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**October 2010**

**MISCELLANEOUS PLAN OF THE CITY OF SAUSALITO (EMPLOYER # 426)  
 Annual Valuation Report as of June 30, 2009**

Dear Employer,

Enclosed please find a copy of the June 30, 2009 actuarial valuation report of your pension plan. Since your plan had less than 100 active members in at least one valuation since June 30, 2003, it is required to participate in a risk pool. The following valuation report has been separated into two Sections:

- Section 1 contains specific information for your plan, including the development of your pooled employer contribution rate, and
- Section 2 contains the Risk Pool Actuarial Valuation appropriate to your plan, as of June 30, 2009.

This report contains important actuarial information about your pension plan at CalPERS. Your CalPERS staff actuary is available to discuss the actuarial report with you.

**Changes Since the Prior Valuation**

The CalPERS' Board of Administration adopted updated actuarial assumptions to be used beginning with the June 30, 2009 valuation. In addition, a temporary modification to our method of determining the actuarial value of assets and amortizing gains and losses has been implemented for the valuations as of June 30, 2009 through June 30, 2011. Finally, a cash flow analysis has been added to our process. If such an analysis indicates that funding progress will not be adequate, an additional contribution will be required.

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

Further descriptions of changes are included in the Section 2 "Highlights and Executive Summary" section and in Appendix A, "Statement of Actuarial Data, Methods and Assumptions."

**Future Contribution Rates**

The exhibit below displays the required employer contribution rate and Superfunded status for 2011/2012 along with an estimate of the contribution rate and Superfunded status for 2012/2013. The estimated rate for 2012/2013 is based on a projection of the most recent information we have available, including an estimate of the investment return for fiscal 2009/2010, namely 11.0%. See Section 2 Appendix E, "Investment Return Sensitivity Analysis", for increase in 2013/2014 rate projections under a variety of investment return scenarios for the Risk Pool's portion of your rate. Please disregard any projections that we may have provided to you in the past.

Fiscal Year	Employer Contribution Rate	Superfunded?
2011/2012	15.595%	No
2012/2013	16.1% (projected)	No

Member contributions (whether paid by the employer or the employee) are in addition to the above rates.

The estimate for 2012/2013 assumes that there are no 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 effect on your contribution rate.** Even for the largest plans, such gains and losses can impact the employer's contribution rate by one or two percent or even more in some less common instances. These gains and losses cannot be predicted in advance so the projected employer contribution rate for 2012/2013 is just an estimate. Your actual rate for 2012/2013 will be provided in next year's report.

If you have questions, please call (888) CalPERS (225-7377). 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.

Sincerely,

A handwritten signature in black ink, appearing to read "Alan Milligan". The signature is fluid and cursive, with a long horizontal stroke at the end.

ALAN MILLIGAN, MAAA, FCA, FSA, FCIA  
Chief Actuary

**Actuarial Valuation  
as of June 30, 2009**

**The MISCELLANEOUS PLAN  
of the CITY OF SAUSALITO  
(Employer# 426)**

**Required Contributions  
For Fiscal Year  
July 1, 2011 - June 30, 2012**



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# Section 1

CALIFORNIA PUBLIC EMPLOYEES' RETIREMENT SYSTEM

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**Plan Specific Information for  
The MISCELLANEOUS PLAN  
of the CITY OF SAUSALITO  
(Employer # 426)  
(Rate Plan # 440)**





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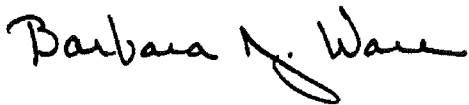
## **Actuarial Certification**

Section 1 of this report is based on the member and financial data as of June 30, 2009 provided by your agency and contained in our records, and the benefit provisions under your contract with CalPERS. Section 2 of this report is based on the member and financial data as of June 30, 2009 provided by employers participating in the risk pool and contained in our records, and benefit provisions under the CalPERS contracts for those agencies participating in the risk pool.

As set forth in Section 2 of this report, the Pool Actuaries have certified that, in their opinion, the valuation of the Risk Pool containing your MISCELLANEOUS PLAN has been performed in accordance with generally accepted actuarial principles consistent with standards of practice prescribed by the Actuarial Standards Board, and that the assumptions and methods are internally consistent and reasonable for the Risk Pool, as prescribed by the CalPERS Board of Administration according to provisions set forth in the California Public Employees' Retirement Law.

Having relied upon the information set forth in Section 2 of this report and based on the census and benefit provision information for your plan, it is my opinion as your Plan Actuary that the Side Fund as of June 30, 2009 and employer contribution rate as of July 1, 2011, have been properly and accurately determined in accordance with the principles and standards stated above.

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



Barbara J. Ware, FSA, MAAA  
Enrolled Actuary  
Senior Pension Actuary, CalPERS  
Plan Actuary



**SECTION 1 – PLAN SPECIFIC INFORMATION FOR THE MISCELLANEOUS PLAN OF THE CITY OF SAUSALITO**

## Purpose of Section 1

Section 1 of this report was prepared by the Plan Actuary in order to:

- Certify that the actuarially required employer contribution rate of the MISCELLANEOUS PLAN of the CITY OF SAUSALITO for the fiscal year July 1, 2011 through June 30, 2012 is 15.595%;
- Set forth the plan's Employer Side Fund as of June 30, 2009;
- Provide pension information as of June 30, 2009 to be used in financial reports subject to Governmental Accounting Standards Board (GASB) Statement Number 27.

This section was prepared in order to provide actuarial information as of June 30, 2009 to the CalPERS Board of Administration and other interested parties

Use of this report for other purposes may be inappropriate.

## Required Employer Contributions

	<b>Fiscal Year 2010/2011</b>	<b>Fiscal Year 2011/2012</b>
Employer Contribution Required (in Projected Dollars)		
Risk Pool's Net Employer Normal Cost	\$ 254,857	\$ 302,717
Risk Pool's Payment on Amortization Bases	36,133	140,122
Surcharge for Class 1 Benefits		
a) FAC 1	17,526	20,980
b) PRSA	29,520	31,366
Phase out of Normal Cost Difference	0	0
Amortization of Side Fund	45,061	46,525
<b>Total Employer Contribution</b>	<b>\$ 383,097</b>	<b>\$ 541,710</b>
<b>Annual Lump Sum Prepayment Option*</b>	<b>\$ 369,063</b>	<b>\$ 521,865</b>
Projected Payroll for the Contribution Fiscal Year	\$ 3,006,097	\$ 3,473,519
Employer Contribution Required (Percentage of Payroll)		
Risk Pool's Net Employer Normal Cost	8.478%	8.715%
Risk Pool's Payment on Amortization Bases	1.202%	4.034%
Surcharge for Class 1 Benefits		
a) FAC 1	0.583%	0.604%
b) PRSA	0.982%	0.903%
Phase out of Normal Cost Difference	0.000%	0.000%
Amortization of Side Fund	1.499%	1.339%
<b>Total Employer Contribution</b>	<b>12.744%</b>	<b>15.595%</b>

Appendix C of Section 2 of this report contains a list of Class 1 benefits and corresponding surcharges for each benefit.

Risk pooling was implemented as of June 30, 2003. The normal cost difference was scheduled to be phased out over a five year period. The phase out of normal cost difference began at 100% for the first year, and was incrementally reduced by 20% of the original normal cost difference for each subsequent year.

\*Payment must be received by CalPERS between July 1 and July 15.

## Projected Contributions

The rate shown below is an estimate for the employer contribution for Fiscal Year 2012/2013. The estimated rate is based on a projection of the most recent information we have available, including an estimate of the investment return for fiscal year 2009/2010, namely 11.0%:

Projected Employer Contribution Rate: 16.1%

The estimate also assumes that there are no liability gains or losses among the plans in your risk pool, that your plan has no new amendments in the next year, and that your plan's and your risk pool's payrolls both increase exactly 3.25% in the 2009/2010 fiscal year. Therefore, the projected employer contribution rate for 2012/2013 is just an estimate. Your actual rate for 2012/2013 will be provided in next year's report.

## Rate Volatility

Your plan's employer contribution rate will inevitably fluctuate, for many reasons. However, the biggest fluctuations are generally due to changes in the side fund rate resulting from unexpected changes in payroll. The following figure shows how much **your** 2012/2013 rate would change for each 1% deviation between our 3.25% payroll growth assumption and your actual 2009/2010 payroll growth.

### POTENTIAL 2012/2013 RATE IMPACT FROM 2009/2010 PAYROLL DEVIATION

**% Rate Change per 1% Deviation from Assumed 3.25% Payroll Growth:** (0.013%)

*Examples: To see how your employer contribution rate might be affected by unexpected payroll change, suppose the following:*

- *The **% Rate Change per 1% Deviation** figure given above is -0.400%*
- *Your plan's payroll increased 10% in 2009/2010 (6.75% more than our 3.25% assumption).*

*Then your 2012/2013 rate would decrease  $-0.400\% \times (10 - 3.25) = -2.70\%$  from that cause alone.*

*Or conversely, using the same **% Rate Change per 1% Deviation** figure given above, suppose your plan's payroll remained the same in 2009/2010 (3.25% less than our 3.25% assumption).*

*Then your 2012/2013 rate would **increase**  $-0.400\% \times (0 - 3.25) = 1.3\%$  from that cause alone.*

Note that if your plan had a negative side fund, an unexpected payroll increase would spread the payback of the negative side fund over a bigger payroll, which would decrease your plan's side fund percentage rate and the total employer contribution rate. On the other hand, if your plan had a positive side fund, an unexpected payroll increase would spread the payback of the positive side fund over a larger payroll, which would increase your plan's side fund percentage rate and the total employer contribution rate. In either case, the Side Fund dollar amount would not change.

## Employer Side Fund

At the time of joining a risk pool, a side fund was created to account for the difference between the funded status of the pool and the funded status of your plan. The side fund for your plan as of the June 30, 2009 valuation is shown in the following table.

Your side fund will be credited, on an annual basis, with the actuarial investment return assumption. This assumption is currently 7.75%. A positive side fund will cause your required employer contribution rate to

**SECTION 1 – PLAN SPECIFIC INFORMATION FOR THE MISCELLANEOUS PLAN OF THE CITY OF SAUSALITO**

be reduced by the Amortization of Side Fund shown above in Required Employer Contributions. A negative side fund will cause your required employer contribution rate to be increased by the Amortization of Side Fund. In the absence of subsequent contract amendments or funding changes, the side fund will disappear at the end of the amortization period shown below.

**Employer Side Fund Reconciliation**

	<b>June 30, 2008</b>	<b>June 30, 2009</b>
Side Fund as of valuation date*	\$ (460,851)	\$ (452,692)
Adjustments	0	0
Side Fund Payment	42,268	43,642
Side Fund one year later	\$ (452,692)	\$ (442,474)
Adjustments	0	0
Side Fund Payment	43,642	45,061
Side Fund two years later	\$ (442,474)	\$ (429,991)
Amortization Period	13	12
Side Fund Payment during last year	\$ 45,061	\$ 46,525

\* If your agency employed vouchers in fiscal year 2008/2009 to pay employee contributions, the June 30, 2009 Side Fund amount has been adjusted by a like amount without any further adjustment to the Side Fund's amortization period. Similarly, the Side Fund has been adjusted for the increase in liability from any recently adopted Class 1 or Class 2 contract amendments. Also, the Side Fund may be adjusted or eliminated due to recent lump sum payments. Contract amendments and lump sum payments may result in an adjustment to the Side Fund amortization period.

**Superfunded Status**

	<b>June 30, 2008</b>	<b>June 30, 2009</b>
<b>Is the plan Superfunded?</b>	No	No
[Yes if Assets exceed PVB, No otherwise]		

**Summary of Participant Data**

Below is a table showing a summary of the active member data for your plan upon which this valuation is based:

	<b>June 30, 2008</b>	<b>June 30, 2009</b>
Projected Payroll for Contribution Purposes	\$ 3,006,097	\$ 3,473,519
Number of Members		
Active	42	48
Transferred	40	43
Separated	61	52
Retired	79	82

## **List of Class 1 Benefit Provisions**

- One Year Final Compensation
- Post-Retirement Survivor Allowance

## **Information for Compliance with GASB Statement No. 27 for Cost-Sharing Multiple-Employer Defined Benefit Plan**

Your plan is part of the Miscellaneous 2.5% at 55 Risk Pool, a cost-sharing multiple-employer defined benefit plan. Under GASB 27, an employer should recognize annual pension expenditures/expense equal to its contractually required contributions to the plan. Pension liabilities and assets result from the difference between contributions required and contributions made. The contractually required contribution for the period July 1, 2011 to June 30, 2012 has been determined by an actuarial valuation of the plan as of June 30, 2009. Your contribution rate for the indicated period is 15.595% of payroll. In order to calculate the dollar value of the contractually required contributions for inclusion in financial statements prepared as of June 30, 2012, this contribution rate, as modified by any subsequent financing changes or contract amendments for the year, would be multiplied by the payroll of covered employees that was actually paid during the period July 1, 2011 to June 30, 2012. However, if this contribution is fully prepaid in a lump sum, then the dollar value of contractually required contributions is equal to the lump sum prepayment. The employer and the employer's auditor are responsible for determining the contractually required contributions. Further, the required contributions in dollars and the percentage of that amount contributed for the current year and each of the two preceding years is to be disclosed under GASB 27.

A summary of principal assumptions and methods used to determine the contractually required contributions is shown below for the cost-sharing multiple-employer defined benefit plan.

Valuation Date	June 30, 2009
Actuarial Cost Method	Entry Age Normal Cost Method
Amortization Method	Level Percent of Payroll
Average Remaining Period	19 Years as of the Valuation Date
Asset Valuation Method	15 Year Smoothed Market
Actuarial Assumptions	
Investment Rate of Return	7.75% (net of administrative expenses)
Projected Salary Increases	3.55% to 14.45% depending on Age, Service, and type of employment
Inflation	3.00%
Payroll Growth	3.25%
Individual Salary Growth	A merit scale varying by duration of employment coupled with an assumed annual inflation growth of 3.00% and an annual production growth of 0.25%.

Complete information on assumptions and methods is provided in Appendix A of Section 2 of the report. Appendix B of Section 2 of the report contains a description of benefits included in the Risk Pool Actuarial Valuation.

A Schedule of Funding for the Risk Pool's actuarial value of assets, accrued liability, their relationship, and the relationship of the unfunded liability (UL) to payroll for the risk pool(s) to which your plan belongs can be found in Section 2 of the report.



**SECTION 1 – PLAN SPECIFIC INFORMATION FOR THE MISCELLANEOUS PLAN OF THE CITY OF SAUSALITO**

**Summary of 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 Appendix B within Section 2 of this report.

Benefit Provision	Coverage Group			
	70003	70001*	70002*	70004*
Benefit Formula Social Security Coverage Full/Modified	2.5% @ 55 no full	2.0% @ 55 no full	2.0% @ 55 yes modified	2.5% @ 55 yes modified
Final Average Compensation Period	12 mos.	12 mos.	12 mos.	12 mos.
Sick Leave Credit	yes	yes	yes	yes
Non-Industrial Disability	standard	standard	standard	standard
Industrial Disability	no	no	no	no
Pre-Retirement Death Benefits Optional Settlement 2W 1959 Survivor Benefit Level Special Alternate (firefighters)	yes level 1 yes no	yes level 1 yes no	yes no yes no	yes no yes no
Post-Retirement Death Benefits Lump Sum Survivor Allowance (PRSA)	\$5000 yes	\$5000 yes	\$5000 yes	\$5000 yes
COLA	2%	2%	2%	2%
Employee Contributions Contractual employer paid Contractual Employee Cost sharing	no 0%	no 0%	no 0%	no 0%

\*Inactive Coverage Group



## Section 2

CALIFORNIA PUBLIC EMPLOYEES' RETIREMENT SYSTEM

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### **Miscellaneous 2.5% at 55 Risk Pool as of June 30, 2009**



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## **Actuarial Certification**

To the best of our knowledge, **Section 2** of this report is complete and accurate and contains sufficient information to disclose, fully and fairly, the funded condition of the Miscellaneous 2.5% at 55 Risk Pool. This valuation is based on the member and financial data as of June 30, 2009 provided by the various CalPERS databases and the benefits under this Risk Pool 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 risk pool, 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. She 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.



May Shuang Yu, ASA, MAAA  
Senior Pension Actuary, CalPERS  
Pool Actuary





## **HIGHLIGHTS AND EXECUTIVE SUMMARY**

- **PURPOSE OF SECTION 2**
- **RISK POOL'S REQUIRED EMPLOYER CONTRIBUTION**
- **RISK POOL'S REQUIRED BASE EMPLOYER RATE**
- **FUNDED STATUS OF THE RISK POOL**
- **COST AND VOLATILITY**
- **CHANGES SINCE THE PRIOR VALUATION**
- **SUBSEQUENT EVENTS**



## HIGHLIGHTS AND EXECUTIVE SUMMARY

### Purpose of Section 2

This Actuarial Valuation for the Miscellaneous 2.5% at 55 Risk Pool of the California Public Employees' Retirement System (CalPERS) was performed by CalPERS' staff actuaries using data as of June 30, 2009 in order to:

- set forth the actuarial assets and accrued liabilities of this risk pool as of June 30, 2009
- establish the actuarially required contribution rate of the pool for the fiscal year July 1, 2011 through June 30, 2012
- provide actuarial information as of June 30, 2009 to the CalPERS Board and other interested parties

Use of this report for other purposes may be inappropriate.

### Risk Pool's Required Employer Contribution

(figures net of employee contributions)

	Fiscal Year 2010/2011	Fiscal Year 2011/2012
<b>Contribution in Projected Dollars</b>		
1. Pool's Gross Employer Normal Cost	\$ 33,877,025	\$ 37,093,911
2. Payment on Pool's Amortization Base	4,409,146	15,769,799
3. Payment on Employer Side Funds	<u>13,537,445</u>	<u>14,307,924</u>
4. Total Required Employer Contribution*	\$ 51,824,438	\$ 67,170,901

\* Total may not add up due to rounding

#### Contribution as a % of Projected Pay

5. Pool's Gross Employer Normal Cost	9.234%	9.489%
6. Payment on Pool's Amortization Base	1.202%	4.034%
7. Payment on Employer Side Funds	<u>3.690%</u>	<u>3.660%</u>
8. Total Required Employer Contribution	14.126%	17.183%

These rates are the total required employer contributions by the pool for fiscal years 2010/2011 and 2011/2012. The Pool's Gross Employer Normal Cost includes the Class 1 surcharges for all employers that contract for the Class 1 type benefits. The payment on the pool's amortization base is the payment on the ongoing cumulative gains and losses experienced by the pool since its June 30, 2003 inception. The payment on employer side funds is the combination of all expected individual amortization payments on every side fund in the pool.

### Risk Pool's Required Base Employer Rate

	Fiscal Year 2010/2011	Fiscal Year 2011/2012
1. Pool's Gross Employer Normal Cost	9.234%	9.489%
Less: Surcharges for Class 1 Benefits	<u>0.756%</u>	<u>0.774%</u>
2. Pool's Net Employer Normal Cost	8.478%	8.715%
3. Payment on Pool's Amortization Base	<u>1.202%</u>	<u>4.034%</u>
4. Pool's Base Employer Rate	9.680%	12.749%

The base employer contribution rate is the rate that each plan within the pool pays before any adjustments are made. It represents the pool funding for basic benefits (no Class 1 surcharges) for the fiscal year shown. To arrive at a plan's total contribution rate, several components must be added to this base rate. These components

## HIGHLIGHTS AND EXECUTIVE SUMMARY

are Class 1 benefit surcharges, normal cost phase-out and any side-fund payment. More information about those additional components can be found in Section 1 of this report.

### Funded Status of the Risk Pool

	June 30, 2008	June 30, 2009
1. Entry Age Normal Accrued Liability	\$ 1,537,909,933	\$ 1,834,424,640
2. Market Value of Assets Including Side Funds (MVA) Including Receivables	\$ 1,353,157,484	\$ 1,088,733,372
3. Funded Ratio (MVA) [(2) / (1)]	88.0%	59.4%

### Cost and Volatility

#### 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 those 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 as 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 7.75% for the past twenty year period ending June 30, 2010, returns for each fiscal year ranged from -24% to +20.1%

Second, the very nature of actuarial funding produces the answer to the question of plan or pool 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, and
- The Past Service Cost or Accrued Liability (i.e., representing 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 plan or pool rate will vary depending on the amortization period chosen. And as the first point above states; these results depend on all assumptions being exactly realized.

#### Rate Volatility

As is stated above, 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 plan or pool's rates from year to year. Therefore, the rates will inevitably fluctuate, especially due to the ups and downs of investment returns. Pools that have higher asset to payroll ratio produce more volatile employer rates. In the

## HIGHLIGHTS AND EXECUTIVE SUMMARY

table below we have shown the pool's volatility index, based on the retirement formula, a measure of the pool's potential future rate volatility. It should be noted that this ratio increases over time but generally tends to stabilize as the plan or pool matures.

This year, a new rate stabilization methodology was implemented. Although there is no method that can provide perfectly stable rates, the new method will give employers time to prepare for the rate increases ahead. The new policy is also fiscally responsible in that employers are required to pay for the 2008-09 fiscal year asset loss with a 30 year fixed amortization schedule. It continues to be true that a plan that has a volatility index that is three times the index of a second plan will have three times the volatility in rates as compared to the second plan. However, the amount of change has been dramatically reduced through the rate stabilization process.

	<b>As of June 30, 2009</b>
Market Value of Assets without Receivables	\$ 1,084,456,453
Payroll	355,150,151
Volatility Index	3.1

## Changes since the Prior Valuation

### Actuarial Assumptions

CalPERS recently completed an experience study that analyzed demographic data for the years 1997 to 2007. As a result of this study, the CalPERS' Board of Administration adopted updated actuarial assumptions to be used beginning with the June 30, 2009 valuation. Nearly all of the demographic assumptions have changed, including salary increase assumptions and rates for mortality, disability, termination and retirement.

The new assumptions are described in Appendix A. The effect of the change in assumptions on the unfunded liability is shown in the "(Gain)/Loss Analysis".

The effect on the risk pool's required employer contribution rate is shown below.

### Risk Pool's Required 2011/2012 Employer Contribution Before and After Change to Assumptions

	<u>Old Assumptions</u>	<u>New Assumptions</u>
<b>Contribution as a % of Projected Pay</b>		
Pool's Gross Employer Normal Cost	9.253%	9.489%
Payment on Pool's Amortization Base	2.053%	4.034%
Payment on Employer Side Funds	3.660%	3.660%
Total Required Employer Contribution	14.966%	17.183%

### Actuarial Methods

In June 2009, the CalPERS Board adopted changes to the asset smoothing method as well as changes to the Board policy on the amortization of gains and losses 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

## HIGHLIGHTS AND EXECUTIVE SUMMARY

- 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)

In addition, in February 2010 the CalPERS Board adopted a resolution requiring additional contributions for any plan or pool if the 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

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." The effect of the change in method 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."

### 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 employers within the risk pool are generally included in the first valuation whose report is dated after the amendment becomes effective. These voluntary changes are included in the liabilities reported in this valuation.

The valuation generally reflects plan changes by amendments effective prior to August 1, 2010. Please refer to Appendix B for a summary of the plan provisions used in this valuation report. The provisions in Appendix B do not indicate the class of benefits voluntarily contracted for by individual employers within the risk pool. Refer to Section 1 of the valuation report for a list of your specific contracted benefits. The increase in the pool's unfunded liabilities due to Class 1 or 2 amendments by individual employers within the pool is embedded in the Liability (Gain) / Loss shown in the Gain / Loss section of this report. This amount, however, is offset by additional contributions through a surcharge for employers who voluntarily contract for those benefits.

### Subsequent Events

There were no significant subsequent events to report in this valuation.

## **SUMMARY OF LIABILITIES AND RATES**

- **DEVELOPMENT OF POOL'S ACCRUED AND UNFUNDED LIABILITIES**
- **(GAIN)/LOSS ANALYSIS 06/30/08 - 06/30/09**
- **SCHEDULE OF AMORTIZATION BASES FOR THE RISK POOL**
- **DEVELOPMENT OF RISK POOL'S ANNUAL REQUIRED BASE CONTRIBUTION**
- **POOL'S EMPLOYER CONTRIBUTION RATE HISTORY**
- **FUNDING HISTORY**





**SUMMARY OF LIABILITY AND RATES****Development of Pool's Accrued and Unfunded Liabilities**

	<b>June 30, 2008</b>	<b>June 30, 2009</b>
1. Present Value of Projected Benefits		
a) Active Members	\$ 1,173,884,995	\$ 1,326,239,932
b) Transferred Members	158,312,065	177,385,802
c) Separated Members	58,376,683	49,024,072
d) Members and Beneficiaries Receiving Payments	<u>615,905,109</u>	<u>747,017,292</u>
e) Total	\$ 2,006,478,852	\$ 2,299,667,098
2. Present Value of Future Employer Normal Costs	\$ 242,795,256	\$ 244,377,139
3. Present Value of Future Employee Contributions	\$ 225,773,663	\$ 220,865,319
4. Entry Age Normal Accrued Liability		
a) Active Members [(1a) - (2) - (3)]	\$ 705,316,076	\$ 860,997,474
b) Transferred Members (1b)	158,312,065	177,385,802
c) Separated Members (1c)	58,376,683	49,024,072
d) Members and Beneficiaries Receiving Payments (1d)	<u>615,905,109</u>	<u>747,017,292</u>
e) Total	\$ 1,537,909,933	\$ 1,834,424,640
5. Actuarial Value of Assets (AVA) Including Receivables	\$ 1,337,707,835	\$ 1,493,430,831
6. Unfunded Accrued Liability [(4e) - (5)]	200,202,098	340,993,809
7. Side Funds (AVA)	\$ (131,874,482)	\$ (133,165,243)
8. Actuarial Value of Assets excluding Side Funds [(5) - (7)] Including Receivables	1,469,582,317	1,626,596,074
9. Unfunded Liability excluding Side Funds [(4e) - (8)]	68,327,616	207,828,566
10. Market Value of Assets (MVA) Including Receivables	\$ 1,353,157,484	\$ 1,088,733,372
11. Funded Ratio (MVA) [(10) / (4e)]	88.0%	59.4%

**SUMMARY OF LIABILITY AND RATES****(Gain)/Loss Analysis 06/30/08 - 06/30/09**

We introduced the concepts of Actuarial Gains and Losses in the Cost and Volatility Section of this report. To reiterate, when we calculate the cost requirements of your plan, we use assumptions about future events that affect the amount and timing of benefits to be paid and assets to be accumulated. Each year actual experience is contrasted against the expected experience based on the actuarial assumptions. The differences are reflected below as your pool's actuarial gains or losses.

<b>1. Total (Gain)/Loss</b>	
a) Unfunded Liability/(Surplus) as of June 30, 2008	\$ 68,327,616
b) Expected payment on the unfunded liability	3,002,821
c) Interest accumulation $ [.0775 \times (1a) - ((1.0775)^{.5} - 1) \times (1b)]$	5,181,202
d) Expected Unfunded Liability before other changes $ [(1a) - (1b) + (1c)]$	70,505,997
e) Change due to change in assumptions	86,658,449
f) Expected Unfunded Liability after changes $ [(1d) + (1e)]$	157,164,446
g) Actual Unfunded Liability/(Surplus) as of June 30, 2009	<u>207,828,566</u>
h) Total (Gain)/Loss $ [(1g) - (1f)]$	\$ 50,664,120
<b>2. Contribution (Gain)/Loss</b>	
a) Expected contribution	\$ 77,520,627
b) Expected interest on contributions	2,947,875
c) Total expected contributions with interest $ [(2a) + (2b)]$	80,468,502
d) Actual contributions	81,266,032
e) Expected interest on actual contributions	3,090,301
f) Total actual contributions with interest $ [(2d) + (2e)]$	<u>84,356,333</u>
g) Contribution (Gain)/Loss $ [(2c) - (2f)]$	\$ (3,887,831)
<b>3. Asset (Gain)/Loss</b>	
a) Actuarial Value of Assets as of 06/30/08 Including Receivables	\$ 1,337,707,835
b) Receivables as of 06/30/08	<u>3,843,174</u>
c) Actuarial Value of Assets as of 06/30/08	1,333,864,661
d) Contributions received	81,266,032
e) Benefits, refunds and lump sums paid	(58,686,719)
f) Transfers and miscellaneous adjustments	1,008,771
g) Expected interest	104,271,494
h) Transfers into the pool (AVA Basis)	78,042,705
i) Transfers out of the pool (AVA Basis)	<u>(22,777,546)</u>
j) Expected Assets as of 06/30/09 $ [\text{Sum } (3c) \text{ through } (3i)]$	1,516,989,399
k) Receivables as of 06/30/09	<u>4,276,919</u>
l) Expected Assets Including Receivables	1,521,266,317
m) Actual Actuarial Value of Assets as of 06/30/09 Including Receivables	<u>1,493,430,831</u>
n) Asset (Gain)/Loss $ [(3l) - (3m)]$	\$ 27,835,486
<b>4. Liability (Gain)/Loss</b>	
a) Total (Gain)/Loss (1h)	\$ 50,664,120
b) Contribution (Gain)/Loss (2g)	(3,887,831)
c) Asset (Gain)/Loss excluding side fund (3n)	<u>27,835,486</u>
d) Liability (Gain)/Loss $ [(4a) - (4b) - (4c)]^*$	\$ 26,716,465

\* Includes (Gain)/Loss on plans transferring into the pool.

**SUMMARY OF LIABILITY AND RATES**

**Schedule of Amortization Bases for the Risk Pool**

The schedule below shows the development of the payment on the Pool's amortization bases used to determine the Total Required Employer Contributions to the Pool. Each row of the schedule gives a brief description of a base (or portion of the Unfunded Actuarial Liability), the balance of the base on the valuation date, and the number of years remaining in the amortization period. In addition, we show the expected payments for the two years immediately following the valuation date, the balances on the dates a year and two years after the valuation date, and the scheduled payment for fiscal year 2011-2012. Please refer to Appendix A for an explanation of how amortization periods are determined.

Reason for Base	Amortization Period	Balance on June 30, 2009	Expected Payment 09-10	Balance June 30, 2010	Expected Payment 10-11	Balance June 30, 2011	Scheduled Payment for 2011-2012	Payment as a percentage of payroll
FRESH START	25	\$4,840,237	\$306,797	\$4,896,892	\$316,767	\$4,947,588	\$327,062	0.084%
(GAIN)/LOSS	30	\$70,792,323	\$2,395,041	\$73,792,611	\$4,431,318	\$74,911,710	\$4,498,520	1.150%
PAYMENT (GAIN)/LOSS	30	\$(5,126,561)	\$6,426	\$(5,530,540)	\$(429,237)	\$(5,513,597)	\$(331,098)	(0.086%)
ASSUMPTION CHANGE	20	\$86,658,449	\$(869,061)	\$94,276,588	\$(897,306)	\$102,514,451	\$7,743,035	1.981%
SPECIAL (GAIN)/LOSS	30	\$50,664,118	\$0	\$54,590,587	\$0	\$58,821,357	\$3,532,280	0.904%
<b>Total</b>		<b>\$207,828,566</b>	<b>\$1,839,203</b>	<b>\$222,026,138</b>	<b>\$3,421,542</b>	<b>\$235,681,509</b>	<b>\$15,769,799</b>	<b>4.034%</b>

The special (gain)/loss base is the first of three special bases that will be established for the gain/loss that is recognized in this and the next two 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.

**SUMMARY OF LIABILITY AND RATES****Development of Risk Pool's Annual Required Base Contribution**

	<b>Fiscal Year 2010/2011</b>	<b>Fiscal Year 2011/2012</b>
<b>1. Contribution in Projected Dollars</b>		
a) Total Normal Cost	\$ 63,006,718	\$ 68,265,463
b) Employee Contribution	29,129,692	31,171,551
c) Pool's Gross Employer Normal Cost [(1a) - (1b)]	33,877,025	37,093,911
d) Total Surcharges for Class 1 Benefits	2,773,558	3,025,681
e) Net Employer Normal Cost [(1c) - (1d)]	31,103,468	34,068,230
f) Payment on Pool's Amortization Base	\$ <u>4,409,146</u>	\$ <u>15,769,799</u>
g) Total Required Employer Contributions [(1e) + (1f)]	35,512,614	49,838,029
<b>2. Annual Covered Payroll as of Valuation Date</b>	\$ 333,307,600	\$ 355,150,151
<b>3. Projected Payroll for Contribution Fiscal Year</b>	\$ 366,872,701	\$ 390,914,864
<b>4. Contribution as a % of Projected Pay</b>		
a) Total Normal Cost [(1a) / (3)]	17.174%	17.463%
b) Employee Contribution [(1b) / (3)]	7.940%	7.974%
c) Pool's Gross Employer Normal Cost [(1c) / (3)]	9.234%	9.489%
d) Total Surcharges for Class 1 Benefits [(1d) / (3)]	0.756%	0.774%
e) Net Employer Normal Cost [(1e) / (3)]	8.478%	8.715%
f) Payment on Pool's Amortization Base [(1f) / (3)]	1.202%	4.034%
g) Total Required Employer Contributions [(1g) / (3)]	9.680%	12.749%

**SUMMARY OF LIABILITY AND RATES****Pool's Employer Contribution Rate History**

Valuation Date	Net Employer Normal Cost	Total Surcharges for Class 1 Benefits	Gross Employer Normal Cost	Payment on Pool's Amortization Bases	Total Payment On Employer Side Funds	Total Employer Contribution
06/30/2005	8.370%	0.813%	9.183%	0.413%	4.826%	14.422%
06/30/2006	8.377%	0.863%	9.240%	0.656%	4.503%	14.399%
06/30/2007	8.403%	0.775%	9.178%	0.762%	3.817%	13.757%
06/30/2008	8.478%	0.756%	9.234%	1.202%	3.690%	14.126%
06/30/2009	8.715%	0.774%	9.489%	4.034%	3.660%	17.183%

**Funding History**

Valuation Date	Accrued Liabilities (AL)	Market Value of Assets (MVA)	Funded Ratio (MVA/AL)
06/30/2005	\$579,276,103	\$513,331,728	88.6%
06/30/2006	\$912,988,585	\$831,688,706	91.1%
06/30/2007	\$1,315,454,361	\$1,322,660,245	100.6%
06/30/2008	\$1,537,909,933	\$1,353,157,484	88.0%
06/30/2009	\$1,834,424,640	\$1,088,733,372	59.4%

Valuation Date	Accrued Liabilities (AL)	Actuarial Value of Assets (AVA)	Unfunded Liabilities (UL)	Funded Ratio (AVA/AL)	Annual Covered Payroll	UL As a % of Payroll
06/30/2005	\$579,276,103	\$500,388,523	\$78,887,580	86.4%	\$129,379,492	61.0%
06/30/2006	\$912,988,585	\$787,758,909	\$125,229,676	86.3%	\$200,320,145	62.5%
06/30/2007	\$1,315,454,361	\$1,149,247,298	\$166,207,063	87.4%	\$289,090,187	57.5%
06/30/2008	\$1,537,909,933	\$1,337,707,835	\$200,202,098	87.0%	\$333,307,600	60.1%
06/30/2009	\$1,834,424,640	\$1,493,430,831	\$340,993,809	81.4%	\$355,150,151	96.0%

Information shown here is for compliance with GASB No. 27 for a cost-sharing multiple-employer defined benefit plan.



## **SUMMARY OF ASSETS**

- **RECONCILIATION OF THE MARKET VALUE OF ASSETS**
- **DEVELOPMENT OF THE ACTUARIAL VALUE OF ASSETS**
- **ASSET ALLOCATION**





## SUMMARY OF ASSETS

### Reconciliation of the Market Value of Assets

1. Market Value of Assets as of June 30, 2008 Including Receivables	\$	1,353,157,484
2. Receivables for Service Buybacks as of June 30, 2008		3,843,174
3. Market Value of Assets as of June 30, 2008 [1 - 2]		1,349,314,310
4. Employer Contributions		49,313,069
5. Employee Contributions		31,952,963
6. Benefit Payments to Retirees and Beneficiaries		(56,330,703)
7. Refunds		(2,163,660)
8. Lump Sum Payments		(192,356)
9. Transfers and Miscellaneous Adjustments		1,008,771
10. Investment Return		<u>(328,692,055)</u>
11. Market Value of Assets as of June 30, 2009 (w/o Pool Transfers)	\$	1,044,210,339
12. Transfers into and out of the Risk Pool		<u>40,246,114</u>
13. Market Value of Assets as of June 30, 2009	\$	1,084,456,453
14. Receivables for Service Buybacks as of June 30, 2009		4,276,919
15. Market Value of Assets as of June 30, 2009 Including Receivables [13 + 14]		1,088,733,372

### Development of the Actuarial Value of Assets

1. Actuarial Value of Assets as of June 30, 2008 Used for Rate Setting Purposes		1,337,707,835
2. Receivables for Service Buyback as of June 30, 2008		3,843,174
3. Actuarial Value of Assets as of June 30, 2008 [1 - 2]		1,333,864,661
4. Employer Contributions		49,313,069
5. Employee Contributions		31,952,963
6. Benefit Payments to Retirees and Beneficiaries		(56,330,703)
7. Refunds		(2,163,660)
8. Lump Sum Payments		(192,356)
9. Transfers and Miscellaneous Adjustments		1,008,771
10. Expected Investment Income at 7.75%		<u>104,271,494</u>
11. Expected Actuarial Value of Assets (w/o Pool Transfers)	\$	1,461,724,240
12. Market Value of Assets June 30, 2009 (w/o Pool Transfers)		1,044,210,339
13. Preliminary Actuarial Value of Assets (w/o Pool Transfers) $[(11) + ((12) - (11)) / 15]$		1,433,889,980
14. Preliminary Actuarial Value to Market Value Ratio		137.32%
15. Final Actuarial Value to Market Value Ratio (minimum 60%, maximum 140%)		137.32%
16. Market Value of Assets June 30, 2009		1,084,456,453
17. Actuarial Value of Assets as of June 30, 2009		1,489,153,912
18. Receivables for Service Buybacks as of June 30, 2009		4,276,919
19. Actuarial Value of Assets as of June 30, 2009 Used for Rate Setting Purposes [17 + 18]		1,493,430,831

## SUMMARY OF ASSETS

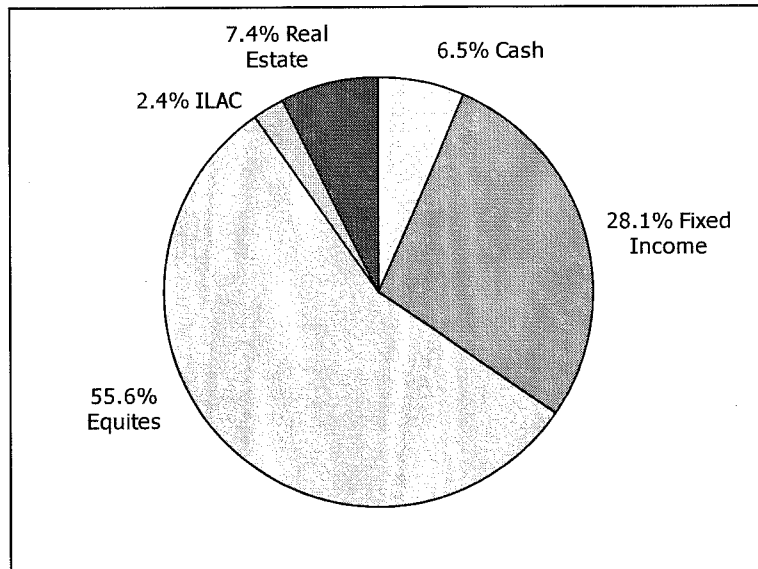
### Asset Allocation

The starting point and most important element of CalPERS' successful return on investment is the asset allocation or diversification among stocks, bonds, cash and other investments. Asset allocation is not an asset-only or liability-only decision. All factors, including liabilities, benefit payments, operating expenses, and employer and member contributions are taken into account in determining the appropriate asset allocation mix. The goal is to maximize returns at a prudent level of risk which presents an ever-changing balancing act between market volatility and long-term goals.

CalPERS follows a strategic asset allocation policy that identifies the percentage of funds to be invested in each asset class.

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, 2009. The assets for Miscellaneous 2.5% at 55 Risk Pool are part of the Public Employees Retirement Fund (PERF) and are invested accordingly.

(A) Asset Class	(B) Market Value (\$ Billion)	(C) Current Allocation	(D) Target
1) Total Cash Equivalents	12.0	6.5%	0.0%
2) Total Global Fixed Income	51.6	28.1%	19.0%
3) Total Equities	102.0	55.6%	66.0%
4) Inflation Linked (ILAC)	4.4	2.4%	5.0%
5) Total Real Estate	<u>13.5</u>	<u>7.4%</u>	<u>10.0%</u>
Total Fund	183.5	100.0%	100.0%



# **SUMMARY OF PARTICIPANT DATA**

- **SOURCE OF THE PARTICIPANT DATA**
- **DATA VALIDATION TESTS AND ADJUSTMENTS**
- **SUMMARY OF VALUATION DATA**
- **ACTIVE MEMBERS**
- **TRANSFERRED AND TERMINATED MEMBERS**
- **RETIRED MEMBERS AND BENEFICIARIES**



## **SUMMARY OF PARTICIPANT DATA**

### **Source of the Participant Data**

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

- individual member and beneficiary information,
- employment and payroll information,
- accumulated contributions with interest,
- service information,
- benefit payment information,
- information about the various organizations which contract with CalPERS, and
- detailed information about the plan provisions applicable to each group of members.

### **Data Validation Tests and Adjustments**

Once the information is extracted from the various computer systems into the database, update queries are then run against this data to correct for flaws found in the data. This part of the process is intended to validate the participant data for all CalPERS plans. The data is then checked for reasonableness and consistency with data from the prior valuation.

Checks on the data include:

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

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

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

## SUMMARY OF PARTICIPANT DATA

### Summary of Valuation Data

	June 30, 2008	June 30, 2009
1. <b>Number of Plans in the Risk Pool</b>	160	163
2. <b>Active Members</b>		
a) Counts	5,402	5,492
b) Average Attained Age	45.35	45.59
c) Average Entry Age on Rate Plan	36.70	36.61
d) Average Years of Service	8.66	8.98
e) Average Annual Covered Pay	\$ 61,701	\$ 64,667
f) Annual Covered Payroll	333,307,600	355,150,151
g) Projected Annual Payroll for Contribution Year	366,872,701	390,914,864
h) Present Value of Future Payroll	2,837,898,563	2,766,104,432
3. <b>Transferred Members</b>		
a) Counts	2,404	2,507
b) Average Attained Age	47.07	47.19
c) Average Years of Service	4.01	3.95
d) Average Annual Covered Pay	\$ 84,062	\$ 86,531
4. <b>Terminated Members</b>		
a) Counts	2,297	2,383
b) Average Attained Age	44.91	45.40
c) Average Years of Service	3.22	3.19
d) Average Annual Covered Pay	\$ 40,477	\$ 40,850
5. <b>Retired Members and Beneficiaries</b>		
a) Counts*	3,796	4,286
b) Average Attained Age	68.04	68.04
c) Average Annual Benefits*	\$ 13,803	\$ 14,587
6. <b>Active to Retired Ratio</b> [(2a) / (5a)]	1.42	1.28

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.

\* Values may not match those on pages 27 and 28 due to inclusion of community property settlements.

**SUMMARY OF PARTICIPANT DATA****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  
Years of Service at Valuation Date**

<b>Attained Age</b>	<b>0-4</b>	<b>5-9</b>	<b>10-14</b>	<b>15-19</b>	<b>20-25</b>	<b>25+</b>	<b>Total</b>
15-24	186	1	0	0	0	0	187
25-29	366	64	1	0	0	0	431
30-34	314	170	36	2	0	0	522
35-39	298	186	78	26	1	0	589
40-44	326	179	110	68	35	5	723
45-49	325	203	134	96	100	43	901
50-54	291	221	136	120	102	94	964
55-59	177	146	105	81	77	98	684
60-64	95	94	42	42	32	47	352
65 and over	43	28	20	22	10	16	139
<b>All Ages</b>	2421	1292	662	457	357	303	5,492

**Distribution of Average Annual Salaries by Age and Service  
Years of Service at Valuation Date**

<b>Attained Age</b>	<b>0-4</b>	<b>5-9</b>	<b>10-14</b>	<b>15-19</b>	<b>20-25</b>	<b>25+</b>	<b>Average</b>
15-24	\$33,108	\$42,089	\$0	\$0	\$0	\$0	\$33,156
25-29	47,864	53,589	86,434	0	0	0	48,804
30-34	53,501	60,181	62,247	67,317	0	0	56,333
35-39	57,790	63,710	66,893	74,354	67,419	0	61,613
40-44	60,963	67,691	70,280	71,060	70,766	76,126	65,575
45-49	66,435	63,179	72,612	77,615	76,182	74,749	69,290
50-54	67,148	70,581	77,425	81,257	78,548	74,634	73,077
55-59	68,441	68,797	66,060	82,761	76,911	78,569	72,252
60-64	68,873	64,122	77,127	67,973	77,677	80,070	70,777
65 and over	47,817	61,015	62,520	43,475	62,453	62,630	54,662
<b>Average</b>	57,586	64,918	70,939	75,748	76,209	76,157	64,667

**SUMMARY OF PARTICIPANT DATA****Transferred and Terminated Members****Distribution of Transfers to Other CalPERS Plans by Age and Service Years of Service at Valuation Date**

<b>Attained Age</b>	<b>0-4</b>	<b>5-9</b>	<b>10-14</b>	<b>15-19</b>	<b>20-25</b>	<b>25+</b>	<b>Total</b>	<b>Average Salary</b>
15-24	29	0	0	0	0	0	29	\$51,657
25-29	109	2	0	0	0	0	111	62,690
30-34	178	25	0	0	0	0	203	67,664
35-39	202	45	9	2	0	0	258	74,056
40-44	243	66	13	8	1	0	331	85,680
45-49	331	118	41	11	3	1	505	89,329
50-54	324	103	52	19	3	0	501	95,604
55-59	260	65	37	5	3	1	371	92,596
60-64	108	36	12	7	0	0	163	102,237
65 and over	28	3	3	1	0	0	35	92,814
<b>All Ages</b>	<b>1812</b>	<b>463</b>	<b>167</b>	<b>53</b>	<b>10</b>	<b>2</b>	<b>2,507</b>	<b>86,531</b>

**Distribution of Terminated Participants with Funds on Deposit by Age and Service Years of Service at Valuation Date**

<b>Attained Age</b>	<b>0-4</b>	<b>5-9</b>	<b>10-14</b>	<b>15-19</b>	<b>20-25</b>	<b>25+</b>	<b>Total</b>	<b>Average Salary</b>
15-24	54	0	0	0	0	0	54	\$25,595
25-29	166	2	0	0	0	0	168	32,586
30-34	239	25	1	0	0	0	265	37,554
35-39	241	38	4	0	0	0	283	40,509
40-44	246	71	13	2	1	0	333	46,025
45-49	300	88	25	12	2	1	428	45,632
50-54	249	80	28	7	2	1	367	43,486
55-59	186	50	14	9	1	1	261	41,696
60-64	117	33	16	0	2	0	168	36,479
65 and over	38	14	2	0	0	2	56	22,251
<b>All Ages</b>	<b>1836</b>	<b>401</b>	<b>103</b>	<b>30</b>	<b>8</b>	<b>5</b>	<b>2,383</b>	<b>40,850</b>



**SUMMARY OF PARTICIPANT DATA**

**Retired Members and Beneficiaries**

**Distribution of Retirees and Beneficiaries by Age and Retirement Type\***

<b>Attained Age</b>	<b>Service Retirement</b>	<b>Non-Industrial Disability</b>	<b>Industrial Disability</b>	<b>Non-Industrial Death</b>	<b>Industrial Death</b>	<b>Death After Retirement</b>	<b>Total</b>
Under 30	0	0	0	0	0	2	2
30-34	0	0	1	0	0	0	1
35-39	0	2	6	0	0	2	10
40-44	0	3	8	0	0	4	15
45-49	0	20	14	1	2	10	47
50-54	130	29	13	1	0	10	183
55-59	556	48	17	2	0	13	636
60-64	890	51	12	5	0	36	994
65-69	674	42	10	5	1	61	793
70-74	448	34	3	4	0	75	564
75-79	311	15	1	4	0	81	412
80-84	241	8	0	2	0	91	342
85 and Over	182	5	0	4	0	89	280
<b>All Ages</b>	<b>3432</b>	<b>257</b>	<b>85</b>	<b>28</b>	<b>3</b>	<b>474</b>	<b>4,279</b>

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

<b>Attained Age</b>	<b>Service Retirement</b>	<b>Non-Industrial Disability</b>	<b>Industrial Disability</b>	<b>Non-Industrial Death</b>	<b>Industrial Death</b>	<b>Death After Retirement</b>	<b>Average</b>
Under 30	\$0	\$0	\$0	\$0	\$0	\$3,695	\$3,695
30-34	0	0	154	0	0	0	154
35-39	0	10,217	168	0	0	9,633	4,071
40-44	0	12,056	2,691	0	0	5,326	5,267
45-49	0	10,361	3,691	24,299	491	10,795	8,343
50-54	14,087	11,315	4,479	6,696	0	19,230	13,206
55-59	19,294	13,792	1,125	7,801	0	11,038	18,188
60-64	18,530	10,702	7,240	13,392	0	10,640	17,680
65-69	15,272	9,680	2,946	10,770	47	11,286	14,466
70-74	14,375	7,991	2,516	9,774	0	10,050	13,319
75-79	12,616	7,754	1,457	3,544	0	11,414	12,087
80-84	12,055	10,943	0	9,304	0	8,973	11,193
85 and Over	9,515	8,594	0	2,834	0	9,104	9,273
<b>All Ages</b>	<b>15,835</b>	<b>10,602</b>	<b>3,260</b>	<b>8,951</b>	<b>343</b>	<b>10,271</b>	<b>14,598</b>

**SUMMARY OF PARTICIPANT DATA**

**Retired Members and Beneficiaries (continued)**

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

<b>Years Retired</b>	<b>Service Retirement</b>	<b>Non-Industrial Disability</b>	<b>Industrial Disability</b>	<b>Non-Industrial Death</b>	<b>Industrial Death</b>	<b>Death After Retirement</b>	<b>Total</b>
Under 5 Yrs	1420	34	35	7	0	188	1,684
5-9	822	65	16	5	0	123	1,031
10-14	522	67	19	7	2	82	699
15-19	321	49	8	4	0	21	403
20-24	192	17	4	1	0	21	235
25-29	124	16	3	3	0	16	162
30 and Over	31	9	0	1	1	23	65
<b>All Years</b>	<b>3432</b>	<b>257</b>	<b>85</b>	<b>28</b>	<b>3</b>	<b>474</b>	<b>4,279</b>

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

<b>Years Retired</b>	<b>Service Retirement</b>	<b>Non-Industrial Disability</b>	<b>Industrial Disability</b>	<b>Non-Industrial Death</b>	<b>Industrial Death</b>	<b>Death After Retirement</b>	<b>Average</b>
Under 5 Yrs	\$20,540	\$14,398	\$1,747	\$11,068	\$0	\$12,367	\$19,073
5-9	14,229	12,576	3,880	15,476	0	9,855	13,448
10-14	12,505	9,727	5,606	7,152	491	8,660	11,512
15-19	12,097	8,885	4,456	3,185	0	10,832	11,401
20-24	10,441	8,341	2,838	2,801	0	7,836	9,894
25-29	7,540	7,439	109	7,757	0	5,039	7,149
30 and Over	4,237	7,769	0	6,883	47	6,453	5,486
<b>All Years</b>	<b>15,835</b>	<b>10,602</b>	<b>3,260</b>	<b>8,951</b>	<b>343</b>	<b>10,271</b>	<b>14,598</b>

\* 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 24 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.

## **APPENDIX A**

- **STATEMENT OF ACTUARIAL DATA, METHODS AND ASSUMPTIONS**



## APPENDIX A

### 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 usually 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 gains and losses in fiscal years 2008-2009, 2009-2010 and 2010-2011 in which each year's 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 pool'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.

In addition, in February 2010 the CalPERS Board adopted a resolution requiring additional contributions 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. For instance, 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. 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

## APPENDIX A

- 2) when there are excess assets, rather than an unfunded liability. In this situation a 30-year fresh start is used, unless a larger 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 period of the fresh start is chosen by the actuary according to his or her best judgment, 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% nor 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

### Accounts Receivable

In preparing valuations on and after June 30, 2007, and setting employer contribution rates, the asset figures used include accounts receivable. The CalPERS Actuarial Office assumes that all assets are accruing interest at the actuarially-assumed rate. Therefore, the rates depicted assume that all payments have been made and are accruing interest.

This change generally had minimal impact on the employer rates and no special amortization base has been created.

## 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. Superfunded status is determined only on annual valuation dates.

### Internal Revenue Code Section 415

The limitations on benefits imposed by Internal Revenue Code Section 415 were not taken into account in this valuation. The effect of these limitations has been deemed immaterial on the overall results of this valuation.

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### **Internal Revenue Code Section 401(a)(17)**

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

## ACTUARIAL ASSUMPTIONS

### Economic Assumptions

#### **Investment Return**

7.75% compounded annually (net of expenses). This assumption is used for all plans.

#### **Salary Growth**

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

#### **Public Agency Miscellaneous**

<u>Duration of Service</u>	<u>Entry Age 20</u>	<u>Entry Age 30</u>	<u>Entry Age 40</u>
0	0.1445	0.1265	0.1005
1	0.1215	0.1075	0.0875
2	0.1035	0.0935	0.0775
3	0.0905	0.0825	0.0695
4	0.0805	0.0735	0.0635
5	0.0725	0.0675	0.0585
10	0.0505	0.0485	0.0435
15	0.0455	0.0435	0.0385
20	0.0415	0.0395	0.0355
25	0.0385	0.0385	0.0355
30	0.0385	0.0385	0.0355

#### **Public Agency Fire**

<u>Duration of Service</u>	<u>Entry Age 20</u>	<u>Entry Age 30</u>	<u>Entry Age 40</u>
0	0.1075	0.1075	0.1045
1	0.0975	0.0965	0.0875
2	0.0895	0.0855	0.0725
3	0.0825	0.0775	0.0625
4	0.0765	0.0705	0.0535
5	0.0715	0.0645	0.0475
10	0.0535	0.0485	0.0375
15	0.0435	0.0415	0.0365
20	0.0395	0.0385	0.0355
25	0.0375	0.0375	0.0355
30	0.0375	0.0375	0.0355

#### **Public Agency Police**

<u>Duration of Service</u>	<u>Entry Age 20</u>	<u>Entry Age 30</u>	<u>Entry Age 40</u>
0	0.1115	0.1115	0.1115
1	0.0955	0.0955	0.0955
2	0.0835	0.0835	0.0805
3	0.0745	0.0725	0.0665
4	0.0675	0.0635	0.0575
5	0.0615	0.0575	0.0505
10	0.0475	0.0445	0.0365
15	0.0435	0.0415	0.0355
20	0.0395	0.0385	0.0355
25	0.0375	0.0365	0.0355
30	0.0375	0.0365	0.0355



**APPENDIX A****Public Agency County Peace Officers**

<u>Duration of Service</u>	<u>Entry Age 20</u>	<u>Entry Age 30</u>	<u>Entry Age 40</u>
0	0.1315	0.1315	0.1315
1	0.1115	0.1085	0.1055
2	0.0965	0.0915	0.0865
3	0.0845	0.0795	0.0735
4	0.0755	0.0695	0.0635
5	0.0685	0.0625	0.0555
10	0.0485	0.0445	0.0405
15	0.0435	0.0405	0.0385
20	0.0395	0.0385	0.0365
25	0.0375	0.0365	0.0355
30	0.0375	0.0365	0.0355

**Schools**

<u>Duration of Service</u>	<u>Entry Age 20</u>	<u>Entry Age 30</u>	<u>Entry Age 40</u>
0	0.1105	0.0985	0.0845
1	0.0965	0.0875	0.0765
2	0.0865	0.0795	0.0695
3	0.0775	0.0725	0.0645
4	0.0715	0.0665	0.0595
5	0.0655	0.0625	0.0555
10	0.0475	0.0465	0.0435
15	0.0415	0.0405	0.0375
20	0.0385	0.0375	0.0345
25	0.0365	0.0365	0.0345
30	0.0365	0.0365	0.0345

- 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**

3.25% compounded annually (used in projecting the payroll over which the unfunded liability is amortized). This assumption is used for all plans.

**Inflation**

3.00% 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 3% inflation assumption, and any potential liability loss from future member service purchases are not reflected in the valuation.

## **APPENDIX A**

### **Miscellaneous Loading Factors**

#### **Credit for Unused Sick Leave**

Final Average Salary is increased by 1% for those agencies that have accepted 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 agencies that have contracted for 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" for these employees 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.

**APPENDIX A****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).

Age	Non-Industrial Death (Not Job-Related)		Industrial Death (Job-Related)
	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.

Age	Healthy Recipients		Non-Industrially Disabled (Not Job-Related)		Industrially Disabled (Job-Related)	
	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

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### 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

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<b>Public Agency Safety</b>			
<u>Duration of Service</u>	<u>Fire</u>	<u>Police</u>	<u>County Peace Officer</u>
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.

<b>Schools</b>						
<u>Duration of Service</u>	<u>Entry Age 20</u>	<u>Entry Age 25</u>	<u>Entry Age 30</u>	<u>Entry Age 35</u>	<u>Entry Age 40</u>	<u>Entry Age 45</u>
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**

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

<b>Public Agency Miscellaneous</b>						
<u>Duration of Service</u>	<u>Entry Age 20</u>	<u>Entry Age 25</u>	<u>Entry Age 30</u>	<u>Entry Age 35</u>	<u>Entry Age 40</u>	<u>Entry Age 45</u>
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	

**APPENDIX A****Public Agency Safety**

<u>Duration of Service</u>	<u>Fire</u>	<u>Police</u>	<u>County Peace Officer</u>
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**

<u>Duration of Service</u>	<u>Entry Age 20</u>	<u>Entry Age 25</u>	<u>Entry Age 30</u>	<u>Entry Age 35</u>	<u>Entry Age 40</u>
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

## APPENDIX A

### Non-Industrial (Not Job-Related) Disability

Rates vary by age and gender for Miscellaneous Plans.

Rates vary by age for Safety Plans

Age	Miscellaneous		Fire	Police	County Peace Officer	Schools	
	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.

**APPENDIX A****Service Retirement****Public Agency Miscellaneous 2% @ 60**

Age	Duration of Service					
	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

**Public Agency Miscellaneous 2% @ 55**

Age	Duration of Service					
	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



**APPENDIX A****Public Agency Miscellaneous 2.5% @ 55**

Age	Duration of Service					
	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

**Public Agency Miscellaneous 2.7% @ 55**

Age	Duration of Service					
	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

**APPENDIX A****Public Agency Miscellaneous 3% @ 60**

Age	Duration of Service					
	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

**Public Agency Fire 1/2 @ 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 1/2 @ 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		

**APPENDIX A****Public Agency Police 2%@ 50**

Age	Duration of Service					
	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.

**Public Agency Fire 2%@50**

Age	Duration of Service					
	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

**APPENDIX A****Public Agency Police 3%@ 55**

Age	Duration of Service					
	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.

**Public Agency Fire 3%@55**

Age	Duration of Service					
	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

**APPENDIX A****Public Agency Police 3%@ 50**

Age	Duration of Service					
	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.

**Public Agency Fire 3%@50**

Age	Duration of Service					
	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

**APPENDIX A****Schools 2%@ 55**

Age	Duration of Service					
	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

## **APPENDIX B**

- **SUMMARY OF PRINCIPAL PLAN PROVISIONS**





## APPENDIX B

The following is a description of the principal plan provisions used in calculating the liabilities of the Miscellaneous 2.5% at 55 Risk Pool. Plan provisions are divided based on whether they are standard, Class 1, Class 2 or Class 3 benefits. Standard benefits are applicable to all members of the risk pool while Class 1, 2 or 3 benefits vary among employers. Provided at the end of the listing is a table providing the percentage of members participating in the pool that are subject to each benefit.

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)

#### Benefit

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

- The *benefit factor* for this group of employees comes from the **2.5% at 55 Miscellaneous** benefit formula factor table. The factor depends on the member's age at retirement. Listed below are the factors for retirement at whole year ages:

Retirement Age	2.5% at 55 Miscellaneous Factor
50	2.0%
51	2.1%
52	2.2%
53	2.3%
54	2.4%
55 & Up	2.5%

- The *years of service* is the amount credited by CalPERS to a member while he or she is employed in this group (or for other periods that are recognized under the employer's contract with CalPERS). For a member who has earned service with multiple CalPERS employers, the benefit from each employer is calculated separately according to each employer's contract, and then added together for the total allowance. Any unused sick leave accumulated at the time of retirement will be converted to credited service at 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 available to all members is 36 months. Employers have the option of providing a final compensation equal to the highest 12 consecutive months by contracting for this class 1 optional benefit.
- For employees covered by the modified formula, the final compensation is offset by \$133.33 (or by one third if the final compensation is less than \$400). Employers have the option to contract for the class 3 benefit that will eliminate the offset applicable to the final compensation of employees covered by a modified formula.
- The Miscellaneous Service Retirement benefit is not capped. The Safety Service Retirement benefit is capped at 90% of final compensation.

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### 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.

#### 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 working with 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.

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.

#### Improved Benefit

Employers have the option of providing this improved benefit by contracting for this class 3 optional benefit.

The improved Non-Industrial Disability Retirement benefit is 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

## **APPENDIX B**

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**

Employers have the option of providing this improved benefit by contracting for this class 1 optional benefit.

#### **Eligibility**

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

#### **Standard Benefit**

The standard Industrial Disability Retirement benefit is a monthly allowance equal to 50% of 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 or annuitization of the accumulated member contributions with respect to employment in this group. However, if a member is eligible for Service Retirement and if the Service Retirement benefit is more than the Industrial Disability Retirement benefit, the member may choose to receive the larger benefit.

#### **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. 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 or annuitization of the accumulated member contributions with respect to employment in this group. However, if a member is eligible for Service Retirement and if the Service Retirement benefit is more than the Industrial Disability Retirement benefit, the member may choose to receive the larger benefit.

### **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 any of these improved lump sum death benefit by contracting for any of these class 3 optional benefits.

Upon the death of a retiree, a one-time lump sum payment of \$600, \$2,000, \$3,000, \$4,000 or \$5,000 will be made to the retiree's designated survivor(s), or to the retiree's estate.

### **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

## APPENDIX B

pays for by taking a reduction in his or her retirement allowance. The larger the amount to be provided to the beneficiary is, and the younger the beneficiary is, the greater the reduction to the retiree's allowance.

### **Improved Form of Payment (Post Retirement Survivor Allowance)**

Employers have the option to contract for this class 1 benefit providing an improved 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 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. CalPERS offers a variety of such benefit options, which the retiree pays for by taking a reduction to the option portion of his or her retirement allowance.

## **Pre-Retirement Death Benefits**

### **Basic Death Benefit**

#### **Eligibility**

An employee's beneficiary (or estate) may receive the Basic Death benefit if the member dies while actively employed. A CalPERS member 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 described below may choose to receive that death benefit instead of this Basic Death benefit.

#### **Standard Benefit**

The Basic Death Benefit is a lump sum in the amount of the member's accumulated contributions, where interest is currently credited at 7.75% 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**

#### **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

## APPENDIX B

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

### Standard Benefit

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

## Optional Settlement 2W Death Benefit

### Eligibility

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

### Standard 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. There is a guarantee that the total amount paid will at least equal the Basic Death Benefit.

## Special Death Benefit

### Eligibility

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

### Improved 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

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

### **Cost-of-Living Adjustments**

#### **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%. However, the cumulative adjustment may not be greater than the cumulative change in the Consumer Price Index since the date of retirement.

#### **Improved Benefit**

Employers have the option of providing any of these improved cost-of-living adjustments by contracting for any one of these class 1 optional benefits.

Beginning the second calendar year after the year of retirement, retirement and survivor allowances will be annually adjusted on a compound basis by either 3%, 4% or 5%. However, 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 following schedule. The employer may choose to "pick-up" these contributions for the employees.

The percent contributed below the monthly compensation breakpoint is 0%.

The monthly compensation breakpoint is \$0 for full and supplemental formula members, except for those members in the CSU auxiliary organizations where the breakpoint is \$513.

The monthly compensation breakpoint is \$133.33 for employees covered by the modified formula.

The percent contributed above the monthly compensation breakpoint is 8% except for those members in the CSU auxiliary organizations where the contribution rate has been set at the State member level.

### **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.

## **APPENDIX C**

- **CLASSIFICATION OF OPTIONAL BENEFITS**
- **EXAMPLE OF INDIVIDUAL AGENCY'S RATE CALCULATION**
- **DISTRIBUTION OF CLASS 1 BENEFITS**





## Classification of Optional Benefits

Below is the list of the available optional benefit provisions and their initial classification upon establishment of risk pools. When new benefits become available as a result of legislation, the Chief actuary will determine their classification in accordance with the criteria established in the board policy.

### **Class 1**

Class 1 benefits have been identified to be the more expensive ancillary benefits. These benefits vary by employer across the risk pool. Agencies contracting for a Class 1 benefit will be responsible for the past service liability associated with such benefit and will be required to pay a surcharge established by the actuary to cover the ongoing cost (normal cost) of the Class 1 benefit.

The table below shows the list of Class 1 benefits and their applicable surcharge for the Miscellaneous 2.5% at 55 Risk Pool. Last year's surcharges are shown for comparison.

	<b>June 30, 2008</b>	<b>June 30, 2009</b>
• One Year Final Compensation	0.583%	0.604%
• EPMC 7%	1.005%	1.066%
• EPMC 8%	1.148%	1.219%
• EPMC 9%	N/A	N/A
• 25% PRSA	0.982%	0.903%
• 50% PRSA	0.982%	0.903%
• 3% Annual COLA	1.318%	1.363%
• 4% Annual COLA	1.318%	1.363%
• 5% Annual COLA	1.318%	1.363%
• IDR For Local Miscellaneous Members	0.527%	0.464%
• Increased IDR Allowance to 75% of Compensation	0.930%	0.813%
• Improved Industrial Disability Allowance for Local Safety Members	N/A	N/A
• 1% Employee Cost Sharing	(1.000%)	(1.000%)
• 2% Employee Cost Sharing	(2.000%)	(2.000%)
• .75% Employee Cost Sharing	(0.750%)	(0.750%)
• 7% Employee Contribution Reduction	7.000%	7.000%
• 3.50% Employee Contribution Reduction	3.500%	3.500%
• Employee Contribution Rate for CSUC Auxiliary Organizations Reduced to State Member Level - Covered by Social Security	2.000%	2.000%
• Employee Contribution Rate for CSUC Auxiliary Organizations Reduced to State Member Level - Not Covered by Social Security	1.000%	1.000%
• 1.25% @ 65 Miscellaneous	N/A	N/A
• 2.5% @ 55 Safety	N/A	N/A
• 1/2 @ 55 Safety	N/A	N/A

For employers contracting for more than one Class 1 benefit, the surcharges listed in this table will be added together.

### **Class 2**

Class 2 benefits have been identified to be the ancillary benefits providing one-time increases in benefits. These benefits vary by employer across the risk pool. Agencies contracting for a Class 2 benefit will be responsible for the past service liability associated with such benefit.

The following benefits shall be classified as Class 2:

- One-time 1% to 6% Ad Hoc COLA Increases for members who retired or died prior to January 1, 1998 (Section 21328)

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- "Golden Handshakes" – Section 20903 Two Years Additional Service Credit
- Credit for Prior Service Paid for by the Employer
- Military Service Credit (Section 20996)
- Credit for Local Retirement System Service for Employees of Agencies Contracted on a Prospective basis (Section 20530.1)
- Prior Service Credit for Employees of an Assumed Agency Function (Section 20936)
- Limit Prior Service to Members Employed on Contract Date (Section 20938)
- Public Service Credit for Limited Prior Service (Section 21031)
- Public Service Credit for Employees of an Assumed Agency or Function (Section 21025)

### Class 3

Class 3 benefits have been identified to be the less expensive ancillary benefits. Class 3 benefits may vary by rate plan within each risk pool. However, the employer contribution rate will not vary within the risk pool due to the Class 3 benefits.

The following benefits shall be classified as Class 3:

- Full formula plus social security
- Post Retirement Lump Sum Death Benefit
- \$600 lump sum retired death benefit (Section 21622)
- \$2,000 lump sum retired death benefit (Section 21623.5)
- \$3,000 lump sum retired death benefit (Section 21623.5)
- \$4,000 lump sum retired death benefit (Section 21623.5)
- \$5,000 lump sum retired death benefit (Section 21623.5)
- Improved non-industrial disability allowance (Section 21427)
- Special death benefit for local miscellaneous members (Section 21540.5)
- Service Credit Purchased by Member
- Partial Service Retirement (Section 21118)
- Optional Membership for Part Time Employees (Section 20325)
- Extension of Reciprocity Rights for Elective Officers (Section 20356)
- Removal of Contract Exclusions Prospectively Only (Section 20503)
- Alternate Death Benefit for Local Fire Members credited with 20 or more years of service (Section 21547.7)

## Example Of Individual Agency's Rate Calculation

An individual employer rate is comprised of several components. These include the pool's net employer normal cost, payment on the pool's unfunded liability, additional surcharge payments for contracted Class 1 benefits, the normal cost phase-out and an agency's payment for their own side fund. An example of the total rate for an employer might look something like this:

Net Pool's Employer Normal Cost	8.715%
Rate Plan Surcharges	<u>0.604%</u>
Total Employer Normal Cost	9.319%
Plus: Pool's Payment on the Amortization Bases	4.034%
Side Fund Amortization Payment	<u>2.600%</u>
Total Employer Rate for fiscal year 2011-2012	15.953%

Details regarding your individual agency's normal cost phase out, side fund and surcharges can be found in Section 1.

## Distribution of Class 1 Benefits

	<b>% of members in the pool with contracted benefit</b>
<b><i>Final Compensation</i></b>	
One Year Final Compensation	78.9%
Three Years Final Compensation	21.1%
<b><i>Post Retirement Survivor Continuance (PRSA)</i></b>	
No PRSA	76.2%
With PRSA	23.8%
<b><i>Cost-of-Living Adjustments (COLA)</i></b>	
2% COLA	96.6%
3% COLA	0.8%
4% COLA	1.7%
5% COLA	0.9%
<b><i>Industrial Disability Benefit</i></b>	
None	95.0%
Standard Industrial Disability Benefit (50% of Final Compensation)	3.7%
Improved Industrial Disability Benefit (75% of Final Compensation)	1.3%
Improved Industrial Disability Benefit (50% - 90% of Final Compensation)	0.0%



## **APPENDIX D**

- **LIST OF PARTICIPATING EMPLOYERS**



## APPENDIX D

### Employer Name

ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY  
ALAMEDA COUNTY SCHOOLS INSURANCE GROUP  
ALAMEDA COUNTY TRANSPORTATION IMPROVEMENT AUTHORITY  
ALAMEDA COUNTY WASTE MANAGEMENT AUTHORITY  
ALBANY MUNICIPAL SERVICES JOINT POWERS AUTHORITY  
ANDERSON FIRE PROTECTION DISTRICT  
ARROYO GRANDE DISTRICT CEMETERY  
ASSOCIATION OF BAY AREA GOVERNMENTS  
ASSOCIATION OF CALIFORNIA WATER AGENCIES  
BEAUMONT DISTRICT LIBRARY  
BUTTE COUNTY MOSQUITO AND VECTOR CONTROL DISTRICT  
CALIFORNIA ASSOCIATION FOR PARK AND RECREATION INDEMNITY  
CAYUCOS SANITARY DISTRICT  
CAYUCOS-MORRO BAY CEMETERY DISTRICT  
CENTRAL COUNTY FIRE DEPARTMENT  
CENTRAL FIRE PROTECTION DISTRICT OF SANTA CRUZ COUNTY  
CHESTER PUBLIC UTILITY DISTRICT  
CHINO BASIN WATERMASTER  
CHINO VALLEY INDEPENDENT FIRE DISTRICT  
CITY OF ALBANY  
CITY OF ARROYO GRANDE  
CITY OF ATASCA DERO  
CITY OF BLUE LAKE  
CITY OF BLYTHE  
CITY OF CALISTOGA  
CITY OF CAPITOLA  
CITY OF CHOWCHILLA  
CITY OF CRESCENT CITY  
CITY OF DIXON  
CITY OF DUARTE  
CITY OF EAST PALO ALTO  
CITY OF FIREBAUGH  
CITY OF GRASS VALLEY  
CITY OF GROVER BEACH  
CITY OF GUSTINE  
CITY OF HEALDSBURG  
CITY OF HOLLISTER  
CITY OF IONE  
CITY OF JACKSON  
CITY OF LA PUENTE  
CITY OF LA QUINTA  
CITY OF LA VERNE  
CITY OF LAKE ELSINORE  
CITY OF LAKEPORT  
CITY OF LARKSPUR  
CITY OF LEMON GROVE  
CITY OF LOMITA  
CITY OF MILL VALLEY  
CITY OF NEVADA CITY  
CITY OF OAKDALE  
CITY OF OAKLEY  
CITY OF PINOLE  
CITY OF PISMO BEACH  
CITY OF PLACERVILLE  
CITY OF RANCHO MIRAGE  
CITY OF RANCHO PALOS VERDES  
CITY OF RANCHO SANTA MARGARITA

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CITY OF SAN CARLOS  
CITY OF SAN PABLO  
CITY OF SANGER  
CITY OF SANTA PAULA  
CITY OF SAUSALITO  
CITY OF SCOTTS VALLEY  
CITY OF SIERRA MADRE  
CITY OF SOLANA BEACH  
CITY OF SOLVANG  
CITY OF SOUTH EL MONTE  
CITY OF TEMPLE CITY  
CITY OF TWENTYNINE PALMS  
CITY OF WATERFORD  
COASTSIDE COUNTY WATER DISTRICT  
CRESTLINE VILLAGE WATER DISTRICT  
DE LUZ COMMUNITY SERVICES DISTRICT  
DENAIR COMMUNITY SERVICES DISTRICT  
DESERT WATER AGENCY  
EAST BAY DISCHARGERS AUTHORITY  
EASTERN SIERRA TRANSIT AUTHORITY  
EXPOSITION METRO LINE CONSTRUCTION AUTHORITY  
FALLBROOK PUBLIC UTILITY DISTRICT  
FEATHER RIVER AIR QUALITY MANAGEMENT DISTRICT  
FOUNTAIN VALLEY CITY  
GOLDEN SIERRA JOB TRAINING AGENCY  
GREAT BASIN UNIFIED AIR POLLUTION CONTROL DISTRICT  
HEBER PUBLIC UTILITY DISTRICT  
HERITAGE RANCH COMMUNITY SERVICES DISTRICT  
HI-DESERT WATER DISTRICT  
HIDDEN VALLEY LAKE COMMUNITY SERVICES DISTRICT  
HIGGINS AREA FIRE PROTECTION DISTRICT  
KERN COUNTY COUNCIL OF GOVERNMENTS  
KIRKWOOD MEADOWS PUBLIC UTILITIES DISTRICT  
LAKE ARROWHEAD COMMUNITY SERVICES DISTRICT  
LOS ANGELES COUNTY AREA E CIVIL DEFENSE AND DISASTER BOARD  
LOS ANGELES COUNTY LAW LIBRARY  
LOS ANGELES MEMORIAL COLISEUM COMMISSION  
LOS ANGELES TO PASADENA METRO BLUE LINE CONSTRUCTION  
MADERA HOUSING AUTHORITY, THE CITY OF  
MC FARLAND RECREATION AND PARK DISTRICT  
MIDPENINSULA REGIONAL OPEN SPACE DISTRICT  
MONTE VISTA COUNTY WATER DISTRICT  
NAPA COUNTY TRANSPORTATION AND PLANNING AGENCY  
NEVADA COUNTY RESOURCE CONSERVATION DISTRICT  
NORTH MARIN WATER DISTRICT  
OLIVENHAIN MUNICIPAL WATER DISTRICT  
ORO LOMA SANITARY DISTRICT  
OXNARD HARBOR DISTRICT  
PEBBLE BEACH COMMUNITY SERVICES DISTRICT  
PLEASANT VALLEY RECREATION AND PARK DISTRICT  
PUBLIC AGENCY RISK SHARING AUTHORITY OF CALIFORNIA  
RAINBOW MUNICIPAL WATER DISTRICT  
RANCHO CUCAMONGA FIRE PROTECTION DISTRICT  
REDWOOD EMPIRE SCHOOL INSURANCE GROUP  
REGIONAL COUNCIL OF RURAL COUNTIES  
ROSAMOND COMMUNITY SERVICES DISTRICT  
ROSE BOWL OPERATING COMPANY  
ROWLAND WATER DISTRICT  
SACRAMENTO AREA COUNCIL OF GOVERNMENTS



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SACRAMENTO TRANSPORTATION AUTHORITY  
SACRAMENTO-YOLO MOSQUITO AND VECTOR CONTROL DISTRICT  
SAN BENITO COUNTY WATER DISTRICT  
SAN BERNARDINO VALLEY WATER CONSERVATION DISTRICT  
SAN ELIJO JOINT POWERS AUTHORITY  
SAN FRANCISCO BAY AREA WATER EMERGENCY TRANSPORTATION AUTHORITY  
SAN LUIS WATER DISTRICT  
SAN MATEO COUNTY HARBOR DISTRICT  
SANTA CLARA COUNTY LAW LIBRARY  
SANTA CRUZ PORT DISTRICT  
SEWERAGE COMMISSION-OROVILLE REGION  
SHASTA LAKE FIRE PROTECTION DISTRICT  
SHASTA LOCAL AGENCY FORMATION COMMISSION  
SOQUEL CREEK WATER DISTRICT  
SOUTH ORANGE COUNTY WASTE WATER AUTHORITY  
SOUTH SAN JOAQUIN IRRIGATION DISTRICT  
SOUTH SAN LUIS OBISPO COUNTY SANITATION DISTRICT  
SOUTHEAST AREA SOCIAL SERVICES FUNDING AUTHORITY  
SOUTHERN CALIFORNIA PUBLIC POWER AUTHORITY  
SUMMIT CEMETERY DISTRICT  
SUSANVILLE CONSOLIDATED SANITARY DISTRICT  
TOWN OF COLMA  
TOWN OF CORTE MADERA  
TOWN OF FAIRFAX  
TOWN OF WOODSIDE  
TRABUCO CANYON WATER DISTRICT  
TRI-DAM HOUSING AND PERSONNEL AGENCY  
TRINDEL INSURANCE FUND  
TWIN CITIES POLICE AUTHORITY  
UNITED WATER CONSERVATION DISTRICT  
VALLEY OF THE MOON WATER DISTRICT  
VALLEY SANITARY DISTRICT  
VALLEY-WIDE RECREATION AND PARK DISTRICT  
VICTOR VALLEY WASTEWATER RECLAMATION AUTHORITY  
WATER FACILITIES AUTHORITY-JOINT POWERS AGENCY  
WEST BAY SANITARY DISTRICT  
WEST CONTRA COSTA INTEGRATED WASTE MANAGEMENT AUTHORITY  
WEST VALLEY MOSQUITO AND VECTOR CONTROL DISTRICT  
WEST VALLEY SANITATION DISTRICT OF SANTA CLARA COUNTY  
WESTERN MUNICIPAL WATER DISTRICT  
WILLOW COUNTY WATER DISTRICT  
WILLOW CREEK COMMUNITY SERVICES DISTRICT  
WINTERS CEMETERY DISTRICT  
YOLO COUNTY PUBLIC AGENCY RISK MANAGEMENT INSURANCE AUTHORITY  
YOLO COUNTY TRANSPORTATION DISTRICT





## **APPENDIX E**

- **INVESTMENT RETURN SENSITIVITY ANALYSIS**
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## Investment Return Sensitivity Analysis

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 2009-2010 will first be reflected in the June 30, 2010 actuarial valuation that will be used to set the 2012-2013 employer contribution rates and 2010-2011 investment return will first be reflected in the June 30, 2011 actuarial valuation that will be used to set the 2013-2014 employer contribution rates.

In July 2010, the investment return for fiscal year 2009-2010 was announced to be 11.4%. 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. The preliminary 11.4% return for the 2009-2010 fiscal year is good news as it would help reduce the impact of the -24% return in 2008-2009 and the impact of the three year phase in adopted by the Board in June 2009. For purposes of projecting future employer rates, we are assuming an 11% investment return for fiscal year 2009-2010.

Based on an 11% investment return for fiscal year 2009-2010 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 2012-2013, the effect on the 2012-2013 Employer Rate is as follows:

<b>Estimated 2012-2013 Pool's Base Employer Rate</b>	<b>Estimated Increase in Pool's Base Employer Rate between 2011-2012 and 2012-2013</b>
13.3%	0.6%

As part of this report, a sensitivity analysis was performed to determine the effects of various investment returns during fiscal year 2010-2011 on the 2013-2014 employer rates. Once again, the projected 2013-2014 rate increases assume 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 fiscal year 2013-2014.

Five different 2010-2011 investment return scenarios were selected.

- The first scenario is what one would expect if the markets were to give us a 5<sup>th</sup> percentile return. The 5<sup>th</sup> percentile return corresponds to a -11% return for the 2010-2011 fiscal year.
- The second scenario is what one would expect if the markets were to give us a 25<sup>th</sup> percentile return. The 25<sup>th</sup> percentile return corresponds to a 0% return for the 2010-2011 fiscal year.
- The third scenario assumed the return for 2010-2011 would be our assumed 7.75% investment return which represents about a 47<sup>th</sup> percentile event.
- The fourth scenario is what one would expect if the markets were to give us a 75<sup>th</sup> percentile return. The 75<sup>th</sup> percentile return corresponds to a 16% return for the 2010-2011 fiscal year.
- Finally, the last scenario is what one would expect if the markets were to give us a 95<sup>th</sup> percentile return. The 95<sup>th</sup> percentile return corresponds to a 27% return for the 2010-2011 fiscal year.

The table below shows the estimated 2013-2014 contribution rate and the estimated increase over the 2012-2013 rate for your plan under the five different scenarios.

2010-2011 Investment Return Scenario	Estimated 2013-2014 Pool's Base Employer Rate	Estimated Increase in Pool's Base Employer Rate between 2012-2013 and 2013-2014
-11%	20.1%	6.8%
0%	17.3%	4.0%
7.75%	15.4%	2.1%
16%	13.6%	0.3%
27%	13.5%	0.1%

The rates shown on this page are the Pool's Base Employer Rates. This is the Pool's Net Normal Cost (excluding surcharges for Class 1 Benefits) plus the payment of the pool's amortization bases.





## **APPENDIX F**

- **GLOSSARY OF ACTUARIAL TERMS**
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## **Glossary of Actuarial Terms**

### **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 investment return, salary growth and inflation.

### **Actuarial Methods**

Procedures employed by actuaries to achieve certain goals of a pension plan. These may include things such as funding method, setting the length of time to fund the past service liability and determining the actuarial value of assets.

### **Actuarial Valuation**

The determination, as of a valuation date of the normal cost, actuarial accrued liability, actuarial value of assets and related actuarial present values for a pension plan. These valuations are performed annually or when an employer is contemplating a change to their plan provisions.

### **Actuarial Value of Assets**

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 (or side fund) can be segregated by "cause", creating "bases" and each such base will be separately amortized and paid for over a specific period of time. This can be likened to a home mortgage that has 24 years of remaining payments and a second on that mortgage that has 10 years left. Each base or each mortgage note has its own terms (payment period, principal, etc.)

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

### **Amortization Period**

The number of years required to pay off an amortization base.

### **Annual Required Contributions (ARC)**

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

### **Class 1 Benefits**

Class 1 benefits have been identified to be the more expensive ancillary benefits. These benefits vary by employer across the risk pool. Agencies contracting for a Class 1 benefit will be responsible for the past service liability associated with such benefit and will be required to pay a surcharge established by the actuary to cover the ongoing cost (normal cost) of the Class 1 benefit.

## **APPENDIX F**

### **Class 2 Benefits**

Class 2 benefits have been identified to be the ancillary benefits providing one-time increases in benefits. These benefits vary by employer across the risk pool. Agencies contracting for a Class 2 benefit will be responsible for the past service liability associated with such benefit.

### **Class 3 Benefits**

Class 3 benefits have been identified to be the less expensive ancillary benefits. Class 3 benefits may vary by rate plan within each risk pool. However, the employer contribution rate will not vary within the risk pool due to the Class 3 benefits.

### **Entry Age**

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

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

### **Excess Assets**

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

### **Entry Age Normal Cost Method**

An actuarial cost method designed to fund a member's total plan benefit over the course of his or her career. This method is designed to produce stable employer contributions in amounts that increase at the same rate as the employer's payroll (i.e. level % of payroll).

### **Fresh Start**

When multiple amortization bases are collapsed into one base and amortized over a new funding period. At CalPERS, fresh starts are used to avoid inconsistencies that would otherwise occur.

### **Funded Status**

A measure of how well funded a plan or risk pool is. Or equivalently, how "on track" a plan or risk pool is with respect to assets vs. accrued liabilities. We calculate a funded ratio by dividing the market value of assets by the accrued liabilities. A ratio greater than 100% means the plan or risk pool has more assets than liabilities and a ratio less than 100% means liabilities are greater than assets.

### **Normal Cost**

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

### **Pension Actuary**

A person who is responsible for the calculations necessary to properly fund a pension plan.

### **Prepayment Contribution**

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

### **Present Value of Benefits**

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

### **Risk Pools**

Using the benefit of the law of large numbers, it is a collection of employers for the purpose of sharing risk.

### **Rolling Amortization Period**

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

## **APPENDIX F**

### **Side Fund**

At the time of joining a risk pool, a side fund was created to account for the difference between the funded status of the pool and the funded status of your plan. Your side fund will be amortized on an annual basis, with the actuarial investment return assumption. This assumption is currently 7.75%. A positive side fund will cause your required employer contribution rate to be reduced by the Amortization of the Side Fund shown in REQUIRED CONTRIBUTIONS. A negative side fund will cause your required employer contribution rate to be increased by the Amortization of the Side Fund. In the absence of subsequent contract amendments or funding changes, the Side Fund will disappear at the end of the amortization period.

### **Superfunded**

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

### **Unfunded Liability**

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

