Benefit
The Alternate Death benefit is a monthly allowance equal to the Service Retirement benefit that the member would have received had the member retired on the date of his or her death and elected Optional Settlement 2W. (A retiree who elects Optional Settlement 2W receives an allowance that has been reduced so that it will continue to be paid after his or her death to a surviving beneficiary.) If the member has not yet attained age 50, the benefit is equal to that which would be payable if the member had retired at age 50, based on service credited at the time of death. The allowance is payable as long as the surviving spouse lives, at which time it is continued to any unmarried children under age 18, if applicable. The total amount paid will be at least equal to the Basic Death Benefit.

Cost-of-Living Adjustments (COLA)

Standard Benefit
Beginning the second calendar year after the year of retirement, retirement and survivor allowances will be annually adjusted on a compound basis by 2%.

Improved Benefit
Employers have the option of providing an improved cost-of-living adjustment of 3%, 4% or 5%. An improved COLA is not available in conjunction with the 1.5% at 65 formula.

The cumulative adjustment may not be greater than the cumulative change in the Consumer Price Index since the date of retirement.

Purchasing Power Protection Allowance (PPPA)

Retirement and survivor allowances are protected against inflation by PPPA. PPPA benefits are cost-of-living adjustments that are intended to maintain an individual's allowance at 80% of the initial allowance at retirement adjusted for inflation since retirement. The PPPA benefit will be coordinated with other cost-of-living adjustments provided under the plan.

Employee Contributions

Each employee contributes toward his or her retirement based upon the retirement formula. The standard employee contribution is as described below.

The percent contributed below the monthly compensation breakpoint is 0%.
The monthly compensation breakpoint is $0 for full and supplemental formula members and $133.33 for employees covered by the modified formula.
The percent contributed above the monthly compensation breakpoint depends upon the benefit formula, as shown in the table below.

Benefit Formula	Percent Contributed above the Breakpoint
Miscellaneous, 1.5% at 65	2%
Miscellaneous, 2% at 60	7%
Miscellaneous, 2% at 55	7%
Miscellaneous, 2.5% at 55	8%
Miscellaneous, 2.7% at 55	8%
Miscellaneous, 3% at 60	8%
Safety, 1/2 at 55	Varies by entry age
Safety, 2% at 55	7%
Safety, 2% at 50	9%
Safety, 3% at 55	9%
Safety, 3% at 50	9%

The employer may choose to "pick-up" these contributions for the employees (Employer Paid Member Contributions or EPMC). An employer may also include Employee Cost Sharing in the contract, where employees contribute an additional percentage of compensation based on any optional benefit for which a contract amendment was made on or after January 1, 1979.

Auxiliary organizations of the CSUC system may elect reduced contribution rates, in which case the offset is $317 and the contribution rate is 6% if members are not covered by Social Security. If members are covered by Social Security the offset is $513 and the contribution rate is 5%.

Refund of Employee Contributions

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

1959 Survivor Benefit

This is a pre-retirement death benefit available only to members not covered by Social Security. Any agency joining CalPERS subsequent to 1993 was required to provide this benefit if the members were not covered by Social Security. The benefit is optional for agencies joining CalPERS prior to 1994. Levels 1, 2 and 3 are now closed. Any new agency or any agency wishing to add this benefit or increase the current level must choose the 4th or Indexed Level.

This benefit is not included in the results presented in this valuation. More information on this benefit is available on the CalPERS website at www.calpers.ca.gov.

APPENDIX C

GASB STATEMENT NO. 27

MISCELLANEOUS PLAN of the COUNTY OF RIVERSIDE

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, 2013 to June 30, 2014 has been determined by an actuarial valuation of the plan as of June 30, 2011. The unadjusted GASB compliant contribution rate for the indicated period is 15.032% of payroll. In order to calculate the dollar value of the ARC for inclusion in financial statements prepared as of June 30, 2014, this contribution rate, less any employee cost sharing, 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, 2013 to June 30, 2014. The employer and the employer's auditor are responsible for determining the NPO and the APC.

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

	Retirement Program
Valuation Date	June 30, 2011
Actuarial Cost Method	Entry Age Normal Cost Method
Amortization Method	Level Percent of Payroll
Average Remaining Period	32 Years as of the Valuation Date
Asset Valuation Method	15 Year Smoothed Market
Actuarial Assumptions	
Discount Rate	7.50% (net of administrative expenses)
Projected Salary Increases	3.30% to 14.20% depending on Age, Service, and type of employment
Inflation	2.75%
Payroll Growth	3.00%
Individual Salary Growth	A merit scale varying by duration of employment coupled with an assumed annual inflation growth of 2.75% and an annual production growth of 0.25%.

Initial unfunded liabilities are amortized over a closed period that depends on the plan's date of entry into CalPERS. Subsequent plan amendments are amortized as a level percentage of pay over a closed 20-year period. Gains and losses that occur in the operation of the plan are amortized over a 30 year rolling period, which results in an amortization of about 6% of unamortized gains and losses each year. If the plan's accrued liability exceeds the actuarial value of plan assets, then the amortization payment on the total unfunded liability may not be lower than the payment calculated over a 30 year amortization period. More 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.

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

Valuation Date	Accrued Liability (a)	Actuarial Value of Assets (AVA) (b)	Unfunded Liability (UL) (a)-(b)	Funded Ratios (AVA) (b)/(a)	Funded Ratios Market Value	Annual Covered Payroll (c)	UL As a % of Payroll [(a)-(b)]/(c)
06/30/07	$ 3,029,360,507	$ 2,894,148,219	$ 135,212,288	95.5%	110.3%	$ 754,117,986	17.9%
06/30/08	3,350,222,866	3,174,974,787	175,248,079	94.8%	96.2%	841,612,805	20.8%
06/30/09	3,790,232,824	3,401,036,977	389,195,847	89.7%	65.5%	841,103,683	46.3%
06/30/10	4,097,191,707	3,652,860,802	444,330,905	89.2%	70.4%	854,932,117	52.0%
06/30/11	4,461,553,672	3,923,498,630	538,055,042	87.9%	79.0%	812,362,628	66.2%

APPENDIX D

RISK ANALYSIS

- **VOLATILITY RATIOS**
- **ANALYSIS OF FUTURE INVESTMENT RETURN SCENARIOS**
- **ANALYSIS OF DISCOUNT RATE SENSITIVITY**

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, 2011**
1. Market Value of Assets without Receivables	$	3,519,176,373
2. Payroll		812,362,628
3. Asset Volatility Ratio (1. / 2.)		4.3
4. Accrued Liability	$	4,461,553,672
5. Liability Volatility Ratio (4. / 2.)		5.5

Analysis of Future Investment Return Scenarios

The investment return for fiscal year 2011-2012 was estimated to be 0%. Note that this return is before administrative expenses and also does not reflect final investment return information for real estate and private equities. The final return information for these two asset classes is expected to be available later in October. For purposes of projecting future employer rates, we are assuming a 0% investment return for fiscal year 2011-2012.

The investment return realized during a fiscal year first affects the contribution rate for the fiscal year 2 years later. Specifically, the investment return for 2011-2012 will first be reflected in the June 30, 2012 actuarial valuation that will be used to set the 2014-2015 employer contribution rates, the 2012-2013 investment return will first be reflected in the June 30, 2013 actuarial valuation that will be used to set the 2015-2016 employer contribution rates and so forth.

Based on a 0% investment return for fiscal year 2011-2012 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 2014-2015, the effect on the 2014-2015 Employer Rate is as follows:

Estimated 2014-2015 Employer Rate	Estimated Increase in Employer Rate between 2013-2014 and 2014-2015
16.0%	1.0%

As part of this report, a sensitivity analysis was performed to determine the effects of various investment returns during fiscal years 2012-2013, 2013-2014 and 2014-2015 on the 2015-2016, 2016-2017 and 2017-2018 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 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, 2012 through June 30, 2015. The 5th percentile return corresponds to a -4.1% return for each of the 2012-2013, 2013-2014 and 2014-2015 fiscal years.
- The second scenario is what one would expect if the markets were to give us a 25th percentile return from July 1, 2012 through June 30, 2015. The 25th percentile return corresponds to a 2.6% return for each of the 2012-2013, 2013-2014 and 2014-2015 fiscal years.
- The third scenario assumed the return for 2012-2013, 2013-2014, 2014-2015 would be our assumed 7.5% investment return which represents about a 49th percentile event.
- The fourth scenario is what one would expect if the markets were to give us a 75th percentile return from July 1, 2012 through June 30, 2015. The 75th percentile return corresponds to a 11.9% return for each of the 2012-2013, 2013-2014 and 2014-2015 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, 2012 through June 30, 2015. The 95th percentile return corresponds to a 18.5% return for each of the 2012-2013, 2013-2014 and 2014-2015 fiscal years.

The table below shows the estimated projected contribution rates and the estimated increases for your plan under the five different scenarios.

2012-2015 Investment Return Scenario	Estimated Employer Rate			Estimated Change in Employer Rate between 2014-2015 and 2017-2018
	2015-2016	2016-2017	2017-2018	
-4.1% (5th percentile)	19.1%	22.3%	25.3%	9.3%
2.6% (25th percentile)	17.0%	18.4%	19.9%	3.9%
7.5%	16.3%	16.6%	16.9%	0.9%
11.9%(75th percentile)	16.2%	16.3%	16.4%	0.4%
18.5%(95th percentile)	16.1%	16.0%	15.6%	-0.4%

Analysis of Discount Rate Sensitivity

The following analysis looks at the 2013-2014 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 PERF were to realize investment returns of 6.50% or 8.50% over the long-term.

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

2013-2014 Employer Contribution Rate			
As of June 30, 2011	**6.50% Discount Rate (-1%)**	**7.50% Discount Rate (assumed rate)**	**8.50% Discount Rate (+1%)**
Employer Normal Cost	15.709%	11.099%	7.581%
Unfunded Rate Payment	10.388%	3.902%	(1.338%)
Total	26.097%	15.001%	6.243%

APPENDIX E

GLOSSARY OF ACTUARIAL TERMS

Glossary of Actuarial Terms

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

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

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

Actuarial Valuation
The determination, as of a valuation date, of the Normal Cost, 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
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.

This method helps to dampen large fluctuations in the employer contribution rate.

Amortization Bases
Separate payment schedules for different portions of the Unfunded Liability. The total Unfunded Liability of a Risk Pool or non-pooled plan can be segregated by "cause", creating "bases" and each such base will be separately amortized and paid for over a specific period of time. 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.) but all bases are amortized using investment and payroll assumptions from the current valuation.

Generally in an actuarial valuation, the separate bases consist of changes in unfunded liability due to amendments, actuarial assumption changes, actuarial 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 as set forth in GASB Statement No. 27, 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.

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

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

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 the single amortization base created when multiple amortization bases are collapsed into one base and amortized over a new funding period.

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. 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. A funded ratio based on the Actuarial Value of Assets indicates the progress toward fully funding the plan using the actuarial cost methods and assumptions. A funded ratio based on the Market Value of Assets indicates the short-term solvency of the plan.

GASB 27

Statement No. 27 of the Governmental Accounting Standards Board. The accounting standard governing a state or local governmental employer's accounting for pensions.

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 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 year's required employer contribution.

Present Value of Benefits (PVB)

The total dollars needed as of the valuation date to fund all benefits earned in the past or expected to be earned in the future for *current* members.

Rolling Amortization Period

An amortization period that remains the same each year, rather than declining.

Superfunded

A condition existing when a plan's Actuarial Value of Assets exceeds its 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 of the Unfunded Liability is positive, the plan or pool will have to pay contributions exceeding the Normal Cost.

California Public Employees' Retirement System
Actuarial Office
P.O. Box 942701
Sacramento, CA 94229-2701
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www.calpers.ca.gov

October 2012

SAFETY PLAN OF THE COUNTY OF RIVERSIDE (CalPERS ID 5982690295)
Annual Valuation Report as of June 30, 2011

Dear Employer,

As an attachment to this letter, you will find a copy of the June 30, 2011 actuarial valuation report of your pension plan. This report contains important actuarial information about your pension plan at CalPERS. Your CalPERS staff actuary is available to discuss the report with you.

Changes Since the Prior Year's Valuation

The CalPERS' Board of Administration adopted updated actuarial assumptions to be used beginning with the June 30, 2011 valuation. In addition, a temporary modification to our method of determining the actuarial value of assets and amortizing gains and losses was implemented for the valuations as of June 30, 2009 through June 30, 2011. The effect of those modifications continue in this valuation.

There may also be changes specific to your plan such as contract amendments and funding changes.

Further descriptions of general changes are included in the "Highlights and Executive Summary" section and in Appendix A, "Statement of Actuarial Data, Methods and Assumptions." The effect of the changes on your rate is included in the "Reconciliation of Required Employer Contributions." **As noted on page 13 of the report, your plan can elect not to phase-in the cost of the assumption change by notifying your plan actuary prior to May 1, 2013.**

Future Contribution Rates

The exhibit below displays the required employer contribution rate before any cost sharing and Superfunded status for 2013/2014 along with estimates of the contribution rate for 2014/2015 and 2015/2016 and the probable Superfunded status for 2014/2015. The estimated rate for 2014/2015 is based solely on a projection of the investment return for fiscal 2011/2012, namely 0%. The estimated rate for 2015/2016 uses the valuation assumption of 7.5% as the investment return for fiscal 2012/2013. See Appendix D, "Analysis of Future Investment Return Scenarios", for rate projections under a variety of investment return scenarios. **These rates may not be GASB compliant.** See Appendix C for the GASB compliant rate. Please disregard any projections that we may have provided to you in the past.

Fiscal Year	Employer Contribution Rate	Superfunded?
2013/2014	23.368%	NO
2014/2015	24.6% (projected)	NO
2015/2016	25.1% (projected)	N/A

Member contributions other than cost sharing, (whether paid by the employer or the employee) are in addition to the above rates.

The estimates for 2014/2015 and 2015/2016 also assume that there are no future amendments and no liability gains or losses (such as larger than expected pay increases, more retirements than expected, etc.). This is a very important assumption because these gains and losses do occur and can have a significant impact on your contribution rate. Even for the largest plans, such gains and losses often cause a change in the employer's contribution rate of one or two percent and may be even larger in some less common instances. These gains and losses cannot be predicted in advance so the projected employer contribution rates are just estimates. Your actual rate for 2014/2015 will be provided in next year's report.

California Actuarial Advisory Panel Recommendations

The report satisfies all basic disclosure requirements under the Model Disclosure Elements for Actuarial Valuation Reports recommended by the California Actuarial Advisory Panel, except for the original base amounts of the various components of the unfunded liability amortization.

The report gives the following additional information classified as enhanced risk disclosures under the Model Disclosure Elements for Actuarial Valuation Reports recommended by the California Actuarial Advisory Panel:

- "Deterministic stress test", projecting future results under different investment income scenarios. (See Appendix D's Analysis of Future Investment Return Scenarios.)
- "Sensitivity analysis", showing the impact on current valuation results of a plus or minus 1% change in the discount rate. (See Appendix D's Analysis of Discount Rate Sensitivity.)

We are very busy preparing actuarial valuations for other public agencies and expect to complete all such valuations by the end of October. We understand that you might have a number of questions about these results. While we are very interested in discussing these results with your agency, in the interest of allowing us to give every public agency their result, we ask that, if at all possible, you wait until after October 31 to contact us with questions. If you have questions, please call (888) CalPERS (225-7377).

Sincerely,

ALAN MILLIGAN
Chief Actuary

ACTUARIAL VALUATION

as of June 30, 2011

for the SAFETY PLAN of the COUNTY OF RIVERSIDE

(CalPERS ID 5982690295)

REQUIRED CONTRIBUTIONS FOR FISCAL YEAR July 1, 2013 – June 30, 2014

TABLE OF CONTENTS

ACTUARIAL CERTIFICATION

To the best of our knowledge, this report is complete and accurate and contains sufficient information to disclose, fully and fairly, the funded condition of the SAFETY PLAN OF THE COUNTY OF RIVERSIDE. This valuation is based on the member and financial data as of June 30, 2011 provided by the various CalPERS databases and the benefits under this plan with CalPERS as of the date this report was produced. It is our opinion that the valuation has been performed in accordance with generally accepted actuarial principles, in accordance with standards of practice prescribed by the Actuarial Standards Board, and that the assumptions and methods are internally consistent and reasonable for this plan, as prescribed by the CalPERS Board of Administration according to provisions set forth in the California Public Employees' Retirement Law.

The undersigned is an actuary for CalPERS, who is a member of the American Academy of Actuaries and the Society of Actuaries and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

David Du Bois

DAVID DU BOIS, FSA
Senior Pension Actuary, CalPERS

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HIGHLIGHTS AND EXECUTIVE SUMMARY

- **PURPOSE OF THE REPORT**
- **REQUIRED CONTRIBUTIONS**
- **FUNDED STATUS**
- **COST**
- **CHANGES SINCE THE PRIOR VALUATION**

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Purpose of the Report

This report presents the results of the June 30, 2011 actuarial valuation of the SAFETY PLAN OF THE COUNTY OF RIVERSIDE of the California Public Employees' Retirement System (CalPERS). The valuation was prepared by the Plan Actuary in order to:

- set forth the actuarial assets and accrued liabilities of this plan as of June 30, 2011;
- determine the required employer contribution rate for this plan for the fiscal year July 1, 2013 through June 30, 2014;
- provide actuarial information as of June 30, 2011 to the CalPERS Board of Administration and other interested parties; and
- provide pension information as of June 30, 2011 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 any other purposes may be inappropriate. In particular, this report does not contain information applicable to alternative benefit costs. The employer should contact their actuary before disseminating any portion of this report for any reason that is not explicitly described above.

Required Employer Contribution

	Fiscal Year 2012/2013	Fiscal Year 2013/2014
Required Employer Contributions		
1. Contribution in Projected Dollars		
a) Total Normal Cost	$ 78,988,338	$ 79,114,388
b) Employee Contribution[1]	26,268,153	26,864,982
c) Employer Normal Cost [(1a) – (1b)]	52,720,185	52,249,406
d) Unfunded Contribution	12,830,979	17,503,742
e) Total Employer Contribution [(1c) + (1d)]	$ 65,551,164	$ 69,753,148
f) Employee Cost Sharing		0
g) Net Employer Contribution [(1e) – (1f)]		69,753,148
Annual Lump Sum Prepayment Option[2] [(1g) / 1.075^.5]	$ 63,149,769	$ 67,275,910
2. Contribution as a Percentage of Payroll		
a) Total Normal Cost	27.063%	26.504%
b) Employee Contribution[1]	9.000%	9.000%
c) Employer Normal Cost [(2a) – (2b)]	18.063%	17.504%
d) Unfunded Rate	4.396%	5.864%
e) Total Employer Rate [(2c) + (2d)]	22.459%	23.368%
f) Employee Cost Sharing		0.000%
g) Net Employer Contribution Rate [(2e) – (2f)]		23.368%

[1]This is the percentage specified in the Public Employees Retirement Law, net of any reduction from the use of a modified formula. Employee cost sharing is shown separately and is therefore not included in this line item.

[2]Payment must be received by CalPERS before the first payroll reported to CalPERS of the new fiscal year and after June 30.

Funded Status

	June 30, 2010	June 30, 2011
1. Present Value of Projected Benefits	$ 2,478,659,849	$ 2,690,634,139
2. Entry Age Normal Accrued Liability	1,809,467,588	2,032,001,280
3. Actuarial Value of Assets (AVA)	1,624,729,774	1,745,936,783
4. Unfunded Liability (AVA Basis) [(2) – (3)]	$ 184,737,814	$ 286,064,497
5. Funded Ratio (AVA Basis) [(3) / (2)]	89.8%	85.9%
6. Market Value of Assets (MVA)	$ 1,279,783,747	$ 1,565,799,198
7. Unfunded Liability (MVA Basis) [(2) – (6)]	$ 529,683,841	$ 466,202,082
8. Funded Ratio (MVA Basis) [(6) / (2)]	70.7%	77.1%
Superfunded Status	No	No

Cost

Actuarial Cost Estimates in General

What will this pension plan cost? Unfortunately, there is no simple answer. There are two major reasons for the complexity of the answer. First, all actuarial calculations, including the ones in this report, are based on a number of assumptions about the future. These assumptions can be divided into two categories.

- Demographic assumptions include the percentage of employees that will terminate, die, become disabled, and retire in each future year.
- Economic assumptions include future salary increases for each active employee, and the assumption with the greatest impact, future asset returns at CalPERS for each year into the future until the last dollar is paid to current members of your plan.

While CalPERS has set these assumptions to reflect our best estimate of the real future of your plan, it must be understood that these assumptions are very long term predictors and will surely not be realized in any one year. For example, while the asset earnings at CalPERS have averaged more than the assumed return of 7.5% for the past twenty year period ending June 30, 2012, returns for each fiscal year ranged from -24% to +21.7%

Second, the very nature of actuarial funding produces the answer to the question of plan cost as the sum of two separate pieces.

- The Normal Cost (i.e., the future annual premiums in the absence of surplus or unfunded liability) expressed as a percentage of total active payroll.
- The Past Service Cost or Accrued Liability (i.e., the current value of the benefit for all credited past service of current members) which is expressed as a lump sum dollar amount.

The cost is the sum of a percent of future pay and a lump sum dollar amount (the sum of an apple and an orange if you will). To communicate the total cost, either the Normal Cost (i.e., future percent of payroll) must be converted to a lump sum dollar amount (in which case the total cost is the present value of benefits), or the Past Service Cost (i.e., the lump sum) must be converted to a percent of payroll (in which case the total cost is expressed as the employer's rate, part of which is permanent and part temporary). Converting the Past Service Cost lump sum to a percent of payroll requires a specific amortization period, and the employer rate will vary depending on the amortization period chosen.

Changes since the Prior Valuation

Actuarial Assumptions

The CalPERS Actuarial office conducted a study and hired an independent evaluator to assess current economic assumptions. Based on the information from both studies, the CalPERS Board of Administration has adopted updated economic assumptions to be used beginning with the June 30, 2011 valuation. In particular, the recommendation based on both studies was to lower the price inflation from 3.00 to 2.75 percent.

Lowering the price inflation had a direct impact on the Investment Return and the Overall Payroll Growth assumptions. The Investment Return assumption is calculated as the sum of the price inflation and the real rate of return. Our assumed real rate of return is 4.75 percent. When added to our new price inflation of 2.75 percent, the resulting investment return is 7.50 percent. The Overall Payroll Growth is calculated as the sum of the price inflation and real wage inflation. Our assumed real wage inflation is 0.25 percent. When added to our new price inflation of 2.75 percent, the resulting overall payroll growth is 3.00 percent.

The new assumptions are described in Appendix A. The effect of change in assumption on the unfunded liability is shown in the "(Gain)/Loss Analysis" and the effect on your employer contribution rate is included in the "Reconciliation of Required Employer Contributions". **As noted on page 13 of the report, your plan can elect not to phase-in the cost of the assumption change by notifying your plan actuary prior to May 1, 2013.**

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 and no additional charge to the change in assumptions base was added.

Actuarial Methods

A method change was adopted by the CalPERS Board in June 2009. We are in the third year of a 3-year temporary change to the asset smoothing method and the amortization of gains and losses in order to phase in the impact of the -24% investment loss experienced by CalPERS in fiscal year 2008-2009. The following changes were adopted:

- Increase the corridor limits for the actuarial value of assets from 80%-120% of market value to 60%-140% of market value on June 30, 2009
- Reduce the corridor limits for the actuarial value of assets to 70%-130% of market value on June 30, 2010
- Return to the 80%-120% of market value corridor limits for the actuarial value of assets on June 30, 2011 and thereafter
- Isolate and amortize all gains and losses during fiscal year 2008-2009, 2009-2010 and 2010-2011 over fixed and declining 30 year periods (as opposed to the current rolling 30 year amortization)

A complete description of all methods is in Appendix A. The detailed calculation of the actuarial value of assets is shown in the "Development of the Actuarial Value of Assets."

Benefits

The standard actuarial practice at CalPERS is to recognize mandated legislative benefit changes in the first annual valuation whose valuation date follows the effective date of the legislation. Voluntary benefit changes by plan amendment are generally included in the first valuation that is prepared after the amendment becomes effective even if the valuation date is prior to the effective date of the amendment.

This valuation generally reflects plan changes by amendments effective before the date of the report. Please refer to Appendix B for a summary of the plan provisions used in the valuation. The effect of any mandated benefit changes or plan amendments on the unfunded liability is shown in the "(Gain)/Loss Analysis" and the effect on your employer contribution rate is shown in the "Reconciliation of Required Employer Contributions". It should be noted that no change in liability or rate is shown for any plan changes which were already included in the prior year's valuation.

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SUMMARY OF LIABILITIES AND RATES

- DEVELOPMENT OF ACCRUED AND UNFUNDED LIABILITIES
- (GAIN) / LOSS ANALYSIS 06/30/10 - 06/30/11
- SCHEDULE OF AMORTIZATION BASES
- RECONCILIATION OF REQUIRED EMPLOYER CONTRIBUTIONS
- EMPLOYER CONTRIBUTION RATE HISTORY
- FUNDING HISTORY
- HYPOTHETICAL TERMINATION LIABILITY

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Development of Accrued and Unfunded Liabilities

1.	Present Value of Projected Benefits		
	a) Active Members	$	1,630,948,842
	b) Transferred Members		44,009,007
	c) Terminated Members		16,804,995
	d) Members and Beneficiaries Receiving Payments		998,871,295
	e) Total	$	2,690,634,139
2.	Present Value of Future Employer Normal Costs	$	428,181,365
3.	Present Value of Future Employee Contributions	$	230,451,494
4.	Entry Age Normal Accrued Liability		
	a) Active Members [(1a) - (2) - (3)]	$	972,315,983
	b) Transferred Members (1b)		44,009,007
	c) Terminated Members (1c)		16,804,995
	d) Members and Beneficiaries Receiving Payments (1d)		998,871,295
	e) Total	$	2,032,001,280
5.	Actuarial Value of Assets (AVA)	$	1,745,936,783
6.	Unfunded Accrued Liability (AVA Basis) [(4e) – (5)]	$	286,064,497
7.	Funded Ratio (AVA Basis) [(5) / (4e)]		85.9%
8.	Market Value of Assets (MVA)	$	1,565,799,198
9.	Unfunded Liability (MVA Basis) [(4e) - (8)]	$	466,202,082
10.	Funded Ratio (MVA Basis) [(8) / (4e)]		77.1%

(Gain)/Loss Analysis 6/30/10 – 6/30/11

To calculate the cost requirements of the plan, assumptions are made about future events that affect the amount and timing of benefits to be paid and assets to be accumulated. Each year actual experience is compared to the expected experience based on the actuarial assumptions. This results in actuarial gains or losses, as shown below.

A	**Total (Gain)/Loss for the Year***		
1.	Unfunded Accrued Liability (UAL) as of 6/30/10	$	184,737,814
2.	Expected Payment on the UAL during 2010/2011		1,670,078
3.	Interest through 6/30/11 [.0775 x (A1) - ((1.0775)^{½} - 1) x (A2)]		14,253,673
4.	Expected UAL before all other changes [(A1) - (A2) + (A3)]		197,321,409
5.	Change due to plan changes		0
6.	Change due to assumption change		36,567,008
7.	Expected UAL after all other changes [(A4) + (A5) + (A6)]		233,888,417
8.	Actual UAL as of 6/30/11		286,064,497
9.	Total (Gain)/Loss for 2010/2011 [(A8) - (A7)]	$	52,176,080
B	**Contribution (Gain)/Loss for the Year**		
1.	Expected Contribution (Employer and Employee)	$	75,764,045
2.	Interest on Expected Contributions		2,881,077
3.	Actual Contributions		79,973,167
4.	Interest on Actual Contributions		3,041,138
5.	Expected Contributions with Interest [(B1) + (B2)]		78,645,122
6.	Actual Contributions with Interest [(B3) + (B4)]		83,014,305
7.	Contribution (Gain)/Loss [(B5) - (B6)]	$	(4,369,183)
C	**Asset (Gain)/Loss for the Year**		
1.	Actuarial Value of Assets as of 6/30/10 Including Receivables	$	1,624,729,774
2.	Receivables as of 6/30/10		3,867,953
3.	Actuarial Value of Assets as of 6/30/10		1,620,861,821
4.	Contributions Received		79,973,167
5.	Benefits and Refunds Paid		(71,920,121)
6.	Transfers and miscellaneous adjustments		61,842
7.	Expected Int. [.0775 x (C3) + ((1.0775)^{½} - 1) x ((C4) + (C5) + (C6))]		125,925,376
8.	Expected Assets as of 6/30/11 [(C3) + (C4) + (C5) + (C6) + (C7)]		1,754,902,085
9.	Receivables as of 6/30/11		3,901,668
10.	Expected Assets Including Receivables		1,758,803,753
11.	Actual Actuarial Value of Assets as of 6/30/11		1,745,936,783
12.	Asset (Gain)/Loss [(C10) - (C11)]	$	12,866,970
D	**Liability (Gain)/Loss for the Year**		
1.	Total (Gain)/Loss (A9)	$	52,176,080
2.	Contribution (Gain)/Loss (B7)		(4,369,183)
3.	Asset (Gain)/Loss (C12)		12,866,970
4.	Liability (Gain)/Loss [(D1) - (D2) - (D3)]	$	43,678,293

Development of the (Gain)/Loss Balance as of 6/30/11**

1.	(Gain)/Loss Balance as of 6/30/10	$	72,769,897
2.	Payment Made on the Balance during 2010/2011		4,369,904
3.	Interest through 6/30/11 [.0775 x (1) - ((1.0775)$^{1/2}$ - 1) x (2)]		5,473,493
4.	Scheduled (Gain)/Loss Balance as of 6/30/11 [(1) - (2) + (3)]	$	73,873,486

* The Total (Gain)/Loss for 2010/2011 is being amortized over a fixed and declining 30-year period and is shown as "Special (Gain)/Loss" in the "Schedule of Amortization Bases" on the following page.

** This (Gain)/Loss represents the 6/30/11 balance of the accumulation of (gains)/losses through 6/30/08 and is amortized using a rolling 30-year period. Gains and losses incurred after 6/30/2011 will again accumulate to this base.

Schedule of Amortization Bases

There is a two year lag between the Valuation Date and the Contribution Fiscal Year.

- The assets, liabilities and funded status of the plan are measured as of the valuation date (June 30, 2011).
- The employer contribution rate determined by the valuation is for the fiscal year beginning two years after the valuation date (fiscal year 2013/2014).

This two year lag is necessary due to the amount of time needed to extract and test the membership and financial data, and due to the need to provide public agencies with their employer contribution rates well in advance of the start of the fiscal year.

The Unfunded Liability is used to determine the employer contribution and therefore must be rolled forward two years from the valuation date to the first day of the fiscal year for which the contribution is being determined. The Unfunded Liability is rolled forward each year by subtracting the expected Payment on the Unfunded Liability for the fiscal year and adjusting for interest. The Expected Payment on the Unfunded Liability for a fiscal year is equal to the Expected Employer Contribution for the fiscal year minus the Expected Normal Cost for the year. The Employer Contribution Rate for the first fiscal year is determined by the actuarial valuation two years ago and the rate for the second year is from the actuarial valuation one year ago. The Normal Cost Rate for each of the two fiscal years is assumed to be the same as the rate determined by the current valuation. All expected dollar amounts are determined by multiplying the rate by the expected payroll for the applicable fiscal year, based on payroll as of the valuation date.

							Amounts for Fiscal 2013/2014		
Reason for Base	Date Established	Amortization Period	Balance 6/30/11	Expected Payment 2011/2012	Balance 6/30/12	Expected Payment 2012/2013	Balance 6/30/13	Scheduled Payment for 2013–2014	Payment as Percent-age of Payroll
FS 30-YEAR AMORTIZATION	06/30/08	27	$(4,864,503)	$(297,106)	$(4,921,295)	$(306,762)	$(4,972,335)	$(315,138)	(0.106%)
(GAIN)/LOSS	06/30/08	30	$73,873,486	$4,436,175	$74,814,473	$4,503,452	$75,756,280	$4,549,205	1.524%
ASSUMPTION CHANGE	06/30/09	18	$20,577,374	$1,554,233	$20,509,214	$1,604,745	$20,383,570	$1,647,905	0.552%
SPECIAL (GAIN)/LOSS	06/30/09	28	$68,414,262	$4,108,343	$69,285,711	$4,241,864	$70,084,081	$4,357,842	1.460%
GOLDEN HANDSHAKE	06/30/10	19	$12,012,572	$0	$12,913,515	$977,641	$12,868,389	$1,004,081	0.336%
SPECIAL (GAIN)/LOSS	06/30/10	29	$50,911,736	$0	$54,730,116	$3,294,240	$55,419,334	$3,384,684	1.134%
ASSUMPTION CHANGE	06/30/11	20	$36,567,008	$(1,474,351)	$40,838,173	$(1,518,582)	$45,475,535	$1,144,550	0.383%
SPECIAL (GAIN)/LOSS	06/30/11	30	$52,176,081	$0	$56,089,287	$0	$60,295,984	$3,620,806	1.213%
PAYMENT (GAIN)/LOSS	06/30/11	30	$(23,603,519)	$2,313,919	$(27,772,905)	$1,563,271	$(31,476,706)	$(1,890,193)	(0.633%)
TOTAL			**$286,064,497**	**$10,641,213**	**$296,486,289**	**$14,359,869**	**$303,834,132**	**$17,503,742**	**5.864%**

The special (gain)/loss bases were established using the temporary modification recognized in the 2009, 2010 and 2011 annual valuations. Unlike the gain/loss occurring in previous and subsequent years, the gain/loss recognized in the 2009, 2010, and 2011 annual valuations will be amortized over fixed and declining 30 year periods so that these annual gain/losses will be fully paid off in 30 years.

The discount rate assumption is 7.5% after June 30, 2011 in the amortization schedule above.

Note: The assumption change at June 30, 2011 was phased-in over a two-year period. Without the phase-in, the total payment on the amortization bases would increase from 5.864% to 6.630%. Your plan can elect not to phase-in the cost of the assumption change by notifying your plan actuary prior to May 1, 2013. The required employer contribution rate with no phase-in is 24.134%.

Reconciliation of Required Employer Contributions

	Percentage of Projected Payroll	Estimated $ Based on Projected Payroll
1. Contribution for 7/1/12 – 6/30/13	22.459%	$ 65,551,164
2. Effect of changes since the prior year annual valuation		
a) Effect of unexpected changes in demographics and financial results	0.002%	5,238
b) Effect of plan changes	0.000%	0
c) Effect of changes in Assumptions	0.907%	2,707,393
d) Effect of change in payroll	-	1,489,353
e) Effect of elimination of amortization base	0.000%	0
f) Effect of changes due to Fresh Start	0.000%	0
g) Net effect of the changes above [Sum of (a) through (f)]	0.909%	4,201,984
3. Contribution for 7/1/13 – 6/30/14 [(1)+(2g)]	23.368%	69,753,148

The contribution actually paid (item 1) may be different if a prepayment of unfunded actuarial liability is made or a plan change became effective after the prior year's actuarial valuation was performed.

Employer Contribution Rate History

The table below provides a recent history of the employer contribution rates for your plan, as determined by the annual actuarial valuation. It does not account for prepayments or benefit changes made in the middle of the year.

Required By Valuation

Fiscal Year	Employer Normal Cost	Unfunded Rate	Total Employer Contribution Rate
2009 - 2010	16.646%	1.959%	18.605%
2010 - 2011	18.220%	1.115%	19.335%
2011 - 2012	18.395%	2.891%	21.286%
2012 - 2013	18.063%	4.396%	22.459%
2013 - 2014	17.504%	5.864%	23.368%

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	Accrued Liability	Actuarial Value of Assets (AVA)	Market Value of Assets (MVA)	Funded Ratio AVA	Funded Ratio MVA	Annual Covered Payroll
06/30/07	$ 1,369,534,165	$ 1,291,420,546	$ 1,487,327,817	94.3%	108.6%	$ 214,634,238
06/30/08	1,469,415,642	1,414,119,841	1,432,026,173	96.2%	97.5%	240,746,309
06/30/09	1,642,554,731	1,511,047,925	1,100,356,865	92.0%	67.0%	265,237,512
06/30/10	1,809,467,588	1,624,729,774	1,279,783,747	89.8%	70.7%	265,165,399
06/30/11	2,032,001,280	1,745,936,783	1,565,799,198	85.9%	77.1%	273,169,605

Hypothetical Termination Liability

In August 2011, the CalPERS Board adopted an investment policy and asset allocation strategy that more closely reflects expected benefit payments of the Terminated Agency Pool. With this change, CalPERS increased benefit security for members while limiting its funding risk.

The table below shows the hypothetical termination liability, the market value of assets, the unfunded termination liability and the termination funded ratio. The assumptions used, including the discount rate, are stated in Appendix A and take into account the yields available in the US Treasury market on the valuation date and the mortality load for contingencies. The discount rate is duration weighted and is not necessarily the rate that would be used for this plan if it were to terminate. The discount rate for this plan's termination liability would depend on the duration of the liabilities of this plan. For purposes of this estimate, the discount rate used, 4.82%, is the June 30, 2011 30-year US Treasury Stripped Coupon Rate. Please note, as of June 30, 2012 the 30-year US Treasury Stripped Coupon Rate was 2.87%.

Valuation Date	Hypothetical Termination Liability	Market Value of Assets (MVA)	Unfunded Termination Liability	Termination Funded Ratio	Discount Rate
06/30/11	$ 2,989,134,471	$ 1,565,799,198	$ 1,423,335,273	52.4%	4.82%

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SUMMARY OF ASSETS

- RECONCILIATION OF THE MARKET VALUE OF ASSETS
- DEVELOPMENT OF THE ACTUARIAL VALUE OF ASSETS
- ASSET ALLOCATION
- CALPERS HISTORY OF INVESTMENT RETURNS

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Reconciliation of the Market Value of Assets

1.	Market Value of Assets as of 6/30/10 Including Receivables	$	1,279,783,747
2.	Receivables for Service Buybacks as of 6/30/10		3,867,953
3.	Market Value of Assets as of 6/30/10		1,275,915,794
4.	Employer Contributions		52,745,318
5.	Employee Contributions		27,227,849
6.	Benefit Payments to Retirees and Beneficiaries		(69,719,530)
7.	Refunds		(1,689,707)
8.	Lump Sum Payments		(510,884)
9.	Transfers and Miscellaneous Adjustments		61,842
10.	Investment Return		277,866,848
11.	Market Value of Assets as of 6/30/11	$	1,561,897,530
12.	Receivables for Service Buybacks as of 6/30/11		3,901,668
13.	Market Value of Assets as of 6/30/11 Including Receivables	$	1,565,799,198

Development of the Actuarial Value of Assets

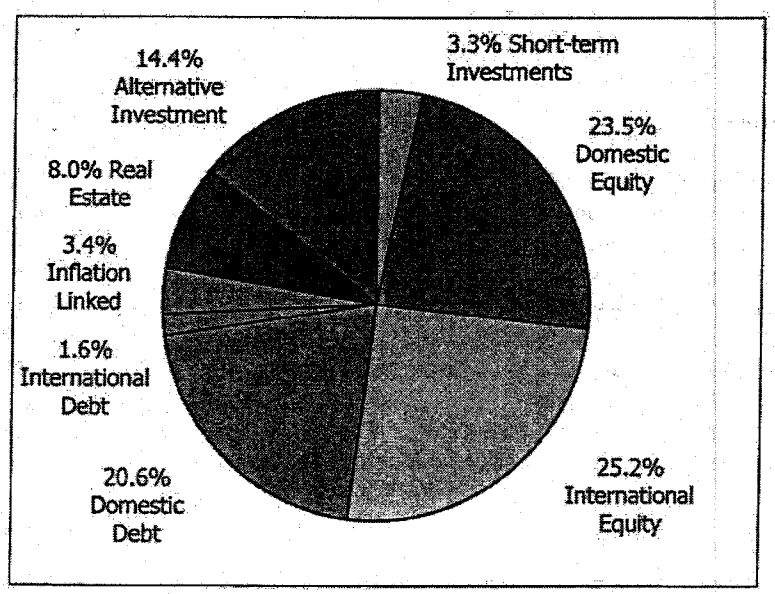
1.	Actuarial Value of Assets as of 6/30/10 Used For Rate Setting Purposes	$	1,624,729,774
2.	Receivables for Service Buybacks as of 6/30/10		3,867,953
3.	Actuarial Value of Assets as of 6/30/10		1,620,861,821
4.	Employer Contributions		52,745,318
5.	Employee Contributions		27,227,849
6.	Benefit Payments to Retirees and Beneficiaries		(69,719,530)
7.	Refunds		(1,689,707)
8.	Lump Sum Payments		(510,884)
9.	Transfers and Miscellaneous Adjustments		61,842
10.	Expected Investment Income at 7.75%		125,925,376
11.	Expected Actuarial Value of Assets	$	1,754,902,085
12.	Market Value of Assets as of 6/30/11	$	1,561,897,530
13.	Preliminary Actuarial Value of Assets [(11) + ((12) – (11)) / 15]		1,742,035,115
14.	Maximum Actuarial Value of Assets (120% of (12))		1,874,277,036
15.	Minimum Actuarial Value of Assets (80% of (12))		1,249,518,024
16.	Actuarial Value of Assets {Lesser of [(14), Greater of ((13), (15))]}		1,742,035,115
17.	Actuarial Value to Market Value Ratio		111.5%
18.	Receivables for Service Buybacks as of 6/30/11		3,901,668
19.	Actuarial Value of Assets as of 6/30/11 Used for Rate Setting Purposes	$	1,745,936,783

Asset Allocation

CalPERS follows a strategic asset allocation policy that identifies the percentage of funds to be invested in each asset class. The current target allocation was adopted by the Board in December 2010.

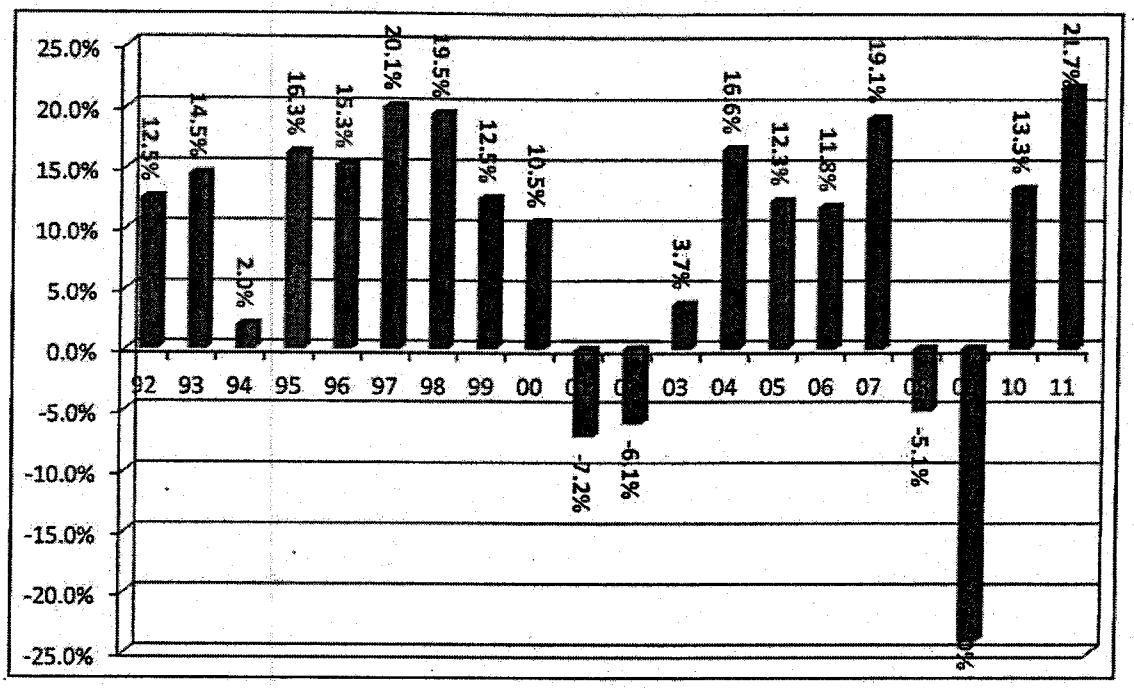
The asset allocation and market value of assets shown below reflect the values of the Public Employees Retirement Fund (PERF) in its entirety as of June 30, 2011. The assets for COUNTY OF RIVERSIDE SAFETY PLAN are part of the Public Employees Retirement Fund (PERF) and are invested accordingly.

(A) Asset Class	(B) Market Value ($ Billion)	(C) Current Allocation
1) Short-Term Investments	7.9	3.3%
2) Domestic Equity	56.3	23.5%
3) International Equity	60.4	25.2%
4) Domestic Debt	49.2	20.6%
5) International Debt	3.9	1.6%
6) Inflation Linked	8.1	3.4%
7) Real Estate	19.1	8.0%
8) Alternative Investment	34.4	14.4%
Total Fund	**$239.3**	**100.0%**



CalPERS History of Investment Returns

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



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SUMMARY OF PARTICIPANT DATA

- SUMMARY OF VALUATION DATA
- ACTIVE MEMBERS
- TRANSFERRED AND TERMINATED MEMBERS
- RETIRED MEMBERS AND BENEFICIARIES

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Summary of Valuation Data

	June 30, 2010	June 30, 2011
1. Active Members		
a) Counts	3,490	3,455
b) Average Attained Age	38.01	38.60
c) Average Entry Age to Rate Plan	29.48	29.11
d) Average Years of Service	8.53	9.49
e) Average Annual Covered Pay	$ 75,979	$ 79,065
f) Annual Covered Payroll	265,165,399	273,169,605
g) Projected Annual Payroll for Contribution Year	291,868,371	298,499,803
h) Present Value of Future Payroll	2,566,450,562	2,560,572,132
2. Transferred Members		
a) Counts	564	536
b) Average Attained Age	42.41	42.54
c) Average Years of Service	3.40	3.51
d) Average Annual Covered Pay	$ 79,874	$ 79,668
3. Terminated Members		
a) Counts	544	513
b) Average Attained Age	39.39	39.82
c) Average Years of Service	2.91	2.70
d) Average Annual Covered Pay	$ 45,599	$ 45,150
4. Retired Members and Beneficiaries		
a) Counts	1,982	2,112
b) Average Attained Age	61.08	61.28
c) Average Annual Benefits	$ 33,658	$ 34,177
5. Active to Retired Ratio [(1a) / (4a)]	1.76	1.64

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.

Active Members

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 Members by Age and Service

Attained Age	Years of Service at Valuation Date						
	0-4	5-9	10-14	15-19	20-25	25+	Total
15-24	155	10	0	0	0	0	165
25-29	385	112	3	0	0	0	500
30-34	300	286	78	1	0	0	665
35-39	182	236	209	39	0	0	666
40-44	110	116	162	111	84	2	585
45-49	47	88	72	79	152	44	482
50-54	28	58	35	39	61	36	257
55-59	17	16	15	18	25	11	102
60-64	0	11	2	6	6	4	29
65 and over	1	1	0	2	0	0	4
All Ages	1225	934	576	295	328	97	3,455

Distribution of Average Annual Salaries by Age and Service

Attained Age	Years of Service at Valuation Date						
	0-4	5-9	10-14	15-19	20-25	25+	Average
15-24	$57,337	$64,477	$0	$0	$0	$0	$57,770
25-29	63,048	69,498	81,138	0	0	0	64,601
30-34	66,135	72,804	81,980	88,545	0	0	70,895
35-39	67,025	76,536	84,165	95,122	0	0	77,419
40-44	72,253	83,666	86,289	97,846	107,034	119,197	88,414
45-49	67,927	78,509	85,150	98,023	103,429	113,263	92,699
50-54	82,405	80,832	81,342	89,177	102,446	115,614	92,341
55-59	94,733	74,856	79,199	90,474	94,314	139,947	93,352
60-64	0	66,117	63,615	93,813	89,575	149,263	87,997
65 and over	197,858	67,556	0	78,200	0	0	105,453
All Ages	$65,678	$75,597	$84,202	$95,691	$103,221	$118,768	$79,065

Transferred and Terminated Members

Distribution of Transfers to Other CalPERS Plans by Age and Service

Attained Age	Years of Service at Valuation Date							Average Salary
	0-4	5-9	10-14	15-19	20-25	25+	Total	
15-24	5	0	0	0	0	0	5	$52,776
25-29	32	0	0	0	0	0	32	70,021
30-34	67	12	0	0	0	0	79	71,918
35-39	84	15	2	0	0	0	101	79,751
40-44	87	22	5	2	1	0	117	82,657
45-49	62	19	9	3	3	0	96	87,385
50-54	40	8	6	2	0	1	57	78,957
55-59	24	6	1	1	0	0	32	79,223
60-64	10	4	0	0	0	0	14	67,884
65 and over	1	1	1	0	0	0	3	138,473
All Ages	412	87	24	8	4	1	536	79,668

Distribution of Terminated Participants with Funds on Deposit by Age and Service

Attained Age	Years of Service at Valuation Date							Average Salary
	0-4	5-9	10-14	15-19	20-25	25+	Total	
15-24	19	0	0	0	0	0	19	$38,128
25-29	71	1	0	0	0	0	72	42,618
30-34	91	10	1	0	0	0	102	45,099
35-39	67	12	2	0	0	0	81	46,127
40-44	44	14	7	1	0	0	66	44,371
45-49	60	19	13	4	1	0	97	51,775
50-54	31	8	1	0	0	0	40	39,956
55-59	19	3	1	0	0	0	23	44,446
60-64	8	1	0	0	0	0	9	35,141
65 and over	3	0	0	0	1	0	4	36,245
All Ages	413	68	25	5	2	0	513	45,150

Retired Members and Beneficiaries

Distribution of Retirees and Beneficiaries by Age and Retirement Type*

Attained Age	Service Retirement	Non-Industrial Disability	Industrial Disability	Non-Industrial Death	Industrial Death	Death After Retirement	Total
Under 30	0	0	1	0	2	4	7
30-34	0	1	3	0	1	0	5
35-39	0	0	8	0	1	2	11
40-44	0	6	27	0	3	1	37
45-49	0	4	52	0	5	5	66
50-54	278	5	72	1	6	5	367
55-59	392	8	102	4	4	13	523
60-64	351	4	107	2	1	7	472
65-69	197	1	72	1	1	20	292
70-74	93	0	43	1	1	15	153
75-79	47	1	19	0	1	24	92
80-84	34	0	10	0	0	12	56
85 and Over	9	0	1	0	0	17	27
All Ages	1401	30	517	9	26	125	2,108

Distribution of Average Annual Amounts for Retirees and Beneficiaries by Age and Retirement Type*

Attained Age	Service Retirement	Non-Industrial Disability	Industrial Disability	Non-Industrial Death	Industrial Death	Death After Retirement	Average
Under 30	$0	$0	$269	$0	$4,765	$16,027	$10,558
30-34	0	11,733	9,954	0	47,647	0	17,848
35-39	0	0	24,443	0	41,490	9,675	23,307
40-44	0	12,015	23,750	0	19,384	35,481	21,810
45-49	0	19,966	23,326	0	47,919	16,793	24,491
50-54	42,235	16,304	25,949	17,114	43,822	17,243	38,303
55-59	41,700	11,140	21,775	37,270	42,471	20,397	36,789
60-64	40,275	9,930	22,607	8,878	18,541	32,057	35,712
65-69	37,497	20,798	32,164	18,056	20,684	23,509	35,043
70-74	32,759	0	25,716	41,966	24,301	22,641	29,792
75-79	27,586	15,140	25,617	0	31,701	19,148	24,888
80-84	27,831	0	28,856	0	0	23,054	26,990
85 and Over	32,476	0	25,207	0	0	11,310	18,880
All Ages	$39,395	$13,666	$24,778	$27,108	$35,556	$20,136	$34,202

Retired Members and Beneficiaries (continued)

Distribution of Retirees and Beneficiaries by Years Retired and Retirement Type*

Years Retired	Service Retirement	Non-Industrial Disability	Industrial Disability	Non-Industrial Death	Industrial Death	Death After Retirement	Total
Under 5 Yrs	676	12	80	3	5	45	821
5-9	449	8	77	4	6	29	573
10-14	153	6	104	1	5	24	293
15-19	74	3	88	0	3	9	177
20-24	34	0	58	1	2	2	97
25-29	6	0	65	0	1	5	77
30 and Over	9	1	45	0	4	11	70
All Years	1401	30	517	9	26	125	2,108

Distribution of Average Annual Amounts for Retirees and Beneficiaries by Years Retired and Retirement Type*

Years Retired	Service Retirement	Non-Industrial Disability	Industrial Disability	Non-Industrial Death	Industrial Death	Death After Retirement	Average
Under 5 Yrs	$43,393	$14,088	$29,824	$44,198	$22,580	$23,603	$40,434
5-9	37,848	15,020	27,460	20,774	29,705	21,229	35,088
10-14	31,020	11,538	25,620	10,223	45,107	21,520	28,096
15-19	34,981	12,136	25,199	0	43,894	12,886	28,758
20-24	32,642	0	21,785	18,056	52,206	8,009	25,895
25-29	28,500	0	19,015	0	31,701	23,435	20,206
30 and Over	27,756	15,140	20,633	0	35,001	6,684	20,099
All Years	$39,395	$13,666	$24,778	$27,108	$35,556	$20,136	$34,202

* Counts of members do not include alternate payees receiving benefits while the member is still working. Therefore, the total counts may not match information on page 25 of the report. Multiple records may exist for those who have service in more than one coverage group. This does not result in double counting of liabilities.

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APPENDICES

- APPENDIX A - ACTUARIAL METHODS AND ASSUMPTIONS
- APPENDIX B - PLAN PROVISIONS
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APPENDIX A

ACTUARIAL METHODS AND ASSUMPTIONS

- ACTUARIAL DATA
- ACTUARIAL METHODS
- ACTUARIAL ASSUMPTIONS
- MISCELLANEOUS

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

Actuarial Methods

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. All gains or losses are tracked and amortized over a rolling 30-year period with the exception of special gains and losses in fiscal years 2008-2009, 2009-2010 and 2010-2011. Each of these years' gains or losses will be isolated and amortized over fixed and declining 30 year periods (as opposed to the current rolling 30 year amortization). 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.

Additional contributions will be required for any plan or pool if their cash flows hamper adequate funding progress by preventing the expected funded status on a market value of assets basis of the plan to either:

- Increase by at least 15% by June 30, 2043; or
- Reach a level of 75% funded by June 30, 2043

The necessary additional contribution will be obtained by changing the amortization period of the gains and losses prior to 2009 to a period which will result in the satisfaction of the above criteria. CalPERS actuaries will reassess the criteria above when performing each future valuation to determine whether or not additional contributions are necessary.

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:

1) when a positive payment would be required on a negative unfunded actuarial liability (or conversely a negative payment on a positive unfunded actuarial liability); or

2) when there are excess assets, rather than an unfunded liability. In this situation a 30-year fresh start is used, 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 and 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.

In June 2009, the CalPERS Board adopted changes to the asset smoothing method in order to phase in over a three year period the impact of the -24% investment loss experienced by CalPERS in fiscal year 2008-2009. The following changes were adopted:

- Increase the corridor limits for the actuarial value of assets from 80%-120% of market value to 60%-140% of market value on June 30, 2009
- Reduce the corridor limits for the actuarial value of assets to 70%-130% of market value on June 30, 2010
- Return to the 80%-120% of market value corridor limits for the actuarial value of assets on June 30, 2011 and thereafter

Actuarial Assumptions

Economic Assumptions

Discount Rate

7.5% compounded annually (net of expenses). This assumption is used for all plans.

Termination Liability Discount Rate

The discount rate is set by taking into account the yields available in the US Treasury market on the valuation date according to treasury rates along the yield curve that match the cash flows of the plans' expected benefit payout stream in future years. For purposes of this report, the termination liability discount rate used, 4.82%, is the 30-year US Treasury Stripped Coupon Rate as of the valuation date. Please note, as of June 30, 2012 the 30-year US Treasury Stripped Coupon Rate was 2.87%.

Salary Growth

Annual increases vary by category, entry age, and duration of service. Sample assumed increases are shown below.

Public Agency Miscellaneous

Duration of Service	(Entry Age 20)	(Entry Age 30)	(Entry Age 40)
0	0.1420	0.1240	0.0980
1	0.1190	0.1050	0.0850
2	0.1010	0.0910	0.0750
3	0.0880	0.0800	0.0670
4	0.0780	0.0710	0.0610
5	0.0700	0.0650	0.0560
10	0.0480	0.0460	0.0410
15	0.0430	0.0410	0.0360
20	0.0390	0.0370	0.0330
25	0.0360	0.0360	0.0330
30	0.0360	0.0360	0.0330

Public Agency Fire

Duration of Service	(Entry Age 20)	(Entry Age 30)	(Entry Age 40)
0	0.1050	0.1050	0.1020
1	0.0950	0.0940	0.0850
2	0.0870	0.0830	0.0700
3	0.0800	0.0750	0.0600
4	0.0740	0.0680	0.0510
5	0.0690	0.0620	0.0450
10	0.0510	0.0460	0.0350
15	0.0410	0.0390	0.0340
20	0.0370	0.0360	0.0330
25	0.0350	0.0350	0.0330
30	0.0350	0.0350	0.0330

Salary Growth (continued)

Public Agency Police

Duration of Service	(Entry Age 20)	(Entry Age 30)	(Entry Age 40)
0	0.1090	0.1090	0.1090
1	0.0930	0.0930	0.0930
2	0.0810	0.0810	0.0780
3	0.0720	0.0700	0.0640
4	0.0650	0.0610	0.0550
5	0.0590	0.0550	0.0480
10	0.0450	0.0420	0.0340
15	0.0410	0.0390	0.0330
20	0.0370	0.0360	0.0330
25	0.0350	0.0340	0.0330
30	0.0350	0.0340	0.0330

Public Agency County Peace Officers

Duration of Service	(Entry Age 20)	(Entry Age 30)	(Entry Age 40)
0	0.1290	0.1290	0.1290
1	0.1090	0.1060	0.1030
2	0.0940	0.0890	0.0840
3	0.0820	0.0770	0.0710
4	0.0730	0.0670	0.0610
5	0.0660	0.0600	0.0530
10	0.0460	0.0420	0.0380
15	0.0410	0.0380	0.0360
20	0.0370	0.0360	0.0340
25	0.0350	0.0340	0.0330
30	0.0350	0.0340	0.0330

Schools

Duration of Service	(Entry Age 20)	(Entry Age 30)	(Entry Age 40)
0	0.1080	0.0960	0.0820
1	0.0940	0.0850	0.0740
2	0.0840	0.0770	0.0670
3	0.0750	0.0700	0.0620
4	0.0690	0.0640	0.0570
5	0.0630	0.0600	0.0530
10	0.0450	0.0440	0.0410
15	0.0390	0.0380	0.0350
20	0.0360	0.0350	0.0320
25	0.0340	0.0340	0.0320
30	0.0340	0.0340	0.0320

- The Miscellaneous salary scale is used for Local Prosecutors.
- The Police salary scale is used for Other Safety, Local Sheriff, and School Police.

Overall Payroll Growth

3.00% compounded annually (used in projecting the payroll over which the unfunded liability is amortized). This assumption is used for all plans.

Inflation

2.75% compounded annually. This assumption is used for all plans.

Non-valued Potential Additional Liabilities

The potential liability loss for a cost-of-living increase exceeding the 2.75% inflation assumption, and any potential liability loss from future member service purchases are not reflected in the valuation.

Miscellaneous Loading Factors

Credit for Unused Sick Leave

Benefit are increased by 1% for those plans with the provision providing Credit for Unused Sick Leave.

Conversion of Employer Paid Member Contributions (EPMC)

Final Average Salary is increased by the Employee Contribution Rate for those plans with the provision providing for the Conversion of Employer Paid Member Contributions (EPMC) during the final compensation period.

Norris Decision (Best Factors)

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

Termination Liability

The termination liabilities include a 7% contingency load. This load is for unforeseen improvements in mortality.

Demographic Assumptions

Pre-Retirement Mortality

Non-Industrial Death Rates vary by age and gender. Industrial Death rates vary by age. See sample rates in table below. The non-industrial death rates are used for all plans. The industrial death rates are used for Safety Plans (except for Local Prosecutor safety members where the corresponding Miscellaneous Plan does not have the Industrial Death Benefit).

	Non-Industrial Death (Not Job-Related)		Industrial Death (Job-Related)
Age	Male	Female	Male and Female
20	0.00047	0.00016	0.00003
25	0.00050	0.00026	0.00007
30	0.00053	0.00036	0.00010
35	0.00067	0.00046	0.00012
40	0.00087	0.00065	0.00013
45	0.00120	0.00093	0.00014
50	0.00176	0.00126	0.00015
55	0.00260	0.00176	0.00016
60	0.00395	0.00266	0.00017
65	0.00608	0.00419	0.00018
70	0.00914	0.00649	0.00019
75	0.01220	0.00878	0.00020
80	0.01527	0.01108	0.00021

Miscellaneous Plans usually have Industrial Death rates set to zero unless the agency has specifically contracted for Industrial Death benefits. If so, each Non-Industrial Death rate shown above will be split into two components: 99% will become the Non-Industrial Death rate and 1% will become the Industrial Death rate.

Post-Retirement Mortality

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

	Healthy Recipients		Non-Industrially Disabled (Not Job-Related)		Industrially Disabled (Job-Related)	
Age	Male	Female	Male	Female	Male	Female
50	0.00239	0.00125	0.01632	0.01245	0.00443	0.00356
55	0.00474	0.00243	0.01936	0.01580	0.00563	0.00546
60	0.00720	0.00431	0.02293	0.01628	0.00777	0.00798
65	0.01069	0.00775	0.03174	0.01969	0.01388	0.01184
70	0.01675	0.01244	0.03870	0.03019	0.02236	0.01716
75	0.03080	0.02071	0.06001	0.03915	0.03585	0.02665
80	0.05270	0.03749	0.08388	0.05555	0.06926	0.04528
85	0.09775	0.07005	0.14035	0.09577	0.11799	0.08017
90	0.16747	0.12404	0.21554	0.14949	0.16575	0.13775
95	0.25659	0.21556	0.31025	0.23055	0.26108	0.23331
100	0.34551	0.31876	0.45905	0.37662	0.40918	0.35165
105	0.58527	0.56093	0.67923	0.61523	0.64127	0.60135
110	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000

The mortality assumptions are based on mortality rates resulting from the most recent CalPERS Experience Study adopted by the CalPERS Board, first used in the June 30, 2009 valuation. For purposes of the post-retirement mortality rates, those revised rates include 5 years of projected on-going mortality improvement using Scale AA published by the Society of Actuaries until June 30, 2010. There is no margin for future mortality improvement beyond the valuation date. The mortality assumption will be reviewed with the next experience study expected to be completed for the June 30, 2013 valuation to determine an appropriate margin to be used.

Marital Status

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

Member Category	Percent Married
Miscellaneous Member	85%
Local Police	90%
Local Fire	90%
Other Local Safety	90%
School Police	90%

Age of Spouse

It is assumed that female spouses are 3 years younger than male spouses. This assumption is used for all plans.

Terminated Members

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

Age	Load Factor
50	450%
51	250%
52 through 56	200%
57 through 60	150%
61 through 64	125%
65 and above	100% (no change)

Termination with Refund

Rates vary by entry age and service for Miscellaneous Plans. Rates vary by service for Safety Plans. See sample rates in tables below.

Public Agency Miscellaneous

Duration of Service	Entry Age 20	Entry Age 25	Entry Age 30	Entry Age 35	Entry Age 40	Entry Age 45
0	0.1742	0.1674	0.1606	0.1537	0.1468	0.1400
1	0.1545	0.1477	0.1409	0.1339	0.1271	0.1203
2	0.1348	0.1280	0.1212	0.1142	0.1074	0.1006
3	0.1151	0.1083	0.1015	0.0945	0.0877	0.0809
4	0.0954	0.0886	0.0818	0.0748	0.0680	0.0612
5	0.0212	0.0193	0.0174	0.0155	0.0136	0.0116
10	0.0138	0.0121	0.0104	0.0088	0.0071	0.0055
15	0.0060	0.0051	0.0042	0.0032	0.0023	0.0014
20	0.0037	0.0029	0.0021	0.0013	0.0005	0.0001
25	0.0017	0.0011	0.0005	0.0001	0.0001	0.0001
30	0.0005	0.0001	0.0001	0.0001	0.0001	0.0001
35	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001

Public Agency Safety

Duration of Service	Fire	Police	County Peace Officer
0	0.0710	0.1013	0.0997
1	0.0554	0.0636	0.0782
2	0.0398	0.0271	0.0566
3	0.0242	0.0258	0.0437
4	0.0218	0.0245	0.0414
5	0.0029	0.0086	0.0145
10	0.0009	0.0053	0.0089
15	0.0006	0.0027	0.0045
20	0.0005	0.0017	0.0020
25	0.0003	0.0012	0.0009
30	0.0003	0.0009	0.0006
35	0.0003	0.0009	0.0006

The Police Termination and Refund rates are used for Public Agency Local Prosecutors, Other Safety, Local Sheriff, and School Police.

Schools

Duration of Service	Entry Age 20	Entry Age 25	Entry Age 30	Entry Age 35	Entry Age 40	Entry Age 45
0	0.1730	0.1627	0.1525	0.1422	0.1319	0.1217
1	0.1585	0.1482	0.1379	0.1277	0.1174	0.1071
2	0.1440	0.1336	0.1234	0.1131	0.1028	0.0926
3	0.1295	0.1192	0.1089	0.0987	0.0884	0.0781
4	0.1149	0.1046	0.0944	0.0841	0.0738	0.0636
5	0.0278	0.0249	0.0221	0.0192	0.0164	0.0135
10	0.0172	0.0147	0.0122	0.0098	0.0074	0.0049
15	0.0115	0.0094	0.0074	0.0053	0.0032	0.0011
20	0.0073	0.0055	0.0038	0.0020	0.0002	0.0002
25	0.0037	0.0023	0.0010	0.0002	0.0002	0.0002
30	0.0015	0.0003	0.0002	0.0002	0.0002	0.0002
35	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002

Termination with Vested Benefits

Rates vary by entry age and service for Miscellaneous Plans. Rates vary by service for Safety Plans. See sample rates in tables below.

Public Agency Miscellaneous

Duration of Service	Entry Age 20	Entry Age 25	Entry Age 30	Entry Age 35	Entry Age 40
5	0.0656	0.0597	0.0537	0.0477	0.0418
10	0.0530	0.0466	0.0403	0.0339	0.0000
15	0.0443	0.0373	0.0305	0.0000	0.0000
20	0.0333	0.0261	0.0000	0.0000	0.0000
25	0.0212	0.0000	0.0000	0.0000	0.0000
30	0.0000	0.0000	0.0000	0.0000	0.0000
35	0.0000	0.0000	0.0000	0.0000	0.0000

Public Agency Safety

Duration of Service	Fire	Police	County Peace Officer
5	0.0162	0.0163	0.0265
10	0.0061	0.0126	0.0204
15	0.0058	0.0082	0.0130
20	0.0053	0.0065	0.0074
25	0.0047	0.0058	0.0043
30	0.0045	0.0056	0.0030
35	0.0000	0.0000	0.0000

- When a member is eligible to retire, the termination with vested benefits probability is set to zero.
- After termination with vested benefits, a miscellaneous member is assumed to retire at age 59 and a safety member at age 54.
- The Police Termination with vested benefits rates are used for Public Agency Local Prosecutors, Other Safety, Local Sheriff, and School Police.

Schools

Duration of Service	Entry Age 20	Entry Age 25	Entry Age 30	Entry Age 35	Entry Age 40
5	0.0816	0.0733	0.0649	0.0566	0.0482
10	0.0629	0.0540	0.0450	0.0359	0.0000
15	0.0537	0.0440	0.0344	0.0000	0.0000
20	0.0420	0.0317	0.0000	0.0000	0.0000
25	0.0291	0.0000	0.0000	0.0000	0.0000
30	0.0000	0.0000	0.0000	0.0000	0.0000
35	0.0000	0.0000	0.0000	0.0000	0.0000

Non-Industrial (Not Job-Related) Disability

Rates vary by age and gender for Miscellaneous Plans.
Rates vary by age and category for Safety Plans.

	Miscellaneous		Fire	Police	County Peace Officer	Schools	
Age	Male	Female	Male and Female	Male and Female	Male and Female	Male	Female
20	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
25	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
30	0.0002	0.0002	0.0001	0.0002	0.0001	0.0002	0.0001
35	0.0006	0.0009	0.0001	0.0003	0.0004	0.0006	0.0004
40	0.0015	0.0016	0.0001	0.0004	0.0007	0.0014	0.0009
45	0.0025	0.0024	0.0002	0.0005	0.0013	0.0028	0.0017
50	0.0033	0.0031	0.0005	0.0008	0.0018	0.0044	0.0030
55	0.0037	0.0031	0.0010	0.0013	0.0010	0.0049	0.0034
60	0.0038	0.0025	0.0015	0.0020	0.0006	0.0043	0.0024

- The Miscellaneous Non-Industrial Disability rates are used for Local Prosecutors.
- The Police Non-Industrial Disability rates are used for Other Safety, Local Sheriff, and School Police.

Industrial (Job-Related) Disability

Rates vary by age and category.

Age	Fire	Police	County Peace Officer
20	0.0002	0.0007	0.0003
25	0.0012	0.0032	0.0015
30	0.0025	0.0064	0.0031
35	0.0037	0.0097	0.0046
40	0.0049	0.0129	0.0063
45	0.0061	0.0161	0.0078
50	0.0074	0.0192	0.0101
55	0.0721	0.0668	0.0173
60	0.0721	0.0668	0.0173

- The Police Industrial Disability rates are used for Local Sheriff and Other Safety.
- Fifty Percent of the Police Industrial Disability rates are used for School Police.
- One Percent of the Police Industrial Disability rates are used for Local Prosecutors.
- Normally, rates are zero for Miscellaneous Plans unless the agency has specifically contracted for Industrial Disability benefits. If so, each miscellaneous non-industrial disability rate will be split into two components: 50% will become the Non-Industrial Disability rate and 50% will become the Industrial Disability rate.

Service Retirement

Retirement rate vary by age, service, and formula, except for the safety ½ @ 55 and 2% @ 55 formulas, where retirement rates vary by age only.

Service Retirement

Public Agency Miscellaneous 1.5% @ 65

	Duration of Service					
Age	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.008	0.011	0.013	0.015	0.017	0.019
51	0.007	0.010	0.012	0.013	0.015	0.017
52	0.010	0.014	0.017	0.019	0.021	0.024
53	0.008	0.012	0.015	0.017	0.019	0.022
54	0.012	0.016	0.019	0.022	0.025	0.028
55	0.018	0.025	0.031	0.035	0.038	0.043
56	0.015	0.021	0.025	0.029	0.032	0.036
57	0.020	0.028	0.033	0.038	0.043	0.048
58	0.024	0.033	0.040	0.046	0.052	0.058
59	0.028	0.039	0.048	0.054	0.060	0.067
60	0.049	0.069	0.083	0.094	0.105	0.118
61	0.062	0.087	0.106	0.120	0.133	0.150
62	0.104	0.146	0.177	0.200	0.223	0.251
63	0.099	0.139	0.169	0.191	0.213	0.239
64	0.097	0.136	0.165	0.186	0.209	0.233
65	0.140	0.197	0.240	0.271	0.302	0.339
66	0.092	0.130	0.157	0.177	0.198	0.222
67	0.129	0.181	0.220	0.249	0.277	0.311
68	0.092	0.129	0.156	0.177	0.197	0.221
69	0.092	0.130	0.158	0.178	0.199	0.224
70	0.103	0.144	0.175	0.198	0.221	0.248

Public Agency Miscellaneous 2% @ 60

	Duration of Service					
Age	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.011	0.015	0.018	0.021	0.023	0.026
51	0.009	0.013	0.016	0.018	0.020	0.023
52	0.013	0.018	0.022	0.025	0.028	0.031
53	0.011	0.016	0.019	0.022	0.025	0.028
54	0.015	0.021	0.025	0.028	0.032	0.036
55	0.023	0.032	0.039	0.044	0.049	0.055
56	0.019	0.027	0.032	0.037	0.041	0.046
57	0.025	0.035	0.042	0.048	0.054	0.060
58	0.030	0.042	0.051	0.058	0.065	0.073
59	0.035	0.049	0.060	0.068	0.076	0.085
60	0.062	0.087	0.105	0.119	0.133	0.149
61	0.079	0.110	0.134	0.152	0.169	0.190
62	0.132	0.186	0.225	0.255	0.284	0.319
63	0.126	0.178	0.216	0.244	0.272	0.305
64	0.122	0.171	0.207	0.234	0.262	0.293
65	0.173	0.243	0.296	0.334	0.373	0.418
66	0.114	0.160	0.194	0.219	0.245	0.274
67	0.159	0.223	0.271	0.307	0.342	0.384
68	0.113	0.159	0.193	0.218	0.243	0.273
69	0.114	0.161	0.195	0.220	0.246	0.276
70	0.127	0.178	0.216	0.244	0.273	0.306

Service Retirement

Public Agency Miscellaneous 2% @ 55

	Duration of Service					
Age	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.015	0.020	0.024	0.029	0.033	0.039
51	0.013	0.016	0.020	0.024	0.027	0.033
52	0.014	0.018	0.022	0.027	0.030	0.036
53	0.017	0.022	0.027	0.032	0.037	0.043
54	0.027	0.034	0.041	0.049	0.056	0.067
55	0.050	0.064	0.078	0.094	0.107	0.127
56	0.045	0.057	0.069	0.083	0.095	0.113
57	0.048	0.061	0.074	0.090	0.102	0.122
58	0.052	0.066	0.080	0.097	0.110	0.131
59	0.060	0.076	0.092	0.111	0.127	0.151
60	0.072	0.092	0.112	0.134	0.153	0.182
61	0.089	0.113	0.137	0.165	0.188	0.224
62	0.128	0.162	0.197	0.237	0.270	0.322
63	0.129	0.164	0.199	0.239	0.273	0.325
64	0.116	0.148	0.180	0.216	0.247	0.294
65	0.174	0.221	0.269	0.323	0.369	0.439
66	0.135	0.171	0.208	0.250	0.285	0.340
67	0.133	0.169	0.206	0.247	0.282	0.336
68	0.118	0.150	0.182	0.219	0.250	0.297
69	0.116	0.147	0.179	0.215	0.246	0.293
70	0.138	0.176	0.214	0.257	0.293	0.349

Public Agency Miscellaneous 2.5% @ 55

	Duration of Service					
Age	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.026	0.033	0.040	0.048	0.055	0.062
51	0.021	0.026	0.032	0.038	0.043	0.049
52	0.021	0.026	0.032	0.038	0.043	0.049
53	0.026	0.033	0.040	0.048	0.055	0.062
54	0.043	0.054	0.066	0.078	0.089	0.101
55	0.088	0.112	0.136	0.160	0.184	0.208
56	0.055	0.070	0.085	0.100	0.115	0.130
57	0.061	0.077	0.094	0.110	0.127	0.143
58	0.072	0.091	0.111	0.130	0.150	0.169
59	0.083	0.105	0.128	0.150	0.173	0.195
60	0.088	0.112	0.136	0.160	0.184	0.208
61	0.083	0.105	0.128	0.150	0.173	0.195
62	0.121	0.154	0.187	0.220	0.253	0.286
63	0.105	0.133	0.162	0.190	0.219	0.247
64	0.105	0.133	0.162	0.190	0.219	0.247
65	0.143	0.182	0.221	0.260	0.299	0.338
66	0.105	0.133	0.162	0.190	0.219	0.247
67	0.105	0.133	0.162	0.190	0.219	0.247
68	0.105	0.133	0.162	0.190	0.219	0.247
69	0.105	0.133	0.162	0.190	0.219	0.247
70	0.125	0.160	0.194	0.228	0.262	0.296

Service Retirement

Public Agency Miscellaneous 2.7% @ 55

	Duration of Service					
Age	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.028	0.035	0.043	0.050	0.058	0.065
51	0.022	0.028	0.034	0.040	0.046	0.052
52	0.022	0.028	0.034	0.040	0.046	0.052
53	0.028	0.035	0.043	0.050	0.058	0.065
54	0.044	0.056	0.068	0.080	0.092	0.104
55	0.091	0.116	0.140	0.165	0.190	0.215
56	0.061	0.077	0.094	0.110	0.127	0.143
57	0.063	0.081	0.098	0.115	0.132	0.150
58	0.074	0.095	0.115	0.135	0.155	0.176
59	0.083	0.105	0.128	0.150	0.173	0.195
60	0.088	0.112	0.136	0.160	0.184	0.208
61	0.085	0.109	0.132	0.155	0.178	0.202
62	0.124	0.158	0.191	0.225	0.259	0.293
63	0.107	0.137	0.166	0.195	0.224	0.254
64	0.107	0.137	0.166	0.195	0.224	0.254
65	0.146	0.186	0.225	0.265	0.305	0.345
66	0.107	0.137	0.166	0.195	0.224	0.254
67	0.107	0.137	0.166	0.195	0.224	0.254
68	0.107	0.137	0.166	0.195	0.224	0.254
69	0.107	0.137	0.166	0.195	0.224	0.254
70	0.129	0.164	0.199	0.234	0.269	0.304

Public Agency Miscellaneous 3% @ 60

	Duration of Service					
Age	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.026	0.033	0.040	0.048	0.055	0.062
51	0.021	0.026	0.032	0.038	0.043	0.049
52	0.019	0.025	0.030	0.035	0.040	0.046
53	0.025	0.032	0.038	0.045	0.052	0.059
54	0.039	0.049	0.060	0.070	0.081	0.091
55	0.083	0.105	0.128	0.150	0.173	0.195
56	0.055	0.070	0.085	0.100	0.115	0.130
57	0.061	0.077	0.094	0.110	0.127	0.143
58	0.072	0.091	0.111	0.130	0.150	0.169
59	0.080	0.102	0.123	0.145	0.167	0.189
60	0.094	0.119	0.145	0.170	0.196	0.221
61	0.088	0.112	0.136	0.160	0.184	0.208
62	0.127	0.161	0.196	0.230	0.265	0.299
63	0.110	0.140	0.170	0.200	0.230	0.260
64	0.110	0.140	0.170	0.200	0.230	0.260
65	0.149	0.189	0.230	0.270	0.311	0.351
66	0.110	0.140	0.170	0.200	0.230	0.260
67	0.110	0.140	0.170	0.200	0.230	0.260
68	0.110	0.140	0.170	0.200	0.230	0.260
69	0.110	0.140	0.170	0.200	0.230	0.260
70	0.132	0.168	0.204	0.240	0.276	0.312

Service Retirement

Public Agency Fire ½ @ 55 and 2% @ 55

Age	Rate	Age	Rate
50	0.01588	56	0.11079
51	0.00000	57	0.00000
52	0.03442	58	0.09499
53	0.01990	59	0.04409
54	0.04132	60	1.00000
55	0.07513		

Public Agency Police ½ @ 55 and 2% @ 55

Age	Rate	Age	Rate
50	0.02552	56	0.06921
51	0.00000	57	0.05113
52	0.01637	58	0.07241
53	0.02717	59	0.07043
54	0.00949	60	1.00000
55	0.16674		

Public Agency Police 2%@ 50

	Duration of Service					
Age	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.014	0.014	0.014	0.014	0.025	0.045
51	0.012	0.012	0.012	0.012	0.023	0.040
52	0.026	0.026	0.026	0.026	0.048	0.086
53	0.052	0.052	0.052	0.052	0.096	0.171
54	0.070	0.070	0.070	0.070	0.128	0.227
55	0.090	0.090	0.090	0.090	0.165	0.293
56	0.064	0.064	0.064	0.064	0.117	0.208
57	0.071	0.071	0.071	0.071	0.130	0.232
58	0.063	0.063	0.063	0.063	0.115	0.205
59	0.140	0.140	0.140	0.140	0.174	0.254
60	0.140	0.140	0.140	0.140	0.172	0.251
61	0.140	0.140	0.140	0.140	0.172	0.251
62	0.140	0.140	0.140	0.140	0.172	0.251
63	0.140	0.140	0.140	0.140	0.172	0.251
64	0.140	0.140	0.140	0.140	0.172	0.251
65	1.000	1.000	1.000	1.000	1.000	1.000

- These rates also apply to Local Prosecutors, Local Sheriff, School Police, and Other Safety.

Service Retirement

Public Agency Fire 2%@50

	Duration of Service					
Age	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.007	0.007	0.007	0.007	0.010	0.015
51	0.008	0.008	0.008	0.008	0.013	0.019
52	0.017	0.017	0.017	0.017	0.027	0.040
53	0.047	0.047	0.047	0.047	0.072	0.107
54	0.064	0.064	0.064	0.064	0.098	0.147
55	0.087	0.087	0.087	0.087	0.134	0.200
56	0.078	0.078	0.078	0.078	0.120	0.180
57	0.090	0.090	0.090	0.090	0.139	0.208
58	0.079	0.079	0.079	0.079	0.122	0.182
59	0.073	0.073	0.073	0.073	0.112	0.168
60	0.114	0.114	0.114	0.114	0.175	0.262
61	0.114	0.114	0.114	0.114	0.175	0.262
62	0.114	0.114	0.114	0.114	0.175	0.262
63	0.114	0.114	0.114	0.114	0.175	0.262
64	0.114	0.114	0.114	0.114	0.175	0.262
65	1.000	1.000	1.000	1.000	1.000	1.000

Public Agency Police 3%@ 55

	Duration of Service					
Age	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.019	0.019	0.019	0.019	0.040	0.060
51	0.024	0.024	0.024	0.024	0.049	0.074
52	0.024	0.024	0.024	0.024	0.051	0.077
53	0.059	0.059	0.059	0.059	0.121	0.183
54	0.069	0.069	0.069	0.069	0.142	0.215
55	0.116	0.116	0.116	0.116	0.240	0.363
56	0.076	0.076	0.076	0.076	0.156	0.236
57	0.058	0.058	0.058	0.058	0.120	0.181
58	0.076	0.076	0.076	0.076	0.157	0.237
59	0.094	0.094	0.094	0.094	0.193	0.292
60	0.141	0.141	0.141	0.141	0.290	0.438
61	0.094	0.094	0.094	0.094	0.193	0.292
62	0.118	0.118	0.118	0.118	0.241	0.365
63	0.094	0.094	0.094	0.094	0.193	0.292
64	0.094	0.094	0.094	0.094	0.193	0.292
65	1.000	1.000	1.000	1.000	1.000	1.000

- These rates also apply to Local Prosecutors, Local Sheriff, School Police, and Other Safety.

Service Retirement

Public Agency Fire 3%@55

	Duration of Service					
Age	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.012	0.012	0.012	0.018	0.028	0.033
51	0.008	0.008	0.008	0.012	0.019	0.022
52	0.018	0.018	0.018	0.027	0.042	0.050
53	0.043	0.043	0.043	0.062	0.098	0.114
54	0.057	0.057	0.057	0.083	0.131	0.152
55	0.092	0.092	0.092	0.134	0.211	0.246
56	0.081	0.081	0.081	0.118	0.187	0.218
57	0.100	0.100	0.100	0.146	0.230	0.268
58	0.081	0.081	0.081	0.119	0.187	0.219
59	0.078	0.078	0.078	0.113	0.178	0.208
60	0.117	0.117	0.117	0.170	0.267	0.312
61	0.078	0.078	0.078	0.113	0.178	0.208
62	0.098	0.098	0.098	0.141	0.223	0.260
63	0.078	0.078	0.078	0.113	0.178	0.208
64	0.078	0.078	0.078	0.113	0.178	0.208
65	1.000	1.000	1.000	1.000	1.000	1.000

Public Agency Police 3%@ 50

	Duration of Service					
Age	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.070	0.070	0.070	0.131	0.193	0.249
51	0.050	0.050	0.050	0.095	0.139	0.180
52	0.061	0.061	0.061	0.116	0.171	0.220
53	0.069	0.069	0.069	0.130	0.192	0.247
54	0.071	0.071	0.071	0.134	0.197	0.255
55	0.090	0.090	0.090	0.170	0.250	0.322
56	0.069	0.069	0.069	0.130	0.191	0.247
57	0.080	0.080	0.080	0.152	0.223	0.288
58	0.087	0.087	0.087	0.164	0.242	0.312
59	0.090	0.090	0.090	0.170	0.251	0.323
60	0.135	0.135	0.135	0.255	0.377	0.485
61	0.090	0.090	0.090	0.170	0.251	0.323
62	0.113	0.113	0.113	0.213	0.314	0.404
63	0.090	0.090	0.090	0.170	0.251	0.323
64	0.090	0.090	0.090	0.170	0.251	0.323
65	1.000	1.000	1.000	1.000	1.000	1.000

- These rates also apply to Local Prosecutors, Local Sheriff, School Police, and Other Safety.

Service Retirement

Public Agency Fire 3%@50

	Duration of Service					
Age	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.034	0.034	0.034	0.048	0.068	0.080
51	0.046	0.046	0.046	0.065	0.092	0.109
52	0.069	0.069	0.069	0.097	0.138	0.163
53	0.084	0.084	0.084	0.117	0.166	0.197
54	0.103	0.103	0.103	0.143	0.204	0.241
55	0.127	0.127	0.127	0.177	0.252	0.298
56	0.121	0.121	0.121	0.169	0.241	0.285
57	0.101	0.101	0.101	0.141	0.201	0.238
58	0.118	0.118	0.118	0.165	0.235	0.279
59	0.100	0.100	0.100	0.140	0.199	0.236
60	0.150	0.150	0.150	0.210	0.299	0.354
61	0.100	0.100	0.100	0.140	0.199	0.236
62	0.125	0.125	0.125	0.175	0.249	0.295
63	0.100	0.100	0.100	0.140	0.199	0.236
64	0.100	0.100	0.100	0.140	0.199	0.236
65	1.000	1.000	1.000	1.000	1.000	1.000

Schools 2%@ 55

	Duration of Service					
Age	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
50	0.005	0.009	0.013	0.015	0.016	0.018
51	0.005	0.010	0.014	0.017	0.019	0.021
52	0.006	0.012	0.017	0.020	0.022	0.025
53	0.007	0.014	0.019	0.023	0.026	0.029
54	0.012	0.024	0.033	0.039	0.044	0.049
55	0.024	0.048	0.067	0.079	0.088	0.099
56	0.020	0.039	0.055	0.065	0.072	0.081
57	0.021	0.042	0.059	0.070	0.078	0.087
58	0.025	0.050	0.070	0.083	0.092	0.103
59	0.029	0.057	0.080	0.095	0.105	0.118
60	0.037	0.073	0.102	0.121	0.134	0.150
61	0.046	0.090	0.126	0.149	0.166	0.186
62	0.076	0.151	0.212	0.250	0.278	0.311
63	0.069	0.136	0.191	0.225	0.251	0.281
64	0.067	0.133	0.185	0.219	0.244	0.273
65	0.091	0.180	0.251	0.297	0.331	0.370
66	0.072	0.143	0.200	0.237	0.264	0.295
67	0.067	0.132	0.185	0.218	0.243	0.272
68	0.060	0.118	0.165	0.195	0.217	0.243
69	0.067	0.133	0.187	0.220	0.246	0.275
70	0.066	0.131	0.183	0.216	0.241	0.270

Miscellaneous

Superfunded Status

If a rate plan is superfunded (actuarial value of assets exceeds the present value of benefits), as of the most recently completed annual valuation, the employer may cover their employees' member contributions (both taxed and tax-deferred) using their employer assets during the fiscal year for which this valuation applies. This would entail transferring assets within the Public Employees' Retirement Fund (PERF) from the employer account to the member accumulated contribution accounts. This change was implemented effective January 1, 1999 pursuant to Chapter 231 (Assembly Bill 2099) which added Government Code Section 20816.

Superfunded status applies only to individual plans, not risk pools. For rate plans within a risk pool, actuarial value of assets is the sum of the rate plan's side fund plus the rate plan's pro-rata share of non-side fund assets.

Internal Revenue Code Section 415

The limitations on benefits imposed by Internal Revenue Code Section 415 were taken into account in this valuation. Each year the impact of any changes in this limitation since the prior valuation is included and amortized as part of the actuarial gain or loss base.

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. Each year the impact of any changes in this compensation limitation since the prior valuation is included and amortized as part of the actuarial gain or loss base.

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APPENDIX B

PLAN PROVISIONS

- **SUMMARY OF PLAN'S MAJOR BENEFIT OPTIONS**
- **DESCRIPTIONS OF CALPERS' PRINCIPAL PLAN PROVISIONS**

Summary of Plan's Major Benefit Options

Shown below is a summary of the major optional benefits for which your agency has contracted. A description of principal standard and optional plan provisions is in the following section of this Appendix.

	Coverage Group			
Benefit Provision	74001	77001	77002	
Benefit Formula	3.0% @ 50	3.0% @ 50	3.0% @ 50	
Social Security Coverage	No	No	No	
Full/Modified	Full	Full	Full	
Final Average Compensation Period	36 mos.	12 mos.	12 mos.	
Sick Leave Credit	No	No	No	
Non-Industrial Disability	Standard	Standard	Standard	
Industrial Disability	Yes	Yes	Yes	
Pre-Retirement Death Benefits				
Optional Settlement 2W	Yes	Yes	Yes	
1959 Survivor Benefit Level	Indexed	Indexed	Indexed	
Special	Yes	Yes	Yes	
Alternate (firefighters)	No	No	No	
Post-Retirement Death Benefits				
Lump Sum	$500	$500	$500	
Survivor Allowance (PRSA)	Yes	Yes	Yes	
COLA	2%	2%	2%	
Employee Contributions				
Contractual Employer Paid	No	No	9%	

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Description of CalPERS' Principal Plan Provisions

The following is a description of the principal plan provisions used in calculating costs and liabilities. We have indicated whether a plan provision is standard or optional. Standard benefits are applicable to all members while optional benefits vary among employers. Optional benefits that apply to a single period of time, such as Golden Handshakes, have not been included. Many of the statements in this summary are general in nature, and are intended to provide an easily understood summary of the complex Public Employees' Retirement Law. The law itself governs in all situations.

Service Retirement

Eligibility
A CalPERS member becomes eligible for Service Retirement upon attainment of age 50 with at least 5 years of credited service (total service across all CalPERS employers, and with certain other Retirement Systems with which CalPERS has reciprocity agreements). For employees hired into a plan with the 1.5% at 65 formula, eligibility for service retirement is age 55 with at least 5 years of service.

Benefit
The Service Retirement benefit is a monthly allowance equal to the product of the *benefit factor*, *years of service*, and *final compensation*.

- The *benefit factor* depends on the benefit formula specified in your agency's contract. The table below shows the factors for each of the available formulas. Factors vary by the member's age at retirement. Listed are the factors for retirement at whole year ages:

Miscellaneous Plan Formulas

Retirement Age	1.5% at 65	2% at 60	2% at 55	2.5% at 55	2.7% at 55	3% at 60
50	0.5000%	1.092%	1.426%	2.0%	2.0%	2.0%
51	0.5667%	1.156%	1.522%	2.1%	2.14%	2.1%
52	0.6334%	1.224%	1.628%	2.2%	2.28%	2.2%
53	0.7000%	1.296%	1.742%	2.3%	2.42%	2.3%
54	0.7667%	1.376%	1.866%	2.4%	2.56%	2.4%
55	0.8334%	1.460%	2.0%	2.5%	2.7%	2.5%
56	0.9000%	1.552%	2.052%	2.5%	2.7%	2.6%
57	0.9667%	1.650%	2.104%	2.5%	2.7%	2.7%
58	1.0334%	1.758%	2.156%	2.5%	2.7%	2.8%
59	1.1000%	1.874%	2.210%	2.5%	2.7%	2.9%
60	1.1667%	2.0%	2.262%	2.5%	2.7%	3.0%
61	1.2334%	2.134%	2.314%	2.5%	2.7%	3.0%
62	1.3000%	2.272%	2.366%	2.5%	2.7%	3.0%
63	1.3667%	2.418%	2.418%	2.5%	2.7%	3.0%
64	1.4334%	2.418%	2.418%	2.5%	2.7%	3.0%
65 & Up	1.5000%	2.418%	2.418%	2.5%	2.7%	3.0%

Safety Plan Formulas

Retirement Age	½ at 55 *	2% at 55	2% at 50	3% at 55	3% at 50
50	1.783%	1.426%	2.0%	2.40%	3.0%
51	1.903%	1.522%	2.14%	2.52%	3.0%
52	2.035%	1.628%	2.28%	2.64%	3.0%
53	2.178%	1.742%	2.42%	2.76%	3.0%
54	2.333%	1.866%	2.56%	2.88%	3.0%
55 & Up	2.5%	2.0%	2.7%	3.0%	3.0%

* For this formula, the benefit factor also varies by entry age. The factors shown are for members with an entry age of 35 or greater. If entry age is less than 35, then the age 55 benefit factor is 50% divided by the difference between age 55 and entry age. The benefit factor for ages prior to age 55 is the same proportion of the age 55 benefit factor as in the above table.

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

- The *final compensation* is the monthly average of the member's highest 36 or 12 consecutive months' full-time equivalent monthly pay (no matter which CalPERS employer paid this compensation). The standard benefit is 36 months. Employers have the option of providing a final compensation equal to the highest 12 consecutive months. Final compensation must be defined by the highest 36 consecutive months' pay under the 1.5% at 65 formula.

- Employees must be covered by Social Security with the 1.5% at 65 formula. Social Security is optional for all other benefit formulas. For employees covered by Social Security, the Modified formula is the standard benefit. Under this type of formula, the final compensation is offset by $133.33 (or by one third if the final compensation is less than $400). Employers may contract for the Full benefit with Social Security that will eliminate the offset applicable to the final compensation. For employees not covered by Social Security, the Full benefit is paid with no offsets. Auxiliary organizations of the CSUC system may elect reduced contribution rates, in which case the offset is $317 if members are not covered by Social Security or $513 if members are covered by Social Security.

- The Miscellaneous Service Retirement benefit is not capped. The Safety Service Retirement benefit is capped at 90% of final compensation.

Vested Deferred Retirement

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

Eligibility to Start Receiving Benefits
The CalPERS member becomes eligible to receive the deferred retirement benefit upon satisfying the eligibility requirements for Deferred Status and upon attainment of age 50 (55 for employees hired into a 1.5% @ 65 plan).

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

Non-Industrial (Non-Job Related) Disability Retirement

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

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

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

Improved Benefit
Employers have the option of providing the improved Non-Industrial Disability Retirement benefit. This benefit provides a monthly allowance equal to 30% of final compensation for the first 5 years of service, plus 1% for each additional year of service to a maximum of 50% of final compensation.

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

Industrial (Job Related) Disability Retirement

All safety members have this benefit. For miscellaneous members, employers have the option of providing this benefit. An employer may choose to provide the Increased benefit option or the Improved benefit option.

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

Standard Benefit
The standard Industrial Disability Retirement benefit is a monthly allowance equal to 50% of final compensation.

Increased Benefit (75% of Final Compensation)
The increased Industrial Disability Retirement benefit is a monthly allowance equal to 75% of final compensation for total disability.

Improved Benefit (50% to 90% of Final Compensation)
The improved Industrial Disability Retirement benefit is a monthly allowance equal to the Workman's Compensation Appeals Board permanent disability rate percentage (if 50% or greater, with a maximum of 90%) times the final compensation.

For a CalPERS member not actively employed in this group who became disabled while employed by some other CalPERS employer, the benefit is a return of accumulated member contributions with respect to employment in this group. With the standard or increased benefit, a member may also choose to receive the annuitization of the accumulated member contributions.

If a member is eligible for Service Retirement and if the Service Retirement benefit is more than the Industrial Disability Retirement benefit, the member may choose to receive the larger benefit.

Post-Retirement Death Benefit

Standard Lump Sum Payment
Upon the death of a retiree, a one-time lump sum payment of $500 will be made to the retiree's designated survivor(s), or to the retiree's estate.

Improved Lump Sum Payment
Employers have the option of providing an improved lump sum death benefit of $600, $2,000, $3,000, $4,000 or $5,000.

Form of Payment for Retirement Allowance

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

Improved Form of Payment (Post Retirement Survivor Allowance)
Employers have the option to contract for the post retirement survivor allowance.

For retirement allowances with respect to service subject to the modified formula, 25% of the retirement allowance will automatically be continued to certain statutory beneficiaries upon the death of the retiree, without a reduction in the retiree's allowance. For retirement allowances with respect to service subject to the full or supplemental formula, 50% of the retirement allowance will automatically be continued to certain statutory beneficiaries upon the death of the retiree, without a reduction in the retiree's allowance. This additional benefit is often referred to as post retirement survivor allowance (PRSA) or simply as survivor continuance.

In other words, 25% or 50% of the allowance, the continuance portion, is paid to the retiree for as long as he or she is alive, and that same amount is continued to the retiree's spouse (or if no eligible spouse, to unmarried children until they attain age 18; or, if no eligible children, to a qualifying dependent parent) for the rest of his or her lifetime. This benefit will not be discontinued in the event the spouse remarries.

The remaining 75% or 50% of the retirement allowance, which may be referred to as the option portion of the benefit, is paid to the retiree as an annuity for as long as he or she is alive. Or, the retiree may choose to provide for some of this option portion to be paid to any designated beneficiary after the retiree's death. Benefit options applicable to the option portion are the same as those offered with the standard form. The reduction is calculated in the same manner but is applied only to the option portion.

Pre-Retirement Death Benefits

Basic Death Benefit

This is a standard benefit.

Eligibility
An employee's beneficiary (or estate) may receive the Basic Death benefit if the member dies while actively employed. A CalPERS member must be actively employed with the CalPERS employer providing this benefit to be eligible for this benefit. A member's survivor who is eligible for any other pre-retirement death benefit may choose to receive that death benefit instead of this Basic Death benefit.

Benefit
The Basic Death Benefit is a lump sum in the amount of the member's accumulated contributions, where interest is currently credited at 7.5% per year, plus a lump sum in the amount of one month's salary for each completed year of current service, up to a maximum of six months' salary. For purposes of this benefit, one month's salary is defined as the member's average monthly full-time rate of compensation during the 12 months preceding death.

1957 Survivor Benefit

This is a standard benefit.

Eligibility
An employee's *eligible survivor(s)* may receive the 1957 Survivor benefit if the member dies while actively employed, has attained at least age 50, and has at least 5 years of credited service (total service across all CalPERS employers and with certain other Retirement Systems with which CalPERS has reciprocity agreements). A CalPERS member must be actively employed with the CalPERS employer providing this benefit to be eligible for this benefit. An eligible survivor means the surviving spouse to whom the member was married at least one year before death or, if there is no eligible spouse, to the member's unmarried children under age 18. A member's survivor who is eligible for any other pre-retirement death benefit may choose to receive that death benefit instead of this 1957 Survivor benefit.

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

Optional Settlement 2W Death Benefit

This is an optional benefit.

Eligibility
An employee's *eligible survivor* may receive the Optional Settlement 2W Death benefit if the member dies while actively employed, has attained at least age 50, and has at least 5 years of credited service (total service across all

CalPERS employers and with certain other Retirement Systems with which CalPERS has reciprocity agreements). A CalPERS member who is no longer actively employed with **any** CalPERS employer is not eligible for this benefit. An *eligible survivor* means the surviving spouse to whom the member was married at least one year before death. A member's survivor who is eligible for any other pre-retirement death benefit may choose to receive that death benefit instead of this Optional Settlement 2W Death benefit.

Benefit
The Optional Settlement 2W Death benefit is a monthly allowance equal to the Service Retirement benefit that the member would have received had the member retired on the date of his or her death and elected Optional Settlement 2W. (A retiree who elects Optional Settlement 2W receives an allowance that has been reduced so that it will continue to be paid after his or her death to a surviving beneficiary.) The allowance is payable as long as the surviving spouse lives, at which time it is continued to any unmarried children under age 18, if applicable. The total amount paid will be at least equal to the Basic Death Benefit.

Special Death Benefit

This is a standard benefit for safety members. An employer may elect to provide this benefit for miscellaneous members.

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

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

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

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

Alternate Death Benefit for Local Fire Members

This is an optional benefit available only to local fire members.

Eligibility
An employee's *eligible survivor(s)* may receive the Alternate Death benefit in lieu of the Basic Death Benefit or the 1957 Survivor Benefit if the member dies while actively employed and has at least 20 years of total CalPERS service. A CalPERS member who is no longer actively employed with **any** CalPERS employer is not eligible for this benefit. An *eligible survivor* means the surviving spouse to whom the member was married prior to the onset of the injury or illness that resulted in death. If there is no eligible spouse, an eligible survivor means the member's unmarried children under age 18.

Benefit
The Alternate Death benefit is a monthly allowance equal to the Service Retirement benefit that the member would have received had the member retired on the date of his or her death and elected Optional Settlement 2W. (A retiree who elects Optional Settlement 2W receives an allowance that has been reduced so that it will continue to be paid after his or her death to a surviving beneficiary.) If the member has not yet attained age 50, the benefit is equal to that which would be payable if the member had retired at age 50, based on service credited at the time of death. The allowance is payable as long as the surviving spouse lives, at which time it is continued to any unmarried children under age 18, if applicable. The total amount paid will be at least equal to the Basic Death Benefit.

Cost-of-Living Adjustments (COLA)

Standard Benefit
Beginning the second calendar year after the year of retirement, retirement and survivor allowances will be annually adjusted on a compound basis by 2%.

Improved Benefit
Employers have the option of providing an improved cost-of-living adjustment of 3%, 4% or 5%. An improved COLA is not available in conjunction with the 1.5% at 65 formula.

The cumulative adjustment may not be greater than the cumulative change in the Consumer Price Index since the date of retirement.

Purchasing Power Protection Allowance (PPPA)

Retirement and survivor allowances are protected against inflation by PPPA. PPPA benefits are cost-of-living adjustments that are intended to maintain an individual's allowance at 80% of the initial allowance at retirement adjusted for inflation since retirement. The PPPA benefit will be coordinated with other cost-of-living adjustments provided under the plan.

Employee Contributions

Each employee contributes toward his or her retirement based upon the retirement formula. The standard employee contribution is as described below.

The percent contributed below the monthly compensation breakpoint is 0%.
The monthly compensation breakpoint is $0 for full and supplemental formula members and $133.33 for employees covered by the modified formula.
The percent contributed above the monthly compensation breakpoint depends upon the benefit formula, as shown in the table below.

Benefit Formula	Percent Contributed above the Breakpoint
Miscellaneous, 1.5% at 65	2%
Miscellaneous, 2% at 60	7%
Miscellaneous, 2% at 55	7%
Miscellaneous, 2.5% at 55	8%
Miscellaneous, 2.7% at 55	8%
Miscellaneous, 3% at 60	8%
Safety, 1/2 at 55	Varies by entry age
Safety, 2% at 55	7%
Safety, 2% at 50	9%
Safety, 3% at 55	9%
Safety, 3% at 50	9%

The employer may choose to "pick-up" these contributions for the employees (Employer Paid Member Contributions or EPMC). An employer may also include Employee Cost Sharing in the contract, where employees contribute an additional percentage of compensation based on any optional benefit for which a contract amendment was made on or after January 1, 1979.

Auxiliary organizations of the CSUC system may elect reduced contribution rates, in which case the offset is $317 and the contribution rate is 6% if members are not covered by Social Security. If members are covered by Social Security the offset is $513 and the contribution rate is 5%.

Refund of Employee Contributions

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

1959 Survivor Benefit

This is a pre-retirement death benefit available only to members not covered by Social Security. Any agency joining CalPERS subsequent to 1993 was required to provide this benefit if the members were not covered by Social Security. The benefit is optional for agencies joining CalPERS prior to 1994. Levels 1, 2 and 3 are now closed. Any new agency or any agency wishing to add this benefit or increase the current level must choose the 4th or Indexed Level.

This benefit is not included in the results presented in this valuation. More information on this benefit is available on the CalPERS website at www.calpers.ca.gov.

APPENDIX C

GASB STATEMENT NO. 27

SAFETY PLAN of the COUNTY OF RIVERSIDE
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, 2013 to June 30, 2014 has been determined by an actuarial valuation of the plan as of June 30, 2011. The unadjusted GASB compliant contribution rate for the indicated period is 23.616% of payroll. In order to calculate the dollar value of the ARC for inclusion in financial statements prepared as of June 30, 2014, this contribution rate, less any employee cost sharing, 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, 2013 to June 30, 2014. The employer and the employer's auditor are responsible for determining the NPO and the APC.

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

	Retirement Program
Valuation Date	June 30, 2011
Actuarial Cost Method	Entry Age Normal Cost Method
Amortization Method	Level Percent of Payroll
Average Remaining Period	32 Years as of the Valuation Date
Asset Valuation Method	15 Year Smoothed Market
Actuarial Assumptions	
Discount Rate	7.50% (net of administrative expenses)
Projected Salary Increases	3.30% to 14.20% depending on Age, Service, and type of employment
Inflation	2.75%
Payroll Growth	3.00%
Individual Salary Growth	A merit scale varying by duration of employment coupled with an assumed annual inflation growth of 2.75% and an annual production growth of 0.25%.

Initial unfunded liabilities are amortized over a closed period that depends on the plan's date of entry into CalPERS. Subsequent plan amendments are amortized as a level percentage of pay over a closed 20-year period. Gains and losses that occur in the operation of the plan are amortized over a 30 year rolling period, which results in an amortization of about 6% of unamortized gains and losses each year. If the plan's accrued liability exceeds the actuarial value of plan assets, then the amortization payment on the total unfunded liability may not be lower than the payment calculated over a 30 year amortization period. More 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.

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

Valuation Date	Accrued Liability (a)	Actuarial Value of Assets (AVA) (b)	Unfunded Liability (UL) (a)-(b)	Funded Ratios (AVA) (b)/(a)	Funded Ratios Market Value	Annual Covered Payroll (c)	UL As a % of Payroll [(a)-(b)]/(c)
06/30/07	$ 1,369,534,165	$ 1,291,420,546	$ 78,113,619	94.3%	108.6%	$ 214,634,238	36.4%
06/30/08	1,469,415,642	1,414,119,841	55,295,801	96.2%	97.5%	240,746,309	23.0%
06/30/09	1,642,554,731	1,511,047,925	131,506,806	92.0%	67.0%	265,237,512	49.6%
06/30/10	1,809,467,588	1,624,729,774	184,737,814	89.8%	70.7%	265,165,399	69.7%
06/30/11	2,032,001,280	1,745,936,783	286,064,497	85.9%	77.1%	273,169,605	104.7%

APPENDIX D

RISK ANALYSIS

- VOLATILITY RATIOS
- ANALYSIS OF FUTURE INVESTMENT RETURN SCENARIOS
- ANALYSIS OF DISCOUNT RATE SENSITIVITY

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, 2011**
1. Market Value of Assets without Receivables	$ 1,561,897,530
2. Payroll	273,169,605
3. Asset Volatility Ratio (1. / 2.)	5.7
4. Accrued Liability	$ 2,032,001,280
5. Liability Volatility Ratio (4. / 2.)	7.4

Analysis of Future Investment Return Scenarios

The investment return for fiscal year 2011-2012 was estimated to be 0%. Note that this return is before administrative expenses and also does not reflect final investment return information for real estate and private equities. The final return information for these two asset classes is expected to be available later in October. For purposes of projecting future employer rates, we are assuming a 0% investment return for fiscal year 2011-2012.

The investment return realized during a fiscal year first affects the contribution rate for the fiscal year 2 years later. Specifically, the investment return for 2011-2012 will first be reflected in the June 30, 2012 actuarial valuation that will be used to set the 2014-2015 employer contribution rates, the 2012-2013 investment return will first be reflected in the June 30, 2013 actuarial valuation that will be used to set the 2015-2016 employer contribution rates and so forth.

Based on a 0% investment return for fiscal year 2011-2012 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 2014-2015, the effect on the 2014-2015 Employer Rate is as follows:

Estimated 2014-2015 Employer Rate	Estimated Increase in Employer Rate between 2013-2014 and 2014-2015
24.6%	1.2%

As part of this report, a sensitivity analysis was performed to determine the effects of various investment returns during fiscal years 2012-2013, 2013-2014 and 2014-2015 on the 2015-2016, 2016-2017 and 2017-2018 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 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, 2012 through June 30, 2015. The 5th percentile return corresponds to a -4.1% return for each of the 2012-2013, 2013-2014 and 2014-2015 fiscal years.
- The second scenario is what one would expect if the markets were to give us a 25th percentile return from July 1, 2012 through June 30, 2015. The 25th percentile return corresponds to a 2.6% return for each of the 2012-2013, 2013-2014 and 2014-2015 fiscal years.
- The third scenario assumed the return for 2012-2013, 2013-2014, 2014-2015 would be our assumed 7.5% investment return which represents about a 49th percentile event.
- The fourth scenario is what one would expect if the markets were to give us a 75th percentile return from July 1, 2012 through June 30, 2015. The 75th percentile return corresponds to a 11.9% return for each of the 2012-2013, 2013-2014 and 2014-2015 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, 2012 through June 30, 2015. The 95th percentile return corresponds to a 18.5% return for each of the 2012-2013, 2013-2014 and 2014-2015 fiscal years.

The table below shows the estimated projected contribution rates and the estimated increases for your plan under the five different scenarios.

2012-2015 Investment Return Scenario	Estimated Employer Rate			Estimated Change in Employer Rate between 2014-2015 and 2017-2018
	2015-2016	2016-2017	2017-2018	
-4.1% (5th percentile)	28.8%	33.2%	37.2%	12.6%
2.6% (25th percentile)	26.0%	27.9%	29.8%	5.2%
7.5%	25.1%	25.5%	25.9%	1.3%
11.9%(75th percentile)	25.0%	25.2%	25.3%	0.7%
18.5%(95th percentile)	24.8%	24.7%	24.2%	-0.4%

Analysis of Discount Rate Sensitivity

The following analysis looks at the 2013-2014 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 PERF were to realize investment returns of 6.50% or 8.50% over the long-term.

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

2013-2014 Employer Contribution Rate			
As of June 30, 2011	**6.50% Discount Rate (-1%)**	**7.50% Discount Rate (assumed rate)**	**8.50% Discount Rate (+1%)**
Employer Normal Cost	24.398%	17.504%	12.284%
Unfunded Rate Payment	15.027%	5.864%	(1.545%)
Total	39.425%	23.368%	10.739%

APPENDIX E

GLOSSARY OF ACTUARIAL TERMS

Glossary of Actuarial Terms

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

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

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

Actuarial Valuation
The determination, as of a valuation date, of the Normal Cost, 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
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.

This method helps to dampen large fluctuations in the employer contribution rate.

Amortization Bases
Separate payment schedules for different portions of the Unfunded Liability. The total Unfunded Liability of a Risk Pool or non-pooled plan can be segregated by "cause", creating "bases" and each such base will be separately amortized and paid for over a specific period of time. 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.) but all bases are amortized using investment and payroll assumptions from the current valuation.

Generally in an actuarial valuation, the separate bases consist of changes in unfunded liability due to amendments, actuarial assumption changes, actuarial 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 as set forth in GASB Statement No. 27, 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.

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

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

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 the single amortization base created when multiple amortization bases are collapsed into one base and amortized over a new funding period.

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. 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. A funded ratio based on the Actuarial Value of Assets indicates the progress toward fully funding the plan using the actuarial cost methods and assumptions. A funded ratio based on the Market Value of Assets indicates the short-term solvency of the plan.

GASB 27

Statement No. 27 of the Governmental Accounting Standards Board. The accounting standard governing a state or local governmental employer's accounting for pensions.

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 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 year's required employer contribution.

Present Value of Benefits (PVB)

The total dollars needed as of the valuation date to fund all benefits earned in the past or expected to be earned in the future for *current* members.

Rolling Amortization Period

An amortization period that remains the same each year, rather than declining.

Superfunded

A condition existing when a plan's Actuarial Value of Assets exceeds its 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 of the Unfunded Liability is positive, the plan or pool will have to pay contributions exceeding the Normal Cost.