Section 2

CALIFORNIA PUBLIC EMPLOYEES' RETIREMENT SYSTEM

Safety 3.0% at 50 Risk Pool as of June 30, 2011

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Actuarial Certification

To the best of my knowledge, **Section 2** of this report is complete and accurate and contains sufficient information to disclose, fully and fairly, the funded condition of the Safety 3.0% at 50 Risk Pool. This valuation is based on the member and financial data as of June 30, 2011 provided by the various CalPERS databases and the benefits under this Risk Pool with CalPERS as of the date this report was produced. It is my 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, who is a member of the American Academy of Actuaries and the Society of Actuaries and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

SHELLY CHU, ASA, MAAA
Senior Pension Actuary, CalPERS
Pool Actuary

HIGHLIGHTS AND EXECUTIVE SUMMARY

- **PURPOSE OF SECTION 2**
- **RISK POOL'S REQUIRED EMPLOYER CONTRIBUTIONS**
- **RISK POOL'S REQUIRED BASE EMPLOYER RATE**
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- **FUNDED STATUS OF THE RISK POOL**
- **COST**
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Purpose of Section 2

This Actuarial Valuation for the Safety 3.0% at 50 Risk Pool of the California Public Employees' Retirement System (CalPERS) was performed by CalPERS' staff actuaries using data as of June 30, 2011 in order to:

- set forth the actuarial assets and accrued liabilities of this risk pool as of June 30, 2011
- determine the required contribution rate of the pool for the fiscal year July 1, 2013 through June 30, 2014
- provide actuarial information as of June 30, 2011 to the CalPERS Board and other interested parties

The use of this report for any other purposes may be inappropriate. In particular, this report does not contain information applicable to alternative benefit costs. The employer should contact their actuary before disseminating any portion of this report for any reason that is not explicitly described above.

Risk Pool's Required Employer Contribution

		Fiscal Year 2012/2013	Fiscal Year 2013/2014
Contribution in Projected Dollars			
a)	Total Pool's Normal Cost	296,377,024	296,966,312
b)	Employee Contribution	95,575,961	93,245,678
c)	Pool's Gross Employer Normal Cost	$ 200,801,063	$ 203,720,634
d)	Payment on Pool's Amortization Bases	67,727,526	76,453,657
e)	Payment on Employer Side Funds	71,296,908	60,764,266
f)	Total Required Employer Contribution*	$ 339,824,469	$ 340,932,106
	* Total may not add up due to rounding		
Contribution as a % of Projected Pay			
a)	Total Pool's Normal Cost	28.166%	28.612%
b)	Employee Contribution	9.083%	8.984%
c)	Pool's Gross Employer Normal Cost	19.083%	19.628%
d)	Payment on Pool's Amortization Bases	6.436%	7.366%
e)	Payment on Employer Side Funds	6.776%	5.854%
f)	Total Required Employer Contribution	32.295%	32.848%

These rates are the total required employer contributions to the pool for fiscal years 2012/2013 and 2013/2014. 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 bases 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 2012/2013	Fiscal Year 2013/2014
1.	Pool's Gross Employer Normal Cost	19.083%	19.628%
	Less: Surcharges for Class 1 Benefits	1.838%	1.826%
2.	Pool's Net Employer Normal Cost	17.245%	17.802%
3.	Payment on Pool's Amortization Bases	6.436%	7.366%
4.	Pool's Base Employer Rate	23.681%	25.168%

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 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.

Risk Pool's Net Total Normal Cost Rate

		Fiscal Year 2012/2013	Fiscal Year 2013/2014
1.	Pool's Net Employer Normal Cost	17.245%	17.802%
2.	Pool's Employee Contribution Rate	9.083%	8.984%
3.	Pool's Net Total Normal Cost Rate	26.328%	26.786%

Funded Status of the Risk Pool

		June 30, 2010	June 30, 2011
1.	Present Value of Projected Benefits	$ 12,551,149,334	$ 13,334,367,326
2.	Entry Age Normal Accrued Liability	$ 10,165,475,166	$ 10,951,745,049
3.	Actuarial Value of Assets	$ 8,470,235,152	$ 9,135,654,246
4.	Unfunded Liability (AVA Basis) [(2) – (3)]	1,695,240,014	1,816,090,803
5.	Funded Ratio (AVA Basis) [(3) / (2)]	83.3%	83.4%
6.	Market Value of Assets	$ 6,650,160,763	$ 8,164,486,471
7.	Unfunded Liability (MVA Basis) [(2) – (6)]	$ 3,515,314,403	$ 2,787,258,578
8.	Funded Ratio (MVA Basis) [(6) / (2)]	65.4%	74.6%

Cost

Actuarial Cost Estimates in General

What will this pension plan cost? Unfortunately, there is no simple answer. There are two major reasons for the complexity of the answer:

First, all actuarial calculations, including 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 7.5% for the past twenty year period ending June 30, 2012, returns for each fiscal year ranged from -24% to +21.7%

Second, the very nature of actuarial funding produces the answer to the question of plan 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.

Changes since the Prior Valuation

Actuarial Assumptions

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

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

The new assumptions are described in Appendix A. The effect of the change in assumptions 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".

The limitations on benefits imposed by Internal Revenue Code Section 415 were taken into account in this valuation. The effect of these limitations has been deemed immaterial on the overall results and no additional charge to the change in assumptions base was added.

Actuarial Methods

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

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

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

Benefits

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

The valuation generally reflects plan changes by amendments effective prior to July 1, 2012. 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 06/30/10 - 06/30/11
- 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

Development of Pool's Accrued and Unfunded Liabilities

		June 30, 2010	June 30, 2011
1.	Present Value of Projected Benefits		
	a) Active Members	$ 5,921,488,391	$ 5,967,913,491
	b) Transferred Members	678,234,669	663,055,039
	c) Separated Members	93,908,548	101,229,615
	d) Members and Beneficiaries Receiving Payments	5,857,517,726	6,602,169,181
	e) Total	$ 12,551,149,334	$ 13,334,367,326
2.	Present Value of Future Employer Normal Costs	$ 1,589,507,807	$ 1,608,261,522
3.	Present Value of Future Employee Contributions	$ 796,166,361	$ 774,360,755
4.	Entry Age Normal Accrued Liability		
	a) Active Members [(1a) - (2) - (3)]	$ 3,535,814,223	$ 3,585,291,214
	b) Transferred Members (1b)	678,234,669	663,055,039
	c) Separated Members (1c)	93,908,548	101,229,615
	d) Members and Beneficiaries Receiving Payments (1d)	5,857,517,726	6,602,169,181
	e) Total	$ 10,165,475,166	$ 10,951,745,049
5.	Actuarial Value of Assets (AVA) Including Receivables	$ 8,470,235,152	$ 9,135,654,246
6.	Unfunded Accrued Liability (AVA Basis) [(4e) - (5)]	1,695,240,014	1,816,090,803
7.	Funded Ratio (AVA Basis) [(5) / (4e)]	83.3%	83.4%
8.	Side Funds	$ (751,810,412)	$ (606,178,725)
9.	Unfunded Liability excluding Side Funds [(4e) - (5) - (8)]	943,429,602	1,209,912,078
10.	Market Value of Assets (MVA) Including Receivables	$ 6,650,160,763	$ 8,164,486,471
11.	Funded Ratio (MVA Basis) [(10) / (4e)]	65.4%	74.6%

(Gain)/Loss Analysis 06/30/10 - 06/30/11

To calculate the cost requirements of your pool, 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.

1.	**Total (Gain)/Loss for the Year**		
	a) Unfunded Liability/(Surplus) as of June 30, 2010	$	943,429,602
	b) Expected payment on the Unfunded Liability		(8,085,933)
	c) Interest accumulation [.0775 X (1a) - ((1.0775)^.5 - 1) X (1b)]		73,423,278
	d) Expected Unfunded Liability before other changes [(1a) - (1b) + (1c)]		1,024,938,812
	e) Change due to assumption changes		181,239,677
	f) Expected Unfunded Liability after changes[(1d) + (1e)]		1,206,178,489
	g) Actual Unfunded Liability/(Surplus) as of June 30, 2011		1,209,912,078
	h) Total (Gain)/Loss [(1g) - (1f)]	$	3,733,589
2.	**Contribution (Gain)/Loss for the Year**		
	a) Expected contribution (Employer and Employee)	$	454,942,407
	b) Interest on Expected Contributions		17,300,084
	c) Total expected Contributions with interest [(2a) + (2b)]		472,242,491
	d) Actual Contributions		459,641,804
	e) Interest on Actual Contributions		17,478,787
	f) Total Actual Contributions with interest [(2d) + (2e)]		477,120,591
	g) Contribution (Gain)/Loss [(2c) - (2f)]	$	(4,878,100)
3.	**Asset (Gain)/Loss for the Year**		
	a) Actuarial Value of Assets as of 06/30/10 Including Receivables	$	8,470,235,152
	b) Receivables as of 06/30/10		8,523,087
	c) Actuarial Value of Assets as of 06/30/10		8,461,712,065
	d) Contributions received		459,641,804
	e) Benefits and Refunds Paid		(474,467,736)
	f) Transfers and miscellaneous adjustments		(1,032,475)
	g) Expected interest		655,179,638
	h) Transfers into the pool (AVA Basis)		233,782,504
	i) Transfers out of the pool (AVA Basis)		(139,425,078)
	j) Expected Assets as of 06/30/11 [Sum (3c) through (3i)]		9,195,390,722
	k) Receivables as of 06/30/11		8,895,483
	l) Expected Assets Including Receivables		9,204,286,205
	m) Actual Actuarial Value of Assets as of 06/30/11 Including Receivables		9,135,654,246
	n) Asset (Gain)/Loss [(3l) – (3m)]	$	68,631,959
4.	**Liability (Gain)/Loss for the Year**		
	a) Total (Gain)/Loss (1h)	$	3,733,589
	b) Contribution (Gain)/Loss (2g)		(4,878,100)
	c) Asset (Gain)/Loss excluding side fund (3n)		68,631,959
	d) Liability (Gain)/Loss [(4a) - (4b) - (4c)]*	$	(60,020,270)

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

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 2013-2014. Please refer to Appendix A for an explanation of how amortization periods are determined.

Reason for Base	Amortization Period	Balance on June 30, 2011	Expected Payment 11-12	Balance June 30, 2012	Expected Payment 12-13	Balance June 30, 2013	Scheduled Payment for 2013-2014	Payment as a percentage of payroll
2004 FRESH START	23	$110,588,839	$7,310,521	$111,303,292	$7,548,113	$111,824,989	$7,752,946	0.747%
2005 (GAIN)/LOSS	30	$335,102,717	$20,123,246	$339,371,195	$20,428,424	$343,643,393	$20,635,967	1.988%
2005 PAYMENT (GAIN)/LOSS	30	$(14,969,560)	$(12,180,410)	$(3,463,359)	$(10,448,999)	$7,110,640	$426,996	0.040%
2009 ASSUMPTION CHANGE	18	$239,128,821	$18,061,677	$238,336,737	$18,648,681	$236,876,628	$19,150,235	1.845%
2009 SPECIAL (GAIN)/LOSS	28	$336,520,627	$20,208,392	$340,807,167	$20,865,165	$344,734,241	$21,435,646	2.065%
2010 SPECIAL (GAIN)/LOSS	29	$18,567,370	$0	$19,959,923	$1,201,400	$20,211,279	$1,234,385	0.119%
2011 ASSUMPTION CHANGE	20	$181,239,677	$(5,224,272)	$200,249,293	$(5,381,000)	$220,847,130	$5,558,386	0.536%
2011 SPECIAL (GAIN)/LOSS	30	$3,733,587	$0	$4,013,606	$0	$4,314,626	$259,096	0.025%
Total		**$1,209,912,078**	**$48,299,154**	**$1,250,577,854**	**$52,861,784**	**$1,289,562,926**	**$76,453,657**	**7.366%**

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

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

Note: The assumption change at June 30, 2011 was phased-in over a two-year period. Without the phase-in, the 2011 ASSUMPTION CHANGE amortization base would have increased from 0.536% to 1.608%.

Development of Risk Pool's Annual Required Base Contribution

		Fiscal Year 2012/2013	Fiscal Year 2013/2014
1.	**Contribution in Projected Dollars**		
a)	Total Normal Cost	$ 296,377,024	$ 296,966,312
b)	Employee Contribution	95,575,961	93,245,678
c)	Pool's Gross Employer Normal Cost [(1a) - (1b)]	200,801,063	203,720,634
d)	Total Surcharges for Class 1 Benefits	19,340,374	18,952,205
e)	Net Employer Normal Cost [(1c) - (1d)]	181,460,689	184,768,429
f)	Payment on Pool's Amortization Bases	$ 67,727,526	$ 76,453,657
g)	Total Required Employer Contributions [(1e) + (1f)]	249,188,215	261,222,086
2.	**Annual Covered Payroll as of Valuation Date**	$ 955,980,815	$ 949,833,090
3.	**Projected Payroll for Contribution Fiscal Year**	$ 1,052,251,026	$ 1,037,908,263
4.	**Contribution as a % of Projected Pay**		
a)	Total Normal Cost [(1a) / (3)]	28.166%	28.612%
b)	Employee Contribution [(1b) / (3)]	9.083%	8.984%
c)	Pool's Gross Employer Normal Cost [(1c) / (3)]	19.083%	19.628%
d)	Total Surcharges for Class 1 Benefits [(1d) / (3)]	1.838%	1.826%
e)	Net Employer Normal Cost [(1e) / (3)]	17.245%	17.802%
f)	Payment on Pool's Amortization Bases [(1f) / (3)]	6.436%	7.366%
g)	Total Required Employer Contributions [(1g) / (3)]	23.681%	25.168%

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
06/30/2007	15.594%	1.756%	17.350%	1.722%	9.457%	28.529%
06/30/2008	15.707%	1.775%	17.482%	2.470%	8.522%	28.474%
06/30/2009	17.164%	1.839%	19.003%	5.927%	7.696%	32.626%
06/30/2010	17.245%	1.838%	19.083%	6.436%	6.776%	32.295%
06/30/2011	17.802%	1.826%	19.628%	7.366%	5.854%	32.848%

Funding History

Valuation Date	Accrued Liabilities (AL)	Market Value of Assets (MVA)	Funded Ratio (MVA/AL)
06/30/2007	$7,986,055,176	$7,903,684,460	99.0%
06/30/2008	$8,700,467,733	$7,596,723,149	87.3%
06/30/2009	$9,721,675,347	$5,850,794,301	60.2%
06/30/2010	$10,165,475,166	$6,650,160,763	65.4%
06/30/2011	$10,951,745,049	$8,164,486,471	74.6%

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
06/30/2007	$7,986,055,176	$6,826,599,459	$1,159,455,717	85.5%	$831,607,658	139.4%
06/30/2008	$8,700,467,733	$7,464,927,716	$1,235,540,017	85.8%	$914,840,596	135.1%
06/30/2009	$9,721,675,347	$8,027,158,724	$1,694,516,623	82.6%	$973,814,168	174.0%
06/30/2010	$10,165,475,166	$8,470,235,152	$1,695,240,014	83.3%	$955,980,815	177.3%
06/30/2011	$10,951,745,049	$9,135,654,246	$1,816,090,803	83.4%	$949,833,090	191.2%

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
- CALPERS HISTORY OF INVESTMENT RETURNS

Reconciliation of the Market Value of Assets

1.	Market Value of Assets as of June 30, 2010 Including Receivables	$	6,650,160,763
2.	Receivables for Service Buybacks as of June 30, 2010		8,523,087
3.	Market Value of Assets as of June 30, 2010 [1 - 2]		6,641,637,676
4.	Employer Contributions		362,918,503
5.	Employee Contributions		96,723,301
6.	Benefit Payments to Retirees and Beneficiaries		(469,427,595)
7.	Refunds		(4,322,201)
8.	Lump Sum Payments		(717,940)
9.	Transfers and Miscellaneous Adjustments		(1,032,475)
10.	Investment Return		1,445,494,757
11.	Market Value of Assets as of June 30, 2011 (w/o Pool Transfers)	$	8,071,274,026
12.	Transfers into and out of the Risk Pool		84,316,962
13.	Market Value of Assets as of June 30, 2011	$	8,155,590,988
14.	Receivables for Service Buybacks as of June 30, 2011		8,895,483
15.	Market Value of Assets as of June 30, 2011 Including Receivables [13 + 14]		8,164,486,471

Development of the Actuarial Value of Assets

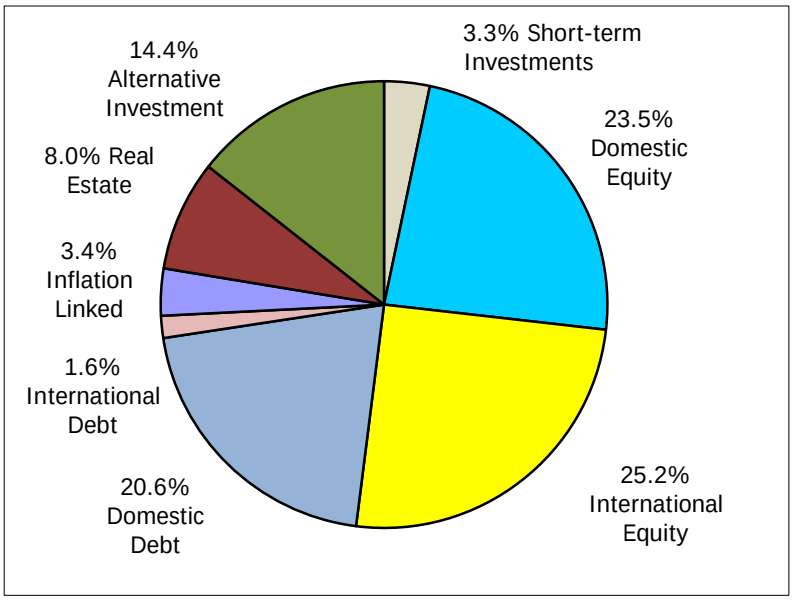
1.	Actuarial Value of Assets as of June 30, 2010 Used for Rate Setting Purposes		8,470,235,152
2.	Receivables for Service Buyback as of June 30, 2010		8,523,087
3.	Actuarial Value of Assets as of June 30, 2010 [1 - 2]		8,461,712,065
4.	Employer Contributions		362,918,503
5.	Employee Contributions		96,723,301
6.	Benefit Payments to Retirees and Beneficiaries		(469,427,595)
7.	Refunds		(4,322,201)
8.	Lump Sum Payments		(717,940)
9.	Transfers and Miscellaneous Adjustments		(1,032,475)
10.	Expected Investment Income at 7.75%		655,179,638
11.	Expected Actuarial Value of Assets (w/o Pool Transfers)	$	9,101,033,296
12.	Market Value of Assets June 30, 2011 (w/o Pool Transfers)		8,071,274,026
13.	Preliminary Actuarial Value of Assets (w/o Pool Transfers) [(11) + ((12) - (11)) / 15]		9,032,382,678
14.	Preliminary Actuarial Value to Market Value Ratio		111.9%
15.	Final Actuarial Value to Market Value Ratio (minimum 80%, maximum 120%)		111.9%
16.	Market Value of Assets June 30, 2011		8,155,590,988
17.	Actuarial Value of Assets as of June 30, 2011		9,126,758,763
18.	Receivables for Service Buybacks as of June 30, 2011		8,895,483
19.	Actuarial Value of Assets as of June 30, 2011 Used for Rate Setting Purposes [17 + 18]		9,135,654,246

Asset Allocation

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

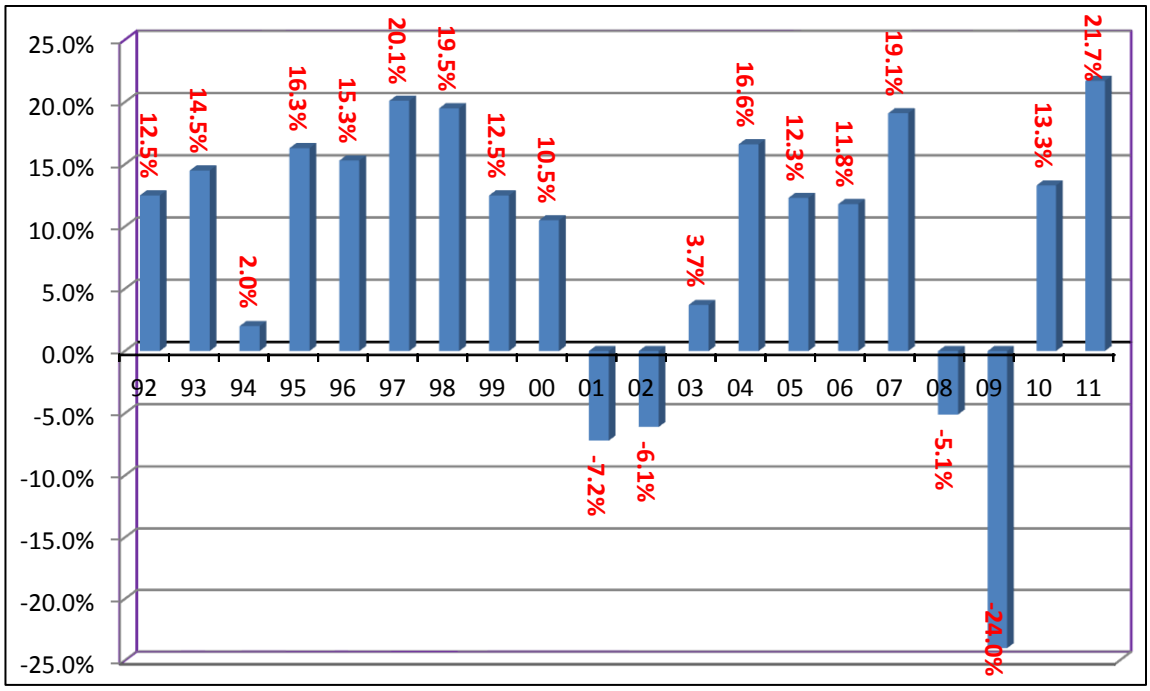
The asset allocation and market value of assets shown below reflect the values of the Public Employees Retirement Fund (PERF) as invested as of June 30, 2011. The assets for Safety 3.0% at 50 Risk Pool are part of the Public Employees Retirement Fund (PERF) and are invested accordingly.

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



CalPERS History of Investment Returns

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



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

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 Valuation Data

		June 30, 2010	June 30, 2011
1.	**Number of Plans in the Risk Pool**	263	261
2.	**Active Members**		
	a) Counts	10,417	10,209
	b) Average Attained Age	39.67	39.87
	c) Average Entry Age on Rate Plan	29.25	29.18
	d) Average Years of Service	10.42	10.69
	e) Average Annual Covered Pay	$ 91,771	$ 93,039
	f) Annual Covered Payroll	$ 955,980,815	$ 949,833,090
	g) Projected Annual Payroll for Contribution Year	$ 1,052,251,026	$ 1,037,908,263
	h) Present Value of Future Payroll	$ 8,759,268,729	$ 8,616,283,803
3.	**Transferred Members**		
	a) Counts	5,263	5,093
	b) Average Attained Age	43.04	43.26
	c) Average Years of Service	4.52	4.45
	d) Average Annual Covered Pay	$ 94,669	$ 95,927
4.	**Terminated Members**		
	a) Counts	1,956	1,963
	b) Average Attained Age	40.59	41.24
	c) Average Years of Service	3.21	3.25
	d) Average Annual Covered Pay	$ 55,866	$ 57,151
5.	**Retired Members and Beneficiaries**		
	a) Counts*	13,726	14,406
	b) Average Attained Age	63.88	64.01
	c) Average Annual Benefits*	$ 32,313	$ 34,225
6.	**Active to Retired Ratio** [(2a) / (5a)]	0.76	0.71

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.

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

Attained Age	0-4	5-9	10-14	15-19	20-24	25+	Total
15-24	212	1	0	0	0	0	213
25-29	987	293	1	0	0	0	1,281
30-34	789	871	158	0	0	0	1,818
35-39	462	783	568	113	1	0	1,927
40-44	280	496	545	399	207	3	1,930
45-49	166	231	297	253	532	187	1,666
50-54	71	90	122	119	259	260	921
55-59	37	35	33	38	78	117	338
60-64	18	8	16	10	14	35	101
65 and over	3	4	0	2	4	1	14
All Ages	3025	2812	1740	934	1095	603	10,209

Distribution of Average Annual Salaries by Age and Service

Years of Service at Valuation Date

Attained Age	0-4	5-9	10-14	15-19	20-24	25+	Average
15-24	$59,106	$56,149	$0	$0	$0	$0	$59,092
25-29	72,721	81,168	53,485	0	0	0	74,638
30-34	76,218	86,516	93,749	0	0	0	82,675
35-39	80,355	89,806	97,940	108,487	116,257	0	91,047
40-44	81,728	90,948	98,916	106,510	117,170	108,379	97,917
45-49	100,628	94,604	100,331	105,109	114,813	121,863	107,333
50-54	109,534	94,301	102,083	108,586	110,589	118,175	109,672
55-59	102,110	97,411	88,677	94,832	102,427	116,391	104,510
60-64	99,598	106,690	99,006	84,921	103,546	108,189	102,137
65 and over	111,972	130,704	0	74,650	83,722	95,870	102,771
Average	77,632	88,815	98,373	105,860	113,121	118,307	93,039

Transferred and Terminated Members

Distribution of Transfers to Other CalPERS Plans by Age and Service

Attained Age	Years of Service at Valuation Date 0-4	5-9	10-14	15-19	20-25	25+	Total	Average Salary
15-24	8	0	0	0	0	0	8	$71,800
25-29	243	10	0	0	0	0	253	71,602
30-34	502	84	1	0	0	0	587	86,363
35-39	691	194	37	0	0	0	922	90,481
40-44	767	268	120	23	2	0	1,180	95,214
45-49	613	282	122	58	21	4	1,100	104,648
50-54	418	150	68	28	14	8	686	106,085
55-59	150	56	21	21	5	7	260	104,445
60-64	48	8	7	5	1	2	71	84,625
65 and over	14	7	1	1	1	2	26	90,243
All Ages	3454	1059	377	136	44	23	5,093	95,927

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

Attained Age	Years of Service at Valuation Date 0-4	5-9	10-14	15-19	20-25	25+	Total	Average Salary
15-24	30	0	0	0	0	0	30	$52,231
25-29	193	4	0	0	0	0	197	54,471
30-34	278	25	0	0	0	0	303	56,864
35-39	310	53	6	1	0	0	370	55,963
40-44	271	73	34	12	2	0	392	57,746
45-49	214	79	44	23	9	2	371	62,942
50-54	114	33	8	6	1	1	163	52,371
55-59	59	21	5	2	0	1	88	60,102
60-64	26	5	1	1	0	0	33	47,527
65 and over	13	2	1	0	0	0	16	35,760
All Ages	1508	295	99	45	12	4	1,963	57,151

Retired Members and Beneficiaries

Distribution of Retirees and Beneficiaries by Age and Retirement Type*

Attained Age	Service Retirement	Non-Industrial Disability	Industrial Disability	Non-Industrial Death	Industrial Death	Death After Retirement	Total
Under 30	0	0	5	0	1	11	17
30-34	0	1	29	0	1	1	32
35-39	0	3	103	0	2	3	111
40-44	0	7	227	0	11	12	257
45-49	1	12	377	5	12	13	420
50-54	1111	21	567	4	12	67	1,782
55-59	1636	28	865	8	23	102	2,662
60-64	1673	33	1072	8	15	173	2,974
65-69	1238	24	865	2	12	172	2,313
70-74	811	12	493	4	12	264	1,596
75-79	547	17	268	1	15	249	1,097
80-84	326	3	135	3	12	184	663
85 and Over	178	3	48	2	2	195	428
All Ages	7521	164	5054	37	130	1446	14,352

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

Attained Age	Service Retirement	Non-Industrial Disability	Industrial Disability	Non-Industrial Death	Industrial Death	Death After Retirement	Average
Under 30	$0	$0	$28,643	$0	$10,096	$23,333	$24,116
30-34	0	5,391	30,400	0	2,358	18,733	28,378
35-39	0	13,568	30,170	0	17,542	12,095	29,006
40-44	0	17,797	27,960	0	42,062	21,208	27,971
45-49	27,757	12,647	27,312	38,907	34,380	28,366	27,266
50-54	52,963	12,068	32,850	35,517	27,771	25,908	44,856
55-59	48,511	8,525	34,352	18,483	27,960	21,789	42,198
60-64	41,770	17,696	32,808	14,854	29,967	26,104	37,229
65-69	35,987	11,022	29,126	25,775	30,287	20,199	31,950
70-74	31,661	12,811	23,511	30,318	19,610	20,533	27,067
75-79	26,826	6,707	23,399	25,696	19,535	20,377	24,113
80-84	23,650	7,079	23,586	1,646	21,967	15,385	21,138
85 and Over	23,834	9,227	22,983	1,692	20,890	15,636	19,784
All Ages	40,549	12,072	30,002	21,895	27,275	20,234	34,294

Retired Members and Beneficiaries (continued)

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

Years Retired	Service Retirement	Non-Industrial Disability	Industrial Disability	Non-Industrial Death	Industrial Death	Death After Retirement	Total
Under 5 Yrs	2629	19	801	7	20	508	3,984
5-9	2047	24	1032	11	15	362	3,491
10-14	1071	37	854	4	15	225	2,206
15-19	838	28	788	10	13	127	1,804
20-24	479	25	545	0	22	32	1,103
25-29	286	16	471	1	13	51	838
30 and Over	171	15	563	4	32	141	926
All Years	7521	164	5054	37	130	1446	14,352

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

Years Retired	Service Retirement	Non-Industrial Disability	Industrial Disability	Non-Industrial Death	Industrial Death	Death After Retirement	Average
Under 5 Yrs	$50,134	$15,592	$42,810	$30,725	$38,482	$23,732	$45,038
5-9	42,943	13,749	38,422	19,807	38,198	20,367	38,971
10-14	32,810	14,208	30,754	21,885	23,682	18,760	30,187
15-19	31,167	11,128	24,526	25,916	28,488	17,420	26,939
20-24	28,563	10,892	21,900	0	24,544	20,579	24,558
25-29	22,709	8,057	19,080	1,059	25,575	18,157	20,132
30 and Over	22,397	7,669	19,848	7,357	18,911	12,848	18,969
All Years	40,549	12,072	30,002	21,895	27,275	20,234	34,294

* 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

ACTUARIAL METHODS AND ASSUMPTIONS

- **ACTUARIAL DATA**
- **ACTUARIAL METHODS**
- **ACTUARIAL ASSUMPTIONS**
- **MISCELLANEOUS**

Actuarial Data

As stated in the Actuarial Certification, the data which serves as the basis of this valuation has been obtained from the various CalPERS databases. We have reviewed the valuation data and believe that it is reasonable and appropriate in aggregate. We are unaware of any potential data issues that would have a material effect on the results of this valuation, except that data does not always contain the latest salary information for former members now in reciprocal systems and does not recognize the potential for 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 pool 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 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.

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

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

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

An exception to the funding rules above is used whenever the application of such rules results in inconsistencies. In these cases a "fresh start" approach is used. This simply means that the current unfunded actuarial liability is projected and amortized over a set number of years. As mentioned above, if the annual contribution on the total unfunded liability was less than the amount produced by a 30-year amortization of the unfunded liability, the plan actuary would implement a 30-year fresh start. However, in the case of a 30-year fresh start, just the unfunded liability not already in the (gain)/loss base (which already is amortized over 30 years) will go into the new fresh start base. In addition, a fresh start is needed in the following situations:

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

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

Actuarial Assumptions

Economic Assumptions

Discount Rate

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

Termination Liability Discount Rate

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

Salary Growth

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

Public Agency Miscellaneous

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

Public Agency Fire

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

Public Agency Police

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

Public Agency County Peace Officers

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

Schools

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

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

Overall Payroll Growth

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

Inflation

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

Non-valued Potential Additional Liabilities

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

Miscellaneous Loading Factors

Credit for Unused Sick Leave

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.

Termination Liability

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

Demographic Assumptions

Pre-Retirement Mortality

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

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

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

Post-Retirement Mortality

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

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

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

Marital Status

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

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

Age of Spouse

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

Terminated Members

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

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

Termination with Refund

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

Public Agency Miscellaneous

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

Public Agency Safety

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

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

Schools

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

Termination with Vested Benefits

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

Public Agency Miscellaneous

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

Public Agency Safety

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

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

Schools

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

Non-Industrial (Not Job-Related) Disability

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

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

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

Industrial (Job-Related) Disability

Rates vary by age and category.

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

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

Service Retirement

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

Public Agency Miscellaneous 1.5% @ 65

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

Public Agency Miscellaneous 2% @ 60

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

Public Agency Miscellaneous 2% @ 55

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

Public Agency Miscellaneous 2.5% @ 55

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

Public Agency Miscellaneous 2.7% @ 55

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

Public Agency Miscellaneous 3% @ 60

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

Public Agency Fire ½ @ 55 and 2% @ 55

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

Public Agency Police ½ @ 55 and 2% @ 55

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

Public Agency Police 2%@ 50

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

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

Public Agency Fire 2%@50

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

Public Agency Police 3%@ 55

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

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

Public Agency Fire 3%@55

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

Public Agency Police 3%@ 50

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

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

Public Agency Fire 3%@50

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

Schools 2%@ 55

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

Miscellaneous

Superfunded Status

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

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

Internal Revenue Code Section 415

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

Internal Revenue Code Section 401(a)(17)

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

APPENDIX B

SUMMARY OF PRINCIPAL PLAN PROVISIONS

APPENDIX B
DESCRIPTION OF PRINCIPAL PLAN PROVISIONS

The following is a description of the principal plan provisions used in calculating the liabilities of the Safety 3.0% at 50 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). For employees hired into a plan with the 1.5% at 65 formula, eligibility for service retirement is age 55 with at least 5 years of service.

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

- The *benefit factor* for this group of employees comes from the **3% at 50 Safety** 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	3% at 50 Safety Factor
50 & Up	3%

- 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.

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 their service retirement benefit formula, will receive the same dollar amount for disability retirement as that payable for service retirement. For members who have earned service with multiple CalPERS employers, the benefit attributed to each employer is the total disability allowance multiplied by the ratio of service with a particular employer to the total CalPERS service.

Industrial (Job Related) Disability Retirement

All safety members have this benefit.

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.

Improved Benefit (50% to 90% of Final Compensation)
The improved Industrial Disability Retirement benefit is a monthly allowance equal to the Workman's Compensation Appeals Board permanent disability rate percentage (if 50% or greater, with a maximum of 90%) times the final compensation. However, if a member is eligible for Service Retirement and if the Service Retirement benefit is more than the Industrial Disability Retirement benefit, the member may choose to receive the larger benefit. For a CalPERS member not actively employed in this group who became disabled while employed by some other CalPERS employer, the benefit is a return of the accumulated member contributions with respect to employment in this group.

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

1957 Survivor Benefit

Eligibility
An employee's *eligible survivor(s)* may receive the 1957 Survivor benefit if the member dies while actively employed, has attained at least age 50, and has at least 5 years of credited service (total service across all CalPERS employers and with certain other Retirement Systems with which CalPERS has reciprocity agreements). A CalPERS member must be actively employed with the CalPERS employer providing this benefit to be eligible for this benefit. An eligible survivor means the surviving spouse to whom the member was married at least one year before death or, if there is no eligible spouse, to the member's unmarried children under age 18. A member's survivor 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
- if 2 eligible children: 20.0% of final compensation
- if 3 or more eligible children: 25.0% of final compensation

Cost-of-Living Adjustments (COLA)

Standard Benefit
Beginning the second calendar year after the year of retirement, retirement and survivor allowances will be annually adjusted on a compound basis by 2%. 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 percent contributed below the monthly compensation breakpoint is 0%.
The monthly compensation breakpoint is $0 for full and supplemental formula members.
The monthly compensation breakpoint is $133.33 for employees covered by the modified formula.
The percent contributed above the monthly compensation breakpoint is 9%.

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

Refund of Employee Contributions

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

1959 Survivor Benefit

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

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

APPENDIX C

PLAN OPTIONS AND VARIABLES

- 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 additional benefits which have a significant, ongoing effect on the total plan cost. In some cases, a Class 1 benefit may be an alternate benefit formula. 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 Safety 3.0% at 50 Risk Pool. Last year's surcharges are shown for comparison.

	June 30, 2010	June 30, 2011
• One Year Final Compensation	1.025%	0.981%
• EPMC by contract, 7%	1.842%	1.870%
• EPMC by contract, 8%	2.106%	2.137%
• EPMC by contract, 9%	2.369%	2.404%
• 25% PRSA	1.710%	1.728%
• 50% PRSA	1.710%	1.728%
• 3% Annual COLA	2.643%	2.191%
• 4% Annual COLA	2.643%	2.191%
• 5% Annual COLA	2.643%	2.191%
• IDR For Local Miscellaneous Members	N/A	N/A
• Increased IDR Allowance to 75% of Compensation	3.690%	3.756%
• Improved Industrial Disability Allowance for Local Safety Members	3.690%	3.756%
• Employee Cost Sharing	varies	varies
• Employee Contribution Rate for CSUC Auxiliary Organizations Reduced to State Member Level - Covered by Social Security	N/A	N/A
• Employee Contribution Rate for CSUC Auxiliary Organizations Reduced to State Member Level - Not Covered by Social Security	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)
- "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 additional benefits which have a minimal effect on the total plan cost. 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	17.802%
Rate Plan Surcharges	0.981%
Total Employer Normal Cost	18.783%
Plus: Plan's share of Pool's Payment on the Amortization Bases	7.366%
Side Fund Amortization Payment	2.600%
Total Employer Rate for fiscal year 2013-2014	28.749%

Your plan's actual required contribution can be found in Section 1.

Distribution of Class 1 Benefits

Final Compensation	**% of members in the pool with contracted benefit**
One Year Final Compensation	89.8%
Three Years Final Compensation	10.2%
Post Retirement Survivor Continuance (PRSA)	
No PRSA	57.8%
With PRSA	42.2%
Cost-of-Living Adjustments (COLA)	
2% COLA	95.2%
3% COLA	2.9%
4% COLA	0.5%
5% COLA	1.5%
Industrial Disability Benefit	
None	0.0%
Standard Industrial Disability Benefit (50% of Final Compensation)	99.1%
Improved Industrial Disability Benefit (75% of Final Compensation)	0.6%
Improved Industrial Disability Benefit (50% - 90% of Final Compensation)	0.2%

APPENDIX D

LIST OF PARTICIPATING EMPLOYERS

Employer Name

ALPINE FIRE PROTECTION DISTRICT
AMERICAN CANYON FIRE DISTRICT
ARBUCKLE-COLLEGE CITY FIRE PROTECTION DISTRICT
ARCATA FIRE PROTECTION DISTRICT
BIG BEAR CITY COMMUNITY SERVICES DISTRICT
BLUE LAKE FIRE PROTECTION DISTRICT
BONITA-SUNNYSIDE FIRE PROTECTION DISTRICT
BROADMOOR POLICE PROTECTION DISTRICT
CAMBRIA COMMUNITY HEALTHCARE DISTRICT
CAMBRIA COMMUNITY SERVICES DISTRICT
CARMEL REGIONAL FIRE AMBULANCE AUTHORITY
CENTRAL FIRE PROTECTION DISTRICT OF SANTA CRUZ COUNTY
CHESTER PUBLIC UTILITY DISTRICT
CITY OF ANDERSON
CITY OF ANGELS
CITY OF ANTIOCH
CITY OF ARCATA
CITY OF ARROYO GRANDE
CITY OF ATASCADERO
CITY OF ATWATER
CITY OF AUBURN
CITY OF AZUSA
CITY OF BALDWIN PARK
CITY OF BANNING
CITY OF BARSTOW
CITY OF BEAUMONT
CITY OF BELL
CITY OF BELL GARDENS
CITY OF BELMONT
CITY OF BENICIA
CITY OF BISHOP
CITY OF BLYTHE
CITY OF BRAWLEY
CITY OF BRENTWOOD
CITY OF BUENA PARK
CITY OF BURLINGAME
CITY OF CALIFORNIA CITY
CITY OF CAMPBELL
CITY OF CAPITOLA
CITY OF CARMEL-BY-THE-SEA
CITY OF CHINO
CITY OF CITRUS HEIGHTS
CITY OF CLAREMONT
CITY OF CLEARLAKE
CITY OF CLOVERDALE
CITY OF COLTON
CITY OF COMPTON
CITY OF CORNING
CITY OF CORONA
CITY OF CORONADO
CITY OF COSTA MESA
CITY OF COTATI
CITY OF COVINA
CITY OF CYPRESS
CITY OF DEL MAR
CITY OF DESERT HOT SPRINGS
CITY OF DIXON

CITY OF DOS PALOS
CITY OF EL CENTRO
CITY OF EL CERRITO
CITY OF ELK GROVE
CITY OF EMERYVILLE
CITY OF ESCALON
CITY OF EUREKA
CITY OF FORTUNA
CITY OF FOUNTAIN VALLEY
CITY OF GALT
CITY OF GARDENA
CITY OF GLENDORA
CITY OF GRASS VALLEY
CITY OF GRIDLEY
CITY OF HAWTHORNE
CITY OF HEALDSBURG
CITY OF HERCULES
CITY OF HERMOSA BEACH
CITY OF HOLLISTER
CITY OF HUNTINGTON PARK
CITY OF IMPERIAL BEACH
CITY OF INDIO
CITY OF IONE
CITY OF IRWINDALE
CITY OF JACKSON
CITY OF LA HABRA
CITY OF LA PALMA
CITY OF LA VERNE
CITY OF LAGUNA BEACH
CITY OF LINCOLN
CITY OF LIVERMORE
CITY OF LOMPOC
CITY OF LOS ALAMITOS
CITY OF LOS ALTOS
CITY OF LOS BANOS
CITY OF MADERA
CITY OF MANHATTAN BEACH
CITY OF MARINA
CITY OF MARTINEZ
CITY OF MARYSVILLE
CITY OF MENLO PARK
CITY OF MONROVIA
CITY OF MONTCLAIR
CITY OF MONTEREY
CITY OF MORGAN HILL
CITY OF MORRO BAY
CITY OF MURRIETA
CITY OF NEVADA CITY
CITY OF NEWARK
CITY OF NEWMAN
CITY OF OAKDALE
CITY OF ORLAND
CITY OF OXNARD
CITY OF PACIFIC GROVE
CITY OF PACIFICA
CITY OF PALOS VERDES ESTATES
CITY OF PASO ROBLES
CITY OF PATTERSON
CITY OF PIEDMONT

CITY OF PISMO BEACH
CITY OF PITTSBURG
CITY OF PLACENTIA
CITY OF PLACERVILLE
CITY OF PLEASANT HILL
CITY OF PLEASANTON
CITY OF POWAY
CITY OF RED BLUFF
CITY OF REDLANDS
CITY OF RIPON
CITY OF ROCKLIN
CITY OF ROHNERT PARK
CITY OF SALINAS
CITY OF SAN BRUNO
CITY OF SAN FERNANDO
CITY OF SAN GABRIEL
CITY OF SAN LEANDRO
CITY OF SAN LUIS OBISPO
CITY OF SAN MARCOS
CITY OF SAN MARINO
CITY OF SAN PABLO
CITY OF SAN RAMON
CITY OF SANTA CRUZ
CITY OF SANTA FE SPRINGS
CITY OF SANTA MARIA
CITY OF SANTA PAULA
CITY OF SANTEE
CITY OF SCOTTS VALLEY
CITY OF SEAL BEACH
CITY OF SEASIDE
CITY OF SEBASTOPOL
CITY OF SIGNAL HILL
CITY OF SOLANA BEACH
CITY OF SONORA
CITY OF SOUTH GATE
CITY OF SOUTH LAKE TAHOE
CITY OF ST. HELENA
CITY OF SUISUN CITY
CITY OF SUSANVILLE
CITY OF SUTTER CREEK
CITY OF TEHACHAPI
CITY OF TULARE
CITY OF TURLOCK
CITY OF TUSTIN
CITY OF UKIAH
CITY OF UNION CITY
CITY OF VISTA
CITY OF WALNUT CREEK
CITY OF WATSONVILLE
CITY OF WEST SACRAMENTO
CITY OF WESTMINSTER
CITY OF WILLIAMS
CITY OF WILLITS
CITY OF WILLOWS
CITY OF YUBA CITY
CLOVERDALE FIRE PROTECTION DISTRICT
COMPTON UNIFIED SCHOOL DISTRICT
COTTONWOOD FIRE PROTECTION DISTRICT
COUNTY OF ALPINE

COUNTY OF AMADOR
COUNTY OF CALAVERAS
COUNTY OF COLUSA
COUNTY OF GLENN
COUNTY OF INYO
COUNTY OF LASSEN
COUNTY OF MARIPOSA
COUNTY OF MODOC
COUNTY OF MONO
COUNTY OF NAPA
COUNTY OF NEVADA
COUNTY OF TRINITY
COUNTY OF TUOLUMNE
DIAMOND SPRINGS/EL DORADO FIRE PROTECTION DISTRICT
EAST BAY REGIONAL PARK DISTRICT
EL DORADO COUNTY FIRE PROTECTION DISTRICT
EL DORADO HILLS COUNTY WATER DISTRICT
ESTERO MUNICIPAL IMPROVEMENT DISTRICT
FONTANA UNIFIED SCHOOL DISTRICT
GARDEN VALLEY FIRE PROTECTION DISTRICT
GEORGETOWN FIRE PROTECTION DISTRICT
GLENDALE COMMUNITY COLLEGE DISTRICT
GOLD RIDGE FIRE PROTECTION DISTRICT
HACIENDA LA PUENTE UNIFIED SCHOOL DISTRICT
KENSINGTON COMMUNITY SERVICE DISTRICT
LAKESIDE FIRE PROTECTION DISTRICT
LINDEN-PETERS RURAL COUNTY FIRE PROTECTION DISTRICT
MARINWOOD COMMUNITY SERVICES DISTRICT
MENLO PARK FIRE PROTECTION DISTRICT
MONTEREY PENINSULA AIRPORT DISTRICT
MURRIETA FIRE PROTECTION DISTRICT
NORTH TAHOE FIRE PROTECTION DISTRICT
NORTHSTAR COMMUNITY SERVICES DISTRICT
PORT SAN LUIS HARBOR DISTRICT
RANCHO CUCAMONGA FIRE PROTECTION DISTRICT
RANCHO SANTA FE FIRE PROTECTION DISTRICT
RUNNING SPRINGS WATER DISTRICT
SAN BERNARDINO CITY UNIFIED SCHOOL DISTRICT
SAN DIEGO UNIFIED SCHOOL DISTRICT
SANTA ANA UNIFIED SCHOOL DISTRICT
SQUAW VALLEY PUBLIC SERVICE DISTRICT
STANISLAUS CONSOLIDATED FIRE PROTECTION DISTRICT
STOCKTON UNIFIED SCHOOL DISTRICT
TEMPLETON COMMUNITY SERVICES DISTRICT
TOWN OF ATHERTON
TOWN OF COLMA
TOWN OF CORTE MADERA
TOWN OF FAIRFAX
TOWN OF HILLSBOROUGH
TOWN OF LOS GATOS
TOWN OF MAMMOTH LAKES
TOWN OF PARADISE
TOWN OF SAN ANSELMO
TOWN OF TRUCKEE
TWIN RIVERS UNIFIED SCHOOL DISTRICT
WOODSIDE FIRE PROTECTION DISTRICT

APPENDIX E

RISK ANALYSIS

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

Volatility Ratios

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

Asset Volatility Ratio

Pools that have higher asset to payroll ratios produce more volatile employer rates due to investment return. For example, a pool with an asset to payroll ratio of 8 may experience twice the contribution volatility due to investment return volatility than a pool with an asset to payroll ratio of 4. Below we have shown your asset volatility ratio, 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 pool matures.

Liability Volatility Ratio

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

	As of June 30, 2011
1. Market Value of Assets without Receivables	$ 8,155,590,988
2. Payroll	949,833,090
3. Asset Volatility Ratio (1. / 2.)	8.6
4. Accrued Liability	10,951,745,049
5. Payroll	949,833,090
6. Liability Volatility Ratio (4. / 5.)	11.5

Analysis of Future Investment Return Scenarios

In July 2012, the investment return for fiscal year 2011-2012 was announced to be 1.1%. Note that this return is before administrative expenses and also does not reflect final investment return information for real estate and private equities. The final return information for these two asset classes is expected to be available later in October. For purposes of projecting future employer rates, we are assuming a 0% investment return for fiscal year 2011-2012.

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

Based on a 0% investment return for fiscal year 2011-2012 and assuming that all other actuarial assumptions will be realized and that no further changes to assumptions, contributions, benefits, or funding will occur between now and the beginning of the fiscal year 2014-2015, the effect on the 2014-2015 Employer Rate is as follows:

Estimated 2014-2015 Pool's Base Employer Rate	Estimated Increase in Pool's Base Employer Rate between 2013-2014 and 2014-2015
27.0%	1.8%

As part of this report, a sensitivity analysis was performed to determine the effects of various investment returns during fiscal years 2012-2013, 2013-2014 and 2014-2015 on the 2015-2016, 2016-2017 and 2017-2018 employer rates. Once again, the projected rate increases assume that all other actuarial assumptions will be realized and that no further changes to assumptions, contributions, benefits, or funding will occur.

Five different investment return scenarios were selected.

- The first scenario is what one would expect if the markets were to give us a 5th percentile return from July 1, 2012 through June 30, 2015. The 5th percentile return corresponds to a -4.10% return for the each of the 2012-2013, 2013-2014 and 2014-2015 fiscal years.
- The second scenario is what one would expect if the markets were to give us a 25th percentile return from July 1, 2012 through June 30, 2015. The 25th percentile return corresponds to a 2.60% return for the each of the 2012-2013, 2013-2014 and 2013-2014 fiscal years.
- The third scenario assumed the return for 2012-2013, 2013-2014, 2014-2015 would be our assumed 7.5% investment return which represents about a 49th percentile event.
- The fourth scenario is what one would expect if the markets were to give us a 75th percentile return from July 1, 2012 through June 30, 2015. The 75th percentile return corresponds to a 11.90% return for the each of the 2012-2013, 2013-2014 and 2014-2015 fiscal years.
- Finally, the last scenario is what one would expect if the markets were to give us a 95th percentile return from July 1, 2012 through June 30, 2015. The 95th percentile return corresponds to a 18.50% return for the each of the 2012-2013, 2013-2014 and 2014-2015 fiscal years.

The table below shows the estimated changes in the Pool's Base rate for 2015-2016, 2016-2017 and 2017-2018 under the five different scenarios.

2012-2015 Investment Return Scenario	Estimated Change in Pool's Base Rate Between Year Shown and Preceding Year			Total Estimated Increase in Pool's Base Employer Rate between 2014-2015 and 2017-2018
	2015-2016	2016-2017	2017-2018	
-4.10% (5th percentile)	6.6%	6.5%	5.9%	19.0%
2.60% (25th percentile)	2.5%	3.0%	2.9%	8.4%
7.5%	0.7%	0.6%	0.6%	1.9%
11.90% (75th percentile)	0.5%	0.3%	0.1%	0.9%
18.50% (95th percentile)	0.3%	-0.2%	-0.6%	-0.5%

Analysis of Discount Rate Sensitivity

The following analysis looks at the 2013-2014 employer contribution rates under two different discount rate scenarios. Shown below are the employer contribution rates assuming discount rates that are 1% lower and 1% higher than the current valuation discount rate. This analysis gives an indication of the potential required employer contribution rates if the PERF were to realize investment returns of 6.50% or 8.50% over the long-term.

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

2013-2014 Employer Contribution Rate			
As of June 30, 2011	**6.50% Discount Rate (-1%)**	**7.50% Discount Rate (assumed rate)**	**8.50% Discount Rate (+1%)**
Pool's Gross Employer Normal Cost	26.6%	19.6%	14.3%
Payment on Pool's Amortization Bases	19.9%	7.4%	-2.9%
Total	46.5%	27.0%	11.4%

APPENDIX F

GLOSSARY OF ACTUARIAL TERMS

Glossary of Actuarial Terms

Accrued Liability *(also called Actuarial Accrued Liability or Entry Age Normal Accrued Liability)*

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

Actuarial Assumptions

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

Actuarial Methods

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

Actuarial Valuation

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

Actuarial Value of Assets

The Actuarial Value of Assets used for funding purposes is obtained through an asset smoothing technique where investment gains and losses are partially recognized in the year they are incurred, with the remainder recognized in subsequent years.

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

Amortization Bases

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

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

Amortization Period

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

Annual Required Contributions (ARC)

The employer's periodic required annual contributions to a defined benefit pension plan, 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 additional benefits which have a significant, ongoing effect on the total plan cost. In some cases, a Class 1 benefit may be an alternate benefit formula. 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.

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 additional benefits which have a minimal effect on the total plan cost. 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.

Discount Rate

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

Entry Age

The earliest age at which a plan member begins to accrue benefits under a defined benefit pension plan or Risk Pool. In most cases, this is 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 Normal Cost. This is mainly because there is less time to earn investment income to fund the future benefits.)

Entry Age Normal Cost Method

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

Fresh Start

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

Funded Status

A measure of how well funded a plan or risk pool is. Or equivalently, how "on track" a plan or risk pool is with respect to assets vs. accrued liabilities. A ratio greater than 100% means the plan or risk pool has more assets than liabilities and a ratio less than 100% means liabilities are greater than assets. A funded ratio based on the Actuarial Value of Assets indicates the progress toward fully funding the plan using the actuarial cost methods and assumptions. A funded ratio based on the Market Value of Assets indicates the short-term solvency of the plan.

GASB 27

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

Normal Cost (also called Total Normal Cost)

The annual cost of service accrual for the upcoming fiscal year for active employees. The required employee contributions are part of the Total Normal Cost. The remaining portion, called the employer normal cost, includes surcharges for applicable class 1 benefits and should be viewed as the long term employer contribution rate.

Pension Actuary

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

Prepayment Contribution

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

Present Value of Benefits (PVB)

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

Risk Pool

Using the benefit of the law of large numbers, a risk pool is a collection of employer plans for the purpose of sharing risk.

Rolling Amortization Period

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

Side Fund

At the time a plan joined 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 the plan. The plan's Side Fund is amortized on an annual basis, with the discount rate net of, for active plans, the payroll growth rate assumption. The actuarial investment return assumption is currently 7.5%. A positive Side Fund cause the plan's required employer contribution rate to be reduced by the Amortization of Side Fund rate component shown in the Required Employer Contributions section. A negative Side Fund cause the plan's required employer contribution rate to be increased by the Amortization of Side Fund rate component. In the absence of subsequent contract amendments or funding changes, a plan's Side Fund will disappear at the end of the Amortization Period.

Superfunded

A condition existing when a plan's Actuarial Value of Assets exceeds its Present Value of Benefits. When this condition exists on a given valuation date for a given plan, employee contributions for the rate year covered by that valuation may be waived.

Unfunded Liability

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