Comprehensive Annual Financial Report

For the Fiscal Year Ended June 30, 1998

TRA

Teachers Retirement Association

A Pension Trust Fund of the State of Minnesota

Comprehensive Annual Financial Report

For the Fiscal Year Ended June 30, 1998

Teachers Retirement Association

A Pension Trust Fund of the State of Minnesota

Gary Austin
Executive Director

17 West Exchange Street, Suite 500
Saint Paul, MN 55102
(800) 657-3669
(651) 296-2409
www.tra.state.mn.us

Report prepared by the Accounting Services Division

Table of Contents

Introductory Section

Financial Section

Investments Section

Actuarial Section

Statistical Section

Letter of Transmittal

Gary Austin
Executive Director

Teachers Retirement Association

Suite 500, Gallery Building
17 West Exchange Street
Saint Paul, MN 55102
(612) 296-2409
1-800-657-3669
Fax (612) 297-5999

December 31, 1998

Members of the Board of Trustees
Teachers Retirement Association
17 West Exchange Street
Saint Paul, MN 55102

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, 1998, our 67th year of service. This report includes the following five sections:

- **Introductory Section** describing our organizational structure and nature of operations,
- **Financial Section** containing the general purpose financial statements, notes to the financial statements, actuarial disclosures and the opinion of our independent auditor,
- **Investment Section** highlighting our asset management and investment performance,
- **Actuarial Section** containing the certification and results of the actuarial valuation performed by Milliman & Robertson as of July 1, 1998, and
- **Statistical Section** summarizing TRA plan benefits and illustrating both current and historical data of interest.

We are solely responsible for the content of this report, including its financial statements, that 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 market 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 stands at over $15 billion. The continued exceptional performance in the investment markets over the past decade is the primary reason for the continued growth in the asset base. In the past five years, the value of TRA assets has more than doubled.

The major sources of revenue for TRA are employee contributions, employer contributions, and investment earnings. Total revenues for fiscal year 1998 were $2.9 billion, an increase of 11.5 percent from the previous year. Strong investment returns in nearly every category of the portfolio offset a decrease in both employee and employer contribution rates.

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 1998 were $533 million, a substantial increase of over 25 percent from the previous fiscal year. Eligible members may also choose to withdraw their contributions from the fund upon leaving employment. For fiscal year 1998, refunds to members were nearly $6 million. In total, benefit payments account for over 98 percent of our operating expenses. Administrative expenses for the year were about $5.4 million.

As of June 30, 1998, TRA had 461 reporting employer units, 68,247 active members and a total of 27,228 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. Our total net assets on an actuarial basis increased during the fiscal year from $11.1 billion to $12.7 billion. The total required reserves necessary to fund current and future retirees of the fund also increased from $10.96 billion to $12.0 billion. The comparison of net assets to required reserves shows that the funding ratio for fiscal year 1998 was 105.66 percent. This is an increase from the comparable 101.28 percent for fiscal year 1997 and represents the second consecutive year in which the TRA fund is considered fully funded from an actuarial standpoint. Accordingly, TRA has eliminated its unfunded actuarial liability. As recently as five years ago, the TRA unfunded liability stood at approximately $1.5 billion. Significant actuarial gains resulting from a favorable investment market and lower than expected increases in members' salaries over this period accounted for the amortization of the unfunded liability.

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), also 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.

Fiscal year 1998 was another outstanding year for most financial assets. Amid continued low inflation and positive corporate earnings reports, the U.S. stock market produced exceptionally strong returns for the fourth consecutive year. The Wilshire 5000 increased 28.9 percent during the 12-month period. During the final quarter of the fiscal year, the currency crisis in Asia began affecting the earnings of many U.S. firms providing a break in the strong bull market of the last few years. With a small decline in interest rates for the twelve month period, the U.S. bond market, as measured by the Lehman Brothers Aggregate Bond Index, provided a respectable gain of 10.5 percent. The bond market is expected to remain at current levels until economic data shows a strong indication of the direction of inflation and economic growth.

As in the previous year, international stock markets did not keep pace with the rapid rise in the U.S.

markets. The Morgan Stanley Capital International index of Europe, Australia, and the Far East (EAFE) gained 5.9 percent for the twelve months ended June 30, 1997. Difficulty was encountered in developing countries, often referred to as "emerging markets," as these investments had a decrease of nearly 40 percent for the fiscal year.

Within this generally favorable investment environment, the retirement assets under SBI's control performed well:

- The Basic Retirement Funds (active members) gained 22.2 percent during fiscal year 1998. The funds benefited from their high stock exposure as well as exceptionally strong returns from private equity investments such as venture capital and buyout funds.
- The Post Fund (retired members) advanced by 19.4 percent for the year.

Economic Conditions and Outlook

Minnesota's economy performed well during fiscal 1998. The state's unemployment rate was 3.2 percent when the fiscal year began, 1.7 percent below the national rate of 4.9 percent. Twelve months later, the national unemployment rate had fallen to 4.5 percent and unemployment in Minnesota was only 2.6 percent.

But, despite the labor shortages indicated by these extraordinarily low unemployment rates, payroll employment in the state continued to grow. Minnesota employers reported adding more than 65,00 new jobs over the fiscal year, an increase of 2.5 percent. Current projections indicate that ensuring an adequate supply of workers with the appropriate skill sets needed by Minnesota's new and expanding firms will continue to be a challenge in this state through the first two decades of the twenty-first century.

Minnesota personal income grew by 4.9 percent in 1997, slower than the U.S average rate of 5.6 percent. Per capita personal income growth in Minnesota also was slower than the U.S. average. Minnesota's economy is projected to grow at the same rate as the U.S. economy during the 1999 fiscal year. Despite the tight labor markets throughout the state, payroll employment is expected to increase by 2.0 percent and wage and salary disbursements by 4.0 percent. A forecast for continuing problems in the agriculture sector holds the forecast for state personal income growth in fiscal 1999 to 4.4 percent, slightly below the U.S. projected growth rate of 4.6 percent.

Professional Services

We also 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 10-11.) 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 1998 was mailed to each active member in October 1998. 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. A plan summary with financial and actuarial data for the year ended June 30, 1998 will be distributed to each active and retired member in the Winter 1999 edition of the *TRIB*, our quarterly newsletter.

Legislation and Initiatives

After the passage of the Public Pension and Uniformity Proposal during the 1997 legislative session, pension legislation in the 1998 session was far more quiescent. Two legislative initiatives began in 1998. One proposal would permit the purchase of service credit for out-of-state teaching service and certain leaves of absences. In another, TRA, along with the other two major statewide public pension associations, began the process to secure legislative authorization for the construction of a building to house their administrative offices. Both issues will again be pursued during the upcoming 1999 Legislative session.

Customer Services

With the extensive legislation enacted effective July 1, 1997, TRA management spent much of the fiscal year implementing the provisions of the ground-breaking legislation. On July 1, 1997, TRA retirees received a permanent increase in their base benefits in exchange for a slight one percent reduction in future Post Fund annual adjustments. The redistribution of the benefit stream was actuarially equivalent based on the age of the retiree. Another provision implemented included a reduction in both employee and employer contribution rates. Formula multipliers for benefit calculations were also slightly increased resulting in increases in the number of members retiring and active members requesting updated benefit estimate projections.

In addition to this expected workload, our employees also devoted substantial amounts of time planning new and enhanced improvements to the services we offer to our members. We continued progress under the TRA 2000 initiative approved by the Board of Trustees in June 1996. During the year, we implemented a Customer Service Center with specialists trained to address a wide-range of information requests and questions without the need to transfer telephone calls. We have also continued work on electronically imaging our paper records. We expect to implement this system in early 1999.

Our TRA Computer Services Division is analyzing the potential effect of the Year 2000 (Y2K) computer problem on TRA members. Due to the lifetime relationship TRA has with its members, we have been aware of this phenomenon for many years. We are presently working in cooperation with the Department of Finance and Minnesota State Treasurer's Office to ensure that benefit payments are not impeded. We anticipate this work to be completed in early 1999. Our Information Services employees are also working on other mission-critical applications such as the calculation of refund payments with interest. We believe all TRA applications will be reprogrammed and tested by April 30, 1999.

Actuarial projections indicate that the number of new TRA retirees will continue to grow from approximately 2,000 currently to a peak of 3,500 in the year 2012. We take this projection very seriously and realize enhanced technology with skilled employees is the best way to plan for these workloads. Consequently, another major TRA 2000 project underway is a general design of our key business applications. Specific design and programming will continue over the next three years. The focus of all our reengineering initiatives is to further improve our ability to deliver services to members and their beneficiaries in a timely, accurate cost effective manner.

Our most important service is the accurate and timely payment of monthly benefits to over 27,000 retiree and benefit recipients. Approximately 70 percent of these payments are paid via electronic fund transfer, ensuring that the benefit is in the recipient's account on the day payable.

Our individual pre-retirement counseling sessions with members contemplating retirement continue as one of our more requested services. These retirement counseling services take place both in our main Saint Paul office and at 15 locations throughout the state. Large and small group presentations are also available for those desiring general information on TRA retirement and benefit issues. The quarterly newsletter, the TRIB continued to be mailed to all active and retired members. During 1998, TRA also added a presence on the World Wide Web to supplement communication to members. In early 1999, we are planning to add a benefit estimate calculator to our home page to assist members with their personal financial planning.

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, our advisors, employees, and the many people who diligently to ensure the successful operation and financial soundness of our pension fund.

Respectfully submitted,

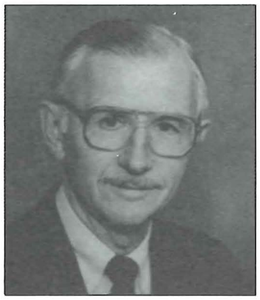
Gary Austin
Executive Director

John Wicklund
Assistant Executive Director
Accounting & Information Services

Board of Trustees

As of December 1, 1998

President



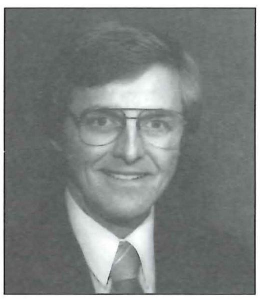
Vernell R. Jackels
Retiree Representative
Winona, MN

Vice President

Carol F. Ackerson
Elected Member
New Ulm, MN

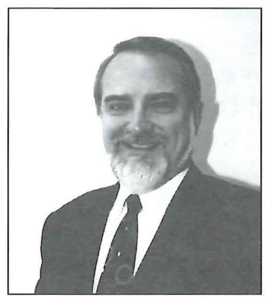
Robert E. Astrup
Elected Member
Columbia Heights, MN

Martha Lee (Marti) Zins
Elected Member
Hopkins, MN



Curtis D. Hutchens
Elected Member
St. Cloud, MN

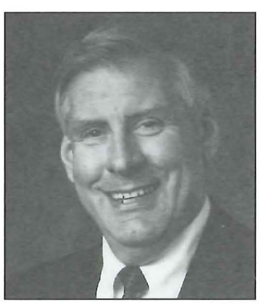
David Lamberger
Minnesota School
Boards Association
Representative



Robert Wedl
Commissioner of
Children, Families, and
Learning

Wayne Simoneau
Commissioner of
Finance

Administration



Gary Austin
Executive Director

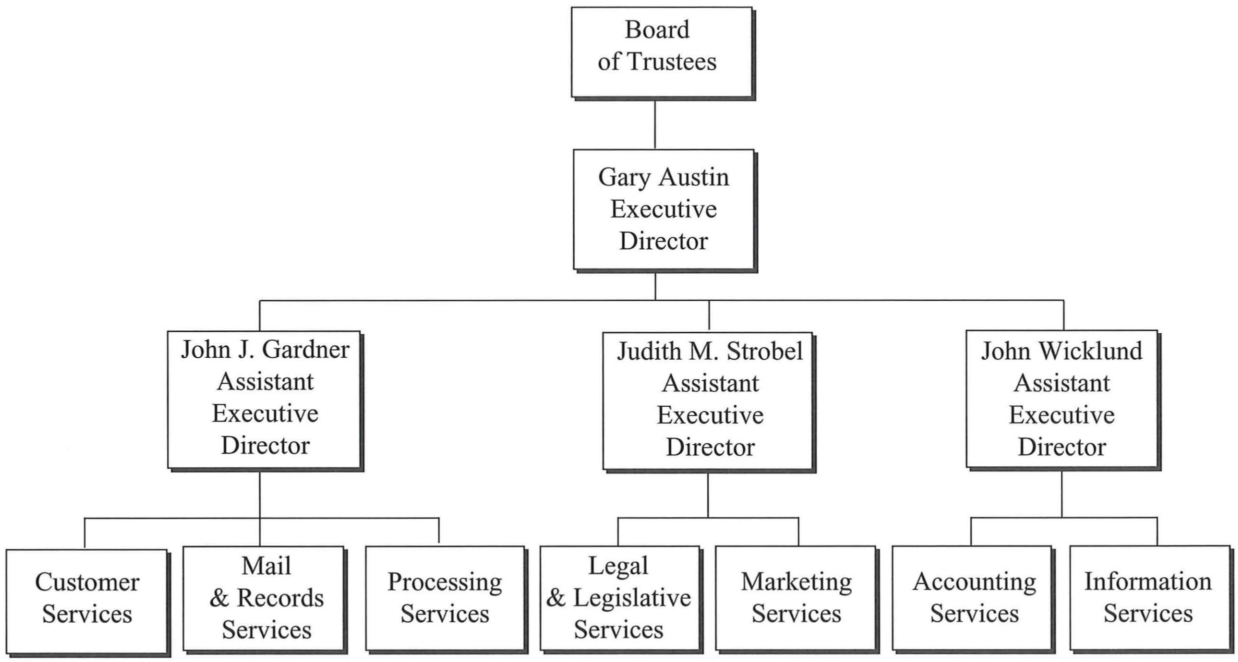
John J. Gardner
Assistant Director
Customer Services
Mail & Records Services
Processing Services

Judith M. Strobel
Assistant Director
Legal Services
Legislative Services
Marketing Services

John Wicklund
Assistant Director
Accounting Services
Information Services

Administrative Organization

As of December 1998



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 Adviser

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 Excellence	Provide ongoing employee development that encourages cooperation and mutual respect, focuses on common goals and recognizes superior performance.

Financial Section

STATE OF MINNESOTA

OFFICE OF THE LEGISLATIVE AUDITOR

JAMES R. NOBLES, LEGISLATIVE AUDITOR

Independent Auditor's Report

Board of Trustees
and
Executive Director
Teachers Retirement Association

We have audited the accompanying financial statements of the Teachers Retirement Association for the year ended June 30, 1998, as listed in the Table of Contents. These financial statements are the responsibility of the association's management. Our responsibility is to express an opinion on these financial statements based on our audit.

Except as discussed in the following paragraph, we conducted our audit in accordance with generally accepted auditing standards and *Government Auditing Standards*, as 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.

Governmental Accounting Standards Board Technical Bulletin 98-1, *Disclosures about Year 2000 Issues*, requires disclosure of certain matters regarding the year 2000 issue. The Teachers Retirement Association has included such disclosures in Note II. L. Because of the unprecedented nature of the year 2000 issue, its effects and the success of related remediation efforts will not be fully determinable until the year 2000 and thereafter. Accordingly, insufficient audit evidence exists to support the Teachers Retirement Association's disclosures with respect to the year 2000 issue made in Note II. L. Further, we do not provide assurance that the Teachers Retirement Association is or will be year 2000 ready, that the Teachers Retirement Association's year 2000 remediation efforts will be successful in whole or in part, or that parties with which the Teachers Retirement Association does business will be year 2000 ready.

In our opinion, except for the effects of such adjustments, if any, as might have been determined to be necessary had we been able to examine evidence regarding year 2000 disclosures, the financial statements referred to above present fairly, in all material respects, the financial position of the Teachers Retirement Association at June 30, 1998, and the results of its operations for the year then ended in conformity with generally accepted accounting principles.

1ST FLOOR SOUTH, CENTENNIAL BUILDING • 658 CEDAR STREET • ST. PAUL, MN 55155

TELEPHONE 651/296-4708 • TDD RELAY 651/297-5353 • FAX 651/296-4712 • WEB SITE http://www.auditor.leg.state.mn.us

Board of Trustees
and
Executive Director
Teachers Retirement Association
Page 2

Our audit was made for the purpose of forming an opinion on the financial statements taken as a whole. The accompanying financial information included in the financial section of the Table of Contents is presented for purposes of additional analysis and is not a required part of the financial statements of the Teachers Retirement Association. Such information has been subjected to the auditing procedures applied in the audit of the financial statements and, in our opinion, is fairly stated in all material respects in relation to the financial statements taken as a whole.

In accordance with *Government Auditing Standards*, we have also issued a report dated December 1, 1998, on our consideration of the Teachers Retirement Association's internal control structure and compliance with laws and regulations.

James R. Nobles
Legislative Auditor

Claudia J. Gudvangen, CPA
Deputy Legislative Auditor

December 1, 1998

Teachers Retirement Fund
Statement of Plan Net Assets
As of June 30, 1998

Assets	
Cash and short-term investments	
Cash	$ 1,160,514
Short-term investments	77,441,316
Total Cash and short-term investments	$ 78,601,830
Receivables	
Employer Contributions	$ 22,888,610
Investment Income	354,829
Prepaid Expenses	0
Total Receivables	$ 23,243,439
Investments (at fair value)	
Equity in the Post Fund	$ 7,417,670,992
Fixed Income Pool	1,750,748,177
Venture Capital Pool	428,227,450
Real Estate Fund Pool	306,444,457
Resource Fund Pool	68,071,442
Indexed Equity Pool	1,315,527,271
Domestic Equity Pool	2,807,233,694
Global Equity Pool	1,147,028,007
Total Investments	$15,240,951,490
Securities Lending Collateral	$ 1,484,023,140
Fixed Assets Net of Accumulated Depreciation	$ 1,084,507
Total Assets	$ 16,827,904,406
Liabilities	
Current	
Accounts Payable	$ 5,681,547
Due to the Post Fund	48,008,109
Accrued Compensated Absences	369,079
Securities Lending Collateral	1,484,023,140
Total Liabilities	$ 1,538,081,875
Net Assets Held in Trust for Pension Benefits	$ 15,289,822,531

(A Schedule of Funding Progress for the plan is presented on page 22.)

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, 1998

Additions	
Contributions	
Member	$ 124,095,573
Employer	151,322,830
Total Contributions	$ 275,418,403
Net Investment Income:	
Investment Income	$ 2,643,516,595
Less: Investment Expense	(10,826,503)
Net Investment Income	$ 2,632,690,092
From Securities Lending Activities:	
Securities Lending Income	$ 96,200,900
Securities Lending Expenses:	
Borrower Rebates	(88,527,078)
Management Fees	(2,415,616)
Total Securities Lending Expenses	(90,942,694)
Net Income from Securities Lending	5,258,206
Total Net Investment Income	$ 2,637,948,298
Other Income	$ 1,329,869
Total Additions	$ 2,914,696,570
Deductions	
Retirement Benefits Paid	$ 533,851,113
Refunds of Contributions to Members	5,689,067
Administrative Expenses	5,417,370
Interest Paid to the Post Fund	1,226,838
Total Deductions	$ 546,184,388
Net Increase	$ 2,368,512,182
Net Assets Held in Trust for Pension Benefits	
Beginning of Year	$ 12,921,310,349
End of Year	$ 15,289,822,531

The accompanying notes are an integral part of this statement.

Notes to the Financial Statements

For the Fiscal Year Ended June 30, 1998

I. Plan Description

A. Organization

The Teachers Retirement Association (TRA) is an administrator of a multi-employer, cost-sharing 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.

B. Participating Members and Employers

Teachers employed in Minnesota's public elementary and secondary 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 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

Figure 1

Employer Units

	June 30 1998
Independent school districts	347
Joint powers units	41
Colleges and universities	39
State agencies	18
Charter schools	12
Professional organizations	4
Total Employer Units	461

Membership

	June 30 1998
Retirees, disabilitants and beneficiaries receiving benefits	27,228
Terminated employees with deferred vested benefits	6,924
Total	34,152
Current employees	
Vested	52,644
Non-vested	15,603
Total	68,247

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 or 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 is 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.

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, 1998, the participation shares in the pooled accounts at market value for TRA was approximately 42 percent. The TRA share of the net assets of the Minnesota Post Retirement Investment Fund (Post Fund) at market values totaled 43.47 percent. Figure 3 provides specific totals.

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 broker, dealer, or counterpart's trust or agent in the state's name. Risk Category 3 includes uninsured or unregistered investments for which the securities held by the broker, dealer, 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. 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 105, MEA Building, 55 Sherburne Avenue, Saint Paul, Minnesota 55155.

D. Method Used to Value Investments

Investments in the pooled accounts are reported at fair value. Figure 3 provides a summary of the cost and market values of the investments as of June 30, 1998 as reported on the Statement of Plan Net Assets. Short-term 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.

Figure 3

TRA Investment Portfolio
June 30, 1998

Basic (Active) Fund	Cost	Market
Pooled Accounts		
Fixed Income	$1,733,587,309	$1,750,748,177
Domestic Equity	2,420,366,578	2,807,233,694
Passive Equity	856,834,691	1,315,527,271
Global Income	1,081,311,931	1,147,028,007
Venture Capital	349,328,306	428,227,450
Real Estate	242,617,835	306,444,457
Resources Pool	66,981,526	68,071,442
Total	$6,751,028,176	$7,823,280,498
Short-Term Pooled Cash	77,441,315	77,441,315
Post Fund Account	5,570,230,000	7,417,670,992
Total Invested	$12,398,699,491	$15,318,392,805

Net Investment Income is summarized on the Statement of Changes in Net Plan Assets. The summarized amounts were $2,632,690,092 for fiscal year 1998. Figure 4 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 $10,826,503.

Figure 4

Net Investment Income

Investment Income		**1998**
Net Appreciation in Fair Value:		
Investment Pools	$	473,377,292
Post-Retirement Participation		429,140,009
Interest		156,240,407
Dividends		678,086,793
Net Gain on Sales of Pools		175,732,268
Post Fund		730,939,826
Less: Investment Expense		(10,826,503)
Net Investment Income	$	2,632,690,092

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 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 and State Street

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 broker-dealers and banks.

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, 1998, SBI had no credit risk exposure to borrowers. TRA's portion of the collateral held and the market value of securities on loan from SBI as of June 30, 1998 were $1,586,302,223 and $1,484,023,140 respectively.

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 are three to ten years.

Fixed assets as presented on the June 30, 1998 Statement of Net Assets Available were $1,826,031 at cost. Accumulated depreciation totaled $741,524 resulting in a net fixed asset value of $1,084,507.

H. Operating Leases

TRA is committed under lease agreements for rental of office space through April 30, 2001. For accounting purposes, these leases are considered operating leases. Lease expenditures for fiscal year 1998 totaled $224,658. Minimum rental payments required as of June 30, 1998 are shown in Figure 5.

Figure 5

Minimum Rental Payments

Fiscal Year Ending June 30	Amount
1999	$ 279,322
2000	313,931
2001	270,822
Total	$ 864,075

I. Administrative Expenses and Budget

The annual budget of TRA operations is developed by staff and approved by the Board of Trustees. The budget is sent to the Minnesota Department of Finance for analysis and policy decisions 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 financed through investment earnings and turnover gains from employer contributions.

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 1998, 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. 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. Year 2000 Compliance (Unaudited)

For many years, TRA has been aware of the Year 2000 (Y2K) deadline looming on December 31, 1999. TRA has had the need to account for birth dates in the 1800s and retirement estimates and payment streams extending into the next millennium. Most of our computer applications were Y2K compliant before the term was coined.

As part of the State of Minnesota's Y2K planning, TRA has actively participated with state officials in identifying and coordinating the work necessary to become Y2K compliant. In November 1998, the State Department of Finance tested and confirmed that the state warrant interface used to generate TRA annuity and refund payments is Y2K compliant. As of December 1, 1998, the only major mission-critical application left to fix is the TRA refund calculation system, which currently does not calculate interest on employee contributions past December 31, 1999. The TRA Information Services Division is working at reprogramming this application. We expect the new refund calculation system to be tested and in production by April 30, 1999.

In addition, all critical external vendor applications are being monitored and they are expected to be delivered in time to meet the immovable deadline. We are especially following the progress of the hundreds of financial institutions to whom TRA directly deposits benefit checks electronically on behalf of approximately 15,000 of our benefit recipients. TRA is monitoring the compliance efforts of the Minnesota Department of Finance, Minnesota Department of Commerce and the State Treasurer's Office to ensure that members' financial institutions will be able to correctly receive January 1, 2000 benefit payments.

III. Changes in Plan Provisions

The 1997 Legislature improved initial benefits for TRA members for members who terminate service on or after July 1, 1997. The annuity accrual rate will increase while the employee and employer contributions were decreased. In order to pay for the increased benefit, the assumed earnings rate of the Post Fund has been increased from 5 percent to 6 percent and the cap on the inflation-based portion of an annuitant's annual benefit increase has been lowered from 3.5 percent to 2.5 percent.

Effective July 1, 1997, all benefit recipients received an actuarially equivalent permanent increase based on a change in the Post Fund earnings assumption. Members who terminate service after June 30, 1997 and whose benefits commence during the period July 2, 1997 through July 1, 2002 receive a percentage of the July 1, 1997 permanent increase.

IV. Contributions Required and Made

Minnesota Statutes, Chapter 354 sets the rates 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 an unfunded liability over a closed period ending June 30, 2020. Currently, no unfunded liability exists.

Contributions totaling $275,418,403 ($124,095,573 employee and $151,322,830 employer) were made in accordance with the actuarially determined contribution requirements. On page 48, these contributions are sufficient to meet the required normal costs, amortization of the unfunded liability and administrative costs. The sufficiency, as a percent of covered payroll is 0.18 percent. This translates into a contribution sufficiency of about $4.9 million for fiscal year 1998. The Legislative Commission on Pensions and Retirement annually reviews the adequacy of TRA's statutory contributions.

TRA's unfunded actuarial accrued liability was first extinguished as of July 1, 1997. No unfunded actuarial liability exists as of July 1, 1998. Under Minnesota Laws 1997, Chapter 233, Article 1, section 50, TRA's additional employer contribution rate, set at 1.64 percent for fiscal year 1998, was eliminated effective the first day of the first full pay period after March 31, 1998. If an unfunded actuarial accrued liability ever reappears in future years, TRA has no statutory authority to reinstate additional employer contributions to amortize any potential liability.

V. 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 in accordance with Minnesota Statutes, section 11A.18, subdivision 7. It includes a 6% assumed income distribution and any mortality gains or losses as determined by an independent actuary hired by the state legislature. As of June 30, 1998, TRA's share of the net assets of the Post Fund at cost, is $5,570,230,000 and at market value is $7,417,670,992.

Beginning in fiscal year 1993, 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. Annuitants and other individuals receiving benefits as of May 31, 1997 are eligible to receive the January 1, 1999 benefit increase shown in Figure 6.

Figure 6

January 1, 1999 Benefit Increase

Inflation-Based Benefit Increase	1.5%
Investment-Based Benefit Increase	8.3254%
Total Benefit Increase	9.8254%

Benefit recipients whose effective date of retirement is on or after June 1, 1997 but before June 2, 1998 receive a prorated amount of the January 1, 1999 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.

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 Schedule

Schedule of Employer Contributions

(Dollars in Thousands)

Year Ended June 30	Actuarially Required Contribution Rate (A)	Actual Covered Payroll (B)	Actual Member Contributions (C)	Annual Required Contribution [(A) x (B)] - (C)	Actual Employer Contribution*	Percentage Contributed
1991	13.11%	$1,943,375	$89,313	$165,463	$159,439	96.36%
1992	13.04%	1,989,624	91,506	167,941	162,370	96.68%
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%**	2,422,957	124,096	107,296	151,323	141.03%

* Includes contributions from other sources (if applicable).

** Actuarially Received Contribution Rate calculated according to the parameters of GASB 25 using a 30-year amortization of the negative unfunded accrued liability.

Schedule of Funding Progress

(Dollars 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 as Percentage of Covered Payroll (B - A)(C)
07/01/91	$5,614,924	$7,213,720	$1,598,796	77.84%	$1,943,375	82.27%
07/01/92	6,324,733	7,662,522	1,337,789	82.54%	1,989,624	67.24%
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%

Teachers Retirement Association

Notes to the Required Supplemental Schedules

June 30, 1998

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 which 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 .13% 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, employees pay in dollar amounts resulting 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 provides 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, 1998, TRA is fully funded from an actuarial stand point.

Actuarial Assumptions and Methodologies

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, 1998, no unfunded actuarial accrued liability exists. (See page 47.) Any increases to the unfunded accrued liability resulting from benefit improvements or unfavorable actuarial experience are combined with the outstanding balance and amortized over a closed period ending June 30, 2020.

2. Asset Valuation Method

For actuarial purposes, Minnesota Statutes, section 356.215 requires valuation of all investment securities at cost plus one-third of the unrealized capital gains or losses.

3. Actuarial Assumptions

Significant actuarial assumptions employed by the actuary for funding purposes as of July 1, 1998, 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).

Teachers Retirement Fund
Schedule of Changes in Plan Net Assets
For Fiscal Year Ended June 30, 1998

	Member
Additions	
Contributions:	
Member Contributions	$ 123,799,144
Employer Contributions	0
Total Contributions	123,799,144
Net Investment Income:	
Investment Income	0
Less: Investment Management Fees	0
Net Investment Income	0
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	$ 123,799,144
Deductions	
Benefits Paid	0
Refunds of Member Contributions	5,134,252
Administrative Expenses	0
Interest Paid MPRIF Fund	0
Total Expenses	$ 5,134,252
Net Increase	$ 118,664,892
Other Changes in Reserves	
Annuities Awarded	($ 70,012,662)
Other Transfers	1,510,943
Mortality Loss	0
Total Other Changes	($ 68,501,719)
Net Assets Held in Trust for Pension Benefits	
Beginning of Year	1,252,842,514
End of Year	$ 1,303,005,687

The accompanying notes are an integral part of this statement.

Reserves for 1998

MPRIF Funds	Benefit	Total
$ 0	$ 296,429	$ 124,095,573
0	151,322,830	151,322,830
0	151,619,259	275,418,403
1,160,079,835	1,483,436,760	2,643,516,595
0	(10,826,503)	(10,826,503)
1,160,079,835	1,472,610,257	2,632,690,092
49,826,684	46,374,216	96,200,900
(45,866,572)	(42,660,506)	(88,527,078)
(1,244,205)	(1,171,411)	(2,415,616)
2,715,907	2,542,299	5,258,206
0	1,329,869	1,329,869
$ 1,162,795,742	$ 1,628,101,684	$ 2,914,696,570
$ 522,817,211	$ 11,033,902	$ 533,851,113
0	554,815	5,689,067
0	5,417,370	5,417,370
0	1,226,838	1,226,838
$ 522,817,211	$ 18,232,925	$ 546,184,388
$ 639,978,531	$ 1,609,868,759	$ 2,368,512,182
$ 540,213,837	($ 470,201,174)	($ 0)
0	(1,510,943)	0
10,259,640	(10,259,640)	0
$ 550,473,477	($ 481,971,757)	($ 0)
6,227,218,983	5,441,248,851	12,921,310,349
$ 7,417,670,991	$ 6,569,145,853	$15,289,822,531

Administrative Expenses

For the Fiscal Year Ended June 30, 1998

Salaries	$2,494,360
Employer Contributions to Retirement	158,187
Employer Contributions to Social Security	184,038
Insurance Contributions	251,865
Actuarial Services	117,192
Audit Fees	64,801
Computer Support Services	637,022
Department Head Expenses	1,498
Depreciation of Office Furniture and Equipment	276,285
Dues and Subscriptions	6,876
Duplicating and Printing Expense	72,113
Employee Training	19,069
Insurance Expense	2,658
Lease of Office and Storage Space	224,658
Legal Fees	20,901
Management Consultant Services	198,911
Medical Services	42,123
Miscellaneous Administrative Expenses	14,238
Postage	245,662
Rental of Office Machines/Furnishings	24,743
Repairs and Maintenance	54,805
State Indirect Costs	35,353
Stationery and Office Supplies	151,657
Telephone	52,276
Travel-Director and Staff	25,413
Travel-Trustees	13,767
Worker's Compensation	1,587
Board Substitute Teachers	2,129
Loss on Disposal of Equipment	23,183
Total Administrative Expenses	$5,417,370

Investments Section

Investment Summary

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 market value of approximately $7.90 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 $7.42 billion. SBI members are Governor Arne H. Carlson (Chair), State Auditor Judith H. Dutcher, State Treasurer Michael A. McGrath, Secretary of State Joan Anderson Growe, and Attorney General Hubert H. Humphrey III. Four new persons were elected on November 3, 1998 to state constitutional offices and will begin to serve on the SBI beginning January 4, 1999. These members are: Governor Jesse Ventura (Chair), Secretary of State Mary Kiffmeyer, State Treasurer Carol Johnson, and Attorney General Michael Hatch. These four members join State Auditor Dutcher to comprise the five-member board. 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.

Investment Advisory Council
(as of December 1998)

Gary Austin
Executive Director
Teachers Retirement Association

David Bergstrom
Executive Director
MN State Retirement System

John E. Bohan
Vice Pres., Pension Investments
Grand Metropolitan-Pillsbury

Roger Durbahn
Governor's Appointee
Retiree Representative

Douglas Gorence
Director, Pension Investments
Honeywell, Inc.

Kenneth F. Gudorf
Chief Executive Officer
Agio Capital Management, LLC

P. Jay Kiedrowski
Executive Vice President
Norwest Bank Minnesota

Han Chin Liu
Governor's Appointee
Active Employee Representative

Judith W. Mares
Financial Consultant
Mares Financial Consulting, Inc.

Malcolm W. McDonald**
Director and Corporate Secretary
Space Center, Inc.

Robert McFarlin
Governor's Appointee
Active Employee Representative

Gary R. Norstrem
Sr. Vice Pres., Institutional Mktg.
Piper Capital Management

Daralyn Peifer
Director, Benefits Finance
General Mills, Inc.

Wayne Simoneau
Commissioner
MN Department of Finance

Michael Troutman
Assistant to the President
ELCA Board of Pensions

Mary Most Vanek
Executive Director
Public Employees Retirement Assn

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. All investments made by SBI are governed by the prudent person rule and other standards codified in Minnesota Statutes, Chapters 11A and 356A.

- Two active employee representatives and one retiree representative are appointed to the Council by the Governor.

The Council has formed four committees organized around broad investment subjects relevant to SBI's decision-making: Asset Allocation, Domestic Managers, International 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.

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% 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 the 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. The following table shows the actual asset mix of the Basic Funds at the end of fiscal year 1998.

Basic Funds Asset Mix
(June 30, 1998)

	Actual Mix	Policy Mix
Domestic Stocks	52.2%	45.0%
International Stocks	14.6%	15.0%
Bonds	22.3%	24.0%
Alternative Assets	10.0%	15.0%
Unallocated Cash	0.9%	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 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 offers the opportunity to enhance returns and reduce the risk/volatility of the total portfolio. The rationale underlying the inclusion of *private equity* (e.g. venture capital) is similar. However, the relatively small size of the private equity market presents a practical limit to the amount that may be invested in this asset class.

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, thereby controlling return volatility.

Fiscal Year 1998 Changes

SBI did not make changes to its long-term asset allocation targets for the Basic Funds during fiscal year 1998. The actual asset mix of the Basic Funds for fiscal year 1998 was in-line with its long-term targets. It should be noted that the unfunded allocation to alternative investments in the Basic Funds is held in domestic stocks until it is needed for investment. As a result, the actual amount invested in domestic stocks was above its long-term target.

Rate of Return Results

The Basic Funds produced a total rate of return for fiscal year 1998 of 22.2%. Over the last five years, the Basic Funds have generated an annualized return of 15.9%. The current market value of the total Basic Funds is about $18.9 billion. TRA's share of the fund is approximately 42% or $7.9 billion.

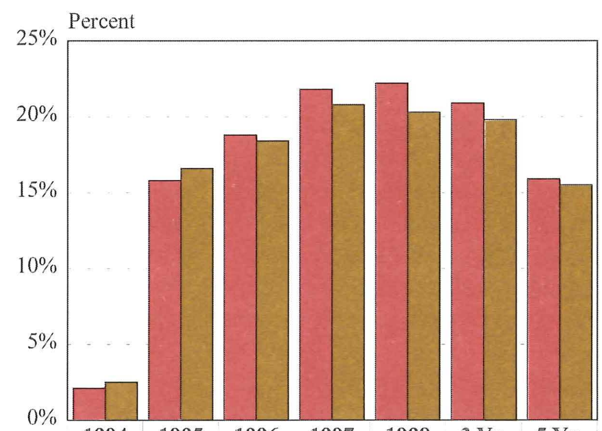
As stated earlier, the Basic Funds are expected to exceed the return of a composite of market indices over a five-year period. Performance relative to this standard will measure two effects:

- 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, 1998, the Basic Funds out performed the composite index by 0.4 percentage point annualized. SBI's policy of periodically rebalancing back to asset allocation targets also contributed importantly to the overall value added during the last five years.

Actual returns relative to the total fund composite index over the last five years are presented in the following graph:

Basic Funds Performance vs. Composite Index



	1994	1995	1996	1997	1998	3 Yr.	5 Yr.
Basic Funds	2.1%	15.8%	18.8%	21.8%	22.2%	20.9%	15.9%
Composite Index*	2.5%	16.6%	18.4%	20.8%	20.3%	19.8%	15.5%

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, 1998, the Post Fund had a market value of $17 billion. TRA retirees' portion of this value is approximately $7.4 billion or 43.5%. The Post Fund generated an investment return of 19.4% for fiscal year 1998.

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 Retirement 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

SBI 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). Throughout fiscal year 1993, the actual asset mix of the Post Fund moved gradually toward a 50% allocation to common stocks. During fiscal year 1994, SBI added allocations to international stocks and alternative investments. The current long-term asset allocation policy and actual asset mix of the Post Fund at the end of fiscal year 1998 is presented in the following table.

Post Fund Asset Mix
(June 30, 1998)

	Actual Mix	Policy Mix
Domestic Stocks	52.5%	50.0%
Int'l. Stocks	14.8	15.0
Bonds	29.3	27.0
Alternative Assets	0.9	5.0
Unallocated Cash	2.5	3.0
Total	100.0%	100.0%

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 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.

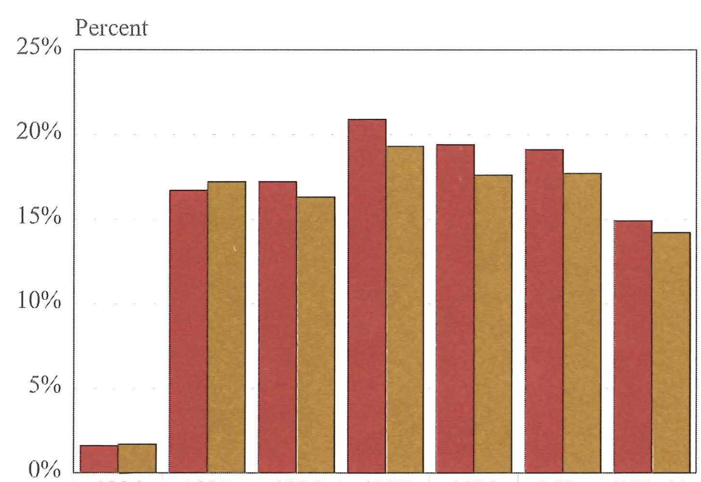
Yield oriented alternative investments are designed to provide the opportunity for higher long-term returns than those typically available from bonds yet still generate sufficient current income to be compatible with the objectives of the Post Fund. Typically, these investments (e.g. business loan participations 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 should also provide the opportunity to generate higher returns relative to more traditional bond investments.

Investment Management and Performance

Effective July 1, 1993, assets of the Post Fund were transferred to external managers. In order to gain greater operating efficiency, the Post Fund shares 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 0.7 percentage points for the five-year period since July 1, 1993.

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

Post Fund Performance vs. Composite Index



	1994	1995	1996	1997	1998	3 Yr.	5 Yr.**
Post Fund	1.6%	16.7%	17.2%	20.9%	19.4%	19.1%	14.9%
Composite Index	1.7%	17.2%	16.3%	19.3%	17.6%	17.7%	14.2%

Benefit Increase Formula

The retirement benefit increase formula of the Post Fund was changed through legislation enacted by the 1992 Legislature. The revised formula was effective beginning in fiscal year 1993 and is based on a combination of two components:

- ***Inflation Component.*** Each year, retirees receive an inflation-based adjustment equal to 100% of inflation, up to a maximum specified in statute. The inflation componenet 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%. The return assumption for the Post Fund was 5.0% through fiscal year 1997. For fiscal year 1998, the return assumption for the Post Fund was changed to 6.0%. This means the cap on the inflation adjustment was 3.5% for fiscal years 1993-1997. In fiscal year 1998, and in future years, the inflation cap will be 2.5%.

- ***Investment Component.*** Each year, retirees also receive an investment-based 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 will be 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 9.8254% for fiscal year 1998 payable January 1, 1999. As noted earlier, this increase is comprised of two components:

- *Inflation component* of 1.5% which is equal to 100% of the reported Consumer Price Index for wage earners (CPI-W) increase for the twelve months ending June 30, 1998. (This is the same inflation index used to calculate increases in Social Security payments.)
- *Investment component* of 8.3254%. This represents a portion of the market value increase that exceeds the amount needed to cover the actuarial assumed rate of return and the inflation adjustment.

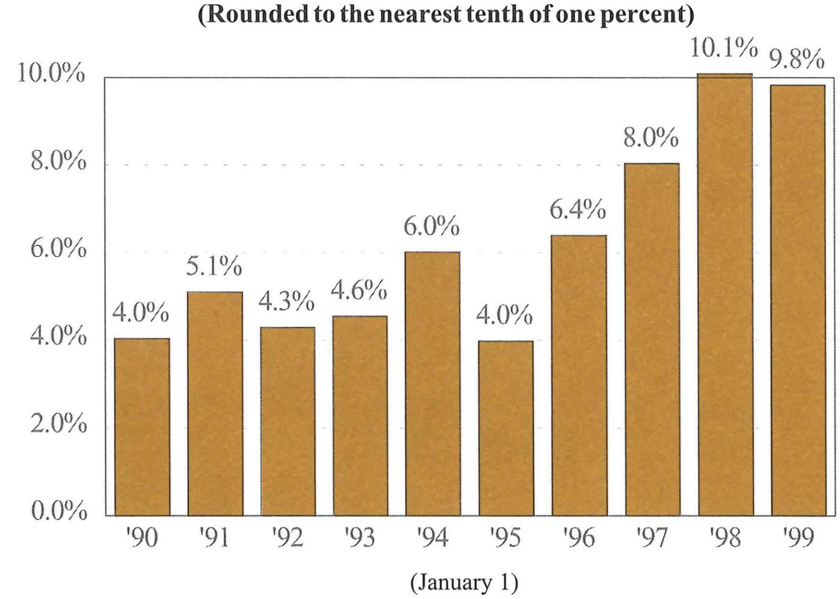
Benefit increases granted for the past ten years are shown in the graph below.

Prior to fiscal year 1993, the benefit increase formula was dependent on the level of excess realized income generated by the Post Fund. The 9.8254% increase granted for fiscal year 1998 represents the sixth post retirement adjustment provided under the new benefit increase formula described above.

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.

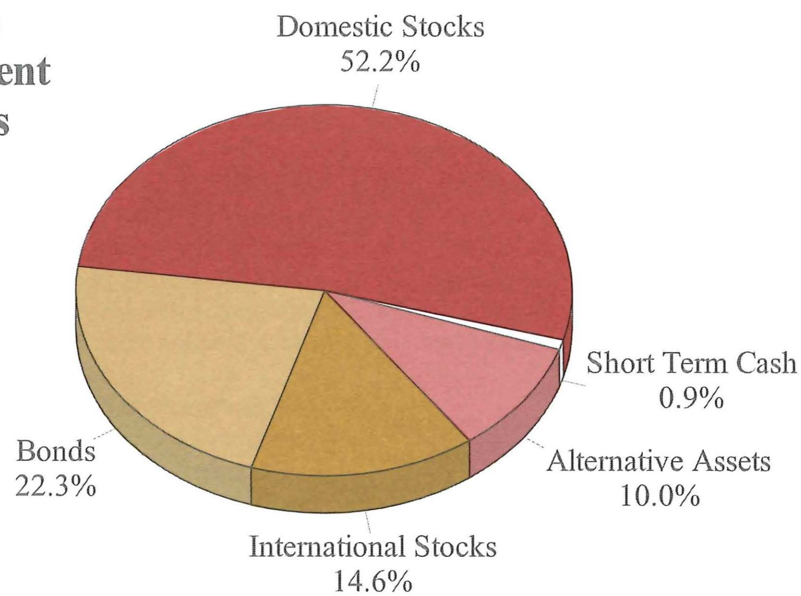
This investment management structure allows SBI to gain greater operating efficiency within asset classes and to keep money management costs as low as possible for all participants. Further information on investment activity and a listing of specific investments owned by the pooled accounts can be obtained from the Minnesota State Board of Investment, Suite 105, MEA Building, 55 Sherburne Avenue, St. Paul, MN 55155.

Recent Post Retirement Benefit Increases
(Rounded to the nearest tenth of one percent)

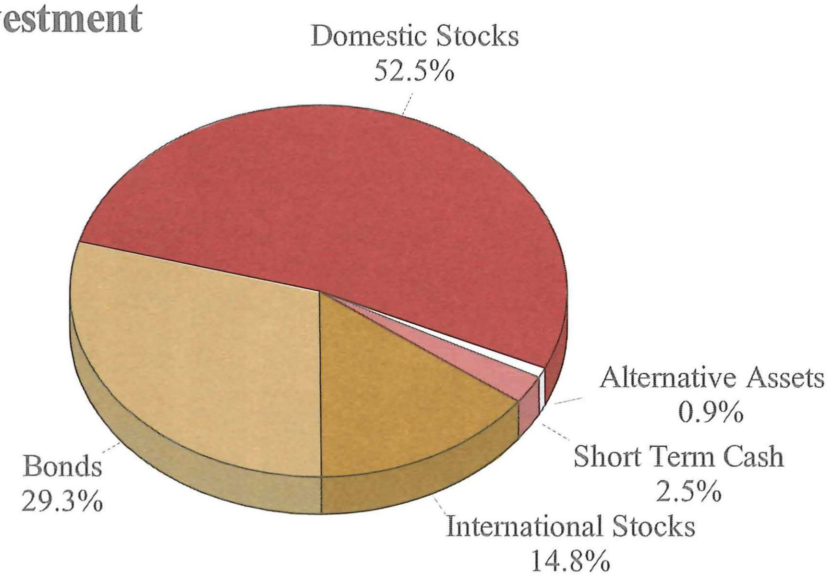


Teachers Retirement Fund
Portfolio Distribution
June 30, 1998

Basic Retirement Funds



Minnesota Post Retirement Investment Fund



Teachers Retirement Fund
List of Largest Assets Held
June 30, 1998

Composite Holdings of Top Ten Equities
(by Market Value)

Company	% of Portfolio
General Electric Co.	1.05%
Microsoft Corp.	0.90
Coca Cola Co..	0.80
Merck & Co. Inc.	0.70
Exxon Corp.	0.65
Philip Morris Cos. Inc.	0.52
Bristol Myers Squibb Co.	0.52
Proctor & Gamble Company	0.49
Intel Corp.	0.49
American Intl Group Inc.	0.48

Composite Holdings of Top Ten Bonds
(by Market Value)

Company	Coupon	Maturity Date	Rating	% of Portfolio
FNMA (30 Year)	6.50	07/01/2028	AAA	0.76
United States Treasury Bonds	6.25	08/15/2023	AAA	0.33
United States Treasury Notes	6.50	05/31/2003	AAA	0.31
GNMA (30 Year)	7.00	12/15/2027	AAA	0.29
United States Treasury Notes	3.38	01/15/2007	AAA	0.25
United States Treasury Bonds	7.50	11/15/2016	AAA	0.24
FHLMC Gold	6.50	12/01/2027	AAA	0.24
United States Treasury Notes	7.75	11/30/1999	AAA	0.19
United States Treasury Notes	6.00	08/15/2000	AAA	0.18
GNMA (30 Year)	6.50	12/15/2027	AAA	0.17

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, 1998

	Book		Market	
	Book Value	**Total Book Value**	**Market Value**	**Total Market Value**
Fixed Income Investments				
Fixed Income Pool	$ 1,733,587,309		$ 1,750,748,177	
Total Fixed Income Investments		$ 1,733,587,309		$ 1,750,748,177
Equity Investments				
External Indexed Equity Pool	$ 856,834,692		$ 1,315,527,271	
Global Equity Pool	1,081,311,931		1,147,028,007	
External Domestic Equity Pool	2,420,366,578		2,807,233,694	
Total Equity Investments		$ 4,358,513,201		$ 5,269,788,972
Alternative Investments				
Internal Venture Capital Pool	$ 349,328,305		$ 428,227,450	
Internal Real Estate Fund Pool	242,617,835		306,444,457	
Internal Resource Fund Pool	66,981,526		68,071,442	
Total Alternative Investments		$ 658,927,666		$ 802,743,349
Short Term Investment				
Short Term Cash Equivalents	$ 77,441,315		$ 77,441,315	
Total Short Term Investments		$ 77,441,315		$ 77,441,315
Total Investments		$ 6,828,469,491		$ 7,900,721,813

*TRA's share of the Basic Funds does not include investments in the Post Fund.

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 Legislative Auditor.

Actuarial Section

MILLIMAN & ROBERTSON, INC.
Actuaries & Consultants

Internationally WOODROW MILLIMAN

Suite 400, 15800 Bluemound Road, Brookfield, Wisconsin 53005-6069
Telephone: 414/784-2250
Fax: 414/784-7287

December 7, 1998

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, 1998.

The results of our calculations are set forth in the following report, as are the actuarial assumptions upon which our calculations have been made. 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.

Respectfully submitted,

MILLIMAN & ROBERTSON, INC.

Thomas K. Custis

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

William V. Hogan

William V. Hogan, F.S.A., M.A.A.A.
Consulting Actuary

TKC/WVH/bh

Albany, Atlanta, Boston, Chicago, Dallas, Denver, Hartford, Houston, Indianapolis, Irvine, Los Angeles, Milwaukee, Minneapolis, New York, Omaha, Philadelphia, Phoenix, Portland, ME, Portland, OR, St. Louis, Salt Lake City, San Diego, San Francisco, Seattle, Tampa, Washington, D.C., Bermuda, Tokyo

WOODROW MILLIMAN Member Firms in Principal Cities Worldwide

Summary of Actuarial Assumptions and Methods

Age	Salary Increases
20	7.25
25	7.10
30	7.00
35	7.00
40	6.70
45	6.05
50	5.60
55	5.35
60	5.25

1. Interest

Pre-Retirement -- 8.5% per annum

Post-Retirement -- 8.5% per annum

2. Salary Increases

Reported salary for prior fiscal year, with new hires annualized, increased according to the table on the right to current fiscal year and annually for each future year.

3. Mortality

Pre-Retirement
Male - 1983 Group Annuity Mortality Table for males set back eight years.
Female - 1983 Group Annuity Mortality Table for females set back four years.

Post-Retirement
Male - Same as above except set back four years.
Female - Same as above except set back two years.

Post-Disability
Male - 1977 Railroad Retirement Board Mortality for Disabled Annuitants.
Female - 1977 Railroad Retirement Board Mortality for Disabled Annuitants.

4. Retirement Age

Age 62, or if over age 62, one year from valuation date. In addition, 45% of Basic Members and 30% of Coordinated Members are assumed to retire each year that they are eligible for the Rule of 90.

5. Separation From Service

Select and ultimate rates were based on plan experience as of June 30, 1989. Ultimate rates after the third year are illustrated in the Annual Separation table of sample values below. Select rates for the first three years are as follows:

	First Year	Second Year	Third Year
Less than 35	.3	.15	.1
35-44	.25	.125	.08
45-60	.3	.15	.1

Annual Separation Rate Per 10,000 Employees
(Sample Values)

	Pre-Retirement Death		Withdrawal		Disability	
Age	Male	Female	Male	Female	Male	Female
20	3	1	600	600	4	4
30	4	3	565	565	6	6
40	7	5	210	210	8	8
50	15	11	70	70	17	17
60	48	28	0	0	63	63

6.	**Disability**	Graduated rates illustrated in table of sample values on previous page.
7.	**Expenses**	Prior year expenses expressed as percentage of prior year payroll.
8.	**Return of Contributions**	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.
9.	**Family Composition**	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.
10.	**Social Security**	N/A
11.	**Benefit Increases After Retirement**	Payment of earnings on retired reserves in excess of 6% accounted for by 6% post-retirement assumptions.
12.	**Special Consideration**	Married members assumed to elect subsidized joint and survivor form of annuity as follows: Males -- 15% elect 50% J&S option 50% elect 100% J&S option Females -- 10% elect 50% J&S option 10% elect 100% J&S option
13.	**Actuarial Cost Method**	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.
14.	**Asset Valuation Method**	Cost value plus one-third unrealized gains or losses.
15.	**Payment on the Unfunded Actuarial Accrued Liability (Currently Not Applicable)**	A level percentage of payroll each year to the statutory amortization date assuming payroll increases of 5% per annum.

Valuation Report Highlights

(Dollars in Thousands)

	June 30 1997	June 30 1998
A. Contributions		
1. Statutory Contributions – Chapter 354 (% of Payroll)	11.64%	10.00% *
2. Required Contributions – Chapter 356 (% of Payroll)	9.85%	9.82%
3. Sufficiency (Deficiency) (A.1-A.2)	1.79%	0.18% *
B. Funding Ratios		
1. Accrued Benefit Funding Ratio		
a. Current Assets (Table 1)	$11,103,759	$12,727,546
b. Current Benefit Obligations (Table 2)	$10,262,081	$11,332,467
c. Funding Ratio (a/b)	108.20%	112.31%
2. Accrued Liability Funding Ratio		
a. Current Assets (Table 1)	$11,103,759	$12,727,546
b. Actuarial Accrued Liability (Table 3)	$10,963,637	$12,046,312
c. Funding Ratio (a/b)	101.28%	105.66%
3. Projected Benefit Funding Ratio (Table 2)		
a. Current and Expected Future Assets	$14,067,718	$15,134,315
b. Current and Expected Future Benefit Obligations	$13,231,366	$14,382,569
c. Funding Ratio (a/b)	106.32%	105.23%
C. Plan Participants		
1. Active Members		
a. Number	68,554	68,247
b. Projected Annual Earnings	$ 2,475,599	$ 2,569,368
c. Average Annual Earnings (Actual $)	$ 36,112	$ 37,648
d. Average Age	43.1	43.1
c. Average Service	12.6	12.5
2. Others		
a. Service Retirements	23,694	25,088
b. Disability Retirements	425	1,686
c. Survivors	1,562	454
d. Deferred Retirements	6,356	6,924
e. Terminated Other Non-vested	16,653	16,827
f. Total	48,690	50,979

*Decrease in statutory contributions by 1.64 % has decreased the sufficiency by a like amount.

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 Minnesota Statutes, section 356.215.

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 which have been earned by service to the valuation date. This year's ratio is 112.31%. The corresponding ratio for the prior year was 108.20%.
- 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 1998 the ratio is 105.66%, which is an increase from the 1997 value of 101.28%.
- The Projected Benefit Funding Ratio is a measure of the adequacy or deficiency in the contribution level. This year's ratio of 105.23% shows that the current statutory contributions are sufficient.

Asset Information (Table 1)

Minnesota Statutes require that the asset value used for actuarial purposes recognize only a third of the unrealized gains and losses. This 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 calculation of the Actuarial Value of Assets is shown in Table 1 on lines F1 to F6. It combines the cost value of the Assets Available for Benefits and one-third of the difference between the market value and cost value of those assets.

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 (Post Fund). After the Post Fund 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 the Post Fund.

Actuarial Balance Sheet (Table 2)

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.

Actuarial Cost Method (Table 3)

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 3) to the actuarial balance sheet (Table 2) 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 the corresponding liabilities, on the basis of service. The method used in Table 3 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 2 and line A6, column 1 of Table 3).

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 of July 1, 2020, by a series of payments that remain a constant percentage of payroll each year.

Sources of Actuarial Gains and Losses (Table 4)

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 expectation. For a detailed analysis of the major components, refer to Table 4.

Contribution Sufficiency (Table 5)

This report determines the adequacy of Statutory Contributions by comparing the Statutory Contributions of 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 5 shows the Plan has a contribution sufficiency since the Statutory Contribution Rate is 10% compared to the Required Contribution Rate of 9.82%.

Changes in Actuarial Assumptions

There were no changes in actuarial assumptions for the current valuation.

Changes in Plan Provisions

There were no changes in the plan provisions which affected plan costs for the current valuation.

Statutory contribution rates for employers is reduced from last year reflecting the removal of any supplemental contribution requirement.

Statement of Plan Net Assets

Table 1

July 1, 1998

(Dollars in Thousands)

	Market Value	Cost Value
A. Assets in Trust		
1. Cash, Equivalents, Short-term Securities	$ 78,602	$ 78,602
2. Fixed Income	1,750,748	1,733,587
3. Equity	5,766,088	4,774,823
4. Real Estate	306,444	242,618
5. Equity in the Post Fund	5,570,230	5,570,230
6. Invested Securities Lending Collateral	1,484,023	1,484,023
7. Other	1,085	1,085
Subtotal	$ 14,957,220	$ 13,884,968
B. Assets Receivable	23,243	23,243
C. Liabilities		
1. Invested Security Lending	(1,484,023)	(1,484,023)
2. Other	(54,059)	(54,059)
3. Total Liabilities	($1,538,082)	($1,538,082)
D. Net Assets Held in Trust for Pension Benefits		
1. Post Fund Reserves	5,570,230	5,570,230
2. Member Reserves	1,303,006	1,303,006
3. Other Non-Post Fund Reserves	6,569,145	5,496,893
4. Total Assets Available for Benefits	$ 13,442,381	$ 12,370,129
E. Determination of Actuarial Value of Assets		
1. Cost Value of Assets Available for Benefits (D4)		$ 12,370,129
2. Market Value (D4)	$ 13,442,381	
3. Cost Value (D4)	12,370,129	
4. Market Over Cost (E2 – E3)	$ 1,072,252	
5. One-third of Market Over Cost (E4) ÷ 3		357,417
6. Actuarial Value of Assets (E1 + E5) (Same as *Current Assets*)		$ 12,727,546

Actuarial Balance Sheet

Table 2

July 1, 1998

(Dollars in Thousands)

A. Current Assets (Table 1, E6)			$ 12,727,546
B. Expected Future Assets			
1. Present Value of Expected Future Statutory Supplemental Contributions (See Table 5)			70,513
2. Present Value of Future Normal Costs			2,336,257
3. Total Expected Future Assets			$ 2,406,770
C. Total Current and Expected Future Assets			$ 15,134,316

D. Current Benefit Obligations	**Non-Vested**	**Vested**	**Total**
1. Benefit Recipients			
a. Retirement Annuities		$5,362,431	$ 5,362,431
b. Disability Benefits		92,839	92,839
c. Surviving Spouse and Child Benefits		228,556	228,556
2. Deferred Retirements with Future Augmentation		352,333	352,333
3. Former Members without Vested Rights		49,425	49,425
4. Active Members			
a. Retirement Annuities	12,686	4,818,667	4,831,353
b. Disability Benefits	180,075	0	180,075
c. Survivor Benefits	60,858	0	60,858
d. Deferred Retirements	1,401	81,306	82,707
e. Refund Liability Due to Death or Withdrawal	0	91,890	91,890
5. Total Current Benefit Obligations	$255,020	$11,077,447	$11,332,467

E. Expected Future Benefit Obligations	$ 3,050,102
F. Total Current and Expected Future Benefit Obligations	$14,382,569
G. Current Unfunded Actuarial Liability (D5 – A)	($ 1,395,079)
H. Current and Future Unfunded Actuarial Liability (F – C)	($ 751,747)

Determination of Unfunded Actuarial Accrued Liability (UAAL) and Supplemental Contribution Rate — Table 3

July 1, 1998

(Dollars in Thousands)

	Actuarial Present Value of Projected Benefits	Actuarial Present Value of Future Normal Costs	Actuarial Accrued Liability
	(1)	(2)	(3) = (1) – (2)
A. Determination of Actuarial Accrued Liability (AAL)			
1. Active Members			
a. Retirement Annuities	$ 7,614,338	$ 1,875,809	$ 5,738,529
b. Disability Benefits	297,353	119,165	178,188
c. Survivor Benefits	95,509	35,470	60,039
d. Deferred Retirements	149,926	74,379	75,547
e. Refunds Due to Death or Withdrawal	139,859	231,434	(91,575)
f. Total	$ 8,296,985	$ 2,336,257	$ 5,960,728
2. Deferred Retirements with Future Augmentation	352,333		352,333
3. Former Members without Vested Rights	49,425		49,425
4. Annuitants in the Post Fund	5,570,230		5,570,230
5. Recipients Not in the Post Fund	113,596		113,596
6. Total	$ 14,382,569	$ 2,336,257	$ 12,046,312
B. Determination of Unfunded Actuarial Accrued Liability (UAAL)			
1. AAL (A6)			$ 12,046,312
2. Current Assets (Table 1, E6)			12,727,546
3. UAAL (B1 – B2)			($ 681,234)
C. Determination of Supplemental Contribution Rate			
1. Present Value of Future Payrolls through the amortization date of July 1, 2020			$ 39,174,114
2. Supplemental Contribution Rate (B3 ÷ C1)			0.00%

Changes in Unfunded Actuarial Accrued Liability (UAAL)

Table 4

Fiscal Year Ending June 30, 1998

(Dollars in Thousands)

A. UAAL at Beginning of Year	($ 140,122)
B. Change Due to Interest Requirements and Current Rate of Funding	
1. Normal Cost and Expenses	$ 243,611
2. Contribution	(275,418)
3. Interest on A, B1 and B2	($ 13,262)
4. Total (B1 + B2 + B3)	($ 45,069)
C. Expected UAAL at End of Year (A + B4)	($ 185,191)
D. Increase (Decrease) Due to Actuarial Losses (Gains)	
Because of Experience Deviations from Expected	
1. Salary Increases	($ 74,652)
2. Investment Return	(638,249)
3. Post Fund Mortality	10,260
4. Mortality of Other Benefit Recipients	1,058
5. Other Items	205,540 *
6. Total	($ 496,043)
E. UAAL at End of Year Before Plan Amendments and Changes in Actuarial Assumption (C + D6)	($ 681,234)
F. Change in Actuarial Accrued Liability Due to Plan Amendments	0
G. Change in Actuarial Accrued Liability Due to Changes in Actuarial Assumptions	0
H. UAAL at End of Year (E + F + G)	($ 681,234)

*Differences in the amounts recognized as employer contributions and the methodology in calculating benefit values for vested and non-vested inactive members are estimated to account for 60 to 70 percent of this other loss item.

Determination of Contribution Sufficiency — Table 5

July 1, 1998

(Dollars in Thousands)

	Percent of Payroll	Dollar Amount
A. Statutory Contributions - Chapter 354		
1. Employee Contributions	5.00%	$128,538
2. Employer Contributions	5.00%	128,538
3. Total	10.00%	$257,076
B. Required Contributions - Chapter 356		
1. Normal Cost		
a. Retirement Benefits	7.78%	$199,869
b. Disability Benefits	0.47%	12,099
c. Survivor Benefits	0.15%	3,759
d. Deferred Retirement Benefits	0.23%	5,979
e. Refunds Due to Death or Withdrawal	0.97%	24,808
f. Total	9.60%	$246,514
2. Supplemental Contribution Amortization by July 1, 2020 of UAAL	0.00%	0
3. Allowance for Expenses	0.22%	5,653
4. Total	9.82%	$252,167
C. Contribution Sufficiency (Deficiency) [A3 – B4]	0.18%	$ 4,909

Note: Projected annual payroll for fiscal year beginning on July 1, 1998 is $2,569,368.

Summary of Actuarial and Unfunded Actuarial Liabilities

(Dollars in Thousands)

Valuation as of June 30	Aggregate Actuarial Liabilities	Valuation Assets	Assets as a % of Actuarial Liabilities	Unfunded Accrued Liabilities (UAL)	Annual Active Member Payroll	UAL as a % of Annual Active Member Payroll
1989	$6,249,413	$4,567,997	73.1%	$1,681,416	$1,723,122	97.6%
1990	6,611,074	5,131,999	77.6%	1,479,075	1,785,459	82.8%
1991	7,213,720	5,614,924	77.8%	1,598,796	1,874,365	85.3%
1992	7,662,522	6,324,733	82.5%	1,337,789	1,934,014	69.2%
1993	8,266,059	7,045,937	85.2%	1,220,122	2,024,000	60.3%
1994	9,115,266	7,611,935	83.5%	1,503,331	2,104,578	71.4%
1995	9,717,623	8,348,124	85.9%	1,369,499	2,197,262	62.3%
1996	10,366,168	9,541,221	92.0%	824,947	2,252,383	36.6%
1997	10,963,637	11,103,759	101.3%	(140,122)	2,359,011	(5.9%)
1998	12,046,312	12,727,546	105.6%	(681,234)	2,422,958	(28.1%)

Solvency Test

(Dollars in Thousands)

Valuation as of June 30	Aggregate Accrued Liabilities: (1) Member Contributions	(2) Retirees and Beneficiaries	(3) Members (Employer Financed Portion)	Valuation Assets	Portion of Actuarial Accrued Liabilities Covered by Reported Assets: (1)	(2)	(3)
1989	$ 733,650	$1,880,080	$3,635,683	$ 4,567,997	100%	100%	53.8%
1990	787,514	2,093,209	3,730,351	5,131,999	100%	100%	60.4%
1991	838,160	2,370,851	4,004,709	5,614,924	100%	100%	60.1%
1992	886,618	2,662,744	4,113,160	6,324,733	100%	100%	67.5%
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%

Schedule of Active Member Valuation Data

Year Ended June 30	Active Members	Annual Payroll	Annual Average	% Increase in Average Pay
1989	64,796	$1,723,121,553	$26,593	5.6%
1990	64,324	1,785,459,190	27,757	4.4%
1991	65,093	1,874,364,682	28,795	3.7%
1992	65,557	1,934,014,000	29,501	2.5%
1993	65,268	2,024,000,000	31,017	5.0%
1994	66,514	2,104,578,000	31,641	2.1%
1995	67,558	2,197,262,000	32,524	2.8%
1996	68,490	2,252,383,000	32,888	1.1%
1997	68,554	2,359,011,000	34,411	4.6%
1998	68,247	2,422,958,000	35,503	3.2%

Schedule of Retirees and Beneficiaries

Year Ended June 30	Added During Year	Removed During Year	Number End of Year	Total Annual Benefits	% Increase in Total Annual Benefits	Average Annual Benefits
1989	994	501	16,385	$160,849,985	8.5%	$ 9,817
1990	1,262	511	17,136	179,792,053	11.8%	10,492
1991	1,499	541	18,094	200,415,271	11.5%	11,076
1992	1,630	512	19,212	227,066,655	16.7%	11,819
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

Statistical Section

Plan Summary

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 onetime 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 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% of their annual salary while Coordinated Plan members (coordinated with Social Security coverage) contribute 5% of their annual salary.

Employer Contributions

Local school districts and other TRA covered employer units provide contributions of 9% of total salary for members in the Basic Plan and 5% 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.

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% of average salary for the first 10 years of allowable service and 1.7% of average salary for each subsequent year of allowable service with a reduction of 0.25% 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% of average salary for each year of allowable service with augmented actuarial reduction (approximately 4.0%-5.5% 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 percentage factor.

For Basic system members (those without Social Security coverage) the formula percentages are 2.2% and 2.7% rather than the 1.2% and 1.7% 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% of average salary for each year of allowable service with augmented actuarial reduction (approximately 4.0%-5.5% 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. For those born in 1955 through 1959, the retirement age gradually increases up to age 67. For those born in 1960 and later, the retirement age is 67.

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. The benefit is augmented by 3% interest compounded annually until January 1 of the year following attainment of age 55 and 5% 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% to 6%. This increase recognizes that future post retirement annual adjustments will be 1% less. Members who terminate service after June 30, 1997 and whose benefits commence 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), 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 1.5 percent based on the CPI 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 six 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 member who has combined total years of allowable service which meet the minimum vesting requirements with any two or more of the 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 of the covered funds in which allowable service was established.

Refunds

Upon termination of teaching service and application, TRA will issue a refund of a member's accumulated contributions plus 5% interest compounded annually if termination occurred before May 16, 1989, and 6% 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% 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 below) 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% 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 below) 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% 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 Ended June 30	Member Contributions	Employer Contributions	Net Investment Income	Other	Total
1989	$ 81,728,962	$160,288,707	$ 487,768,451	$ 915,744	$ 730,701,864
1990	84,542,414	166,098,804	515,536,558	926,288	767,104,064
1991	89,313,081	159,439,219	426,529,649	1,964,986	677,246,935
1992	91,505,605	162,369,508	707,624,183	1,942,689	963,441,985
1993	94,709,399	168,070,511	682,492,365	2,347,431	947,619,706
1994	100,803,239	171,854,594	703,964,661	8,752,052	985,374,546
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

Ten-Year Summary of Expenditures
(By Type)

Year Ended June 30	Retirement Benefits	Survivor Benefits	Disability Benefits	Refunds	Administrative Expenses	Other	Total
1989	$156,417,938	$2,267,668	$2,164,380	$5,347,598	$2,493,783	$ - 0 -	$168,691,367
1990	174,693,669	2,641,650	2,456,735	6,445,983	2,631,691	- 0 -	188,869,728
1991	194,589,338	2,921,349	2,904,585	5,554,181	2,790,089	714,476	209,474,018
1992	220,352,768	3,314,799	3,399,088	5,494,749	2,895,659	775,682	236,232,745
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	4,341,112	4,213,376	3,583,342	3,338,007	614,377	316,572,496
1995	328,764,719	5,125,383	4,967,050	4,619,063	3,665,748	2,008,430	349,150,393
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

Summary of Changes in Membership

Fiscal Year ending June 30, 1998

Active and Inactive Members

	Active		Inactive	
	Basic	**Coordinated**	**Basic**	**Coordinated**
Total June 30, 1997	54	68,486	76	22,956
Additions				
New hires	—	4,615	—	—
New inactives from active	—	—	—	4,554
Returns from inactive	—	1,343	—	—
Returns from retired	—	554	—	—
Returns from terminated	—	—	—	46
Restored write-offs	—	134	—	117
Repaid refunds	—	—	10	138
Transfers from nonstatus	—	—	—	77
System change to	—	3	1	—
Deletions				
Service retirements	(20)	(1,667)	(23)	(399)
Deaths	—	(33)	(1)	(40)
Refunds	—	(489)	—	(820)
Writeoffs	—	—	(3)	(1,423)
Terminated (no refund)	—	(4,554)	—	—
Returns to active	—	—	—	(1,343)
Transfers to IRAP	—	(7)	—	—
System change from	(3)	—	—	(1)
Data adjustments	1	(170)	1	(16)
Total June 30, 1998	**32**	**68,215**	**61**	**23,846**

	Basic System	Coordinated System	Total
Active	32	68,215	68,247
Inactive	61	23,846	23,907
Total	93	92,061	92,154

Summary of Changes in Membership (continued)

Fiscal Year ending June 30, 1998

Annuitants

	Basic			Coordinated		
	Men	Women	Total	Men	Women	Total
Total annuitants June 30, 1997	2,036	2,979	5,015	8,648	10,004	18,652
Members retired during year	13	26	39	1,026	907	1,933
Annuities terminated by law	—	(1)	(1)	—	—	—
Annuities cancelled	—	—	—	(1)	—	(1)
Annuitants deceased during year	(64)	(117)	(181)	(152)	(228)	(380)
Total annuitants June 30, 1998	1,985	2,887	4,872	9,521	10,683	20,204
Annuitants not receiving warrants June 30, 1998	—	—	—	(7)	(3)	(10)
Total active annuitants June 30, 1998	1,985	2,887	4,872	9,514	10,680	20,194

Other Annuitants

	Former College Supplemental Retirement Annuities			Former Variable Annuities		
	Men	Women	Total	Men	Women	Total
Active annuitants June 30, 1997	78	52	130	530	328	858
Members retired during year	—	—	—	—	—	—
Members re-employed or terminated by law	(2)	(1)	(3)	(4)	—	(4)
Annuitants deceased during year	(3)	(4)	(7)	(5)	(8)	(13)
Total annuitants June 30, 1998	73	47	120	521	320	841
Annuitants not receiving warrants June 30, 1998	—	—	—	—	—	—
Total active annuitants June 30, 1998	73	47	120	521	320	841

Summary of Changes in Membership (continued)

Fiscal Year ending June 30, 1998

Beneficiaries of Members Deceased Prior to Retirement

	Joint & Survivor Annuities			Survivor Annuities		
	Men*	Women*	Total	Men	Women	Total
June 30, 1997	333	142	475	4	67	71
Added during year	22	14	36	—	2	2
Terminated during year	(4)	(2)	(6)	(2)	(6)	(8)
Cancellation	—	—	—	—	—	—
Total June 30, 1998	**351**	**154**	**505**	**2**	**63**	**65**

* Gender of member

Disabilitants

	Basic System			Coordinated System		
	Men	Women	Total	Men	Women	Total
June 30, 1997	12	6	18	185	223	408
Added during year	—	—	—	30	50	80
Died during year	—	—	—	(9)	(12)	(21)
Transferred to retirement	(2)	(2)	(4)	(8)	(8)	(16)
Resumed employment	—	—	—	(3)	(3)	(6)
Total Active Disabilitants June 30, 1998	**10**	**4**	**14**	**195**	**250**	**445**

Beneficiaries of Retired Members

	Basic System			Coordinated System		
	Men*	Women*	Total	Men*	Women*	Total
June 30, 1997	192	52	244	604	157	761
Adjustment	(1)	—	(1)	1	2	3
Added during year	32	4	36	90	32	122
Annuities terminated by law	(3)	(5)	(8)	(21)	(21)	(42)
Deaths	(3)	(1)	(4)	(9)	(7)	(16)
Total June 30, 1998	**217**	**50**	**267**	**665**	**163**	**828**

* Gender of member

Distribution of Active Members

As of June 30, 1998

	Years of Service								
Age	**< 1**	**1-4**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30+**	**All**
< 25	1,523	158	1						1,682
25-29	1,705	5,786	556						8,047
30-34	935	2,640	3,750	281					7,606
35-39	827	1,493	2,317	2,509	198				7,344
40-44	743	1,830	1,519	1,625	2,437	589			8,743
45-49	804	1,709	1,701	1,751	1,808	3,814	1,088	1	12,676
50-54	443	1,070	1,129	1,245	1,245	1,811	4,835	699	12,477
55-59	198	557	480	529	716	865	1,918	2,135	7,398
60-64	148	179	162	186	175	260	411	366	1,887
65+	99	98	33	30	17	26	37	47	387
All	7,425	15,520	11,648	8,156	6,596	7,365	8,289	3,248	68,247

Average Annual Earnings of Active Members

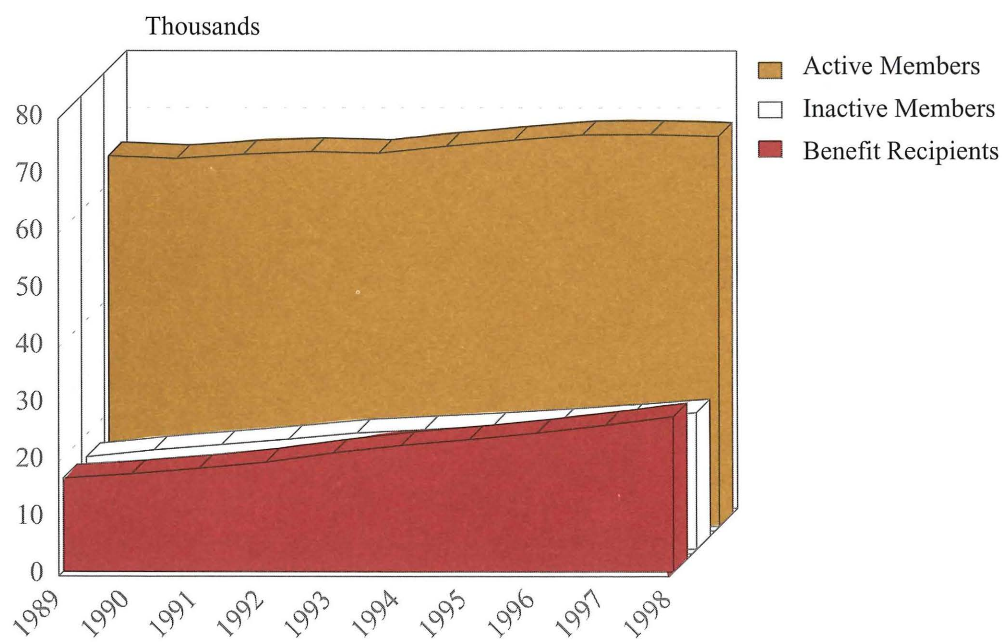
For Fiscal Year Ended June 30, 1998

	Years of Service								
Age	**< 1**	**1-4**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30+**	**All**
< 25	18,290	25,950	1,862						19,000
25-29	16,002	25,177	32,289						23,724
30-34	14,869	25,410	32,819	37,988					28,232
35-39	14,313	24,225	32,638	40,262	42,789	28,949			31,743
40-44	12,874	23,023	33,214	40,412	43,867	47,616			34,630
45-49	12,156	22,002	32,846	40,491	44,555	47,831	48,837	46,198	38,680
50-54	12,019	21,329	32,150	40,817	44,288	49,023	50,561	51,617	43,257
55-59	10,658	15,890	27,673	39,265	44,617	48,640	52,967	53,166	45,166
60-64	8,535	10,923	22,707	32,746	41,819	49,213	54,783	55,484	40,236
65+	6,186	10,765	20,565	34,672	44,573	46,078	55,713	53,972	25,685
All	14,751	23,675	32,358	40,091	44,132	48,245	51,124	53,103	35,510

Ten-Year Summary of Membership

Year Ended June 30	Active Members	Inactive Members	Benefit Recipients
1989	64,796	16,092	16,385
1990	64,324	17,311	17,136
1991	65,093	18,273	18,094
1992	65,557	19,242	19,212
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

Ten-Year Summary of Membership
(In Thousands)



Schedule of Participating Employers

As of June 30, 1998

Independent School Districts (347)

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
Audubon #21
Austin #492
BDRSH #3001
Badger #676
Bagley #162
Balaton #411
Barnesville #146
Barnum #91
Battle Lake #542
Beardsley #57
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 #2860
Braham #314
Brainerd #181
Brandon #207
Breckenridge #846
Brewster #513
Brooklyn Center #286
Browerville #787
Browns Valley #801
Brownton #421
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 #2144
Chisholm #695
Chokio-Alberta #771
Clearbrook-Gonvick #2311
Cleveland #391
Climax #592
Clinton-Graceville #55
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
Duluth #709
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
Emmons #243
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 #245
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 #2862
Janesville-Waldorf-Pemberton #2835
Jordan #717
Karlstad-Strandquist #2358
Kasson-Mantorville #204
Kelliher #36
Kenyon-Wanamingo #2172
Kerkhoven-Murdock-Sunburg #775
Kimball #739
Kingsland #2137
Kittson Central #2171
La Crescent-Hokah #300
Lake Benton #404
Lake City #813
Lake Crystal-Wellcome Memorial #2071
Lake of the Woods #390
Lake Park #24
Lake Superior #381
Lakeview #2167

Lakeville #194
Lancaster #356
Lanesboro #229
Laporte #306
Le Center #392
Le Roy #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
Martin Co. W #2448
McGregor #4
Medford #763
Melrose #740
Menahga #821
Mentor #604
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
Newfolden #441
Nicollet #507
Norman Cty East #2215
Norman Cty West #2527
North Branch #138
North St. Paul-Maplewood #622
Northfield #659
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 #3333
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 #2758
Remer #118
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
Sioux Valley #328
Sleepy Eye #84
So. Koochiching #363
So. St. Paul #6
So. Washington County #833
Southland #500
Spring Grove #297
Spring Lake Park #16
Springfield #85
Staples-Motley #2170
Stephen-Argyle #2856
Stewart #426
Stewartville #534
Stillwater #834
Swanville #486
Thief River Falls #564
Tracy #417
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
Walnut Grove #641
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 #175
Westonka #277
Wheaton #803
White Bear Lake #624
Willmar #347
Willow River #577
Windom #177
Win-E-Mac #2609
Winona #861
Worthington #518
Wrenshall #100
Yellow Medicine East #2190
Zumbrota-Mazeppa #2805

Joint Powers Units (41)

Area Special Ed Coop
Bemidji Regional Interdist. Council
Benton-Stearns Ed. Dist.
Border Region Ed. Dist.
Carver-Scott Ed. Coop.
Central Minnesota ERDC
Central Minnesota ECSU
Fergus Falls Area Special Ed. Coop.
Freshwater Ed. Dist.
Goodhue Co. Ed. Dist.
Hiawatha Valley Ed. Dist.
Intermediate School Dist. #287
Intermediate School Dist. #916
Intermediate School Dist. #917
Lac qui Parle Valley
Lake Agassiz Special Ed. Coop.
Lakes Country Services Coop
Meeker & Wright Special Ed. Coop
Metro Education Coop. Unit
Midstate Ed. Dist.
Midwest Special Ed. Coop.
MN River Valley Special Ed. Coop.
MN Valley Ed. Dist.
MN Valley Cooperative
North Central ECSU #5
N. Country Vocational Coop. Ctr.
Northeast Ed. Dist.
Northwest MN ECSU
Northwest Reg. Interdist. Council
Pine to Prairie Coop. Center
Riverbend Ed. Dist.
Root River Ed. Dist.
Runestone Area Ed. Dist.
Southwest/West Central ECSU
South Central ECSU
Southeast ECSU
Technology and Information Educational Services (TIES)
West Central Ed. Dist.
West Central Migrant Project
Wright Technical Center
Zumbro Ed. Dist.

MN State Colleges and Universities (39)

Akita Japan State University
Alexandria Technical College
Anoka-Hennepin Technical College
Anoka-Ramsey Community College
Bemidji State University
Central Lakes College
Century Community & Technical College
Dakota County Technical College
Fergus Falls Community College
Fond Du Lac Community College
Hennepin Technical College
Hibbing Community College
Inver Hills Community College
Itasca Community College
Lake Superior College
Mankato State University
Mesabi Range Community & Technical College
Metropolitan State University
Minneapolis Community & Technical College
Minnesota West Community & Technical College
MnSCU Board Office
Moorhead State University
North Hennepin Community College
Normandale Community College
Northland Community & Technical College
Northwest Technical College
Pine Technical College
Rainy River Community College
Red Wing/Winona Technical College
Ridgewater College
Riverland Community College
Rochester Community & Technical College
South Central Technical College
Southwest State University
St Cloud State University
St Cloud Technical College
St Paul Technical College
Vermilion Community College
Winona State University

Charter Schools (12)

Bluffview Montessori #4001
Central MN Deaf School #4022
ECHO Charter School #4026
Eci Nompa Woonspe #4028
Emily Charter School #4012
New Country Charter School #4007
New Heights Charter School #4003
PACT Charter School #4008
Summit School for the Arts #4024
Toivola-Meadowlands Charter School #4002
Village School of Northfield #4021
World Learner Charter School #4016

State Agencies (18)

Anoka Metro Regional Treatment Ctr
Brainerd Regional Human Services Ctr
Cambridge Regional Human Services Ctr
Department of Children, Families & Learning
Department of Economic Security
Faribault Regional Treatment Ctr
Faribault Residential Academies
Fergus Falls Regional Treatment Ctr
Higher Education Services Office
MN Center for Arts Education
MN Correctional Facility, Red Wing
MN Correctional Facility, Sauk Center
MN Correctional Facility, Thistledew
MN Department of Corrections
Moose Lake Regional Treatment Ctr
St Peter Regional Treatment Ctr
Teachers Retirement Association
Willmar Regional Treatment Ctr

Professional Organizations (4)

MN Association of School Administrators
MN Education Association
MN Federation of Teachers
Robbinsdale Federation of Teachers