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March 22, 2011

Teachers' Retirement Board
California State Teachers' Retirement System

Re: Defined Benefit Supplement Program
Actuarial Valuation as of June 30, 2010

Dear Members of the Board:

At your request, we have performed an actuarial valuation of the Defined Benefit Supplement (DBS) Program of the State Teachers' Retirement Plan as of June 30, 2010. Details about the actuarial valuation are contained in the following report.

We certify that the information included in this report is complete and accurate to the best of our knowledge and belief. Please refer to Section 2 of this report for our full actuarial certification statement.

All costs, liabilities, rates of interest, and other factors for CalSTRS have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of CalSTRS and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting CalSTRS. Further, in our opinion, each actuarial assumption used is reasonably related to the experience of CalSTRS and to reasonable expectations which, in combination, represent a reasonable estimate of anticipated experience. The Teachers' Retirement Board has sole authority to determine the actuarial assumptions and methods used for the valuation of the DBS Program. The Board adopted the actuarial methods and assumptions used in the 2010 valuation.

Actuarial computations presented in this report are for purposes of assessing the funding of CalSTRS. The calculations in the enclosed report have been made on a basis consistent with our understanding of CalSTRS' funding. Determinations for other purposes may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

Milliman's work is prepared solely for the internal business use of CalSTRS. To the extent that Milliman's work is not subject to disclosure under applicable public records laws, Milliman's work may not be provided to third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of its work product. Milliman's consent to release its work product to any third party may be conditioned on the third party signing a Release, subject to the following exception(s):

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No third party recipient of Milliman's work product should rely upon Milliman's work product. Such recipients should engage qualified professionals for advice appropriate to their 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.

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,

Nick Collier   Mark C Olleman

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Consulting Actuary

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NJC/MCO/nlo

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Section 1
Summary of the Findings

The Defined Benefit Supplement (DBS) Program was established on January 1, 2001. All contributing members of the Defined Benefit Program participate in the DBS Program.

Date of Valuation	Number of Non-Retired Participants: Active	Number of Non-Retired Participants: Total	Accumulated Account Balances
June 30, 2006	453,131	521,930	3,460,291,326
June 30, 2007	455,453	535,524	4,308,179,023
June 30, 2008	460,395	549,596	5,434,170,775
June 30, 2009	458,243	557,897	6,316,153,745
June 30, 2010	440,824	553,380	6,552,302,589

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 13.0% net of investment and administrative expenses.

($Thousands)	**Year Ended June 30, 2010**	**Year Ended June 30, 2009**
Additions		
Contributions	$ 796,743	$ 822,010
Earnings	712,950	(1,122,476)
Total Additions	$ 1,509,693	$ (300,466)
Deductions		
Benefits	$ 237,406	$ 186,281
Expenses	6,113	3,385
Total Deductions	$ 243,519	$ 189,666
Net Increase (Decrease)	$ 1,266,174	$ (490,132)
Net Assets		
Beginning of Year	$ 5,145,981	$ 5,636,113
Accounting Adjustments	25	0
Net Increase (Decrease)	1,266,174	(490,132)
End of Year	$ 6,412,180	$ 5,145,981
Estimated Net Rate of Return	13.0%	-18.9%

As of June 30, 2010 the Actuarial Value of Assets of the DBS Program fell short of the Actuarial Obligation by $1,044,262,000. This number is the Unfunded Actuarial Obligation. If the experience had emerged as assumed, the Actuarial Deficit was expected to grow from $1,453,334,000 to $1,565,967,000. The difference between the actual and expected Unfunded Actuarial Obligation is the actuarial gain or loss for the year.

- There was an actuarial gain of $286,374,000 due to the actual investment return being greater than last year's assumed long-term return of 7.75%, and
- There was an actuarial gain of $235,331,000 due primarily to the current year interest credits being less than 7.75% during the year. The Minimum Interest Rate for 2009-10 was 4.25%.
- The net actuarial gain was $521,705,000, which brought the Funded Ratio up to 86.00%.

The valuation results are based on the June 30, 2010 fair market value of assets.

($Thousands)	**June 30, 2010**	**June 30, 2009**
Actuarial Balance Sheet		
Actuarial Obligation (before Add'l Credits)	$ 7,456,442	$ 6,599,315
Actuarial Value of Assets	6,412,180	5,145,981
Unfunded Actuarial Obligation	$ 1,044,262	$ 1,453,334
Additional Earnings Credit	0	0
Additional Annuity Credit	0	0
Final Unfunded Actuarial Obligation	$ 1,044,262	$ 1,453,334
Funded Ratio		
Before Add'l Credits	**86.00%**	**77.98%**
After Add'l Credits	**86.00%**	**77.98%**
(Assets ÷ Actuarial Obligation)		
Actuarial (Gain) or Loss		
Investment Return on Assets	$ (286,374)	$ 1,587,294
Interest Credits on Accounts	(235,331)	(124,512)
Actuarial (Gain) or Loss	$ (521,705)	$ 1,462,782
Expected UAO at End of Year	1,565,967	(9,448)
Total Unfunded Actuarial Obligation	$ 1,044,262	$ 1,453,334

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 Credit be granted as of June 30, 2010. This report assumes that 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 Credits Adopted**	**Final Gain and Loss Reserve**
June 30, 2001	$ (6,253)	$ 0	$ (6,253)
June 30, 2002	$ (51,292)	0	(51,292)
June 30, 2003	(47,366)	0	(47,366)
June 30, 2004	168,630	0	168,630
June 30, 2005	266,978	0	266,978
June 30, 2006	423,269	88,201	335,068
June 30, 2007	954,762	195,223	759,539
June 30, 2008	8,769	0	8,769
June 30, 2009	(1,453,334)	0	(1,453,334)
June 30, 2010	(1,044,262)	0	(1,044,262)

Future Funding

As noted, the DBS Program now has a significant Unfunded Actuarial Obligation (UAO). This will need to be paid off in the future to adequately fund the plan's benefits. Under the current structure, the only contributions to the DBS Program go directly to the members' accounts. Therefore, there are no contributions to pay down the UAO. Beginning with the 2010 actuarial valuation, it is assumed that the Program assets will earn 7.25% (previously, 7.75% was assumed); whereas, accounts are currently being credited a much lower interest rate. To the extent that these assets earn more than the accounts are credited in the future, the funding deficit will be made up. At this time, the difference in expected earnings is projected to make up the difference, but the funding situation should be monitored closely going forward. If it does not improve, additional contributions, not credited to member accounts, should be considered.

Section 2
Actuarial Certification

The major findings of the 2010 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 Defined Benefit Supplement Program as of June 30, 2010.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by CalSTRS' 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.

All costs, liabilities, rates of interest, and other factors for CalSTRS have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of CalSTRS and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting CalSTRS. Further, in our opinion, each actuarial assumption used is reasonably related to the experience of CalSTRS and to reasonable expectations which, in combination, represent a reasonable estimate of anticipated experience. The Teachers' Retirement Board has sole authority to determine the actuarial assumptions and methods used for the valuation of the DBS Program. The Board adopted the actuarial methods and assumptions used in the 2010 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.

Nick Collier	Mark C Olleman
Nick J. Collier, ASA, EA, MAAA	Mark C. Olleman, FSA, MAAA
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 DBS 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 DBS 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 2009-10 was calculated to be 13.0% 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 Members' 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 member 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 DBS Program would have an Actuarial Surplus at the end of each year before any Additional Earnings Credit or Additional Annuity Credit. 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 4.25%. Since the assumed total earnings rate last year was 7.75% per year, the increase in the Actuarial Obligation was less than expected. The total actuarial gain on the Actuarial Obligation was $235,331,000.

Last year, the assumed earnings rate on the invested assets was 7.75% per year. The actual return for the year was about 13.0% (net of investment and administrative expenses and assuming uniform cash flow though the year, which is slightly different than how interest is actually posted), which produced an investment gain of $286,374,000.

The assumed earnings rate for future years will be 7.25%, as adopted by the Board in December 2010.

The total actuarial gain due to all causes was $521,705,000 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, 2010.

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	7.25%
Minimum Interest Rate (year prior to valuation)	4.25
Maximum Available in First Allocation (1)	3.00%
Actuarial Surplus	(14.00)%
First Threshold (2010-11 MIR x 2)	9.00
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, 2010**	**June 30, 2009**
Invested Assets		
Short-term investments	$ 65,398	$ 52,054
Pooled Domestic Securities	1,823,248	1,394,556
Pooled Domestic Equity	4,295,801	3,460,441
Total Investments	$6,184,447	$4,907,051
Receivables	234,608	243,459
Liabilities	(6,875)	(4,529)
Fair Market Value of Net Assets	$6,412,180	$5,145,981

Table 2
Statement of Change in Program Assets

($Thousands)	**Year Ended June 30, 2010**	**Year Ended June 30, 2009**
Additions		
Contributions		
Members	$ 651,470	$ 700,851
Employers	145,273	121,159
Total Contributions	796,743	822,010
Net Earnings	712,950	(1,122,476)
Total Additions	$1,509,693	$ (300,466)
Deductions		
Benefit Payments		
Retirement, death, and survivor	$ 223,733	$ 156,458
Refunds of Member contributions	13,673	29,823
Total Benefits	237,406	186,281
Expenses	6,113	3,385
Total Deductions	$ 243,519	$ 189,666
Net Increase (Decrease)	$1,266,174	$ (490,132)
Fair Market Value of Net Assets		
Beginning of Year	$5,145,981	$5,636,113
Accounting Adjustments	25	0
Net Increase (Decrease)	1,266,174	(490,132)
End of Year	$6,412,180	$5,145,981
Estimated Net Rate of Return assuming uniform cash flow through the year net of investment and administrative expenses	13.0%	(18.9)%

Table 3
Actuarial Balance Sheet

($Thousands)	**June 30, 2010**	**June 30, 2009**
Total Requirements		
Actuarial Obligation		
Retirees and Beneficiaries	$ 444,151	$ 283,161
Inactive Members	324,322	267,378
Active Members	6,687,969	6,048,776
Total Requirements	$7,456,442	$6,599,315
Total Resources		
Actuarial Value of Assets	$6,412,180	$5,145,981
Unfunded Actuarial Obligation or (Actuarial Surplus)	1,044,262	1,453,334
Total Resources	$7,456,442	$6,599,315
Funded Ratio	86.00%	77.98%

Table 4
Actuarial Gains and Losses

($Thousands)	Actuarial Obligation	Actuarial Value of Assets	Unfunded Actuarial Obligation
Balance at June 30, 2009	$6,599,315	$5,145,981	$1,453,334
Expected Changes			
Actual Contributions	796,743	796,743	0
Actual Benefits Paid	(237,406)	(237,406)	0
Expected Earnings / Credits	533,121	420,488	112,633
Expected Balance at June 30, 2010	$7,691,773	$6,125,806	$1,565,967
Actuarial Gains or Losses			
(Gain) on Actuarial Obligation	(235,331)		
Gain on Assets		286,374	
Net (Gain) or Loss on UAO			(521,705)
Actual Balance at June 30, 2010	$7,456,442	$6,412,180	$1,044,262

Table 5
Gain and Loss Reserve

($Thousands)	**June 30, 2010**	**June 30, 2009**
Unfunded Actuarial Obligation	$1,044,262	$1,453,334
Gain and Loss Reserve		
Beginning of Year	$(1,453,334)	$ 8,769
Additional Earnings Credit	0	0
Additional Annuity Credit	0	0
Allocated to Funding	409,072	(1,462,103)
End of Year Gain and Loss Reserve	($1,044,262)	($1,453,334)

($Thousands) **Valuation Date**	**Available Reserves and Unallocated Gains (Losses)**	**Additional Earnings Credit Adopted**	**Final Gain and Loss Reserve**
June 30, 2001	$ (6,253)	$ 0	$ (6,253)
June 30, 2002	(51,292)	0	(51,292)
June 30, 2003	(47,366)	0	(47,366)
June 30, 2004	168,630	0	168,630
June 30, 2005	266,978	0	266,978
June 30, 2006	423,269	88,201	335,068
June 30, 2007	954,762	195,223	759,539
June 30, 2008	8,769	0	8,769
June 30, 2009	(1,453,334)	0	(1,453,334)
June 30, 2010	(1,044,262)	0	(1,044,262)

Table 6
Additional Credits Based on Board Policy

	June 30, 2010	June 30, 2009
Funded Ratio before Additional Credits	86.00%	77.98%
Actuarial Surplus	(14.00)%	(22.02)%
Minimum Interest Rate (year following valuation date)	4.50%	4.25%
First Threshold	9.00%	8.50%
Second Threshold	13.50%	12.75%
First Allocation		
Long-term Net Investment Return	7.25%	7.75%
Minimum Interest Rate (MIR) (year prior to valuation)	4.25	5.00
Maximum Available in First Allocation (1)	3.00%	2.75%
Actuarial Surplus	(14.00)%	(22.02)%
First Threshold (2 x MIR for year following valuation date)	9.00	8.50
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	0.00%	0.00%
Second Threshold (3 x MIR for year following valuation date)	13.50%	12.75%
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)

		Expenditures During the Year					Fair
Year End	Contributions for the Year	Benefit Payments	Contribution Refunds	Expenses	Total	External Cash Flow	Market Value of Assets
2001	$ 210,205	$ 0	$ 0	$ 113	$ 113	$ 210,092	$ 206,916
2002	487,185	0	4,982	255	5,237	481,948	660,148
2003	604,853	0	17,102	580	17,682	587,171	1,311,269
2004	691,081	41,991	3,078	1,206	46,275	644,806	2,203,682
2005	669,706	75,426	8,599	1,740	85,765	583,941	3,023,177
2006	703,104	97,997	14,032	1,952	113,981	589,123	3,951,327
2007	749,844	97,221	18,026	2,464	117,711	632,133	5,381,585
2008	802,380	139,435	17,716	2,903	160,054	642,326	5,636,113
2009	822,010	156,458	29,823	3,385	189,666	632,344	5,145,981
2010	796,743	223,733	13,673	6,113	243,519	553,224	6,412,180

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
2001	$206,916	$ 213,169	$ 6,253	97%	$ 20,494,000	0%
2002	660,148	711,440	51,292	93%	21,732,000	0%
2003	1,311,269	1,358,635	47,366	97%	22,654,000	0%
2004	2,203,682	2,035,052	(168,630)	108%	22,589,000	(1)%
2005	3,023,177	2,756,199	(266,978)	110%	23,257,000	(1)%
2006	3,951,327	3,616,259	(335,068)	109%	24,240,000	(1)%
2007	5,381,585	4,622,046	(759,539)	116%	25,906,000	(3)%
2008	5,636,113	5,627,344	(8,769)	100%	27,118,000	0%
2009	5,145,981	6,599,315	1,453,334	78%	27,327,000	5%
2010	6,412,180	7,456,442	1,044,262	86%	26,274,000	4%

Table 9
Schedule of Employer Contributions

($Thousands)

Year End	Annual Required Contribution	Contributed by Employers	Contributed by the State	Total Contributed	Percentage Contributed
2001	$ 0	$ 0	$ 0	$ 0	100%
2002	0	0	0	0	100%
2003	72,243	72,243	0	72,243	100%
2004	125,288	125,288	0	125,288	100%
2005	95,596	95,596	0	95,596	100%
2006	103,956	103,956	0	103,956	100%
2007	111,375	111,375	0	111,375	100%
2008	117,583	117,583	0	117,583	100%
2009	121,159	121,159	0	121,159	100%
2010	145,273	145,273	0	145,273	100%

Appendix A
Provisions of Governing Law

All of the actuarial calculations contained in this report are based upon our understanding of the Defined Benefit Supplement (DBS) Program of the State Teachers' Retirement Plan as contained in Part 13 of the California Education Code. The provisions used in this valuation are summarized below for reference purposes.

Membership

Eligibility Requirement:	All members of the Defined Benefit Program who perform creditable service and earn creditable compensation after December 31, 2000, have a DBS Account.
Member:	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 Member. Accounts are credited with Contributions, a Minimum Interest Rate, and Additional Earnings Credits.
Contributions:	One-quarter (2% of compensation) of the DB Program Member contributions on creditable compensation is allocated to the Member's DBS Account through December 31, 2010. In addition, member and employer contributions will be credited to the Member's DBS Account for service greater than one year (ESC) and compensation for limited term enhancements and retirement incentives (LTE).
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 12 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:	Receipt of a corresponding benefit under the DB Program.
Benefit:	The DBS Account Balance at the benefit effective date subject to limits imposed under Internal Revenue Code Section 415.
Form of Payment:	The normal form of payment is a lump sum distribution. Annuity options are available if the DBS Account equals or exceeds $3,500.

Early Retirement

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

Late Retirement

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

Deferred Retirement

Benefit:	A Member must receive a DBS benefit when the corresponding benefit is received under the DB Program.

Disability Benefit

Eligibility Requirement:	Receipt of a corresponding benefit under the DB Program.
Benefit:	The DBS Account Balance at the date the disability benefit becomes payable. An annuity benefit is discontinued upon the termination of the corresponding DB Program benefit.
Form of Payment:	Same as Normal Retirement.

Death Before Retirement

Eligibility Requirement:	Deceased Member has a DBS Account Balance.
Benefit:	The DBS 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 Member was receiving an annuity.
Benefit:	According to the terms of the annuity elected by the Member.

Termination from the Program

Eligibility Requirement:	Termination of all CalSTRS-covered employment.
Benefit:	Lump sum distribution of the DBS Account Balance as of the date of distribution. The benefit is payable one year from the termination of creditable 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 DBS 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)	7.25%
B.	Interest on Member Accounts	6.00%
C.	Wage Growth	4.00%
D.	Inflation	3.00%

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:			
	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 and 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 membership 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 membership 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, 2010	June 30, 2009
Number of Members		
Active Members	441,544	459,009
Inactive Members	112,556	99,654
Annuitants	30,028	23,002
Total Membership in Valuation	584,128	581,665
Active Member Statistics		
Earned Salaries	$26,275 million	$27,327 million
Average Salary	$ 59,507	$ 59,536
Average Age	45.1 years	44.8 years
Average Service	11.3 years	11.0 years

Table C.2
Age and Service Distribution
All Active Members

Age	Under 1	1 - 5	6 – 10	11 - 15	16 - 20	21 - 25
	Service					
Under 25	1,622	2,074	7			
25 to 30	4,250	29,708	1,999			
30 to 35	2,172	26,739	25,991	1,689	1	
35 to 40	1,639	15,237	23,900	21,530	568	1
40 to 45	1,579	12,123	14,869	21,129	9,987	446
45 to 50	1,372	9,957	10,949	12,942	10,920	7,947
50 to 55	1,137	8,825	9,683	11,536	9,007	9,907
55 to 60	882	6,937	8,266	10,523	8,836	9,300
60 to 65	554	4,466	5,086	6,495	5,684	5,943
65 to 70	207	1,791	1,509	1,691	1,297	1,308
70 & Up	97	887	584	424	306	311
Unknown	1	1	3			
Total	15,512	118,745	102,846	87,959	46,606	35,163

Age	26 - 30	31 - 35	36 - 40	41 - 45	Over 45	Total
	Service					
Under 25						3,703
25 to 30						35,957
30 to 35						56,592
35 to 40	1					62,876
40 to 45	1					60,134
45 to 50	301					54,388
50 to 55	5,997	442				56,534
55 to 60	7,588	7,360	517			60,209
60 to 65	3,944	3,649	2,400	82		38,303
65 to 70	768	504	356	205	10	9,646
70 & Up	179	156	111	85	57	3,197
Unknown						5
Total	18,779	12,111	3,384	372	67	441,544

Table C.3
Inactive Members

Fiscal Year Ending June 30	Number	Account Balances
2005	56,234	$ 67,353,000
2006	68,799	109,084,000
2007	80,071	158,169,000
2008	89,201	200,750,000
2009	99,654	249,838,000
2010	112,556	303,047,000

Table C.4
Annuitants

Fiscal Year Ending June 30	Number	Accounts at Retirement
2005	5,445	$ 37,239,000
2006	9,302	76,888,000
2007	13,561	133,216,000
2008	17,897	206,275,000
2009	23,002	312,732,000
2010	30,028	472,547,000

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 Equivalent: Of equal Actuarial Present Value, determined as of a given date with each value based on the same set of Actuarial Assumptions.

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.
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 Member 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, 2010