



**Judges' Retirement System II
Actuarial Valuation
as of
June 30, 2013**

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Actuarial Certification

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 Judges' Retirement System II. This valuation is based on the member and financial data as of June 30, 2013 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.



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Highlights and Executive Summary

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Introduction This is the actuarial valuation report as of June 30, 2013 for the Judges' Retirement System II. The actuarial valuation is used to set the 2014-15 required employer contribution rates. The System began on November 9, 1994 to provide retirement and ancillary benefits to judges elected or appointed on or after that date. The employer contribution rate from the inception of the plan until June 30, 1996 was set by State statute. Subsequently, the employer contribution rate was determined through an actuarial valuation process.

On January 1, 2013, the Public Employees' Pension Reform Act of 2013 (PEPRA) took effect. PEPRA affects the rate for the first time in this valuation, which sets the 2014-15 contribution rates. For more information on PEPRA, please refer to the CalPERS website.

On April 17, 2013, the CalPERS Board of Administration approved a recommendation to change the CalPERS amortization and smoothing policies. Prior to this change, CalPERS employed an amortization and smoothing policy, which spread investment returns over a 15-year period while experience gains and losses were amortized over a rolling 30-year period. Effective with the June 30, 2014 valuation, CalPERS will no longer use an actuarial value of assets and will employ an amortization and smoothing policy that will spread rate increases or decreases over a 5-year period, and will amortize all experience gains and losses over a fixed 30-year period. This valuation will be performed in early 2015 and will set employer contribution rates for the fiscal year 2015-16.

Consistent with the decision made by the CalPERS Board of Administration for plans participating in the Public Employees' Retirement Fund (PERF), the mortality assumption was changed in this valuation. The mortality table used in last year's valuation was developed from the 1997-2007 experience study and included 5 years of projected on-going mortality improvement using the Scale AA table published by the Society of Actuaries. The new mortality table used in this valuation was developed from the February 2014 experience study and includes 20 years of projected on-going mortality improvement using the Scale BB table published by the Society of Actuaries.

Purpose of the Report

This actuarial valuation of the Judges' Retirement System II of the State of California was performed by CalPERS staff actuaries as of June 30, 2013 in order to:

- Set forth the funded status, actuarial assets, and accrued liabilities of this plan as of June 30, 2013.
- Establish the actuarially required employer contributions for the system for the fiscal year July 1, 2014 through June 30, 2015.
- Provide actuarial information as of June 30, 2013, to the CalPERS Board of Administration and other interested parties, and to;
- Provide pension information as of June 30, 2013 to be used in financial reports subject to Governmental Accounting Standards Board (GASB) Statement Number 27 for a Single Employer Defined Benefit Pension Plan.

The use of this report for 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), 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 15.

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% 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, 2014 through June 30, 2015. The following table shows the Required Employer Contributions. The Required Employer Contributions are shown in dollars and as a percentage of projected payroll.

	Fiscal Year 2013/2014	Fiscal Year 2014/2015
Actuarially Determined Employer Contributions		
1. Contribution in Projected Dollars		
a) Total Normal Cost	\$ 72,239,460	\$ 81,030,096
b) Employee Contribution	19,583,060	20,697,165
c) Employer Normal Cost [(1a) – (1b)]	52,656,400	60,332,930
d) Unfunded Contribution	2,881,414	2,859,916
e) Required Employer Contribution [(1c) + (1d)]	\$ 55,537,815	\$ 63,192,846
Projected Annual Payroll for Contribution Year	\$ 244,788,249	\$ 256,724,949
2. Contribution as a Percentage of Payroll		
a) Total Normal Cost	29.511%	31.563%
b) Employee Contribution ¹	8.000%	8.062%
c) Employer Normal Cost [(2a) – (2b)]	21.511%	23.501%
d) Unfunded Rate	1.176%	1.114%
e) Required Employer Rate [(2c) + (2d)]	22.687%	24.615%
Minimum Employer Contribution Rate²	22.687%	24.615%

¹This is the expected average contribution rate between classic and new members.

²The Minimum Employer Contribution Rate under PEPRA is the greater of the required employer rate or the employer normal cost.

**Plan's
Funded
Status**

The tables below summarize the funded status of the Judges' Retirement System II as of June 30.

	June 30, 2012	June 30, 2013
1. Present Value of Projected Benefits	\$ 1,241,622,833	\$ 1,419,325,105
2. Entry Age Normal Accrued Liability	702,732,271	837,197,578
3. Actuarial Value of Assets (AVA)	667,556,907	778,980,041
4. Unfunded Liability (AVA Basis) [(2) – (3)]	\$ 35,175,364	\$ 58,217,537
5. Funded Ratio (AVA Basis) $[(3) / (2)]$	95.0%	93.0%
6. Market Value of Assets (MVA)	\$ 655,383,900	\$ 795,966,486
7. Unfunded Liability (MVA Basis) [(2) – (6)]	47,348,371	41,231,092
8. Funded Ratio (MVA Basis) $[(6) / (2)]$	93.3%	95.1%
Superfunded Status	No	No

*The Actuarial Value of Assets is used to establish funding requirements, while the funded ratio based on the Market Value of Assets is a better indicator of the solvency of the plan.

**Changes
Since the
Prior Year's
Valuation**

Actuarial Assumptions — Consistent with the decision made by the CalPERS Board of Administration for plans participating in the Public Employees' Retirement Fund (PERF), the mortality assumption was changed in this valuation. The mortality table used in last year's valuation was developed from the 1997-2007 experience study and included 5 years of projected on-going mortality improvement using the Scale AA table published by the Society of Actuaries. The new mortality table used in this valuation was developed from the February 2014 experience study and includes 20 years of projected on-going mortality improvement using the Scale BB table published by the Society of Actuaries.

Actuarial Methods — The increase in unfunded liability resulting from the change in assumptions was amortized over 20 years with a three year phase in.

Plan Provisions — On January 1, 2013, the Public Employees' Pension Reform Act of 2013 (PEPRA) took effect. This law required a three year final average compensation for new members. It also required that new members pay half of their total normal cost. For the first time, the normal cost information is disclosed in this report. For more information on PEPRA, please refer to the CalPERS website.

**Subsequent
Events**

Amortization and Smoothing Policy — On April 17, 2013, the CalPERS Board of Administration approved a recommendation to change the CalPERS amortization and smoothing policies. Beginning with the June 30, 2014 valuation that will set the 2015-16 rates, CalPERS will no longer use an actuarial value of assets and will employ an amortization and rate 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

5-year period. The impact of this new actuarial methodology is reflected in the “Expected Rate Increases” subsection of the “Risk analysis” section of your report.

Assets

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**Reconciliation
of the Market
Value of
Assets**

The following displays the change in the Market Value of Assets from the prior valuation to the current valuation by type of transaction.

	Market Value
1. Beginning Balance as of June 30, 2012	\$ 655,383,900
2. Prior Period Adjustment	<u>0</u>
3. Adjusted Beginning Balance as of 6/30/2012	\$ 655,383,900
4. Member Contributions	18,819,562
5. Employer Contributions	54,024,849
6. Benefit Payments	(10,517,896)
7. Refunds	(58,639)
8. Administration Costs	(898,638)
9. Investment Earnings*	<u>79,213,348</u>
10. Ending Balance as of June 30, 2013	\$ 795,966,486

*Fund return for the 2012-2013 fiscal year is 11.41%

**Development
of the
Actuarial
Value of
Assets**

The development of the Actuarial Value of Assets for the current valuation date is shown below. This is the amount of asset used in the determination of the contribution rate.

1.	Actuarial Value of Assets as of June 30, 2012	\$ 667,556,907
2.	Member Contributions	18,819,562
3.	Employer Contributions	54,024,849
4.	Benefit Payments	(10,517,896)
5.	Refunds	(58,639)
6.	Administration Costs	(898,638)
7.	Expected Investment Return	48,840,579
8.	Expected Actuarial Value of Assets	777,766,724
9.	Market Value of Assets as of 6/30/2013	795,966,486
10.	One-Fifteenth of the Difference Between Market Value of Assets and Expected Actuarial Value of Assets [(9) – (8)] x 1/15	1,213,317
11.	Preliminary Actuarial Value of Assets [(8) + (10)]	778,980,041
12.	Preliminary Actuarial Value to Market Value Ratio [(11) / (9)]	97.87%
13.	Final Actuarial Value to Market Value Ratio (Minimum 80%, Maximum 120%)	97.87%
14.	Final Actuarial Value of Assets as of 6/30/2013	\$ 778,980,041

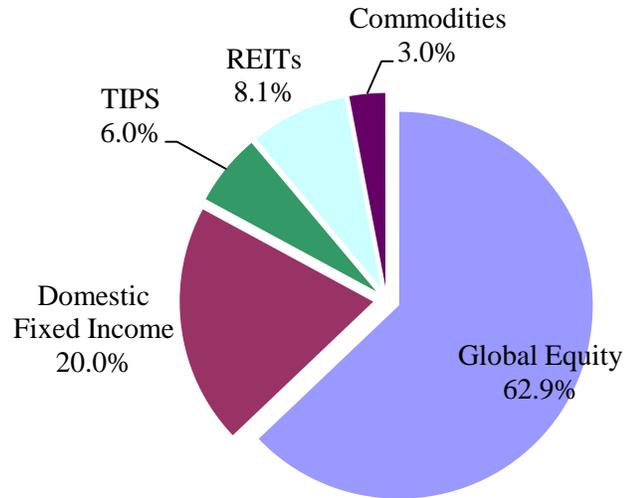
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**Asset
Allocation**

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

Cash	\$	807
 Investments at Market Value		
Investment in SMIF		8,062,000
Short-Term Investments at Cost		5,954
Securities Lending Collateral		72,197,259
Global Equity Securities		491,387,718
Global Debt Securities		156,733,969
Real Estate Equities		63,156,501
Inflation Assets		70,338,299
Subtotal of Investments	\$	861,881,700
 Accounts Receivable		
Member, Agency, State, School		5,697,776
Investment Sales and Other		62,128
Accrued Interest Receivable		4,104
Due From PERF		28,459
Other Program Receivables		21,687
Subtotal of Accounts Receivable	\$	5,814,154
 Liabilities (Including Security Lending Collateral)		 (71,730,174)
 Fund Balance at Market Value on 6/30/2013	 \$	 795,966,486

Asset Allocation (continued) This is the graphical representation of how the money contained in the Judges' Retirement II Fund is allocated for investment as also disclosed on page 121 of the June 30, 2013 CAFR.



Receivables and Liabilities are not included.

Liabilities and Rates

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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.

	<u>June 30, 2012</u>	<u>June 30, 2013</u>	
		<u>Prior Year Assumptions</u>	<u>New Mortality Assumptions</u>
1. Members Included in the Valuation			
a. Active Members	1,286	1,352	1,352
b. Deferred Vested Terminated Members & QDRO's	1	3	3
c. Receiving Payments	<u>37</u>	<u>52</u>	<u>52</u>
d. Total	1,324	1,407	1,407
2. Payroll			
a. Covered Annual Payroll	230,736,402	241,987,887	241,987,887
b. Projected Covered Annual Payroll	244,788,249	256,724,949	256,724,949
c. Average Covered Annual Payroll [(2)/(1a)]	179,422	178,985	178,985
3. Age and Service for Actives			
a. Average Attained Age for Actives	57.16	57.71	57.71
b. Average Service for Actives	8.02	8.36	8.36
4. Present Value of Benefits at Valuation Date			
a. Active Members	1,200,480,607	1,273,789,001	1,360,932,398
b. Inactive Members	11,300	304,312	304,312
c. Receiving Benefits	<u>41,130,926</u>	<u>53,853,380</u>	<u>58,088,395</u>
d. Total	\$ 1,241,622,833	\$ 1,327,946,693	\$ 1,419,325,105
5. Present Value of Future Employee Contributions	\$ 151,146,346	\$ 153,526,664	\$ 154,499,270
6. Present Value of Future Employer Normal Cost	\$ 387,744,216	\$ 391,414,247	\$ 424,064,970
7. Accrued Actuarial Liability			
a. Active Members	661,590,045	728,848,090	778,804,871
b. Inactive Members	11,300	304,312	304,312
c. Receiving Benefits	<u>41,130,926</u>	<u>53,853,380</u>	<u>58,088,395</u>
d. Total	\$ 702,732,271	\$ 783,005,782	\$ 837,197,578
8. Assets (Actuarial Value of Assets Basis)			
a. Actuarial Value of Assets	\$ 667,556,907	\$ 778,980,041	\$ 778,980,041
b. Unfunded Accrued Actuarial Liability [(7d) - (8a)]	\$ 35,175,364	\$ 4,205,741	\$ 58,217,537
c. Funded Ratio [(8a)/(7d)]	95.0%	99.5%	93.0%
9. Assets (Market Value of Assets Basis)			
a. Market Value of Assets	\$ 655,383,900	\$ 795,966,486	\$ 795,966,486
b. Unfunded Accrued Actuarial Liability [(7d) - (9a)]	\$ 47,348,371	\$ (12,960,704)	\$ 41,231,092
c. Funded Ratio [(9a)/(7d)]	93.3%	101.7%	95.1%

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.

A. Total (Gain)/Loss for the Year

1. Unfunded Accrued Liability (UAL) as of 6/30/12	\$ 35,175,364
2. Expected Payment on UAL during 2012/2013	3,151,352
3. Interest through 6/30/12 $[0.0700 \times A1 - (1.0700^{1/2} - 1) \times A2]$	<u>2,353,844</u>
4. Expected UAL before all other changes $[A1 - A2 + A3]$	\$ 34,377,856
5. Change due to revised actuarial methods	0
6. Change due to new actuarial assumptions	<u>54,191,796</u>
7. Expected UAL after all changes $[A4 + A5 + A6]$	88,569,652
8. Actual Unfunded Accrued Liability as of 6/30/13	<u>58,217,537</u>
9. Total (Gain)/Loss for 2012/2013 $[A8 - A7]$	\$ (30,352,115)

B. Contribution (Gain)/Loss for the Year

1. Expected Contribution (Employer and Employee)	\$ 73,286,750
2. Interest on Expected Contributions $[(1.0700^{1/2} - 1) \times B1]$	2,521,654
3. Actual Contribution	72,844,411
4. Interest on Actual Contributions $[(1.0700^{1/2} - 1) \times B3]$	<u>2,506,434</u>
5. Contribution (Gain)/Loss $[(B1 + B2) - (B3 + B4)]$	\$ 457,559

C. Asset (Gain)/Loss for the Year

1. Actuarial Value of Assets as of 6/30/12	\$ 667,556,907
2. Contributions Received	72,844,411
3. Benefits, Refunds Paid and Administrative Costs	(11,475,173)
4. Expected Interest $[0.0700 \times C1 + ((1.0700)^{1/2} - 1) \times (C2 + C3)]$	48,840,579
5. Expected Assets as of 6/30/13 $[C1 + C2 + C3 + C4]$	\$ 777,766,724
6. Actual Actuarial Value of Assets as of 6/30/13	<u>778,980,041</u>
7. Asset (Gain)/Loss $[C5 - C6]$	\$ (1,213,317)

D. Liability (Gain)/Loss for the Year

1. Total (Gain)/Loss (A9)	\$ (30,352,115)
2. Contribution (Gain)/Loss (B5)	457,559
3. Asset (Gain)/Loss (C7)	<u>(1,213,317)</u>
4. Liability (Gain)/Loss $[D1 - D2 - D3]^*$	\$ (29,596,357)

* Liability gain is almost entirely due to 0% salary increase

Schedule of Amortization Bases

The schedule below shows the development of the proposed payment on the Amortization Bases. The rate smoothing method requires that gains and losses be combined into a single base and amortized over 30 years. Please refer to Appendix A for an explanation of how amortization periods are determined.

Reason For Base	Date Established	Period	Balance on 6/30/13	Expected Payment on UAL 13-14	Balance on 6/30/14	Scheduled Payment Fiscal Year 2014-2015
Fresh Start Assumption	6/30/07	24	\$ 31,536,100	\$ 1,985,409	\$ 31,689,904	\$ 2,044,971
Change Method	6/30/09	16	21,480,169	1,742,266	21,181,567	1,794,534
Change Assumption	6/30/09	16	8,736,484	708,620	8,615,036	729,879
Change Assumption	6/30/11	18	(41,306)	(3,101)	(40,990)	(3,194)
Change*	6/30/13	20	54,191,796	(4,765,116)	62,914,296	1,696,595
(Gain)/Loss	6/30/13	30	<u>(57,685,706)</u>	<u>(1,696,225)</u>	<u>(59,969,117)</u>	<u>(3,404,560)</u>
Total			58,217,537	(2,028,147)	64,390,696	2,858,225

The unfunded liability contribution rate of 1.114% is the scheduled payment \$2,858,225 divided by the projected payroll for the 2014-15 fiscal year.

*Consistent with February 18, 2014 board decision, the mortality assumption change was included in the valuation as of June 30, 2013. This base was amortized over 20 years with a 3 year phase in.

Reconciliation of Employer Contribution 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. 2013-14 Employer Rate (from prior year annual report)	22.687%	\$ 55,537,815
2. Effect of changes since the prior annual valuation		
a) Effect of Change in payroll	-	2,708,079
b) Effect of (Gain)/Loss	(0.654%)	(1,681,435)
c) Effect of Plan changes	-	0
d) Effect of Method Changes		0
e) Effect of Assumption Changes	<u>2.582%</u>	<u>6,628,387</u>
f) Net effect of the changes above [Sum of a through e]	1.928%	7,655,031
3. 2014-15 Estimated Employer Contribution	24.615%	\$ 63,192,846

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**Employer
Contribution
Rate History**

This table provides the employer contribution rates for the Judges' Retirement System II for the last ten years

Fiscal Year	Contribution Rate
2005-06	19.848%
2006-07	19.917%
2007-08	19.916%
2008-09	20.227%
2009-10	20.358%
2010-11	24.041%
2011-12	23.441%
2012-13	22.837%
2013-14	22.687%
2014-15	24.615%

**Funding
History**

The Funding History below shows the recent history of the actuarial accrued liability, the market value of assets, the actuarial value of assets, funded ratios and the annual covered payroll. The Actuarial Value of Assets is used to establish funding requirements and the funded ratio on this basis represents the progress toward fully funding future benefits for current plan participants. 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	Actuarial Value Of Assets (AVA)	Funded Ratio (AVA)	Market Value of Assets (MVA)	Funded Ratio (MVA)	Projected Annual Covered Payroll
6/30/04	137,703,630	129,152,543	93.8%	129,315,504	93.9%	108,842,477
6/30/05	177,760,708	167,556,473	94.3%	171,875,047	96.7%	122,280,588
6/30/06	220,134,685	212,903,528	96.7%	218,986,736	99.5%	136,602,126
6/30/07	294,982,560	267,604,460	90.7%	290,733,043	98.6%	174,473,271
6/30/08	366,513,989	334,903,486	91.4%	325,451,000	88.8%	190,413,674
6/30/09	450,547,115	378,691,893	84.1%	315,576,578	70.0%	211,942,734
6/30/10	520,687,470	461,071,403	88.6%	422,100,782	81.1%	226,710,927
6/30/11	609,562,110	561,475,530	92.1%	575,978,052	94.5%	243,635,717
6/30/12	702,732,271	667,556,907	95.0%	655,383,900	93.3%	244,788,249
6/30/13	837,197,578	778,980,041	93.1%	795,966,486	95.1%	256,724,949

**Total
Normal Cost
by Group**

The Public Employees' Pension Reform Act of 2013 requires that new employees pay at least 50 percent of the total annual normal cost and that current employees approach the same goal through collective bargaining. Please refer to the CalPERS website for more details.

The following table illustrates the normal cost by employee group. The normal cost for the PEPRA group will only change if there is more than a 1% change to the original normal cost set.

	Fiscal Year 2013/2014	Fiscal Year 2014/2015
Total Classic Normal Cost	29.511%	31.563%
Classic Employee Contribution	8.00%	8.00%
Total PEPRA Normal Cost	28.674%	30.702%
PEPRA Employee Contribution	14.25%	15.25%

Consistent with February 18, 2014 board decision, the mortality assumption change was included in the valuation as of June 30, 2013. This increased the total PEPRA normal cost by 2.028%. Consequently, the PEPRA employee normal cost will increase by 1% effective July 1, 2014.

Risk Analysis

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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, 2013
1. Market Value of Assets	\$ 795,966,486
2. Payroll	241,987,887
3. Asset Volatility Ratio (1. / 2.)	3.3
4. Accrued Liability	\$ 837,197,578
5. Liability Volatility Ratio (4. / 2.)	3.5

The ratios for this plan indicate this plan has a lower risk of large changes to employer rates when it comes to investment returns and changes in liability.

**Analysis of
Future
Investment
Return
Scenarios**

As of January 31, 2014, the investment return for fiscal year 2013-14 was 8.00%. Note that this return is before the close of the fiscal year and does not take into account administrative expenses that must be paid from the fund. The final return information for the fund will not be available until October 2014. The preliminary 8.00% return for the 2013-14 fiscal year is higher than the assumed rate of return. However, the higher return is not anticipated to lower the employer contribution rate for 2015-16. For purposes of projecting future employer rates, this report assumes a 8.00% investment return for fiscal year 2013-14.

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 2013-14 will first be reflected in the June 30, 2014 actuarial valuation that will be used to set the 2015-16 employer contribution rates, the 2014-15 investment return will first be reflected in the June 30, 2015 actuarial valuation that will be used to set the 2016-17 employer contribution rates and so forth.

Based on a 8.00% investment return for fiscal year 2013-14 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 2015-16, the effect on the 2015-16 Employer Rate is as follows:

Estimated 2015-16 Employer Rate	Estimated Increase in Employer Rate between 2014-15 and 2015-16
25.1%	0.5%

As part of this report, a sensitivity analysis was performed to determine the effects of various investment returns during fiscal years 2014-15, 2015-16, 2016-17 and 2017-18 on the 2016-17, 2017-18, 2018-19 and 2019-20 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.

**Analysis of
Future
Investment
Return
Scenarios
(continued)**

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, 2014 through June 30, 2018. The 5th percentile return corresponds to a -4.00% return for each of the 2014-15, 2015-16, 2016-17 and 2017-18 fiscal years.
- The second scenario is what one would expect if the markets were to give us a 25th percentile return from July 1, 2014 through June 30, 2018. The 25th percentile return corresponds to a 2.00% return for each of the 2014-15, 2015-16, 2016-17 and 2017-18 fiscal years.
- The third scenario assumed the return for 2014-15, 2015-16, 2016-17, and 2017-18 would be our assumed 7.00% investment return which represents about a 54th percentile event.
- The fourth scenario is what one would expect if the markets were to give us a 75th percentile returns from July 1, 2014 through June 30, 2018. The 75th percentile return corresponds to a 11.00% return for each of the 2014-15, 2015-16, 2016-17 and 2017-18 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, 2014 through June 30, 2018. The 95th percentile return corresponds to a 17.5% return for each of the 2014-15, 2015-16, 2016-17 and 2017-18 fiscal years.

The table below shows the estimated changes in the Employer rate for 2016-17, 2017-18, 2018-19, and 2019-20 fiscal years under the five different scenarios.

2014-2017 Investment Return Scenario	Estimated Change in Employer Rate Between Year Shown and Preceding Year				Total Estimated Increase in Employer Rate between 2016-17 and 2019-20
	2016-17	2017-18	2018-19	2019-20	
-4.00% (5 th percentile)	26.2%	27.2%	28.6%	30.2%	4.0%
2.00% (25 th percentile)	25.9%	26.3%	27.0%	28.0%	2.1%
7.00%	25.7%	25.5%	25.4%	25.2%	-0.5%
11.00% (75 th percentile)	23.5%	23.5%	23.5%	23.5%	0.0%
17.50% (95 th percentile)	23.5%	23.5%	23.5%	23.5%	0.0%

These projections are based on the April 17th, 2013 CalPERS board approved amortization and rate smoothing method change.

The actuarial value of assets used in the June 30, 2013 report is 97.9 percent of the market value of assets. This is very close to 100 percent of market. For this reason, the projected rates are expected to decrease slightly due to the method change. For the 75th and 95th percentile, the plan would be in surplus. The projected rates reflect the PEPRA minimum required contribution.

**Analysis of
Discount
Rate
Sensitivity**

The following analysis looks at the 2014-15 employer contribution rates under two different discount rate scenarios. Shown below are the employer contribution rates assuming discount rates that are 1% lower and 1% higher than the current valuation discount rate. This analysis gives an indication of the potential required employer contribution rates if the fund were to realize investment returns of 6.00% or 8.00% over the long-term.

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

2014-15 Employer Contribution Rate			
As of June 30, 2013	6.00% Discount Rate (-1%)	7.00% Return (assumed rate)	8.00% Discount Rate (+1%)
Normal Cost	29.5%	23.5%	18.8%
UAL Payment	<u>4.6%</u>	<u>1.1%</u>	<u>-2.2%</u>
Total	34.1%	24.6%	16.6%

This plan is highly sensitive to fluctuations in the discount rate. The high sensitivity is due to the larger benefits offered by the plan.

The following presents the funded status on a MVA basis of the Judges Retirement System II calculated using the discount rate of 7 percent, as well as what the Judges Retirement System II's funded status would be if it were calculated using a discount rate that is 1-percentage-point lower (6 percent) or 1-percentage-point higher (8 percent) than the current rate:

Funded Status on a MVA Basis			
As of June 30, 2013	6.00% Discount Rate (-1%)	7.00% Return (assumed rate)	8.00% Discount Rate (+1%)
AL	951,320,718	837,197,578	746,297,403
MVA	795,966,486	795,966,486	795,966,486
UAL(MVA)	155,354,232	41,231,092	(49,669,083)
Funded Status (MVA)	83.7%	95.1%	106.7%

GASB Statement No. 27

Contents This section contains the following topics:

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Retirement Program Assumptions	24
Schedule of Funding Progress	25

**Information
for
Compliance
with GASB
Statement
No. 27**

Under GASB 27, an employer reports an annual pension cost (APC) equal to the annual required contribution (ARC) plus an adjustment for the cumulative difference between the APC and the employer's actual plan contributions for the year. The cumulative difference is called the net pension obligation (NPO). The ARC for the period July 1, 2014 to June 30, 2015 has been determined by an actuarial valuation of the plan as of June 30, 2013. The contribution rate for the indicated period is 24.615% of payroll. In order to calculate the dollar value of the ARC for inclusion in financial statements prepared as of June 30, 2015, this contribution rate, as modified by any amendments for the year, would be multiplied by the payroll of covered employees that was actually paid during the period July 1, 2014 to June 30, 2015. The employer and the employer's auditor are responsible for determining the NPO and the APC.

**Retirement
Program
Assumptions**

A summary of principal assumptions and methods used to determine the ARC is shown below.

Complete information on assumptions and methods is provided in Appendix A of this report. Appendix B contains a description of benefits included in the valuation.

	<u>Retirement Program</u>
Valuation Date	June 30, 2013
Actuarial Cost Method	Entry Age Normal Cost Method
Amortization Method	Level Percent of Payroll
Average Remaining Period	55 Years as of the Valuation Date
Asset Valuation Method	15 Year Smoothed Market
Actuarial Assumptions	
Investment Rate of Return	7.00% (net of administrative expenses)
Projected Salary Increases	3.00%
Inflation	2.75%
Payroll Growth	3.00%
Individual Salary Growth	3.00%.

*The unadjusted GASB compliant contribution rate for the indicated period is 24.925% percent of payroll.

**Schedule of
Funding
Progress**

The Schedule of Funding Progress below shows the recent history of the actuarial value of assets, actuarial accrued liability, their relationship, and the relationship of the unfunded actuarial accrued liability to payroll.

Valuation Date	Accrued Liability (a)	Actuarial Value of Assets (AVA) (b)	Annual Covered Payroll (c)
06/30/09	450,547,115	378,691,893	198,793,201
06/30/10	520,687,470	461,071,403	212,663,194
06/30/11	609,562,110	561,475,530	229,650,030
06/30/12	702,732,271	667,556,907	230,736,402
06/30/13	837,197,578	778,980,041	241,987,887

Valuation Date	Funded Ratios		Unfunded Liability (UL) (a)-(b)	UL As a % of Payroll [(a)-(b)]/(c)
	AVA (b)/(a)	MVA		
06/30/09	84.1%	70.0%	71,855,222	36.1%
06/30/10	88.6%	81.1%	59,616,067	28.0%
06/30/11	92.1%	94.5%	48,086,580	20.9%
06/30/12	95.0%	93.3%	35,175,364	15.2%
06/30/13	93.1%	95.1%	58,217,537	24.0%

Appendices

Contents This section contains the following topics:

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**Appendix A –
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 age of hire (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 actuarial value of plan assets is called the unfunded actuarial accrued liability. Funding requirements are determined by adding the normal cost and an amortization of the unfunded liability as a level percentage of assumed future payrolls. 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. In addition, all gains or losses are tracked and amortized over a rolling 30-year period. Finally, if a plan's accrued liability exceeds the actuarial value of assets, the annual contribution with respect to the total unfunded liability may not be less than the amount produced by a 30-year amortization of the unfunded liability.

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. As mentioned above, if the annual contribution on the total unfunded liability was less than the amount produced by a 30-year amortization of the unfunded liability, the plan actuary would implement a 30-year fresh start. However, in the case of a 30-year fresh start, just the unfunded liability not already in the (gain)/loss base (which already is amortized over 30 years) will go into the new fresh start base. In addition, a fresh start is needed in the following situations:

**Actuarial
Funding
Method
(continued)**

- 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 he deems appropriate, and will not be less than five years nor greater than 30 years.

**Asset
Valuation
Method**

In order to dampen the effect of short term market value fluctuations on employer contribution rates, the following asset smoothing technique is used. First an Expected Value of Assets is computed by bringing forward the prior year's Actuarial Value of Assets, the contributions received, and benefits paid during the year at the assumed actuarial rate of return. The Actuarial Value of Assets is then computed as the Expected Value of Assets plus one-fifteenth of the difference between the actual Market Value of Assets and the Expected Value of Assets as of the valuation date. However in no case will the Actuarial Value of Assets be less than 80% or greater than 120% of the actual Market Value of Assets.

**Actuarial
Assumptions**

The actuarial assumptions used in the valuation are shown below. These assumptions are based upon recommendations from both CalPERS actuarial staff and outside consulting actuaries.

**Economic
Assumptions**

The following table identifies the economic assumptions used in the valuation.

June 30, 2013	
Gross Investment Return:	7.25%
Less Administrative Expense:	0.25%
Net Investment Return, compounded annually:	7.00%
Individual Salary Increases, compounded annually:	3.00%
Overall Payroll Growth, compounded annually*	3.00%
Inflation:	2.75%

*The Overall Payroll Growth assumption is used in projecting the payroll over which the unfunded liability is amortized.

Demographic Assumptions **Service Retirement**

The table below illustrates the assumptions used in the valuation to determine the probability of a judge retiring out of the system.

Service Greater than 20 years	
Age	Rate
Below 65	0.000
65	0.750
66	0.400
67	0.300
68	0.350
69	0.500
70*	1.000

*For Judges age 70 and older with 5 or more years of service the probability of retirement is 100%.

Withdrawal

Rates vary by age and years of service as shown in the table below.

Entry Age	Years of Service					
	0-1	1-2	2-3	3-4	4-5	5 or more
35	0.00525	0.00525	0.00525	0.00525	0.00525	0.00225
40	0.00450	0.00450	0.00450	0.00450	0.00450	0.00375
45	0.00375	0.00375	0.00375	0.00375	0.00375	0.00750
50	0.00375	0.00375	0.00375	0.00375	0.00375	0.00900
55	0.00000	0.00000	0.00000	0.00000	0.00000	0.00825
60	0.00000	0.00000	0.00000	0.00000	0.00000	0.00750

**Demographic
Assumptions
(continued)****Pre-Retirement Non-Industrial Disability**

Rates vary by age as shown in the table below.

Attained Age	Non-Industrial Disability	
	Male	Female
35	0.00000	0.00000
40	0.00100	0.00100
45	0.00190	0.00190
50	0.00320	0.00320
55	0.00540	0.00540
60	0.00850	0.00850
65	0.01220	0.01220
70	0.00000	0.00000

The mortality assumptions have changed in this valuation.

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 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:

<http://www.calpers.ca.gov/eip-docs/about/pubs/employer/2014-experience-study.pdf>

Pre-Retirement Mortality

Attained Age	Pre-Retirement Mortality	
	Male	Female
35	0.00057	0.00035
40	0.00075	0.00050
45	0.00106	0.00071
50	0.00155	0.00100
55	0.00228	0.00138
60	0.00308	0.00182
65	0.00400	0.00257
70	0.00524	0.00367

**Demographic
Assumptions
(continued)****Post-Retirement Mortality**

Attained Age	Standard		Non-Industrial Disability	
	Male	Female	Male	Female
35	0.00060	0.00046	0.00788	0.00492
40	0.00110	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

Industrial Mortality

Rates are zero.

Industrial Disability

Rates are zero.

Marital Status

Probability of being married at service retirement or disability retirement is 90%.

Age of Spouse

Assumes that female spouses are three years younger than male spouses are.

Demographic Assumptions (continued)

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 compensation imposed by Internal Revenue Code Section 401(a) (17) were taken into account in this valuation. It was determined that this change generally had minimal impact on the employer rates and no special amortization base has been created.

Appendix B – Principal Plan Provisions

Background	Judges' Retirement System II (JRS II) was established in 1994 to create a fully funded, actuarially sound retirement system for judges appointed or elected on or after November 9, 1994. This system provides a unique combination of two basic types of retirement allowances: a defined benefit plan and a monetary credit plan. The defined benefit plan provides a lifetime monthly retirement allowance of up to 75 percent of final compensation. The monetary credit plan allows for a refund of member contributions, employer contributions (see below) and interest at retirement.
Membership	The JRS II provides retirement, death, withdrawal and disability benefits for Supreme and Appellate Court Justices, Superior Court Judges, and Municipal Court Judges who are appointed or elected on or after November 9, 1994, and their beneficiaries.
Member Contributions	<p>Classic members: Members contribute 8% of their annual compensation to the plan.</p> <p>New members: Members of the system contribute ½ the total normal cost calculated on January 1, 2013. The percentage will only change in any given year once the change to the total normal cost is greater than 1 percent from the original percentage determined.</p>
Monetary Credit Account	Members accrue monthly monetary credits equal to 18% of monthly salary. These monetary credits are accumulated in a Monetary Credit Account for each member and also credited with earnings monthly at a rate, not less than zero, equal to the annual net earnings rate achieved by the Fund. The Monetary Credit Account provides an optional benefit at eligible retirement ages (described below) if the member chooses this option. If a member withdraws from the system before he or she has vested (accumulated at least 5 years of service), the member is paid the amount of his or her 8% of salary contributions to the system, but not the full Monetary Credit Account. After 5 years of service however, the Monetary Credit Account becomes the property of the member upon withdrawal.

**Service
Retirement**

Eligibility - Judges must be at least age 65 with 20 years or more of service or age 70 with a minimum of 5 years of service. Two types of service retirement are available: Defined Benefit Plan or Monetary Credit Plan. Election of a plan must be made within 30 days after retirement.

Defined Benefit Plan –

Classic Members -This option provides a "defined benefit" of 3.75% of the highest 12-month average salary per year of service, up to 75% of final average pay for judges reaching age 65 with at least 20 years of service. The normal form of payment is a joint and 50% contingent annuity with the spouse as contingent annuitant. This provides a surviving spouse with a monthly allowance equal to 50% of the judge's allowance. Optional settlements are available which reduce a judge's normal retirement benefit.

New Members -This option provides a "defined benefit" of 3.75% of the highest 36-month average salary per year of service, up to 75% of final average pay for judges reaching age 65 with at least 20 years of service. The normal form of payment is a joint and 50% contingent annuity with the spouse as contingent annuitant. This provides a surviving spouse with a monthly allowance equal to 50% of the judge's allowance. Optional settlements are available which reduce a judge's normal retirement benefit.

Monetary Credit Plan - This option provides a cash payment in a single lump sum or the member may elect to receive an annuity at retirement based on the value of his or her Monetary Credit Account.

**Non-
Industrial
Disability
Retirement
(Non-Work
Related)**

Eligibility - Judges who have five years of service who become permanently disabled because of a mental or physical disability may apply to the Commission On Judicial Performance for disability retirement.

Benefit - An allowance, based upon the judge's age, equal to the lesser of the following:

3.75% of final compensation multiplied by the number of years of service the judge would have been credited had he or she continued to work until the age he or she would have first been eligible to retire, or

65% of the judge's average monthly salary during the 12 months preceding the retirement date.

The normal form of payment is a joint and 50% contingent annuity with the spouse as the contingent annuitant.

**Industrial
Disability**

Benefit - Judges receive 65% of the judge's average monthly salary during the 12 months preceding the retirement date regardless of age or length of

Retirement (Work Related)	<p>service.</p> <p>The normal form of payment is a joint and 50% contingent annuity with the spouse as the contingent annuitant.</p>
Non-Industrial Pre-Retirement Death Benefit	<p>If Eligible for Service Retirement - Spouses receive either the monthly retirement allowance equal to one-half of the judge's "defined benefit" plan allowance or the judge's monetary credits.</p> <p>If Not Eligible for Service Retirement - Spouses receive the judge's monetary credits or three times the annual salary at the time of death paid in 36 monthly installments, whichever is greater.</p>
Industrial Pre-Retirement Death Benefit	<p>If a judge dies in office, is age 65 or older with a minimum of 20 years of service and elects to have this provision apply (one time irrevocable election while judge is in office) then a payment to the surviving spouse is payable upon death. The spouse would receive a monthly allowance equal to the allowance paid to the judge had he or she retired immediately preceding death.</p>
Post Retirement Death Benefit	<p>If the Judge elected the Defined Benefit Plan - The surviving spouse of a retired judge who elected an Optional Settlement in the defined benefit plan receives one of four options:</p> <ul style="list-style-type: none"> • Option 1 - return of unused accumulated contributions; • Option 2 - 4 - the Optional Settlement Benefit, the amount varies based on the option chosen by the member. <p>If the Judge elected the Monetary Credit Plan - If the full amount of monetary credits was received in a lump sum, there are no survivor benefits. If the judge elected the Monetary Credit Plan with benefits paid as an annuity, the spouse receives the amount based on the option chosen at retirement.</p>
Cost-Of-Living Adjustments (COLA)	<p>If the Judge elected the Defined Benefit Plan - The retirement allowance of retired judges who have elected the defined benefit plan will be adjusted every January after the judge has been retired six months. The adjustment is based on the United States city average of the "Consumer Price Index For All Urban Consumers," as published by the United States Bureau Of Statistics. No adjustment shall be made unless the cost-of-living increase equals or exceeds one percent (1%). Further, the allowance shall not be increased more than three percent (3%) in a single year. Increases shall be compounded.</p>

Appendix C – Participant Data

**Reconciliation
of Participants**

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.

**Reconciliation of Participants
For the Fiscal Year Ending June 30, 2013**

	Actives	Inactive	Retirees and Beneficiaries	Total
As of June 30, 2012	1,286	1	37	1,324
1. New Entrants	96	1	0	97
2. Non-Vested Terminations				
• Refund Paid	(2)	0	0	(2)
• Refund Pending	(1)	1	0	0
3. Vested Terminations				
• Monetary Credit Paid	(12)	0	0	(12)
• Monetary Credit Pending	0	0	0	0
4. Disabilities	(2)	0	2	0
5. Retirements	(11)	0	11	0
6. Death with Beneficiary	0	0	0	0
7. Active Death Benefit	(2)	0	2	0
8. Benefits Ceasing (Beneficiaries)	0	0	0	0
As of June 30, 2013	1,352	3	52	1,407

**Distribution
of Active
Members**

The following table displays the number of active participants by age and service as of June 30, 2013.

Attained Age	Years of Service at Valuation Date					Total
	0-4	5-9	10-14	15-19	20+	
15-34	0	0	0	0	0	0
35-39	2	0	0	0	0	2
40-44	56	7	0	0	0	63
45-49	92	55	4	0	0	151
50-54	86	89	53	16	0	244
55-59	97	89	84	48	0	318
60-64	91	82	81	67	0	321
65+	37	49	92	76	1	255
All Ages	459	371	314	207	1	1352

**Distribution
of Average
Annual
Salaries**

The following table displays the average salaries of active participants by age and service as of June 30, 2013.

Attained Age	Years of Service at Valuation Date					Average
	0-4	5-9	10-14	15-19	20+	
15-34	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
35-39	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
40-44	\$ 179,493	\$ 178,789	\$ -	\$ -	\$ -	\$ 179,415
45-49	\$ 179,070	\$ 179,258	\$ 78,789	\$ -	\$ -	\$ 179,131
50-54	\$ 179,989	\$ 179,079	\$ 179,276	\$ 180,402	\$ -	\$ 179,529
55-59	\$ 178,789	\$ 179,079	\$ 179,711	\$ 180,402	\$ -	\$ 179,357
60-64	\$ 179,073	\$ 179,418	\$ 179,426	\$ 180,715	\$ -	\$ 179,593
65+	\$ 178,789	\$ 178,789	\$ 179,911	\$ 180,487	\$ 178,789	\$ 179,700
Average	\$ 179,212	\$ 179,137	\$ 179,611	\$ 180,535	\$ 178,789	\$ 179,486

**Distribution of
Retired
Members and
Beneficiaries**

The following table displays the number of recipients by age and retirement type as of June 30, 2013.

Attained Age	Service Retiremen t	Non- Industrial Disability	Industrial Disability	Total
40-44	0	1	0	1
45-49	0	0	0	0
50-54	0	1	0	1
55-59	1	4	1	6
60-64	1	1	0	2
65-69	3	6	0	9
70-74	17	0	1	18
75-79	7	1	1	9
80-84	2	0	0	2
85 and Over	2	0	0	2
All Ages	33	14	3	50*

*Does not include beneficiary receiving 36 month pre-retirement death benefit

**Appendix D –
Glossary of Actuarial Terms**

Accrued Liability	The total dollars needed as of the valuation date to fund all benefits earned in the past for <i>current</i> 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 investment return, salary growth and inflation.
Actuarial Methods	Procedures employed by actuaries to achieve certain goals of a pension plan. These may include things such as funding method, setting the length of time to fund the past service liability and determining the actuarial value of assets.
Actuarial Valuation	The determination, as of a valuation date of the normal cost, actuarial accrued liability, actuarial value of assets 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.
Actuarial Value of Assets	<p>The actuarial value of assets used for funding purposes is obtained through an asset smoothing technique where investment gains and losses are partially recognized in the year they are incurred, with the remainder recognized in subsequent years.</p> <p>This method helps to dampen large fluctuations in the employer contribution rate.</p>

Amortization Bases Separate payment schedules for different portions of the unfunded liability. The total unfunded liability (or side fund) can be segregated by "cause," creating "bases" and each such base will be separately amortized and paid for over a specific period of time. This can be likened to a home mortgage that has 24 years of remaining payments and a second on that mortgage that has 10 years left. 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 liability (principal) due to amendments, actuarial assumption changes, or methodology changes and 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.

Annual Required Contributions (ARC) The employer's periodic required annual contributions to a defined benefit pension plan, calculated in accordance with the plan assumptions. The ARC is determined by multiplying the employer contribution rate by the payroll reported to CalPERS for the applicable fiscal year. However, if this contribution is fully prepaid in a lump sum, then the dollar value of the ARC is equal to the Lump Sum Prepayment.

Entry Age The earliest age at which a plan member begins to accrue benefits under a defined benefit pension Plan or risk pool. In most cases, this is the same as the date of hire.

(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 is at 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.)

Excess Assets When a plan or pool's actuarial value of assets is greater than its accrued liability, the difference is the plan or pool's excess assets. A plan with excess assets is said to be overfunded. The result is that the plan or pool can temporarily reduce future contributions.

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 produce stable employer contributions in amounts that increase at the same rate as the employer's payroll (i.e. level % of payroll).
Fresh Start	When multiple amortization bases are collapsed into one base and amortized over a new funding period. At CalPERS, fresh starts are used to avoid inconsistencies that would otherwise occur.
Funded Status	A measure of how well funded a plan or risk pool is. Or equivalently, how "on track" a plan or risk pool is with respect to assets vs. accrued liabilities. We calculate a funded ratio by dividing the actuarial value of assets by the 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 plus surcharges should be viewed as the long-term contribution rate.
Pension Actuary	A person who is responsible for the calculations necessary to properly fund a pension plan.
Prepayment Contribution	A payment made by the employer to reduce or eliminate the current year required employer contribution.
Present Value of Benefits	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.

**Rolling
Amortization
Period**

An amortization period that remains the same each year or does not decline.

Superfunded

A condition existing when the actuarial value of assets exceeds the present value of benefits. When this condition exists on a given valuation date for a given plan, employee contributions for the rate year covered by that valuation may be waived.

**Unfunded
Liability**

When a plan or pool's actuarial value of assets is less than its accrued liability, the difference is the plan or pool's unfunded liability. The plan or pool will have to temporarily increase contributions.