1301 Fifth Avenue
Suite 3800
Seattle, WA 98101-2605
USA

Tel +1 206 624 7940
Fax +1 206 623 3485

milliman.com

August 18, 2010

Teachers' Retirement Board
California State Teachers' Retirement System

Re: Cash Balance Benefit Program
Actuarial Valuation as of June 30, 2009

Dear Members of the Board:

At your request, we have performed an actuarial valuation of the Cash Balance Benefit Program of the State Teachers' Retirement Plan as of June 30, 2009. Details about the actuarial valuation are contained in the following report.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by CalSTRS's staff. This information includes, but is not limited to, statutory provisions, employee data, and financial information. In our examination of these data, we have found them to be reasonably consistent and comparable with data used for other purposes. Since the valuation results are dependent on the integrity of the data supplied, the results can be expected to differ if the underlying data is incomplete or missing. It should be noted that if any data or other information is inaccurate or incomplete, our calculations may need to be revised.

The findings have been determined according to actuarial assumptions and methods that were chosen on the basis of recent experience of the CBB Program and of current expectations concerning future economic conditions. In our opinion, the assumptions used in the actuarial valuation are appropriate for purposes of the valuation, are internally consistent, and reflect reasonable expectations. We believe the assumptions represent a reasonable estimate of future conditions affecting the CBB Program. The Teachers' Retirement Board has sole authority to determine the actuarial assumptions and methods used for the valuation of the CBB Program. The Board adopted the actuarial methods and assumptions used in the 2008 valuation.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the Plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of future measurements.

Milliman's work product was prepared exclusively for CalSTRS for a specific and limited purpose. It is a complex, technical analysis that assumes a high level of knowledge concerning CalSTRS operations, and uses CalSTRS data, which Milliman has not audited. It is not for the use or benefit of any third party for any purpose. Any third party recipient of Milliman's work product who desires professional guidance should not rely upon Milliman's work product, but should engage qualified professionals for advice appropriate to its own specific needs.

The consultants who worked on this assignment are pension actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

Milliman has been engaged by CalSTRS as an independent actuary. Any distribution of this report must be provided in its entirety including this cover letter, unless prior written consent is obtained from Milliman.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles. We are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

We would like express our appreciation to the CalSTRS staff who gave substantial assistance in supplying the data on which this report is based.

Respectfully submitted,

Mark C Olleman   Nick Collier

Mark C. Olleman, FSA, EA, MAAA
Consulting Actuary

Nick J. Collier, ASA, EA, MAAA
Consulting Actuary

California State Teachers' Retirement System
Cash Balance Benefit Program - 2009 Actuarial Valuation

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SECTION 1

SUMMARY OF THE FINDINGS

The Cash Balance Benefit (CBB) Program was established on July 1, 1996 (as the CB Plan). The number of participants has increased over the years, as shown below.

Date of Valuation	Total Number of Non-retired Participants	Accumulated Account Balances
June 30, 2005	19,919	51,728,731
June 30, 2006	21,970	62,018,487
June 30, 2007	24,115	76,120,285
June 30, 2008	26,664	97,802,319
June 30, 2009	28,461	114,338,203

The Actuarial Value of Assets for this valuation is the Fair Market Value as certified to us by CalSTRS. The actual return for the year, as measured using uniform cash flow throughout the year, was about -18.8% net of investment and administrative expenses.

($Thousands)	Year Ended June 30, 2009	Year Ended June 30, 2008
Additions		
Contributions	$ 14,970	$ 14,418
Earnings	(19,728)	(6,995)
Total Additions	$ (4,758)	$ 7,423
Deductions		
Benefits	$ 2,276	$ 1,661
Expenses	65	52
Total Deductions	$ 2,341	$ 1,713
Net Increase (Decrease)	$ (7,099)	$ 5,710
Net Assets		
Beginning of Year	$ 98,892	$ 93,182
Accounting Adjustments		
Net Increase (Decrease)	(7,099)	5,710
End of Year	$ 91,793	$ 98,892
Estimated Net Rate of Return	-18.8%	-7.1%

Due to significant asset losses that occurred in the year preceding this valuation, the CBB Program no longer has an Actuarial Surplus. As of June 30, 2009 the Actuarial Value of Assets of the CBB Program is less than the Actuarial Obligation by $22,887,000. If the experience had emerged as assumed, the Actuarial Surplus was expected to grow from $861,000 to $928,000. The difference between the actual and expected Unfunded Actuarial Obligation is the actuarial gain or loss for the year.

- There was an actuarial loss of $27,949,000 due to the actual investment return being less than the assumed long-term return of 7.75%, and
- There was an actuarial gain of $4,134,000 due primarily to the current year interest credits being less than 7.75% during the year. The Minimum Interest Rate for 2008-09 was 5.00%.
- The net actuarial loss was $23,815,000 which brought the Funded Ratio to 80.04%.

The valuation results are based on the June 30, 2009 fair market value of assets. This value reflects significant investment losses that occurred in the 2008-09 year.

($Thousands)	**June 30, 2009**	**June 30, 2008**
Actuarial Balance Sheet		
Actuarial Obligation	$114,680	$ 98,031
Actuarial Value of Assets	91,793	98,892
Unfunded Actuarial Obligation (Surplus)	$ 22,887	$ (861)
Additional Earnings Credit	0	0
Additional Annuity Credit	0	0
Final Unfunded Actuarial Obligation or (Actuarial Surplus)	22,887	(861)
Funded Ratio		
Before Add'l Credits	**80.04%**	**100.88%**
After Add'l Credits	**80.04%**	**100.88%**
(Assets ÷ Actuarial Obligation)		
Actuarial (Gain) or Loss		
Investment Return on Assets	$ 27,949	$ 14,763
Interest Credits on Accounts	(4,134)	(1,293)
Actuarial (Gain) or Loss	$ 23,815	$ 13,470
Expected UAO at End of Year	(928)	(14,331)
Unfunded Actuarial Obligation (Surplus)	$ 22,887	$ (861)

The Board established a Policy on June 9, 2006 that was effective for the Additional Earnings Credit and Additional Annuity Credit decisions beginning in 2006.

The Board's Policy calls for a two-step determination of the allocation as shown in detail in this report. Based on the Board's Policy, we recommend that no Additional Earnings Credit or Additional Annuity Credits be granted as of June 30, 2009. This report assumes the Board will adopt this recommendation.

The following chart shows a ten-year history of prior Board actions.

($Thousands) **Valuation Date**	**Available Reserves and Unallocated Gains (Losses)**	**Additional Earnings Credit Adopted**	**Final Gain and Loss Reserve**
June 30, 1999	$ 223	$ 58	$ 165
June 30, 2000	517	0	517
June 30, 2001	(1,170)	0	(1,170)
June 30, 2002	(3,332)	0	(3,332)
June 30, 2003	(3,874)	0	(3,874)
June 30, 2004	250	0	250
June 30, 2005	2,137	0	2,137
June 30, 2006	6,641	733	5,908
June 30, 2007	16,879	3,579	13,300
June 30, 2008	861	0	861
June 30, 2009	(22,887)	0	(22,887)

Section 2

Actuarial Certification

The major findings of the 2009 Actuarial Valuation are contained in this report. This report reflects the benefit provisions and contribution rates in effect as of the valuation date. To the best of our knowledge and belief, this report is complete and accurate and contains sufficient information to fully and fairly disclose the funded condition of the Cash Balance Benefit Program as of June 30, 2009.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by CalSTRS's staff. This information includes, but is not limited to, statutory provisions, employee data, and financial information. In our examination of these data, we have found them to be reasonably consistent and comparable with data used for other purposes. Since the valuation results are dependent on the integrity of the data supplied, the results can be expected to differ if the underlying data is incomplete or missing. It should be noted that if any data or other information is inaccurate or incomplete, our calculations may need to be revised.

The findings have been determined according to actuarial assumptions and methods that were chosen on the basis of recent experience of the CBB Program and of current expectations concerning future economic conditions. In our opinion, the assumptions used in the actuarial valuation are appropriate for purposes of the valuation, are internally consistent, and reflect reasonable expectations. We believe the assumptions represent a reasonable estimate of future conditions affecting the CBB Program. The Teachers' Retirement Board has sole authority to determine the actuarial assumptions and methods used for the valuation of the CBB Program. The Board adopted the actuarial methods and assumptions used in the 2009 valuation.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the Plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of future measurements.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles. We are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Mark C Olleman Nick Collier

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Consulting Actuary	Consulting Actuary

SECTION 3

FINDINGS OF THE ACTUARIAL VALUATION

An actuarial valuation is performed as of June 30 of each year, the last day of the Program's plan year. The primary purpose of the valuation is to determine the financial condition of the CBB Program through the measurement of the Gain and Loss Reserve. We also describe recent changes in the Program's financial condition and provide certain disclosure information in accordance with the Governmental Accounting Standards Board Statement No. 25.

The findings have been determined according to actuarial assumptions that were adopted on the basis of recent experience and current expectations of future experience. In our opinion, the assumptions used in the valuation are reasonably related to the past experience of the CBB Program and represent a reasonable estimate of future conditions affecting the Program. Nevertheless, the emerging costs of the Program will vary from those presented in this report to the extent that actual experience differs from that projected by the actuarial assumptions.

ACTUARIAL VALUE OF ASSETS

The Actuarial Value of Assets for this valuation is the Fair Market Value as reported by CalSTRS. A Statement of Program Assets for the last two plan years is shown in **TABLE 1**, and the Statement of Change in Program Assets is shown in **TABLE 2**.

The investment return for 2008-09 was calculated to be -18.8% net of all investment and administrative expenses, and assuming uniform cash flow throughout the year. This is an estimate only for the purpose of comparing investment experience from one year to the next and will likely differ from information provided by your investment advisors.

ACTUARIAL BALANCE SHEET

Under the Traditional Unit Credit Actuarial Cost Method, when the assumed investment return is equal to the assumed interest crediting rate, the Normal Cost is equal to the contributions made during the year and the Actuarial Obligation is equivalent to the current sum of the Participants' Account Balances plus a reserve for current annuity payments. **TABLE 3** shows the Actuarial Obligation for this and the prior valuation.

For the purpose of this valuation, the account information was provided to us by CalSTRS. We checked the information for reasonableness by reviewing the individual participant records supplied to us. We independently calculated the value of the annuitized benefits.

The excess of the Actuarial Obligation over the Actuarial Value of Assets is called the Unfunded Actuarial Obligation. If the Actuarial Value of Assets exceeds the Actuarial Obligation, the difference is called the Actuarial Surplus.

If all experience emerged as assumed every year, the CBB Program would have an Actuarial Surplus at the end of each year before any Additional Earnings Credit or Additional Annuity Credits. This is because the Minimum Interest Rate is less than the assumed earnings rate. In order to retain an Actuarial Surplus, the investment returns over a long period of time must exceed the combination of the Minimum Interest Rates, the Additional Earnings Credits, and the Additional Annuity Credits.

Although we expect this to be the case, investment performance for several prior years was below the long-term assumption.

ACTUARIAL GAINS AND LOSSES

The Minimum Interest Rate for the year ending on the valuation date was 5.00%. Since the assumed total earnings rate is 7.75% per year, the increase in the Actuarial Obligation was less than expected. The total actuarial gain on the Actuarial Obligation was $4,134,000.

The assumed earnings rate on the invested assets is 7.75% per year. The actual return for the year was about -18.8% (net of investment and administrative expenses and assuming uniform cash flow through the year, which is slightly different than how interest is actually posted), which produced an investment loss of $27,949,000.

The total actuarial loss due to all causes was $23,815,000 as shown in **TABLE 4**.

GAIN AND LOSS RESERVE

TABLE 5 shows the derivation of the Gain and Loss Reserve. After each actuarial valuation, the Teachers' Retirement Board decides on the adjustment to the prior year's Gain and Loss Reserve and the Additional Earnings Credit, if any.

This report assumes the Teachers' Retirement Board will allocate the unallocated loss to funding and that none of the current Gain and Loss Reserve will be used for Additional Earnings Credits or Additional Annuity Credits.

ADDITIONAL CREDITS BASED ON BOARD POLICY

Based on the Board's Policy, we recommended that no Additional Earnings Credit or Additional Annuity Credit be granted as of June 30, 2009.

The Board's Policy calls for a two-step determination of the allocation.

- The first step in the process allocates the excess of the Actuarial Surplus over twice the Minimum Interest Rate in the year after the valuation date, but limited by the long-term assumed rate of earnings.

First Allocation

Long-term Net Investment Return	7.75%
Minimum Interest Rate (year prior to valuation)	5.00
Maximum Available in First Allocation (1)	2.75%
Actuarial Surplus	(19.96)%
First Threshold (2008-09 MIR x 2)	10.00
Actuarial Surplus in excess of First Threshold (2)	0.00%
First Allocation (lesser of (1) and (2))	**0.00%**

- The second step is not necessary this year.

Details of the calculation are shown in **TABLE 6**.

Accounting Disclosures

The Governmental Accounting Standards Board (GASB) has issued statements that describe the information to be disclosed in the System's financial reports. The required actuarial disclosures are shown in **TABLES 7, 8, AND 9**.

TABLE 1

STATEMENT OF PROGRAM ASSETS

($Thousands)	**June 30, 2009**	**June 30, 2008**
Invested Assets		
Short-term investments	$ 967	$ (590)
Pooled Domestic Securities	25,909	24,632
Pooled Domestic Equity	64,289	74,269
Total Investments	$ 91,165	$ 98,311
Receivables	628	602
Liabilities	0	(21)
Fair Market Value of Net Assets	$ 91,793	$ 98,892

TABLE 2

STATEMENT OF CHANGE IN PROGRAM ASSETS

($Thousands)	**Year Ended June 30, 2009**	**Year Ended June 30, 2008**
Additions		
Contributions		
Participants	$ 7,481	$ 6,921
Employers	7,489	7,497
Total Contributions	14,970	14,418
Net Earnings	(19,728)	(6,995)
Total Additions	$ (4,758)	$ 7,423
Deductions		
Benefit Payments		
Retirement, death, and survivor	$ 1,222	$ 1,053
Refunds of Participant contributions	1,054	608
Total Benefits	2,276	1,661
Expenses	65	52
Total Deductions	$ 2,341	$ 1,713
Net Increase (Decrease)	$ (7,099)	$ 5,710
Fair Market Value of Net Assets		
Beginning of Year	$ 98,892	$ 93,182
Accounting Adjustments	0	0
Net Increase (Decrease)	(7,099)	5,710
End of Year	$ 91,793	$ 98,892
Estimated Net Rate of Return assuming uniform cash flow through the year net of investment and administrative expenses	(18.8)%	(7.1)%

TABLE 3

ACTUARIAL BALANCE SHEET

($Thousands)	**June 30, 2009**	**June 30, 2008**
Total Requirements		
Actuarial Obligation		
Retirees and Beneficiaries	$ 354	$ 229
Inactive Participants	37,526	30,234
Active Participants	76,800	67,568
Total Requirements	$114,680	$ 98,031
Total Resources		
Actuarial Value of Assets	$ 91,793	$ 98,892
Unfunded Actuarial Obligation or (Actuarial Surplus)	22,887	(861)
Total Resources	$114,680	$ 98,031
Funded Ratio	80.04%	100.88%

TABLE 4

ACTUARIAL GAINS AND LOSSES

($Thousands)	Actuarial Obligation	Actuarial Value of Assets	Unfunded Actuarial Obligation (Surplus)
Balance at June 30, 2008	$ 98,031	$ 98,892	$ (861)
Expected Changes			
Actual Contributions	14,970	14,970	0
Actual Benefits Paid	(2,276)	(2,276)	0
Expected Earnings / Credits	8,089	8,156	(67)
Expected Balance at June 30, 2009	$118,814	$119,742	$ (928)
Actuarial Gains or Losses			
(Gain) on Actuarial Obligation	(4,134)		
(Gain) on Assets		27,949	
Net (Gain) or Loss	(4,134)	27,949	23,815
Actual Balance at June 30, 2009	$114,680	$ 91,793	$ 22,887

TABLE 5

GAIN AND LOSS RESERVE

($Thousands)	**June 30, 2009**	**June 30, 2008**
Unfunded Actuarial Obligation or (Actuarial Surplus)	$ 22,887	$ (861)
Gain and Loss Reserve		
Beginning of Year	$ 861	$ 13,300
Additional Earnings Credit	0	0
Additional Annuity Credit	0	0
Allocated to Funding	(23,748)	(12,439)
End of Year Gain and Loss Reserve	$ (22,887)	$ 861
Unallocated Gains and (Losses)	$ 0	$ 0

($Thousands) **Valuation Date**	**Available Reserves and Unallocated Gains (Losses)**	**Additional Credits Adopted**	**Final Gain and Loss Reserve**
June 30, 2000	$ 517	$ 0	$ 517
June 30, 2001	(1,170)	0	(1,170)
June 30, 2002	(3,332)	0	(3,332)
June 30, 2003	(3,874)	0	(3,874)
June 30, 2004	250	0	250
June 30, 2005	2,137	0	2,137
June 30, 2006	6,641	733	5,908
June 30, 2007	16,879	3,579	13,300
June 30, 2008	861	0	861
June 30, 2009	(22,887)	0	(22,887)

TABLE 6

ADDITIONAL CREDITS BASED ON BOARD POLICY

	June 30, 2009	June 30, 2008
Funded Ratio before Additional Credits	80.04%	100.88%
Actuarial Surplus	(19.96)%	0.88%
Minimum Interest Rate (year following valuation date)	4.25%	5.00%
First Threshold	10.00%	10.00%
Second Threshold	15.00%	15.00%
First Allocation		
Long-term Net Investment Return	7.75%	7.75%
Minimum Interest Rate (year prior to valuation)	5.00	5.25
Maximum Available in First Allocation (1)	2.75%	2.50%
Actuarial Surplus	(19.96)%	0.88%
First Threshold	10.00	10.00
Actuarial Surplus in excess of First Threshold (2)	0.00%	0.00%
First Allocation (lesser of (1) and (2))	**0.00%**	**0.00%**
Second Allocation		
Remaining Actuarial Surplus	(19.96)%	0.88%
Second Threshold	15.00%	15.00%
Actuarial Surplus in excess of Second Threshold	0.00%	0.00%
Less, 50%	(0.00)	(0.00)
Available for Second Allocation	**0.00%**	**0.00%**
Recommended Additional Earnings Credit and Additional Annuity Credit based on Policy		
As a percentage of Actuarial Obligation as of the valuation date	0.00%	0.00%
As a dollar amount ($000)	**$ 0**	**$ 0**

TABLE 7

HISTORY OF CASH FLOW

($Thousands)

Year End	Contributions for the Year	Expenditures During the Year: Benefit Payments	Contribution Refunds	Expenses	Total	External Cash Flow	Fair Market Value of Assets
1997	$ 148	$ 0	$ 0	$ 428	$ 428	$ (280)	$ (393)
1998	1,544	0	0	466	466	1,078	790
1999	3,082	0	15	430	445	2,637 (1)	5,224
2000	4,955	0	59	4	63	4,892	10,868
2001	5,972	0	119	8	127	5,845	15,768
2002	7,121	0	195	11	206	6,915	21,748
2003	7,171	0	320	17	337	6,834	29,963
2004	7,712	580	197	28	805	6,907	42,253
2005	8,639	1,235	245	34	1,514	7,125	53,918
2006	10,605	1,330	472	34	1,836	8,769	68,797
2007	11,884	884	664	44	1,592	10,292	93,182
2008	14,418	1,053	608	52	1,713	12,705	98,892
2009	14,970	1,222	1,054	65	2,341	12,629	91,793

(1) Excludes write-off of loan from the DB Plan of $1,417,000 as of January 1, 1999.

TABLE 8

SCHEDULE OF FUNDING PROGRESS

($Thousands)

Year End	Actuarial Value of Assets	Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability	Funded Ratio Assets/AAL	Estimated Covered Payroll	Coverage Ratio UAAL/Pay
1997	$ (393)	$ 164	$ 557	(240)%	$ 4,504	12%
1998	790	1,728	938	46%	18,838	5%
1999	5,224	5,001	(223)	104%	50,426	0%
2000	10,868	10,351	(517)	105%	70,605	(1)%
2001	15,768	16,938	1,170	93%	97,921	1%
2002	21,748	25,080	3,332	87%	89,871	4%
2003	29,963	33,837	3,874	89%	81,080	5%
2004	42,253	42,003	(250)	101%	96,199	(0)%
2005	53,918	51,781	(2,137)	104%	106,951	(2)%
2006	68,797	62,889	(5,908)	109%	122,316	(5)%
2007	93,182	79,882	(13,300)	117%	144,516	(9)%
2008	98,892	98,031	(861)	101%	181,104	(0)%
2009	91,793	114,680	22,887	80%	182,030	13%

TABLE 9

SCHEDULE OF EMPLOYER CONTRIBUTIONS

($Thousands)

Year End	Annual Required Contribution	Contributed by Employers	Contributed by the State	Total Contributed	Percentage Contributed
1997	$ 74	$ 74	$ 0	$ 74	100%
1998	772	772	0	772	100%
1999	1,562	1,562	0	1,562	100%
2000	2,365	2,365	0	2,365	100%
2001	3,036	3,036	0	3,036	100%
2002	3,586	3,586	0	3,586	100%
2003	3,590	3,590	0	3,590	100%
2004	3,845	3,845	0	3,845	100%
2005	4,490	4,490	0	4,490	100%
2006	5,102	5,102	0	5,102	100%
2007	5,931	5,931	0	5,931	100%
2007	5,931	5,931	0	5,931	100%
2008	7,497	7,497	0	7,497	100%
2009	7,489	7,489	0	7,489	100%

Appendix A
Provisions of Governing Law

All of the actuarial calculations contained in this report are based upon our understanding of the Cash Balance Benefit (CBB) Program of the State Teachers' Retirement Plan as contained in Part 14 of the California Education Code. The provisions used in this valuation are summarized below for reference purposes.

Participation

Eligibility Requirement:	Participation if employed at less than 50% of a full-time position for a California school district, community college district, or county office of education which has elected to offer the CBB Program.
Participant:	An eligible employee with creditable service subject to coverage, who has contributions credited in the Program or is receiving an annuity from the Program.

Account Balance

Account Balance:	Nominal accounts established for the purpose of determining benefits payable to the Participant. Accounts are credited with Contributions, Minimum Interest Rate, and Additional Earnings Credits.
Contributions:	Generally, Participant Contributions are 4% of salary, and Employer Contributions are 4% of salary. Rules for Contribution rates may differ for Participants covered by a collective bargaining agreement, but the sum of the Participant and Employer contributions must equal or exceed 8% of salary, and in no event can the Employer contribution rate be less than 4% of salary. The Retirement Board may adjust Employer Contributions for a fixed number of years, but the adjustment shall not exceed 0.25% of salaries in any plan year.

Minimum Interest Rate:	Annual rate determined for the plan year by the Retirement Board in accordance with federal laws and regulations. The Minimum Interest Rate is equal to the average of the yields on 30-year Treasuries for the twelve months ending in February preceding the beginning of the plan year, rounded to the next highest 0.25%.
Additional Earnings Credit:	Annual rate determined for the plan year by the Retirement Board based on the actual earnings during the plan year, but only to the extent the earnings are sufficient to credit the Minimum Interest Rate and provide any additions to the Gain and Loss Reserve deemed warranted by the Board.
Additional Annuity Credit:	Annual rate determined for the plan year by the Retirement Board based on the actual earnings during the plan year, but only to the extent the earnings are sufficient to credit the Minimum Interest Rate and provide any additions to the Gain and Loss Reserve deemed warranted by the Board.

Normal Retirement

Eligibility Requirement:	Age 60.
Benefit:	The Account Balance at the retirement date subject to limits imposed under Internal Revenue Code (IRC) Section 415.
Form of Payment:	The normal form of payment is a lump sum distribution. Annuity options are available if the sum of the employer and employee accounts equal or exceed $3,500.

Early Retirement

Eligibility Requirement:	Age 55.
Benefit and Form:	Same as Normal Retirement.

Late Retirement

Benefit and Form:	Same as Normal Retirement.
	Contributions and interest continue to be credited to the Account Balances until distributed.

Deferred Retirement

Benefit:	A Participant may cease active service, leave the accumulated Account Balance on deposit, and later retire upon attaining the minimum age requirement.

Disability Benefit

Eligibility Requirement:	Determination by the Retirement Board that the Participant has a total and permanent disability.
Benefit:	The Account Balance at the date of disability. An annuity benefit is discontinued if the Participant is re-employed before age 60, and performs service creditable under the Program.
Form of Payment:	Same as Normal Retirement.

Death Before Retirement

Eligibility Requirement:	Deceased Participant has an Account Balance.
Benefit:	The Account Balance at the date of death payable to the designated beneficiary.
Form of Payment:	Same as Normal Retirement.

Death After Retirement

Eligibility Requirement:	The deceased Participant was receiving an annuity.
Benefit:	According to the terms of the annuity elected by the Participant.

Termination from the Program

Eligibility Requirement:	More than five years has elapsed since the most recent termination benefit, if any, has been paid.
Benefit:	Lump sum distribution of the Account Balance as of the date of distribution. The benefit is payable one year from the termination of credited service.

Appendix B
Actuarial Methods and Assumptions

This section of the report discloses the actuarial methods and assumptions used in this Actuarial Valuation. These methods and assumptions have been chosen on the basis of recent experience of the DB Program and on current expectations as to future economic conditions.

The assumptions are intended to estimate the future experience of the members of the DBS Program and of the DBS Program itself in areas that affect the projected benefit flow and anticipated investment earnings. Any variations in future experience from that expected from these assumptions will result in corresponding changes in estimated costs of the DBS Program's benefits.

Actuarial Cost Method

The accruing costs of all benefits are measured by the Traditional Unit Credit Actuarial Cost Method. Under this method, the projected benefits of each individual member are allocated by a consistent formula to valuation years. The actuarial present value of future projected benefits allocated to the current year is called the Normal Cost. The actuarial present value of future projected benefits allocated to periods prior to the valuation year is called the Actuarial Obligation.

The Actuarial Obligation is equal to the accumulated account balances and the Normal Cost is equal to the total annual contribution.

Asset Valuation Method

The assets are valued at Fair Market Value.

Actuarial Assumptions

The Actuarial Standards Board has adopted Actuarial Standard of Practice No. 27, *Selection of Economic Assumptions for Measuring Pension Obligations*. This Standard provides guidance on selecting economic assumptions under defined benefit retirement programs such as the System. In our opinion, the economic assumptions have been developed in accordance with the Standard.

The Actuarial Standards Board has adopted Actuarial Standard of Practice No. 35, *Selection of Demographic and Other Noneconomic Assumptions for Measuring Pension Obligations*. This Standard provides guidance on selecting demographic assumptions under defined benefit retirement programs such as the System. In our opinion, the demographic assumptions have been developed in accordance with the Standard.

The assumptions are intended to estimate the future experience of the members of the DB Program and of the System itself in areas that affect the projected benefit flow and anticipated investment earnings. Any variations in future experience from that expected from these assumptions will result in corresponding changes in estimated costs of the Program's benefits.

The demographic assumptions are listed in **Table B.1** and illustrated at selected ages and duration combinations in **Tables B.2** – **B.7**.

Table B.1 List of Major Valuation Assumptions

I. Economic Assumptions

A.	Investment Return (net of investment and administrative expenses)	7.75%
B.	Interest on Member Accounts	6.00%
C.	Wage Growth	4.25%
D.	Inflation	3.25%

II. Demographic Assumptions

A. Mortality

(1) Active	- Male	2007 CalSTRS Retired – M (-2 years)	Table B.2
	- Female	2007 CalSTRS Retired – F (-2 years)	Table B.2
(2) Retired & Beneficiary *	- Male	2007 CalSTRS Retired – M	Table B.2
	- Female	2007 CalSTRS Retired – F	Table B.2
(3) Disabled *	- Male	RP 2000-M (minimum 2.5% with select rates in first three years)	Table B.2
	- Female	RP 2000-F (minimum 2.0% with select rates in first three years)	Table B.2

* *Future retirees and beneficiaries are valued with a 2-year age setback*

B.	Service Retirement	Experience Tables	Table B.3
C.	Disability Retirement	Experience Tables	Table B.4
D.	Withdrawal	Experience Tables	Table B.5
	Probability of Refund	Experience Tables	Table B.6
E.	Merit Salary Increases	Experience Tables	Table B.7
F.	Supplemental Assumptions		Table B.8

Table B.2 Mortality

Active Members

Age	Male	Female
25	0.032%	0.019%
30	0.037	0.020
35	0.039	0.024
40	0.063	0.039
45	0.096	0.060
50	0.130	0.094
55	0.186	0.143
60	0.292	0.221
65	0.527	0.392

	Retired Members and Beneficiaries *		Disabled Members (After Year 3) *	
Age	Male	Female	Male	Female
50	0.151%	0.112%	2.500%	2.000%
55	0.214	0.168	2.500	2.000
60	0.362	0.272	2.500	2.000
65	0.675	0.506	2.500	2.000
70	1.274	0.971	2.728	2.067
75	2.384	1.674	4.691	3.411
80	4.355	3.257	8.049	5.629
85	7.958	6.164	13.604	9.634
90	14.262	11.915	21.661	15.762
95	23.366	18.280	29.985	21.524

Select rates for disability:	Male	Female
First year of disablement	6.0%	3.5%
Second year of disablement	4.8	3.0
Third year of disablement	3.5	2.5

* *Future retirees and beneficiaries are valued with a 2-year age setback*

Table B.3 Service Retirement

	Only for the1990 Benefit Structure		For the DB Program			
			Under 30 Years *		30 or More Years	
Age	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**
50	0.0%	0.0%	0.0%	0.0%	1.5%	2.5%
51	0.0	0.0	0.0	0.0	1.5	2.5
52	0.0	0.0	0.0	0.0	1.5	2.5
53	0.0	0.0	0.0	0.0	2.0	2.5
54	1.5	1.5	0.0	0.0	2.0	3.0
55	5.8	7.0	2.7	4.5	8.0	9.0
56	3.9	4.5	1.8	3.2	8.0	9.0
57	4.9	4.5	1.8	3.2	10.0	11.0
58	6.8	7.0	2.7	4.1	14.0	16.0
59	17.5	14.0	4.5	5.4	18.0	19.0
60	25.0	22.0	6.3	9.0	27.0	31.0
61	16.5	15.0	6.3	9.0	43.0	40.0
62	16.5	15.0	10.8	10.8	38.0	37.0
63	15.0	15.0	11.7	16.2	30.0	35.0
64	17.5	18.0	10.8	13.5	30.0	32.0
65	20.0	18.0	13.5	14.4	30.0	32.0
66	16.0	18.0	10.8	13.5	30.0	32.0
67	16.0	18.0	10.8	13.5	30.0	32.0
68	16.0	16.0	10.8	13.5	30.0	32.0
69	16.0	16.0	10.8	13.5	30.0	32.0
70	100.0	100.0	100.0	100.0	100.0	100.0

* If service is equal to or greater than 25 but less than 28 years, the assumed retirement rates shown above for members with less than 30 years of service are increased by 50%. For members with 28 but less than 30 years, the assumed retirement rates shown above for members with less than 30 years of service are increased by 11%.

The assumptions shown above are for retirement from active status. We assume that all vested terminated members retire at age 60.

Table B.4 Disability Retirement

Coverage A

Age	Male	Female
25	0.021%	0.021%
30	0.030	0.030
35	0.051	0.060
40	0.081	0.090
45	0.111	0.110
50	0.159	0.220
55	0.210	0.280

Coverage B

	Entry Ages - Male		Entry Ages - Female	
Age	Under 40	40 and Up	Under 40	40 and Up
25	0.012%		0.021%	
30	0.018		0.021	
35	0.036		0.042	
40	0.090		0.078	
45	0.123	0.118%	0.126	0.139%
50	0.171	0.202	0.219	0.252
55	0.252	0.312	0.318	0.367
60	0.204	0.477	0.243	0.529
65	0.144	0.853	0.168	0.916

Table B.5 Withdrawal

	Entry Ages - Male					
Year	**Under 25**	**25 - 29**	**30 - 34**	**35 - 39**	**40 - 44**	**45 & Up**
0	15.3%	15.3%	15.3%	15.3%	15.3%	18.0%
1	13.0	12.5	13.0	13.0	13.0	14.0
2	9.0	7.7	9.0	9.0	9.0	10.0
3	6.0	6.0	6.5	6.5	6.5	7.0
4	4.4	4.8	5.0	5.0	5.0	4.0
5	3.9	3.6	3.0	3.0	3.0	3.0
10	2.0	2.0	2.0	2.0	2.0	
15	1.1	1.1	1.1	1.1		
20	0.6	0.6	0.6			
25	0.4	0.5				
30	0.3					

	Entry Ages - Female					
Year	**Under 25**	**25 - 29**	**30 - 34**	**35 - 39**	**40 - 44**	**45 & Up**
0	15.3%	15.3%	15.3%	15.3%	15.3%	15.3%
1	10.0	11.0	11.0	11.0	10.5	10.5
2	7.2	8.5	8.5	7.5	7.0	7.0
3	6.3	7.0	6.5	6.0	5.5	5.5
4	5.8	6.0	5.5	4.5	4.0	3.0
5	5.5	5.3	4.5	3.8	3.3	2.5
10	2.3	1.8	1.6	1.3	1.3	
15	1.0	0.9	0.9	0.9		
20	0.5	0.5	0.5			
25	0.3	0.4				
30	0.3					

Table B.6 Probability of Refund

	Entry Ages - Male				
Year	**Under 25**	**25 - 29**	**30 - 34**	**35 - 39**	**40 and Up**
Under 5	100%	100%	100%	100%	100%
10	46	46	38	36	36
15	38	38	31	21	
20	28	31	15		
25	15	15			
30	10				

	Entry Ages - Female				
Year	**Under 25**	**25 - 29**	**30 - 34**	**35 - 39**	**40 and Up**
Under 5	100%	100%	100%	100%	100%
10	34	32	32	29	29
15	27	24	24	24	
20	19	14	14		
25	10	10			
30	10				

Table B.7 Merit Salary Increases

	Entry Age - Annual Increase in Salaries Due to Merit					
Yr.	**Under 25**	**25 - 29**	**30 - 34**	**35 - 39**	**40 - 44**	**45 & up**
1	5.6%	5.3%	5.1%	4.8%	4.8%	3.5%
2	5.6	5.1	4.9	4.7	4.7	3.3
3	5.6	5.0	4.8	4.6	4.6	3.0
4	5.5	4.8	4.6	4.4	4.4	2.9
5	5.5	4.8	4.5	3.8	3.8	2.6
10	3.2	3.0	2.7	2.3	2.2	1.6
15	1.5	1.5	1.4	1.1	1.1	0.8
20	1.3	1.1	1.1	0.8	0.8	0.6
25	1.1	0.9	0.8	0.5	0.5	
30	0.9	0.7	0.6	0.5		
35	0.8	0.7	0.6			
40	0.8	0.6				
45	0.8					

Table B.8 Supplemental Assumptions

Unused Sick Leave: Credited Service is increased by 2.1%

Optional Forms: Active & Inactive: Based on single life annuity assumed
Retirees and Beneficiaries: Based on optional form in data

Probability of Marriage:

Male: 90%
Female: 70%

Male spouses are assumed to be three years older than female spouses.

Number of Children: Married members are assumed to have the following number of children:

Member's Gender	Assumed No. of Children
Male	0.75
Female	0.50

Assumed Offsets: The following offsets, expressed as a percentage of Final Compensation, are assumed to cease at age 60:

	Coverage A		Coverage B	
	Male	Female	Male	Female
Death	8.0%	4.0%	0.0%	0.0%
Disability	2.5%	4.0%	2.2%	3.0%

Appendix C
Valuation Data

The participant data for this actuarial valuation was supplied by CalSTRS and accepted without audit. We have examined the data for reasonableness and consistency with prior valuations and periodic reports from the CalSTRS staff to the Teachers' Retirement Board.

In preparing this report, we relied upon the participant data furnished by CalSTRS. Although we did not audit this data, we compared the data for this and the prior valuation and tested for reasonableness. Based on these tests, we believe the data to be sufficiently accurate for the purposes of this valuation. Since the valuation results are dependent on the integrity of the data supplied, the results can be expected to differ if the underlying data is incomplete or missing. It should be noted that if any data or other information is inaccurate or incomplete, our calculations may need to be revised.

Tables C.1 through **C.4** summarize the census data used in this valuation.

Table C.1 Summary of Statistical Information

	June 30, 2009	June 30, 2008
Number of Participants		
Active Participants	11,332	11,627
Inactive Participants	17,129	15,037
Retirees and Beneficiaries	35	24
Total Number of Participants	28,496	26,688
Active Participant Statistics		
Annualized Salaries	$ 182.0 million	$ 181.1 million
Average Salary	$ 16,063	$ 15,571
Average Age	48.0 years	47.7 years
Average Service in CBB Program	4.3 years	3.9 years

Table C.2 Age and Service Distribution
All Active Participants

Age Group	
Under 25	144
25 – 29	830
30 – 34	1,222
35 – 39	1,302
40 – 44	1,330
45 – 49	1,367
50 – 54	1,436
55 – 59	1,442
60 – 64	1,160
65 and Over	1,099
Total	11,332

Years	
Under 1	2,296
1 – 2	1,912
2 – 3	1,246
3 – 4	1,074
4 – 5	629
5 and Over	4,175
Total	11,332

Table C.3 Inactive Members

Fiscal Year Ending June 30	Number	Account Balances
2005	10,534	$ 15,438,000
2006	12,101	19,307,000
2007	13,536	23,848,000
2008	15,037	28,543,000
2009	17,129	37,547,000

Table C.4 Annuitants

Fiscal Year Ending June 30	Number	Accounts at Retirement
2005	4	$ 52,000
2006	13	141,000
2007	17	185,000
2008	24	311,000
2009	35	467,000

Appendix D
Glossary

Account Balance: The nominal account amount of an individual's benefit as of a specific date, determined in accordance with the terms of the plan. The Account Balance is accumulated with contributions and interest.

Actuarial Assumptions: Assumptions as to the occurrence of future events affecting pension costs, such as mortality, withdrawal, disablement, and retirement, changes in compensation, rates of investment earnings and asset appreciation or depreciation, procedures used to determine the Actuarial Value of Assets, and other relevant items.

Actuarial Cost Method: A procedure for determining the Actuarial Present Value of pension plan benefits and expenses and for developing an actuarially equivalent allocation of such value to time periods, usually in the form of a Normal Cost and an Actuarial Obligation.

Actuarial Gain or Loss: A measure of the difference between actual experience and that expected based upon a set of Actuarial Assumptions during the period between two Actuarial Valuation dates, as determined in accordance with a particular Actuarial Cost Method.

Actuarial Obligation: That portion, as determined by a particular Actuarial Cost method, of the Actuarial Present Value of pension plan benefits and expenses which is not provided for by future Normal Costs.

Actuarial Present Value: The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of Actuarial Assumptions.

Actuarial Surplus: The excess, if any, of the Actuarial Value of Assets over the Actuarial Obligation.

Actuarial Valuation:	The determination, as of a Valuation Date, of the Normal Cost, Actuarial Obligation, Actuarial Value of Assets, and related Actuarial Present Values for a pension plan.
Actuarial Value of Assets:	The value of cash, investments and other property belonging to a pension plan, as used by the actuary for the purpose of an Actuarial Valuation.
Actuarial Equivalent:	Of equal Actuarial Present Value, determined as of a given date with each value based on the same set of Actuarial Assumptions.
Normal Cost:	The actuarial present value of benefits expected to accrue in the plan year subsequent to the valuation date. The Normal Cost is equivalent to the expected Participant and Employer contributions for the next year.
Traditional Unit Credit Actuarial Cost Method:	A method under which the Actuarial Obligation is equal to the actuarial present value of benefits for service accrued to the valuation date.
Unfunded Actuarial Obligation:	The excess, if any, of the Actuarial Obligation over the Actuarial Value of Assets.
Valuation Date:	June 30, 2009.