## REPORT ON THE

FIFTY-FIFTH ACTUARIAL VALUATION OF THE STATE TEACHERS'
RETIREMENT SYSTEM OF VERMONT
PREPARED AS OF JUNE 30, 2002

OCTOBER 23, 2002

October 23, 2002

Board of Trustees
State Teachers' Retirement System
of Vermont
Montpelier, Vermont 05633
Dear Board Members:

Section 1942, subsection (n), of Title 16, Chapter 55, Vermont Statutes Annotated, relating to the State Teachers' Retirement System of Vermont, provides in part that the actuary shall make annual valuations of the system.

The fifty-fifth actuarial valuation of the system, prepared as of June 30, 2002, has now been completed and the results are presented in this report, together with our recommendations in regard to contributions payable by the State.

On the basis of the current valuation, we recommend that a normal contribution of $4.04 \%$ of covered compensation and a payment of $\$ 11,356,088$ towards the liquidation of the unfunded accrued liability be made. Based on the reported payroll, the total contribution amounts to $\$ 28,279,810$ for the year beginning July 1, 2002. Schedule G provides the estimated contributions for the following two fiscal years.

The Table of Contents, which immediately follows, outlines the material contained in this report.
Respectfully submitted,

David L. Driscoll, F.S.A., E.A.
Associate Principal and Consulting Actuary

## TABLE OF CONTENTS

SECTION Page
I Summary of Principal Results ..... 1
II Member Data ..... 2
III Assets ..... 5
IV Comments on Valuation ..... 6
V Contributions Payable Under the System ..... 7
VI Experience ..... 8
VII Accounting Information ..... 11
SCHEDULE
A Valuation Balance Sheet ..... 13
B Outline of Actuarial Assumptions and Methods ..... 16
C Brief Summary of Principal Plan Provisions as Interpreted for Valuation Purposes ..... 20
D Summary Tables of Member Data as of June 30, 2002 ..... 24
E Amortization Schedule for the Unfunded Actuarial Accrued Liability ..... 30
F Projected Benefit Payouts and Contributions ..... 32
G Projection of Contributions for Following Two Fiscal Years ..... 34

Page 1

## REPORT ON THE FIFTY-FIFTH ACTUARIAL VALUATION OF THE STATE TEACHERS' RETIREMENT SYSTEM OF VERMONT <br> PREPARED AS OF JUNE 30, 2002 <br> SECTION I - SUMMARY OF PRINCIPAL RESULTS

1. For convenience of reference, the principal results of the valuation and a comparison with the preceding year's results are summarized below:

| Valuation Date | June 30, 2002 | June 30, 2001 |
| :---: | :---: | :---: |
| Active members |  |  |
| Vested | 7,408 | 7,388 |
| Not vested | 2,849 | 2,876 |
| Total | 10,257 | 10,264 |
| Compensation | \$418,904,021 | \$403,258,305 |
| Average age | 44.53 | 45.05 |
| Average service | 12.37 | 12.10 |
| Average compensation | \$40,841 | \$39,289 |
| Retired members and beneficiaries |  |  |
| Number | 3,991 | 3,812 |
| Annual retirement allowances | \$46,774,212 | \$42,867,493 |
| Inactive members | 2,932 | 2,654 |
| Terminated vested members | 513 | 495 |
| Adjusted assets for valuation | \$1,169,293,733 | \$1,116,845,541 |
| Unfunded actuarial accrued liability | \$137,907,804 | \$137,495,648 |
| Annual actuarial accrued liability contribution | \$11,356,088 | \$10,815,322 |
| Normal contribution rate | 4.04\% | 2.81\% |

2. Comments on the results of the valuation are given in Section IV and further discussion of the contribution levels is set out in Section V.
3. Schedule B outlines the full set of actuarial assumptions and methods employed in the current valuation.
4. Schedule C outlines the benefit provisions that were taken into account in the valuation.
5. As part of the regular valuation, experience of the system during the previous year has been analyzed. We have summarized in graph form in Section VI experience during the past year.
6. Schedule F shows a graph of projected benefit payouts during the next ten years of benefits payable to current and future pensioners.
7. Schedule G shows projected contributions for the two following fiscal years.

## SECTION II - MEMBER DATA

1. Member data were furnished by the Retirement Division of the State Treasurer's Office.
2. Schedule D presents tables that summarize active members, by age and service and service pensioners, disability pensioners and beneficiaries by annual benefit levels.

Page 3
3. The following tables show a summary of membership of the system:

THE NUMBER AND ANNUAL ALLOWANCES OF RETIRED MEMBERS AND BENEFICIARIES AS OF JUNE 30, 2002

| GROUP |  | ANNUAL |
| :--- | :---: | :---: |
| Service Retirements | NUMBER | ALLOWANCES |
| Disability Retirements | 3,624 | $\$ 43,605,724$ |
| Beneficiaries of Deceased Members | 113 | $\$ 1,253,572$ |
| Total | 254 | $\$ 1,914,916$ |

THE NUMBER AND ANNUAL COMPENSATION OF ACTIVE MEMBERS AS OF JUNE 30, 2002

| GROUP |  | ANNUAL |
| :---: | ---: | :---: |
| Group A | NUMBER | COMPENSATION |
| Group C | 67 | $\$ 3,260,148$ |
| Total | 10,190 | $\$ 415,643,873$ |




## SECTION III - ASSETS

1. The amount of assets taken into account in the valuation is based principally on information supplied by the Retirement Division of the Office of the State Treasurer.
2. For actuarial purposes, the assets are valued using a method that reflects the market value of assets through gradual recognition of any unrealized appreciation or depreciation in assets beyond the assumed $81 / 2 \%$ rate of return, provided the adjusted asset value is within $20 \%$ of the market value. The following shows the development of the valuation assets.

Assets for valuation purposes, June 30, 2001
\$ 1,116,845,541

Cash flow during year (net of investment income)

| Contributions paid | $\$ 38,643,034$ |
| :--- | ---: | ---: |
| Benefit payouts | $(47,769,267)$ |
| Expenses | $\underline{(12,676,847)}$ |

Expected investment income (8-1/2\%)

Preliminary asset value

Market value, June 30, 2002
\$ 1,065,978,943
Preliminary asset value
1,195,122,431
Unrecognized appreciation
\$ $(129,143,488)$
Adjustment
x $20 \%$
\$ $(21,803,080)$
$100,079,970$
\$ 1, 195, 122,431
$\$(25,828,698)$
\$ 1,169,293,733
\$ 1,169,293,733
3. The assets for valuation purposes are $109.7 \%$ of market value.
4. The investment rate of return for the year ending June 30, 2002 is $6.71 \%$, based on the valuation assets.

## SECTION IV - COMMENTS ON VALUATION

1. Schedule A of the report contains the valuation balance sheet, which shows the present and prospective assets and liabilities of the system as of June 30, 2002.
2. The adjusted assets of the system amount to $\$ 1,169,293,733$. The present value of prospective allowances to be paid to current retired members, terminated vested members and beneficiaries amounts to $\$ 501,833,340$ and the present value of prospective benefits expected to become payable to current active and inactive members amounts to $\$ 1,061,822,847$, for total liabilities of $\$ 1,563,656,187$. Therefore, after subtracting assets of $\$ 1,169,293,733$, the amount to be provided through prospective contributions is \$394,362,454.
3. Prospective member contributions have a value of $\$ 110,149,034$, which leaves $\$ 284,213,420$ to be met by the State. The State's contributions consist of a normal contribution and an accrued liability contribution. The accrued liability contribution represents the amount (assumed to increase by $5 \%$ each year) necessary to liquidate the balance of the unfunded accrued liability as of June 30, 2002 over a 16-year period from that date. Future normal contributions represent the balance of contributions needed to fund the system. After subtracting the current balance of the unfunded accrued liability, $\$ 137,907,804$, from the present value of prospective State contributions, $\$ 284,213,419$, there remains $\$ 146,305,616$ to be met by future normal contributions. We have calculated that future normal contributions at the rate of $4.04 \%$ of members' compensation are required to provide this amount.
4. The normal contribution rate of $4.04 \%$ may be compared to the rate of $2.81 \%$ determined as of June 30, 2001. The following table provides an approximate breakdown by source for the increase in the rate:

| ITEM | EFFECT OF <br> (GAIN) OR LOSS |
| :---: | :---: |
| Normal rate as of June 30, 2001 | $+2.81 \%$ |
| Investment experience | $+0.91 \%$ |
| Salary increases | $-0.30 \%$ |
| Retired member mortality | $+0.02 \%$ |
| COLA | $-0.07 \%$ |
| New members | $+0.19 \%$ |
| Contribution shortfall | $+0.05 \%$ |
| Net withdrawal/retirement | $+0.43 \%$ |
| Normal rate as of June 30, 2002 | $4.04 \%$ |

SECTION V - CONTRIBUTIONS PAYABLE UNDER THE SYSTEM

1. Section 1942, Subsection (n), of Title 16, Chapter 55, Vermont Statutes Annotated, relating to the State Teachers' Retirement System of Vermont, indicates that the actuary shall submit to the Board of Trustees his recommendation as to the contributions payable by the State based on annual valuations of the assets and liabilities of the system.
2. On the basis of the results of the current valuation, the actuary recommends that the Board of Trustees certify the following contributions for the fiscal year commencing July 1, 2002:

| Normal contribution | $\$ 16,923,722$ |
| :--- | ---: |
| Accrued liability contribution | $\underline{11,356,088}$ |
| Total | $\$ 28,279,810$ |

## SECTION VI - EXPERIENCE

1. Records are maintained whereby the actual experience of the System may be compared with the expected experience based on the tables adopted by the Board of Trustees. This experience is reviewed periodically, and any change suggested by the cumulative experience of the system will be recommended to the Board.
2. The active service and salary experience for the latest year is summarized in graphs on the following pages.



## SECTION VII - ACCOUNTING INFORMATION

1. Based on our interpretation of Statement No. 25 of the Governmental Accounting Standards Board (GASB), we are providing the following Schedule of Funding Progress for accounting purposes.

## SCHEDULE OF FUNDING PROGRESS

(dollar amounts in thousands)

| Year Ending June 30 | Actuarial Value of Assets (a) | Actuarial Accrued Liability (AAL) <br> (b) | $\begin{aligned} & \text { Unfunded } \\ & \text { AAL } \\ & \text { (UAAL) } \\ & \text { (b-a) } \end{aligned}$ | Funded Ratio (a/b) | Covered Payroll (c) | UAAL as a <br> Percentage of <br> Covered <br> Payroll <br> ((b-a)/c) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2002 | \$1,169,294 | \$1,307,202 | \$137,908 | 89.5\% | \$418,904 | 32.9\% |
| 2001 | 1,116,846 | 1,254,341 | 137,496 | 89.0\% | 403,258 | 34.1\% |
| 2000 | 1,037,466 | 1,174,087 | 136,621 | 88.4\% | 387,999 | 35.2\% |
| 1999 | 931,056 | 1,066,400 | 135,343 | 87.3\% | 372,299 | 36.4\% |
| 1998 | 821,977 | 955,694 | 133,717 | 86.0\% | 357,899 | 37.4\% |
| 1997 | 717,396 | 849,179 | 131,783 | 84.5\% | 364,695 | 36.1\% |
| 1996 | 570,776 | 700,377 | 129,601 | 81.5\% | 355,895 | 36.4\% |
| 1995 | 520,850 | 648,052 | 127,202 | 80.4\% | 346,975 | 36.7\% |
| 1994 | 473,229 | 597,851 | 124,622 | 79.2\% | 335,155 | 37.2\% |
| 1993 | 433,327 | 555,220 | 121,893 | 78.1\% | 324,537 | 37.6\% |
| 1992 | 390,098 | 509,140 | 119,042 | 76.6\% | 312,347 | 38.1\% |
| 1991 | 360,301 | 476,397 | 116,096 | 75.6\% | 316,669 | 36.7\% |
| 1990 | 328,338 | 441,414 | 113,076 | 74.4\% | 289,641 | 39.0\% |

2. GASB Statement No. 27 requires the development of Annual Pension Cost and Net Pension Obligation. This development is shown in the following table.

DEVELOPMENT OF PENSION COST AND NET PENSION OBLIGATION (NPO)

| $\begin{gathered} \text { Year } \\ \text { Ending } \\ \text { June } 30 \end{gathered}$ | Annual <br> Required Contribution | Interest on <br> NPO | Amortization of NPO | Pension Cost $(1)+(2)-(3)$ | Actual Contribution | Change in NPO (4)-(5) | NPO <br> Balance |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| 1988 | 16,294,346 | 0 | 0 | 16,294,346 | 17,186,259 | $(891,913)$ |  |
| 1989 | 18,072,172 | $(75,813)$ | $(74,450)$ | 18,070,809 | 19,000,000 | $(929,191)$ | $(1,821,104)$ |
| 1990 | 21,320,155 | $(154,794)$ | $(145,688)$ | 21,311,049 | 19,561,000 | 1,750,049 | $(71,055)$ |
| 1991 | 25,013,437 | $(6,040)$ | $(5,299)$ | 25,012,696 | 15,000,000 | 10,012,696 | 9,941,641 |
| 1992 | 28,595,220 | 845,039 | 833,331 | 28,606,928 | 14,618,992 | 13,987,936 | 23,929,577 |
| 1993 | 28,819,875 | 2,034,014 | 2,274,675 | 28,579,214 | 19,890,048 | 8,689,166 | 32,618,743 |
| 1994 | 25,805,408 | 2,772,593 | 2,970,742 | 25,607,259 | 20,580,000 | 5,027,259 | 37,646,002 |
| 1995 | 27,451,926 | 3,199,910 | 3,544,821 | 27,107,015 | 18,080,000 | 9,027,015 | 46,673,017 |
| 1996 | 28,711,597 | 3,967,206 | 4,374,228 | 28,304,575 | 11,480,000 | 16,824,575 | 63,497,592 |
| 1997 | 30,721,768 | 5,397,295 | 6,111,414 | 30,007,649 | 18,080,000 | 11,927,649 | 75,425,241 |
| 1998 | 26,927,205 | 6,411,145 | 6,285,437 | 27,052,913 | 18,106,581 | 8,946,332 | 84,371,573 |
| 1999 | 20,723,874 | 7,171,584 | 8,231,373 | 19,664,085 | 18,080,000 | 1,584,085 | 85,955,658 |
| 2000 | 19,936,345 | 7,306,231 | 8,385,918 | 18,856,658 | 18,586,240 | 270,418 | 86,226,076 |
| 2001 | 20,970,278 | 7,329,216 | 8,412,300 | 19,887,194 | 19,143,827 | 743,367 | 86,969,443 |
| 2002 | 22,146,880 | 7,392,403 | 8,484,824 | 21,054,459 | 20,448,248 | 606,211 | 87,575,654 |

SCHEDULE A

VALUATION BALANCE SHEET<br>SHOWING THE ASSETS AND LIABILITIES OF THE STATE TEACHERS' RETIREMENT SYSTEM OF VERMONT PREPARED AS OF JUNE 30, 2002

# VALUATION BALANCE SHEET <br> SHOWING THE ASSETS AND LIABILITIES OF THE STATE TEACHERS' RETIREMENT SYSTEM OF VERMONT <br> PREPARED AS OF JUNE 30, 2002 

## ASSETS

Adjusted assets of the system
\$1,169,293,733

Present value of prospective contributions

| Members | $\$ 110,149,034$ |
| :--- | ---: |
| State |  |
| Accrued liability contributions | $137,907,804$ |
| Normal contributions | $\underline{146,305,616}$ |

Total prospective contributions
\$ 394,362,454

Total assets
\$1,563,656,187

## LIABILITIES

Actuarial present value of benefits payable on account of present retired members, terminated vested members and beneficiaries
\$ 501,833,340

Actuarial present value of benefits expected to become payable on account of active and inactive members
$\underline{1,061,822,847}$

Total liabilities
$\$ 1,563,656,187$


## SCHEDULE B

OUTLINE OF ACTUARIAL ASSUMPTIONS AND METHODS

## OUTLINE OF ACTUARIAL ASSUMPTIONS AND METHODS

INTEREST RATE: $81 / 2 \%$ per annum, compounded annually.
SEPARATIONS BEFORE NORMAL RETIREMENT: Representative values of the assumed annual rates of withdrawal, vested retirement, early retirement, disability and death are as follows:

| Age | Withdrawal and <br> Vested Retirement |  | Disability |  |  |  |
| :--- | :--- | :--- | :---: | :---: | :---: | :---: |
|  | Males | Females | Males | Females | Males | Females |
|  |  |  |  |  |  |  |
| 25 | $6.75 \%$ | $8.10 \%$ | $.01 \%$ | $.02 \%$ | $.04 \%$ | $.03 \%$ |
| 30 | 6.75 | 6.75 | .02 | .02 | .04 | .03 |
| 35 | 6.08 | 5.40 | .02 | .02 | .04 | .03 |
| 40 | 5.06 | 4.50 | .04 | .02 | .08 | .03 |
| 45 | 4.50 | 3.98 | .07 | .05 | .08 | .05 |
| 50 | 4.50 | 3.38 | .24 | .18 | .12 | .08 |
| 55 | 4.50 | 3.38 | .44 | .39 | .12 | .12 |
| 59 | 4.50 | 3.38 | 1.17 | .71 | .15 | .18 |
| 60 | 4.50 | 3.38 | 1.47 | .84 | .15 | .19 |
| 61 | 4.50 | 3.38 | 1.83 | 1.01 | .50 | .22 |


| Age | Reduced Early Retirement |  | Full Early Retirement |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Males | Females | Males | Females |
|  |  |  |  |  |
| 50 | - | - | $22.0 \%$ | $20.0 \%$ |
| 55 | $10.00 \%$ | $8.75 \%$ | 30.8 | 20.0 |
| 56 | 8.00 | 6.25 | 17.6 | 10.0 |
| 57 | 6.00 | 6.25 | 16.5 | 10.0 |
| 58 | 6.00 | 6.25 | 16.5 | 10.0 |
| 59 | 6.00 | 6.25 | 20.9 | 10.0 |
| 60 | 6.00 | 12.50 | 27.5 | 20.0 |
| 61 | 20.00 | 12.50 | 22.0 | 17.0 |

SERVICE RETIREMENTS: Occur between ages 62 (60 for Group A) and 70. The assumed rates of service retirement are as follows:

| Age | Annual Rate of Retirement |  |
| :---: | :---: | :---: |
|  | Male | Female |
|  |  |  |
| 62 | $35.2 \%$ | $25.0 \%$ |
| 63 | 26.4 | 20.0 |
| 64 | 27.6 | 20.0 |
| 65 | 41.8 | 30.0 |
| 66 | 33.0 | 30.0 |
| 67 | 33.0 | 30.0 |
| 68 | 33.0 | 30.0 |
| 69 | 33.0 | 30.0 |
| 70 | 100.0 | 100.0 |

SALARY INCREASES: Representative values of the assumed annual rates of future salary increase are as follows:

| Age | Annual Rate of <br> Salary Increase |
| :---: | :---: |
|  |  |
| 25 | $8.9 \%$ |
| 30 | 8.1 |
| 35 | 7.3 |
| 40 | 6.7 |
| 45 | 6.1 |
| 50 | 5.5 |
| 55 | 5.1 |
| 60 | 4.9 |
| 64 | 4.9 |

DEATHS AFTER RETIREMENT: The 1995 Buck Mortality Table for the period after service retirement. A special mortality table was used for the period following disability retirement.

FUTURE EXPENSES: No provision made.
ACTUARIAL COST METHOD: Projected benefit method with aggregate level normal cost and frozen supplemental liability (entry age normal cost with frozen initial liability).

SPOUSE'S AGE: Husbands are assumed to be 3 years older than their wives.
PERCENT MARRIED: $85 \%$ of the male members and $35 \%$ of the female members are assumed to be married.

COST-OF-LIVING ADJUSTMENTS: Assumed to occur on January 1 following one year of retirement at the rate of $4 \%$ per annum for Group A and 2\% per annum for Group C (beginning at age 62 for Group C reduced early retirements).

ASSET VALUATION METHOD: The amount of the assets for valuation purposes equals the preliminary asset value plus $20 \%$ of the difference between the market and preliminary asset values. The preliminary asset value is equal to the previous year's asset value (for valuation purposes) adjusted for contributions less benefit payments and expenses and expected investment income. If necessary, a further adjustment is made to ensure that the valuation assets are within $20 \%$ of the market value.

INACTIVE MEMBERS: Ten percent are assumed to return to active service, the remaining ninety percent are assumed to terminate. This is effected by holding a liability equal to $150 \%$ of accumulated contributions of inactive members for valuation purposes.

HEALTH AND MEDICAL BENEFITS FOR RETIREES: Not included in this valuation.

## SCHEDULE C

BRIEF SUMMARY OF PRINCIPAL PLAN PROVISIONS AS INTERPRETED FOR VALUATION PURPOSES
Effective Date
Creditable Service
Average Final Compensation (AFC)

Membership
July 1, 1947.
Service as a member plus purchased service.
Average annual compensation during highest 3 successive years.

Immediate upon employment.
GROUP A
GROUP C

Service Retirement Allowance

| Eligibility | Age 60 or 30 years of creditable service. | Age 62 or 30 years of creditable service. |
| :---: | :---: | :---: |
| Amount of Allowance | Member annuity based on accumulated contributions plus a pension which, with member annuity, equals $1 / 60$ of AFC times creditable service. | Member annuity based on accumulated contributions plus a pension which, with member annuity, equals $1 / 80$ of AFC times creditable service prior to July 1, 1990 plus $1 / 60$ of AFC times creditable service after July 1, 1990. |
| Minimum | \$6,600 after 30 years of creditable service (pro-rata portion if less than 30 years). | \$6,600 after 30 years of creditable service (pro-rata portion if less than 30 years). |
| Maximum | None | 50\% of AFC. |

Early Retirement Allowance Eligibility

Amount of Allowance

Vested Retirement Allowance Eligibility

Amount of Allowance

Disability Retirement Allowance Eligibility

Amount of Allowance

Amount of Allowance
Death Benefits
Eligibility

Age 55.

Actuarial equivalent of service allowance using AFC and creditable service at early retirement.

5 years of creditable service.

Commencing at age 60 calculated as a service allowance using AFC and creditable service at termination.

Total and permanent disability after 5 years of creditable service (5 years preceding retirement served in State).

Calculated as a service allowance based on AFC and creditable service at disability retirement, subject to a $25 \%$ of AFC minimum.

Age 60 or 30 years of creditable service; 20 years of creditable service if in service at death.

Accrued allowance paid under 100\% survivorship option. If the eligibility requirements are not met or if beneficiary so elects, the member's accumulated contributions are paid to the

## GROUP C

Age 55 and 5 years of creditable service.

Accrued normal benefit reduced $6 \%$ for each year under age 62. No reduction if credited service is 30 years or more.

5 years of creditable service.

Commencing at age 62, calculated as a service allowance using AFC and creditable service at termination.

Total and permanent disability after 5 years of creditable service (5 years preceding retirement served in State).

Calculated as a service allowance based on AFC and creditable service at disability retirement, subject to a $25 \%$ of AFC minimum.

Age 55 and 5 years of creditable service or 20 years of creditable service.

Accrued allowance paid under $100 \%$ survivorship option. If the eligibility requirements are not met or if beneficiary so elects, the member's accumulated contributions are paid to the

|  | GROUP A | GROUP C |
| :--- | :--- | :--- |
| beneficiary or estate. Certain |  |  |
| children's benefits may also |  |  |
| be payable. |  |  |\(\left.\quad \begin{array}{l}beneficiary or estate. Certain <br>

children's benefits may also <br>
be payable.\end{array}\right]\)

## SCHEDULE D

SUMMARY TABLES OF MEMBER DATA AS OF JUNE 30, 2002

## TABLE 1

THE NUMBER AND ANNUAL COMPENSATION OF ACTIVE MEMBERS DISTRIBUTED BY AGE AND SERVICE

AS OF JUNE 30, 2002

| AGE | 0 to 4 |  | 5 to 9 |  | 10 to 14 |  | 15 to 19 |  | 20 to 24 |  | 25 to 29 |  | 30 to 34 |  | 35 to 39 |  | 40 \& up |  | Total |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | No. | Salary | No. | Salary | No. | Salary | No. | Salary | No. | Salary | No. | Salary | No. | Salary | No. | Salary | No. | Salary | No. | Salary |
| Under 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20 to 24 | 237 | 6,095,280 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 237 | 6,095,280 |
| 25 to 29 | 608 | 17,395,483 | 143 | 4,768,298 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 751 | 22,163,781 |
| 30 to 34 | 492 | 15,088,585 | 397 | 14,035,170 | 110 | 4,224,752 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 999 | 33,348,507 |
| 35 to 39 | 345 | 10,496,777 | 272 | 10,126,997 | 241 | 9,818,847 | 135 | 5,854,557 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 993 | 36,297,178 |
| 40 to 44 | 389 | 11,729,220 | 270 | 10,218,366 | 283 | 12,029,975 | 317 | 14,214,101 | 141 | 6,780,107 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,400 | 54,971,769 |
| 45 to 49 | 371 | 11,898,046 | 341 | 12,744,222 | 371 | 16,089,783 | 353 | 16,712,227 | 460 | 23,006,966 | 229 | 11,446,423 | 3 | 143,996 | 0 | 0 | 0 | 0 | 2,128 | 92,041,663 |
| 50 to 54 | 252 | 8,554,532 | 292 | 11,632,836 | 347 | 15,304,259 | 430 | 20,445,202 |  | 21,418,589 | 556 | 28,431,313 | 99 | 5,272,928 | 0 | 0 | 0 | 0 | 2,396 | 111,059,659 |
| 55 to 59 | 106 | 3,747,012 | 98 | 3,904,913 | 156 | 6,696,346 | 192 | 9,122,622 | 168 | 8,211,339 |  | 9,924,119 | 148 | 7,796,127 | 35 | 1,805,858 | 0 | 0 | 1,096 | 51,208,336 |
| 60 to 64 | 31 | 1,205,061 | 22 | 842,351 | 27 | 1,229,232 | 40 | 1,882,964 | 36 | 1,805,524 | 29 | 1,507,738 | 17 | 884,075 | 13 | 710,504 | 3 | 160,736 | 218 | 10,228,185 |
| 65 to 69 | 9 | 245,546 | 5 | 217,436 | 1 | 53,533 | 5 | 235,542 | 2 | 81,664 | 0 | 0 | 1 | 44,398 | 3 | 159,263 | 2 | 101,065 | 28 | 1,138,447 |
| 70 \& up | 9 | 272,324 | 0 | 0 | 0 | 0 | 2 | 78,892 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 351,216 |
| TOTAL | 2,849 | 86,727,866 | 1,840 | 68,490,589 | 1,536 | 65,446,727 | 1,474 | 68,546,107 | 1,227 | 61,304,189 | 1,007 | 51,309,593 | 268 | 14,141,524 | 51 | 2,675,625 | 5 | 261,801 | 10,257 | 418,904,021 |

TABLE 2
THE NUMBER AND ANNUAL COMPENSATION OF ACTIVE MEMBERS DISTRIBUTED BY AGE AND SERVICE AS OF JUNE 30, 2002

GROUP A

| AGE | 0 to 4 |  | 5 to 9 |  | 10 to 14 |  | 15 to 19 |  | 20 to 24 |  | 25 to 29 |  | 30 to 34 |  | 35 to 39 |  | $40 \& u p$ |  | Total |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | No. | Salary | No. | Salary | No. | Salary | No. | Salary | No. | Salary | No. | Salary | No. | Salary | No. | Salary | No. | Salary | No. | Salary |
| Under 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20 to 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25 to 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 30 to 34 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 35 to 39 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 40 to 44 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 216,542 | 5 | 248,726 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 465,268 |
| 45 to 49 | 0 | 0 | 0 | 0 | 1 | 18,184 | 3 | 126,396 | 7 | 326,263 | 2 | 110,044 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 580,887 |
| 50 to 54 | 0 | 0 | 0 | 0 | 1 | 46,832 | 1 | 54,426 | 8 | 378,963 | 6 | 254,376 | 2 | 106,784 | 0 | 0 | 0 | 0 | 18 | 841,381 |
| 55 to 59 | 0 | 0 | 0 | , | 1 | 42,727 | 1 | 43,890 | 3 | 159,624 | 3 | 161,327 | 6 | 352,386 | 4 | 187,364 | 0 | 0 | 18 | 947,318 |
| 60 to 64 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 108,746 | 2 | 94,698 | 1 | 63,205 | 1 | 48,829 | 1 | 51,039 | 0 | 0 | 7 | 366,517 |
| 65 to 69 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 58,777 | 1 | 58,777 |
| 70 \& up | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 0 | 0 | 0 | 0 | 3 | 107,743 | 12 | 550,000 | 25 | 1,208,274 | 12 | 588,952 | 9 | 507,999 | 5 | 238,403 | 1 | 58,777 | 67 | 3,260,148 |

TABLE 3
THE NUMBER AND ANNUAL COMPENSATION OF ACTIVE MEMBERS DISTRIBUTED BY AGE AND SERVICE

AS OF JUNE 30, 2002
GROUP C

| AGE <br> Under 20 | 0 to 4 |  | 5 to 9 |  | 10 to 14 |  | 15 to 19 |  | 20 to 24 |  | 25 to 29 |  | 30 to 34 |  | 35 to 39 |  | 40 \& $u p$ |  | Total |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | No. | Salary | No. | Salary | No. | Salary | No. | Salary | No. | Salary | No. | Salary | No. | Salary | No. | Salary | No. | Salary | No. | Salary |
|  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20 to 24 | 237 | 6,095,280 | 0 | 0 | 0 | 0 | 0 |  | 0 |  | 0 | 0 | 0 | 0 | 0 |  | 0 | 0 | 237 | 6,095,280 |
| 25 to 29 | 608 | 17,395,483 | 143 | 4,768,298 | 0 | 0 | 0 |  | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  | 0 | 0 | 751 | 22,163,781 |
| 30 to 34 | 492 | 15,088,585 | 397 | 14,035,170 | 110 | 4,224,752 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 999 | 33,348,507 |
| 35 to 39 | 345 | 10,496,777 | 272 | 10,126,997 | 241 | 9,818,847 | 135 | 5,854,557 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 993 | 36,297,178 |
| 40 to 44 | 389 | 11,729,220 | 270 | 10,218,366 | 283 | 12,029,975 | 312 | 13,997,559 | 136 | 6,531,381 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,390 | 54,506,501 |
| 45 to 49 | 371 | 11,898,046 | 341 | 12,744,222 | 370 | 16,071,599 | 350 | 16,585,831 | 453 | 22,680,703 | 227 | 11,336,379 | 3 | 143,996 | 0 | 0 | 0 | 0 | 2,115 | 91,460,776 |
| 50 to 54 | 252 | 8,554,532 | 292 | 11,632,836 | 346 | 15,257,427 | 429 | 20,390,776 | 412 | 21,039,626 | 550 | 28,176,937 | 97 | 5,166,144 | 0 | 0 | 0 | 0 | 2,378 | 110,218,278 |
| 55 to 59 | 106 | 3,747,012 | 98 | 3,904,913 | 155 | 6,653,619 | 191 | 9,078,732 | 165 | 8,051,715 | 190 | 9,762,792 | 142 | 7,443,741 | 31 | 1,618,494 | 0 | 0 | 1,078 | 50,261,018 |
| 60 to 64 | 31 | 1,205,061 | 22 | 842,351 | 27 | 1,229,232 | 38 | 1,774,218 | 34 | 1,710,826 | 28 | 1,444,533 | 16 | 835,246 | 12 | 659,465 | 3 | 160,736 | 211 | 9,861,668 |
| 65 to 69 | 9 | 245,546 | 5 | 217,436 | 1 | 53,533 | 5 | 235,542 | 2 | 81,664 | 0 | 0 | 1 | 44,398 | 3 | 159,263 | 1 | 42,288 | 27 | 1,079,670 |
| 70 \& up | 9 | 272,324 | 0 | 0 | 0 | 0 | 2 | 78,892 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 351,216 |
| TOTAL | 2,849 | 86,727,866 | 1,840 | 68,490,589 | 1,533 | 65,338,984 | 1,462 | 67,996,107 | 1,202 | 60,095,915 | 995 | 50,720,641 | 259 | 13,633,525 | 46 | 2,437,222 | 4 | 203,024 | 10,190 | 415,643,873 |

TABLE 4

## SUMMARY OF RETIRED MEMBER AND BENEFICIARY DATA BY LEVEL OF ANNUAL ALLOWANCE AS OF JUNE 30, 2002

ALL TEACHERS

|  | Service Pensioners |  |  | Disability Pensioners |  |  | Beneficiaries |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Allowance Level | Number |  | Annual <br> Allowance | Number |  | Annual Allowance | Number |  | Annual <br> lowance |
| 0-500 | 10 | \$ | 2,560 | - | \$ | - | 1 | \$ | 426 |
| 501-1,000 | 14 |  | 9,990 | - |  | - | 3 |  | 2,297 |
| 1,001-1,500 | 41 |  | 52,226 | - |  | - | 4 |  | 4,994 |
| 1,501-2,000 | 60 |  | 105,901 | - |  | - | 6 |  | 10,320 |
| 2,001-2,500 | 84 |  | 189,213 | - |  | - | 4 |  | 8,892 |
| 2,501-3,000 | 87 |  | 240,343 | - |  | - | 17 |  | 46,179 |
| 3,001-3,500 | 79 |  | 257,554 | - |  | - | 17 |  | 55,497 |
| 3,501-4,000 | 111 |  | 415,591 | - |  | - | 10 |  | 36,800 |
| 4,001-4,500 | 112 |  | 477,445 | 1 |  | 4,187 | 12 |  | 50,862 |
| 4,501-5,000 | 104 |  | 493,045 | 2 |  | 9,655 | 6 |  | 29,009 |
| 5,001-5,500 | 93 |  | 486,877 | 1 |  | 5,247 | 14 |  | 73,404 |
| 5,501-6,000 | 132 |  | 759,470 | 6 |  | 34,605 | 11 |  | 62,782 |
| 6,001-6,500 | 101 |  | 633,439 | 2 |  | 12,578 | 14 |  | 87,444 |
| 6,501-7,000 | 95 |  | 642,815 | 3 |  | 20,079 | 13 |  | 87,987 |
| 7,001-7,500 | 81 |  | 588,301 | 2 |  | 14,553 | 10 |  | 72,753 |
| 7,501-8,000 | 101 |  | 784,440 | 7 |  | 53,774 | 7 |  | 54,528 |
| 8,001-8,500 | 78 |  | 645,964 | 8 |  | 65,838 | 13 |  | 107,155 |
| 8,501-9,000 | 83 |  | 725,202 | 3 |  | 26,243 | 11 |  | 96,373 |
| 9,001-9,500 | 90 |  | 833,086 | 8 |  | 74,045 | 9 |  | 83,593 |
| 9,501-10,000 | 88 |  | 857,881 | 9 |  | 88,044 | 8 |  | 78,545 |
| 10,001-10,500 | 94 |  | 961,735 | 6 |  | 60,685 | 8 |  | 81,641 |
| 10,501-11,000 | 82 |  | 882,715 | 4 |  | 43,029 | 8 |  | 86,544 |
| 11,001-11,500 | 84 |  | 946,153 | 8 |  | 90,049 | 8 |  | 89,817 |
| 11,501-12,000 | 73 |  | 858,959 | 9 |  | 104,988 | 7 |  | 82,676 |
| 12,001-12,500 | 65 |  | 795,865 | 4 |  | 48,643 | 2 |  | 24,801 |
| 12,501-13,000 | 63 |  | 803,312 | 4 |  | 51,114 | 5 |  | 64,067 |
| 13,001-13,500 | 95 |  | 1,259,744 | 2 |  | 26,515 | 4 |  | 53,260 |
| 13,501-14,000 | 66 |  | 907,958 | 1 |  | 13,747 | 3 |  | 41,123 |
| 14,001-14,500 | 101 |  | 1,436,360 | 3 |  | 42,705 | 3 |  | 42,800 |
| 14,501-15,000 | 79 |  | 1,166,551 | 2 |  | 29,660 | 1 |  | 14,834 |
| 15,001-15,500 | 85 |  | 1,297,858 | 2 |  | 30,416 | 3 |  | 45,289 |
| 15,501-16,000 | 61 |  | 958,949 | 3 |  | 47,021 | 1 |  | 15,622 |
| 16,001-16,500 | 63 |  | 1,025,692 | - |  | - | 4 |  | 64,620 |
| 16,501-17,000 | 67 |  | 1,122,448 | 3 |  | 50,473 | 1 |  | 16,788 |
| 17,001-17,500 | 58 |  | 1,002,159 | 2 |  | 34,306 | 1 |  | 17,029 |
| 17,501-18,000 | 71 |  | 1,260,870 | - |  | - | - |  | - |
| 18,001-18,500 | 61 |  | 1,114,768 | 2 |  | 36,557 | - |  | - |
| 18,501-19,000 | 65 |  | 1,218,169 | 1 |  | 18,800 | 2 |  | 37,844 |
| 19,001-19,500 | 66 |  | 1,271,641 | 1 |  | 19,022 | 1 |  | 19,419 |
| 19,501-20,000 | 66 |  | 1,305,401 | - |  | - | - |  | - |
| 20,001-20,500 | 53 |  | 1,073,088 | - |  | - | - |  | - |
| 20,501-21,000 | 48 |  | 997,076 | - |  | - | - |  | - |

TABLE 4, continued

SUMMARY OF RETIRED MEMBER AND BENEFICIARY DATA BY LEVEL OF ANNUAL ALLOWANCE AS OF JUNE 30, 2002

ALL TEACHERS


## SCHEDULE E

## AMORTIZATION SCHEDULE FOR THE UNFUNDED ACTUARIAL

 ACCRUED LIABILITY
## AMORTIZATION SCHEDULE FOR THE UNFUNDED ACTUARIAL ACCRUED LIABILITY

| Date | Balance | Contribution <br> (Year Following) |  |
| :---: | :---: | :---: | :---: |
| $6 / 30 / 2002$ | $137,907,805$ | $11,356,088$ |  |
| $6 / 30 / 2003$ | $137,791,247$ | $11,923,892$ |  |
| $6 / 30 / 2004$ | $137,072,846$ | $12,520,087$ |  |
| $6 / 30 / 2005$ | $135,671,847$ | $13,146,091$ |  |
| $6 / 30 / 2006$ | $133,499,154$ | $13,803,396$ |  |
| $6 / 30 / 2007$ | $130,456,542$ | $14,493,566$ |  |
| $6 / 30 / 2008$ | $126,435,806$ | $15,218,244$ |  |
| $6 / 30 / 2009$ | $121,317,830$ | $15,979,156$ |  |
| $6 / 30 / 2010$ | $114,971,575$ | $16,778,114$ |  |
| $6 / 30 / 2011$ | $107,252,975$ | $17,617,020$ |  |
| $6 / 30 / 2012$ | $98,003,735$ | $18,497,871$ |  |
| $6 / 30 / 2013$ | $87,050,022$ | $19,422,765$ |  |
| $6 / 30 / 2014$ | $74,201,041$ | $20,393,903$ |  |
| $6 / 30 / 2015$ | $59,247,486$ | $21,413,598$ |  |
| $6 / 30 / 2016$ | $41,959,846$ | $22,484,278$ |  |
| $6 / 30 / 2017$ | $22,086,573$ | $23,608,492$ |  |
| $6 / 30 / 2018$ | 0 | 0 |  |
|  |  |  |  |

## SCHEDULE F

## PROJECTED BENEFIT PAYOUTS AND

 CONTRIBUTIONS FOR THE PERIOD JULY 1, 2002 THROUGH JUNE 30, 2012

## SCHEDULE G

PROJECTION OF CONTRIBUTIONS FOR FOLLOWING TWO FISCAL YEARS

## PROJECTION OF CONTRIBUTIONS FOR FOLLOWING TWO FISCAL YEARS

On the basis of the June 30, 2002 actuarial valuation, the recommended contribution for the fiscal year ending June 30 , 2003, is $\$ 28,279,810$, based on the following:

| Payroll | $\$ 418,904,021$ |
| :--- | ---: |
| Normal rate | $4.04 \%$ |
| Accrued liability contribution | $\$ 11,356,088$ |

On this basis, the projected contributions for the following two fiscal years are as follows:

|  |  |  | CONTRIBUTIONS |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Fiscal <br> Year | Projected Payroll | Normal Rate | Normal | Accrued <br> Liability | Total |
|  |  |  |  |  |  |
| 2004 | $\$ 437,755,000$ | $4.04 \%$ | $\$ 17,685,000$ | $\$ 11,923,892$ | $\$ 29,608,892$ |
| 2005 | $457,454,000$ | $4.04 \%$ | $18,481,000$ | $12,520,087$ | $31,001,087$ |

In these projections, we assumed that total payroll would increase by $4 \frac{1}{2} \%$ each year.

