	$106,974,655	$96,221,727
MVA	119,049,997	119,049,997	119,049,997
UAL	1,200,686	(12,075,342)	(22,828,270)
Funded Status (MVA)	99.0%	111.3 %	123.7%

This measure of funded status is not appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the employer's benefit obligations.

Appendix A
Statement of Actuarial Methods and Assumptions

ACTUARIAL DATA

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

ACTUARIAL FUNDING METHOD

The actuarial funding method used for the Retirement Program 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 entry age to the assumed retirement age. The cost allocated to the current fiscal year is called the normal cost.

The actuarial accrued liability for active members is then calculated as the portion of the total cost of the plan allocated to prior years. The actuarial accrued liability for members currently receiving benefits, for active members beyond the assumed retirement age, and for members entitled to deferred benefits, is equal to the present value of the benefits expected to be paid. No normal costs are applicable for these participants.

The excess of the total actuarial accrued liability over the 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 of the unfunded liability as a level percentage of assumed future payrolls. Commencing with the June 30, 2013 valuation all new gains or losses are tracked and amortized over a fixed 30-year period with a five year ramp up at the beginning and a five year ramp down at the end of the amortization period. All changes in liability due to plan amendments, changes in actuarial assumptions, or changes in actuarial methodology are amortized separately over a 20-year period with a five year ramp up at the beginning and a five year ramp down at the end of the amortization period.

The 5-year ramp up means that the payments in the first four years of the amortization period are 20 percent, 40 percent, 60 percent and 80 percent of the “full” payment which begins in year five. The 5-year ramp down means that the reverse is true in the final four years of the amortization period.

An exception to the funding rules above is used whenever the application of such rules results in inconsistencies. In these cases a “fresh start” approach is used. This simply means that the current unfunded actuarial liability is projected and amortized over a set number of years. A fresh start is needed in the following situations:

- 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
- When there are excess assets, rather than an unfunded liability. In this situation a 30-year fresh start is used, unless a longer fresh start is needed to avoid a negative total rate.

It should be noted that the actuary may choose to use a fresh start under other circumstances. In all cases, the fresh start period is set by the actuary at what they deem appropriate.

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

Valuation Year June 30	Funding Method
1996	Entry Age Normal
1997 to 2010	Aggregate
2011 to Current	Entry Age Normal

INVESTMENT RETURN (INTEREST)

5.00 percent compounded per year, net of expenses. The discount rate for this valuation is 5.00 percent. The decision to reduce the discount rate was primarily based on reduced capital market assumptions provided by external investment consultants and CalPERS investment staff.

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

Time Frame	Investment Return
7/1/1998 - 6/30/2004	7.50%
7/1/2004 - 6/30/2010	7.00%
7/1/2010 - 6/30/11	6.00%
7/1/2011 - 6/30/2016	5.75%
7/1/2016 - Current	5.00%

INDIVIDUAL SALARY INCREASES

3.00 percent compounded per year.

INFLATION

2.75 percent compounded per year. The current inflation assumption is based on a study performed by GRS in February 2012 and adopted by the CalPERS Board of Administration in March of 2012. The following table provides a brief history of the Inflation Return Assumption.

Time Frame	Investment Return
7/1/1998 - 6/30/2004	3.50%
7/1/2004 - 6/30/11	3.00%
7/1/2011 - Current	2.75%

DEMOGRAPHIC ASSUMPTIONS

The demographic assumptions used in the valuation, with the exception of the mortality assumption, have been in place for many years and have not produced significant experience gains or losses for the plan. The actuary has concluded that the continued use of these assumptions is reasonable for valuation purposes. More information on the mortality assumption is available in the mortality assumption section of this appendix.

PERCENTAGE MARRIED

90 percent

AGE OF SPOUSE

Female spouses are assumed four years younger than male spouses.

ADMINISTRATIVE EXPENSES

0.25 percent of end of year assets.

RETIREMENT

Active members are assumed to retire immediately at the end of their term limit, if eligible.

NORMAL FORM OF PAYMENT

The normal form of payment is assumed a 100 percent Joint and Survivor Annuity for all members of the Legislature. While the normal form is a 50 percent Joint and Survivor Annuity for this group, it is valued as a 100 percent Joint and Survivor Annuity to reflect employer subsidies used in the calculation of other optional benefit forms available to the member. The normal form of payment for all Constitutional and Legislative Statutory Officers is assumed a straight life annuity.

MORTALITY RATES

The mortality assumptions are based on mortality rates resulting from the most recent CalPERS Experience Study adopted by the CalPERS Board. For purposes of the post-retirement mortality rates, the revised rates include 20 years of projected on-going mortality improvement using Scale BB published by the Society of Actuaries.For more details, please refer to the experience study report that can be found at the following link:

https://www.calpers.ca.gov/docs/forms-publications/calpers-experience-study-2014.pdf

Sample mortality rates are shown in the following table

	Healthy Recipients		Disabled Recipients	
Age	Male	Female	Male	Female
35	0.00060	0.00046	0.00788	0.00492
40	0.00100	0.00091	0.00949	0.00605
45	0.00227	0.00200	0.01221	0.00804
50	0.00501	0.00466	0.01680	0.01158
55	0.00599	0.00416	0.01973	0.01149
60	0.00710	0.00436	0.02289	0.01235
65	0.00829	0.00588	0.02451	0.01607
70	0.01305	0.00993	0.02875	0.02211
75	0.02205	0.01722	0.03990	0.03037
80	0.03899	0.02902	0.06083	0.04725
85	0.06969	0.05243	0.09731	0.07762
90	0.12974	0.09887	0.14804	0.12890
95	0.22444	0.18489	0.22444	0.21746
100	0.32536	0.30017	0.32536	0.30017
105	0.58527	0.56093	0.58527	0.56093
110	1.00000	1.00000	1.00000	1.00000

PROBABILITY OF DECREMENT FOR ACTIVE PARTICIPANTS

Vested Withdrawal - Sample vested withdrawal rates are shown in the following table.
Disability - Sample disability rates are shown in the following table.
Non-vested Withdrawal - Sample rates for non-vested withdrawal are shown in the following

For each 1,000 active participants at the age shown, the following number will leave within a year on account of:

Age	Vested Withdrawal	Disability	Non-Vested Withdrawal
30	50.0	0.1	25.0
35	50.0	0.2	25.0
40	50.0	0.7	20.0
45	40.0	1.2	15.0
50	40.0	2.2	10.0
55	40.0	5.0	0.0
60	40.0	9.5	0.0

For those members subject to a term limit, the Vested Withdrawal assumption is 100 percent at the end of the term limit.

RETIREMENT AGE

The maximum retirement age was assumed age 60, except for participants who would not meet the service requirements at age 60 or are older than age 60. Retirement for these participants was assumed to occur at the age when the service requirements were met or when their term limits expires, whichever is later.

VALUATION DATE

Liabilities are calculated as of June 30th. Data is collected as of June 30th, and is supplied by CalPERS' Judges' and Legislators' Office.

PURCHASE OF NON-CONTRIBUTORY SERVICE

Current active and non-retired inactive members are assumed to have purchased 100 percent of all non-contributory service as a member of the Legislature, as a Constitutional Officer other than a Judge, or as a Legislative Statutory Officer. Contributions made for the purchase of non-contributory service are based on their current or final compensation.

ASSET VALUATION METHOD

It is the policy of the CalPERS Board of Administration to use professionally accepted amortization methods to eliminate unfunded accrued liabilities or surpluses in a manner that maintains benefit security for the members of the System while minimizing substantial variations in 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, 2013 valuations that set the 2015-16 rates, CalPERS will employ an amortization and smoothing policy that will pay for all gains and losses over a fixed 30-year period with the increases or decreases in the rate spread directly over a five year period. CalPERS will no longer use an actuarial value of assets and will use the market value of assets. This direct rate smoothing method is equivalent to a method using a five year asset smoothing period with no actuarial value of asset corridor and a 25 year amortization period for gains and losses. The change in asset value will also be amortized over 30 years with a five -year ramp-up/ramp-down.

INTERNAL REVENUE CODE SECTION 415

The limitations on benefits imposed by Internal Revenue Code Section 415 were taken into account in this valuation. The effect of these limitations has been deemed immaterial on the overall results of this valuation.

INTERNAL REVENUE CODE SECTION 401 (a) (17)

The limitations on benefits imposed by Internal Revenue Code Section 401(a) (17) was taken into account in this valuation. The effect of these limitations has been deemed immaterial on the overall results of this valuation.

Appendix B
Summary of Principal Plan Provisions

POLITICAL REFORM ACT OF 1990
Proposition 140, the Political Reform Act of 1990, required that Senators and members of the Assembly, first elected after November 7, 1990, participate in the Federal Social Security Program and in no other retirement system.

NAME
Legislators' Retirement System

EFFECTIVE DATE
Effective 1947 by Chapter 879, Statutes of 1947.

AUTHORIZATION
This System is authorized by the Legislators' Retirement Law. The System was first established by Chapter 879, Statutes of 1947. The Legislators' Retirement Law is contained in Sections 9350 through 9378 of the Government Code. Section 9354 of the Code established the Legislators' Retirement Fund.

ADMNISTRATION OF PLAN
Administration is by the Board of Administration of the California Public Employees' Retirement System.

ELIGIBILITY FOR MEMBERSHIP
Members of the Legislature first elected prior to November 7, 1990, all Constitutional Officers upon electing to join the System, the Insurance Commissioner, and the Legislative Statutory Officers. Currently, these include the Chief Clerk of the Assembly, the Secretary of the Senate, the Sergeant-at-Arms of the Assembly, and the Sergeant-at-Arms of the Senate.

PLAN YEAR
The twelve-month period ending June 30th.

CREDITED SERVICE
The period of time computed in years and/or fractions thereof as a member of the Senate or Assembly, an elective officer of the state, or statutory officer from date of electing membership in the system to termination date. For the purpose of crediting service, each full term as a Member of the Senate shall constitute four calendar years; each full term as a Member of the Assembly shall constitute two calendar years.

CONTRIBUTIONS MAY BE MADE FOR PRIOR SERVICE
Members of the Legislature and Constitutional Officers - 4 percent of compensation if elected before March 4, 1972 and 8 percent of compensation if elected after March 4, 1972. Contributions may be made at any time up to benefit commencement date, provided the individual elected to join the system while in service. No interest is charged on contributions made after the applicable service is performed.

Legislative Statutory Officers - 6 1/2 percent of compensation if elected before March 4, 1972 and 8 percent of compensation if elected after March 4, 1972.

STATE CONTRIBUTIONS

Per Section 9358 of the Legislators' Retirement System Law, which was amended because of Assembly Bill 817, Chapter 897, Statutes of 1999, the State now contributes the actuarially required employer contribution rate determined by the Annual Actuarial Valuation as of June 30th.

COMPENSATION

Compensation means remuneration paid in cash out of funds controlled by the state, excluding mileage, reimbursement for expenses incurred in the performance of official duties, and any per diem allowance paid in lieu of such expenses.

Effective December 7, 2009, elected officials salaries were reduced 18 percent. For the purposes of determining the present value of benefits, salaries prior to the reduction were used. Actual salaries were used to calculate employer contribution rates.

ELIGIBILITY FOR UNREDUCED SERVICE RETIREMENT ALLOWANCE

A member is eligible for an unreduced service retirement allowance provided the member has satisfied all of the following requirements:

- The member has attained the age of 60 years and has completed 4 or more years of credited service or
- The member, regardless of attained age, has completed 20 or more years of credited service.
- Legislative Statutory Officers are eligible upon the attainment of age 55 years regardless of the number of years of credited service.

AMOUNT OF UNREDUCED SERVICE RETIREMENT ALLOWANCE

The monthly normal retirement benefit equal to the following:

Members of the Legislature - 3 percent of the highest compensation multiplied by the years of credited service plus 2 percent of the first $500 of monthly compensation multiplied by the years of credited service up to 15 years with a maximum benefit of 66 2/3 percent of the highest monthly compensation

Constitutional Officers - 5 percent of the highest compensation multiplied by the years of credited service up to 8 years plus (if the member has 24 or more years of credited service) 1 2/3 percent of monthly compensation multiplied by the years of credited service in excess of 8 years, not to exceed 12 years of credited service. The maximum percentage of compensation is 60 percent of highest monthly compensation.

Legislative Statutory Officers - 3 percent of the final compensation multiplied by the years of credited service. The allowance may not exceed 66 2/3 percent of the greater of the member's compensation at the time the member vacates the office or the compensation of the incumbent of that office at the time the payments of the allowance fall due.

COST-OF-LIVING INCREASES

All benefits are subject to the full cost-of-living adjustment from the benefit commencement date based on the United States city average of the Consumer Price Index for all Urban Consumers. Compensation rates are not adjusted for increases in the incumbent's compensation after the member leaves office.

NORMAL FORM OF SERVICE RETIREMENT ALLOWANCE

For Legislators a 50 percent Joint Survivor Annuity, for Constitutional Officers a Single Straight Life Annuity, and for Legislative Statutory Officers a Single Straight Life Annuity.

ELIGIBILITY FOR A REDUCED EARLY RETIREMENT ALLOWANCE

A member, other than a Legislative Statutory Officer is eligible for a reduced early retirement allowance benefit provided the member has completed 15 or more years of credited service regardless of age. Legislative Statutory Officers are not eligible for a reduced early retirement allowance.

AMOUNT OF REDUCED EARLY RETIREMENT ALLOWANCE

The monthly-reduced early retirement is the unreduced service retirement allowance reduced 2 percent for each year by which the member's age at the time of retirement is below age 60. Reduction Factors are shown for ages 50 to 59 in the table below.

Age at Retirement	% of Service Retirement Benefit Paid
59	98%
58	96%
57	94%
56	92%
55	90%

Age at Retirement	% of Service Retirement Benefit Paid
54	88%
53	86%
52	84%
51	82%
50	80%

FORMS OF RETIREMENT ALLOWANCE PAYMENTS

Optional Settlement 1 - Single Life Annuity, with the payment of the balance of the member's contributions at the death of the member to the member's beneficiary.

Optional Settlement 2 - 100 percent Joint and Survivor Annuity.

Optional Settlement 3 - 50 percent Joint and Survivor Annuity.

Optional Settlement 4 - Subject to the approval of the Board of Administration, a member may select other benefits that are the actuarial equivalent of his/her retirement allowance.

Members of the Legislature - The member's retirement allowance is unreduced due to the selection of any of the above optional settlements.

ELIGIBILITY FOR DISABILITY ALLOWANCE

All members are eligible and there is no minimum age or service requirements. A medical examination may be required if the applicant is below the minimum age for Service or Early Retirement.

AMOUNT OF DISABILITY ALLOWANCE

The disability allowance is the same as the service retirement allowance that would be payable to the member if the member had retired for reasons other than disability.

ELIGIBILITY FOR PRE-RETIREMENT DEATH ALLOWANCE

All members are eligible for a Pre-Retirement Death Allowance.

AMOUNT OF PRE-RETIREMENT DEATH ALLOWANCE

Prior to eligibility for Service or Early Retirement - Refund of the member's contributions with interest plus one-twelfth of the member's annual compensation during the last 12 months in office immediately preceding the member's death multiplied by the member's years of credited service.

Subsequent to eligibility for Service or Early Retirement - If the member had elected an optional settlement before death, the surviving spouse will receive the same benefit the surviving spouse would have received had the member's retirement preceded death. If the member had not elected an optional settlement, then the surviving spouse would receive the same benefits had the member elected Optional Settlement 2, a 100 percent Joint and Survivor Annuity, retired and then died.

ELIGIBILITY FOR SPECIAL SURVIVOR ALLOWANCE

The surviving spouse who has the care of unmarried children under the age of 18 or unmarried incapacitated children if over the age of 18 or if there is not a spouse with these responsibilities, the guardian who has the care of unmarried children under the age of 18 or unmarried incapacitated children if over the age of 18. In the case where there are no incapacitated children, but a surviving spouse, a deferment age of 62 is required before receiving a benefit. In the case where there is not a surviving spouse or guardian, the dependent parents of the member are eligible and shall be paid the Survivor's Allowance once the age of 62 is attained. This allowance is payable only if the member is not covered by Social Security.

AMOUNT OF SPECIAL SURVIVOR ALLOWANCE

Survivor	Monthly Allowance
Spouse or One Child	$180
Spouse and One Child or Two Children	$360
Spouse and Two Children or Three Children	$430

Benefit payments under this provision are reduced by any other survivor benefits under any other provision under this system.

IN SERVICE DEATH ALLOWANCE

In addition to any benefits paid, the beneficiary of a member who died while in office or employed as a Legislative or Statutory Officer will receive an allowance equal to the member's compensation during the 12 months immediately preceding the member's death.

POST RETIREMENT DEATH BENEFIT

Upon the death of a retiree, a one-time lump sum payment of $600 will be made to the retiree's designated survivor(s), or to the retiree's estate.

Appendix C
Participant Data

SUMMARY OF VALUATION DATA

The table below illustrates a reconciliation of the participant data over the course of the valuation year. It identifies numerically who entered the plan, who left the plan and who remained in the plan in the same status as on the previous valuation date or who moved to a new status over the course of the year counts of records processed by the valuation.

	June 30, 2015	June 30, 2016
1) Active Members		
a) Counts	9	9
b) Average Attained Age	61.21	62.21
c) Average Entry Age to Rate Plan	53.09	53.09
d) Average Years of Service	8.12	9.12
e) Average Annual Covered Pay	$141,676	$146,760
f) Annual Covered Payroll	1,275,083	1,320,844
g) Projected Annual Payroll for Contribution Year	1,352,736	1,401,283
h) Present Value of Future Payroll	3,208,618	4,098,318
2) Transferred and Vested Termination		
a) Counts	14	11
3) Retired Members and Beneficiaries		
a) Counts	244	238
b) Average Attained Age	74.60	73.63
c) Average Monthly Benefits	$30,552	$30,220
4) Active to Retired Ratio [(1a) / (3)]	0.04	0.04

RECONCILATION OF PARTICIPANTS

The table below illustrates the change in members from June 30, 2015 to June 30, 2016.

Reconciliation of Participants For the Fiscal Year Ending June 30, 2016

	Actives	Inactive	Retirees and Beneficiaries	Total
As of June 30, 2015	**9**	**14**	**244**	**267**
New Entrants	—	—	—	—
Rehires	—	—	—	—
Refunds	—	(2)	—	(2)
Retirements	—	(1)	1	—
Disabilities	—	—	—	—
Terminations	—	—	—	—
Community Property Splits	—	—	—	—
Death with Beneficiary	—	—	(1)	(1)
Death without Beneficiary	—	—	(2)	(2)
New Beneficiary	—	—	2	2
Beneficiary Death	—	—	(6)	(6)
As of June 30, 2016	**9**	**11**	**238**	**258**

DISTRIBUTION OF ACTIVE MEMBERS

The table below illustrates a distribution of active member counts based on age and service.

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 Active Participants Attained Age and Years of Credited Service as of June 30, 2016

Attained Age	Years of Service at Valuation Date								Valuation Salary
	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30+	Total	
15 - 19	0	0	0	0	0	0	0	0	$0
20 - 24	—	—	—	—	—	—	—	—	—
25 - 29	—	—	—	—	—	—	—	—	—
30 - 34	—	—	—	—	—	—	—	—	—
35 - 39	—	—	—	—	—	—	—	—	—
40 - 44	—	—	—	—	—	—	—	—	—
45 - 49	—	—	—	—	—	—	—	—	—
50 - 54	—	2	—	1	—	—	—	3	451,239
55 - 59	—	2	—	—	—	—	—	2	283,325
60 - 64	—	1	—	—	—	—	—	1	137,093
65+	—	2	—	—	1	—	—	3	449,187
Total	**0**	**7**	**0**	**1**	**1**	**0**	**0**	**9**	**$1,320,844**

DISTRIBUTION OF AVERAGE ANNUAL SALARIES

The table below illustrates a distribution of active member salaries based on age and service.

Distribution of Average Annual Salaries by Age and Credited Service as of June 30, 2016

Attained Age	Years of Service at Valuation Date							Average Salary
	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30+	
15 - 19	$0	$0	$0	$0	$0	$0	$0	$0
20 - 24	—	—	—	—	—	—	—	—
25 - 29	—	—	—	—	—	—	—	—
30 - 34	—	—	—	—	—	—	—	—
35 - 39	—	—	—	—	—	—	—	—
40 - 44	—	—	—	—	—	—	—	—
45 - 49	—	—	—	—	—	—	—	—
50 - 54	—	152,504	—	146,232	—	—	—	150,413
55 - 59	—	141,662	—	—	—	—	—	141,662
60 - 64	—	137,093	—	—	—	—	—	137,093
65+	—	133,198	—	—	182,791	—	—	149,729
All Ages	**$0**	**$141,689**	**$0**	**$146,232**	**$182,791**	**$0**	**$0**	**$146,760**

DISTRIBUTION OF VESTED TERMINATED PARTICIPANTS

The table below illustrates a distribution of inactive member counts based on age and service.

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 Vested Inactive Terminated by Age and Service as of June 30, 2016

Attained Age	Years of Service at Valuation Date								Average Salary
	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30+	Total	
15 - 19	0	0	0	0	0	0	0	0	$0
20 - 24	—	—	—	—	—	—	—	—	—
25 - 29	—	—	—	—	—	—	—	—	—
30 - 34	—	—	—	—	—	—	—	—	—
35 - 39	—	—	—	—	—	—	—	—	—
40 - 44	—	—	—	—	—	—	—	—	—
45 - 49	1	—	—	—	—	—	—	1	130,490
50 - 54	—	—	—	—	—	—	—	—	—
55 - 59	3	2	—	—	—	—	—	5	120,889
60 - 64	1	1	1	—	—	—	—	3	123,589
65+	—	2	—	—	—	—	—	2	25,668
Total	**5**	**5**	**1**	**0**	**0**	**0**	**0**	**11**	**$105,185**

RETIREES & BENEFICIARIES

The table below illustrates a summary of Retiree and Beneficiary counts and benefits by year of retirement.

Retirees and Beneficiaries Number Counts and Benefits By Year of Retirement as of June 30, 2016

Year Retired	Total Retirees	Total Benefits	Average Benefits	Year Retired	Total Retirees	Total Benefits	Average Benefits
2016	1	$23,055	$23,055	1996	24	$901,986	$37,583
2015	1	63,654	63,654	1995	8	281,386	35,173
2014	2	42,595	21,298	1994	10	338,869	33,887
2013	2	110,853	55,427	1993	4	107,684	26,921
2012	1	81,539	81,539	1992	11	453,790	41,254
2011	1	114,280	114,280	1991	9	389,526	43,281
2010	6	156,439	26,073	1990	10	190,285	19,029
2009	1	87,454	87,454	1989	6	102,119	17,020
2008	2	129,999	65,000	1988	3	93,781	31,260
2007	2	81,014	40,507	1987	3	100,119	33,373
2006	4	324,978	81,245	1986	5	98,531	19,706
2005	4	55,269	13,817	1985	3	44,606	14,869
2004	8	359,949	44,994	1984	10	153,401	15,340
2003	3	37,840	12,613	1983	1	22,794	22,794
2002	8	460,148	57,519	1982	13	229,958	17,689
2001	4	123,816	30,954	1981	3	63,011	21,004
2000	5	288,571	57,714	1980	12	125,941	10,495
1999	3	147,917	49,306	1979	12	63,439	5,287
1998	4	101,878	25,470	1978	—	—	—
1997	6	138,734	23,122	1977 & Earlier	23	501,228	21,793
				Totals	**238**	**$7,192,436**	**$30,220**

DISTRIBUTION OF RETIREES & BENEFICIARES

The table below illustrates a distribution of Retiree and Beneficiary counts by age and retirement type.

Distribution of Retirees and Beneficiaries by Age and Retirement Type (counts only) as of June 30, 2016

Retiree Age	Service Retiree	Disability Retiree		Death in Service		Death After Service Retirement	Total
		Non-Industrial	Industrial	Non-Industrial	Industrial		
Under 30	9	0	0	0	0	0	9
30 - 34	—	—	—	—	—	—	—
35 - 39	—	—	—	—	—	—	—
40 - 44	—	—	—	—	—	—	—
45 - 49	1	—	—	—	—	—	1
50 - 54	4	—	—	—	—	—	4
55 - 59	9	—	—	—	—	—	9
60 - 64	20	—	—	—	—	—	20
65 - 69	25	—	—	—	—	—	25
70 - 74	31	—	—	—	—	—	31
75 - 79	45	—	—	—	—	—	45
80 - 84	31	—	—	—	—	—	31
85 and Over	63	—	—	—	—	—	63
Total	**238**	**0**	**0**	**0**	**0**	**—**	**238**

The table below illustrates a distribution of Retiree and Beneficiary amounts by age and retirement type.

Distribution of Retirees and Beneficiaries by Age and Retirement Type as of June 30, 2016

Retiree Age	Service Retiree	Disability Retiree		Death in Service		Death After Service Retirement	Total
		Non-Industrial	Industrial	Non-Industrial	Industrial		
Under 30	$102,756	$0	$0	$0	$0	$0	$102,756
30 - 34	—	—	—	—	—	—	—
35 - 39	—	—	—	—	—	—	—
40 - 44	—	—	—	—	—	—	—
45 - 49	6,000	—	—	—	—	—	6,000
50 - 54	70,808	—	—	—	—	—	70,808
55 - 59	149,598	—	—	—	—	—	149,598
60 - 64	754,010	—	—	—	—	—	754,010
65 - 69	801,582	—	—	—	—	—	801,582
70 - 74	898,534	—	—	—	—	—	898,534
75 - 79	1,413,480	—	—	—	—	—	1,413,480
80 - 84	1,046,006	—	—	—	—	—	1,046,006
85 and Over	1,949,662	—	—	—	—	—	1,949,662
Total	**$7,192,436**	**$0**	**$0**	**$0**	**$0**	**$0**	**$7,192,436**

DISTRIBUTION OF RETIREES & BENEFICIARES (CONTINUED)

The table below illustrates a distribution of Retiree and Beneficiary counts by years retired and retirement type.

Distribution of Retirees and Beneficiaries by Years Retired and Retirement Type (counts only) as of June 30, 2016

Years Retired	Service Retiree	Disability Retiree		Death in Service		Death After Service Retirement	Total
		Non-Industrial	Industrial	Non-Industrial	Industrial		
Under 5	6	0	0	0	0	0	6
5-9	11	—	—	—	—	—	11
10-14	21	—	—	—	—	—	21
15-19	24	—	—	—	—	—	24
20-24	52	—	—	—	—	—	52
25-29	39	—	—	—	—	—	39
30 & Over	85	—	—	—	—	—	85
Total	**238**	**0**	**0**	**0**	**0**	**0**	**238**

The table below illustrates a distribution of Retiree and Beneficiary benefit amounts by years retired and retirement type.

Distribution of Retirees and Beneficiaries by Years Retired and Retirement Type as of June 30, 2016

Years Retired	Service Retiree	Disability Retiree		Death in Service		Death After Service Retirement	Total
		Non-Industrial	Industrial	Non-Industrial	Industrial		
Under 5	$240,157	$0	$0	$0	$0	$0	$240,157
5-9	569,711	—	—	—	—	—	569,711
10-14	859,050	—	—	—	—	—	859,050
15-19	1,122,330	—	—	—	—	—	1,122,330
20-24	1,768,659	—	—	—	—	—	1,768,659
25-29	1,229,501	—	—	—	—	—	1,229,501
30 & Over	1,403,028	—	—	—	—	—	1,403,028
Total	**$7,192,436**	**$0**	**$0**	**$0**	**$0**	**$0**	**$7,192,436**

Appendix D
Glossary of Actuarial Terms

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

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

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

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

Amortization Bases: Separate payment schedules for different portions of the Unfunded Liability. The total Unfunded Liability of a 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. Amortization methodology is determined by Board policy.

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

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

Entry Age Normal Cost Method: An actuarial cost method designed to fund a member's total plan benefit over the course of his or her career. This method is designed to yield a rate expressed as a level percentage of payroll.

(The assumed retirement age less the entry age is the amount of time required to fund a member’s total benefit. Generally, the older a member on the date of hire, the greater the entry age normal cost. This is mainly because there is less time to earn investment income to fund the future benefits.)

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 versus accrued liabilities. A ratio greater than 100% means the plan or risk pool has more assets than liabilities and a ratio less than 100% means liabilities are greater than assets.

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

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

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

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

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

Available online at www.calpers.ca.gov

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