## Comprehensive Annual Financial Report

Teachers Retirement Association of Minnesota A Pension Trust Fund of the State of Minnesota


Retirement Systems of Minnesota 60 Empire Drive

Suite 400
St Paul, MN 55103-4000
651.296.2409
800.657.3669

TTY 800.627.3529
www.tra.state.mn.us

Gary Austin
Executive Director

## Contents

## Introduction

GFOA Certificate of Achievement Award .............................................................................................................. 2
Letter of Transmittal ................................................................................................................................................. 3
Board of Trustees and Administrative Staff ............................................................................................................. 8
Administrative Organization ..................................................................................................................................... 9
Mission Statement and Values ................................................................................................................................. 10
Financial Section
Auditor's Report ..................................................................................................................................................... 12
Management Discussion and Analysis ................................................................................................................... 14
Statement of Plan Net Assets ................................................................................................................................... 16
Statement of Changes in Plan Net Assets ................................................................................................................ 17
Notes to the Financial Statements (an integral part of the financial statements) .................................................. 18
Required Supplemental Schedule: Employer Contributions ............................................................................... 27
Required Supplemental Schedule: Funding Progress ........................................................................................... 27
Notes to Required Supplemental Schedules ........................................................................................................... 28
Administrative Expenses ........................................................................................................................................ 29
Schedule of Changes in Plan Net Assets ................................................................................................................ 30
Schedule of Investment Expenses .......................................................................................................................... 32
Schedule of Professional Consultant Expenses ............................................................................................................... 32
Statement of Retainage Payable ............................................................................................................................ 33
Investments Section
Investment Summary .............................................................................................................................................. 36
Basic Retirement Funds (Active Members) ............................................................................................................ 37
Minnesota Post Retirement Investment Fund (Post Fund) ...................................................................................... 38
Portfolio Distribution and Investment Returns ....................................................................................................... 42
Performance of Asset Pools ..................................................................................................................................... 42
List of Largest Assets Held .................................................................................................................................... 43
Summary of Investments (Active Member Fund only) .......................................................................................... 44
Actuarial Section
Actuary's Letter ....................................................................................................................................................... 46
Summary of Actuarial Assumptions and Methods ................................................................................................. 47
Valuation Report Highlights .................................................................................................................................. 50
Actuary's Commentary ....................................................................................................................................... 51
Summary of Assumption Changes ..................................................................................................................... 54
Selected Tables from Actuarial Valuation ........................................................................................................... 55
Solvency Test .......................................................................................................................................................... 61
Schedule of Active Member Valuation Data .......................................................................................................... 62
Schedule of Retirees and Beneficiaries .................................................................................................................. 62
Statistical Section
Plan Summary ......................................................................................................................................................... 64
Ten-Year Summary of Revenue and Expenditures .............................................................................................. 68
Summary of Changes in Membership .................................................................................................................... 69
Schedule of Benefits Amount Paid ......................................................................................................................... 72
Schedule of Benefit Recipients by Current Age ..................................................................................................... 73
Schedule of Benefit Recipients by Effective Date of Retirement ......................................................................... 73
Schedule of New Retirees and Initial Benefit Paid ................................................................................................ 74
Distribution of TRA Benefits, Mailing Address of Benefit Recipient .................................................................. 75
Schedule of Benefit Recipients by Type ................................................................................................................. 76
Distribution of Active Members ............................................................................................................................. 77
Average Annual Earnings of Active Members ........................................................................................................ 77
Ten-Year Summary of Membership ....................................................................................................................... 78
Schedule of Participating Employers ...................................................................................................................... 79

# Certificate of <br> Achievement for Excellence in Financial Reporting 

Presented to

## Teachers Retirement Association, Minnesota

For its Comprehensive Annual
Financial Report for the Fiscal Year Ended June 30, 2001
A Certificate of Achievement for Excellence in Financial Reporting is presented by the Government Finance Officers Association of the United States and Canada to government units and public employee retirement systems whose comprehensive annual financial reports (CAFRs) achieve the highest standards in government accounting and financial reporting.


Executive Director

## Letter of Transmittal



Gary Austin
Executive Director


Teachers Retirement Association
60 Empire Drive • Suite 400 • St Paul MN 55103-4000 651.296 .2409 • 800.657 .3669 • 651.297.5999 FAX • 800.627.3529 TTY

Members of the Board of Trustees
Teachers Retirement Association
60 Empire Drive, Suite 400
Saint Paul, MN 55103
Dear Trustee:
We are pleased to present this Comprehensive Annual Financial Report (CAFR) of the Teachers Retirement Association (TRA) for the fiscal year ended June 30, 2002, our 71 st year of service. This report includes the following five sections:

- Introductory describes our organizational structure and nature of operations,
- Financial contains the general-purpose financial statements, notes to the financial statements, actuarial disclosures and the opinion of our independent auditor,
- Investment highlights our asset management and investment performance,
- Actuarial contains the certification and results of the actuarial valuation performed by Milliman USA, Inc. as of July 1, 2002, and
- Statistical summarizes TRA plan benefits and illustrates both current and historical data of interest.

We are solely responsible for the content of this report, including its financial statements, which should be helpful in understanding information about the pension fund and comparing our operating results with those of other teacher retirement systems.

## Reporting Entity

Although you, as members of the Board of Trustees, have a broad scope of authority in the operations and management of TRA, the pension fund is governed by federal laws and state statutes. For financial reporting purposes, TRA is considered a pension trust fund of the State of Minnesota.

## Accounting Basis and Internal Control

TRA follows the provisions of statements promulgated by the Governmental Accounting Standards Board (GASB). The financial statements are prepared using the accrual basis of accounting; revenues are recorded when earned and expenditures recorded when the underlying obligation is incurred. Investments are presented at fair value. We also maintain a system of internal controls designed to assure responsible safeguarding of assets and reliable financial records.

## Financial Highlights

The TRA Statement of Plan Net Assets at June 30, 2002, stands just shy of $\$ 14$ billion. The total represents over a 12 percent decrease from the end of the previous fiscal year. Negative investment markets that persisted throughout the fiscal year were responsible for the decline.

For the fourth consecutive year, TRA assets in the Minnesota Post Retirement Investment Fund (Post Fund) for retired members - $\$ 7.7$ billion - exceeds TRA assets in the active member fund - $\$ 6.3$ billion. This phenomenon is reflective of TRA's growing base of retirees and other benefit recipients while the number of active members has remained relatively stable for the past decade.
The major sources of revenue for TRA are employee contributions, employer contributions, and investment earnings. Total contributions from employees and employers totaled about $\$ 295$ million. For the second consecutive year, TRA experienced a substantial net investment income loss. For fiscal year 2002, the net investment loss was about $\$ 1.36$ billion for the fiscal year. Overall for the fiscal year, the TRA Fund saw a decrease of about $\$ 1.9$ billion in its Net Assets Held in Trust for pension benefits.
The expenditures from the fund consist primarily of payments made to members and beneficiaries for retirement, disability, or survivor benefits. In total, benefit payments for fiscal year 2002 were $\$ 946.3$ million, an increase of over 14 percent from the previous fiscal year. Eligible members may choose to withdraw their contributions from the fund upon leaving employment. For fiscal year 2001, refunds to members
were over $\$ 7$ million. Administrative expenses for the year were about $\$ 12.9$ million, a slight decrease from the \$13.1 million a year earlier.

As of June 30, 2002, TRA had 463 reporting employer units, 71,690 active members and a total of 34,974 retirees, survivors, beneficiaries and disabilitants who were receiving monthly benefits.

## Actuarial Funding

The actuary retained by the Legislative Commission on Pensions and Retirement (LCPR) determines the actuarial liabilities and reserves of the pension fund under the Entry Age Normal Cost Method. Despite the investment losses during the year, the TRA total net assets on an actuarial basis actually increased during the fiscal year from $\$ 16.8$ billion to $\$ 17.4$ billion. The actuarial assumption whereby investment gains and losses are smoothed over a five-year period was responsible for this increase. The total required reserves necessary to fund current and future retirees of the fund also increased from $\$ 15.9$ billion to $\$ 16.5$ billion. The comparison of net assets to required reserves shows that the funding ratio for fiscal year 2002 was 105.31 percent, a slight decrease from the comparable 105.85 percent for fiscal year 2001. This statistic produces the sixth consecutive year in which the TRA fund is considered fully funded from an actuarial standpoint. The TRA funding sufficiency, as measured by a percentage of covered payroll, rose during the year from 2.15 percent to 2.43 percent.

## Investment Strategies

All TRA assets are invested under the authority and direction of the State Board of Investment (SBI). The SBI has developed strategic asset allocation and other investment policies to represent the long-term funding needs of our members. The SBI, along with its Investment Advisory Council (IAC), continually reviews its policies to ensure sufficient assets are available to finance promised benefits. The executive directors of the three statewide retirement systems sit on the IAC and represent their members in its role to advise the SBI on investment-related matters.

## Investment Environment

The past fiscal year was a challenge for investors. A fresh wave of pessimism was precipitated largely by accounting scandals that undermined investor confidence. At the same time, fears of the potential for additional terrorist attacks, violence in the Middle East and declines in the U.S. dollar relative to other major world currencies heightened investors' bearish mood. Given the uncertainties, the Federal Reserve left the Fed Fund rate at its forty-year low of 1.75 percent as of June 30. Amid mixed economic signals along with the disenchantment with corporate America, the Wilshire 5000 Investable Index declined by 17.3 percent during fiscal year 2002. The interest rate cuts early in the fiscal year along with investor flight to quality during this period helped bond returns. The U.S. bond market, as measured by the Lehman Brothers Aggregate Bond Index, gained 8.6 percent.

The performance of the international stock markets was similarly volatile throughout the year. However, international markets declined less than U.S. markets and were also below their historical averages. The Morgan Stanley Capital International Index of Europe, Australia, and the Far East (EAFE) lost 9.5 percent for the twelve months ending June 30, 2002. The markets of developing countries, or "emerging markets," increased by 1.3 percent during the fiscal year.

## Investment Results

Within this investment environment, the retirement assets under the SBI's control reflected the economic uncertainty, producing negative investment returns:

- The Basic Retirement Funds (Basic Fund) for active members decreased 8.2 percent during fiscal year 2002. However, over the latest five year period, the fund has experienced an annualized return of 5.0 percent.
- The Post Fund for retired members decreased 7.8 percent for the fiscal year. Overall the Post Fund provided a five year annualized return of 4.5 percent.
- The lifetime post-retirement benefit increase will be 0.745 percent for eligible retirees on January 1, 2003.


## Economic Conditions and Outlook

Minnesota's economy turned in a mixed performance during fiscal year 2002. At the close of the fiscal year, Minnesota's unemployment rate was 4.0 percent, 1.9 percentage points lower than the U.S. average of 5.9 percent, but 0.4 percentage points above the state's unemployment rate at the end of fiscal 2001. During that same period, the U.S. unemployment rate increased by 1.3 percentage points. Personal income grew at an annual rate of 2.2 percent, barely above the 2.1 percent growth rate observed nationally. Payroll employment in Minnesota fell by 1.1 percent during the fiscal year, well above the U.S. average drop of 0.8 percent. In calendar year 2001, per capita income in Minnesota was $\$ 33,101$, 8.6 percent above the national average. Minnesota ranked $7^{\text {th }}$ among all states in personal income per capita in 2001. In calendar year 2001, Minnesota ranked $9^{\text {th }}$ and was 8.4 percent above the U.S. average.

The unemployment rate in Minnesota has remained low, but there has been weakness in payroll employment dispersed throughout the state's economy. Manufacturing employment fell by 12,000 jobs during the fiscal year, while employment in the transportation, communications and utilities sectors fell by almost 10,000 jobs. Employment in the retail sector fell by 7,000 jobs, and in the services sector, the fastest growing sector for some years, employment grew by less than 1,000 jobs. Although the decline in manufacturing in Minnesota was slightly less severe than that observed for the rest of the nation, the decline in manufacturing employment over the past two years has brought Minnesota manufacturing employment down to levels last observed in September 1993.
Minnesota's economy is projected to grow more slowly than the U.S. economy during fiscal year 2003. Consistent with the forecast for October payroll employment in Minnesota is more than 7,000 jobs below levels observed at the end of fiscal year 2002 when viewed on a seasonally adjusted basis. Nationally there has been a very small gain in employment over that time. Total wage and salary payments in Minnesota are projected to grow by 2.9 percent in fiscal 2003, the same growth rate as projected for national wages. Minnesota personal income is expected to grow by 3.7 percent during the current fiscal year, almost keeping pace with projected national growth of 3.8 percent.

## Professional Services

We purchase actuarial services from the firm Buck Consultants of San Francisco, California. The annual actuarial valuation of the pension fund is prepared by Milliman \& Robertson, Inc., the actuary retained by the Legislative Commission on Pensions and Retirement to prepare actuarial reports for all the statewide retirement plans.

The Office of the Attorney General provides legal counsel to our Board of Trustees and the State Office of the Legislative Auditor conducts an annual financial audit of the pension fund and prepares a report (see pages 12-13). All financial transactions, including the disbursements from the pension fund, are processed through the centralized controls of the Minnesota Accounting and Procurement System, under the supervision of the state departments of Finance and Administration.

## Financial Communication

An Annual Statement of Account for fiscal year 2002 was mailed to each active member in November 2002. This statement provides current and cumulative information related to salaries, contributions and service credit. Projected and deferred retirement benefit estimates are also provided for eligible members. In December 2002, inactive TRA members (those no longer employed as teachers) received their Annual Statement of Account balance with contribution and service data.

A plan summary with financial and actuarial data for the year ended June 30, 2002, will be distributed to each active and retired member as part of a 2002 edition of the TRIB, our quarterly newsletter. The TRA Web site contains the entire text of this Comprehensive Annual Financial Report for members to download a portion or all of the report. Printed copies are available upon request.

## Customer Services

With the number of new retirements growing annually and expecting to peak in the year 2010, we are addressing the challenges looming on the horizon. During fiscal year 2003, TRA continued work on the four-year, business reengineering project called FROST (Functional Redesign of Strategic Technologies). The project's main goal is to be ready to meet the customer service needs of our "baby boom" generation rapidly approaching retirement. Together with our consulting partner, BearingPoint, we are designing and developing an integrated package of computer applications to improve the processing and servicing of member pension benefits. Our first emphasis was a redesign of employer reporting of member data and a concerted effort to purify and audit our existing member data. We implemented the new employer member payroll reporting functionality in the summer of 2002. We will now concentrate on benefit processes such as retirement estimates, service credit calculation and on-line interactive member features. The final phase of the project, scheduled for completion in 2004 will be the implementation of new systems to enhance the processes to pay benefits to our members.

While the future holds exciting promise of new and enhanced features, we continue to provide quality counseling and benefit payment services to our members. Retirement counseling services take place in both our main Saint Paul office and at 15 locations throughout the state. During 2002, we established two satellite offices in Saint Cloud and Mankato. These satellite locations are staffed on a permanent basis by one to two TRA pre-retirement benefit counselors who provide both individual and group counseling sessions to our members closer to their homes or employers.
The TRA Customer Information Center received over 55,000 calls last year, and an estimated 95 percent of them were addressed without a callback or transfer. The TRIB is mailed to all active and retired members. Our Web site offers the ability to self-calculate future retirement benefits, and is also updated regularly with the latest news of TRA events and other benefit provision changes.

## Legislation and Other Initiatives

The 2002 Minnesota Legislature seriously considered a benefit proposal to extend "Rule of 90 " pension benefits to all TRA members but the bill failed shortly before adjournment. Prior to adjourning, the legislature did extend the expiration date, by one year, for the actuarial cost formula for TRA members to purchase prior service credit. The provision, first passed by the 1999 Legislature, has been used by hundreds of TRA members to purchase prior military, maternity leave, out of state teaching service and other types of eligible service.

The 2001 Legislature mandated a report for TRA to study possible aggregation proposals with the three independent teacher retirement associations of Minneapolis, Saint Paul and Duluth. The report was due to the Legislature on February 15, 2002. The report did have a hearing but no action was taken. Various aggregation proposals will likely be heard again during the upcoming 2003 Legislative session.
The 2001 Legislature also required a report to study the possible consolidation of the administrative functions of the three statewide retirement systems - TRA, the Public Employees Retirement Association (PERA) and the Minnesota State Retirement System (MSRS). This report is due February 15, 2003.

The Minnesota Department of Finance recently announced a projected $\$ 4.6$ billion deficit in the state General Fund for the two year period ending June 30, 2005. The deficit is expected to be resolved largely through spending cuts. We are unclear on the impact such cuts will have on TRA, its members and its 463 employer reporting units.

## National Recognition

The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to the Teachers Retirement Association for its Comprehensive Annual Financial Report for the fiscal year ended June 30, 2001. This was the fourth consecutive year that the Association has achieved this prestigious award. In order to be awarded a Certificate of Achievement, a governmental unit must publish an easily readable and efficiently organized comprehensive annual financial report. This report must satisfy both generally accepted accounting principles and applicable legal requirements.

A Certificate of Achievement is valid for a period of only one year. We believe that our current comprehensive annual financial report continues to meet the Certificate of Achievement Program requirements, and we are submitting it to the GFOA to determine its eligibility for another certificate.

## Acknowledgments

The preparation of this report is possible only through the combined efforts of our employees, employer units, and professional consultants. It is intended to provide a complete and reliable portrayal of the financial status of the pension fund. A copy is mailed to each public school in the state.

We would like to thank you, our Board of Trustees, who act as advisors. In addition, we would like to thank our employees and the many people who diligently work to ensure the successful operation and financial soundness of our pension fund.

Respectfully submitted,


Gary Austin
Executive Director


John Wicklund Assistant Executive Director Administration

## Board of Trustees

As of December 1, 2002


Carol F. Ackerson Elected Member New Ulm, MN


Sandy Schaefer Elected Member Fairfax, MN

Vice President


Curtis D. Hutchens
Elected Member St. Cloud, MN


Bob Lowe
Minnesota School Boards
Association Representative


Vernell R. Jackels Retiree Representative Winona, MN


Barry Sullivan Representing Christine Jax
Commissioner of Children, Families, and Learning


Martha Lee (Marti) Zins Elected Member Hopkins, MN


Lee Mehrkens Representing Anne Barry Acting Commissioner of Finance

## Administration



Gary Austin
Executive Director


John Wicklund Assistant Director of
Administration


Karen Williamson
Assistant Director of
Operations


Luther Thompson Assistant Director Legal and
Legislative Services

## Administrative Organization

As of December 2002


## Consulting Services

## Actuary

Buck Consultants
San Francisco, California

## Auditor

Office of the Legislative Auditor
Saint Paul, Minnesota
Legal Counsel

Office of the Attorney General
Saint Paul, Minnesota
Medical Advisor

Minnesota Department of Health
Minneapolis, Minnesota

## Mission Statement

TRA provides retirement, disability and death benefits to Minnesota college faculty, administrators, public school teachers, retirees, their families and beneficiaries.

Our mission is to enhance the quality of life for Minnesota teachers and their beneficiaries and to assist them in planning for an independent and financially secure retirement.

To this end we are committed to offering quality customer services by providing retirement counseling, maintaining member data, administering funds, communicating accurate information and delivering benefits.

## Our Values

Accuracy Ensure that all information received, maintained and provided is clear and accurate.
Quality Make high-quality services accessible to our customers.
Timeliness Provide timely receipt and dissemination of information.

Efficiency Make efficient use of technological and human resources in a team environment.
Employee Provide ongoing employee development that encourages cooperation and mutual Excellence respect, focuses on common goals and recognizes superior performance.

Teachers Retirement Association of Minnesota


Financial
Financial
Financial
Financial
Financial
Financial

## Auditor's Report

# Office of the Legislative Auditor <br> State of Minnesota - James Nobles, Legislative Auditor 

## Independent Auditor's Report

Members of the Board of Trustees<br>Teachers Retirement Association<br>and<br>Mr. Gary Austin, Executive Director<br>Teachers Retirement Association

We have audited the accompanying statement of plan net assets of the Teachers Retirement Association (TRA) as of June 30, 2002, and the related statement of changes in plan net assets for the year then ended. These financial statements are the responsibility of the Teachers Retirement Association's management. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in Government Auditing Standards, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Teachers Retirement Association at June 30, 2002, and the results of its operations for the year then ended in conformity with accounting principles generally accepted in the United States of America.

As discussed in Note II. B to the financial statements, the Teachers Retirement Association implemented Governmental Accounting Standards Board (GASB) Statement No. 34, Basic Financial Statements - and Management's Discussion and Analysis - for State and Local Governments for the year ended June 30, 2002. This statement establishes new financial reporting requirements for state and local governments throughout the United States.

The required supplementary information contained in Management's Discussion and Analysis on pages 14 to 15 and also on pages 27 to 28 is not a required part of the basic financial statements of the Teachers Retirement Association, but is supplementary information required by the Governmental Accounting Standards Board. We have applied certain limited procedures, which

Members of the Board of Trustees
Teachers Retirement Association
and
Mr. Gary Austin, Executive Director
Teachers Retirement Association
Page 2
consisted mainly of inquiries of management regarding the methods of measurement and presentation of the supplementary information. However, we did not audit the information and express no opinion on it.

The accompanying financial information on pages 29 to 33 is presented for purposes of additional analysis and is not a required part of the basic financial statements of the Teachers Retirement Association. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and, in our opinion, is fairly stated in all material respects in relation to the basic financial statements taken as a whole.

The Introductory, Investment, Actuarial, and Statistical Sections listed in the Table of Contents are presented for purposes of additional analysis and are not a required part of the basic financial statements. Such additional information has not been subjected to the auditing procedures applied in the audit of the basic financial statements and, accordingly, we express no opinion on it.

In accordance with Government Auditing Standards, we have also issued a report dated December 6, 2002, on our consideration of the Teachers Retirement Association's internal control over financial reporting and our tests of its compliance with certain provisions of laws, regulations, and contracts. That report is an integral part of an audit performed in accordance with Government Auditing Standards and should be read in conjunction with this report in considering the results of our audit.

Canur R. Mruh
Legislative Auditor


Deputy Legislative Auditor

December 6, 2002

## Management Discussion and Analysis

This discussion and analysis of the Teachers Retirement Association (TRA) of Minnesota provides an overview of TRA financial activities for the fiscal year ended June 30, 2002. This document should be reviewed in conjunction with the TRA financial statements that begin on page 16 .

## Financial Highlights

- TRA assets are accounted for with two legally separate retirement funds. The TRA Basic Fund (Active) consists of moneys held in trust for both TRA active and inactive members. Retirees of TRA participate in the Minnesota Post Retirement Investment Fund (MPRIF) administered by the Minnesota State Board of Investment (SBI.) The fair value of the TRA Active Fund at June 30, 2002 was about $\$ 6.3$ billion. TRA's assets in the Post Retirement Fund were $\$ 7.7$ billion, for a combined total of approximately $\$ 14$ billion.
- The Net Assets Held in Trust for Pension Benefits decreased in value by about $\$ 1.9$ billion (12 percent) during the fiscal year. Poor performance in the investment market was mostly responsible for the decrease in fund balance.
- Member salaries totaling $\$ 2.87$ billion were reported during the year. These salaries require employee and employer pension contributions of 5 percent each. The covered salary in the previous fiscal year was $\$ 2.81$ billion. Contributions paid by members were $\$ 152.3$ million and $\$ 145.1$ million respectively for the fiscal years ended June 30, 2002 and June 30, 2001. Employer contributions for fiscal 2002 and 2001 respectively were $\$ 142.2$ million and $\$ 139.8$ million.
- Net depreciation in the fair value of investments was about $\$ 2.1$ billion during the fiscal year. Investment returns for the Active Fund and the Minnesota Post Retirement Investment Fund for the fiscal year were -8.2 percent and -7.8 percent, respectively.
- Pension benefits paid to retirees and beneficiaries increased $\$ 84.5$ million from the previous year bringing total benefits paid to $\$ 946.3$ million for fiscal year 2002.
- Refunds of member contributions plus interest during fiscal year 2002 were $\$ 7.35$ million, a slight decrease from the fiscal year 2001 total of $\$ 7.61$ million.
- Administrative expenses of the fund during fiscal year 2002 were $\$ 12.9$ million, a slight decrease from the fiscal year 2001 total of $\$ 13.1$ million.


## Actuarial Highlights

Due to the long-term nature of a defined benefit plan, financial statements alone can not provide sufficient information to properly reflect the plan's ongoing funding perspective. This financial report consists of two financial statements and two required schedules of historical trend information. The Statement of Plan Net Assets and Statement of Changes in Plan Net Assets (page 16-17) provide information about the activities of the pension funds as a whole.

The Schedule of Funding Progress (page 27) includes historical trend information about the actuarial funded status of the plan from a long-term perspective. The schedules also review progress made in accumulating sufficient assets to pay benefits when due. The Schedule of Employer Contributions (page 27) presents historical trend information about the annual required contributions of employers and the contributions made by employers in relation to the requirement. These schedules provide information that facilitates the understanding the changes over time in the funded status of the plan. This schedule indicated that Minnesota public employers are meeting their responsibilities to provide necessary contributions to TRA.

Several key actuarial assumptions were changed by the Legislative Commission on Pensions and Retirement in February 2002 and are listed on page 47. The actuarial value of assets is calculated by smoothing market values over a five-year period. The actuarial accrued liability is calculated using the entry age normal funding method.

TRA first became fully funded from an actuarial standpoint for fiscal year 1997. TRA has remained fully funded for the past six fiscal years despite the recent downturn in the investment markets. Key actuarial funding ratios can be seen on page 50 .

Historical Trends
The history of TRA net assets and retirement benefits over the past six years are as follows:

Net Assets Available for Benefits
Dollar Amounts in Billions

| 1997 | $\$ 13.0$ |  |
| :--- | :--- | :--- |
| 1998 | $\$$ | 15.3 |
| 1999 | $\$$ | 16.7 |
| 2000 | $\$$ | 17.7 |
| 2001 | $\$$ | 15.9 |
| 2002 | $\$$ | 14.0 |



## Retirement Benefits

Dollar Amounts in Millions

| 1997 | $\$ 430.6$ |
| :--- | :--- |
| 1998 | $\$ 533.9$ |
| 1999 | $\$ 620.9$ |
| 2000 | $\$ 755.0$ |
| 2001 | $\$ 861.8$ |
| 2002 | $\$ 946.3$ |



TRA Retirement Benefits Paid
(Dollars in Millions)

TRA Net Assets Available for Benefits
(Dollars in Billions)

## Teachers Retirement Fund Statement of Plan Net Assets

As of June 30, 2002

| Assets |  |
| :---: | :---: |
| Cash and short-term investments |  |
| Cash ......................................................................................... \$ | 1,716,890 |
| Bond Proceeds | 498,369 |
| Short-term investments | 19,064,407 |
| Total Cash and Short-term Investments .................................... \$ | 21,279,666 |
| Receivables .................................................................................. |  |
| Due from Post Fund .................................................................. \$ | 45,311,383 |
| Employer Contributions . | 11,190,369 |
| Investment Income. | 33,761 |
| Bond Interest. | 1,039 |
| Total Receivables .................................................................. \$ | 56,536,552 |
| Investments (at fair value) |  |
| Equity in the Post Fund .............................................................. \$ | 7,700,083,714 |
| Fixed Income Pool ................................................................... | 1,507,109,717 |
| Venture Capital Pool ................................................................... | 509,519,930 |
| Indexed Equity Pool .................................................................. | 927,242,988 |
| Real Estate Fund Pool | 227,315,801 |
| Resource Fund Pool | 108,617,731 |
| Domestic Equity Pool | 1,950,679,404 |
| Global Equity Pool | 994,387,234 |
| Total Investments ............................................................. | 13,924,956,519 |
| Securities Lending Collateral ................................................................... \$ | 1,190,459,847 |
| Building |  |
| Land .................................................................................... \$ | 171,166 |
| Building (net of accumulated depreciation). | 11,494,226 |
| Deferred Bond Charge .. | 145,857 |
| Reserve for Deferred Bond Charge Amortization | $(5,030)$ |
| Total Building | 11,806,219 |
| Fixed Assets (net of accumulated depreciation) ...................................... \$ | 1,108,299 |
| Total Assets .......................................................................... \$ | 15,206,147,102 |
| Liabilities |  |
| Current |  |
| Accounts Payable ...................................................................... \$ | 4,558,009 |
| Accrued Compensated Absences | 570,298 |
| Accrued Expenses - Building. | 515,675 |
| Bonds Payable | 179,550 |
| Bonds Interest Payable | 54,790 |
| Securities Lending Collateral ....................................................... | 1,190,459,847 |
| Total Current Liabilities ......................................................... \$ | 1,196,338,169 |
| Long Term |  |
| Retainage Payable .................................................................... \$ | 825,308 |
| Bonds Payable | 11,221,450 |
| Total Liabilities .......................................................................... \$ | 1,208,384,927 |
| Net Assets Held in Trust for Pension Benefits ................................ \$ | 13,997,762,175 |

(A Schedule of Funding Progress for the plan is presented on page 27).
The accompanying notes are an integral part of this statement.

## Teachers Retirement Fund Statement of Changes in Plan Net Assets

For the Fiscal Year Ended June 30, 2002
Additions
Contributions
Employee ..... \$ 152,331,067
Employer ..... 142,221,589
Earnings Limitation Savings Account (ELSA) ..... 1,121,984
Total Contributions \$ 295,674,640
Investment Income
Net Appreciation (depreciation) ..... \$ $(2,195,698,481)$
Interest ..... 32,616,666
Dividends ..... 11,281,189
MN Post-Retirement Fund ..... 915,878,033
Total Investment Income (loss) ..... (1,235,922,593)
Less Investment Expenses ..... $(9,558,802)$
Net Investment Income (loss) \$ (1,245,481,395)
From Securities Lending Activities
Securities Lending Income ..... \$ 38,380,207
Securities Lending Expenses:
Borrower Rebates(25,949,315)
Management Fees ..... (3,137,036)
Total Securities Lending Expenses ..... (29,086,351)
Net Income from Securities Lending ..... 9,293,856
Total Net Investment Income (loss) ..... \$ $(1,236,187,539)$
Other Income ..... $\$ \quad 3,366,420$
Total Additions (subtractions) ..... \$ $(937,146,479)$
Deductions
Retirement Benefits Paid ..... \$ 945,222,349
Earnings Limitation Savings Account (ELSA) ..... 1,121,984
Refunds of Contributions to Members ..... 7,353,363
Administrative Expenses ..... 12,911,651
Interest Paid to the Post Fund ..... 817,961
Total Deductions \$ 967,427,308
Net Increase (decrease) ..... \$ $(1,904,573,787)$
Net Assets Held in Trust for Pension Benefits
Beginning of Year ..... \$ 15,902,335,962
End of Year ..... \$ 13,997,762,175
The accompanying notes are an integral part of this statement.

## Notes to the Financial Statements

For the Fiscal Year Ended June 30, 2002

## I. Plan Description

## A. Organization

The Teachers Retirement Association (TRA) is an administrator of a multi-employer, costsharing retirement fund. TRA administers a Basic Plan (without Social Security coverage) and a Coordinated Plan (coordinated with Social Security coverage) in accordance with Minnesota Statutes, Chapters 354 and 356. Assets of the fund may be used to pay benefits to both Basic and Coordinated members without legal restriction.

## B. Participating Members and Employers

Teachers employed in Minnesota's public elementary and secondary schools, charter schools, and certain educational institutions maintained by the state (except those teachers employed by the cities of Minneapolis, Duluth and St. Paul, and by the University of Minnesota system) are required to be TRA members.

State university, community college, and technical college teachers first employed by the Minnesota State College and Universities (MnSCU) may elect TRA coverage within 90 days of first employment. Alternatively, these teachers may elect coverage through the Defined Contribution Retirement Plan (DCR) administered by MnSCU. A teacher employed by MnSCU and electing coverage by DCR is not a member of TRA except for purposes of Social Security coverage.

A schedule of employer units and membership is presented in Figure 1.

## C. Benefit Provisions

TRA provides retirement benefits as well as disability benefits to members, and benefits to survivors upon the death of eligible members. All benefits vest after three years of eligible
service credit. The defined retirement benefits are based on a member's highest average salary for any consecutive 60 months of allowable service, age and years of formula service credit at termination of service. TRA members belong to either the Basic or Coordinated Plan. Coordinated members are covered by Social Security while Basic members are not. All new TRA members must participate in the Coordinated Plan. TRA currently has less than 100 members who participate as Basic members.

Two methods, or tiers, are used to compute benefits for Coordinated and Basic members who were first hired prior to July 1, 1989.
Under Tier I, the annuity accrual rate for Basic

Figure 1

Employer Units
June 30, 2002
Independent school districts
340
Joint powers units
39
Colleges and universities 40
State agencies 11
Charter schools 32
Professional organizations
Total Employer Units

$$
\begin{array}{r}
1 \\
\hline 463 \\
\hline \hline
\end{array}
$$

## Membership

June 30, 2002
Retirees, disabilitants and beneficiaries receiving benefits $\quad 34,974$
Terminated employees with

| deferred vested benefits |
| :---: |
| Total |
| $\underline{43,680}$ |
| $\underline{43,654}$ |

Current employees
Vested 54,160
Non-vested $\quad \underline{17,080}$

Total
71,690
$\underline{\underline{\underline{71,600}}}$
members is 2.2 percent of average salary for each of the first 10 years of service and 2.7 percent for each remaining year. For a Coordinated member, the annuity accrual rate is 1.2 percent of average salary for each of the first 10 years of service and 1.7 percent for each remaining year. Under Tier II, the annuity accrual rate is 2.7 percent of average salary for Basic members and 1.7 percent for Coordinated members. Coordinated members first hired after June 30, 1989, are only eligible for Tier II benefits.

A full annuity is available when age plus years of service equals at least 90 for members whose annuity is calculated under Tier I. For members first hired after June 30, 1989, full retirement annuity benefits are available upon reaching their normal Social Security retirement age, not to exceed 66 years of age. A reduced retirement annuity is also available to eligible members seeking retirement early.

The benefit provisions stated in the preceding paragraphs of this section are current provisions and apply to active plan participants. Vested, terminated members who are entitled to benefits but are not yet receiving them are bound by the provisions in effect at the time they last terminated their public service. Pension benefits are funded from member and employer contributions and income from investment of fund assets.

## II. Significant Accounting Policies and Plan Asset Matters

## A. Reporting Entity

TRA functions as a statutory entity created by the Laws of 1931, Chapter 406. The Association maintains rights to sue or be sued in its own name and to hold property in its own name. For financial reporting purposes, TRA is considered a pension trust fund of the state of Minnesota and is included in the State's Comprehensive Annual Financial Report with its fiduciary funds.

The State of Minnesota acts as a fiduciary and trustee of TRA's funds. The Board of Trustees has significant independence in the operations and management of the Association, though the State Legislature actually determines the contribution rates for members and employers. The Board of Trustees is responsible for TRA's administration, but the State Board of Investment (SBI) is responsible for investing plan assets.

## B. Basis of Accounting

TRA financial statements for its defined benefit fund are prepared using the accrual basis of accounting. Employee and employer contributions are recognized as revenue in the year in which they are earned and become measurable. Expenses including benefit payments and refunds are recorded when the liability is incurred.

For the year ended June 30, 2002, the Teachers Retirement Asociation adopted the provisions of Statement No. 34 of the Government Accounting Standards Board, "Basic Financial Statements - and Management's Discussion and Analysis - for State and Local Governments." Statement No. 34 established standards for financial reporting for all state and local government entities. There were no accumulated effects on TRA's basic financial statements.

## C. Investment Policies

1. Pursuant to Minnesota Statutes, Chapter 11A, the state's retirement fund assets are commingled in various pooled investment accounts, administered by the State Board of Investment (SBI). As of June 30, 2002, the TRA Fund's share of the Active Funds administered by SBI at fair value was approximately 37.7 percent. The TRA share of the net assets of the Minnesota Post Retirement Investment Fund (Post Fund) at fair values totaled 45.5 percent. Figure 2 provides specific totals of TRA investments by category.
2. Minnesota Statutes, section 11A.24, broadly restricts retirement fund investments to obligations and stocks of United States and Canadian governments, their agencies and their registered corporations; short-term obligations of specified high quality; restricted participation as a limited partner in venture capital, real estate or resource equity investments; restricted participation in registered mutual funds; and some qualified foreign instruments.
3. Investments are categorized to give an indication of the level of risk that is assumed. Risk Category 1 includes investments that are insured or registered, or for which the securities are held by the state or its agent in the state's name. Risk Category 2 includes uninsured and unregistered investments for which the securities are held by the counterparty's

Figure 2

| TRA Investment Portfolio June 30, 2002 |  |  |
| :---: | :---: | :---: |
| Basic (Active) Fund | Cost | Fair |
| Pooled Accounts |  |  |
| Fixed Income | \$ 1,559,990,401 | \$ 1,507,109,717 |
| Domestic Equity | 2,492,007,372 | 1,950,679,404 |
| Indexed Equity | 1,013,167,464 | 927,242,988 |
| Global Equity | 1,131,849,545 | 994,387,234 |
| Venture Capital | 667,446,358 | 509,519,930 |
| Real Estate | 207,667,366 | 227,315,801 |
| Resources | 108,782,988 | 108,617,731 |
| Total | \$ 7,180,911,494 | \$ 6,224,872,805 |
| Short-Term Pooled Cash | 19,064,407 | 19,064,407 |
| Post Fund Account | 9,555,363,999 | 7,700,083,714 |
| Total Invested | \$16,755,339,900 | \$13,944,020,926 |

trust department or agent in the state's name. Risk Category 3 includes uninsured and unregistered investments for which the securities are held by the counterparty or by its trust department or agent, but not in the state's name. TRA does not own any investments that are considered securities for purposes of assessing credit risk. All TRA investments are in SBI-administered pools or open-end mutual funds. These investments are not considered for purposes of credit risk classification. Investments in any one organization do not represent 5 percent or more of plan net assets.
4. In accordance with Minnesota Statutes, SBI has the authority to enter into, and has entered into, derivative transactions including put and call options and future contracts traded on a contract market regulated by a governmental agency or by a financial institution regulated by a governmental agency. Any agreements for put and call options and futures contracts may only be entered into with a fully offsetting amount of cash or security. As of June 30, 2002, TRA's exposure to market risk is minimal as the derivatives outstanding represent approximately 2.5 percent of the total investment balance.
5. Information about the primary government's (State of Minnesota) investments, including credit risk classification, can be obtained from the Department of Finance, 400 Centennial Office Building, 658 Cedar Street, Saint Paul, Minnesota 55155. Information on investment activity and a listing of specific investments owned by the pooled asset accounts can be obtained from SBI, Suite 355, 60 Empire Drive, Saint Paul, Minnesota 55103.

## D. Method Used to Value Investments

Investments in the pooled accounts are reported at fair value. Figure 2 provides a summary of the cost and fair values of the investments as of June 30, 2002, as reported on the Statement of Plan Net Assets. Shortterm investments are reported at cost which approximates fair value. Securities traded on a national or international exchange are valued using the last reported trade price. The fair value of real estate investments is based on independent yearly appraisals. Investments that do not have an established market are reported at estimated fair value.

Investment income is recognized as earned. Accrued investment income of the pooled investment accounts is included in participation in the accounts. Gains or losses on sales or exchanges are recognized on the transaction date.

Net Investment Income is summarized on the Statement of Changes in Net Plan Assets. The summarized amounts show a net investment loss of - $\$ 1,245,481,395$ for fiscal year 2002. Figure 3 shows the various components of these composite amounts, including TRA's share of the Minnesota Post Retirement Investment Fund.

The cost of security transactions is included in the transaction price. Administrative expenses of SBI and investment management fees of the external money managers and the state's master custodian for pension fund assets are allocated to the funds participating in the pooled investment accounts. TRA's share of these expenses totaled $\$ 9,558,802$.

## E. Securities Lending

TRA does not own specific securities, but instead owns shares in pooled funds invested by SBI that is authorized to use securities lending transactions in accordance with Minnesota Statutes, section 356A.06, subdivision 7, and has, pursuant to a Custodial Trust Agreement, authorized State Street Bank and Trust Company, Boston, Massachusetts, to act as agent in lending securities to brokerdealers and banks.

During the fiscal year, State Street lent, on behalf of SBI certain securities held by State Street as custodian, and received cash (both United States and foreign currency) and securities issued or guaranteed by the United States government, sovereign debt of foreign countries, and irrevocable bank letters of credit as collateral. State Street did not have the ability to pledge or sell collateral securities

Figure 3

absent a borrower default. Borrowers were required to deliver collateral for each loan in amounts equal to not less than 100 percent of the market value of the loaned securities.

SBI did not impose any restrictions during the fiscal year on the amount of the loans that State Street made on its behalf. State Street indemnified SBI by agreeing to purchase replacement securities or return the cash collateral in the event a borrower failed to return a loaned security or pay distributions thereon. There were no such failures by any borrower to return loaned securities or pay distributions thereon during the fiscal year. Moreover, there were no losses during the fiscal year resulting from default of the borrowers or State Street.

During the fiscal year, SBI and the borrowers maintained the right to terminate all securities lending transactions on demand. The cash collateral received on each loan was invested, together with the cash collateral of other qualified tax-exempt plan lenders, in a collective investment pool. The relationship between the average maturities of the investment pool and SBI's loans was affected by the maturities of the loans made by other plan entities that invested cash collateral in the collective investment pool, which SBI could not determine. On June 30, 2002, SBI had no credit risk exposure to borrowers. TRA's portion of the total collateral held and the market value of securities on loan from SBI as of June 30, 2002, were $\$ 1,274,528,991$ and $\$ 1,240,837,364$ respectively. TRA's portion of the cash collateral held by SBI as of June 30, 2002, was \$1,190,459,847.

## F. Accrued Compensated Absences

Employees of TRA accrue vacation leave, sick leave, and compensatory leave at various rates within limits specified in collective bargaining agreements. Accumulated amounts for compensated absences are accrued when incurred. Such leave is liquidated in cash primarily at the time of termination of employment.

## G. Fixed Assets

Fixed assets are capitalized at the time of acquisition at cost. Depreciation is computed on a straight-line method over the useful life of the related assets. The estimated useful lives by major category are: computer equipment (3 years), general office equipment (5 years) and modular office furniture (10 years).

Fixed assets as presented on the June 30, 2002, Statement of Net Assets Available were $\$ 3,178,649$ at cost. Accumulated depreciation totaled $\$ 2,070,350$ resulting in a net fixed asset value of $\$ 1,108,299$.

## H. Administrative Expenses and Budget

The annual budget of TRA operations is developed by TRA management and approved by the Board of Trustees. The budget is also sent to the Minnesota Department of Finance for policy analysis and is included in the Governor's Biennial Budget presentation to the legislature. The legislature adopts appropriation and expenditure limitations resulting in an approved budget for the Association.

TRA administrative costs are not financed through any specific type of contribution or other income of the Fund. Administrative costs are budgeted in the annual determination of the necessary rate for total employee and employer contributions. (See page 60, line B3.)

## I. Retainage

In accordance with Minnesota Statutes, TRA retains 10 percent of professional/technical billings from vendors until successful completion of the contractual obligations. As of June 30, 2002, TRA has a long-term liability of \$825,308 established to represent contractual payments reasonably expected to be paid upon successful completion of the contract. The schedule on page 33 details the retainage held.

## J. Cash

Cash on deposit consists of year-end receipts not processed as of the investment cutoff on June 30. TRA cash funds are held in the state treasury where they are commingled with other state funds. Minnesota Statutes, section 9.031, requires that deposits be secured by depository insurance and collateral shall be in amounts sufficient to ensure that deposits do not exceed 90 percent of the sum of the insured amount and the market value of the collateral. Throughout fiscal year 2002, the combined depository insurance and collateral was sufficient to meet legal requirements and secure all TRA deposits.

## K. Accounts Receivable

Amounts classified as accounts receivable consist primarily of member and employer contributions received after the fiscal year end on salaries earned prior to June 30, 2002. Under Minnesota Statutes, section 354.52, subdivision 4, TRA employers must remit contributions at least monthly.

If contributions are not remitted in a timely manner, interest at a rate of 8.5 percent, compounded annually, is assessed. If contributions are not received within 60 days of notification by TRA, the Commissioner of Finance is authorized to deduct the balance due TRA from state aids or appropriations due to that employer unit.

## L. Improved Money Purchase (IMP)

Some TRA members first hired prior to July 1, 1969, are eligible for the Improved Money Purchase (IMP) savings clause of Minnesota Statutes, section 354.55 , subdivision 17. Eligibility is limited to those teachers who did not formally elect a specific retirement provision by June 30, 1972. Under the savings clause, eligible members obtain the higher of two benefit provisions: 1) The High-Five Average Formula described previously, or 2) an IMP annuity based on their accumulated employee contributions plus compounded interest and an employer match of 120 percent.

Beginning with fiscal year 1999, significant numbers of retiring members discovered that their IMP benefit was higher than the High-Five Average Formula benefit. This phenomenon occurred as strong annual investment returns during the 1990s generated high interest rates compounding on large employee contribution balances accumulated after long teaching careers. The effect will become less pronounced in periods of low or negative investment performance.

TRA has identified those members who are eligible for the IMP provision. For these members, the actuarial valuation presented estimates retirement benefit amounts under both the IMP provision and the High-Five average salary formula. The liability presented for that member is the higher of the two methods.

As of June 30, 2002, approximately 1,100 active members are eligible for the IMP provision. Assuming IMP eligibility remains limited to the existing, closed group of members, TRA management believes the actuarial impact of the remaining IMP-eligible members will not adversely harm the overall financial integrity of the fund.

## M. Ownership of Office Building

The 1999 Legislature enacted authorization permitting TRA, the Public Employees Retirement Association (PERA), and the Minnesota State Retirement System (MSRS) to purchase land and construct a 130,000 square foot office building to house the administrative offices of these three state entities. Ownership of the facility is prorated based on the amount of square footage each retirement system will occupy in the building. TRA's ownership share is 40 percent. The building is located on 4.3 acres of land at 60 Empire Drive in Saint Paul. The land was purchased in 1999 for $\$ 428,988$, of which TRA's share is $\$ 171,166$. TRA has occupied the 4th Floor of the building since September 13, 2001.

In June 2000, the State of Minnesota, under the authority of the Commissioner of Finance, issued 30-year revenue bonds totaling $\$ 29$ million to pay for the construction of the facility. Each owner (retirement system) is responsible for principal and interest payments based on its ownership percentage. These bonds are backed by the assets of the three retirement systems, excluding equity interest in the Minnesota Post-Retirement Investment Fund (MPRIF). At fiscal year end, TRA's share of long-term bonds payable is $\$ 11,221,450$. Interest expected to be paid over the remaining term of the bonds is $\$ 12,712,543$. In Figure 4, TRA's share of the long-term bonds payable plus interest is summarized.

Figure 4

| Long Term Debt Repayment Schedule <br> June 30, 2002 |  |
| :--- | :---: |
| Fiscal Year | Principal <br> and Interest |
| 2003 | $\$$ |
| 2004 | 829,974 |
| 2005 | 830,566 |
| 2006 | 830,622 |
| 2007 | 820,142 |
| Thereafter | $\underline{829,126}$ |
| Interest | $\underline{(12,712,563}$ |
| Long-Term Bonds Payable | $\underline{\$ 11,221,450}$ |

TRA's share of bond issuance costs are shown on the Statement of Plan Net Assets as Deferred Bond Charges and will be amortized over the 30 -year life of the bonds.

TRA is depreciating its share of the facility over 40 years. The following depreciation schedule (Figure 5) summarizes the asset valuation of the office building.

Figure 5

# Office Building Depreciation Schedule 

June 30, 2002
Historical Cost
\$ 11,788,950
FY 2002 Depreciation Amount
$(294,724)$
Prior Year Accumulated
Depreciation
0
$\$ 11,494,226$

## N. Earnings Limitation Savings Account (ELSA)

Teachers under age 65 who resume teaching service for a TRA-covered employer after retirement are subject to an annual earnings limitation based on the cost-of-living index used by Social Security. If a member earns more than the limitation, which changes each January 1, the annuity payable during the following calendar year will be offset one dollar for each two dollars earned in excess of the limitation. The calendar year 2001 limit was $\$ 10,680$.

The 2000 Legislature modified the way in which the earning limits are handled. Previously, any pension benefits withheld due to excess earnings reverted back to the TRA Fund. Under the new law, the pension offset amounts are redirected to a separate savings account, called the Earnings Limitation Savings Account (ELSA), and later distributed to the retiree. At age 65 or one year after termination of teaching, whichever is later, the retiree receives a lump-sum payment of the total offset amount in their ELSA account. Six percent interest compounded annually accrues on ELSA accounts.

As of June 30, 2002, TRA had 472 retirees who had exceeded the earnings limitation and had an ELSA account established. The total dollar amount of the combined ELSA accounts is $\$ 1,121,984$. ELSA assets are invested in the TRA Active Fund until distribution. Distributions of ELSA accounts for 5 (five) retirees occurred during Fiscal Year 2002 and totaled \$12,210.

## III. Contributions Required and Made

Minnesota Statutes, Chapter 354 sets the rates (page 60) for employee and employer contributions. These rates, expressed as level percentages of annual covered payroll, are determined to accumulate sufficient assets for paying benefits. Level percentage of payroll contribution rates are calculated using the entry age normal actuarial funding method. TRA also uses the level percentage of payroll method to amortize any unfunded liability over a closed period ending June 30, 2020. Currently, no unfunded liability exists.

Contributions totaling \$294,552,656 (\$152,331,067 employee and $\$ 142,221,589$ employer) were made in accordance with the actuarially determined contribution requirements. On page 60, contributions are projected as sufficient to meet the required normal costs.

The sufficiency as a percent of covered payroll is 2.43 percent. This translates into a contribution sufficiency of about $\$ 73.6$ million projected for fiscal year 2003. The Legislative Commission on Pensions and Retirement annually reviews the adequacy of TRA's statutory contributions.

## IV. Reserve Accounts

## A. Minnesota Post Retirement Investment Fund (Post Fund)

For all retiring members, the reserves required to pay the cost of retirement benefits are transferred from the TRA Fund to the Post Fund which is managed by SBI. Participation in the Post Fund is shown at the actuarially determined required reserves level (cost basis) in accordance with Minnesota Statutes, section 11A.18, subdivision 7. The cost basis represents the estimated present value of future benefit payments promised to all current TRA benefit recipients.

It includes a 6 percent assumed income distribution and any mortality gains or losses as determined by an independent actuary hired by the state legislature. As of June 30, 2002, TRA's share of the net assets of the Post Fund is $\$ 9.60$ billion at cost and $\$ 7.70$ billion at fair value.

The Post Fund income available for distribution is determined using a post-retirement benefit increase formula based on total investment return rather than realized earnings.

This formula contains both an inflation adjustment and an investment component (see page 40-41). Annuitants and other individuals receiving benefits as of July 1, 2001, are eligible to receive the full January 1, 2003, benefit increase shown in Figure 6.
Figure 6

January 1, 2003 Benefit Increase

| Inflation-Based Benefit Increase | $0.745 \%$ |
| :--- | :--- |
| Investment-Based Benefit Increase | $\underline{0.000 \%}$ |
| Total Benefit Increase | $\underline{\underline{0.745 \%}}$ |

Benefit recipients whose effective date of retirement is after July 1, 2001, but before June 2, 2002, receive a prorated amount of the January 1, 2003 benefit increase.

## B. Member Reserves

Accumulated member contributions, without interest, less the amounts refunded are recorded in the member reserve. Accumulated member contributions for current retirees are transferred to the Post Fund upon retirement. Employees who terminate their employment prior to retirement may elect to receive a refund of their contributions plus interest or wait for a deferred benefit.

Amounts from ELSA Accounts (Note N) are considered as a member reserve since these funds are reserved to specific retirees participating in ELSA.

## C. Benefit Reserves

Employer contributions and investment income are recorded in the Benefit Designation.
Administrative expenses, survivor and disability benefits, investment management fees, and interest paid to the Post Fund for late reserve transfers are paid from the benefit reserve.

## Required Supplemental Schedules <br> Schedule of Employer Contributions (Unaudited)

Dollar Amounts in Thousands

| Year <br> Ended <br> June 30 | Actuarially <br> Required <br> Contrib. Rate | Actual <br> Covered <br> Payroll | Actual <br> Employee <br> Contributions | Annual <br> Required <br> Contribution | Actual <br> Employer <br> (A) x (B)] - (C) | (B) |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| 1993 | $13.13 \%$ | $\$ 2,065,881$ | $\$ 94,709$ | $\$ 176,541$ | $\$ 168,071$ | $95.20 \%$ |
| 1994 | $12.75 \%$ | $2,150,300$ | 100,803 | 173,360 | 171,855 | $99.13 \%$ |
| 1995 | $14.73 \%$ | $2,204,693$ | 143,536 | 181,215 | 179,672 | $99.15 \%$ |
| 1996 | $14.30 \%$ | $2,268,390$ | 148,051 | 176,329 | 184,495 | $104.63 \%$ |
| 1997 | $12.78 \%$ | $2,359,011$ | 154,161 | 147,321 | 191,670 | $130.10 \%$ |
| 1998 | $9.55 \%^{(2)}$ | $2,422,957$ | 124,096 | 107,296 | 151,323 | $141.03 \%$ |
| 1999 | $8.39 \%^{(2)}$ | $2,625,254$ | 132,040 | 88,219 | 130,526 | $147.96 \%$ |
| 2000 | $8.36 \%^{(2)}$ | $2,704,575$ | 138,696 | 87,406 | 134,419 | $153.79 \%$ |
| 2001 | $7.92 \%^{(2)(3)}$ | $2,812,000$ | 145,075 | 77,635 | 139,799 | $180.07 \%$ |
| 2002 | $7.85 \%^{(2)}$ | $2,873,771$ | 152,331 | 73,260 | 142,222 | $194.13 \%$ |
| 2003 | $7.57 \%^{(2)(4)}$ |  |  |  |  |  |

${ }^{(1)}$ Includes contributions from other sources (if applicable).
${ }^{(2)}$ Actuarially Received Contribution Rate calculated according to the parameters of GASB 25 using a 30-year amortization of the negative unfunded accrued liability.
${ }^{(3)}$ Actuarially Required Contribution Rate prior to change in Actuarial Assumptions and Asset Valuation Method is $7.31 \%$.
${ }^{(4)}$ Actuarially Required Contribution Rate prior to change in Actuarial Assumptions is $8.11 \%$

## Schedule of Funding Progress (Unaudited)

Dollar Amounts in Thousands

| Actuarial Valuation Date | Actuarial Value of Assets (A) | Actuarial Accrued Liability (AAL) (B) | Unfunded AAL (UAAL) (B-A) | Funded Ratio (A / B) | Actual Covered Payroll (Previous FY) (C) | UAAL <br> Percentage of Covered Payroll ( $\mathrm{B}-\mathrm{A}$ ) / (C) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 07/01/93 | \$ 7,045,937 | \$ 8,266,059 | \$1,220,122 | 85.24\% | \$2,065,881 | 59.06\% |
| 07/01/94 | 7,611,936 | 9,115,266 | 1,503,330 | 83.51\% | 2,150,300 | 69.91\% |
| 07/01/95 | 8,348,124 | 9,717,623 | 1,369,499 | 85.91\% | 2,204,693 | 62.12\% |
| 07/01/96 | 9,541,221 | 10,366,168 | 824,947 | 92.04\% | 2,268,390 | 36.37\% |
| 07/01/97 | 11,103,759 | 10,963,637 | $(140,122)$ | 101.28\% | 2,359,011 | -5.94\% |
| 07/01/98 | 12,727,546 | 12,046,312 | $(681,234)$ | 105.66\% | 2,422,957 | -28.12\% |
| 07/01/99 | 14,011,247 | 13,259,569 | $(751,678)$ | 105.67\% | 2,625,254 | -28.63\% |
| 07/01/00 | 15,573,151 | 14,802,441 | $(770,710)$ | 105.21\% | 2,704,575 | -28.50\% |
| 07/01/01 | 16,834,024 | 15,903,984 | $(930,040)$ | 105.85\% | 2,812,000 | -33.07\% |
| 07/01/02 | 17,378,994 | 16,503,099 | $(875,895)$ | 105.31\% | 2,873,771 | -30.48\% |

# Teachers Retirement Association Notes to the Required Supplemental Schedules (Unaudited) 

June 30, 2002

## Schedule of Funding Progress

The actuary for the Legislative Commission on Pensions and Retirement conducts a study every four years to determine the accuracy of the economic and demographic assumptions used for long-term TRA funding objectives. If actual actuarial experiences are less favorable than assumed by the actuary, the difference is added to unfunded accrued liabilities. Each time a new benefit is added that applies to service already rendered, an additional unfunded accrued liability is created. Minnesota Statutes, Chapter 356.215 requires that all unfunded accrued liabilities be financed systematically over a closed period ending June 30, 2020.

To illustrate this feature, the TRA benefit formula multiplier was increased by 0.13 percent per year of service during fiscal year 1994. The benefit was funded solely through an increase in employee contributions effective in fiscal year 1995. Thus, the unfunded actuarial accrued liability rose dramatically for fiscal year 1994.

In an inflationary economy, the value of the dollar is decreasing. In this environment, employee contributions result in a dollar increase in unfunded actuarial accrued liabilities. This occurs at a time when the actual substance of these items may be decreasing. Looking at just the dollar amounts of unfunded liabilities can be misleading. Unfunded actuarial accrued liabilities divided by active employee payroll provide an index which clarifies understanding. The smaller the ratio of unfunded liabilities to covered payroll, the stronger the system. Observation of this relative index over a period of years will give an indication of whether the retirement association is becoming financially stronger or weaker.

As of June 30, 2002, TRA is fully funded from an actuarial standpoint and reports a sufficiency. Any unfunded accrued liability resulting from benefit improvements and/or unfavorable actuarial experience would be combined with the outstanding balance and amortized over a closed period ending June 30, 2020.

## Actuarial Assumptions and Method

## 1. Funding Method

The Entry Age Normal actuarial cost method of valuation is used in determining benefit liabilities and normal cost. As of June 30, 2002, the actuarial value of the plan assets exceeds the actuarially accrued liability (see page 58, line B3). The actuarial funding method reflects a 30 -year amortization credit of this surplus.

## 2. Asset Valuation Method

For actuarial purposes, Minnesota Statutes, Chapter 356.215 requires valuation of all investment securities using a market-based smoothing method over five years.

## 3. Actuarial Assumptions

Significant actuarial assumptions employed by the actuary for funding purposes as of July 1, 2002, the date of the most recent actuarial valuation, include:

- Investment return - 8.5 percent.
- Inflation rate -5 percent.
- Salary increases - An inflation factor of 5 percent, plus a merit factor ranging from .25 percent to 2.25 percent, declining as the member ages.
- Benefit increases after retirement - Payment of earnings on retired reserves in excess of 6 percent and an inflation guarantee up to 2.5 percent of the Consumer Price Index (CPI-W).

Additional actuarial assumptions are listed on pages 47-49.

## Administrative Expenses

For the Fiscal Year Ended June 30, 2002
Personal Services
Salaries ..... \$ 4,093,034
Employer Contributions to Teachers Retirement Association ..... 212,095
Employer Contributions to Social Security ..... 302,115
Insurance Contributions ..... 655,982
Subtotal ..... \$ 5,263,226
Professional Services
Actuarial Services ..... \$ 127,920
Audit Fees ..... 40,015
Computer Support Services ..... 632,824
Legal Fees ..... 36,403
Management Consultant Services ..... 391,965
Medical Services ..... 14,905
Systems Development (FROST) ..... 3,186,244
Subtotal ..... \$ 4,430,276
Communication
Duplicating and Printing Expense ..... \$ 93,625
Postage ..... 302,607
Telephone ..... 81,279
Subtotal ..... \$ 477,511
Office Building Maintenance
Lease of Office and Storage Space ..... \$ 105,229
Building and Operating Expenses ..... 403,335
Rental of Office Machines/Furnishings ..... 51,293
Repairs and Maintenance ..... 101,980
Building Depreciation ..... 294,724
Deferred Bond Charge Amortization ..... 5,030
Bond Interest Expense ..... 665,861
Subtotal ..... \$ 1,627,452
Other Operating Expenses
Department Head Expenses ..... \$ 1,470
Depreciation of Office Furniture and Equipment ..... 408,202
Dues and Subscriptions ..... 7,200
Employee Training ..... 35,606
Insurance Expense ..... 4,350
Miscellaneous Administrative Expenses ..... 32,062
Office Relocation ..... 94,497
State Indirect Costs ..... 66,244
Stationery and Office Supplies ..... 356,649
Travel - Director and Staff ..... 43,962
Travel - Trustees ..... 23,746
Workers' Compensation ..... 4,083
Board Substitute Teachers ..... 1,915
Loss on Disposal of Equipment ..... 33,200
Subtotal $\$ 1,113,186$Total Administrative Expenses\$ 12,911,651

# Teachers Retirement Fund Schedule of Changes in Plan Net Assets 

For Fiscal Year Ended June 30, 2002
Member
Additions
Contributions:
Member Contributions ..... \$ 151,822,276
Employer Contributions ..... 0
Earnings Limitation Savings Account (ELSA) ..... 1,121,984
Total Contributions ..... 152,944,260
Investment Income:
Net Appreciation in FMV ..... 0
Interest ..... 0
Dividends ..... 0
Net Gain on Sales of Pools ..... 0
Distributed Income from MPRI Fund ..... 0
Investment Management Fees ..... 0
Net Investment Income (loss)
From Securities Lending Activities:
Securities Lending Income ..... 0
Securities Lending Borrower Rebates ..... 0
Securities Lending Management Fees ..... 0
Net Income from Securities Lending ..... 0
Other Income ..... 0
Total Additions (subtractions) ..... \$ 152,944,260
Deductions
Benefits Paid ..... \$ ..... 0
Earnings Limitation Savings Account (ELSA) ..... 0
Refunds of Member Contributions ..... 6,889,563
Administrative Expenses ..... 0
Interest Paid Post Fund ..... 0
Total Expenses \$ 6,889,563
Net Increase (decrease) ..... \$ 146,054,697
Other Changes in Reserves
Annuities Awarded ..... \$ (69,471,259)
Other Transfers ..... 2,904,976
Change in Assumptions ..... 0
Mortality Gain ..... 0
Total Other Changes ..... \$ $(66,566,283)$
Net Assets Held in Trust for Pension Benefits
Beginning of Year ..... 1,403,754,632
End of Year ..... \$1,483,243,046

The accompanying notes are an integral part of this statement.

## Reserves for 2002

# Post <br> <br> Fund 

 <br> <br> Fund}

## Benefit

Total
June 30, 2002

| $\$$ | 0 |
| :--- | :--- |
|  | 0 |
|  | 0 |
|  | 0 |

$(1,593,246,171)$
0
0
0
915,878,0337
$(677,368,138)$
22,883,733
$(15,592,147)$
$(1,820,939)$
5,470,647
0
\$ $(671,897,491)$

\$ 503,740,617
0
(34,177,000)
$\begin{array}{r}(9,944,870) \\ \hline \$ 459,618,747 \\ \hline\end{array}$
$\begin{array}{r}8,844,163,887 \\ \hline \$ 7,700,083,714\end{array}$

| $\$$ | 508,791 |
| ---: | ---: |
| $142,221,589$ |  |
| 0 |  |
| $142,730,380$ |  |

(510,514,422)
32,616,666
11,281,189
$(91,937,888)$
0
$\begin{array}{r}(9,558,802) \\ \hline(568,113,257)\end{array}$
15,496,474
$(10,357,168)$
$\begin{array}{r}(1,316,097) \\ \hline 3,823,209\end{array}$
3,366,420
\$ (418,193,248)

| $\$$ | $14,542,904$ |
| ---: | ---: |
|  | 0 |
|  | 463,800 |
|  | $12,911,651$ |
|  | 817,961 |
| $\$$ | $28,736,316$ |
| $\$(446,929,564)$ |  |

\$ $(434,269,358)$
(2,904,976)
34,177,000
9,944,870
\$ $(393,052,464)$
$\begin{array}{r}5,654,417,443 \\ \hline\end{array}$
$\begin{array}{r}\$ \quad 152,331,067 \\ 142,221,589 \\ 1,121,984 \\ \hline 295,674,640\end{array}$
(2,103,760,593)
32,616,666
11,281,189
$(91,937,888)$
915,878,033
(9,558,802)
(1,245,481,395)

| $38,380,207$ |
| ---: |
| $(25,949,315)$ |
| $(3,137,036)$ |
| $9,293,856$ |
| $3,366,420$ |
| $\$ \quad(937,146,479)$ |

$$
\begin{array}{lr}
\$ & 945,222,349 \\
1,121,984 \\
7,353,363 \\
12,911,651 \\
& 817,961 \\
\hline \$ \quad 967,427,308 \\
\hline \$(1,904,573,787)
\end{array}
$$

| $\$$ | 0 |
| :--- | :--- |
|  | 0 |
|  | 0 |
|  | 0 |
| $\$$ | 0 |

15,902,335,962
$\$ 13,997,762,175$

## Schedule of Investment Expenses

For the Fiscal Year Ended June 30, 2002
Minnesota State Board of Investment ..... \$ 329,407
Financial Control Systems ..... 45,885
Pension Consulting ..... 11,180
Richards \& Tierney ..... 46,583
Outside Money Managers: Equities ..... 7,610,280
Outside Money Managers: Bonds ..... 1,515,467
Total Investment Expenditures ..... 9,558,802
Schedule of Professional Consultant Expenses
For the Fiscal Year Ended June 30, 2002
MIS Programmers/Analysts
Computer Horizons ..... \$ 249,344
Compuware ..... 72,489
IBM ..... 4,980
Keystone ..... 189,288
BearingPoint ..... 3,186,244
Syscom ..... 15,532
Total MIS Programmers/Analysts Expenditures ..... \$ 3,717,877
Management
MN Department of Administration ..... \$ 24,246
Marcia Doty - St. Scholastica College ..... 4,359
Maximus ..... 363,360
Total Management Expenditures ..... \$ 391,965
Actuarial
Buck Consultants ..... \$ 101,475
Milliman USA (LCPR) ..... 26,445
Total Actuarial Expenditures ..... \$ 127,920
Legal
Attorney General ..... \$ 35,718
Audit
Legislative Auditor ..... \$ 34,962
Pension Benefit Information ..... 5,053
Total Audit Expenditures ..... \$ 40,015
Medical
Medical Evaluations ..... \$ 6,610
MN Department of Health ..... 8,030
Total Medical Expenditures ..... $\$ \quad 14,640$
Total Consultant Expenditures ..... \$ 4,328,135

## Statement of Retainage Payable

As of June 30, 2002

| Vendor | Computer <br> Horizons | Compuware | Keystone | BearingPoint | Maximus | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Balance as of 06/01/01 | \$18,166 | \$13,220 | \$17,410 | \$438,855 | \$31,941 | \$519,592 |
| $\begin{aligned} & \text { Retained } \\ & \text { 07/01/01-06/30/02 } \end{aligned}$ | 2 | - | - | 312,104 | 26,972 | 339,076 |
| Paid <br> 07/01/01-06/30/02 | $2(18,166)$ | $(13,220)$ | $(17,410)$ | - | - | $(48,796)$ |
| Accrued 06/30/02 | - | - | - | 6,520 | 8,916 | 15,436 |
| Balance as of 06/30/02 | - | - | - | 757,479 | 67,829 | \$825,308 |

This page intentionally left blank.

Teachers Retirement Association of Minnesota


Investments

Investments

Investments

Investments

Investments

Investments

## Investment Summary

## Prepared by TRA management with data obtained from the State Board of Investment's Fiscal Year 2002 Annual Report

The assets of the Minnesota Teachers Retirement Association (TRA) are invested under the direction and authority of the State Board of Investment (SBI). The investment portfolio for the active members of TRA has a fair value of approximately $\$ 6.3$ billion. In addition, TRA's share of the assets of the Minnesota Post Retirement Investment Fund (Post Fund), from which retiree benefits are paid, is approximately $\$ 7.7$ billion, at fair value.

The five-member SBI Board consists of Governor Jesse Ventura (Chair), Secretary of State Mary Kiffmeyer, State Treasurer Carol Johnson, Attorney General Michael Hatch, and State Auditor, Judith Dutcher. Howard Bicker serves as SBI's Executive Director.

The Legislature has established a 17-member Investment Advisory Council (IAC) to advise SBI and its staff on investment-related matters.

- SBI appoints ten members experienced in finance and investment. These members traditionally have come from the Minneapolis and Saint Paul corporate investment community.
- The Commissioner of Finance and the executive directors of TRA, the Minnesota State Retirement System and the Public Employees Retirement Association are permanent members of the Council.
- Two active employee representatives and one retiree representative are appointed to the Council by the Governor.


## Investment Advisory Council

## Gary Austin

Executive Director
Teachers Retirement Association
David Bergstrom
Executive Director
MN State Retirement System
John E. Bohan, Retired
Vice Pres., Pension Investments
Grand Metropolitan-Pillsbury

## Douglas Gorence

Chief Investment Officer
U of M Foundation Investment
Advisors
Kenneth F. Gudorf
Chief Executive Officer
Agio Capital Management, LLC
P. Jay Kiedrowski

Executive Vice President
Wells Fargo \& Co.

Han Chin Liu
Governor's Appointee
Active Employee Representative
Judith W. Mares
Financial Consultant
Mares Financial Consulting, Inc.
Malcolm W. McDonald**
Director and Senior Vice President
Space Center, Inc.
Gary R. Norstrem, Retired
Treasurer
City of Saint Paul
Daralyn Peifer
Managing Director
Private Investments
General Mills, Inc.
Mary Stanton
Governor's Appointee
Active Employee Representative

## Michael Troutman

Vice President
Finance and Investments
Evangelical Lutheran Church in America

Mary Vanek
Executive Director
Public Employees Retirement Assn
Elaine Voss
Governor's Appointee
Retiree Representative
Anne Barry
Acting Commissioner
MN Department of Finance
Jan Yeomans*
Treasurer
3M Co.

* Chair
** Vice-Chair

Richards \& Tierney, Inc. of Chicago are general consultants to SBI. Pension Consulting Alliance of Studio City, California, serves as a special project consultant. Investment performance methodology is reported in compliance with the mandatory requirements of the Association for Investment Management and Research (AIMR). All investments made by SBI are governed by the prudent person rule and other standards codified in Minnesota Statutes, Chapters 11A and 356A.

The Council has formed three committees organized around broad investment subjects relevant to SBI's decision-making: Asset Allocation, Stock and Bond Managers and Alternative Investments.

All proposed investment policies are reviewed by the appropriate Committee and the full Council before they are presented to SBI for action.

## Basic Retirement Funds

## Investment Objectives

The pension contributions of active TRA members are invested through the Basic Retirement Funds (Basic Funds) administered by SBI. SBI has one overriding responsibility with respect to its management of the Basic Funds: to ensure that sufficient funds are available to finance promised benefits at the time of retirement. All assets in the Basic Retirement Funds, including TRA, are managed externally by outside money management firms retained by contract.

The Basic Funds invest the pension contributions of most Minnesota public employees, including TRA members, during their working years. Employee and employer contribution rates are specified in state law as a percentage of an employee's salary. The rates are set so that contributions plus expected investment earnings will cover the projected cost of promised pension benefits. In order to meet these projected pension costs, the Basic Funds must generate investment returns of at least 8.5 percent on an annualized basis over time.

Normally, pension assets will accumulate in the Basic Funds for thirty to forty years during an employee's years of active service. This provides the Basic Funds with a long investment time horizon and permits SBI to take advantage of long run return opportunities offered by common stocks and other equity investments in order to meet its actuarial return target.

SBI measures the performance of the Basic Funds relative to a composite of market indices that is weighted in a manner that reflects their long-term asset allocation policy. The Basic Funds are expected to exceed the composite index over a five-year period. Performance is measured net of all fees and costs to assure that SBI's focus is on its true net return.

## Asset Allocation

The allocation of assets among stocks, bonds, and alternative investments can have a dramatic impact on investment results. In fact, asset allocation decisions overwhelm the impact of individual security selection within a total portfolio. Consequently, SBI has focused considerable attention on the selection of an appropriate long-term asset allocation policy for the Basic Funds. No significant changes were made during fiscal year 2002. The following table shows the actual asset mix of the Basic Funds at the end of fiscal year 2002.

| Basic Funds Asset Mix <br> June 30, 2002 |  |  |
| :---: | :---: | :---: |
|  | Actual Mix | Policy Mix |
| Domestic Stocks | 46.2\% | 45.0\% |
| International Stocks | 16.1\% | 15.0\% |
| Bonds | 24.2\% | 24.0\% |
| Alternative Assets | 13.3\% | 15.0\% |
| Unallocated Cash | 0.2\% | 1.0\% |
| Total | 100.0\% | 100.0\% |

## Total Return Vehicles

SBI invests the majority of the Basic Funds' assets in common stocks (both domestic and international). A large allocation is consistent with the investment time horizon of the Basic Funds and the advantageous longterm risk-return characteristics of common stocks. Including international stocks in the asset mix allows SBI to diversify its holdings across world markets and offers the opportunity to enhance returns and reduce the risk/volatility of the total portfolio. The rationale underlying the inclusion of private equity alternative assets (e.g., venture capital) is similar.

SBI recognizes that this sizable policy allocation to common stock and private equity likely will produce more volatile portfolio returns than a more conservative policy focused on fixed income securities. It is understood that this policy may result in quarters or even years of disappointing results. Nevertheless, the long run return benefits of this policy are expected to compensate for the additional volatility.

## Diversification Vehicles

Other asset classes are included in the Basic Funds both to provide some insulation against highly inflationary or deflationary environments and to diversify the portfolio sufficiently to avoid excessive return volatility.

Real estate and resource (oil and gas) investments provide an inflation hedge that other financial assets cannot offer. In periods of rapidly rising prices, these "hard" assets have appreciated in value at a rate at least equal to the inflation rate. Further, even under more normal financial conditions, such as low to moderate inflation, the returns on these assets are not highly correlated with common stocks. As a result, their inclusion in the Basic Funds serves to dampen return volatility.

The allocation to bonds acts as a hedge against a deflationary economic environment. In the event of a major deflation, high quality fixed income assets, particularly long-term bonds, are expected to protect principal and generate significant capital gains. And, like real estate and resource funds, under normal financial conditions, bonds help to diversify the Basic Funds and thereby control return volatility.

## Rate of Return Results

The Basic Funds produced a total rate of return for fiscal year 2002 of -8.2 percent. Over the last five years, the Basic Funds have generated an annualized return of 5.0 percent. The current fair value of the total Basic Funds is about $\$ 16.7$ billion. TRA's share of the fund is approximately 37.7 percent or $\$ 6.3$ billion.

As stated earlier, the Basic Funds are expected to exceed the return of a composite of market indices over a fiveyear period. Performance relative to this standard will measure two effects:

- The ability of the managers selected by SBI, in aggregate, to add value to the returns available from the broad capital markets.
- The impact of SBI's rebalancing activity. (SBI rebalances the total fund when market movements take the stock or bond segments above or below their long-term asset allocation targets. The policy imposes a low risk discipline of buy low-sell high on a total fund basis.)

For the five-year period ending June 30, 2002, the Basic Funds out-performed the composite index by 0.2 percentage point annualized. The Fund exceeded the composite index by 0.4 percentage point over the last three years, and trailed the composite index by 0.1 percentage point over the most recent fiscal year. Actual returns relative to the total fund composite index over the last five years are shown in the graph on this page.

## Post Retirement Fund

When a member retires, TRA transfers assets on behalf of the member to the Minnesota Post Retirement Investment Fund (Post Fund). The Post Fund includes the assets of retired public employees covered by nine statewide retirement plans: the eight plans which participate in the Basic Funds as well as the Legislative and Survivors Retirement Fund.


The assets of the Post Fund finance monthly annuity payments paid to retirees. On June 30, 2002, the Post Fund had a market value of about $\$ 17$ billion. TRA retirees' portion of this value is approximately $\$ 7.70$ billion or 45.3 percent. The Post Fund generated an investment return of -7.8 percent for fiscal year 2002.

All assets in the Post Retirement Fund are managed externally by outside money management firms retained by contract.

## Investment Objectives

The investment time horizon of the Post Fund is 15-20 years and corresponds to the length of time a typical retiree can be expected to draw benefits. While this is shorter than the time horizon of the Basic Funds, it is still sufficiently long to allow SBI to take advantage of the long-run return opportunities offered by common stock in order to meet its actuarial return target as well as to finance retirement benefit increases.

SBI measures the performance of the Post Fund relative to a composite of market indices that is weighted in a manner that reflects its long-term asset allocation policy. The Post Fund is expected to exceed the composite index over a five-year period. Performance is measured net of all fees and costs to assure that SBI's focus is on true net return.

## Asset Allocation

Throughout the 1980s, the Post Fund was invested primarily in bonds. SBI significantly revised its asset allocation strategy for the Post Fund in fiscal year 1993 in order to reflect the goals associated with the new post-retirement benefit increase formula (described later). The asset allocation policy is under constant review. No substantial change occurred during fiscal year 2002. The current long-term asset allocation policy and actual asset mix of the Post Fund at the end of fiscal year 2002 is presented in the following table.

The majority of the Post Fund's assets are invested in common stocks (both domestic and international). A large allocation is consistent with the moderately long time horizon of the Post Fund and the advantageous long-term, risk-return characteristics of common stocks. Including international stocks in the asset mix allows SBI to diversify its holdings across world markets and

## Post Fund Asset Mix

June 30, 2002

|  | Actual <br> Mix | Policy <br> Mix |
| :--- | :---: | :---: |
| Domestic Stocks | $49.4 \%$ | $50.0 \%$ |
| Int'l Stocks | 15.7 | 15.0 |
| Bonds | 30.0 | 27.0 |
| Alternative Assets | 4.0 | 5.0 |
| Unallocated Cash | $\underline{0.9}$ | $\underline{3.0}$ |
| Total | $\underline{\underline{100.0 \%}}$ | $\underline{ }$ |

offers the opportunity to enhance returns and reduce the risk/volatility of the total portfolio.

SBI recognizes that this sizable allocation will be likely to produce more volatile portfolio returns than a more conservative policy focused on fixed income securities. It is understood that this policy may result in quarters or even years of disappointing results. Nevertheless, the long-run return benefits of this policy are expected to compensate for the additional volatility.

Other asset classes are included in the Post Fund both to provide some insulation against highly deflationary environments and to diversify the portfolio sufficiently to avoid excessive return volatility.

The bonds in the Post Fund act as a hedge against a deflationary economic environment. In the event of a major deflation, high quality fixed income assets, particularly long-term bonds, are expected to protect principal and generate significant gains. And, under more normal financial conditions, bonds diversify the Post Fund, thereby controlling return volatility on a year-to-year basis.

Yield oriented alternative investments provide the opportunity for higher long term returns than those typically available from bonds yet still generate sufficient current income to be compatible with the objectives of the Post Fund. Typically, these investments (e.g., business loan participations, mortgage loan participations and income producing private placements) are structured more like fixed income securities with the opportunity to participate in the appreciation of the underlying assets. While these investments may have an equity component, they
display a return pattern more like a bond. As such, they will help reduce the volatility of the total portfolio but also should generate higher returns relative to more traditional bond investments.

While the Board made several commitments to yield oriented alternative investments during the year, the market value of the alternative segment was only 4.0 percent of the total fund on June 30, 2002. The Board expects this percentage to increase gradually over the next three to five years. Until appropriate vehicles are identified, the uninvested portion of the alternative asset allocation is held in bonds. As a result, the actual amount invested in bonds was above its longterm target.

## Investment Management and Performance

In order to gain greater operating efficiency, the Post Fund shares with the Basic Funds the same domestic stock, bond and international stock managers. The Post Fund is expected to exceed the return of a composite of market indices over a five-year period. The Post Fund's performance exceeded its composite market index by 0.3 percentage point for the most recent five year period since July 1, 1997. The fund exceeded the composite index over the last three years by 0.3 percentage point, and trailed the composite index by 0.4 percentage point for the 2002 fiscal year.

Actual returns relative to the total fund composite index over the last five years are shown in the graph below.

## Benefit Increase Formula

The retirement benefit increase formula of the Post Fund is based on a combination of two components:

- Inflation Component. Each year, retirees receive an inflation-based adjustment equal to 100 percent of inflation, up to a maximum specified in statute. The inflation component is granted regardless of investment performance. The cap is necessary to maintain the actuarial soundness of the entire plan. It is the difference between the return assumption for the Basic funds, and the return assumption for the Post Fund.

The return assumption in the Basic Funds is 8.5 percent. The return assumption for the Post Fund was 5.0 percent through fiscal year 1997. In fiscal year 1998, the return assumption for the Post Fund was changed to 6.0 percent. This means the cap on the inflation adjustment was 3.5 percent for fiscal years 1993-1997. From fiscal year 1998 forward, the inflation cap is 2.5 percent. Retirees were given a one-time permanent adjustment in their pension in 1997 to compensate them for the reduction in the inflation adjustment cap.

- Investment Component. Each year, retirees also receive an investmentbased adjustment, provided net investment gains are above the amount needed to finance the Post Fund's actuarial assumption and the inflation adjustment. Investment gains and losses are spread over five years to smooth out the volatility of returns. In addition, all accumulated investment losses must be recovered before an investment-based adjustment is granted.

The current formula has two primary advantages:

- It provides benefit increases that are more sensitive to inflation than those granted under the old formula.
- It allows the Post Fund to maximize the long-term earning power of its assets. Without the need to generate the higher levels of current income required under the old formula, the Post Fund can increase its stock exposure and thereby enhance its prospects for higher total rates of return over the long run.

The Post Fund will provide a benefit increase of 0.745 percent for fiscal year 2002 payable January 1, 2003. As noted earlier, this increase is comprised of two components:

- Inflation component of 0.745 percent. The increase is the actual Consumer Price Index for wage earners (CPI-W) increase for the twelve months ending June 30, 2002. (CPI-W is the same inflation index used to calculate increases in Social Security payments.)
- Investment component of 0.000 percent. Net investment returns over the five-year period (July 1, 1997 to June 30, 2002) were insufficient to cover the actuarial assumed rate of return and the inflation adjustment. Since the five-year net
investment amount was a loss of $\$ 525$ million, that loss amount will be carried forward into the calculation formula for the January 1, 2004 increase.

Approximately $\$ 4.2$ billion in unrealized investment losses will be allocated prospectively as part of the investment-smoothing mechanism used in the calculation of the post-retirement adjustments in 2004-2007. Consequently, until strong positive investment gains occur over an extended period of time to absorb existing losses, a positive investment component should not be expected.

Benefit increases granted for the past ten years are shown in the graph below.

Prior to fiscal year 1993, the benefit increase formula was dependent on the level of excess realized income generated by the Post Fund. The 0.7450 percent increase granted for fiscal year 2002 represents the tenth post-retirement adjustment provided under the new benefit increase formula previously described.

The Basic Funds and the Post Fund share many of the same stock and bond managers. This is accomplished by grouping managers together, by asset class, into several investment pools. The individual funds participate in the investment pools by purchasing units which function much like shares of a mutual fund.


This investment management structure allows SBI to gain greater operating efficiency within asset classes and to keep money management costs as low as possible for all participants. Further information on investment activity and a listing of specific investments owned by the pooled accounts can be obtained from the Minnesota State Board of Investment, Suite 355, 60 Empire Drive, Saint Paul, MN 55103.

## Teachers Retirement Fund Portfolio Distribution

June 30, 2002



## Teachers Retirement Fund <br> Performance of Asset Pools (Net of Fees)

June 30, 2002

Rates of Return (Annualized)

|  | FY 2002 | 3-Year | 5-Year |
| :---: | :---: | :---: | :---: |
| Domestic Stock Pool | -18.0\% | -9.0\% | 3.0\% |
| Wilshire 5000 - Investable | -17.3\% | -8.9\% | 3.1\% |
| Bond Pool | 8.2\% | 8.2\% | 7.6\% |
| Lehman Aggregate .......................................................... | 8.6\% | 8.1\% | 7.6 \% |
| International Stock Pool | -7.0\% | -5.4\% | -1.3\% |
| Composite Index .............................................................. | -8.7\% | -6.8\% | -2.4\% |
| Real Estate Pool (Basic Funds Only) ....................................... | 2.9\% | 9.2\% | 14.4\% |
| Private Equity Pool (Basic Funds Only) .................................. | -7.6\% | 7.1\% | 12.9\% |
| Resource Pool (Basic Funds Only) ........................................... | -3.2\% | 18.9\% | 9.6\% |
| Yield Oriented Pool (Post Fund Only) ...................................... | 6.7\% | 12.5\% | 13.6\% |

All investment performance methodology is reported in compliance with the mandatory requirements of the Association for Investment Management and Research (AIMR).

# Teachers Retirement Fund List of Largest Assets Held 

June 30, 2002

## Composite Holdings of Top Ten Equities

By Fair Value

| Security | \% of Portfolio | Fair Value (Thousands) |
| :---: | :---: | :---: |
| General Electric Co. | 1.35\% | \$191,712 |
| Microsoft Corp ... | 1.29 | 182,725 |
| Citigroup Inc. | 1.23 | 173,665 |
| ExxonMobil Corp.. | 1.14 | 162,067 |
| Pfizer Inc. | 1.14 | 161,438 |
| Wal-Mart Stores, Inc. | 1.05 | 148,572 |
| American Intl Group Inc. | 0.89 | 125,707 |
| Johnson and Johnson.. | 0.87 | 123,371 |
| Proctor and Gamble Co. ..... | 0.72 | 102,451 |
| Home Depot, Inc. ....................................................................... | 0.66 | 94,064 |

Composite Holdings of Top Ten Bond Holdings
By Fair Value

| Security | Coupon | Rating | Fair <br> Value | \% of Portfolio |
| :---: | :---: | :---: | :---: | :---: |
| GNMA I TBA JUL 30 SINGLE FAM ..... | 6.500\% | AAA | \$118,101 | 0.83\% |
| FNMA TBA JUL 30 SINGLE FAM ...... | 7.000\% | AAA | 65,744 | 0.46 |
| FNMA TBA AUG 30 SINGLE FAM .... | 7.000\% | AAA | 39,874 | 0.28 |
| UNITED STATES TREAS NTS | 6.125\% | AAA | 35,475 | 0.25 |
| FNMA TBA JUL 30 SINGLE FAM ...... | 6.000\% | AAA | 33,982 | 0.24 |
| FHLMC TBA JUL 30 GOLD SINGLE .. | 6.500\% | AAA | 32,268 | 0.23 |
| GNMA I TBA JUL 30 SINGLE FAM ..... | 6.000\% | AAA | 30,560 | 0.22 |
| GNMA I TBA JUL 30 SINGLE FAM ..... | 7.000\% | AAA | 28,905 | 0.20 |
| UNITED STATES TREAS BDS | 3.625\% | AAA | 26,739 | 0.19 |
| UNITED STATES TREAS BDS | 8.500\% | AAA | 26,298 | 0.19 |

TRA's assets are commingled in various pooled investment accounts administered by the State Board of Investment (SBI). TRA does not own specific values of the underlying assets. The percentages shown are those of the total pooled accounts. Information on investment activity, a listing of specific investments owned by the pooled accounts and a schedule of fees and commissions can be obtained from SBI.

## Summary of Investments*

As of June 30, 2002

|  |  | Book |  |  | Fair |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Book Value | Total <br> Book Value | $\%$ of <br> Total | Fair <br> Value | Total <br> Fair Value | $\%$ of <br> Total |
| Fixed Income Investments |  |  |  |  |  |  |
| Fixed Income Pool | \$1,559,990,401 |  |  | \$1,507,109,717 |  |  |
| Total Fixed Income Investments |  | \$1,559,990,401 | 21.667\% |  | \$1,507,109,717 | 24.137\% |
| Equity Investments: |  |  |  |  |  |  |
| External Indexed Equity Pool | \$1,013,167,464 |  |  | \$ 927,242,988 |  |  |
| Global Equity Pool | 1,131,849,545 |  |  | 994,387,234 |  |  |
| External Domestic Equity Pool | 2,492,007,372 |  |  | 1,950,679,404 |  |  |
| Total Equity Investments |  | \$4,637,024,381 | 64.403\% |  | \$3,872,309,626 | 62.017\% |
| Alternative Investments: |  |  |  |  |  |  |
| Internal Venture Capital Pool | \$ 667,446,358 |  |  | \$ 509,519,930 |  |  |
| Internal Real Estate Fund Pool | 207,667,366 |  |  | 227,315,801 |  |  |
| Internal Resource Fund Pool | 108,782,988 |  |  | 108,617,731 |  |  |
| Total Alternative Investments |  | \$ 983,896,712 | 13.665\% |  | \$ 845,453,462 | 13.541\% |
| Short Term Investment: |  |  |  |  |  |  |
| Short Term Cash Equivalents | \$ 19,064,407 |  |  | \$ 19,064,407 |  |  |
| Total Short Term Investment |  | \$ 19,064,407 | 0.265\% |  | \$ 19,064,407 | 0.305\% |
| Total Investments |  | \$7,199,975,901 | 100.000\% |  | \$6,243,937,212 | 100.000\% |

[^0]
## General Information Regarding Investment of Funds

TRA's investments are made by SBI and external managers as prescribed by law, and are made only in such securities as are duly authorized legal investments in accordance with Minnesota Statutes, section 11A.24. State Street Bank and Trust of Boston acts as custodian of securities for the Basic Funds and the Post Fund. First Trust National Association, St. Paul, Minnesota, is the current custodian of short term investments of TRA. Examination and verification of securities held by the custodians is performed periodically by the Minnesota Office of the Legislative Auditor.

Teachers Retirement Association of Minnesota


Actuarial

Actuarial

Actuarial

Actuarial

Actuarial

Actuarial

## Actuary's Letter

15800 Bluemound Road, Suite 400
Brookfield, WI 53005-6069
Tel +1 262784.2250
Fax +1 262784.7287
www.milliman.com

December 5, 2002

Legislative Commission on
Pensions and Retirement
55 State Office Building
St. Paul, Minnesota 55155

## RE: Teachers Retirement Association Fund

Commission Members:
Pursuant to the terms of our Actuarial Services Contract, we have performed an actuarial valuation of the Fund as of July 1, 2002.

The results of our calculations are set forth in the following report, as are the actuarial assumptions upon which our calculations have been made. Although we have reviewed the data for reasonableness and consistency, we have relied on the basic employee data and asset figures as submitted by the Teachers Retirement Association.

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 the requirements of Section 356.215, Minnesota Statutes, and the requirements of the Standards for Actuarial Work, adopted by the Commission.

We, Thomas K. Custis and William V. Hogan, are actuaries for Milliman USA. 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.

Respectfully submitted,
Milliman USA


Thomas K. Custis, F.S.A., M.A.A.A.
Consulting Actuary


William V. Hogan, F.S.A., M.A.A.A.
Consulting Actuary
TKC/WVH/bh

## Summary of Actuarial Assumptions and Methods

(Assumptions adopted by the Legislative Commission on Pensions and Retirement on February 22, 2002)

1. Interest

## 2. Benefit Increases After Retirement

3. Interest on Member Contributions
4. Salary Increases

Pre-Retirement - 8.5\% per annum Post-Retirement $-8.5 \%$ per annum

Payment of earnings on retired reserves in excess of 6 percent accounted for by percent post-retirement assumptions.

Members and former members who are eligible for the money purchase annuity are assumed to receive interest credits equal to the Pre-Retirement Interest rate. All other members and former members receive the interest crediting rate as specified in statutes.

Reported salary for prior fiscal year, with new hires annualized, increased according to the ultimate table below to current fiscal year and annually for each future year. During a 10 -year select period, $0.3 \times(10-\mathrm{T})$ where T is completed years of service is added to the ultimate rate.

## 5. Mortality

## Pre-Retirement

Male - 1983 Group Annuity Mortality (GAM) Table for males set back 12 years. Female - 1983 Group Annuity Mortality Table for females set back 10 years.

## Post-Retirement

Male - Same as above except set back six years.
Female - Same as above except set back three years.

## Post-Disability

Male - 1965 RRB rates through age 54. For ages 55 to 64, graded rates between 1965 RRB rates and the Post-Retirement mortality table. For ages 65 and later, the Post-Retirement mortality table.

Female - 1965 RRB rates through age 54. For ages 55 to 64, graded rates between 1965 RRB rates and the Post-Retirement mortality table. For ages 65 and later, the Post-Retirement mortality table.

Table A

|  | Salary <br> Increases |
| :---: | :---: |
| 20 | 6.00 |
| 25 | 6.00 |
| 30 | 6.00 |
| 35 | 6.00 |
| 40 | 5.70 |
| 45 | 5.20 |
| 50 | 5.00 |
| 55 | 5.00 |
| 60 | 5.30 |

6. Retirement Age Graded rates beginning at age 55 as shown in rate table. Members who have attained the highest assumed retirement age will retire in one year.

Table B

| Retirements Expressed as Number of Occurrences Per 10,000 |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Rule of 90 |  |  | Rule of 90 |  |  |
| Age | Eligible | Other | Age | Eligible | Other |
| 50 | 0 | 0 | 61 | 5,000 | 2,000 |
| 51 | 0 | 0 | 62 | 5,000 | 2,000 |
| 52 | 0 | 0 | 63 | 5,000 | 2,000 |
| 53 | 0 | 0 | 64 | 5,000 | 2,000 |
| 54 | 0 | 0 | 65 | 5,000 | 5,000 |
| 55 | 5,000 | 900 | 66 | 3,500 | 3,500 |
| 56 | 5,000 | 900 | 67 | 3,500 | 3,500 |
| 57 | 5,000 | 900 | 68 | 3,500 | 3,500 |
| 58 | 5,000 | 900 | 69 | 3,500 | 3,500 |
| 59 | 5,000 | 1,200 | 70 | 3,500 | 3,500 |
| 60 | 5,000 | 1,200 | 71 | 10,000 | 10,000 |

7. Separation

Select and ultimate rates were based on plan experience as of June 30, 2000. Ultimate rates after the third year are shown in rate table. Select rates are as follows:

| Gender | First Year | Second Year | Third Year |
| :--- | :---: | :---: | :---: |
| Male | .45 | .12 | .06 |
| Female | .40 | .10 | .08 |

## Table C

| Age | Annual Separation Rate Per 10,000 Employees Sample Values |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Pre-Retirement Death |  | Withdrawal |  | Disability |  |
|  | Male | Female | Male | Female | Male | Female |
| 20 | 3 | 1 | 370 | 450 | 0 | 0 |
| 30 | 4 | 2 | 270 | 450 | 0 | 0 |
| 40 | 5 | 3 | 235 | 275 | 3 | 3 |
| 50 | 10 | 7 | 185 | 185 | 11 | 10 |
| 60 | 31 | 16 | 0 | 0 | 33 | 25 |

8. Disability Rates as shown in table above.
9. Allowance for

Combined Service Annuity
10. Expenses
11. Return of Contributions

Liabilities for active members are increased by 1.4 percent and liabilities for former members are increased by 4 percent to account for the effect of some participants having eligibility for a Combined Service Annuity.

Prior year expenses expressed as percentage of prior year payroll.
All employees withdrawing after becoming eligible for a deferred benefit were assumed to take the larger of their contributions accumulated with interest or the value of their deferred benefit.
$85 \%$ of male members and $65 \%$ of female members are assumed to be married. Female is three years younger than male. Assume members have no children.

N/A
14. Special Consideration

Married members assumed to elect subsidized joint and survivor form of annuity as follows:

| Males | - | $\begin{array}{lll} 15 \% \text { elect } & 50 \% & \text { J\&S option } \\ 25 \% & \text { elect } & 75 \% \\ \text { J\&S option } \\ 55 \% \text { elect } & 100 \% & \text { J\&S option } \end{array}$ |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |
|  |  |  |  |  |
| Females | - | 20\% elect | 50\% | J\&S option |
|  |  | 10\% elect | 75\% | J\&S option |
|  |  | $30 \%$ elect | 100\% | J\&S option |

Entry Age Normal Actuarial Cost Method with normal costs expressed as a level percentage of earnings. Under this method, actuarial gains (losses) reduce (increase) the Unfunded Actuarial Accrued Liability.

Market Value, adjusted for amortization obligations receivable at the end of the fiscal year, less a percentage of the Unrecognized Asset Return determined at the close of each of the four preceding fiscal years. Unrecognized Asset Return is the difference between actual net return on Market Value of Assets and the asset return expected during the fiscal year (based on the assumed interest rate employed in the July 1 Actuarial Valuation of the fiscal year). Transition rules apply between July 1, 2001, and July 1, 2003, when the method is fully in effect.

A level percentage of payroll each year to the statutory amortization date assuming payroll increases of 5 percent per annum. If there is a negative Unfunded Actuarial Liability, the surplus amount shall be amortized over 30 years as a level percentage of payroll.

## Valuation Report Highlights

## Dollar Amounts in Thousands

## A. Contributions (Table 6)

1. Statutory Contributions - Chapter 354 (\% of Payroll) .......

| $10.00 \%$ | $10.00 \%$ |
| ---: | ---: |
| $7.57 \%$ |  |
| $2.43 \%$ | $7.85 \%$ |
| $2.15 \%$ |  |

## B. Funding Ratios

1. Accrued Benefit Funding Ratio
a. Current Assets (Table 1) $\qquad$ \$17,378,994
b. Current Benefit Obligations (Table 3)
\$15,715,244
c. Funding Ratio (a/b)
$110.59 \%$
\$16,834,024
\$15,099,099
111.49\%
2. Accrued Liability Funding Ratio
a. Current Assets (Table 1)
\$17,378,994
\$16,834,024
b. Actuarial Accrued Liability (Table 4)
\$16,503,099
\$15,903,984
c. Funding Ratio (a/b) ...................................................... $105.31 \%$
105.85\%
3. Projected Benefit Funding Ratio (Table 3)
a. Current and Expected Future Assets
b. Current and Expected Future Benefit Obligations ...
\$20,204,561
\$19,625,868
c. Funding Ratio (a/b) $\qquad$ \$18,831,713
\$18,450,268
C. Plan Participants
4. Active Members
a. Number $\qquad$ 71,690
71,097
b. Projected Annual Earnings
\$ 3,040,422
c. Average Annual Earnings (Projected \$) ....................... \$ 42,411 \$ 41,323
d. Average Age $\qquad$
c. Average Service
5. Others
a. Service Retirements

32,231
b. Survivors $\qquad$ 2,192
c. Disability Retirements ................................................ 551
d. Deferred Retirements .................................................. 8,680

31,169
2,070
518
7,959
e. Terminated Other Non-vested ..................................... $\quad 19,022$

19,344
f. Total ......................................................................... $\quad$ 62,676

July 1, 2001
Valuation
2.15\%

## Actuary's Commentary

## Purpose

The purpose of this valuation is to determine the financial status of the Plan. In order to achieve this purpose, an actuarial valuation is made at the beginning of each fiscal year as required by Section 356.215 of Minnesota Statutes.

## Report Highlights

The financial status of the Plan can be measured by three different funding ratios:

- The Accrued Benefit Funding Ratio is a measure of current funding status and, when viewed over a period of years, presents a view of the funding progress. It is based upon benefits that have been earned by service to the valuation date. This year's ratio is 110.59 percent. The corresponding ratio for the prior year was 111.49 percent.
- The Accrued Liability Funding Ratio is also a measure of funding status and funding progress. It is based on the actuarial cost method that has historically been used by the state. For 2002, the ratio is 105.31 percent, which is a decrease from the 2001 value of 105.85 percent.
- The Projected Benefit Funding Ratio is a measure of the adequacy or deficiency in the contribution level. This year's ratio of 107.29 percent verifies that the current statutory contributions are sufficient.


## Asset Information (Tables 1 and 2)

Effective with the July 1, 2000, valuation of the fund, Minnesota Statutes requires that the asset value used for actuarial purposes spread differences between actual return (measured on a market-value basis) and expected return on non-Minnesota Post Retirement Investment Fund (MPRIF) assets over five years, in a manner similar to that already being used within the MPRIF. The previous method required under Minnesota Statutes recognized one-third of the unrealized gains and losses. An Asset Valuation Method requirement exists because market values (which include all unrealized gains and losses) are typically volatile and can produce erratic changes in the contribution requirements from year to year. The intent of the change to the current method is
to employ a more effective asset-smoothing technique that is market-value based and which eliminates artificial bias related to manager style. The effective date of this requirement is July 1, 2000, with full transition to be accomplished as of July 1, 2003.

The calculation of the Actuarial Value of Assets is shown in Table 1 on lines E. 1 to E.4. Actuarial Value of Assets is determined as:

- Market Value of Assets at June 30, 2002, less
- 80 percent of the current year Unrecognized Asset Return at July 1, 2002 (the difference between actual net return on Market Value of Assets between June 30, 2001 and June 30, 2002, and the asset return expected during that period based on the assumed interest rate employed in the July 1, 2001 Actuarial Valuation); less
- 60 percent of the current year Unrecognized Asset Return at July 1, 2001 (the difference between actual net return on Market Value of Assets between June 30, 2000 and June 30, 2001, and the asset return expected during that period based on the assumed interest rate employed in July 1, 2000 Actuarial Valuation); less
- 40 percent of the current year Unrecognized Asset Return at July 1, 2000 (the difference between actual net return on Market Value of Assets between June 30, 1999 and June 30, 2000, and the asset return expected during that period based on the assumed interest rate employed in the July 1, 1999 Actuarial Valuation); less
- 10 percent of the Unrecognized Asset Return at July 1, 1999 (the difference between Market Value of Assets on June 30, 1999, and the Actuarial Value of Assets used in the July 1, 1999 Actuarial Valuation).

Since its adoption on July 1, 2000, the Asset Valuation Method has functioned effectively to smooth the significant variability in market value returns. It is prudent to note, however, that the deferral of recognition of the large market losses of the last two fiscal years means there has accumulated a significant negative return amount that will be recognized over the next few
years. This means that in order for asset returns on a "Current Assets" basis to be at or near the assumed 8.5 percent market value returns will need to be substantially above 8.5 percent; conversely, if market value returns are at or near the assumed 8.5 percent, returns measured on a "Current Assets" basis will be substantially lower, resulting in actuarial losses.

The term "Actuarial Value of Assets" is used to indicate that the value was determined for use in this actuarial valuation. Since Minnesota Statutes refer to this value as "Current Assets," the latter phrase will be used in the remainder of this report.

This Plan participates in the Minnesota Post Retirement Investment Fund (MPRIF). After the MPRIF liability has been calculated for each participating Plan, the State Board of Investment (SBI) will determine each Plan's portion of the excess earnings for the January benefit increase, as well as the Plan's allocated market share of MPRIF.

## Actuarial Balance Sheet (Table 3)

An actuarial balance sheet provides a method for evaluating current and future levels of funding.

The Current Benefit Obligation used to measure current funding levels is calculated as follows:

- For Active Members - Salary and service are projected to retirement to determine benefits for each member and the ratio of credited service to total service establishes the portion of the projected benefit to be used in calculating the current funding level.
- For Non-Active Members - The discounted value of benefits, including augmentation in cases where benefits have not commenced.


## GASB Disclosure

Disclosure of the Current Benefit Obligation amounts used to be required by Statement No. 5 of the Governmental Accounting Standards Board (GASB). However, Statement No. 5 has been superseded by Statement No. 25. Page 27 in the Financial section of this report is included to fulfill the requirements of

## Actuarial Cost Method (Table 4)

The approach used by the state of Minnesota to determine contribution sufficiency is the Entry Age Normal Actuarial Cost Method. The primary characteristic of this method is that it allocates costs as a level percentage of payroll.

A comparison of this actuarial method (Table 4) to the actuarial balance sheet (Table 3) illustrates the two techniques for allocating liabilities of active Members to past and future. As noted in the prior section, the balance sheet allocates benefits and corresponding liabilities on the basis of service. The method used in Table 4 allocates liabilities so that the cost each year will be a constant percentage of payroll. Both approaches, however, calculate the value of all future benefits the same way (see line F of Table 3 and line A6, column 1, of Table 4).

An Unfunded Actuarial Accrued Liability is computed under the Entry Age Normal Actuarial Cost Method by comparing the liabilities allocated to past service (Actuarial Accrued Liability) to the Current Assets. This amount, line B3, is funded over the remaining years to the amortization date by a series of payments that remain a constant percentage of payroll each year.

## Source of Actuarial Gains and Losses (Table 5)

The assumptions used in making the calculations using the Entry Age Normal Actuarial Cost Method are based on long-term expectations. Each year the actual experience will deviate from the long-term expectations. For a detailed analysis of the major components, refer to Table 5.

## Contribution Sufficiency (Table 6)

This report determines the adequacy of Statutory Contributions by comparing the Statutory Contributions to the Required Contributions.

The Required Contributions, set forth in Chapter 356, consist of:

- Normal costs based on the Entry Age Normal Actuarial Cost Method.
- A Supplemental Contribution for amortizing any Unfunded Actuarial Accrued Liability.
- An Allowance for Expenses.

Table 6 shows the Plan has a contribution sufficiency, since the Statutory Contribution Rate is 10.00 percent compared to the Required Contribution Rate of 7.57 percent.

## Changes in Actuarial Assumptions

This report reflects the new assumptions, which became effective July 1, 2002. These revised assumptions were developed from the recently completed experience study and have been approved by the Commission on February 22, 2002. Effective with this July 1, 2002, valuation, the assumptions listed in the table on page 54 were changed.

All other actuarial assumptions are the same as those used in the prior valuation.

## Changes in Plan Provisions

Effective with this July 1, 2002, valuation, the following plan provision has been added or amended:

- Effective July 1, 2002, 655 charter school teachers who were previously covered under a First Class City Teacher Retirement Fund are now covered by this Fund. These members entered this Fund on July 1, 2002, with no prior service. Future benefits payable under this Fund are based solely on credited service earned on and after July 1, 2002.
- All other plan provisions are the same as those used in the prior actuarial valuation of the Fund. A summary of current plan benefits is provided on pages 64-67.


## Teachers Retirement Association Fund Summary of Assumption Changes

(Adopted February 22, 2002, effective for July 1, 2002 Valuation)

| Assumption | Previous | Current |
| :---: | :---: | :---: |
| Salary Increases | Merit table that ranges from $8.0 \%$ at age 20 down to $5.0 \%$ at age 70 . | Ten year select and ultimate table. During the select period, $0.3 \% \mathrm{x}$ ( $10-\mathrm{T}$ ) where T is completed years of services is added to the ultimate rate. Ultimate table ranges from $6.0 \%$ to ages 20 to 38 down to $5.0 \%$ to ages 47 to 57 . |
| Male Pre-Retirement Mortality | 1983 GAM (Male - 10) | 1983 GAM (Male - 12) |
| Female Pre-Retirement Mortality | 1983 GAM (Female - 8) | 1983 GAM (Female - 10) |
| Male Post-Retirement Mortality | 1983 GAM (Male - 5) | 1983 GAM (Male - 6) |
| Female Post-Retirement Mortality | 1983 GAM (Female - 4) | 1983 GAM (Female - 3) |
| Retirement Age | Graded rates beginning at age 55. A different set of rates applies if the member is eligible for the Rule of 90 . | Graded rates beginning at age 55 . A different set of rates applies if the member is eligible for the Rule of 90 . |
| Separation Decrement | Select and ultimate table. Rates during the select period are based on gender. | Select and ultimate table. Rates during the select period are based on gender. Ultimate rates are gender-based and generally higher than prior rates. |
| Disability Decrement | Rates which are both age-related and gender-related. | Rates are both age-related and gender-related. Revised rates are higher than prior rates, especially for females. |
| Form of Annuity Selected - Male | $15 \%$ elect $50 \%$ J\&S option $15 \%$ elect $75 \%$ J\&S option $50 \%$ elect $100 \%$ J\&S option | $15 \%$ elect $50 \%$ J\&S option $25 \%$ elect $75 \%$ J\&S option $55 \%$ elect $100 \%$ J\&S option |
| Form of Annuity Selected Female | $20 \%$ elect $50 \%$ J\&S option <br> $10 \%$ elect $75 \%$ J\&S option <br> $30 \%$ elect $100 \%$ J\&S option | $20 \%$ elect $50 \%$ J\&S option $10 \%$ elect $75 \%$ J\&S option $30 \%$ elect $100 \%$ J\&S option |
| Combined Service Annuity Load Factor | $1.0 \%$ load on liabilities for active and deferred vested participants. | $1.4 \%$ load on liabilities for active members and $4 \%$ load on liabilities for former members. |

## Schedule of Plan Net Assets

July 1, 2002

Dollar Amounts in Thousands

|  | Fair Value |  | Cost Value |
| :---: | :---: | :---: | :---: |
| A. Assets in Trust |  |  |  |
| 1. Cash, Equivalents, Short-term Securities ................................\$ | 21,280 | \$ | 21,280 |
| 2. Fixed Income .................................................................... | 1,507,110 |  | 1,559,990 |
| 3. Equity | 4,490,447 |  | 5,413,254 |
| 4. Real Estate | 227,316 |  | 207,667 |
| 5. Equity in MPRIF | 9,555,364 |  | 9,555,364 |
| 6. Invested Securities Lending Collateral.................................. | 1,190,460 |  | 1,190,460 |
| 7. Other | 12,915 |  | 12,915 |
| Subtotal ........................................................................\$ | 17,004,892 | \$ | 17,960,930 |
| B. Assets Receivable ................................................................. | 56,537 |  | 56,537 |
| C. Liabilities |  |  |  |
| 1. Invested Securities Lending Collateral. | $(1,190,460)$ |  | $(1,190,460)$ |
| 2. Other | $(17,925)$ |  | $(17,925)$ |
| Subtotal | $(1,208,385)$ |  | $(1,208,385)$ |
| D. Net Assets Held in Trust for Pension Benefits |  |  |  |
| 1. MPRIF Reserves ............................................................... | 9,555,364 |  | 9,555,364 |
| 2. Member Reserves ............................................................. | 1,483,243 |  | 1,483,243 |
| 3. Other Non-MPRIF Reserves | 4,814,437 |  | 5,770,475 |
| 4. Total Assets Available for Benefits ...................................... $\$$ | 15,853,044 | \$ | 16,809,082 |

## E. Determination of Actuarial Value of Assets

1. Fair Value of Assets Available for Benefits (D4)
\$ 15,853,044
2. Unrecognized Asset Returns (UAR)
a. June 30, 2002 (Table 2, Line F4)
\$ $(1,150,511)$
b. June 30, 2001 $(1,241,462)$
c. June 30, 2000

157,486
d. June 30, 1999 763,418
3. UAR Adjustment: $.80 \times 2(a)+.60 \times 2(b)+.40 \times 2(c)+.1 \times 2(d)$.
$(1,525,950)$
4. Actuarial Value of Assets (E1-E3)
\$ 17,378,994
(Same as "Current Assets")

## Schedule of Changes in Plan Net Assets

Year Ending June 30, 2002
(Dollar Amounts in Thousands)
A. Assets Available at Beginning of Period
B. Additions

1. Member Contributions
2. Employer Contributions
3. Contributions From Other Sources
4. MPRIF Income
5. Net Investment Income
a. Interest and Dividends
b. Net Appreciation (Depreciation)
c. Investment Expenses
d. Net Subtotal
6. Other
7. Total Additions
C. Operating Expenses
8. Service Requirement
9. Disability Benefits
10. Survivor Benefits
11. Refunds
12. Administrative Expenses
13. Other
14. Total Disbursements
$\begin{array}{r}(503,741) \\ 9,945 \\ 34,177 \\ \hline(459,619)\end{array}$
\$ 6,297,680
E. Assets Available at End of Period
F. Determination of Current Year Unrecognized Asset Return
15. Average Balance
a. Non-MPRIF Assets Available at Beginning of Period
b. Non-MPRIF Assets Available at End of Period*
c. Average Balance $\{[\mathrm{F} 1 . \mathrm{a}+\mathrm{F} 1 . \mathrm{b}-\mathrm{B} 5 . \mathrm{e}-\mathrm{B} 6] / 2\}$
16. Expected Return: . $085 \times$ F1.c
17. Actual Return
18. Current Year Unrecognized Asset Return: F3-F2


## MPRIF

Reserves
\$ 9,106,198
\$ 152,331
142,222
1,122
0

|  | 53,192 |
| ---: | ---: |
|  | $(607,922)$ |
|  | $(9,559)$ |
|  | $(564,289)$ |
|  | 3,366 |
| $\$$ | $(265,248)$ |

$\begin{array}{r}\$ \quad 918,834 \\ 0 \\ 12,967 \\ \\ 0 \\ \\ \hline 0 \\ \hline \$ \quad 931,801 \\ \hline\end{array}$

Fair
Value
\$ 16,164,371
\$ 152,331
142,222
1,122
921,348

53,192
$(607,922)$
$(9,559)$
$(564,289)$
3,366
$\$ \quad 656,100$

| $\$$ | 920,770 |
| ---: | ---: |
|  | 11,478 |
|  | 14,096 |
| 7,353 |  |
|  | 12,912 |
|  | 818 |
| $\$ \quad 967,427$ |  |


\$ 9,555,364
\$ 15,853,044

[^1]
## Actuarial Balance Sheet

Table 3
July 1, 2002
(Dollar Amounts in Thousands)
A. Current Assets (Table 1, E4) ..... \$17,378,994
B. Expected Future Assets

1. Present Value of Expected FutureStatutory Supplemental Contributions (See Table 6)
$\qquad$496,953
2. Present Value of Future Normal Costs ..... 2,328,614
3. Total Expected Future Assets ..... 2,825,567
C. Total Current and Expected Future Assets ..... \$20,204,561
D. Current Benefit Obligations
Non-Vested1. Benefit Recipients
a. Retirement Annuities

$\qquad$
b. Disability Benefits

$\qquad$
c. Surviving Spouse and Child Benefits

$\qquad$
2. Deferred Retirements with Future Augmentation .

$\qquad$ ..... 64,770 ..... 341,597
3. Former Members without Vested RightsVested
Total4. Active Members
a. Retirement Annuities ..... \$ ..... 22,215 \$ 5,052,406 \$ 5,074,621
b. Disability Benefits

$\qquad$

| 90,436 | 0 | 90,436 |
| :--- | :--- | :--- |

c. Survivor Benefits ..... 34,620 ..... 34,620
d. Deferred Retirements ..... 5,643
272,761 ..... 278,404
e. Refund Liability Due to Death
Total Current Benefit Obligations

$\qquad$
\$ 152,914 \$ 15,562,330 ..... \$ 15,715,244
E. Expected Future Benefit Obligations
$\qquad$
$\$ 3,116,469$
\$ 18,831,713

# Determination of Unfunded Actuarial Accrued Liability (UAAL) and Supplemental Contribution Rate 

Table 4

July 1, 2002
(Dollar Amounts in Thousands)

| Actuarial |
| :---: |
| Present Value |
| of Projected |
| Benefits |

(1)

| Actuarial <br> Present Value <br> of Future <br> Normal Costs |  | Actuarial <br> Accrued <br> Liability |
| :---: | :---: | :---: |
| $(2)$ |  | $(3)=(1)-(2)$ |

A. Determination of Actuarial Accrued Liability (AAL)

1. Active Members
a. Retirement Annuities
\$ 7,825,752
\$1,828,348
\$ 5,997,404
b. Disability Benefits $\qquad$ 153,416
c. Survivor Benefits $\qquad$ 59,279
59,714
24,114
93,702
251,440
35,165
d. Deferred Retirements
501,359
164,998
249,919
e. Refunds Due to Death or Withdrawal .
176,415
11,417
f. Total
\$ 8,716,221
\$2,328,614
\$ 6,387,607
2. Deferred Retirements
with Future Augmentation
341,597
3. Former Members Without Vested Rights ..
64,770
4. Annuitants in the MPRIF $\qquad$ 9,555,364
5. Recipients Not in the MPRIF .....................
$\begin{array}{r}153,761 \\ \hline\end{array}$
\$2,328,614
$\$ 18,831,713$

9,555,364
341,597
64,770
B. Determination of Unfunded Actuarial Accrued Liability (UAAL)

1. AAL (A6) .................................................
\$ 16,503,099
2. Current Assets (Table 1, E4)

17,378,994
3. UAAL (B1 - B2) .......................................
$\$(875,895)$
C. Determination of Supplemental Contribution Rate

1. Present Value of Future Payrolls Through the Amortization Date of July 1, 2032 .......
2. Supplemental Contribution Rate $(\mathrm{B} 3 \div \mathrm{C} 1)$
Changes in Unfunded Actuarial Accrued Liability (UAAL)
Year Ending June 30, 2002
(Dollar Amounts in Thousands)
A. UAAL at Beginning of Year ..... \$ $(930,040)$
B. Change Due to Interest Requirements and Current Rate of Funding
3. Normal Cost and Expenses ..... \$ 280,681
4. Contribution ..... $(294,553)$
5. Interest on A, B1 and B2 ..... $(79,643)$
6. Total (B1 + B2 + B3) ..... $(93,515)$
C. Expected UAAL at End of Year (A + B4) ..... \$ $(1,023,555)$
D. Increase (Decrease) Due to Actuarial Losses (Gains) Because of Experience Deviations from Expected
7. Salary Increases ..... \$ $(119,422)$
8. Investment Return ..... 351,134
9. MPRIF Mortality ..... $(9,945)$
10. Mortality of Other Benefit Recipients ..... (420)
11. Other Items ..... 11,405
12. Total ..... \$ $(232,752)$
E. UAAL at End of Year Before Plan Amendments and Changes in Actuarial Assumption (C + D6) ..... \$ $(790,803)$
F. Change in Unfunded Actuarial Accrued Liability Due to Change in Actuarial Methods ..... 0
G. Change in Unfunded Actuarial Accrued Liability Due to Changes in Actuarial Assumptions ..... $(85,092)$
H. UAAL at End of Year ( $\mathbf{E}+\mathbf{F}+\mathbf{G}$ ) ..... $\$(875,895)$

# Determination of Contribution Sufficiency 

Table 6
July 1, 2002

Dollar Amounts in Thousands
Percent of
Payroll
A. Statutory Contributions - Chapter 354

1. Employee Contributions ................................................................. $5.00 \%$
\$152,031
2. Employer Contributions ................................................................ $5.00 \%$

152,031
3. Total ...................................................................................................... $\underline{\underline{10.00 \%}}$
$\underline{\underline{\$ 304,062}}$
B. Required Contributions - Chapter 356

1. Normal Cost

2. Supplemental Contribution Amortization by July 1, 2032 of UAAL $-1.55 \%$
$(47,127)$
3. Allowance for Expenses
0.44\%

13,378
4. Total............................................................................................. $7.57 \%$
C. Contribution Sufficiency (Deficiency) [A3 - B4]
2.43\%
\$ 73,602

Note: Projected Annual Payroll for Fiscal Year Beginning on July 1, 2002 is $\$ 3,040,422$.

## Solvency Test

## Dollar Amounts in Thousands

## Aggregate Accrued Liabilities

(3)

| Valuation <br> as of <br> June 30 | (1) <br> Member <br> Contributions | (2) <br> Retirees <br> and <br> Beneficiaries | Members <br> (Employer <br> Financed <br> Portion) | Valuation <br> Assets | (1) | (2) | (3) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1993 | 921,143 | $3,120,037$ | $4,224,879$ | $7,045,937$ | $100 \%$ | $100 \%$ | $71.1 \%$ |
| 1994 | 970,813 | $3,559,614$ | $4,584,839$ | $7,611,935$ | $100 \%$ | $100 \%$ | $67.2 \%$ |
| 1995 | $1,070,347$ | $3,866,694$ | $4,780,582$ | $8,348,124$ | $100 \%$ | $100 \%$ | $71.4 \%$ |
| 1996 | $1,164,651$ | $4,319,329$ | $4,882,188$ | $9,541,221$ | $100 \%$ | $100 \%$ | $83.1 \%$ |
| 1997 | $1,252,843$ | $4,808,918$ | $4,901,876$ | $11,103,759$ | $100 \%$ | $100 \%$ | $100.0 \%$ |
| 1998 | $1,303,006$ | $5,570,230$ | $5,173,076$ | $12,727,546$ | $100 \%$ | $100 \%$ | $100.0 \%$ |
| 1999 | $1,321,579$ | $6,751,682$ | $5,186,308$ | $14,011,247$ | $100 \%$ | $100 \%$ | $100.0 \%$ |
| 2000 | $1,354,683$ | $8,055,622$ | $5,392,136$ | $15,573,151$ | $100 \%$ | $100 \%$ | $100.0 \%$ |
| 2001 | $1,403,755$ | $9,106,198$ | $5,394,031$ | $16,834,024$ | $100 \%$ | $100 \%$ | $100.0 \%$ |
| 2002 | $1,483,243$ | $9,555,364$ | $5,464,492$ | $17,378,994$ | $100 \%$ | $100 \%$ | $100.0 \%$ |

## Schedule of Active Member Valuation Data

Dollar Amounts in Thousands

| Year <br> Ended <br> June 30 | Active <br> Members | Annual <br> Covered Payroll | Annual <br> Average | \% Increase in <br> Average Payroll |
| :---: | :---: | :---: | :---: | :---: |
| 1993 | 65,268 | $2,024,000$ | 31,017 | $5.0 \%$ |
| 1994 | 66,514 | $2,104,578$ | 31,641 | $2.1 \%$ |
| 1995 | 67,558 | $2,197,262$ | 32,524 | $2.8 \%$ |
| 1996 | 68,490 | $2,252,383$ | 32,888 | $1.1 \%$ |
| 1997 | 68,554 | $2,359,011$ | 34,411 | $4.6 \%$ |
| 1998 | 68,247 | $2,422,958$ | 35,503 | $3.2 \%$ |
| 1999 | 68,613 | $2,625,254$ | 38,262 | $7.7 \%$ |
| 2000 | 70,508 | $2,704,575$ | 39,249 | $2.6 \%$ |
| 2001 | 71,097 | $2,812,000$ | 39,552 | $0.8 \%$ |
| 2002 | 71,690 | $2,873,771$ | 40,086 | $1.4 \%$ |
|  |  |  |  |  |

## Schedule of Retirees and Beneficiaries

| Year <br> Ended <br> June 30 | Added <br> During <br> Year | Removed <br> During <br> Year | Number <br> End of <br> Year | Total <br> Annual <br> Benefits | \% Increase <br> in Total <br> Annual <br> Benefits | Average <br> Annual <br> Benefits |
| :---: | :---: | :---: | :---: | :---: | :---: | ---: |
| 1993 | 2,166 | 568 | 20,810 | $256,630,249$ | $13.0 \%$ | 12,332 |
| 1994 | 1,886 | 559 | 22,137 | $309,036,770$ | $20.2 \%$ | 13,960 |
| 1995 | 1,632 | 601 | 23,168 | $338,857,152$ | $9.6 \%$ | 14,626 |
| 1996 | 1,806 | 667 | 24,307 | $378,072,148$ | $11.6 \%$ | 15,554 |
| 1997 | 2,063 | 689 | 25,681 | $427,588,141$ | $13.1 \%$ | 16,650 |
| 1998 | 2,246 | 699 | 27,228 | $533,851,113$ | $24.9 \%$ | 19,607 |
| 1999 | 3,234 | 713 | 29,749 | $620,937,964$ | $16.3 \%$ | 20,872 |
| 2000 | 2,983 | 786 | 31,946 | $755,036,577$ | $21.6 \%$ | 23,634 |
| 2001 | 2,636 | 825 | 33,757 | $861,787,476$ | $14.1 \%$ | 25,529 |
| 2002 | 2,081 | 864 | 34,974 | $946,344,333$ | $9.8 \%$ | 27,059 |

Teachers Retirement Association of Minnesota


Statistical

Statistical

Statistical

Statistical

Statistical

Statistical

# Plan Summary 

June 30, 2002

## Purpose

The Minnesota Teachers Retirement Association (TRA) was established on July 1, 1931, by the state legislature. Its purpose is to improve educational service and better compensate teachers in order to make the occupation of teaching in Minnesota more attractive to qualified persons by providing a retirement benefit schedule that rewards faithful and continued service.

## Administration

TRA is managed by eight trustees - three are statutorily appointed and five are elected. The statutory trustees are the Commissioner of Children, Families and Learning, the Commissioner of Finance and a representative of the Minnesota School Boards Association. Four of the five elected trustees are active members and one is a retiree. Administrative management of the fund is vested in an Executive Director who is appointed by the Board of Trustees. The Board also contracts with an actuary and uses legal counsel provided by the office of the Attorney General.

## Membership

All teachers employed in public elementary and secondary schools, joint powers, charter schools and all other educational institutions maintained by the State of Minnesota (except those teachers employed by the cities of Minneapolis, St. Paul and Duluth, or by the University of Minnesota) are required to be members of TRA. Teachers employed by Minnesota State Colleges and Universities (MnSCU) have a one-time election to join TRA. No Minnesota state college or university teacher is a member except for purposes of Social Security coverage if that teacher has coverage by the Defined Contribution Retirement Plan administered by the MnSCU Board.

## Retirement Service Credit

Service credit for benefits is earned from teaching service performed on a full-time, part-time or substitute basis up to a maximum of 170 full days per fiscal year (July 1 - June 30). Service credit may also be obtained by using paid accumulated sick leave or by purchasing service for a qualified leave of absence. If a teacher
teaches less than 170 full days, fractional service credit is given as the ratio of the number of full days taught to 170. If a teacher teaches only a fractional part of a day, service credit is given for a full day of teaching service for each five hours taught. Even though a teacher may teach more than five hours per day, not more than one day of service credit can be earned on any day. No more than one year of service credit may be earned during any fiscal year.

## Financing

Benefits are financed by employee contributions, employer contributions, investment earnings and turnover gains. Turnover gains are employer contributions released to the fund when members take refunds of their own contributions.

## Employee Contributions

TRA members pay a percentage of their gross annual salary as determined by their membership plan. Basic Plan members (without Social Security coverage) contribute 9 percent of their annual salary while Coordinated Plan members (coordinated with Social Security coverage) contribute 5 percent of their annual salary.

## Employer Contributions

Local school districts and other TRA-covered employer units provide contributions of 9 percent of total salary for members in the Basic Plan and 5 percent of total salary for members in the Coordinated Plan. For Coordinated Plan members the employer unit also makes the required matching contribution to the Social Security Administration.

## Purchase of Prior Service Credit

Vested members may elect to purchase eligible credit for prior military service, maternity leaves or maternity breaks in service, out-of-state teaching service, Peace Corps or VISTA service, or private/parochial school service.

All or a portion of their eligible prior service may be purchased. The cost of the service is based on an actuarial methodology recognizing both an increased future monthly benefit and the expectation that the
member will retire earlier than had been previously assumed. The present actuarial cost formula to purchase service credit is set to expire on May 16, 2003.

## Retirement Benefit

The retirement benefit is determined by a formula based on the average of the member's highest five successive annual salaries, an accumulated percentage factor based on the total years of service credit, and the member's age at retirement. The retirement benefits for members who were first hired before July 1, 1989, are different from the retirement benefits for members who were first hired after June 30, 1989.

## Before July 1, 1989

For members first hired before July 1, 1989, the retirement benefits (with average salary defined as the average of the highest five successive annual salaries) are the greater of:
> 1.2 percent of average salary for the first 10 years of allowable service and 1.7 percent of average salary for each subsequent year of allowable service with a reduction of 0.25 percent for each month the member is under age 65 at the time of retirement (or under age 62 with 30 or more years of allowable service) and no reduction if age plus years of allowable service totals 90 or more.

## OR

1.7 percent of average salary for each year of allowable service with augmented actuarial reduction (approximately 4.0 percent -5.5 percent per year) for each month the member is under age 65 .

Early retirement benefit eligibility is age 55 with 3 or more years of allowable service or any age with at least 30 years of allowable service when using the smaller step percentage factor.

For Basic system members (those without Social Security coverage) the formula percentages are 2.2 percent and 2.7 percent rather than the 1.2 percent and 1.7 percent shown for Coordinated system members (those with Social Security coverage).

## After June 30, 1989

For members first hired after June 30, 1989, the retirement benefits (with average salary defined as the average of the highest five successive annual salaries) are as follows:

## 1.7 percent of average salary for each year

 of allowable service with augmented actuarial reduction (approximately 4.0 percent -5.5 percent per year) for each month the member is under the full Social Security retirement benefit eligible age but not to exceed age 66. Under current federal law, the retirement age for full Social Security retirement benefits is age 65 for persons born in 1937 or earlier. For persons born in 1938 to 1942, Social Security gradually increases the retirement age for full Social Security benefits until it reaches age 66 for those persons born in 1943 to 1954.Early retirement benefit eligibility is age 55 with 3 or more years of allowable service.

## Deferred Retirement

Members with three or more years of allowable service (ten or more years of allowable service if termination of teaching service occurs before July 1, 1987, and five or more years of allowable service if termination of teaching service occurs after June 30, 1987, but before May 16, 1989) who terminate teaching service in schools covered by the association may have their retirement benefit deferred until they attain age 55 or older.

Their benefit is augmented by 3 percent interest compounded annually until January 1 of the year following attainment of age 55 and 5 percent thereafter until the retirement benefit begins.

## July 1, 1997 Increase

Effective July 1, 1997, all benefit recipients received an actuarially equivalent permanent increase based on a change in the post-retirement interest assumption from 5 percent to 6 percent. This increase recognizes that future post-retirement annual adjustments will be 1 percent less. Members who terminate service after June 30, 1997, and whose benefits commenced during the period July 2, 1997, through July 1, 2002, receive a percentage of the July 1, 1997, permanent increase as follows:

| July 2, 1997 - July 1, 1998 | $50 \%$ |
| :--- | :--- | :--- |
| July 2, 1998 - July 1, 1999 | $40 \%$ |
| July 2, 1999 - July 1, 2000 | $30 \%$ |
| July 2, 2000 - July 1, 2001 | $20 \%$ |
| July 2, 2001 - July 1, 2002 | $10 \%$ |

## Annuity Plan Options

Six different annuity plan options are available to TRA members providing monthly benefit payments for as long as the annuitant lives. Plan A-1 provides the highest possible monthly benefit, but terminates upon the member's death. A member may choose to provide survivor benefits to a designated beneficiary(ies) by selecting one of the five plans which have survivorship features.

1. Life Plan A-1, For Life of Member
2. Life Plan B-1, Guaranteed Refund
3. Life Plan C-3, 15-Year Term Certain and Life Thereafter
4. Life Plan E-1, 100\% Survivorship with Bounceback
5. Life Plan E-2, 50\% Survivorship with Bounceback
6. Life Plan E-3, 75\% Survivorship with Bounceback

## Post Fund Increases

The required reserves needed to pay retirement benefits are transferred from TRA's regular assets to the Minnesota Post Retirement Investment Fund (Post Fund) at the time of retirement. Each year, the Post Fund may provide a benefit adjustment that is based on two components: 1) the increases in the cost of living as reflected by the Consumer Price Index (CPI-W), and 2) the investment performance of the high-quality bonds and stocks in the Post Fund portfolio.

The cost-of-living component is paid up to a maximum of 2.5 percent based on the CPI-W increase determined at the end of each fiscal year for the preceding 12-month period. The cost-of-living component is paid each year regardless of the amount of investment return.

The potential for a greater increase is provided by the investment component that is based on investment returns in excess of the amount needed to pay the cost-of-living component and to cover the 6 percent earnings assumption that determined the original benefit at retirement.

There is a guarantee that benefits will never be decreased below the original amount established at retirement as adjusted by the annual increases.

## Combined Service Annuity

Any vested member having combined service credit with any two or more Minnesota public retirement funds that participate in the combined service annuity program, may elect to receive a combined service annuity upon compliance with eligibility requirements for retirement.

## Refunds

Upon termination of teaching service and application, TRA will issue a refund of a member's accumulated contributions plus 5 percent interest compounded annually if termination occurred before May 16, 1989, and 6 percent interest compounded annually if termination occurred on or after May 16, 1989. A refund will be issued only if the member has officially resigned from employment and the official refund application form is submitted no sooner than 30 days after termination of teaching service.

## Repayment of Refunds

Members who return to teaching service after previously withdrawing their contributions may repay these contributions upon completing two years of allowable service. The repayment must include interest of 8.5 percent, compounded annually from the date of the refund. The minimum portion of a refund repayment is $1 / 3$ of the total service credit period for all refunds previously taken.

## Disability Benefits

An active member who becomes disabled after at least three years of allowable service is eligible to apply for a total and permanent disability benefit provided at least two of the required three years of allowable service are performed after last becoming a member. State statute defines total and permanent disability as the inability to engage in any substantial gainful activity by reason of any medically determinable physical or mental impairment which can be expected to be of long continued and indefinite duration. An indefinite duration is a period of at least one year.

## Survivor Benefits

If a Coordinated member dies before retirement, the total amount of accumulated contributions plus 6 percent interest compounded annually is paid to the surviving spouse or, if there is none, to the designated beneficiary. Any survivor benefits payable from Social Security are in addition to the TRA survivor benefit. In some cases, a joint and survivor annuity (described in the next section) may be selected instead of this benefit.

If a Basic member dies before retirement, survivor benefits are payable to a dependent spouse and/or dependent children. The minimum benefit is equal to 50 percent of the Basic member's monthly average salary paid in the last full fiscal year preceding death, subject to a family maximum of $\$ 1,000$ per month. In some cases, a joint and survivor annuity (described in the next section) may be selected instead of this benefit.

If the member is not married and there are no dependent children, then the total amount of accumulated contributions plus 6 percent interest compounded annually is paid to the designated beneficiary.

## Joint and Survivor Annuity

The surviving spouse of a married member with at least three years of allowable service credit may elect to receive the joint and survivor annuity benefit instead of the lump sum benefit. The annuity is payable monthly to the spouse or to a designated beneficiary for as long as the spouse or beneficiary lives; however, payments terminate upon the death of the spouse or beneficiary with no remaining benefits for other beneficiaries. In lieu of a lifetime benefit, only a spouse may elect to receive actuarially equivalent payments for a period certain of $5,10,15$ or 20 years.

The amount of the annuity is based upon the High-Five Formula and the ages of the member and the spouse or designated beneficiary at the time of the member's death. The member's accumulated deductions and interest plus the employer's contributions are used to provide the benefit. The surviving spouse of an eligible member has a choice of the joint and survivor annuity benefit or the lump sum benefit. If there is no surviving spouse, actuarially equivalent payments may be made for a period certain for any surviving dependent child under the age of 20 .

## Ten-Year Summary of Revenue

By Source

| Year <br> Ended <br> June 30 | Member <br> Contributions | Employer <br> Contributions | Investment <br> Income | Other | Total |  |
| :---: | :---: | :---: | :---: | ---: | :---: | ---: |
| 1993 | $\$ 94,709,399$ | $\$ 168,070,511$ | $\$$ | $682,492,365$ | $\$ 2,347,431$ | $\$$ |
| 1994 | $100,803,239$ | $171,854,594$ | $703,964,661$ | $8,752,052$ | $985,374,5496$ |  |
| 1995 | $143,535,906$ | $179,671,657$ | $659,253,303$ | 553,171 | $983,014,037$ |  |
| 1996 | $148,051,326$ | $184,495,447$ | $1,213,973,588$ | 713,733 | $1,547,234,094$ |  |
| 1997 | $154,160,516$ | $191,670,080$ | $2,296,019,494$ | 704,736 | $2,642,554,826$ |  |
| 1998 | $124,095,573$ | $151,322,830$ | $2,637,948,298$ | $1,329,869$ | $2,914,696,570$ |  |
| 1999 | $132,040,005$ | $130,525,591$ | $1,775,404,067$ | $1,587,211$ | $2,039,556,874$ |  |
| 2000 | $138,696,271$ | $134,418,833$ | $1,555,989,313$ | $2,387,928$ | $1,831,492,345$ |  |
| 2001 | $145,075,284$ | $139,799,408$ | $(1,244,340,580)$ | $3,156,295$ | $(956,309,593)$ |  |
| 2002 | $152,331,067$ | $142,221,589$ | $(1,236,187,539)$ | $4,488,404$ | $(937,146,479)$ |  |

## Ten-Year Summary of Expenditures

By Type

|  | Retirement Benefits | Survivor Benefits | Disability Benefits | Refunds | Administrative Expenses | Other | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1993 | \$249,018,533 | \$ 3,719,037 | \$ 3,892,680 | \$ 4,749,970 | \$ 3,124,192 | 191,470 | \$264,695,882 |
| 1994 | 300,482,282 | 4, | 4,213,376 | 583,342 | 338,007 | 614,377 | ,496 |
| 1995 | 328,764,719 | 5,125,383 | 4,967,050 | 4,619,063 | 3,665,748 | 2,008,430 | 49,150,393 |
| 1996 | 366,352,840 | 6,080,640 | 5,638,668 | 5,039,811 | 3,835,501 | 620,477 | 387,567,937 |
| 1997 | 414,414,893 | 6,887,894 | 6,285,354 | 10,898,914 | 4,552,372 | 638,751 | 443,678,178 |
| 1998 | 517,008,277 | 9,027,669 | 7,815,166 | 5,689,067 | 5,417,370 | 1,226,839 | 546,184,388 |
| 1999 | 602,176,461 | 9,891,582 | 8,869,921 | 6,271,448 | 7,976,908 | 1,764,550 | 636,950,870 |
| 2000 | 734,173,055 | 11,025,836 | 9,837,686 | 7,262,919 | 8,137,683 | 3,903,332 | 774,340,511 |
| 2001 | 839,034,887 | 12,222,381 | 10,530,210 | 7,608,838 | 13,077,718 | 8,460,779 | 890,934,813 |
| 2002 | 919,648,266 | 14,096,110 | 11,477,973 | 7,353,363 | 12,911,651 | 1,939,945 | 967,427,30 |

## Summary of Changes in Membership

Fiscal Year Ending June 30, 2002

## Active and Inactive Members

Total July 1, 2001
Additions
New hires
New inactives from active
Returns from inactive
Returns from retired
Returns from terminated
Restored write-offs
Repaid refunds
Transfers from nonstatus
Charter school entrants from First Class City Fund

Deletions

| Service retirements | $(3)$ | $(1,402)$ | $(9)$ | $(687)$ |
| :--- | :---: | :---: | :---: | :---: |
| Deaths | - | $(41)$ | - | $(55)$ |
| Refunds | - | $(464)$ | $(1)$ | $(965)$ |
| Writeoffs | - | - | - | $(2,432)$ |
| Terminated (no refund) | - | $(5,448)$ | - | $(1)$ |
| Returns to active | - | - | - | $(1,489)$ |
| Transfers to IRAP | - | - | - | - |
| System change to: | - | $\underline{38}$ | $\underline{(2)}$ | $\underline{(20)}$ |
| Data adjustments | $\underline{\mathbf{7 1 , 6 8 5}}$ | $\underline{\underline{\mathbf{1 5}}}$ | $\underline{\underline{\mathbf{5 7 6 8 7}}}$ |  |


|  | Basic <br> System | Coordinated <br> System | Total |
| :--- | :---: | :---: | :---: |
| Active | 5 | 71,685 | 71,690 |
| Inactive | $\underline{15}$ | $\underline{27,687}$ | $\underline{27,702}$ |
| Total | $\underline{\mathbf{2 0}}$ | $\underline{\underline{99,372}}$ | $\underline{\underline{\mathbf{9 9 , 3 9 2}}}$ |

## Summary of Changes in Membership (continued)

Fiscal Year ending June 30, 2002

## Annuitants

|  | Basic |  |  | Coordinated |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Men | Women | Total | Men | Women | Total |
| Total annuitants June 30, 2001 | 1,877 | 2,529 | 4,406 | 12,775 | 13,979 | 26,754 |
| Members retired during year | 1 | 11 | 12 | 862 | 903 | 1,765 |
| Resumed benefits | 0 | 0 | 0 | 0 | 0 | 0 |
| Adjustments | 3 | 3 | 0 | 2 | 2 | 0 |
| Terminated by death | (51) | (154) | (205) | (195) | (319) | (514) |
| Terminated by law | 0 | 0 | 0 | 0 | 0 | 0 |
| Cancelled | 0 | 0 | 0 | (2) | 0 | (2) |
| Total annuitants June 30, 2002 | 1,824 | 2,389 | 4,213 | 13,438 | 14,565 | 28,003 |
| Annuitants not receiving warrants June 30, 2002 | 0 | 0 | 0 | (16) | (17) | (33) |
| Total active annuitants June 30, 2002 | 1,824 | 2,389 | 4,213 | 13,422 | 14,548 | 27,970 |

## Other Annuity Benefits Paid

Active annuitants June 30, 2001
Members retired during year
Resumed benefits
Terminated by death
Terminated by law
Total annuitants June 30, 2002

| Supplemental Retirement Annuities |  |  | Former <br> Variable <br> Annuities |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Men | Women | Total | Men | Women | Total |
| 61 | 43 | 104 | 498 | 302 | 800 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| (4) | (4) | (8) | (7) | (5) | (12) |
| 0 | (1) | (1) | (1) | (1) | (2) |
| 57 | 38 | 95 | 490 | 296 | 786 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 57 | 38 | 95 | 490 | 296 | 786 |

## Summary of Changes in Membership (continued)

Fiscal Year ending June 30, 2002

## Beneficiaries of Members Deceased Prior to Retirement

June 30, 2001
Granted during year
Adjustments
Deaths
Terminated by law
Total June 30, 2002
Survivors not receiving warrants June 30, 2002
Total Active Survivors June 30, 2002

|  |  | Survivor Benefits - <br> Soint \& Survivor <br> Annuities |  | Other <br> Annuities |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Men* | Women* | Total | Men | Women | Total |  |
| 395 | 187 | 582 | 5 | 63 | 68 |  |
| 17 | 29 | 46 | 0 | 0 | 0 |  |
| $(2)$ | $(2)$ | 0 | 0 | 0 | 0 |  |
| $(3)$ | $(3)$ | $(6)$ | 0 | 3 | 3 |  |
| $(6)$ | $(8)$ | $(14)$ | 0 | 0 | 0 |  |
| $\mathbf{4 0 1}$ | $\mathbf{2 0 7}$ | $\mathbf{6 0 8}$ | $\mathbf{5}$ | $\mathbf{6 0}$ | $\mathbf{6 5}$ |  |
| 0 | 1 |  |  | 0 | 0 |  |
| $\underline{\underline{\mathbf{4 0 1}}}$ | $\underline{\underline{\mathbf{2 0 6}}}$ | $\underline{\underline{\mathbf{6 0 7}}}$ | $\underline{\underline{\mathbf{5}}}$ | $\underline{\underline{\mathbf{6 0}}}$ | $\underline{\underline{\mathbf{6 5}}}$ |  |

## Disabilitants

June 30, 2001
Granted during year
Adjustments
Resumed benefits
Terminated by death
Transferred to retirement status
Resumed employment
Cancelled
Total June 30, 2002
Disabilitants not receiving warrants June 30, 2002
Total Active Disabilitants June 30, 2002

Men | Basic System |
| :---: |
| Women |

$\begin{array}{r}0 \\ \underline{0} \\ \hline\end{array}$ $\begin{array}{ll}\underline{0} & \underline{0} \\ \underline{\mathbf{0}} & \underline{\mathbf{0}}\end{array}$
(1)

200

Coordinated System
Men Women Total

| 0 | 1 | 1 | 198 | 323 | 521 |
| :--- | :---: | :---: | :---: | :---: | ---: |
| 0 | 0 | 0 | 28 | 63 | 91 |
| 0 | 0 | 0 | $(1)$ | $(1)$ | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | $(8)$ | $(19)$ | $(27)$ |
| 0 | $(1)$ | $(1)$ | $(15)$ | $(12)$ | $(27)$ |
| 0 | 0 | 0 | $(1)$ | $(3)$ | $(4)$ |
| 0 | 0 | 0 | 0 | 0 | 0 |
| $\mathbf{0}$ | $\mathbf{0}$ | $\mathbf{0}$ | $\mathbf{2 0 1}$ | $\mathbf{3 5 3}$ | $\mathbf{5 5 4}$ |

201353
554
(2)
(3)

551

Beneficiaries of Retired Members

June 30, 2001
Granted during year
Adjustments
Deaths
Terminated by law
Total June 30, 2002

| Basic System |  |  | Coordinated System |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Men* | Women* | Total | Men* | Women* | Total |
| 259 | 36 | 295 | 879 | 240 | 1,119 |
| 28 | 6 | 34 | 110 | 42 | 152 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| $(3)$ | $(0)$ | $(3)$ | $(18)$ | 0 | $(18)$ |
| $(4)$ | $\underline{(3)}$ | $\underline{(7)}$ | $\underline{(22)}$ | $\underline{(17)}$ | $\underline{(39)}$ |
| $\underline{\underline{\mathbf{2 8 0}}}$ | $\underline{\underline{\mathbf{3 9}}}$ | $\underline{\underline{\mathbf{3 1 9}}}$ | $\underline{\underline{\mathbf{9 4 9}}}$ | $\underline{\underline{\mathbf{2 6 5}}}$ | $\underline{\underline{\mathbf{1 , 2 1 4}}}$ |

[^2]
## Schedule of Benefits Amount Paid

For Month of June 2002

| Monthly <br> Benefit Amount | Number of Recipients | Cumulative Total | Percent | Cumulative Percent |
| :---: | :---: | :---: | :---: | :---: |
| Under \$100-499 | 4,131 | 4,131 | 11.85 | 11.85 |
| \$ 500-999 | 3,980 | 8,111 | 11.42 | 23.27 |
| \$ 1,000-1,499 | 3,888 | 11,999 | 11.15 | 34.42 |
| \$ 1,500-1,999 | 4,385 | 16,384 | 12.57 | 46.99 |
| \$ 2,000 - 2,499 | 4,650 | 21,034 | 13.34 | 60.33 |
| \$ 2,500-2,999 | 3,759 | 24,793 | 10.78 | 71.11 |
| \$ 3,000-3,499 | 3,088 | 27,881 | 8.86 | 79.97 |
| \$ 3,500-3,999 | 2,297 | 30,178 | 6.58 | 86.55 |
| \$ 4,000-4,499 | 1,595 | 31,773 | 4.57 | 91.12 |
| \$ 4,500-4,999 | 1,198 | 32,971 | 3.44 | 94.56 |
| \$ 5,000-5,499 | 693 | 33,664 | 1.99 | 96.55 |
| \$ 5,500-5,999 | 455 | 34,119 | 1.31 | 97.86 |
| \$ 6,000-6,499 | 299 | 34,418 | 0.86 | 98.72 |
| \$ 6,500-6,999 | 199 | 34,617 | 0.51 | 99.29 |
| \$ 7,000-7,499 | 92 | 34,709 | 0.26 | 99.55 |
| \$ 7,500-7,999 | 59 | 34,768 | 0.17 | 99.72 |
| \$ 8,000 - 8,499 | 38 | 34,806 | 0.11 | 99.83 |
| \$ 8,500 - 8,999 | 17 | 34,823 | 0.04 | 99.87 |
| \$ 9,000-9,499 | 18 | 34,841 | 0.05 | 99.92 |
| \$ 9,500-9,999 | 10 | 34,851 | 0.04 | 99.96 |
| \$10,000 and over | 15 | 34,866 | 0.04 | 100.00 |

## Schedule of Benefit Recipients by Current Age

For Month of June 2002


## Benefit Recipients by Effective Date of Retirement

For Month of June 2002


Effective Date of Retirement

## Schedule of New Retirees and Initial Benefit Paid

For the Seven Fiscal Years Ending June 30, 2002

|  | Years of Formula Service |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Fiscal Year | $<10$ | 10-15 | 16-20 | 21-25 | 26-30 | Over 30 | Total |
| 1996 |  |  |  |  |  |  |  |
| Avg. Monthly Benefit | \$197.20 | \$487.35 | \$1,031.26 | \$1,410.58 | \$1,808.75 | \$2,563.49 | \$1,809.16 |
| Number of Retirees | 141 | 102 | 106 | 194 | 272 | 692 | 1,507 |
| 1997 |  |  |  |  |  |  |  |
| Avg. Monthly Benefit | \$190.02 | \$620.88 | \$943.52 | \$1,403.79 | \$1,928.56 | \$2,633.81 | \$1,856.00 |
| Number of Retirees | 189 | 108 | 145 | 212 | 286 | 843 | 1,783 |
| 1998 |  |  |  |  |  |  |  |
| Avg. Monthly Benefit | \$220.86 | \$674.83 | \$1,058.85 | \$1,544.28 | \$2,216.02 | \$2,959.73 | \$2,128.26 |
| Number of Retirees | 191 | 131 | 144 | 232 | 306 | 983 | 1,987 |
| 1999 |  |  |  |  |  |  |  |
| Avg. Monthly Benefit | \$243.40 | \$696.37 | \$1,217.30 | \$1,664.26 | \$2,406.11 | \$3,204.73 | \$2,526.67 |
| Number of Retirees | 172 | 148 | 191 | 231 | 420 | 1,716 | 2,878 |
| 2000 |  |  |  |  |  |  |  |
| Avg. Monthly Benefit | \$233.43 | \$668.46 | \$1,164.27 | \$1,660.98 | \$2,343.63 | \$3,115.03 | \$2,229.47 |
| Number of Retirees | 244 | 234 | 190 | 269 | 432 | 1,308 | 2,677 |
| 2001 |  |  |  |  |  |  |  |
| Avg. Monthly Benefit | \$212.99 | \$739.68 | \$1,114.17 | \$1,743.43 | \$2,523.15 | \$3,262.12 | \$2,312.31 |
| Number of Retirees | 236 | 191 | 175 | 245 | 362 | 1,125 | 2,334 |
| 2002 |  |  |  |  |  |  |  |
| Avg. Monthly Benefit | \$242.38 | \$777.25 | \$1,246.91 | \$1,637.71 | \$2,297.50 | \$3,136.64 | \$2,089.22 |
| Number of Retirees | 249 | 172 | 138 | 203 | 201 | 813 | 1,776 |

## Distribution of TRA Benefits Mailing Address of Benefit Recipient

January 2002
Total Recipients: 32,617

—
Note: 38 recipients reside outside the United States

## Distribution of TRA Benefits <br> Mailing Address of Benefit Recipient



## Schedule of Benefit Recipients by Type

For Month of June 2002



## Distribution of Active Members

As of June 30, 2002

| Years of Service |  |  |  |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Age | $<\mathbf{1}$ | $\mathbf{1 - 4}$ | $\mathbf{5 - 9}$ | $\mathbf{1 0 - 1 4}$ | $\mathbf{1 5 - 1 9}$ | $\mathbf{2 0 - 2 4}$ | $\mathbf{2 5 - 2 9}$ | $\mathbf{3 0 +}$ | All |
| $<25$ | 1,208 | 933 | 1 | 0 | 0 | 0 | 0 | 0 | 2,142 |
| $25-29$ | 1,586 | 6,359 | 951 | 1 | 0 | 0 | 0 | 0 | 8,897 |
| $30-34$ | 778 | 3,283 | 4,672 | 631 | 0 | 0 | 0 | 0 | 9,364 |
| $35-39$ | 744 | 1,852 | 2,347 | 2,683 | 444 | 0 | 0 | 0 | 8,070 |
| $40-44$ | 980 | 1,692 | 1,594 | 1,782 | 2,134 | 443 | 0 | 0 | 8,625 |
| $45-49$ | 823 | 1,528 | 1,599 | 1,459 | 1,478 | 2,398 | 791 | 0 | 10,076 |
| $50-54$ | 597 | 1,233 | 1,407 | 1,579 | 1,398 | 1,826 | 3,818 | 1,584 | 13,442 |
| $55-59$ | 419 | 658 | 672 | 795 | 867 | 930 | 1,395 | 2,684 | 8,420 |
| $60-64$ | 221 | 296 | 210 | 209 | 264 | 290 | 315 | 328 | 2,133 |
| $65+$ | 165 | 137 | 61 | 39 | 30 | 22 | 24 | 43 | 521 |
| All | 7,521 | 17,971 | 13,514 | 9,178 | 6,615 | 5,909 | 6,343 | 4,639 | 71,690 |
|  |  |  |  |  |  |  |  |  |  |

## Average Annual Earnings of Active Members

For Fiscal Year Ended June 30, 2002

| Years of Service |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Age | <1 | 1-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30+ | All |
| <25 | 17,820 | 27,574 | 40,225 | 0 | 0 | 0 | 0 | 0 | 22,079 |
| 25-29 | 14,559 | 28,670 | 36,632 | 468 | 0 | 0 | 0 | 0 | 27,002 |
| 30-34 | 11,726 | 28,492 | 37,246 | 44,501 | 0 | 0 | 0 | 0 | 32,545 |
| 35-39 | 13,302 | 28,336 | 37,949 | 45,520 | 50,463 | 0 | 0 | 0 | 36,676 |
| 40-44 | 11,395 | 27,478 | 37,755 | 45,833 | 51,232 | 51,566 | 0 | 0 | 38,457 |
| 45-49 | 10,912 | 25,580 | 38,167 | 45,916 | 51,392 | 53,455 | 56,662 | 0 | 42,184 |
| 50-54 | 12,718 | 25,105 | 36,432 | 45,558 | 51,716 | 54,522 | 55,986 | 57,368 | 47,480 |
| 55-59 | 12,907 | 22,595 | 35,273 | 44,328 | 51,591 | 55,952 | 58,268 | 60,152 | 49,729 |
| 60-64 | 8,955 | 15,666 | 28,522 | 43,396 | 51,959 | 56,706 | 61,329 | 65,872 | 43,489 |
| 65+ | 7,016 | 8,071 | 17,838 | 34,465 | 52,480 | 58,525 | 58,541 | 64,148 | 22,497 |
| All | 13,286 | 27,333 | 37,088 | 45,377 | 51,400 | 54,215 | 56,847 | 59,643 | 39,146 |

## Ten-Year Summary of Membership

| YearEnded <br> June 30 | Active <br> Members | Inactive <br> Members | Benefit <br> Recipients |
| :---: | :---: | :---: | :---: |
| 1993 | 65,268 | 20,309 | 20,810 |
| 1994 | 66,514 | 20,901 | 22,137 |
| 1995 | 67,558 | 21,514 | 23,168 |
| 1996 | 68,490 | 22,211 | 24,307 |
| 1997 | 68,554 | 23,009 | 25,681 |
| 1998 | 68,247 | 23,907 | 27,228 |
| 1999 | 68,613 | 25,822 | 29,749 |
| 2000 | 70,508 | 25,208 | 31,946 |
| 2001 | 71,097 | 27,256 | 33,757 |
| 2002 | 71,690 | 27,702 | 34,974 |

## Ten-Year Summary of Membership



## Schedule of Participating Employers

As of June 30, 2002

| IndependentSchool Districts(340) |
| :--- |
| Ada-Borup \#2854 |
| Adrian \#511 |
| Aitkin \#1 |
| Albany \#745 |
| Albert Lea \#241 |
| Alden \#242 |
| Alexandria\#206 |
| Annandale \#876 |
| Anoka-Hennepin \#11 |
| Ashby \#261 |
| Atwater-Cosmos-Grove City \#2396 |
| Austin \#492 |
| Badger\#676 |
| Bagley \#162 |
| Balaton \#411 |
| Barnesville \#146 |
| Barnum \#91 |
| Battle Lake \#542 |
| Becker \#726 |
| Belgrade-Brooten-Elrosa \#2364 |
| Belle Plaine \#716 |
| Bellingham \#371 |
| Bemidji \#31 |
| Benson \#777 |
| Bertha-Hewitt \#786 |
| Big Lake \#727 |
| Bird Island-Olivia-Lake Lillian \#2534 |
| Blackduck \#32 |
| Blooming Prairie \#756 |
| Bloomington \#271 |
| Blue Earth Area \#2860 |
| Braham \#314 |
| Brainerd \#181 |
| Brandon \#207 |
| Breckenridge \#846 |
| Brewster \#513 |
| Brooklyn Center \#286 |
| Browerville \#787 |
| Browns Valley \#801 |
| Buffalo \#877 |
| Buffalo Lake-Hector \#2159 |
| Burnsville \#191 |
| Butterfield \#836 |
| Byron \#531 |
| Caledonia \#299 |
| Cambridge-Isanti \#911 |
| Campbell-Tintah \#852 |
| Canby \#891 |
| Cannon Falls \#252 |
| Carlton \#93 |
| Cass Lake \#115 |
| Cedar Mountain \#2754 |
| Centennial \#12 |

Chaska \#112
Chatfield \#227
Chisago Lakes Area \#2144
Chisholm \#695
Chokio-Alberta \#771
Clearbrook-Gonvick \#2311
Cleveland\#391
Climax \#592
Clinton-Graceville-Beardsley \#2888
Cloquet \#94
Columbia Heights \#13
Comfrey \#81
Cook County \#166
Cromwell \#95
Crookston \#593
Crosby-Ironton \#182
Cyrus \#611
Dassel-Cokato \#466
Dawson \#378
Deer River \#317
Delano \#879
Detroit Lakes \#22
Dilworth-Glyndon-Felton \#2164
Dover-Eyota \#533
Eagle Valley \#2759
East Central \#2580
East Grand Forks \#595
Eden Prairie \#272
Eden Valley \#463
Edgerton \#581
Edina \#273
Elgin-Millville \#806
Elk River \#728
Ellsworth \#514
Ely \#696
Esko \#99
Evansville\#208
Eveleth-Gilbert \#2154
Fairmont-Ceylon \#2752
Faribault \#656
Farmington \#192
Fergus Falls \#544
Fertile-Beltrami \#599
Fillmore Central \#2198
Fisher \#600
Floodwood \#698
Foley \#51
Forest Lake \#831
Fosston \#601
Frazee \#23
Fridley \#14
Fulda \#505
Gibbon-Fairfax-Winthrop \#2365
Glencoe-Silver Lake \#2859
Glenville-Emmons\#2886

Goodhue \#253
Goodridge\#561
Granada-Huntley-E. Chain \#2536
Grand Meadow \#495
Grand Rapids \#318
Greenbush-Middle River \#2683
Greenway \#316
Grygla \#447
Hancock \#768
Hastings \#200
Hawley \#150
Hayfield \#203
Hendricks \#402
Henning \#545
Herman-Norcross \#264
Hermantown \#700
Heron Lake-Okabena \#330
Hibbing \#701
Hill City \#2
Hills-Beaver Creek \#671
Hinckley-Finlayson \#2165
Holdingford\#738
Hopkins \#270
Houston \#294
Howard Lake-Waverly-Winsted \#2687
Hutchinson \#423
International Falls \#361
Inver Grove Heights \#199
Isle \#473
Ivanhoe \#403
Jackson County Central \#2895
Janesville-Waldorf-Pemberton \#2835
Jordan \#717
Kasson-Mantorville \#204
Kelliher \#36
Kenyon-Wanamingo\#2172
Kerkhoven-Murdock-Sunburg \#775
Kimball\#739
Kingsland\#2137
Kittson Central \#2171
La Crescent-Hokah \#300
Lac qui Parle Valley \#2853
Lake Benton \#404
Lake City \#813
Lake Crystal-Wellcome Memorial \#2071
Lake of the Woods \#390
Lake Park-Audubon \#2889
Lake Superior \#381
Lakeview \#2167
Lakeville \#194
Lancaster \#356
Lanesboro \#229
Laporte \#306
Le Center \#392

LeRoy \#499
Lester Prairie \#424
Le Sueur-Henderson \#2397
Lewiston \#857
Litchfield \#465
Little Falls \#482
Littlefork-Big Falls \#362
Long Prairie-Grey Eagle \#2753
Luverne \#2184
Lyle \#497
Lynd \#415
MACCRAY \#2180
Mabel-Canton \#238
Madelia \#837
Mahnomen \#432
Mahtomedi \#832
Mankato \#77
Maple Lake \#881
Maple River \#2135
Marshall \#413
Marshall Cty Central \#441
Martin County W \#2448
McGregor \#4
McLeod West \#2887
Medford \#763
Melrose \#740
Menahga \#821
Mesabi East \#2711
Milaca \#912
Milroy \# 635
Minneota \#414
Minnetonka \#276
Minnewaska Area \#2149
Montevideo \#129
Montgomery \#394
Monticello \#882
Moorhead \#152
Moose Lake \#97
Mora \#332
Morris \#769
Mounds View \#621
Mountain Iron-Buhl \#712
Mountain Lake \#173
Murray County Central \#2169
NRHEG \#2168
Nashwauk-Keewatin \#319
Nett Lake \#707
Nevis \#308
New London-Spicer \#345
New Prague \#721
New Ulm \#88
New York Mills \#553
Nicollet \#507
Norman Cty East \#2215
Norman Cty West \#2527
North Branch \#138
North St. Paul-Maplewood \#622
Northfield \#659
Northland Community Schools \#118
Norwood Young America \#108
Ogilvie\#333

Oklee \#627
Onamia \#480
Orono \#278
Ortonville \#62
Osakis \#213
Osseo \#279
Owatonna \#761
Park Rapids \#309
Parkers Prairie \#547
Paynesville \#741
Pelican Rapids \#548
Pequot Lakes \#186
Perham \#549
Pierz \#484
Pillager\#116
Pine City \#578
Pine Island \#255
Pine Point \#25
Pine River-Backus \#2174
Pipestone-Jasper \#2689
Plainview \#810
Plummer \#628
Princeton \#477
Prinsburg \#815
Prior Lake \#719
Proctor \#704
Randolph \#195
Red Lake \#38
Red Lake Falls \#630
Red Rock Central \#2884
Red Wing \#256
Redwood Falls Area \#2897
Renville County \#2890
Richfield\#280
Robbinsdale \#281
Rochester \#535
Rockford \#883
Rocori \#750
Roseau \#682
Rosemount-Apple Valley-Eagan \#196
Roseville \#623
Rothsay \#850
Round Lake \#516
Royalton \#485
Rush City \#139
Rushford-Peterson \#239
Russell \#418
Ruthton \#584
St. Anthony-New Brighton \#282
St. Charles \#858
St. Clair \#75
St. Cloud \#742
St. Francis \#15
St. James \#840
St. Louis County \#2142
St. Louis Park \#283
St. Michael-Albertville \#885
St. Peter \#508
Sartell \#748
Sauk Centre \#743
Sauk Rapids \#47

Sebeka\#820
Shakopee \#720
Sibley East \#2310
Sleepy Eye \#84
So. Koochiching-Rainy River \#363
So. St. Paul Special School Dist \#6
So. Washington County \#833
Southland \#500
Spring Grove \#297
Spring Lake Park \#16
Springfield\#85
Staples-Motley \#2170
Stephen-Argyle \#2856
Stewartville \#534
Stillwater \#834
Swanville \#486
Thief River Falls \#564
Tracy \#417
Tri-County \#2358
Tri District \#6067
Triton \#2125
Truman \#458
Tyler \#409
Ulen-Hitterdal \#914
Underwood \#550
United South Central \#2134
Upsala \#487
Verndale\#818
Virginia\#706
Wabasha-Kellogg\#811
Wabasso \#640
Waconia\#110
Wadena-Deer Creek \#2155
Walker-Hackensack-Akeley\#113
Warren-Alvarado-Oslo\#2176
Warroad \#690
Waseca \#829
Watertown-Mayer \#111
Waterville-Elysian-Morristown \#2143
Waubun \#435
Wayzata \#284
West Central Area \#2342
W St. Paul-Mendota Heights-Eagan \#197
Westbrook-Walnut Grove \#2898
Westonka \#277
Wheaton \#803
White Bear Lake \#624
Willmar\#347
Willow River \#577
Windom \#177
Win-E-Mac \#2609
Winona Area \#861
Worthington \#518
Wrenshall \#100
Yellow Medicine East \#2190
Zumbrota-Mazeppa \#2805

| Joint Powers Units (39) |  | MNState Colleges |
| :--- | :--- | :--- |
| Area Special Ed Coop. | and Universities (40) |  |

MN State Colleges
and Universities (40)
AlexandriaTechnical College
Anoka-Hennepin Technical College
Anoka-Ramsey Community College
Bemidi State University
Century Community \& Technical College
Dakota County Technical College
Fergus Falls Community College
Fond du Lac Community College
pin Technical College

Inver Hills Community College
Itasca Community College
e Superior College

College
Metropolitan State University
College
Minnesota State College - SE Technical
a State Univ

Minnesota State University Moorhead
Minnesota West Community \&
echnical College

Normandale Community College
Northeast Service Unit
Noth Hen Conin Contege
College
Northwest Technical College
Pine Technical College
Rainy River Community College
RidgewaterCollege
Riverland Community College College
South Central Technical College
Southwest State University
St Cloud State University
St Cloud Technical College
SPaul Technical College

Winona State University

## Charter Schools (32)

Agricultural \& Food Sciences Acad \#4074
Bluffview Montessori \#4001
Coon Rapids Learning Center \#4049
Covenant Academy of Minnesota \#4081
Crosslake Community School \#4059
ECHO Charter School \#4026
Eci Nompa Woonspe \#4028
Emily Charter School \#4012
Family Academy Charter School \#4062
Great River Education Center \#4048
Hanska Community School \#4051
LaCrescent Montessori Academy \#4054
Lafayette Charter School \#4050
Lakes Area Charter School \#4045
Martin Hughes School \#4040
Math \& Science Academy \#4043
Nerstrand Elementary School \#4055
New Country Charter School \#4007
New Heights School \#4003
North Lakes Academy \#4053
Odyssey Charter School \#4030
PACT Charter School \#4008
Pillager Area Charter School \#4080
Ridgeway Community School \#4083
Riverbend Academy \#4066
Riverway Learning Community \#4064
Rochester Off-Campus Charter HS \#4056
Schoolcraft Learning Community \#4058
Studio Academy \#4061
Village School of Northfield \#4021
World Learner School \#4016
Yankton Country School \#4072

## State Agencies (11)

Brainerd Regional Human Services Ctr
Department of Children, Families \& Learning
Department of Economic Security
Faribault Residential Academies
Fergus Falls Regional Treatment Ctr
MN Correctional Facility, Red Wing
MN Department of Corrections Minnesota Extended Treatment Options
Perpich Center for Arts Education
Teachers Retirement Association
Willmar Regional Treatment Ctr


[^0]:    *Regular TRA Fund, does not include investments in the Minnesota Post Retirement Investment Fund.

[^1]:    *Before adjustment for MPRIF mortality gain/loss and new MPRIF assumptions.

[^2]:    *Gender of member

