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April 16, 2001

Retirement Board
California State Teachers' Retirement System

**RE: DEFINED BENEFIT PROGRAM
ACTUARIAL VALUATION AS OF JUNE 30, 2000**

Dear Members of the Board:

At your request, we have performed an actuarial valuation of the Defined Benefit Program of the State Teachers' Retirement Plan as of June 30, 2000. Details about the actuarial valuation are contained in the following report.

I certify that the information included in this report is complete and accurate to the best of my knowledge and belief. All calculations have been prepared in accordance with generally recognized and accepted actuarial principles and practices that are consistent with the applicable Standards of Practice adopted by the American Academy of Actuaries.

Milliman & Robertson has been engaged by CalSTRS as an independent actuary. The undersigned is a Fellow of the Society of Actuaries, a Member of the American Academy of Actuaries, and an Enrolled Actuary, and is experienced in performing actuarial valuations for large public employee retirement systems.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Mark O. Johnson', with a long, sweeping underline.

Mark O. Johnson, F.S.A., M.A.A.A., E.A.
Principal and Consulting Actuary

MOJ:j

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CALIFORNIA STATE TEACHERS' RETIREMENT SYSTEM
DEFINED BENEFIT PROGRAM - 2000 ACTUARIAL VALUATION

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CALIFORNIA STATE TEACHERS' RETIREMENT SYSTEM
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SECTION 1
EXECUTIVE SUMMARY

An actuarial valuation is normally performed as of the last day of the Program's plan year of each odd-numbered year. This is a special valuation performed as of June 30, 2000. The primary purpose of the valuation is to analyze the sufficiency of the statutory contributions to meet the current and future obligations of the Defined Benefit (DB) Program. By using the actuarial methods and assumptions adopted by the Retirement Board, this actuarial valuation provides the best estimate of the long-term financing of the System. Certain information in accordance with the Governmental Accounting Standards Board Statement No. 25 will be provided separately.

As part of the legislation enacting the 1999 Benefits Increase, the State's contribution beginning in 1999-2000 was reduced to equal the expected Total Cost of the 1999 Benefits Increase. As a result, the State's contributions generally were considered to be directly related to the 1999 Benefits Increase. In order to determine whether the State's contribution was sufficient to fund the 1999 Benefits Increase, last year's valuation separately reported liabilities for the 1999 Benefits Increase and for the benefits in effect prior to the 1999 Benefits Increase.

However, as a result of the June 30, 1999 valuation and subsequent analyses, it was determined that the total cost of the 1999 Benefit Increase was greater than the State's contribution allocated for those benefits. The additional estimated cost of the 1999 Benefit Increase was offset by using resources available to fund the other DB Program Benefits. Because there is no longer any relationship between the costs of the 1999 Benefits Increase and the State's contribution, we have structured this report differently. Specifically, we have eliminated the test to determine whether the contributions associated with the 1999 Benefits Increase are sufficient to pay all costs related to that increase.

In addition, there is a statutory requirement to separately track the funding level of the benefits that were in effect as of July 1, 1990. Therefore, in this year's valuation, we have changed the presentation of our results to show liabilities separately for both the entire plan and for the benefits in effect as of July 1, 1990.

This valuation does not include the impact of the 2000 Benefits Increase that became effective after the June 30, 2000 valuation date.

Based on the preceding notes, our findings indicate that the DB Program was very well funded as of June 30, 2000, and by comparison, was better funded than as of the previous year. Our analysis indicates the revenue is sufficient to meet the obligations of the DB Program as of June 30, 2000.

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(\$Millions)	<u>Total DB Program</u>		<u>1990 DB Program Benefits</u>	
	June, 2000	June, 1999	June, 2000	June, 1999
Funded Status				
Actuarial Obligation	\$ 93,124	\$ 86,349	\$ 85,237	\$ 78,889
Actuarial Value of Assets	<u>102,225</u>	<u>90,001</u>	<u>101,651</u>	<u>89,974</u>
Unfunded Actuarial Obligation or (Actuarial Surplus)	\$ (9,101)	\$ (3,652)	\$ (16,414)	\$ (11,085)
Funded Ratio	110%	104%	119%	114%
Revenue Test				
Normal Cost Rate	16.001%	15.664%	13.866%	13.747%
Source of Income	19.260%	19.260%	Up to 16%	Up to 16%

The remainder of this report presents our findings in more detail.

**CALIFORNIA STATE TEACHERS' RETIREMENT SYSTEM
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SECTION 2

FINDINGS OF THE ACTUARIAL VALUATION

The findings have been determined according to actuarial assumptions that were adopted by the Retirement Board prior to the 1999 valuation. They were selected on the basis of recent experience and current expectations of future experience. In our opinion, the assumptions used in this valuation are reasonably related to the past experience of the DB Program and represent our best estimate of future conditions affecting the Program. Nevertheless, the emerging costs of the DB Program will vary from those presented in this report to the extent that actual experience differs from that projected by the actuarial assumptions.

SOURCES OF INCOME

The statutory **Sources of Income** include contributions from members at the rate of 8.00% of Earned Salaries, the School Districts contribute at the rate of 8.25% of Earned Salaries, and the State at a rate of 3.102 percent of prior calendar year earned Salaries. An additional amount would be paid by the state to fund the difference between the Normal Cost and the member and employer contributions, and to finance the Unfunded Actuarial Obligation, if any, of the benefits in effect on July 1, 1990. **TABLE 1** is shown below.

Sources of Income		
Normal Cost Funding		
EC 22901	Members - permanent contribution	8.000%
EC 22950	Employers - permanent contribution	8.000
EC 22955.(b)	State – Normal Cost Deficit ⁽¹⁾	<u>0.000</u>
Total for Normal Cost		16.000%
Additional Funding		
EC 22951	Employers – Unused Sick Leave	0.250%
EC22955.(a)	State – Supplemental Funding	<u>3.010</u> ⁽²⁾
Total for Additional Funding		3.260%
Total Contribution Rate		19.260%

Notes:

(1) Only used if Normal Cost Rate is greater than 16.000% of salaries for benefits in effect on July 1, 1990.

(2) Equivalent to 3.102% paid quarterly based on prior calendar year salaries.

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Deposits attributable to 16% of Earned Salaries from the members and employers are used to fund the benefits in place on July 1, 1990. If needed, some additional funding is available for these benefits from the State per EC 22955. In the 1999 valuation, the report bifurcated the assets and liabilities associated with the 1999 Benefits Increase from the balance of the DB Program. This bifurcation determined that the contributions associated with the 1999 Benefits Increase was not sufficient to fund the Total Cost of that increase. This difference was mitigated by the availability of resources associated with the balance of the DB Program. Because the 1999 Benefits Increase is no longer funded exclusively from the contributions associated with that increase, the bifurcation of assets associated specifically with the 1999 Benefits Increase is no longer shown. The difference reflected in this valuation is described below.

- ◆ For purposes of the 1999 valuation, only 3.260% of Earned Salaries (0.250% plus 3.102% adjusted from prior calendar year salaries) was available to fund the 1999 Benefits Increase. The remainder of the total contribution was available to fund the benefits in place prior to 1999.
- ◆ Beginning in July of 2000 and as reflected in this valuation, all contributions fund all of the obligations of the DB Program, except that the funding for the benefits in effect in July of 1990 is limited to the Normal Cost Funding. As in the prior studies, note that all benefits enacted with effective dates between July 1, 1990 and December 31, 1998 are presumed to be cost-neutral.

DETERMINATION OF NORMAL COST

The **Normal Cost** represents the cost assigned to an average member for a given year such that it would meet the continuing costs of that particular benefit if contributed each year starting with the date of membership. The Entry Age Actuarial Cost Method is designed to produce a Normal Cost that remains a level percentage of salaries, so it is best expressed as a rate.

The following chart shows the Normal Cost has increased slightly from 15.664% to 16.001% from the 1999 valuation to this valuation. **TABLE 2** provides more details on calculation of the Normal Cost and Normal Cost Rates. In order to test the financing of the benefits in effect in July of 1990, we have calculated the Normal Cost separately for those benefits.

The Normal Cost Rate is expected to remain fairly stable as long as the benefits are not amended, experience emerges as assumed, and the demographic characteristics of the membership remain reasonably consistent. The changes are well within expected levels of fluctuation.

**CALIFORNIA STATE TEACHERS' RETIREMENT SYSTEM
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	Amount (\$Millions)	Percent of Earned Salaries
Total DB Program		
1999 Valuation	\$ 2,692	15.664%
2000 Valuation	\$ 2,916	16.001%
1990 DB Program Benefits		
1999 Valuation	\$ 2,363	13.747%
2000 Valuation	\$ 2,527	13.866%

DEVELOPMENT OF ACTUARIAL VALUE OF ASSETS

The next step in the valuation process is to calculate the **Actuarial Value of Assets** that will be used to determine the funding status of the Program. As shown in **TABLE 3**, the market value of assets was reported as \$112,771 million as of June 30, 2000.

Because the underlying calculations in the actuarial valuation are long-term in nature, it is advantageous to use an asset smoothing method to lessen the impact of short-term fluctuations in the value of assets. The asset smoothing method projects an Expected Value of Assets using the assumed rate of investment return, then recognizes only one-third of the difference between the Expected Value and the Market Value to arrive at the Actuarial Value of Assets.

The calculation of the Actuarial Value of Assets is shown in **TABLE 4** and summarized below.

(\$Millions)	June 30, 2000	June 30, 1999
Fair Market Value	\$112,771	\$ 99,780
Actuarial Value of Assets		
Based on Actual Earnings	\$102,790	\$ 90,265
Less the SBMA Reserve	<u>565</u>	<u>264</u>
Actuarial Value for DB Program	\$102,225	\$ 90,001
Less Bifurcated Assets	<u>574</u>	<u>27</u>
Allocated to 1990 Benefits	\$101,651	\$ 89,974

Future benefits provided through the Supplemental Benefits Maintenance Account (SBMA) are not part of the projected benefits included in this valuation. Therefore, the SBMA Reserve is

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subtracted from the DB Program assets to arrive at the value available to support the benefits included in this valuation.

Under State law, if the Actuarial Value of Assets associated with benefits in effect as of July 1, 1990 is less than the Actuarial Obligation for those benefits, or if the contributions from the member and 8% from the employer is not sufficient to pay the Normal Cost of the benefits in effect as of July 1, 1990, additional funds would be contributed by the State. Therefore, the assets accumulated for the 1999 Benefits Increase must be calculated separately and subtracted from the total assets to test the financing of the 1990 DB Program Benefits.

Based on contributions started on October 1, 1998, additional benefits paid out due to the 1999 Benefits Increase up to June 30, 2000, and earnings on the accumulated assets, we estimate the funds accumulated for the 1999 Benefits Increase to be \$574 million as of June 30, 2000. See **TABLE 5** for the details.

DETERMINATION OF THE ACTUARIAL SURPLUS

The next step in the actuarial valuation process is to project all future DB Program benefit payments for current members and retirees. The level of benefits currently being paid is known, but assumptions are needed to estimate how long they will be paid, and the amount and timing of the payment of future benefits for active and inactive members who are not currently receiving payments. The summation of the discounted values of all of the projected benefit payments for all current members, at the assumed rate of return, is called the **Actuarial Present Value of Projected Benefits**. Details are shown in **TABLE 6** and summarized below.

(\$Millions)	<u>Total DB Program</u>		<u>1990 DB Program Benefits</u>	
	June, 2000	June, 1999	June, 2000	June, 1999
Benefits Currently Being Paid	\$ 36,238	\$ 33,019	\$ 35,386	\$ 32,771
Inactive Deferred Benefits	1,810	1,401	1,793	1,388
Active Members' Future Benefits	<u>90,014</u>	<u>84,173</u>	<u>77,771</u>	<u>72,508</u>
Total Present Value of Projected Benefits to All Current Members	\$128,062	\$118,593	\$114,950	\$106,667

The **Actuarial Present Value of Future Normal Costs** is the value of all remaining Normal Costs expected to be received over the future working lifetime of current active members. The **Actuarial Obligation** is the difference between the Actuarial Present Value of Projected Benefits and the Actuarial Present Value of Future Normal Costs. The Actuarial Obligation is equal to the assets that would exist if the current Normal Cost Rate had been paid for all members since entry into the Program, and if all experience had emerged as assumed. The following is a summary from **TABLE 7**.

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(\$Millions)	<u>Total DB Program</u>		<u>1990 DB Program Benefits</u>	
	June, 2000	June, 1999	June, 2000	June, 1999
Value of Projected Benefits	\$128,062	\$118,593	\$114,950	\$106,667
Value of Future Normal Costs	<u>34,938</u>	<u>32,244</u>	<u>29,713</u>	<u>27,778</u>
Actuarial Obligation	\$ 93,124	\$ 86,349	\$ 85,237	\$ 78,889
Actuarial Value of Assets	<u>102,225</u>	<u>90,001</u>	<u>101,651</u>	<u>89,974</u>
Unfunded Actuarial Obligation (Actuarial Surplus)	\$ (9,101)	\$ (3,652)	\$(16,414)	\$(11,085)

The **Unfunded Actuarial Obligation** is the excess of the Actuarial Obligation over the Actuarial Value of Assets, which represents a liability that must be funded over time. Contributions in excess of the Normal Cost are used to amortize the Unfunded Actuarial Obligation.

An **Actuarial Surplus** exists if the Actuarial Value of Assets exceeds the Actuarial Obligation.

ACTUARIAL GAINS AND LOSSES

Comparing the Unfunded Actuarial Obligation as of two valuation dates does not provide enough information to determine if there were actuarial gains or losses. The correct comparison is between the Unfunded Actuarial Obligation on the valuation date and the Expected Unfunded Actuarial Obligation projected from the prior valuation date using the actuarial assumptions in effect since the previous valuation. The actuarial gains and losses since the 1999 valuation are shown below with more detail disclosed in **TABLE 8**.

	(\$Millions)
Actuarial (Gains) and Losses	
Net Loss from Non-investment Experience	\$ 260
SB 713 (1999) Ad Hoc Minimum Benefit	355
Gain from Investments	<u>(1,566)</u>
Net Gain from All Sources	\$ (951)

Table 8 shows the Actuarial Obligation as of June 30, 1999, and the elements to project that figure forward to June 30, 2000: the Normal Cost, less benefits paid, plus a charge for interest at the assumed rate. The \$260 million net loss due to non-investment experience represents only 0.3% of the expected Actuarial Obligation. This is a small loss and indicates that the census is consistent from the prior period, and the actual experience tracked closely with the actuarial assumptions. The loss includes a very small, uncalculated amount due to slightly different procedures and changes in the proprietary software used since the previous valuation.

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Also, this valuation includes the impact of SB 713 (1999) which increased the minimum benefit payable to eligible retirees and beneficiaries.

As calculated in Table 8, the expected market value as of June 30, 2000, assuming the fund had earned 8% for the year, was \$108,075 million. After smoothing, the actuarial value would have been \$100,659 million if the Program had earned 8% for the year. The difference of \$1,566 million (the Actuarial Value of Assets of \$102,225 million, less the expected value of \$100,659 million) represents the gain in the Actuarial Value of Assets due to the partial recognition of the 1999-00 investment gains.

FUNDED STATUS OF THE DB PROGRAM

In summary, the following chart shows that the DB Program's Actuarial Surplus has grown from \$3,652 million to \$9,101 million and the Normal Cost Rate is just over 16% of payroll. Therefore, based on the data and assumptions outlined in this report, the DB Program was in a sound actuarial position as of June 30, 2000. *Remember however, this funded status does not take into account the 2000 Benefits Increase legislated subsequent to the valuation date.*

TABLE 9 shown below, includes the key findings of the valuation bifurcated between the two benefit structures.

(\$Millions)	<u>Total DB Program</u>		<u>1990 DB Program Benefits</u>	
	June, 2000	June, 1999	June, 2000	June, 1999
Funded Status				
Actuarial Obligation	\$ 93,124	\$ 86,349	\$ 85,237	\$ 78,889
Actuarial Value of Assets	<u>102,225</u>	<u>90,001</u>	<u>101,651</u>	<u>89,974</u>
Unfunded Actuarial Obligation or (Actuarial Surplus)	\$ (9,101)	\$ (3,652)	\$ (16,414)	\$ (11,085)
Funded Ratio	110%	104%	119%	114%
Revenue Test				
Normal Cost Rate	16.001%	15.664%	13.866%	13.747%
Source of Income	19.260%	19.260%	Up to 16%	Up to 16%

Since the bifurcated 1990 DB Program Benefits continues to have an Actuarial Surplus, and the associated Normal Cost Rate is less than 16% of Earned Salaries, the statutory financing arrangement for the 1990 DB Program Benefits is currently sufficient.

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**TABLE 1
SOURCES OF INCOME**

Normal Cost Funding		
EC 22901	Members - permanent contribution	8.000%
EC 22950	Employers - permanent contribution	8.000
EC 22955.(b)	State – Normal Cost Deficit ⁽¹⁾	<u>0.000</u>
Total for Normal Cost		16.000%
Additional Funding		
EC 22951	Employers – Unused Sick Leave	0.250%
EC 22955.(a)	State – Supplemental Funding	<u>3.010</u> ⁽²⁾
Total for Additional Funding		3.260%
Total Contribution Rate		19.260%

Notes:

- (1) Only used if Normal Cost Rate is greater than 16.000% of salaries for benefits in effect on July 1, 1990.
- (2) Equivalent to 3.102% paid quarterly based on prior calendar year salaries.

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**TABLE 2
NORMAL COST**

(\$Millions)	<u>Total DB Program</u>		<u>1990 DB Program Benefits</u>	
	June, 2000	June, 1999	June, 2000	June, 1999
Estimated Annual Earned Salaries	\$ 18,224	\$ 17,185	\$ 18,224	\$ 17,185
Present Value of Future Normal Costs for Current Active Members	\$ 34,938	\$ 32,244	\$ 29,713	\$ 27,778
Present Value of Future Earned Salaries for Current Active Members	\$218,346	\$205,899	\$214,289	\$202,018
Annual Normal Cost				
Retirement	\$ 2,615	\$ 2,416	\$ 2,232	\$ 2,092
Disability	128	116	126	115
Death	48	49	44	45
Withdrawal	<u>125</u>	<u>111</u>	<u>125</u>	<u>111</u>
Total Normal Cost	\$ 2,916	\$ 2,692	\$ 2,527	\$ 2,363
Normal Cost Rate Percent of Earned Salaries	16.001%	15.664%	13.866%	13.747%

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**TABLE 3
STATEMENT OF PROGRAM ASSETS**

(\$Millions)	June, 2000	June, 1999
Invested Assets		
Short-term	\$ 1,560	\$ 1,019
Debt Securities	27,232	25,119
Equity	73,641	68,668
Alternative	5,106	2,582
Real Estate	<u>3,771</u>	<u>2,170</u>
Total Investments ⁽¹⁾	\$111,310	\$ 99,558
Cash and Cash Equivalents	3	2
Receivables	4,816	2,853
Liabilities ⁽¹⁾	<u>(3,358)</u>	<u>(2,633)</u>
Fair Market Value of Net Assets	\$112,771	\$ 99,780

Notes:

⁽¹⁾ Excludes offsetting entries from Securities Lending Collateral and Obligation

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**TABLE 4
ACTUARIAL VALUE OF ASSETS**

(\$Millions)	June, 2000	June, 1999
Value at Beginning of Year	\$ 90,265	\$ 79,381
Contributions	4,058	3,247
Benefits and Expenses	(3,757)	(3,462)
Expected Return at 8%	<u>7,233</u>	<u>6,342</u>
Expected Value End of Year	\$ 97,799	\$ 85,508
 Market Value	 \$112,771	 \$ 99,780
Difference between Market Value and Expected Value	\$ 14,972	\$ 14,272
Recognition Factor	One-third	One-third
Recognized Gain or Loss	\$ 4,991	\$ 4,757
Actuarial Value at End of Year (Expected Value plus Recognized Gain or Loss)	\$102,790	\$ 90,265
Less SBMA Reserve	<u>565</u>	<u>264</u>
Actuarial Value at End of Year (After SBMA Adjustment)	\$102,225	\$ 90,001

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**TABLE 5
BIFURCATED ASSETS**

	(\$Thousands)
Assets Allocated to 1999 Benefits Increase	
Market Value at July 1, 1999	\$ 30,261
Contributions	
EC 22951 at 0.250% of salaries	45,561
EC 22955 at 3.102% of prior calendar year salaries	555,542
Benefits Paid	
Increased Multiplier	(21,258)
Career Bonus	(10,983)
Unused Sick Leave	<u>(822)</u>
Total Increase in Benefits for 1999-00	(33,063)
Investment Return at annualized rate of 12.70% ⁽¹⁾	
Beginning Balance	3,843
Contributions	29,348
Benefits Paid (7.92 months of average exposure ⁽²⁾)	<u>(1,386)</u>
Total Earnings Allocated	31,805
Market Value at June 30, 2000	\$630,106
Ratio of Actuarial Value to Market Value at June 30, 2000 ⁽³⁾	91.149%
Actuarial Value of Assets for 1999 Benefits Increase at June 30, 2000	\$574,336

Notes:

⁽¹⁾ Based on Market Value of Assets and uniform cash flow for contributions, benefits, and expenses.

⁽²⁾ Based on data supplied by CalSTRS staff

⁽³⁾ From Table 4: (\$102,790 divided by \$112,771)

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**TABLE 6
ACTUARIAL PRESENT VALUE OF PROJECTED BENEFITS**

(\$Millions)	<u>Total DB Program</u>		<u>1990 DB Program Benefits</u>	
	June, 2000	June, 1999	June, 2000	June, 1999
Benefits Currently Being Paid				
Service Retirement	\$ 33,230	\$ 30,281	\$ 32,382	\$ 30,033
Disability	1,126	1,068	1,126	1,068
Survivors and Contingent Survivors	<u>1,882</u>	<u>1,670</u>	<u>1,878</u>	<u>1,670</u>
Total	\$ 36,238	\$ 33,019	\$ 35,386	\$ 32,771
Benefits to Inactive Members				
Deferred Vested Benefits	1,810	1,401	1,793	1,388
Benefits to Active Members				
Retirement	\$ 85,917	\$ 80,793	\$ 73,920	\$ 69,245
Disability	2,152	1,932	2,097	1,890
Death	1,350	903	1,159	828
Withdrawal	<u>595</u>	<u>545</u>	<u>595</u>	<u>545</u>
Total	\$ 90,014	\$ 84,173	\$ 77,771	\$ 72,508
Present Value of Projected Benefits to All Current Members	\$128,062	\$118,593	\$114,950	\$106,667

**CALIFORNIA STATE TEACHERS' RETIREMENT SYSTEM
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**TABLE 7
UNFUNDED ACTUARIAL OBLIGATION / ACTUARIAL SURPLUS**

(\$Millions)	<u>Total DB Program</u>		<u>1990 DB Program Benefits</u>	
	June, 2000	June, 1999	June, 2000	June, 1999
Total Present Value of Projected Benefits to All Current Members	\$128,062	\$118,593	\$114,950	\$106,667
Present Value of Future Normal Costs	<u>34,938</u>	<u>32,244</u>	<u>29,713</u>	<u>27,778</u>
Actuarial Obligation	93,124	86,349	85,237	78,889
Actuarial Value of Assets				
Program Assets	102,225	90,001	102,225	90,001
Allocated to 1999 Benefits Increase	<u>n/a</u>	<u>n/a</u>	<u>(574)</u>	<u>(27)</u>
Net Assets Available	102,225	90,001	101,651	89,974
Unfunded Actuarial Obligation (Actuarial Surplus)	\$ (9,101)	\$ (3,652)	\$(16,414)	\$(11,085)

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**TABLE 8
ACTUARIAL GAINS AND LOSSES**

(\$Millions)	Expected	Actual	(Gain) Loss
Actuarial Obligation			
Actuarial Obligation June 30, 1999	\$ 86,349		
Normal Cost for 1999-00	2,692		
Benefits Paid	(3,515)		
Expected Interest at 8%	<u>6,983</u>		
Expected Actuarial Obligation	\$ 92,509	\$ 92,769	\$ 260 ⁽¹⁾
SB 713 (1999)	0	355	355
Actuarial Value of Assets			
	<u><i>Fair Market</i></u>	<u><i>Actuarial</i></u>	
Value on June 30, 1999 (before SBMA offset)	\$ 99,780	\$ 90,265	
Contributions	4,058	4,058	
Benefits and Expenses	(3,757)	(3,757)	
Expected Interest at 8%	<u>7,994</u>	<u>7,233</u>	
Expected Value	\$108,075	\$ 97,799	
Expected Difference		\$ 10,276	
Recognized Difference (One-Third)		<u>3,425</u>	
Expected Value		\$101,224	
Less, Actual SBMA Reserve		<u>565</u>	
Actuarial Value of Assets		<u>100,659</u>	<u>102,225</u>
			<u>(1,566)</u> ⁽²⁾
Unfunded Actuarial Obligation (Actuarial Surplus)	\$ (8,150)	\$ (9,101)	\$ (951)

Notes:

(1) Net actuarial loss due to demographic and census changes.

(2) Actuarial gain due to investment performance.

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**TABLE 9
FUNDED STATUS AS OF JUNE 30, 2000**

(\$Millions)	<u>Total DB Program</u>		<u>1990 DB Program Benefits</u>	
	June, 2000	June, 1999	June, 2000	June, 1999
Funded Status				
Actuarial Obligation	\$ 93,124	\$ 86,349	\$ 85,237	\$ 78,889
Actuarial Value of Assets	<u>102,225</u>	<u>90,001</u>	<u>101,651</u>	<u>89,974</u>
Unfunded Actuarial Obligation or (Actuarial Surplus)	\$ (9,101)	\$ (3,652)	\$(16,414)	\$(11,085)
Funded Ratio	110%	104%	119%	114%
Revenue Test				
Normal Cost Rate	16.001%	15.664%	13.866%	13.747%
Source of Income	19.260%	19.260%	Up to 16%	Up to 16%

**CALIFORNIA STATE TEACHERS' RETIREMENT SYSTEM
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SECTION 3

OUTLINE OF THE PROVISIONS OF GOVERNING LAW

All of the actuarial calculations contained in this report are based upon our understanding of the Defined Benefit (DB) 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. Note the provisions of the 2000 Benefits Increase are not included in this actuarial valuation.

NORMAL RETIREMENT

Eligibility Requirement:	Age 60 with five years of credited service.
Allowance:	Two percent of final compensation for each year of credited service.
Credited Service:	For each year of membership, credited service is granted based on the ratio of salary earned to full-time salary earnable for one position.
Final Compensation:	Average salary earnable for the highest three consecutive years of credited service for one position.
IRC Section 415:	Benefits are subject to limits imposed under Internal Revenue Code (IRC) Section 415.
Sick Leave Service Credit:	Credited service is granted for unused sick leave at the time of retirement.
Career Bonus:	If a member has thirty years of credited service, the age factor is increased by 0.2%. However, the maximum age factor is 2.4%.

EARLY RETIREMENT

Eligibility Requirement:	Age 55 with five years of credited service, or age 50 with 30 years of credited service.
Benefit Reduction:	A 1/2% reduction in the normal retirement allowance for each full month or partial month the member is younger than age 60, plus a reduction of 1/4% for each full month or partial month the member is younger than age 55.

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LATE RETIREMENT

Allowance: Members continue to earn additional service credit after age 60. The 2% age factor increases by 0.033% for each quarter year of age that the member is over age 60, up to a maximum of 2.4%.

DEFERRED RETIREMENT

Allowance: Any time after satisfying the minimum service requirement, a member may cease active service, leave the accumulated contributions on deposit, and later retire upon attaining the minimum age requirement.

POST-RETIREMENT BENEFIT ADJUSTMENT

Benefit Improvement Factor: Two percent simple increase on September 1 following the first anniversary of the effective date of the allowance, applied to all continuing allowances.

DISABILITY ALLOWANCE - COVERAGE A

Eligibility Requirement: Member has five years of credited California service and has not attained age 60.

Allowance: Fifty percent of final compensation

or

5% of final compensation for each year of service credit if over age 45 with less than 10 years of service credit.

Children's Benefit: 10% for each eligible dependent child, up to a maximum of 40% of final compensation. The increment for each eligible child continues until the child marries or attains age 22. Beginning in 2002, children not registered as full-time students will retain eligibility only up to age 18.

Offsets: Allowance, including children's increment, is reduced by disability benefits payable under Social Security, Workers' Compensation and district-paid income protection plan.

CALIFORNIA STATE TEACHERS' RETIREMENT SYSTEM
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DISABILITY ALLOWANCE - COVERAGE B

Eligibility Requirement:	Member has five years of credited California service.
Allowance:	Fifty percent of final compensation, regardless of age and service credit.
Children's Benefit:	10% for each eligible child up to four children, for a maximum of 40% of final compensation. The increment for each child continues until the child attains age 21, regardless of student, marital, or employment status.
Offsets:	The member's allowance is reduced by disability benefits payable under Workers' Compensation.

DEATH BEFORE RETIREMENT - COVERAGE A

Eligibility Requirement:	One or more years of service credit for active members or members receiving a disability allowance.
Lump Sum Payment:	\$5,598 lump sum to the designated beneficiary. If there is no surviving spouse or eligible children, the contributions and interest are paid to the designated beneficiary.
Allowance:	<p>The surviving spouse with eligible children will receive a family benefit of 40% of final compensation for as long as there is at least one eligible child. An additional 10% of final compensation is payable for each eligible child up to a maximum benefit of 90%.</p> <p>If there is no surviving spouse, an allowance of 10% of final compensation is payable to eligible children up to a maximum benefit of 50%.</p> <p>When there are no eligible children, the spouse may elect to receive one half of a 50% joint and survivor allowance projected to age 60, or take a lump sum payment of the remaining contributions and interest.</p>

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DEATH BEFORE RETIREMENT - COVERAGE B

Eligibility:	One or more years of service credit for active members.
Lump Sum Payment:	\$22,394 lump sum to the designated beneficiary. If there is no surviving spouse, the contributions and interest are paid to the designated beneficiary.
Allowance:	A lump sum payment of the contributions and interest. or One half of a 50% joint and survivor allowance, beginning on the member's 60th birthday, or immediately with a reduction based on the member and spouse's age at the time the benefit begins. If the surviving spouse elects a monthly allowance, each eligible child would receive 10% of the member's final compensation, with a maximum benefit of 50%.

DEATH AFTER RETIREMENT

Lump Sum Payment:	\$5,598 lump sum to the designated beneficiary.
Annuity Form:	If the retirant had elected one of the joint and survivor options, the retirement allowance would be modified in accordance with the option selected. If no option had been elected, payment of the unpaid contributions and interest, if any, remaining in the retirant's account.

TERMINATION FROM SYSTEM

Refund:	Refund of contributions with interest as credited to the member's account to date of withdrawal. A refund terminates membership and all rights to future benefits from the System.
Re-entry After Refund:	Former Members who re-enter the System, may redeposit all amounts previously refunded plus regular interest. The member must earn one year of credited service after re-

CALIFORNIA STATE TEACHERS' RETIREMENT SYSTEM
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entry before becoming eligible for System benefits.

BENEFIT CHANGES SINCE THE 1999 ACTUARIAL VALUATION

SB 713 (1999)

Effective July 1, 2000, the DB Program provides for a minimum benefit payable to certain benefit recipients depending on the level of credited service earned prior to retirement by the member. If the member had 20 years of service at retirement, a minimum allowance of \$15,000 will apply (before adjustments for optional survivorship benefits). The minimum allowance increases in \$500 increments for each additional year of credited service to \$20,000 if the member had 30 or more years of credited service.

CALIFORNIA STATE TEACHERS' RETIREMENT SYSTEM
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SECTION 4
ACTUARIAL METHODS AND ASSUMPTIONS

This section of the report describes the actuarial methods and assumptions used in this valuation. These procedures and assumptions have been chosen by the Teachers' Retirement Board based on our recommendations. The Board has the sole authority to select the methods and assumptions used in this actuarial valuation.

In our opinion, the current actuarial methods and actuarial assumptions are reasonable and appropriate for the DB Program. The economic assumptions have been developed in accordance with the Actuarial Standard of Practice No. 27, *Selection of Economic Assumptions for Measuring Pension Obligations*. The demographic assumptions adopted for this program were developed from recent experience and expectations of future trends, and in accordance with the Actuarial Standard of Practice No. 35, *Selection of Demographic and Other Noneconomic Assumptions for Measuring Pension Obligations*.

The assumptions are intended to estimate the future experience of the members of the DB Program and of the System itself in areas which 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 illustrated at selected ages and duration combinations in Tables 11 through 16.

**CALIFORNIA STATE TEACHERS' RETIREMENT SYSTEM
DEFINED BENEFIT PROGRAM - 2000 ACTUARIAL VALUATION**

**TABLE 10
OUTLINE OF METHODS AND ASSUMPTIONS**

I. Actuarial Methods

- | | |
|---------------------------|--|
| A. Cost Method | Entry Age Cost Method |
| B. Asset Valuation Method | Expected Value with 1/3 rd
Recognition |

II. Economic Assumptions

- | | |
|---|-------|
| A. Investment Return
(net of investment and administrative expenses) | 8.00% |
| B. Interest on Member Accounts | 6.00% |
| C. Wage Growth | 4.25% |
| D. Inflation | 3.50% |

III. Demographic Assumptions

- | | | | |
|---------------------------|----------|---|----------|
| A. Mortality | | | |
| (1) Active and | - Male | 1999 CalSTRS Retired – M (-2 years) | Table 11 |
| | - Female | 1999 CalSTRS Retired – F (-2 years) | Table 11 |
| (2) Current Retired- | - Male | 1999 CalSTRS Retired – M | Table 11 |
| | - Female | 1999 CalSTRS Retired – F | Table 11 |
| (3) Beneficiary | - Male | 1999 CalSTRS Beneficiary – M | Table 11 |
| | - Female | 1999 CalSTRS Beneficiary – F | Table 11 |
| (4) Pre-1972 | - Male | 1951 GA Table – M (-1 year) | Table 11 |
| Disabled | - Female | 1951 GA Table – M (-7 years) | Table 11 |
| (5) Disabled | - Male | 1994 GAM-M (minimum 2.5% with
select rates in first three years) | Table 11 |
| | - Female | 1994 GAM-F (minimum 2.2% with
select rates in first three years) | Table 11 |
| B. Service Retirement | | Experience Tables | Table 12 |
| C. Disability Retirement | | Experience Tables | Table 13 |
| D. Withdrawal | | Experience Tables | Table 14 |
| Probability of Refund | | Experience Tables | Table 15 |
| E. Merit Salary Increases | | Experience Tables | Table 16 |

**CALIFORNIA STATE TEACHERS' RETIREMENT SYSTEM
DEFINED BENEFIT PROGRAM - 2000 ACTUARIAL VALUATION**

**TABLE 11
MORTALITY RATES**

<u>Age</u>	<u>Active Participants</u>		<u>Age</u>	<u>Retired Participants</u>	
	<u>Male</u>	<u>Female</u>		<u>Male</u>	<u>Female</u>
25	0.051%	0.029%	50	0.190%	0.121%
30	0.066	0.029	55	0.321	0.191
35	0.080	0.037	60	0.558	0.336
40	0.085	0.051	65	1.015	0.668
45	0.107	0.077	70	1.803	1.176
50	0.158	0.103	75	2.848	1.834
55	0.258	0.157	80	5.021	3.778
60	0.443	0.256	85	9.419	6.503
65	0.798	0.509	90	14.754	11.627
			95	23.361	18.621

<u>Age</u>	<u>Beneficiaries</u>		<u>Pre-1972 Disabled</u>		<u>Disabled (After Year 3)</u>	
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
50	0.233%	0.121%	0.581%	0.277%	2.500%	2.200%
55	0.398	0.191	0.956	0.518	2.500	2.200
60	0.709	0.336	1.438	0.873	2.500	2.200
65	1.294	0.668	2.207	1.330	2	2.200
70	2.173	1.176	3.594	2.007	0	2.200
75	3.405	1.834	5.708	3.299		2.533
80	5.586	3.778	9.095	5.208		4.395
85	8.961	6.503	13.707	8.269		7.535
90	14.754	11.627	18.892	12.744		12.875
95	23.361	18.621	25.277	17.779		20.254
Select rates for disability:						
First year of disablement					11.4%	6.0%
Second year of disablement					7.7	3.8
Third year of disablement					6.2	3.0

**CALIFORNIA STATE TEACHERS' RETIREMENT SYSTEM
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**TABLE 12
SERVICE RETIREMENT**

<u>Age</u>	<u>For Prior Benefits</u>		<u>For 1999 Benefits Increase</u>	
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
54	1.5%	1.5%	1.5%	1.5%
55	5.8	7.0	5.0	6.0
56	3.9	4.5	3.5	4.0
57	4.9	4.5	4.0	4.0
58	6.8	7.0	6.0	6.0
59	17.5	14.0	15.0	9.0
60	25.0	22.0	20.0	12.0
61	16.5	15.0	14.0	13.0
62	16.5	15.0	14.0	17.0
63	15.0	15.0	25.0	25.0
64	17.5	18.0	25.0	25.0
65	20.0	18.0	20.0	19.0
66	16.0	18.0	16.0	16.0
67	16.0	18.0	16.0	16.0
68	16.0	16.0	16.0	16.0
69	16.0	16.0	16.0	16.0
70	100.0	100.0	100.0	100.0

**CALIFORNIA STATE TEACHERS' RETIREMENT SYSTEM
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**TABLE 13
DISABILITY RETIREMENT**

<u>Coverage A</u>		
<u>Age</u>	<u>Male</u>	<u>Female</u>
25	0.021%	0.021%
30	0.030	0.030
35	0.051	0.060
40	0.081	0.090
45	0.111	0.111
50	0.159	0.219
55	0.210	0.279

<u>Coverage B</u>				
<u>Age</u>	<u>Entry Ages - Male</u>		<u>Entry Ages - Female</u>	
	<u>Under 40</u>	<u>40 and Up</u>	<u>Under 40</u>	<u>40 and Up</u>
25	0.021%		0.030%	
30	0.030		0.030	
35	0.051		0.051	
40	0.120		0.090	
45	0.150	0.196%	0.141	0.231%
50	0.195	0.288	0.231	0.360
55	0.270	0.390	0.318	0.459
60	0.330	0.529	0.390	0.588
65	0.380	0.852	0.459	0.915

**CALIFORNIA STATE TEACHERS' RETIREMENT SYSTEM
DEFINED BENEFIT PROGRAM - 2000 ACTUARIAL VALUATION**

**TABLE 14
WITHDRAWAL**

<u>Entry Ages - Male</u>					
<u>Year</u>	<u>Under 25</u>	<u>25 - 29</u>	<u>30 - 34</u>	<u>35 - 39</u>	<u>40 and Up</u>
1	12.5%	12.5%	12.5%	12.5%	12.5%
2	9.5	9.5	9.2	9.2	9.5
3	7.7	6.8	6.8	6.8	7.2
4	5.8	5.8	5.8	5.8	6.2
5	5.0	4.2	4.2	4.2	4.2
10	2.0	2.0	2.0	2.0	2.4
15	1.1	1.1	1.1	1.2	
20	0.6	0.6	0.6		
25	0.5	0.5			
30	0.0				
<u>Entry Ages - Female</u>					
<u>Year</u>	<u>Under 25</u>	<u>25 - 29</u>	<u>30 - 34</u>	<u>35 - 39</u>	<u>40 and Up</u>
1	10.0%	10.0%	10.0%	10.0%	10.0%
2	8.3	8.3	8.3	7.5	6.8
3	7.7	7.3	6.5	5.5	5.3
4	7.1	7.1	5.6	4.5	4.0
5	5.5	5.8	4.2	3.5	3.0
10	2.3	2.0	1.7	1.4	1.6
15	1.1	0.9	1.0	0.9	
20	0.6	0.7	0.9		
25	0.6	0.6			
30	0.0				

**CALIFORNIA STATE TEACHERS' RETIREMENT SYSTEM
DEFINED BENEFIT PROGRAM - 2000 ACTUARIAL VALUATION**

**TABLE 15
PROBABILITY OF REFUND**

<u>Entry Ages - Male</u>					
<u>Year</u>	<u>Under 25</u>	<u>25 - 29</u>	<u>30 - 34</u>	<u>35 - 39</u>	<u>40 and Up</u>
Under 5	100%	100%	100%	100%	100%
10	50	40	40	45	40
15	40	40	35	35	
20	35	35	30		
25	25	20			
30	20				
<u>Entry Ages - Female</u>					
<u>Year</u>	<u>Under 25</u>	<u>25 - 29</u>	<u>30 - 34</u>	<u>35 - 39</u>	<u>40 and Up</u>
Under 5	100%	100%	100%	100%	100%
10	25	25	30	30	25
15	20	20	30	20	
20	20	20	20		
25	20	20			
30	15				

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**TABLE 16
MERIT SALARY INCREASES**

Yr.	<u>Entry Age - Annual Increase in Salaries Due to Merit</u>					
	<u>Under 25</u>	<u>25 - 29</u>	<u>30 - 34</u>	<u>35 - 39</u>	<u>40 - 44</u>	<u>45 & up</u>
1	5.7%	5.3%	5.1%	4.9%	4.9%	3.5%
2	5.6	5.2	4.9	4.7	4.7	3.3
3	5.6	5.0	4.8	4.6	4.6	3.0
4	5.5	4.9	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	1.2	1.1	0.8	0.8	0.6
25	1.1	1.0	0.9	0.6	0.6	
30	0.9	0.7	0.6	0.5		
35	0.8	0.7	0.6			
40	0.8	0.7				
45	0.8					

**CALIFORNIA STATE TEACHERS' RETIREMENT SYSTEM
DEFINED BENEFIT PROGRAM - 2000 ACTUARIAL VALUATION**

**SECTION 5
VALUATION DATA**

The membership data for this actuarial valuation was supplied by the System 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.

We believe the membership data to be sufficient for the purposes of this valuation.

Table 17 summarizes the census data used in this valuation.

**CALIFORNIA STATE TEACHERS' RETIREMENT SYSTEM
DEFINED BENEFIT PROGRAM - 2000 ACTUARIAL VALUATION**

**TABLE 17
SUMMARY OF STATISTICAL INFORMATION**

	June 30, 2000	June 30, 1999
Number of Members		
Active Members	420,530	402,220
Inactive Members	75,580	69,112
Retirees and Beneficiaries		
Service Retirants	145,415	142,309
Disabilitants	5,885	5,822
Survivors	<u>13,982</u>	<u>13,326</u>
Total	165,282	161,457
 Total Membership in Valuation	 661,392	 632,789
Active Member Statistics		
Annualized Salaries	\$18,224 million	\$17,185 million
Average Salary	\$ 43,336	\$ 42,733
Average Age	44.2 years	44.2 years
Average Service	10.7 years	10.8 years

**CALIFORNIA STATE TEACHERS' RETIREMENT SYSTEM
DEFINED BENEFIT PROGRAM - 2000 ACTUARIAL VALUATION**

**TABLE 17.1
DISTRIBUTION OF ACTIVE MEMBERS BY AGE GROUP**

AGE GROUP	MALE	FEMALE	TOTAL
Under 25	1,104	5,180	6,284
25 – 29	11,132	35,268	46,400
30 – 34	15,075	36,779	51,854
35 – 39	13,799	31,159	44,958
40 – 44	14,428	34,372	48,800
45 – 49	17,998	45,112	63,110
50 – 54	23,929	53,001	76,930
55 – 59	18,029	35,288	53,317
60 – 64	7,458	13,153	20,611
65 – 70	2,094	3,504	5,598
70 and Up	882	1,347	2,229
Unknown	11	428	439
Total	125,939	294,591	420,530
Percent of Total	29.9%	70.1%	100.0%

**CALIFORNIA STATE TEACHERS' RETIREMENT SYSTEM
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**TABLE 17.2
ACTIVE MALE MEMBERS**

<u>AGE</u>	<u>SERVICE</u>					
	<u>UNDER 1</u>	<u>1 - 5</u>	<u>6 - 10</u>	<u>11 - 15</u>	<u>16 - 20</u>	<u>21 - 25</u>
Under 25	377	727				
25 to 30	1,495	9,453	184			
30 to 35	1,071	10,255	3,649	100		
35 to 40	919	6,122	4,200	2,489	69	
40 to 45	830	4,958	3,070	3,542	1,908	120
45 to 50	902	4,681	2,805	3,331	2,722	3,273
50 to 55	850	4,403	2,562	2,897	2,426	4,077
55 to 60	562	2,456	1,463	1,582	1,215	1,571
60 to 65	261	1,310	582	669	488	471
65 to 70	119	534	219	185	170	137
70 & Up	82	319	102	70	50	39
Unknown	3	7	1			
Total	7,471	45,225	18,837	14,865	9,048	9,688

<u>AGE</u>	<u>SERVICE</u>					<u>TOTAL</u>
	<u>26 - 30</u>	<u>31 - 35</u>	<u>36 - 40</u>	<u>41 - 45</u>	<u>OVER 45</u>	
Under 25						1,104
25 to 30						11,132
30 to 35						15,075
35 to 40						13,799
40 to 45						14,428
45 to 50	284					17,998
50 to 55	6,116	598				23,929
55 to 60	4,092	4,707	381			18,029
60 to 65	967	1,580	1,101	29		7,458
65 to 70	168	206	244	111	1	2,094
70 & Up	47	63	48	44	18	882
Unknown						11
Total	11,674	7,154	1,774	184	19	125,939

**CALIFORNIA STATE TEACHERS' RETIREMENT SYSTEM
DEFINED BENEFIT PROGRAM - 2000 ACTUARIAL VALUATION**

**TABLE 17.3
ACTIVE FEMALE MEMBERS**

<u>AGE</u>	<u>SERVICE</u>					
	<u>UNDER 1</u>	<u>1 - 5</u>	<u>6 - 10</u>	<u>11 - 15</u>	<u>16 - 20</u>	<u>21 - 25</u>
Under 25	1,493	3,687				
25 to 30	3,224	31,165	879			
30 to 35	1,927	22,896	11,439	517		
35 to 40	1,672	12,574	9,335	7,314	264	
40 to 45	1,785	12,214	7,416	7,882	4,738	337
45 to 50	1,774	12,864	8,683	8,649	6,376	6,242
50 to 55	1,328	10,128	8,248	9,796	6,391	6,949
55 to 60	710	4,830	3,904	5,447	4,560	4,188
60 to 65	273	1,659	1,279	1,862	1,712	1,813
65 to 70	116	566	329	472	440	488
70 & Up	64	373	138	148	121	118
Unknown	49	371	8			
Total	14,415	113,327	51,658	42,087	24,602	20,135

<u>AGE</u>	<u>SERVICE</u>					<u>TOTAL</u>
	<u>26 - 30</u>	<u>31 - 35</u>	<u>36 - 40</u>	<u>41 - 45</u>	<u>OVER 45</u>	
Under 25						5,180
25 to 30						35,268
30 to 35						36,779
35 to 40						31,159
40 to 45						34,372
45 to 50	524					45,112
50 to 55	8,842	1,319				53,001
55 to 60	4,811	6,222	616			35,288
60 to 65	1,650	1,670	1,181	54		13,153
65 to 70	425	366	189	102	11	3,504
70 & Up	108	126	72	51	28	1,347
Unknown						428
Total	16,360	9,703	2,058	207	39	294,591

**CALIFORNIA STATE TEACHERS' RETIREMENT SYSTEM
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**TABLE 17.4
INACTIVE MEMBERS**

<u>FISCAL YEAR ENDING JUNE 30</u>	<u>TOTAL</u>	<u>MALE % OF TOTAL</u>	<u>FEMALE % OF TOTAL</u>
1991	49,396	28.5	71.5
1992	50,898	28.0	72.0
1993	51,094	27.3	72.7
1994	53,222	27.2	72.8
1995	54,159	26.7	73.3
1996	56,424	26.8	73.2
1997	59,385	27.2	72.8
1998	61,848	27.4	72.6
1999	69,112	27.7	72.3
2000	75,580	27.8	72.2

<u>FISCAL YEAR ENDING JUNE 30</u>	<u>AVERAGE ACCOUNT ON DEPOSIT</u>	<u>AVERAGE AGE</u>	<u>AVERAGE SERVICE CREDIT</u>	<u>AVERAGE YEARS INACTIVE</u>
1991	\$ 7,900	48.4	3.6	7.8
1992	8,312	48.3	3.5	8.0
1993	9,078	48.1	3.6	8.1
1994	9,607	47.9	3.5	8.2
1995	10,282	47.4	3.6	8.0
1996	10,931	47.2	3.5	8.0
1997	11,431	47.3	3.5	8.2
1998	11,731	47.5	3.4	8.3
1999	12,105	47.1	3.3	8.0
2000	12,325	46.8	3.2	7.8

**CALIFORNIA STATE TEACHERS' RETIREMENT SYSTEM
DEFINED BENEFIT PROGRAM - 2000 ACTUARIAL VALUATION**

**TABLE 17.5
SERVICE RETIREMENTS**

<u>FISCAL YEAR ENDING JUNE 30</u>	<u>TOTAL</u>	<u>MALE % OF TOTAL</u>	<u>FEMALE % OF TOTAL</u>
1991	115,010	36.6	63.4
1992	118,963	37.1	62.9
1993	122,762	37.6	62.4
1994	126,476	37.9	62.1
1995	130,576	38.1	61.9
1996	133,764	38.2	61.8
1997	135,809	38.3	61.7
1998	139,193	38.3	61.7
1999	142,309	38.3	61.7
2000	145,415	38.1	61.9

<u>FISCAL YEAR ENDING JUNE 30</u>	<u>AVERAGE AGE AT RETIREMENT</u>	<u>AVERAGE YEARS OF SERVICE CREDIT</u>	<u>FINAL AVERAGE COMPENSATION</u>	<u>AVERAGE CURRENT ALLOWANCE PAYABLE</u>
1991	60.9	23.8	\$ 2,160	\$ 1,115
1992	60.8	24.2	2,285	1,217
1993	60.9	24.3	2,414	1,297
1994	60.9	24.5	2,532	1,369
1995	60.9	24.6	2,637	1,434
1996	60.9	24.7	2,743	1,502
1997	60.8	24.8	2,837	1,566
1998	60.8	24.7	2,945	1,638
1999	60.7	24.8	3,057	1,729
2000	60.7	25.0	3,175	1,824

CALIFORNIA STATE TEACHERS' RETIREMENT SYSTEM
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SECTION 6

GLOSSARY OF ACTUARIAL TERMINOLOGY

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.

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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.
Entry Age Cost Method:	An actuarial cost method under which the Actuarial Present Value of Projected Benefits of each individual included in an Actuarial Valuation is allocated on a level basis over the earnings of the individual between entry age and assumed exit ages. The portion of this Actuarial Present Value allocated to a valuation year is called the Normal Cost. The portion of this Actuarial Present Value not provided for at a valuation date by the Actuarial Present Value of future Normal Costs is called the Actuarial Obligation.
Normal Cost:	The portion of the Actuarial Present Value of Projected Benefits which is allocated to a valuation year by the Actuarial Cost Method.
Unfunded Actuarial Obligation:	The excess, if any, of the Actuarial Obligation over the Actuarial Value of Assets.
Valuation Date:	June 30, 2000.