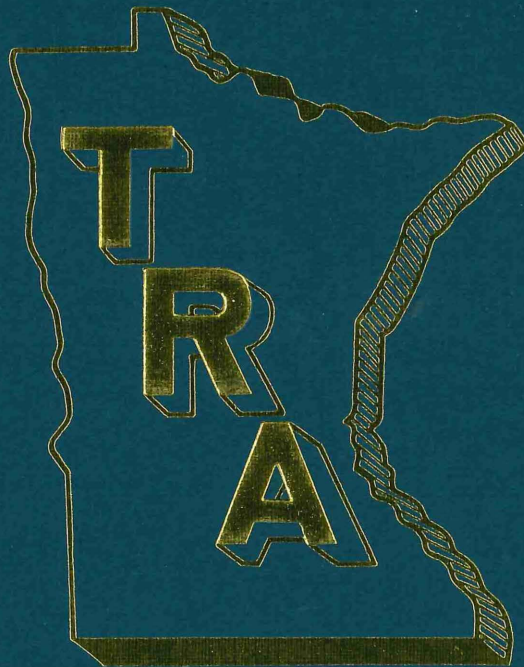




Teachers Retirement Association of the State of Minnesota

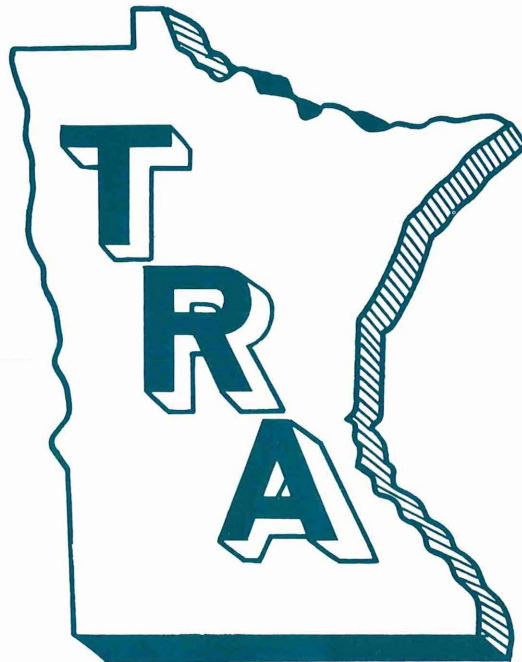


Comprehensive Annual Financial Report
For the Fiscal Year Ended June 30, 1990

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Teachers Retirement Association of the State of Minnesota



**Suite 500, Gallery Building
17 West Exchange Street
St. Paul, MN 55102**

Elton I. Erdahl, Executive Director

**Comprehensive Annual Financial Report
For the Fiscal Year Ended June 30, 1990**

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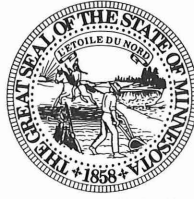
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STATE OF MINNESOTA
TEACHERS RETIREMENT ASSOCIATION

Suite 500, Gallery Building
17 West Exchange Street • St. Paul, MN 55102
TELEPHONE: (612) 296-2409
MINNESOTA TOLL FREE: 1-800-652-9747

December 31, 1990

Board of Trustees
State of Minnesota
Teachers Retirement Association
St. Paul, MN 55102

This is the Annual Report of the Minnesota Teachers Retirement Association for the fiscal year ended June 30, 1990. This report includes the appropriate financial statements with related footnotes, plan summaries, and the opinion of the Legislative Auditor for both the Teachers Retirement Fund and the College Supplemental Retirement Fund. In addition, the Report of the Actuary, various schedules, statistical tables and an investment summary are provided for the Teachers Retirement Fund. A listing of the investment portfolio is available upon request.

The financial statements of the funds are prepared using the accrual basis of accounting. Revenues are recorded when earned and expenditures recorded when obligations are incurred. Fixed assets are recorded at cost and depreciated over the estimated life of the asset. The actuary for the Legislative Commission on Pensions and Retirement determines the actuarial liabilities and reserves under the entry age normal cost method. The College Supplemental Retirement Fund is a defined contribution plan and no actuarial report is required.

Revenues

The three major sources of revenue for the funds are employee and employer contributions plus investment earnings. Total revenues for the Teachers Retirement Fund for '90 were \$772.2 million. This was an increase of 5% over the previous year. For the College Supplemental Retirement Fund, the total of employee and employer contributions increased from \$2,904,140.02 for FY '89 to \$2,942,026.02 for FY '90. Earnings of the College Supplemental Retirement Fund are reflected in monthly share values which are based on the market value of the Fund's investments. With an overall increase in share values during the year, the unrealized appreciation of invested assets was increased by \$10,202,440.40.

Expenditures

The expenditures of the funds consist primarily of payments made to members and beneficiaries for retirement, disability or survivor benefits. Other expenditures include administrative expenses and requested refunds of member contributions upon termination of employment. For FY '90, total expenditures were \$193,944,074.79 for the Teachers Retirement Fund and \$3,389,827.79 for the College Supplemental Retirement Fund. Compared to the previous fiscal year, these expenditures increased 13% for the Teachers Retirement Fund and 1% for the College Supplemental Retirement Fund.

The Teachers Retirement Fund had 1,075 members retire during the year compared to 817 who retired during the previous year. A total of 17,130 members and beneficiaries are now receiving a monthly benefit from the fund. These benefits totaled \$179,792,053.24 for FY '90; an increase of \$18,075,301.63 over the previous year. Members of the College Supplemental Retirement Fund are provided the option of redeeming their share accounts (including employer's matching) and purchasing an annuity paid from the Post Retirement Investment Fund. Several other redemption options are also available.

Refunds of contributions plus interest to members of the Teachers Retirement Fund who terminated teaching service during the year totaled \$5,949,620.42. This is an increase from the previous year's refunds of \$5,347,598.05. Former members and beneficiaries of deceased members of the College Supplemental Retirement Fund received refunds of \$3,257,783.57 during the year, an increase of \$10,050.17 from the previous fiscal year.

All administrative services are provided and paid for by the Teachers Retirement Fund; however, the College Supplemental Retirement Fund reimburses the Teachers Retirement Fund each year for the administrative services it has received. For FY '90, administrative expenses totaled \$2,631,690.75 for the Teachers Retirement Fund and \$132,044.52 for the College Supplemental Retirement Fund. The cost of administration of the Teachers Retirement Fund represented 0.15% of the current covered payroll of all active members.

Funding

The total net assets of the Teachers Retirement Fund on the actuarial balance sheet increased during the past year from \$4,567,997,000 to \$5,131,999,000. The total required reserves as determined by the Actuary for the fund increased from \$6,249,413,000 to \$6,611,074,000. The comparison of net assets to required reserves shows that the funding ratio for FY '90 was 77.63%. This is an increase over the 73.09% funding ratio for the previous year. The unfunded liability decreased by \$216,573,337 during the year but the Actuary has projected that the employer additional contribution rate that was decreased by the 1990 legislature from 4.48% to 3.64% of covered payroll will not be sufficient to amortize the unfunded liability of the fund by the year 2020 which is the full funding target date. The College Supplemental Retirement Fund continues to be fully funded since it is a defined contribution plan and members' contributions are matched currently by employer contributions.

Investments

The investment income of the Teachers Retirement Fund and the Post Retirement Fund continued to provide an important part (67.5%) of the total revenues received during FY '90. This emphasizes the importance of investment income for financing the retirement program and limiting the need for employee and employer contributions. Employee contributions were 10.9% and employer contributions 21.5% of total FY '90 revenues.

Professional Services

Actuarial services are provided to the Teachers Retirement Fund by the firm of Coates, Herfurth & England, Inc. of San Francisco. However, the official actuarial report of the fund is prepared by The Wyatt Company which is retained by the Legislative Commission on Pensions and Retirement for the purpose of preparing actuarial reports for all of the statewide funds. An actuarial study of the College Supplemental Fund is not required. The office of the Attorney General provides legal counsel to the funds. The State Legislative Auditor conducts an annual financial audit of the funds with appropriate comments included on page 15 of this report. The State Board of Investment is responsible for all investment transactions of the funds. Further information regarding investments held by the Teachers Retirement Fund can be found under the "Investments" section of this report. All financial transactions, including disbursements from the funds, are processed through the Statewide Accounting System under the supervision of the Department of Finance.

Reports to Members

An annual statement of account for the fiscal year ended June 30, 1990 was distributed to each active member in December, 1990. This statement provides current and cumulative information regarding salaries, contributions, and service credit. Projected and deferred retirement benefit estimates are also provided for eligible members. A Plan Summary, as well as, summaries of the Annual Financial and Actuarial Reports of the Fund for the year ended June 30, 1990 will be distributed to each active member in a January, 1991 newsletter.

Acknowledgments

This report was prepared by the staff of the Teachers Retirement Association and it is intended to fairly present the financial status of both the Teachers Retirement Fund and the College Supplemental Retirement Fund. Other reliable information is also included. A copy of this report will be mailed to each public school building in the state.

Respectfully submitted,



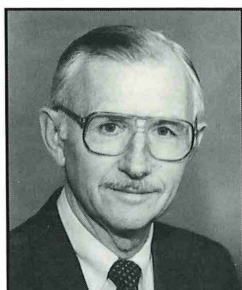
Elton I. Erdahl
Executive Director

BOARD OF TRUSTEES

(As of December 1, 1990)

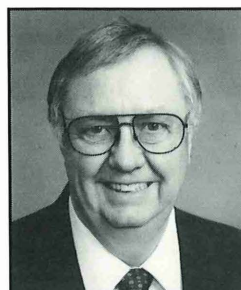
Elected Members

President



Vernell R. Jackels
Winona Public Schools
Member since 1985
Term expires 7/1/93

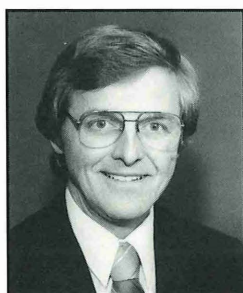
Vice President



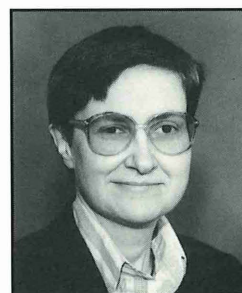
Mark Evans, Retiree
Staples, MN
Member since 1975
Term expires 7/1/91



Carol F. Ackerson
New Ulm Public Schools
Member since 1987
Term expires 7/1/91



Curtis D. Hutchens
St. Cloud Public Schools
Member since 1987
Term expires 7/1/91



Martha Lee Zins
Hopkins Public Schools
Member since 1989
Term expires 7/1/93

Ex-Officio Members

Thomas H. Borman
Commissioner of Commerce

Tom Nelson
Commissioner of Education

Peter C. Hutchinson
Commissioner of Finance

ADMINISTRATIVE STAFF

Elton I. Erdahl, Executive Director

John J. Gardner, Assistant Executive Director
Member Services and Records Division

Gary Austin, Assistant Executive Director
Finance and Systems Division

TEACHERS RETIREMENT FUND PLAN SUMMARY

Purpose

The Teachers Retirement Fund was established on July 1, 1931 by the Minnesota 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

The management of the Teachers Retirement Fund is vested in a board of eight trustees — three are ex-officio and five are elected. The ex-officio trustees are the Commissioner of Education, the Commissioner of Finance and the Commissioner of Commerce. 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 appoints an actuary and uses legal counsel provided by the Attorney General's office.

Membership

All teachers employed in Minnesota's public elementary and secondary schools, state universities, community colleges and all other educational institutions maintained by the State (except those teachers employed by the cities of Minneapolis, St. Paul, and Duluth or by the University of Minnesota) are required to be members; however, no state university or community college teacher first employed after June 30, 1989 is a member except for purposes of Social Security coverage and no state university or community college teacher first employed before July 1, 1989 is a member except for purposes of Social Security coverage if that person elects coverage by the Individual Retirement Account Plan administered by the State University and Community College Boards.

Retirement Service Credit

Service credit for benefits is earned from teaching service performed on a full-time, part-time or substitute basis. In addition, 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 at least 170 full days in any fiscal year, credit is given for a full year of teaching service. 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.

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 system of membership. Basic system members (without Social Security coverage) contribute 8.5% of their annual salary while Coordinated system members (with Social Security coverage) contribute 4.5% of their annual salary. The Basic system of membership is being phased out.

Employer Contributions

Local school districts and other TRA covered employer units provide matching contributions of 8.5% of total salary for members in the Basic system and 4.5% of total salary for members in the Coordinated system. In addition, the employer unit contributes an amount equal to 3.64% of total salary for amortizing the unfunded liability. For Coordinated system 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. The formula includes three component parts: the average of the highest five successive annual salaries, an accumulated percentage factor based on the total years of service credit, and the age of the member at retirement. **The retirement benefits for members who were first hired before July 1, 1989 are different than the retirement benefits for members who were first hired after June 30, 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% of average salary for the first 10 years of allowable service and 1.5% 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 (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

1.5% of average salary for each year of allowable service with augmented actuarial reduction for each month the member is under age 65 (approximately 4%-5% per year).

Early retirement benefit eligibility is age 55 with 3 or more years of allowable service (10 or more years of allowable service if termination of teaching service occurs before July 1, 1987 and 5 or more years of allowable service if termination of teaching service occurs after June 30, 1987 but before May 16, 1989); but any age with at least 30 years of allowable service.

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:

1.5% of average salary for each year of allowable service with augmented actuarial reduction (approximately 4%-5% per year) for each month the member is under the full Social Security retirement benefit eligible age. Under current federal law, the retirement age for full Social Security retirement benefits is age 65 but starting in the year 2003, Social Security will gradually increase the retirement age for full Social Security retirement benefits until it reaches age 67 in the year 2027.

Early retirement benefit eligibility is age 55 with 3 or more years of allowable service.

For Basic system members (those without Social Security coverage) the formula percentages are 2.0% and/or 2.5% rather than the 1.0% and/or 1.5% shown for Coordinated system members (those with Social Security coverage).

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.

Annuity Plan Options

Monthly annuity payments are always made to the annuitant for as long as the annuitant lives. The annuitant may provide survivors benefits to designated beneficiaries by selecting one of several annuity plan options listed below:

1. Life Plan B-1, Guaranteed Refund
2. Life Plan C-3, 15 Year Certain
3. Life Plan E-1, Survivorship in Full with "Bounceback"
4. Life Plan E-2, Survivorship in Half with "Bounceback"

Post Retirement Increases

The required reserves needed to pay retirement benefits are transferred from the fund's regular assets to the Minnesota Post Retirement Investment Fund (MPRIF) at the time of retirement. Benefits may be increased periodically based on the income yield of the MPRIF in excess of the 5% assumed earnings rate. There is a guarantee that benefits will never be decreased below the original amount established at retirement as adjusted by the periodic 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 appropriate 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 compounded interest at the annual rate of 6%.

Disability

Any active member, who becomes disabled after at least three years of allowable service, is eligible to apply for a total and permanent disability provided at least two of the required three years of allowable service are performed after last becoming a member. Total and permanent disability is defined 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.

Coordinated Survivor Benefits

If a coordinated member with Social Security coverage dies before retirement, the total amount of accumulated contributions (plus 5% interest compounded annually if death occurred before May 16, 1989 and 6% interest compounded annually if death occurred on or after May 16, 1989) 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.

Basic Survivor Benefits

If an active 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 \$1,000.00 per month. If the member is not married and there are no dependent children, then the total amount of accumulated contributions (plus 5% interest compounded annually if death occurred before May 16, 1989 and 6% interest compounded annually if death occurred on or after May 16, 1989) is paid to the designated beneficiary.

Joint and Survivor Annuity

Married members who have attained the age of 50 with at least three years of allowable service credit, or those with 30 or more years of allowable service credit regardless of age, are eligible for this survivor benefit. This monthly annuity is payable to the spouse or to a designated beneficiary in the event of the member's death before retirement. The amount of the Joint and Survivor Annuity is based upon the ages of the member and spouse or beneficiary on the member's date of death; however, for members who die before age 55 with less than 30 years of allowable service credit, annuity payments cannot begin until the member would have attained at least the age of 55.

COLLEGE SUPPLEMENTAL RETIREMENT FUND PLAN SUMMARY

The College Supplemental Retirement Plan was established by the 1967 Legislature to cover all unclassified employees of the State University Board and the Community College Board who have completed their second year of full-time service. The Supplemental Retirement Plan was designed as an incentive to keep qualified teachers at the state universities and community colleges. Presently, there are approximately 3,379 active and 1,112 inactive participants. Participation in the Supplemental Retirement Plan is mandatory for all eligible college personnel.

Members of the Supplemental Retirement Plan contribute 5% of their salary between \$6,000 and \$15,000. Effective July 1, 1990, deductions from the salary of most eligible persons must be withheld at the rate of 5% on that portion of fiscal year salary between \$6,000 and \$26,000 to a maximum deduction of \$1,000. Persons not covered by a collective bargaining agreement or personnel policy providing for these increased deductions will continue to have deductions from salary withheld at the rate of 5% on that portion of fiscal year salary between \$6,000 and \$15,000 to a maximum deduction of \$450. These contributions are matched by the member's employer and the combined amount (minus a 2% administrative charge) is invested and posted monthly to the member's individual account. All shares are purchased and redeemed on the first of each month.

The net contributions received from members for the 1989-90 fiscal year were \$1,471,013 and an equal amount for the employer's matching portion.

The general ledger of the College Supplemental Retirement Fund reflects total net assets as of June 30, 1990 of \$117.8 million. The administrative expenses were \$132,044 for the 1989-90 fiscal year.

At the election of the member, contributions made to the College Supplemental Retirement Fund are invested in shares of the Income, Growth, Common Stock Index, Money Market, Bond Market or Guaranteed Return accounts of the Minnesota Supplemental Investment Fund administered by the State Board of Investment. The Guaranteed Return account was available for the first time on November 1, 1989. If no election is made by the member, contributions are automatically invested in the Income account. The State Board of Investment computes the market value of the investments in the various accounts on a monthly basis and determines a new share value of the accounts. These share values are used for all investments and withdrawals from the fund during the month. Twice each year, each participant is entitled to indicate in writing how they wish to have their future Supplemental contributions invested. In addition, twice each year, members may transfer previously invested accumulations to other accounts except that transfers to the Guaranteed Return account can only be made once each year during September.

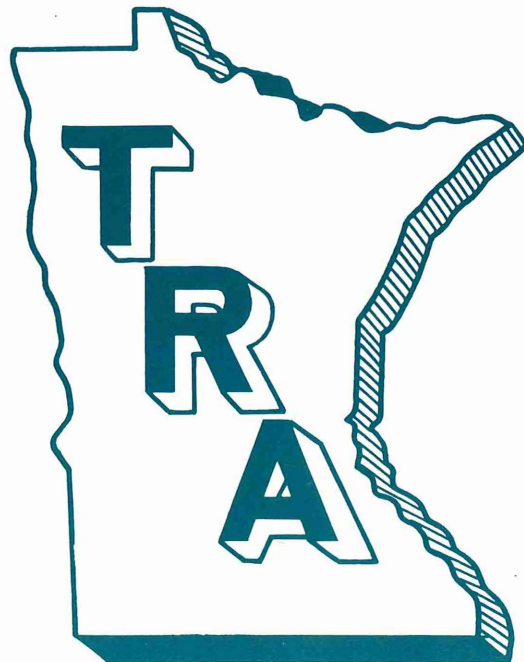
A member's account remains invested in the fund until the member retires, dies or terminates service. Certain rules govern whether the member will receive only the employee contributions or the employer's matching contributions as well. Upon retirement at age 55 or older, the member (or upon death, the spouse) receives the market value of the account including the employer's contributions. Upon termination before age 55, if the member applies for a refund, the member receives only the market value of the member's contributions and forfeits the employer's contributions. If the member has reached the age of 55, the member may elect to purchase an annuity. Under this election, both the member's and the employer's contributions, at current market value, are used to purchase the annuity.

In cases where the member applies for a refund and forfeits the employer's contributions, the forfeited amount is credited to the fund and is used to pay administrative expenses of the fund.

Annual statements of account are mailed to members each fall. The annual statement shows beginning and ending balances, and all account activity for the previous fiscal year.

The 1990 Legislature authorized the TRA Executive Director to transfer the administrative records of the College Supplemental Retirement Plan to the Chancellor of the State University System and the Chancellor of the State Community College System on July 1, 1991. **Effective July 1, 1991, the State University System Chancellor and the Community College System Chancellor shall administer the Supplemental Retirement Plan for their respective employees.**

Financial Section





STATE OF MINNESOTA

OFFICE OF THE LEGISLATIVE AUDITOR

VETERANS SERVICE BUILDING, ST. PAUL, MN 55155 • 612/296-4708

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 Fund and the College Supplemental Fund, which is part of the Defined Benefit Pension Fund and the Defined Contribution Fund respectively, of the State of Minnesota as of and for the year ended June 30, 1990, as listed in the financial section of the table of contents. These financial statements are the responsibility of the Teachers Retirement Association's management. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with generally accepted government auditing standards. 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.


As explained in Note 2b, investments in marketable equity securities are valued at the lower of cost or market and other investments are valued at cost as required by generally accepted accounting principles. Minnesota Statutes require valuation of all securities at cost plus one-third of the unrealized capital gains or losses. Since the statutory provision deviates from generally accepted accounting principles, the basic statements are not in compliance with the statute. Note 1d contains the disclosures which must be considered together with the basic financial statements to achieve statutory reporting requirements.

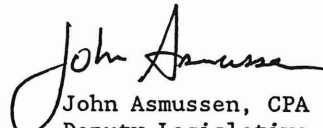
The financial statements present only the Teachers Retirement Fund and the College Supplemental Fund as part of the Defined Benefit Pension Fund and the Defined Contribution Fund respectively, of the State of Minnesota and are not intended to present fairly the financial position and results of operations of the Teachers Retirement Association or the State of Minnesota in conformity with generally accepted accounting principles.

Board of Trustees
and
Executive Director
Teachers Retirement Association
Page 2

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Teachers Retirement Fund and College Supplemental Fund as of June 30, 1990, and the results of their operations and the changes in financial position and net assets for the year then ended in conformity with generally accepted accounting principles. In addition, except for the valuation of securities, as discussed in the preceding paragraph, the aforementioned financial statements are in compliance with the reporting requirements of Minnesota Statute Section 356.20.

Our audit was made for the purpose of forming an opinion on the individual fund financial statements. The schedule of administrative expenses included in the financial section is presented for purposes of additional analysis and is not a required part of the financial statements of the Teachers Retirement or College Supplemental Funds. 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.


James R. Nobles
Legislative Auditor
December 7, 1990


John Asmussen, CPA
Deputy Legislative Auditor

**TEACHERS RETIREMENT FUND
BALANCE SHEET
June 30, 1990 and 1989**

ASSETS		
	1990	1989
Cash	\$ 1,052,135.96	\$ 2,147,777.24
Accounts Receivable	30,874,942.12	28,292,503.13
Due from Other Funds	0	16,707,101.76
Accrued Investment Income	192,620.60	299,054.89
Prepaid Expense	16,587.16	18,956.76
Investments:		
Outside Managed Pooled Accounts (Notes 2 & 7)	2,984,399,325.04	2,548,550,935.12
Short-term Cash Equivalents (Notes 2 & 7)	33,413,339.02	52,553,746.19
Equity in Investment Funds (Note 8)	2,025,602,999.97	1,819,304,000.19
Fixed Assets Net of Accumulated Depreciation	329,638.06	374,368.43
Total Assets	<u>\$ 5,075,881,587.93</u>	<u>\$ 4,468,248,443.71</u>
 LIABILITIES AND RESERVES REQUIRED		
Liabilities:	1990	1989
Current —		
Accounts Payable	\$ 2,709,940.31	\$ 781,361.24
Due to Other Funds	27,441,051.94	0
Accrued Compensated Absences	222,139.49	192,963.17
Total Liabilities	<u>\$ 30,373,131.74</u>	<u>\$ 974,324.41</u>
Fund Balance:		
Member Reserves	\$ 787,514,052.79	\$ 733,650,187.18
Investment Fund Reserves	2,025,602,999.97	1,819,304,000.19
Benefit Reserves	3,797,956,947.24	3,696,458,812.63
Total Reserves (Note 1)	<u>\$ 6,611,074,000.00</u>	<u>\$ 6,249,413,000.00</u>
Unreserved Fund Balance:		
Unfunded Actuarial Accrued Liability (Note 1)	<u>\$(1,565,565,543.81)</u>	<u>\$(1,782,138,880.70)</u>
Total Unreserved Fund Balance (Note 1)	<u>\$(1,565,565,543.81)</u>	<u>\$(1,782,138,880.70)</u>
Total Fund Balance	<u>\$ 5,045,508,456.19</u>	<u>\$ 4,467,274,119.30</u>
Total Liabilities and Fund Balance	<u>\$ 5,075,881,587.93</u>	<u>\$ 4,468,248,443.71</u>

The accompanying notes are an integral part of the financial statements.

TEACHERS RETIREMENT FUND
STATEMENT OF REVENUES, EXPENSES, AND CHANGES IN FUND BALANCE
For Fiscal Years Ended June 30, 1990 and 1989

	<u>1990</u>	<u>1989</u>
Operating Revenues:		
Member Contributions (Notes 1 & 4)	\$ 84,542,414.34	\$ 81,728,962.30
Employer Contributions (Notes 1 & 4)	166,098,804.41	160,288,707.04
Investment Income	361,493,629.67	291,333,776.27
Distributed Income from Equity in Investment Funds (Note 8)	159,117,274.93	199,337,747.39
Other	926,288.33	915,743.74
Total Operating Revenues	<u>\$ 772,178,411.68</u>	<u>\$ 733,604,936.74</u>
Operating Expenses:		
Benefits Paid (Notes 1 & 5)	\$ 179,792,053.24	\$ 160,849,985.42
Refunds	6,445,983.48	5,347,598.05
Administrative Expenses	2,631,690.75	2,493,783.01
Investment Management Fees	5,074,347.32	2,903,073.46
Total Operating Expenses	<u>\$ 193,944,074.79</u>	<u>\$ 171,594,439.94</u>
Net Fund Balance Additions	\$ 578,234,336.89	\$ 562,010,496.80
Fund Balance, July 1, 1989	4,467,274,119.30	3,905,263,622.50
Fund Balance, June 30, 1990	<u>\$5,045,508,456.19</u>	<u>\$4,467,274,119.30</u>

The accompanying notes are an integral part of the financial statements.

**TEACHERS RETIREMENT
STATEMENT OF REVENUES, EXPENSES,
For Fiscal Years**

	<u>Member</u>
Operating Revenues:	
Member Contributions (Notes 1 & 4)	\$ 84,269,422.76
Employer Contributions (Notes 1 & 4)	0
Investment Income	0
Distributed Income from Equity in Investment Funds (Note 8)	0
Other	0
Total Operating Revenues	<u>\$ 84,269,422.76</u>
Operating Expenses:	
Benefits Paid (Notes 1 & 5)	\$ 0
Refunds	5,949,620.42
Administrative Expenses	0
Investment Management Fees	0
Total Operating Expenses	<u>\$ 5,949,620.42</u>
Other Changes in Reserves:	
Annuities Awarded	\$(25,859,282.87)
Other Transfers	1,403,346.14
Mortality	0
Total Other Changes	<u>\$(24,455,936.73)</u>
Net Fund Balance Additions	\$ 53,863,865.61
Change in Unfunded Accrued Liability	0
Fund Balance, July 1, 1989	733,650,187.18
Fund Balance, June 30, 1990	<u>\$787,514,052.79</u>

The accompanying notes are an integral part of the financial statements.

FUND
AND CHANGE IN FUND BALANCES
Ended June 30, 1990 and 1989

Reserves

<u>Investment Funds</u>	<u>Benefit</u>	<u>Unreserved Fund Balance</u>	<u>Total June 30, 1990</u>	<u>Total June 30, 1989</u>
\$ 0	\$ 272,991.58	\$ 0	\$ 84,542,414.34	\$ 81,728,962.30
0	166,098,804.41	0	166,098,804.41	160,288,707.04
0	361,493,629.67	0	361,493,629.67	291,333,776.27
159,117,274.93	0	0	159,117,274.93	199,337,747.39
0	926,288.33	0	926,288.33	915,743.74
<u>\$ 159,117,274.93</u>	<u>\$ 528,791,713.99</u>	<u>\$ 0</u>	<u>\$ 772,178,411.68</u>	<u>\$ 733,604,936.74</u>
\$ 173,287,024.54	\$ 6,505,028.70	\$ 0	\$ 179,792,053.24	\$ 160,849,985.42
0	496,363.06	0	6,445,983.48	5,347,598.05
0	2,631,690.75	0	2,631,690.75	2,493,783.01
0	5,074,347.32	0	5,074,347.32	2,903,073.46
<u>\$ 173,287,024.54</u>	<u>\$ 14,707,429.83</u>	<u>\$ 0</u>	<u>\$ 193,944,074.79</u>	<u>\$ 171,594,439.94</u>
\$ 201,686,245.82	\$ (175,826,962.95)	\$ 0	\$ 0	\$ 0
15,642,243.57	(17,045,589.71)	0	0	0
3,140,260.00	(3,140,260.00)	0	0	0
<u>\$ 220,468,749.39</u>	<u>\$ (196,012,812.66)</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>
\$ 206,298,999.78	\$ 318,071,471.50	\$ 0	\$ 578,234,336.89	\$ 562,010,496.80
0	(216,573,336.89)	216,573,336.89	0	0
1,819,304,000.19	3,696,458,812.63	(1,782,138,880.70)	4,467,274,119.30	3,905,263,622.50
<u>\$2,025,602,999.97</u>	<u>\$3,797,956,947.24</u>	<u>\$(1,565,565,543.81)</u>	<u>\$5,045,508,456.19</u>	<u>\$4,467,274,119.30</u>

TEACHERS RETIREMENT FUND
STATEMENT OF CHANGES IN FINANCIAL POSITION
For Fiscal Years Ended June 30, 1990 and 1989

	<u>1990</u>	<u>1989</u>
Resources Provided by:		
From Operations —		
Net Operating Income	\$578,234,336.89	\$562,010,496.80
Item Not Requiring Resources Currently:		
Depreciation Expense	66,391.81	50,981.71
Loss on Asset Retirement	<u>2,359.92</u>	<u>0</u>
Total Resources Provided	<u>\$578,303,088.62</u>	<u>\$562,061,478.51</u>
Resources Used by:		
Current Year Acquisition of Equipment	\$ 24,021.36	\$ 242,161.76
Net Increase in Working Capital	<u>578,279,067.26</u>	<u>561,819,316.75</u>
Total Resources Used	<u>\$578,303,088.62</u>	<u>\$562,061,478.51</u>

Elements of Net Increase (Decrease) in Working Capital:

	<u>Year Ended June 30,</u>		<u>Increase</u>
	<u>1990</u>	<u>1989</u>	<u>(Decrease)</u>
Current Assets:			
Cash	\$ 1,052,135.96	\$ 2,147,777.24	\$ (1,095,641.28)
Accounts Receivable	30,874,942.12	28,292,503.13	2,582,438.99
Due from Other Funds	0	16,707,101.76	(16,707,101.76)
Accrued Investment Income	192,620.60	299,054.89	(106,434.29)
Prepaid Expense	16,587.16	18,956.76	(2,369.60)
Investments —			
Outside Managed Pooled Accounts			
(Notes 2 & 7)	2,984,399,325.04	2,548,550,935.12	435,848,389.92
Short-term Cash Equivalents			
(Notes 2 & 7)	33,413,339.02	52,553,746.19	(19,140,407.17)
Equity in Investment Funds (Note 8).....	<u>2,025,602,999.97</u>	<u>1,819,304,000.19</u>	206,298,999.78
Total Current Assets	<u>\$5,075,551,949.87</u>	<u>\$4,467,874,075.28</u>	
Current Liabilities:			
Accounts Payable (Note 2)	\$ 2,709,940.31	\$ 781,361.24	\$ (1,928,579.07)
Due to Other Funds	27,441,051.94	0	(27,441,051.94)
Accrued Compensated Absences	222,139.49	192,963.17	(29,176.32)
Total Current Liabilities	<u>\$ 30,373,131.74</u>	<u>\$ 974,324.41</u>	
Working Capital	<u>\$5,045,178,818.13</u>	<u>\$4,466,899,750.87</u>	<u>\$578,279,067.26</u>

The accompanying notes are an integral part of the financial statements.

COLLEGE SUPPLEMENTAL RETIREMENT FUND
STATEMENT OF ASSETS AND LIABILITIES
June 30, 1990 and 1989

	<u>1990</u>	<u>1989</u>
Assets:		
Cash and Cash Equivalents	\$ 5,433.30	\$ 6,017.82
Accrued Interest Income	2.10	1.40
Accrued Employer's Contribution	0	450.00
Participation in the Minnesota Supplemental Retirement Fund (Notes 9 & 10):		
Income account shares	70,563,856.32	63,771,878.39
Growth account shares	32,539,861.20	33,273,011.85
Common Stock Index account shares	503,199.11	199,032.21
Bond Market account shares	2,318,309.23	1,512,781.64
Money Market account shares	8,707,449.03	7,092,946.07
Guaranteed Return account shares	<u>3,313,726.29</u>	<u>0</u>
Total Assets	<u>\$117,951,836.58</u>	<u>\$105,856,119.38</u>
Liabilities:		
Accounts payable	\$ 91,259.00	\$ 116,204.00
Total Liabilities	<u>\$ 91,259.00</u>	<u>\$ 116,204.00</u>
Net Assets	<u>\$117,860,577.58</u>	<u>\$105,739,915.38</u>

The accompanying notes are an integral part of the financial statements.

COLLEGE SUPPLEMENTAL RETIREMENT FUND
STATEMENT OF CHANGES IN NET ASSETS
June 30, 1990 and 1989

	1990	1989
Beginning Balance	\$105,739,915.38	\$ 92,309,548.58
From Investment Activities:		
Net realized gain from redemption of shares	\$ 2,276,129.11	\$ 2,153,541.31
Distribution to withdrawing members	(2,276,129.11)	(2,153,541.31)
Increase (decrease) in unrealized appreciation	10,202,440.40	11,707,327.12
Net other income (expense)	25,147.21	(29,620.14)
Increase (decrease) in net assets derived from investment activities	<u>\$ 10,227,587.61</u>	<u>\$ 11,677,706.98</u>
From Capital Share Transactions (exclusive of amounts allocated to investment income):		
Net contributions from members (Note 9)	\$ 1,471,013.01	\$ 1,452,070.01
Net employer's matching contributions (Note 9)	1,471,013.01	1,452,070.01
Total contributions	<u>\$ 2,942,026.02</u>	<u>\$ 2,904,140.02</u>
Less members' accounts refunded	1,048,951.43	1,151,480.20
Increase (decrease) in net assets derived from capital share transactions	<u>\$ 1,893,074.59</u>	<u>\$ 1,752,659.82</u>
Net increase (decrease) in net assets	<u>\$ 12,120,662.20</u>	<u>\$ 13,430,366.80</u>
Ending Balance	<u><u>\$117,860,577.58</u></u>	<u><u>\$105,739,915.38</u></u>

STATEMENT OF OPERATIONS
June 30, 1990 and 1989

	1990	1989
Realized and Unrealized Gain (Loss) on Investments:		
Realized gain from redemption of shares:		
Proceeds from sales	\$ 3,325,080.54	\$ 3,305,021.51
Cost of shares redeemed	(1,048,951.43)	(1,151,480.20)
Net Realized Gain	\$ 2,276,129.11	\$ 2,153,541.31
Unrealized appreciation of investments:		
End of period	\$77,122,675.80	\$66,920,235.40
Beginning of period	(66,920,235.40)	(55,212,908.28)
Increase in Unrealized Appreciation	10,202,440.40	11,707,327.12
Total Net Realized and Unrealized Gain on Investments	<u><u>\$12,478,569.51</u></u>	<u><u>\$13,860,868.43</u></u>
Other Income and Expense:		
Income:		
Administrative fees collected	\$ 59,932.18	\$ 0
Employer contributions forfeited (Note 9)	67,296.97	57,288.11
Short-term investment income	29,962.28	27,624.31
	<u>\$ 157,191.43</u>	<u>\$ 84,912.42</u>
Expense:		
Administrative expenses	\$ 132,044.22	\$ 114,532.56
Net Other Income and Expense	<u>\$ 25,147.21</u>	<u>\$ (29,620.14)</u>

The accompanying notes are an integral part of the financial statements.

NOTES TO THE FINANCIAL STATEMENTS

1. Plan Description

a. General

The State of Minnesota Teachers Retirement Association is the administrator of a multi-employer, cost sharing Teachers Retirement Fund (TRF) and the single-employer College Supplemental Retirement Fund (CSRF). Both the TRF and the CSRF are considered part of the State of Minnesota financial reporting entity and are included in the state's financial reports as pension trust funds.

At June 30, the number of employer units participating in TRF was as follows:

	<u>1990</u>	<u>1989</u>
Independent school districts	431	436
Joint powers units	53	45
State agencies, colleges, universities	53	51
Professional organizations	7	7
Total employer units	<u>544</u>	<u>539</u>

Teachers employed in Minnesota's public elementary and secondary schools, state universities, community colleges and all other educational institutions maintained by the State (except those teachers employed by the cities of Minneapolis, St. Paul and Duluth and by the University of Minnesota system) are required to be TRF members. The exception is that state university and community college teachers who were first employed after June 30, 1989, or who were first employed before July 1, 1989 and elected to change coverage, are now covered by the Individual Retirement Account Plan administered by the State University and Community College Boards. At June 30, TRF membership consisted of:

	<u>1990</u>	<u>1989</u>
Retirees, disabilitants and beneficiaries receiving benefits	17,135	16,385
Terminated employees with deferred vested benefits	1,955	1,887
Total	<u>19,090</u>	<u>18,272</u>
Current employees:		
Vested	48,490	48,097
Non-vested	15,834	16,699
Total	<u>64,324</u>	<u>64,796</u>

b. Benefits

TRA provides retirement benefits as well as death and disability benefits. All benefits vest after three years of credited service. For coordinated members (those with Social Security coverage) first hired before July 1, 1989, retirement benefits are the greater of: 1) 1% of average salary for each year in first ten years and 1.5% of average salary for each subsequent year with 0.25% reduction for each month retiree is under age 65 (age 62 if 30 or more years of service) and no reduction if age plus service totals 90 or more; or 2) 1.5% of average salary for each year of service with augmented actuarial reduction for each month retiree is under 65. For members first hired after June 30, 1989, retirement benefits are 1.5% of the average salary for each year of service with augmented actuarial reduction for each month the retiree is under the full Social Security benefit eligible age. Average salary is average of highest five successive annual salaries. For Basic members (those without Social Security coverage) the formula percentages are 2% and 2.5% rather than the 1% and 1.5% of Coordinated members. Benefits are payable for life with the amount of the benefit determined by the selection of one of five available annuity payment plans.

c. Funding of Pension Costs

Pension costs of the TRF are funded from contributions made to the association by members and their employers. Members of the fund contribute an amount equal to 4.5 percent of their salary if they are in the Coordinated Plan and 8.5 percent of their salary if they are in the Basic Plan. Coordinated members have elected to be covered by Social Security and Basic members are not covered. All new members of the fund are mandatorily covered by Social Security. Employers' contributions to the fund match the contributions of the members: 4.5 percent and 8.5 percent of the salaries of Coordinated and Basic members, respectively. Minn. Statutes, Section 354.42, Subd. 5, currently requires an additional employer contribution of 3.64 percent of the members' salaries for the purpose of amortizing the unfunded liability of the fund.

d. Actuarial Valuation

In order to determine the rate of contributions to TRF, the actuary of the Legislative Commission on Pensions and Retirement is required by Minnesota Statute to calculate the actuarial liability of TRF under the entry age normal cost method of funding. Under this method, the total actuarial liability of the fund was \$6,611,074,000.00 and net assets were \$5,045,508,456.19 based on equity investments at the lower of cost or market value. On this basis, required reserves were 76.32% funded and the unfunded liability was \$1,565,565,543.81. The actuary also is required to provide this information based upon cost value of assets plus 1/3 of the amount of any unrealized gains or losses in investments. Under this method, the value of net assets is \$5,131,999,000.00 and the total liabilities remain at \$6,611,074,000.00. This data results in a funding ratio of 77.63% and total accrued unfunded liabilities of \$1,479,075,000.00.

This funding information was determined as part of an actuarial valuation at June 30, 1990. Significant actuarial assumptions used include: (a) a rate of return on the investment of present and future assets of 8.5 percent per year compounded annually; (b) projected salary increases of 6.5 percent per year compounded annually; and (c) post retirement increases to be funded from earnings in excess of the 5 percent assumed annual earnings rate of the Post Retirement Investment Fund.

2. Summary of Significant Accounting Policies

a. Basis of Accounting

The accompanying financial statements include the transactions of the TRF and the CSRF reported on the accrual basis of accounting.

b. Investment Strategy

Investments of the TRF are shown on the financial statements at the lower of cost or market value for equity investments and amortized cost for fixed income investments. Assets of the TRF are pooled with those of five other statewide retirement funds and placed with Outside Investment Managers under the supervision of the State Board of Investment (SBI). Other funds included are the Minnesota State Retirement System, Public Employees Retirement Association, Public Employees Police and Fire Fund, Highway Patrol Retirement Fund, and the Judges Retirement Fund. Approximately \$740 million of regular TRF assets are actively managed by ten outside equity investment managers. Approximately \$1,042 million is invested in a passive equity index fund. The assets in the index fund are managed by an outside manager and designed to match the investment return of a broad based equity market index. The fixed income portfolio is placed with seven outside managers and has a value of approximately \$854 million as of June 30, 1990.

The internal SBI staff handles the direct investment of the remaining assets of the fund with approximately \$111 million invested in Venture Capital Pools, \$196 million in Real Estate Fund Pools, \$42 million in Resource Fund Pools, and approximately \$33 million in short-term cash equivalent investments. All of the account and trust functions for the investments handled by the Outside Managers are provided by State Street Bank and Trust Company of Boston. The same functions are provided for the Post Retirement Investment Fund and other SBI staff investments by the First Bank of St. Paul. The cost and market value of TRF's investments as of June 30, 1990 are shown in Note 7.

The investments of the CSRF are shown at the market value of the fund's participation in the six available investment accounts of the Minnesota Supplemental Retirement Fund (MSRF), consistent with the financial statement of the MSRF prepared by the State Board of Investment. The cost of members' MSRF accounts is shown in Note 10.

c. Authorized Investments

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; and restricted participation in registered mutual funds.

d. Risk Categories

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's or dealer's trust department or agent in the state's name. Risk category 3 includes uninsured and unregistered investments for which the securities are held by the broker or dealer or by its trust department or agent but not in the state's name. All TRF investments are included in risk category 1.

3. Funding Status and Progress

The amount shown below as "pension benefit obligation" is a standardized disclosure measure of the present value of pension benefits, adjusted for the effects of projected salary increases, estimated to be payable in the future as a result of employee service to date. The measure is the actuarial present value of credited projected benefits and is intended to help users assess TRF's funding status on a going-concern basis, assess progress made in accumulating sufficient assets to pay benefits when due, and make comparisons among public retirement systems. The measure is independent of the actuarial funding method used to determine contributions to the TRF, discussed in Note 1d.

The pension benefit obligation was determined as part of an actuarial valuation at June 30, 1990. Significant actuarial assumptions used are the same as those used to compute the entry age normal cost funding figures in Note 1d.

At June 30, 1990, the unfunded pension obligation was \$983,528,544 as follows:

Pension Benefit Obligation:

Retirees and beneficiaries currently receiving benefits and terminated employees not yet receiving benefits	\$2,187,981,000
Current employees — accumulated employee contributions including allocated investment income	1,559,921,000*
Employer-financed vested	2,019,719,000
Employer-financed non-vested	261,416,000
Total Pension Benefit Obligation	\$6,029,037,000
 Net assets available for benefits at cost (Market Value is \$5,304,981,000)	 5,045,508,456
Unfunded pension benefit obligation	<u>\$ 983,528,544</u>

*Estimated.

These figures recognize a change in the rates of separation that have been updated to reflect recent plan experience. The new separation rates that are based on service and age increased the pension benefit obligation \$42,217,000. See pages 44-47 for details of the impact of this assumption change.

4. Contributions Required and Contributions Made

TRF's funding policy provides for periodic contributions at actuarially determined rates that, expressed as percentages of annual covered payroll, are sufficient to accumulate sufficient assets to pay benefits when due. Level percentage of payroll contribution rates are determined by using the entry age normal cost actuarial funding method described in Note 1d. TRF also uses the level percentage of payroll method to amortize the unfunded liability over a closed period ending June 30, 2020. The current payroll contribution rates are stated in Note 1c.

Contributions totaling \$250,641,218.75 (\$166,098,804.41 employer and \$84,542,414.34 employee) were made in accordance with the actuarially determined contribution requirements. These contributions consisted of: (a) \$169,084,828.68 normal cost, and (b) \$81,556,390.07 amortization of the unfunded actuarial accrued liability.

5. Benefit Adjustments to pre-1973 Retirees

Included under Employer Contributions is \$692.00 that was appropriated to TRF to make adjustments to lump sum payments that were payable on December 1, 1988, or before, to persons receiving benefits under laws in effect prior to July 1, 1973. Beginning December 1, 1989, annual lump sum payments to persons receiving benefits under pre-July 1973 laws are paid out of the assets of TRF. During the fiscal year ended June 30, 1990, lump sum payments totaling \$3,501,535.00 were made to 2,829 benefit recipients. Coordinated members received \$25.00 for each year of allowable service with Basic members receiving the greater of: 1) \$25.00 for each year of allowable service or 2) an annual benefit of \$400.00 for each year of allowable service minus the present amount of any Minnesota public employee pension plan benefits and Social Security benefits.

6. Historical Trend Information

Historical trend information designed to provide information about the TRF's progress made in accumulating sufficient assets to pay benefits when due is presented on page 28.

7. Value of Investments (Active Members)

Fixed Income Investments shown on the Balance Sheet of the TRF at a cost of \$854,494,317.65 had a market value computed by the State Board of Investment on June 30, 1990 of \$847,863,946.78.

Equity investments are shown on the Balance Sheet at the lower of cost or market value. A summary of these values for the various equity investments is as follows:

	Cost	Market
External Indexed Equity Pool	\$1,041,922,544	\$1,207,427,927
External Active Managed Equity Pools	739,805,302	799,427,381
Internal Venture Capital Pool	110,657,665	110,814,270
Internal Real Estate Fund Pool	195,760,071	239,697,856
Internal Resource Fund Pool	41,759,426	38,537,473

Short term investments are placed in cash equivalent investments and cost and market values are the same amount.

8. Post Retirement Investment Fund

For all retiring members, the reserves required to pay the cost of retirement benefits are transferred from TRF's regular assets to the Minnesota Post Retirement Investment Fund (MPRIF) which is managed by the State Board of Investment. TRF's pension assets in the MPRIF as of June 30, 1990 was \$2,025,602,999.97.

Benefits are increased periodically based on investment earnings in excess of the 5% assumed earnings rate. For FY '90, investment earnings for the year was \$159,117,274.93. These earnings were sufficient to provide a lifetime benefit increase of 5.1% for eligible retirees, effective January 1, 1991. Over the last five years, benefit increases have equaled 6.7% on an annualized basis.

9. College Supplemental Retirement Fund Membership

The College Supplemental Retirement Fund was established in 1967 to cover unclassified employees of the State University Board and the Community College Board who have completed their second year of full-time service. Members of the fund contribute 5 percent of their wages between \$6,000 and \$15,000 to a maximum annual contribution of \$450. The employer matches the members' contributions equally. Effective July 1, 1990 most members are eligible to contribute to a new salary ceiling of \$26,000, to a maximum annual contribution of \$1,000 matched equally by the employer. When members withdraw from the fund prior to becoming eligible for benefits, they receive a refund in the amount of the market value of the investments purchased with their contributions. An amount equal to the market value of the employer's matching contributions for withdrawing members reverts to the fund and is used to pay administrative expenses. Effective July 1, 1991 the fund will be transferred to the State University Board and the Community College Board.

10. Participation in the Minnesota Supplemental Retirement Fund

Members in the College Supplemental Retirement Fund have funds invested in one of six available options. These are: an Income Account, a Growth Account, a Common Stock Index Account, a Bond Market Account, a Money Market Account and a Guaranteed Return Account. Funds are invested in the Income Account unless a member elects one of the other options. Members may elect twice annually

to transfer funds from one option to another. The market value of these accounts is computed monthly by the State Board of Investment. The cost value and market value of shares in the College Supplemental Retirement Fund as of June 30, 1990, based on July 1, 1990 share values, are as follows:

Account	Total Cost	Shares Owned	Share Value	Market Value
Income	\$25,389,922.05	2,072,290.0875	\$34.05	\$70,563,856.32
Growth	10,504,645.32	1,366,402.7469	23.83	32,539,861.20
Common Stock Index	207,228.92	31,170.3052	16.14	503,199.11
Bond Market	829,446.38	167,820.2258	13.77	2,318,309.23
Money Market	2,838,826.32	8,707,449.0300	1.00	8,707,449.03
Guaranteed Return	1,053,656.72	3,313,726.2900	1.00	3,313,726.29

ANALYSIS OF FUNDING PROGRESS (Dollars in Thousands)

Year Ended June 30	(1) Net Assets Available for Benefits*	(2) Pension Benefit Obligation	(3) Percentage Funded (1) ÷ (2)	(4) Unfunded Pension Benefit Obligation (2) — (1)	(5) Annual Covered Payroll	(6) Unfunded Pension Benefit Obligation as a Percentage of Covered Payroll (4) ÷ (5)
1985	\$2,542,751	\$3,614,856	70.3%	\$1,072,105	\$1,310,748	81.8%
1986	3,000,863	4,054,734	74.0%	1,053,871	1,406,797	74.9%
1987	3,524,684	4,464,496	78.9%	939,812	1,503,546	62.5%
1988	3,905,264	4,849,460	80.5%	944,196	1,594,391	59.2%
1989	4,467,274	5,549,423	80.5%	1,082,149	1,749,856	61.8%
1990	5,045,508	6,029,037	83.7%	983,529	1,785,459	55.1%

Analysis of the dollar amounts of net assets available for benefits, pension benefit obligation, and unfunded pension benefit obligation in isolation can be misleading. Expressing the net assets available for benefits as a percentage of the pension benefit obligation provides one indication of TRF's funding status on an ongoing basis. Analysis of this percentage (column 3) over time indicates whether the system is becoming financially stronger or weaker. Generally, the greater this percentage, the stronger the retirement fund. Trends in unfunded pension benefit obligation and annual covered payroll are both affected by inflation. Expressing the unfunded pension benefit obligation as a percentage of annual covered payroll (column 6) approximately adjusts for the effects of inflation and aids analysis of TRF's progress made in accumulating sufficient assets to pay benefits when due. Generally, the smaller this percentage, the stronger the retirement fund.

*At cost (see Note 7).

TEN YEAR SUMMARY OF REVENUE BY SOURCE

<u>Year Ended June 30</u>	<u>Member Contributions</u>	<u>Employer Contributions</u>	<u>Net Investment Income</u>	<u>Other</u>	<u>Total</u>
1981	\$50,561,297	\$ 81,885,618	\$146,632,458	\$ 249,500	\$279,328,873
1982	54,738,770	91,079,638	157,944,494	2,698,452	306,461,354
1983	70,486,064	69,462,210	200,795,674	500,557	341,244,505
1984	60,259,615	102,643,810	183,621,802	461,908	346,987,135
1985	64,224,898	125,067,070	232,724,757	580,674	422,597,399
1986	68,203,337	134,298,853	368,917,920	596,378	572,016,488
1987	72,867,303	142,069,970	445,013,195	807,038	660,757,506
1988	75,488,713	148,607,095	314,711,337	600,954	539,408,099
1989	81,728,962	160,288,707	490,671,524	915,744	733,604,937
1990	84,542,414	166,098,804	520,610,905	926,288	772,178,411

TEN YEAR SUMMARY OF EXPENDITURES BY TYPE

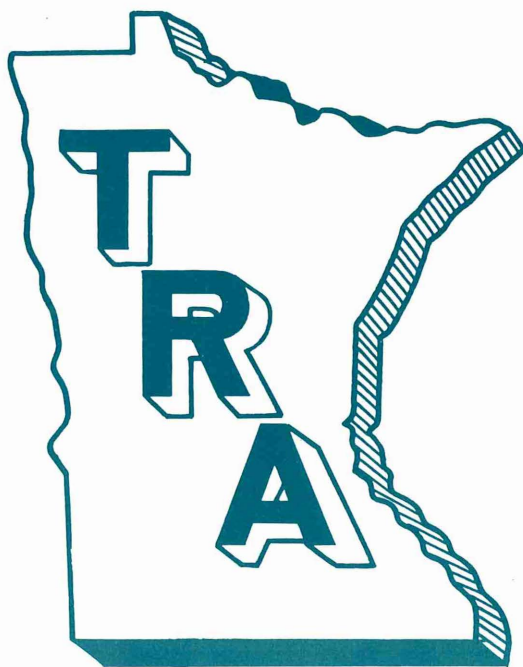
<u>Year Ended June 30</u>	<u>Retirement Benefits</u>	<u>Survivor Benefits</u>	<u>Disability Benefits</u>	<u>Refunds</u>	<u>Administrative Expenses</u>	<u>Other</u>	<u>Total</u>
1981	\$ 38,128,835	\$ 727,344	\$1,110,105	\$ 6,062,075	\$1,091,290	\$1,785,748	\$ 48,905,397
1982	44,545,530	910,500	1,254,222	8,496,531	1,318,953	1,677,199	58,202,935
1983	52,984,178	1,027,066	1,478,222	9,742,259	1,466,044	1,718,120	68,415,889
1984	63,158,815	1,285,531	1,638,989	18,956,482	1,918,330	2,936,033	89,894,180
1985	78,843,390	1,414,162	1,709,737	9,774,883	1,900,528	2,452,049	96,094,749
1986	98,349,930	1,667,494	1,830,285	7,408,533	1,968,114	2,680,416	113,904,772
1987	121,444,548	1,894,172	1,813,239	6,856,989	2,073,334	2,853,548	136,935,830
1988	144,210,986	2,079,182	1,953,743	5,627,523	2,183,506	2,773,766	158,828,706
1989	156,417,938	2,267,668	2,164,380	5,347,598	2,493,783	2,903,073	171,594,440
1990	174,693,669	2,641,650	2,456,735	6,445,983	2,631,691	5,074,347	193,944,075

COMPARATIVE ADMINISTRATIVE EXPENSES
For the Years Ended June 30, 1990 and 1989

	1990	1989
Salaries	\$1,522,831.98	\$1,394,132.90
Employer Contributions to State Employees Retirement	2,504.17	2,034.28
Employer Contributions to Teachers Retirement Association	128,040.57	117,308.20
Employer Contributions to Social Security	108,937.99	99,646.00
Insurance Contributions	111,454.38	92,485.90
Actuarial Services	115,470.52	110,071.64
Audit Fees	32,386.00	27,163.00
Department Head Expenses	1,185.85	1,467.88
Depreciation of Office Furniture and Equipment	66,391.81	50,981.71
Dues and Subscriptions	1,374.97	1,975.00
Duplicating and Printing Expense	129,963.24	107,874.31
Grants and Subsidies	4,731.50	8,156.65
Lease of Office and Storage Space	151,378.64	141,793.72
Legal Fees	14,324.20	11,919.20
Medical Services	19,835.60	14,543.80
Minnesota Unemployment Compensation	0	1,612.64
Postage	154,464.03	170,428.19
Repairs and Maintenance	18,640.78	21,685.35
Stationery and Office Supplies	43,478.82	25,571.70
Tabulating	57,779.63	127,217.52
Telephone	27,581.89	28,143.63
Travel — Director and Staff	17,641.87	17,821.56
Travel — Trustees	12,202.23	13,577.03
Workers' Compensation	250.93	343.65
Miscellaneous Administrative Expenses	3,507.98	1,513.00
State Indirect Costs	27,097.00	19,091.00
Sub-totals	<u>\$2,773,456.58</u>	<u>\$2,608,559.46</u>
Less Reimbursements from Supplemental Retirement Fund and Various State Agencies for Administrative Services Provided	<u>141,765.83</u>	<u>114,776.45</u>
Total Net Administrative Expenses	<u><u>\$2,631,690.75</u></u>	<u><u>\$2,493,783.01</u></u>

Administrative expenses, disability benefits, and survivors' benefits are paid from the fund, specifically the turnover gain (state's contribution retained on refunds) within the fund.

Investments Section



INVESTMENT SUMMARY

The investment portfolio for the active members of the Teachers Retirement Fund has a market value of approximately \$3.28 billion. In addition, TRA's share of the assets of the Minnesota Post Retirement Investment Fund from which retiree benefits are paid is approximately \$2.13 billion. The assets of the Teachers Retirement Association are invested under the direction and authority of the State Board of Investment (SBI). The State Board of Investment is comprised of Governor Rudy Perpich, State Auditor Arne H. Carlson, State Treasurer Michael A. McGrath, Secretary of State Joan Anderson Growe, and Attorney General Hubert H. Humphrey III. Mr. Howard Bicker serves as Executive Director of the Board.

An Investment Advisory Council consisting of 17 members serves as advisor to the State Board of Investment and includes ten members who are experienced in general investment matters and appointed by the State Board. The other members are the Commissioner of Finance; the Executive Director of the Minnesota State Retirement System; the Executive Director of the Public Employees Retirement Association; the Executive Director of the Teachers Retirement Association; a retiree currently receiving benefits from the Post Retirement Investment Fund; and two public employees who are active members of the funds whose assets are invested by the State Board. The retiree and the public employees are appointed by the Governor for four year terms. The members of the council are as follows:

Henry H. Adams, Jr.	Executive Sec. and Investment Mgr., Mpls. Teachers Retirement Fund
John E. Bohan	Vice President, Pension Investments, The Pillsbury Co.
James R. Eckmann	Assistant Treasurer, Dayton-Hudson Corporation
Elton Erdahl	Executive Director, Teachers Retirement Association
Paul L. Groschen	Executive Director, Minnesota State Retirement System
Kenneth F. Gudorf	Board Appointee
Peter Hutchinson	Commissioner, Minnesota Department of Finance
Vernell Jackels	Active Employee Representative
David B. Jeffery	Vice President and Resident Manager, Shearson Hamill
Malcolm W. McDonald**	Director and Corporate Secretary, Space Center, Inc.
Gary R. Norstrom	City Treasurer, City of St. Paul
Joseph T. Rukavina	Active Employee Representative
Mary Most Vanek	Acting Executive Director, Public Employees Retirement Association
Raymond B. Vecellio	Retiree Representative
Deborah Veverka	Manager, Pension Investments, Honeywell, Inc.
Jan Yeomans*	Director, Benefit Funds and Financial Markets, 3M Co.

*Chair

**Vice-Chair

Richards & Tierney, Inc. of Chicago are consultants to the State Board of Investment. All investments made by the State Board of Investment (SBI) are governed by the prudent person rule and other standards codified in Minnesota Statutes Chapter 11A.

Statewide Retirement Funds

The pension contributions of most active TRA members are invested through the Statewide Retirement Funds. The SBI has selected a long term asset allocation plan for the Statewide Funds that strives to keep 60% in common stock, 24% in bonds, 10% in real estate, 2.5% in venture capital, 2.5% in resource funds and 1% in cash. An asset mix change has been approved to add 10% international stocks and reduce the bond allocation to 14%. On June 30, 1990 the actual asset mix of Statewide Funds was 61.3% common stock, 25.9% bonds, 7.4% real estate, 3.4% venture capital, 1.2% resource funds and 0.8% cash. All assets of the Statewide Retirement Funds are managed by outside money management firms selected and retained by the SBI. More information on the individual stock and bond managers is shown below.

The Statewide Retirement Funds produced a total rate of return for fiscal year 1990 of 10.8%. Over the last five years the Statewide Funds have generated a cumulative return of 92.1%, excluding alternative assets. It is important to note that "total return" includes not only interest and dividend earnings plus realized gains and losses on investments, but also unrealized gains and losses on investments still held in the portfolio. If unrealized gains and losses are not considered, the Statewide Funds generated 13.25% earnings for fiscal year 1990.

Post Retirement Investment Fund

The pension assets of retired TRA members are invested through the Post Retirement Investment Fund (Post Fund). The large majority of the Post Fund is invested in a dedicated bond portfolio that generates sufficient cash from principal and interest payments to finance current monthly annuities. Assets not needed for the dedicated bond portfolio are invested in common stock. On June 30, 1990, the Post Fund had an asset mix of 9.6% common stock, 84.5% bonds and 5.9% cash. Nearly all assets of the Post Fund are managed by SBI staff.

In fiscal year 1990 the Post Fund generated realized earnings sufficient to provide a 5.1% benefit increase to eligible retirees beginning January 1, 1991. Over the last five years benefit increases generated by the Post Retirement Fund have equaled 6.7% on an annualized basis.

Total Portfolio Investment Income

The total investment portfolio of the Teachers Retirement Fund on June 30, 1990 was valued at \$5.41 billion. These assets were invested in two separate portfolios: \$3.28 billion in the Basic Retirement Funds and \$2.13 billion in the Post Retirement Investment Fund.

Total combined investment income for the year was \$520.6 million. The interest rate attributable to each fund was calculated as follows:

- | | |
|------------------------|--------|
| • Statewide Funds | 13.25% |
| • Post Retirement Fund | 10.1% |

Stock and Bond Money Managers Retained by the SBI

The stock manager performance for FY 1990 was as follows:

	Manager Portfolio Return
Alliance Capital	23.6%
Concord Capital	9.4
Forstmann Leff	7.6
Franklin	7.5
IDS Advisory	24.2
Investment Advisers	15.7
Lieber & Company	5.2
Rosenburg Sasco Capital	3.4
Waddell & Reed	15.0
Wilshire Associates (index fund)	12.3
Statewide Funds' Common Stock Segment	13.0%
Stock Segment Performance Standards	
Wilshire 5000	12.7%
TUCS Median Managed Equity Portfolio	12.4
Inflation	4.7%

The annualized return for the stock portfolio for the last 5 years averaged 15.1%.

A summary of bond manager performance for FY 1990 was as follows:

	Portfolio Return
Investment Advisers	6.0%
Lehman Management	7.2
Fidelity Management (enhanced index)	7.9
Lincoln Capital (enhanced index)	7.6
Miller, Anderson & Sherrerd	7.0
Morgan Stanley	6.7
Western Asset	7.8
Statewide Funds' Bond Segment	7.5%
Bond Segment Performance Standards	
Salomon Broad Investment Grade Bond Index	7.7%
TUCS Median Managed Bond Portfolio	7.1
Inflation	4.7%

The annualized return for the bond portfolio for the last 5 years averaged 10.5%.

College Supplemental Retirement Fund

The assets of the College Supplemental Retirement Fund may be invested at the option of the member in any of six different investment accounts in the Minnesota Supplemental Investment Fund.

	<u>Asset Mix</u>	<u>FY '90 Return</u>
Income Share Account	60% stock 35% bonds 5% cash	11.1%
Growth Share Account	95% stock 5% cash	14.2%
Common Stock Index Account	100% stock	12.5%
Bond Market Account	100% bonds	7.3%
Money Market Account	100% cash equivalents	8.9%
Guaranteed Return Account	Guaranteed investment contract 3-year (11/1/89-10/31/92)	8.4%

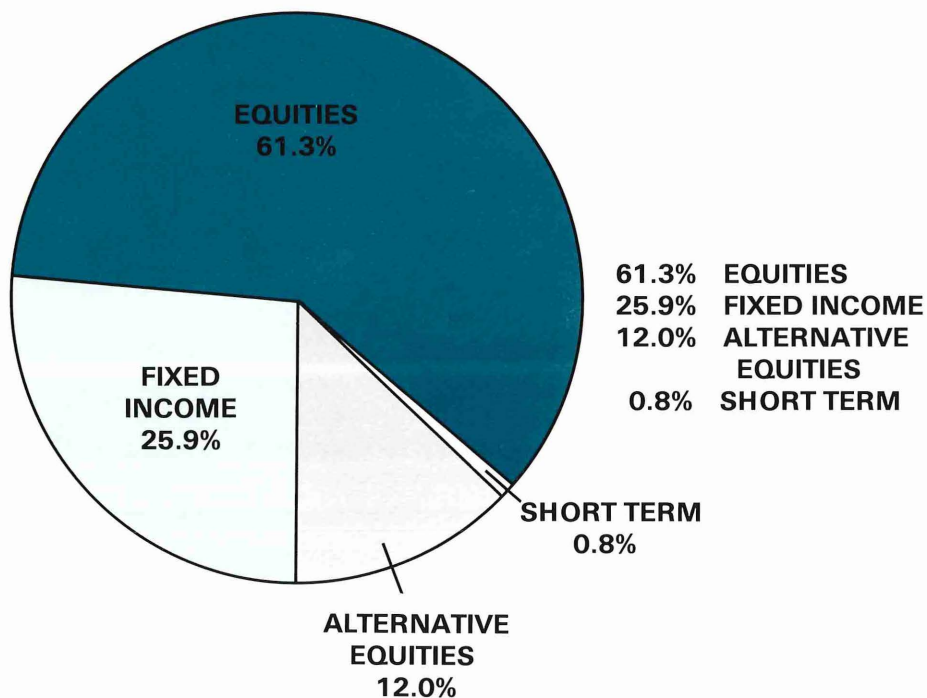
The Minnesota Supplemental Investment Fund is managed by the SBI. Nearly all assets in the Supplemental Fund are managed by outside money management firms retained by the SBI.

Additional Information

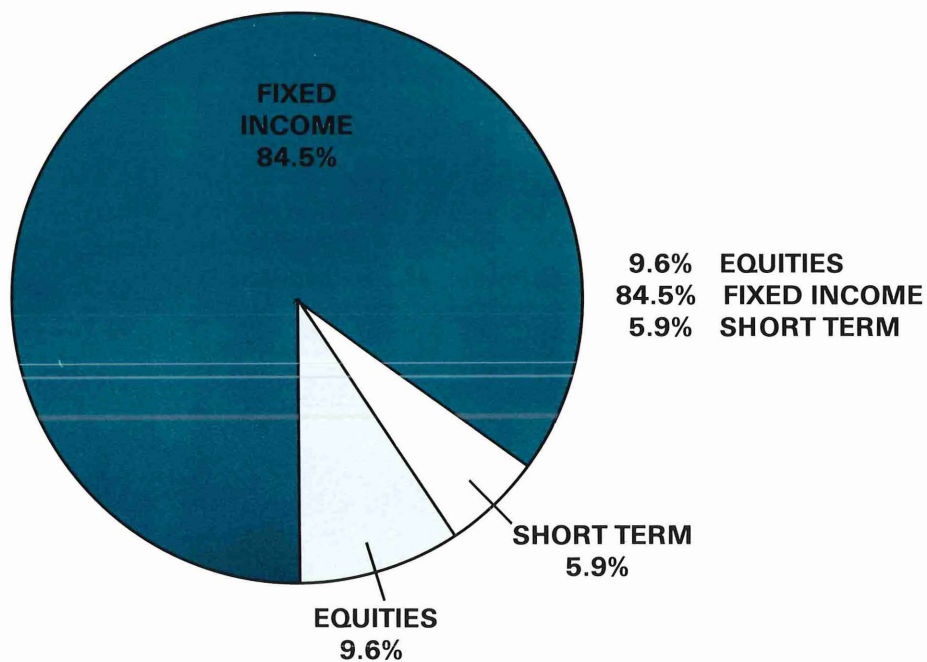
A listing of the individual investments of the Statewide Retirement Funds and the Post Retirement Investment Fund or the College Supplemental Retirement Fund is available, upon request, from the Teachers Retirement Association.

PORTFOLIO DISTRIBUTION
TEACHERS RETIREMENT FUND
 June 30, 1990

**REGULAR
FUND**



**POST
RETIREMENT
INVESTMENT
FUND**



COMPARATIVE STATEMENT OF EARNINGS*
For the Years Ended June 30, 1990 and 1989

UNAUDITED

	1990	1989
Investment Earnings:		
Interest on Cash Equivalent Investments	\$ 6,539,330.55	\$ 12,067,779.58
Managed Pooled Accounts	286,311,124.64	231,635,394.63
Net Gain on Sales of Pools	68,767,556.16	47,608,995.54
Earnings from Investments	<u>\$361,618,011.35</u>	<u>\$291,312,169.75</u>
Miscellaneous Interest Income	20,390.50	21,606.52
Total Earnings and Interest Income	<u>\$361,638,401.85</u>	<u>\$291,333,776.27</u>
Less Investment Management Fees	5,074,347.32	2,903,073.46
Total Net Investment Income	<u>\$356,564,054.53</u>	<u>\$288,430,702.81</u>
Less Transfers to MPRIF	188,238.06	719,972.43
Transfers from Variable Annuity Fund	0	9,651,492.69
Undistributed Excess Earnings	3,133,350.52	1,613,896.54
Total Income Available for Distribution	<u><u>\$359,509,166.99</u></u>	<u><u>\$298,976,119.61</u></u>
Distribution:		
Teachers' Deposits	\$208,806,450.58	\$173,496,475.74
Employer Contributions	148,198,655.71	122,370,076.60
Excess Earnings Reserve	2,504,060.70	3,109,567.27
Total Distribution	<u><u>\$359,509,166.99</u></u>	<u><u>\$298,976,119.61</u></u>

*Regular TRA Fund, does not include earnings of TRA's participation in the Minnesota Post Retirement Investment Fund (MPRIF).

Interest rate 13.25% for 1990, 12.75% for 1989.

SUMMARY OF INVESTMENTS*
As of June 30, 1990

UNAUDITED				
	Book Value	Subtotals	Total Book Value	Percent
Fixed Income Investments:				
External Fixed Income Pools	\$ 854,494,317.65			
Total Fixed Income Pools		\$ 854,494,317.65		
Total Fixed Income Investments			\$ 854,494,317.65	28.3%
Equity Investments:				
External Indexed Equity Pool	\$1,041,922,543.93			
External Active Managed Equity Pools	739,805,301.85			
Total External Equity Pool		\$1,781,727,845.78		
Internal Venture Capital Pool	\$ 110,657,664.53			
Internal Real Estate Fund Pool	195,760,071.06			
Internal Resource Fund Pool	41,759,426.02			
Total Internal Equity Pool		348,177,161.61		
Total Equity Investments			2,129,905,007.39	70.6%
Short Term Investment:				
Short Term Cash Equivalents	\$ 33,413,339.02			
Cash Equivalents		\$ 33,413,339.02		
Total Short Term Investments			33,413,339.02	1.1%
Total Investment Owned			\$3,017,812,664.06	100.0%

*Regular TRA Fund, does not include investments in the Minnesota Post Retirement Investment Fund.

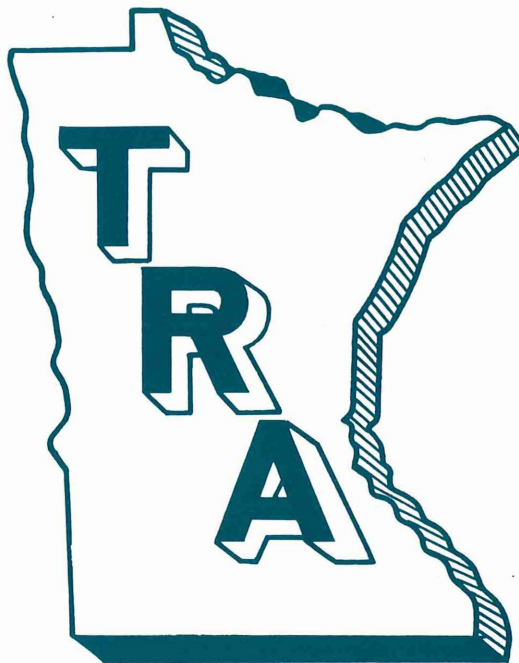
Fixed Income Investments are shown above at cost value. The market value of these funds as of June 30, 1990 is \$847,863,946.78.

Equity Investments are also shown above at cost value. The market values of these investments are as follows: External Indexed Equity Pool \$1,207,427,927.00; External Active Managed Equity Pools \$799,427,381.00; Internal Venture Capital Pool \$110,814,270.00; Internal Real Estate Fund Pool \$239,697,856.00; and Internal Resource Fund Pool \$38,537,473.00.

General Information Regarding Investment of Funds:

Investments for the State Teachers Retirement Association are made by the State Investment Board 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 352.061. For the Regular TRA Fund, the State Treasurer acts as custodian of securities invested by the State Board of Investment and State Street Bank and Trust of Boston acts as custodian of securities invested by the External Managers. The First Bank of St. Paul acts as custodian of securities invested by the State Board of Investment for the Post Retirement Investment Fund. Examination and verification of securities held by the custodians is made periodically by the State Legislative Audit Commission.

Actuarial Section



THE *Wyatt* COMPANY

ACTUARIAL SERVICES
COMPENSATION PROGRAMS
ADMINISTRATIVE SYSTEMS
INTERNATIONAL SERVICES
ORGANIZATION SURVEYS

15TH FLOOR
8400 NORMANDALE LAKE BOULEVARD
MINNEAPOLIS, MINNESOTA 55437
(612) 921-8700

EMPLOYEE BENEFITS
EMPLOYEE COMMUNICATIONS
RISK MANAGEMENT
INSURANCE CONSULTING
HEALTH CARE CONSULTING

December 31, 1990

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

RE: TEACHERS RETIREMENT ASSOCIATION FUND

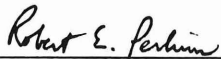
Commission Members:

We have prepared an actuarial valuation of the Fund as of July 1, 1990 based on membership and financial data supplied by the Fund.

We certify that to the best of our knowledge and belief this actuarial valuation was performed in accordance with the requirements of Section 356.215, Minnesota Statutes, and the requirements of the Standards for Actuarial Work, adopted by the Commission on September 20, 1989.

Respectfully submitted,

THE WYATT COMPANY


Robert E. Perkins, FSA
Consulting Actuary


Michael C. Gunvalson, FSA
Actuary

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS

1. **Mortality:** Active participants, retirants, and disabilitants — 1971 Group Annuity Mortality Table set back eight years for both males and females.
2. **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.
3. **Separation:** A new separation table was adopted for the July 1, 1990 actuarial valuation. 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 are as follows:

	<u>Age</u>	<u>Separation Rate</u>
First year	— Less than 35	.3000
	35-44	.2500
	45-60	.3000
Second year	— Less than 35	.1500
	35-44	.1250
	45-60	.1500
Third year	— Less than 35	.1000
	35-44	.0800
	45-60	.1000

4. **Disability:** Graduated rates illustrated in table of sample values below.

Annual Separation Rate Per 10,000 Employees

<u>Age</u>	<u>Death</u>		<u>Withdrawal</u>		<u>Disability</u>	
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
20	4	4	600	600	4	4
30	5	5	565	565	6	6
40	9	9	210	210	8	8
50	20	20	70	70	17	17
60	65	65	0	0	63	63

5. **Expenses:** Prior year expenses expressed as percentage of prior year payroll (0.42% of payroll).
6. **Asset Valuation:** Cost value plus one-third of unrealized gains and losses.
7. **Investment Return:** Pre-retirement — 8½% per annum compounded annually.
Post-retirement — 5% per annum compounded annually.
8. **Salary Increases:** 6½% per year.
9. **Active Member Payroll Growth:** 6½% per year.
10. **Actuarial Cost Method:** Entry Age Normal cost method with normal cost expressed as level percentage of future earnings. Actuarial gains and losses are recognized in the unfunded actuarial accrued liability which is amortized by the level percent of payroll method.

VALUATION REPORT HIGHLIGHTS
(Dollars in Thousands)

	<u>July 1, 1989</u> <u>Valuation</u>	<u>July 1, 1990</u> <u>Valuation</u>
A. Contributions (Table 6)		
1. Statutory Contributions — Chapter 354		
% of Payroll	13.66%	12.80%
2. Required Contributions — Chapter 356		
% of Payroll	12.52%	13.11%
3. Sufficiency (Deficiency) (A1-A2)	1.14%	(0.31%)
B. Funding Ratios		
1. Accrued Benefit Funding Ratio		
a. Current Assets (Table 1)	\$4,567,997	\$5,131,999
b. Current Benefit Obligations (Table 3)	\$5,549,423	\$6,029,037
c. Funding Ratio (a/b)	82.31%	85.12%
2. Accrued Liability Funding Ratio		
a. Current Assets (Table 1)	\$4,567,997	\$5,131,999
b. Actuarial Accrued Liability (Table 4)	\$6,249,413	\$6,611,074
c. Funding Ratio (a/b)	73.09%	77.63%
3. Projected Benefit Funding Ratio (Table 3)		
a. Current and Expected Future Assets	\$8,297,596	\$8,416,752
b. Current and Expected Future Benefit Obligations	\$7,810,362	\$8,549,154
c. Funding Ratio (a/b)	106.24%	98.45%
C. Plan Participants		
1. Active Members		
a. Number	64,796	64,324
b. Projected Annual Earnings	\$1,884,073	\$1,931,669
c. Average Annual Earnings (Actual \$)	\$29,077	\$30,030
d. Average Age	42.4	42.8
e. Average Service	11.9	12.3
2. Others		
a. Service Retirements	15,406	16,133
b. Disability Retirements	241	257
c. Survivors	903	929
d. Deferred Retirements	1,887	1,955
e. Terminated Other Non-vested	14,205	15,356
f. Total	32,642	34,630

ACTUARY'S COMMENTARY

Purpose

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

Report Highlights

The statutory contributions for the Teachers Retirement Association Fund are not sufficient this year. The change from a sufficiency of 1.14% of payroll last year, to a deficiency of 0.31% of payroll this year is primarily the result of decreasing the employer statutory contribution rate by 0.84%, and the adoption of a new set of separation rates.

According to this valuation a contribution rate of 13.11% is required to comply with Minnesota Law. The contribution rate is based on a new set of separation rates adopted for the July 1, 1990 valuation. All plan provisions, other than the change in the employer statutory contribution rate, and all other actuarial assumptions are the same as in the prior valuation.

The financial status of the Fund 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. This year's ratio is 85.12%. The corresponding ratio for the prior year was 82.31%.
- 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. For 1990 the ratio is 77.63%, which is an increase from the 1989 value of 73.09%.
- The Projected Benefit Funding Ratio is a measure of the adequacy or deficiency in the contribution level. This ratio is less than 100% and verifies that the current statutory contributions are not adequate.

Asset Information (Tables 1 and 2)

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 Fund participates in the MPRIF (i.e., Minnesota Post Retirement Investment Fund). The asset value shown for MPRIF on line A3 is set equal to the MPRIF Reserves reported on line D3 for both market and cost value purposes. This reserve is based on a 5% interest assumption.

Investment performance by SBI (i.e., State Board of Investment) above the 5% level is not shown in the assets but will be added in on January 1, 1991 when benefits will be increased for those annuitants who have been receiving payments for at least 7 months. Next year's valuation will include the 1991 benefit increase in determining the MPRIF value.

After the MPRIF liability has been calculated for each participating Fund, SBI will determine each Fund's portion of the excess earnings for the January benefit increase as well as the Fund's allocated market share of MPRIF. An approximation of those values on June 30, 1990 is provided below:

MPRIF Reserves	\$2,025,603,000
Reserves Plus Excess Earnings	2,120,000,000
MPRIF Market Value	2,206,000,000

Actuarial Balance Sheet (Table 3)

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

Current funding levels are evaluated by comparing Current Assets on line A to Current Benefit Obligations on line D5. Current and future funding levels are evaluated by comparing the Total Current and Expected Future Assets on line C to the Total Current and Expected Future Benefit Obligations on line F.

The Current Benefit Obligation used to measure current funding levels is calculated in accordance with Statement No. 5 of the Governmental Accounting Standards Board (GASB). Those requirements are:

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

GASB Disclosure

The Current Benefit Obligation amounts in Table 3 are required to be disclosed by Statement No. 5 of the Governmental Accounting Standards Board (GASB). However, Statement No. 5 uses the terms "Actuarial Present Value of Credited Projected Benefits" and "Pension Benefit Obligation" rather than "Current Benefit Obligation."

The July 1, 1990 Pension Benefit Obligation reported in Table 3 is reformatted for GASB reporting purposes in the following table. This table shows the impact of the change in actuarial assumptions. See page 47 for an explanation of the change in actuarial assumptions.

	<u>Old Assumptions</u>	<u>New Assumptions</u>
Retirees and beneficiaries currently receiving benefits and terminated employees not yet receiving benefits	\$2,187,981,000	\$2,187,981,000
Current Employees —		
Accumulated employee contributions including allocated investment income	1,559,921,000*	1,559,921,000*
Employer-financed vested	1,986,965,000	2,019,719,000
Employer-financed nonvested	252,953,000	261,416,000
Total Pension Benefit Obligation	<u>\$5,987,820,000</u>	<u>\$6,029,037,000</u>
*Estimated		

The net assets available for benefits at cost is \$5,045,508,000. The total Pension Benefit Obligation exceeds the assets by \$983,529,000 to produce a funded ratio of 83.69%.

Actuarial Cost Method (Table 4)

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

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

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

The payments will increase 6.5% each year because that is the assumed rate of increase in payroll. Although the payment schedule will be adequate to amortize the existing unfunded, the lower payments in the earlier years will not be sufficient to cover the interest on the unfunded liability. After a few years the annual payment will cover the interest and also repay a portion of the unfunded.

Sources of Actuarial Gains and Losses (Table 5)

The assumptions used in making the calculations using the Entry Age Normal Actuarial Cost Method are based on long-term expectations. Each year the actual experience will deviate from the long-term expectation. The major sources of gain and loss which have been identified are:

- A gain from salaries where the average increase was 4.2% compared to the expected 6.5%.
- A gain from Non-MPRIF Assets (i.e., Current Assets reduced by MPRIIF Reserves) because the return was 12.4% instead of the assumed 8.5%.
- A loss of \$39,000,000 (reported on line D5) due to fewer active members terminating than anticipated.

Contribution Sufficiency (Table 6)

This report answers the question of "How adequate are the Statutory Contributions?" by comparing the Statutory Contributions to the Required Contributions.

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

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

The Fund has a contribution deficiency since the Statutory Contribution Rate is 12.80% compared to the Required Contribution Rate of 13.11%.

Projected Cash Flow (Table 7)

Table 7 illustrates the anticipated cash flow over the amortization period. The cash flow begins with the Non-MPRIF Assets, which are the Current Assets reduced by the MPRIIF Reserves. Contributions are then added based on the present statutory rates for employers and employees. As members become eligible for payments from MPRIIF, an amount of reserve is transferred to SBI. The other disbursements represent benefit payments and expenses made directly by the Fund.

This projected cash flow assumes that future payrolls increase by 6.5%. This is the only table in the report where new members are assumed to be hired in order to replace those who terminate from the active group. This open group method provides a more realistic picture of future cash flow. The statutory interest rate of 8.5% is used to project future investment return.

The amounts transferred to MPRIIF will be affected by the number of members who reach the assumed retirement age during a given year. The amount for 1992 is large because it includes those already over age 62 who are assumed to retire a year from the valuation date.

Changes in Plan Provisions

There was one change in plan provisions since the prior valuation. The statutory employer contribution rate was reduced by 0.84% of payroll.

Changes in Actuarial Assumptions

The rates of separation have been updated to reflect recent plan experience. The new separation rates are based on service and age.

	<u>Impact Due to Change In Actuarial Assumptions</u>
Actuarial Accrued Liability	(\$92,045,000)
Pension Benefit Obligation for GASB No. 5	41,217,000
Normal Cost	1.05%
Supplemental Contribution	<u>(.21%)</u>
Required Contribution	.84%

ACCOUNTING BALANCE SHEET
(Dollars in Thousands)

July 1, 1990

	<u>Market Value</u>	<u>Cost Value</u>
A. Assets		
1. Cash, Equivalents, Short-Term Securities	\$ 34,465	\$ 34,465
2. Investments		
a. Fixed Income	847,864	854,494
b. Equity	2,396,008	2,129,905
c. Real Estate	0	0
3. Equity in MN Post-Retirement Investment Fund (MPRIF)	2,025,603	2,025,603
4. Other	31,414	31,414
B. Total Assets	<u>\$5,335,354</u>	<u>\$5,075,881</u>
C. Amounts Currently Payable	\$ 30,373	\$ 30,373
D. Assets Available for Benefits		
1. Member Reserves	\$ 787,514	\$ 787,514
2. Employer Reserves	2,491,864	2,232,391
3. MPRIF Reserves	2,025,603	2,025,603
4. Non-MPRIF Reserves	0	0
5. Total Assets Available for Benefits	<u>\$5,304,981</u>	<u>\$5,045,508</u>
E. Total Amounts Currently Payable and Assets Available for Benefits	<u>\$5,335,354</u>	<u>\$5,075,881</u>
<hr/>		
F. Determination of Actuarial Value of Assets		
1. Cost Value of Assets Available for Benefits (D5)		\$5,045,508
2. Market Value (D5)	\$5,304,981	
3. Cost Value (D5)	<u>5,045,508</u>	
4. Market Over Cost (F2-F3)	\$ 259,473	
5. 1/3 of Market Over Cost (F4)/3		86,491
6. Actuarial Value of Assets (F1+F5) (Same as "Current Assets")		<u>\$5,131,999</u>

CHANGES IN ASSETS AVAILABLE FOR BENEFITS
(Dollars in Thousands)

July 1, 1990

	<u>Market Value</u>	<u>Cost Value</u>
A. Assets Available at Beginning of Year	\$4,769,443	\$4,467,274
B. Operating Revenues		
1. Member Contributions	\$ 84,542	\$ 84,542
2. Employer Contributions	166,099	166,099
3. Investment Income	361,494	361,494
4. MPRIF Income	159,117	159,117
5. Net Realized Gain (Loss)	0	0
6. Other	926	926
7. Net Change in Unrealized Gain (Loss)	(42,696)	0
8. Total Revenue	<u>\$ 729,482</u>	<u>\$ 772,178</u>
C. Operating Expenses		
1. Service Retirements	\$ 174,693	\$ 174,693
2. Disability Benefits	2,457	2,457
3. Survivor Benefits	2,642	2,642
4. Refunds	6,446	6,446
5. Expenses	7,706	7,706
6. Other	0	0
7. Total Disbursements	<u>\$ 193,944</u>	<u>\$ 193,944</u>
D. Changes in Reserves	0	0
E. Assets Available at End of Year	<u>\$5,304,981</u>	<u>\$5,045,508</u>

ACTUARIAL BALANCE SHEET
(Dollars in Thousands)

July 1, 1990

A. Current Assets (Table 1, F6)				\$5,131,999
B. Expected Future Assets				
1. Present Value of Expected Future Statutory Supplemental Contributions				1,346,673
2. Present Value of Future Normal Costs				1,938,080
3. Total Expected Future Assets				<u>3,284,753</u>
C. Total Current and Expected Future Assets				<u>\$8,416,752</u>
	<u>Non-Vested</u>	<u>Vested</u>	<u>Total</u>	
D. Current Benefit Obligations				
1. Benefit Recipients				
a. Retirement Annuities		\$1,975,329		\$1,975,329
b. Disability Benefits		40,944		40,944
c. Surviving Spouse and Child Benefits		76,936		76,936
2. Deferred Retirements with Future Augmentation		66,852		66,852
3. Former Members without Vested Rights		27,920		27,920
4. Active Members				
a. Retirement Annuities	\$ 15,384	3,435,377		3,450,761
b. Disability Benefits	158,928	0		158,928
c. Survivors' Benefits	84,869	0		84,869
d. Deferred Retirements	2,235	120,252		122,487
e. Refund Liability Due to Death or Withdrawal	0	24,011		24,011
5. Total Current Benefit Obligations	<u>\$261,416</u>	<u>\$5,767,621</u>		<u>\$6,029,037</u>
E. Expected Future Benefit Obligations				<u>\$2,520,117</u>
F. Total Current and Expected Future Benefit Obligations				<u>\$8,549,154</u>
G. Current Unfunded Actuarial Liability (D5-A)				\$ 897,038
H. Current and Future Unfunded Actuarial Liability (F-C)				\$ 132,402

Table 4

**DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)
AND SUPPLEMENTAL CONTRIBUTION RATE
(Dollars in Thousands)**

July 1, 1990

	Actuarial Present Value of Projected Benefits (1)	Actuarial Present Value of Future Normal Costs (2)	Actuarial Accrued Liability (3)=(1)-(2)
A. Determination of Actuarial Accrued Liability (AAL)			
1. Active Members			
a. Retirement Annuities	\$5,748,631	\$1,570,068	\$4,178,563
b. Disability Benefits	256,633	100,564	156,069
c. Survivors Benefits	135,816	44,504	91,312
d. Deferred Retirements	184,818	137,049	47,769
e. Refunds Due to Death or Withdrawal	35,275	85,895	(50,620)
f. Total	<u>\$6,361,173</u>	<u>\$1,938,080</u>	<u>\$4,423,093</u>
2. Deferred Retirements with Future Augmentation	\$ 66,852		\$ 66,852
3. Former Members without Vested Rights	27,920		27,920
4. Annuitants in MPRIF	2,025,603		2,025,603
5. Recipients not in MPRIF	67,606		67,606
6. Total	<u>\$8,549,154</u>	<u>\$1,938,080</u>	<u>\$6,611,074</u>
B. Determination of Unfunded Actuarial Accrued Liability (UAAL)			
1. AAL (A6)			\$6,611,074
2. Current Assets (Table 1, F6)			5,131,999
3. UAAL (B1-B2)			<u>\$1,479,075</u>
C. Determination of Supplemental Contribution Rate			
1. Present Value of Future Payrolls through the Amortization Date of July 1, 2020			\$42,887,687
2. Supplemental Contribution Rate (B3/C1)			3.45%

CHANGES IN UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)
(Dollars in Thousands)

Year Ending June 30, 1990

A. UAAL at Beginning of Year	\$1,681,416
B. Change Due to Interest Requirements and Current Rate of Funding	
1. Normal Cost and Expenses	\$ 158,575
2. Contribution	(250,641)
3. Interest on A, B1, and B2	139,008
4. Total (B1+B2+B3)	<u>\$ 46,942</u>
C. Expected UAAL at End of Year (A+B4)	\$1,728,358
D. Increase (Decrease) Due to Actuarial Losses (Gains) Because of Experience Deviations from Expected	
1. Salary Increases	\$ (116,103)
2. Investment Return	(108,501)
3. MPRIF Mortality	3,140
4. Mortality of Other Benefit Recipients	1,989
5. Other Items	62,237
6. Total	<u>\$ (157,238)</u>
E. UAAL at End of Year Before Plan Amendments and Changes in Actuarial Assumptions (C+D6)	\$1,571,120
F. Change in Actuarial Accrued Liability Due to Plan Amendments	\$ 0
G. Change in Actuarial Accrued Liability Due to Changes in Actuarial Assumptions	\$ (92,045)
H. UAAL at End of Year (E+F+G)	<u>\$1,479,075</u>

DETERMINATION OF CONTRIBUTION SUFFICIENCY
(Dollars in Thousands)

July 1, 1990

	<u>% of Payroll</u>	<u>\$ Amount</u>
A. Statutory Contributions — Chapter 354		
1. Employee Contributions	4.58%	\$ 88,444
2. Employer Contributions	<u>8.22%</u>	<u>158,757</u>
3. Total	<u>12.80%</u>	<u>\$247,201</u>
B. Required Contributions — Chapter 356		
1. Normal Cost		
a. Retirement Benefits	7.52%	\$145,355
b. Disability Benefits	0.47%	9,050
c. Survivors	0.22%	4,221
d. Deferred Retirement Benefits	0.64%	12,269
e. Refunds Due to Death or Withdrawal	<u>0.39%</u>	<u>7,505</u>
f. Total	<u>9.24%</u>	<u>\$178,400</u>
2. Supplemental Contribution Amortization by July 1, 2020 of UAAL of \$1,479,075	3.45%	\$ 66,643
3. Allowance for Expenses	<u>0.42%</u>	<u>\$ 8,113</u>
4. Total	<u>13.11%</u>	<u>\$253,156</u>
C. Contribution Sufficiency (Deficiency) (A3-B4)	(0.31%)	\$ (5,955)

Note: Projected Annual Payroll for Fiscal Year Beginning on July 1, 1990 is \$1,931,669

Table 7

PROJECTED CASH FLOW
(Dollars in Thousands)

<u>Fiscal Year</u>	<u>Statutory Con- tributions</u>	<u>Transfers to MPRIF</u>	<u>Other Dis- burse- ments</u>	<u>Invest- ment Return</u>	<u>Non- MPRIF Assets Year End</u>
1990					\$ 3,106,396
1991	\$ 247,201	\$ 121,539	\$ 20,004	\$ 268,534	3,480,588
1992	262,477	340,554	20,695	291,652	3,673,468
1993	278,918	237,068	22,432	313,070	4,005,956
1994	296,345	265,347	24,712	340,773	4,353,015
1995	314,991	293,072	27,043	369,789	4,717,680
1996	335,051	317,012	29,327	400,523	5,106,915
1997	356,584	357,270	32,164	432,692	5,506,757
1998	379,603	402,057	34,997	465,633	5,914,939
1999	404,174	454,883	38,238	498,990	6,324,982
2000	430,398	522,870	41,525	531,929	6,722,914
2001	458,347	590,182	45,219	563,923	7,109,783
2002	488,131	664,828	49,366	594,724	7,478,444
2003	519,852	740,435	53,931	624,001	7,827,931
2004	553,639	844,629	58,732	650,511	8,128,720
2005	589,623	914,169	63,359	674,455	8,415,270
2006	627,948	944,134	68,124	698,965	8,729,925
2007	668,765	975,556	72,926	725,906	9,076,114
2008	712,235	1,002,951	77,720	755,811	9,463,489
2009	758,530	1,102,873	82,470	786,257	9,822,933
2010	807,834	1,080,398	87,382	819,652	10,282,639
2011	860,344	1,036,099	92,286	862,633	10,877,231
2012	916,266	1,090,414	96,390	913,067	11,519,760
2013	975,823	1,024,910	100,628	972,817	12,342,862
2014	1,039,252	988,736	105,211	1,046,819	13,334,986
2015	1,106,803	925,503	109,713	1,136,516	14,543,089
2016	1,178,745	869,920	114,445	1,244,424	15,981,893
2017	1,255,364	1,037,779	119,845	1,362,615	17,442,248
2018	1,336,962	1,037,901	126,195	1,489,938	19,105,052
2019	1,423,865	1,055,958	133,546	1,633,890	20,973,303
2020	1,516,416	1,110,845	140,959	1,793,977	23,031,892

SUMMARY OF ACTUARIAL AND UNFUNDED ACTUARIAL LIABILITIES
(Dollars in Thousands)

<u>Valuation as of June 30</u>	<u>Aggregate Actuarial Liabilities</u>	<u>Valuation Assets</u>	<u>Assets as a % of Actuarial Liabilities</u>	<u>Unfunded Accrued Liabilities (UAL)</u>	<u>Annual Active Member Payroll</u>	<u>UAL as a % of Annual Active Member Payroll</u>
1981	\$2,690,946	\$1,462,539	54.4%	\$1,228,407	\$1,040,186	118.1%
1982	3,108,086	1,710,751	55.0	1,397,335	1,129,420	123.7
1983	3,472,264	1,983,579	57.1	1,488,685	1,146,640	129.8
1984	3,716,432	2,216,248	59.6	1,500,185	1,232,357	121.7
1985	4,166,116	2,585,778	62.1	1,580,338	1,310,748	120.6
1986	4,681,573	3,104,264	66.3	1,577,309	1,406,797	112.1
1987	5,172,415	3,638,835	70.4	1,533,580	1,503,546	102.0
1988	5,586,441	3,978,898	71.2	1,607,543	1,594,391	100.8
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

SOLVENCY TEST
(Dollars in Thousands)

<u>Valuation as of June 30</u>	<u>Aggregate Accrued Liabilities for:</u>			<u>Valuation Assets</u>	<u>Portion of Actuarial Accrued Liabilities Covered by Reported Assets</u>		
	(1)	(2)	(3)		(1)	(2)	(3)
	<u>Member Contri- butions</u>	<u>Retirees and Beneficiaries</u>	<u>Members (Employer Financed Portion)</u>				
1981	\$330,976	\$ 492,829	\$1,868,053	\$1,462,539	100%	100%	34.2%
1982	367,654	559,186	2,181,246	1,710,751	100%	100%	35.9%
1983	415,525	673,364	2,383,375	1,983,579	100%	100%	37.5%
1984	441,349	819,210	2,455,873	2,216,248	100%	100%	38.9%
1985	475,439	1,060,246	2,630,431	2,585,778*	100%	100%	39.9%
1986	515,553	1,275,542	2,890,478	3,104,264*	100%	100%	45.4%
1987	558,562	1,534,798	3,079,055	3,638,835*	100%	100%	50.2%
1988	616,436	1,682,034	3,287,971	3,978,898*	100%	100%	51.1%
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%

*Includes 1/3 of value of investments over cost.

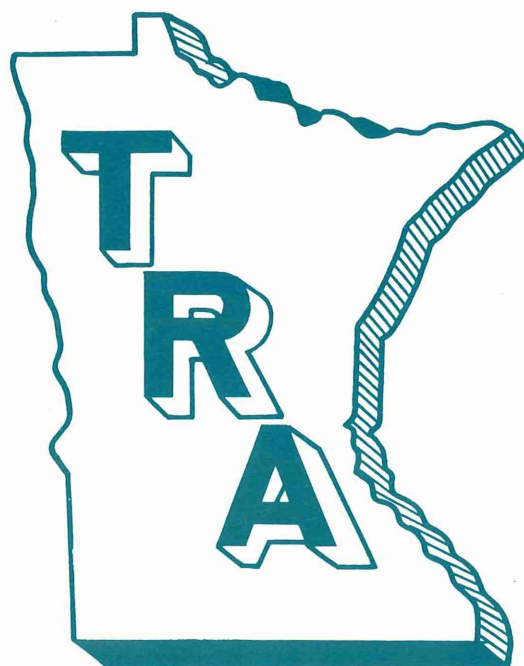
SCHEDULE OF ACTIVE MEMBER VALUATION DATA

<u>Year Ended June 30</u>	<u>Active Members</u>	<u>Annual Payroll</u>	<u>Annual Average</u>	<u>% Increase In Average Pay</u>
1981	65,189	\$1,040,186,471	\$15,956	7.4%
1982	63,573	1,129,420,339	17,766	11.3
1983	57,831	1,146,640,563	19,827	11.6
1984	58,190	1,232,356,505	21,178	6.8
1985	58,854	1,310,747,913	22,271	5.2
1986	60,149	1,406,795,764	23,389	5.0
1987	61,283	1,503,701,316	24,537	4.9
1988	63,326	1,594,391,290	25,178	2.6
1989	64,796	1,723,121,553	26,593	5.6
1990	64,324	1,785,459,190	27,757	4.4

SCHEDULE OF RETIRANTS AND BENEFICIARIES

<u>Year Ended June 30</u>	<u>Added During Year</u>	<u>Removed During Year</u>	<u>Number End of Year</u>	<u>Annual Allowances</u>	<u>% Increase in Annual Allowances</u>	<u>Average Annual Allowances</u>
1981	857	307	10,519	\$ 41,604,598	14.9%	\$ 3,955
1982	911	312	11,118	48,387,451	16.3	4,352
1983	1,070	326	11,862	57,207,585	18.2	4,823
1984	1,123	318	12,667	67,629,085	18.2	5,339
1985	1,393	427	13,633	81,967,289	21.2	6,012
1986	1,356	429	14,560	101,847,710	24.3	6,995
1987	1,354	455	15,459	125,151,959	22.9	8,096
1988	889	456	15,892	148,243,910	18.5	9,328
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

Statistical Section



SUMMARY OF CHANGES IN MEMBERSHIP 1989-90

ACTIVE AND INACTIVE MEMBERS

	Active		Inactive	
	Basic	Coordinated	Basic	Coordinated
Total June 30, 1989	1,039	63,757	212	15,880
Additions	—	5,330	21	50
Deletions				
Service Retirement	(148)	(818)	(32)	(65)
Disability	(1)	(54)	—	—
Death	(8)	(88)	(1)	(5)
Refunds	(1)	(2,540)	(2)	(108)
Writeoffs	—	—	(1)	(782)
Transfer to Inactive	—	(2,144)	—	2,144
Total June 30, 1990	881	63,443	197	17,114

	Basic System	Coordinated System	Total
Active	881	63,443	64,324
Inactive	197	17,114	17,311
Total	1,078	80,557	81,635

ANNUITANTS — REGULAR FUND

	Basic System			Coordinated System		
	Men	Women	Total	Men	Women	Total
Total Annuity June 30, 1989	1,682	3,356	5,038	3,767	6,462	10,229
Members Retired During Year	120	62	182	438	465	903
Adjustments	—	(1)	(1)	(1)	1	—
Annuities Terminated by Law	—	—	—	—	—	—
Annuities Cancelled	(1)	(1)	(2)	(6)	(14)	(20)
Annuity Deceased During Year	(34)	(92)	(126)	(95)	(149)	(244)
Total Annuity June 30, 1990	1,767	3,324	5,091	4,103	6,765	10,868
Annuity Not Receiving Warrants June 30, 1990 ...	—	—	—	(2)	(3)	(5)
Total Active Annuity June 30, 1990	1,767	3,324	5,091	4,101	6,762	10,863

SUMMARY OF CHANGES IN MEMBERSHIP 1989-90 (Continued)

BENEFICIARIES OF MEMBERS DECEASED PRIOR TO RETIREMENT

	Joint & Survivor Annuities			Basic Survivor Benefits			
	Men*	Women*	Total	Men	Women	Children	Total
Total June 30, 1989	154	34	188	6	84	5	95
Added During Year	19	11	30	—	—	—	—
Terminated During Year	—	—	—	(1)	(4)	(2)	(7)
Total June 30, 1990	173	45	218	5	80	3	88

DISABILITANTS

	Basic System			Coordinated System		
	Men	Women	Total	Men	Women	Total
Total June 30, 1989	19	16	35	96	107	203
Added During Year	1	—	1	23	31	54
Resumed Benefits	—	—	—	—	—	—
Died During Year	—	(2)	(2)	(5)	(6)	(11)
Transferred to Retirement Status	(1)	(2)	(3)	(8)	(7)	(15)
Resumed Employment	—	—	—	—	(5)	(5)
Total June 30, 1990	19	12	31	106	120	226
Disabilitants Not Receiving Warrants June 30, 1990 ...	—	—	—	(1)	—	(1)
Total Active Disabilitants June 30, 1990	19	12	31	105	120	225

BENEFICIARIES OF RETIRED MEMBERS

	Basic System			Coordinated System		
	Men*	Women*	Total	Men*	Women*	Total
Total June 30, 1989	94	79	173	302	108	410
Added During Year	17	5	22	48	22	70
Annuities Terminated By Law	(3)	(13)	(16)	(32)	(18)	(50)
Deaths	—	(1)	(1)	(5)	(1)	(6)
Total June 30, 1990	108	70	178	313	111	424

SUPPLEMENTAL ANNUITANTS

	Supplemental Retirement Annuities		
	Men	Women	Total
Total Annuitants June 30, 1989	99	76	175
Members Retired During Year	3	—	3
Resumed Drawing	—	—	—
Members Re-employed or Terminated by Law	(3)	—	(3)
Annuities Cancelled During Year	—	—	—
Annuitants Deceased During Year	(1)	(2)	(3)
Total Annuitants June 30, 1990	98	74	172

*Sex of Member.

DISTRIBUTION OF ACTIVE MEMBERS
As of June 30, 1990

<u>Age</u>	<u>Years of Service</u>								<u>Total</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	
<25	1,041	711							1,752
25-29	1,234	3,787	961	1					5,983
30-34	864	2,369	2,329	1,056	1				6,619
35-39	1,128	2,465	1,686	3,179	1,631	2			10,091
40-44	1,060	2,603	1,633	1,933	4,239	2,240			13,708
45-49	600	1,475	1,068	1,173	1,669	3,512	1,134	2	10,633
50-54	301	763	601	702	984	1,840	2,136	708	8,035
55-59	195	355	262	347	601	1,054	1,120	1,443	5,377
60-64	91	157	77	134	217	424	342	393	1,835
65+	33	56	20	14	28	45	35	60	291
Total	6,547	14,741	8,637	8,539	9,370	9,117	4,767	2,606	64,324

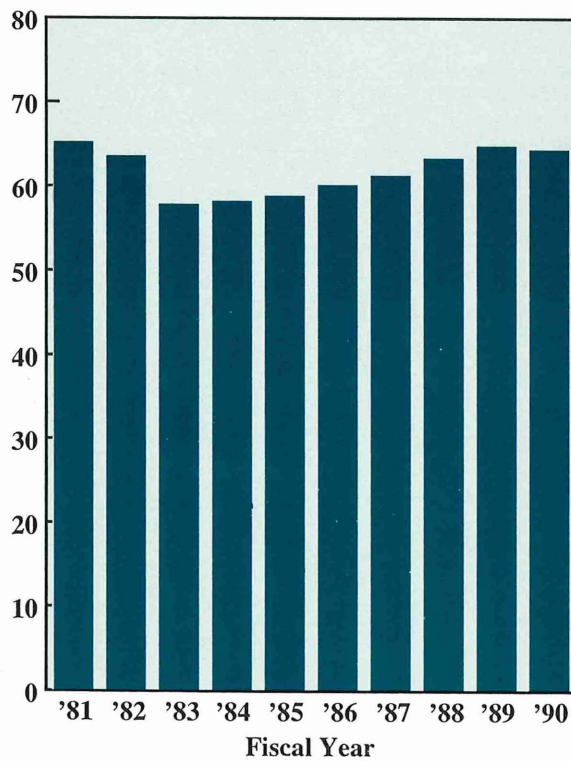
AVERAGE ANNUAL EARNINGS OF ACTIVE MEMBERS
for Fiscal Year Ended June 30, 1990

<u>Age</u>	<u>Years of Service</u>								<u>All</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	
<25	9,581	19,294							13,523
25-29	7,288	19,302	25,224	22,314					17,776
30-34	6,890	18,538	25,178	28,600	23,947				20,960
35-39	6,462	18,602	26,083	30,480	34,762	35,543			24,852
40-44	5,980	17,761	27,247	32,191	36,256	38,627			29,144
45-49	5,497	17,007	27,040	33,524	38,477	40,393	40,687	35,340	32,810
50-54	5,069	15,018	23,992	31,655	37,522	40,897	41,777	42,298	34,970
55-59	4,480	12,369	20,611	30,423	37,290	40,030	41,501	42,995	36,144
60-64	4,237	8,394	16,272	29,652	35,921	38,704	40,068	44,372	33,938
65+	3,505	5,929	15,790	27,571	36,120	41,228	44,573	44,267	28,289
All	6,835	18,004	25,659	31,128	36,581	39,943	41,351	43,037	28,197

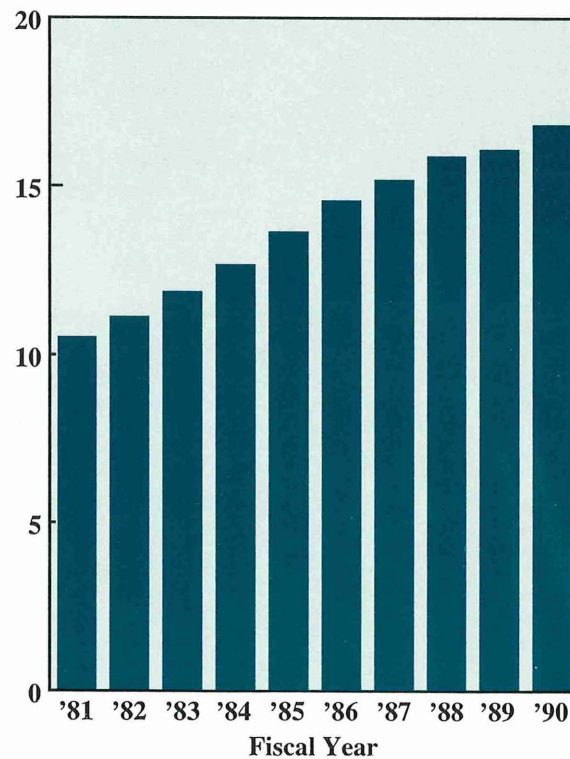
TEN YEAR SUMMARY OF MEMBERSHIP

Year Ended June 30	Active Members	Inactive Members	Benefit Recipients
1981	65,189	14,245	10,519
1982	63,573	14,411	11,118
1983	57,831	16,842	11,862
1984	58,190	16,167	12,667
1985	58,854	15,601	13,633
1986	60,149	14,967	14,560
1987	61,283	15,032	15,181
1988	63,326	15,188	15,880
1989	64,796	16,092	16,080
1990	64,324	17,311	16,812

ACTIVE MEMBERS
in Thousands



BENEFITS RECIPIENTS
in Thousands



SCHEDULE OF PARTICIPATING EMPLOYERS

INDEPENDENT SCHOOL DISTRICTS

Ada #521	Cambridge-Isanti #911	Fairfax #649	Isle #473
Adrian #511	Campbell-Tintah #852	Fairmont #454	Ivanhoe #403
Aitkin #1	Canby #891	Faribault #656	Jackson #324
Akeley #301	Cannon Falls #252	Farmington #192	Janesville #830
Albany #745	Carlton #93	Fergus Falls #544	Jasper #582
Albert Lea #241	Cass Lake #115	Fertile-Beltrami #599	Jordan #717
Alden #242	Centennial #12	Finlayson #570	Karlstad #353
Alexandria #206	Ceylon #451	Fisher #600	Kasson-Mantorville #204
Alvarado #436	Chandler-Lake Wilson #918	Floodwood #698	Kelliher #36
Amboy-Good Thunder #79	Chaska #112	Foley #51	Kennedy #354
Annandale #876	Chatfield #227	Forest Lake #831	Kensington #209
Anoka-Hennepin #11	Chisago Lakes #141	Fosston #601	Kenyon #254
Appleton #784	Chisholm #695	Franklin #650	Kerkhoven-Murdock-Sunburg #775
Argyle #437	Chokio-Alberta #771	Frazee #23	Kiester #222
Arlington #731	Clara City #126	Freeborn #244	Kimball #739
Ashby #261	Claremont #201	Fridley #14	La Crescent #300
Askov #566	Clarissa #789	Fulda #505	Lake Benton #404
Atwater #341	Clarkfield #892	Garden City #78	Lake City #813
Audubon #21	Clearbrook #161	Gary #523	Lake Crystal #70
Aurora #691	Cleveland #391	Gaylord #732	Lake of the Woods #390
Austin #492	Climax #592	Gibbon #733	Lake Park #24
Babbitt #692	Clinton #58	Gilbert #699	Lake Superior #381
Backus #114	Cloquet #94	Glencoe #422	Lakefield #325
Badger #676	Cold Spring #750	Glenville #245	Lakeville #194
Bagley #162	Coleraine #316	Glenwood #612	Lamberton #633
Balaton #411	Columbia Heights #13	Glyndon #145	Lancaster #356
Barnesville #146	Comfrey #81	Gonvick #158	Lanesboro #229
Barnum #91	Cook County #166	Goodhue #253	Laporte #306
Barrett #262	Cosmos #461	Goodridge #561	Le Center #392
Battle Lake #542	Cottonwood #412	Graceville #60	Le Roy #499
Beardsley #57	Cromwell #95	Granada-Huntley #460	Lester Prairie #424
Becker #726	Crookston #593	Grand Meadow #495	Le Sueur #393
Belgrade-Elrosa #736	Crosby #182	Grand Rapids #318	Lewiston #857
Belle Plaine #716	Cyrus #611	Granite Falls #894	Litchfield #465
Bellingham #371	Danube #648	Greenbush #678	Little Falls #482
Belview #631	Dassel-Cokato #466	Grey Eagle #791	Littlefork-Big Falls #362
Bemidji #31	Dawson #378	Grove City #464	Long Prairie #792
Benson #777	Deer Creek #543	Grygla #447	Luverne #670
Bertha-Hewitt #786	Deer River #317	Hallock #351	Lyle #497
Big Lake #727	Delano #879	Halstad #524	Lynd #415
Bird Island #646	Delavan #218	Hancock #768	Mabel-Canton #238
Biwabik #693	Detroit Lakes #22	Harmony #228	Madelia #837
Blackduck #32	Dilworth #147	Hastings #200	Madison #377
Blooming Prairie #756	Dodge Center #202	Hawley #150	Magnolia #669
Bloomington #271	Dover-Eyota #533	Hayfield #203	Mahnomen #432
Blue Earth #240	Duluth #709	Hector #651	Mahtomedi #832
Borup #522	Eagle Bend #790	Henderson #734	Mankato #77
Braham #314	East Chain #453	Hendricks #402	Maple Lake #881
Brainerd #181	East Grand Forks #595	Hendrum #525	Mapleton #72
Brandon #207	Echo #893	Henning #545	Marietta-Nassau #376
Breckenridge #846	Eden Prairie #272	Herman-Norcross #264	Marshall #413
Brewster #513	Eden Valley #463	Hermantown #700	Maynard #127
Bricelyn #217	Edgerton #581	Heron Lake-Okabena #330	Mazeppa #809
Brooklyn Center #286	Edina #273	Hibbing #701	McGregor #4
Brooten #737	Elbow Lake #263	Hill City #2	McIntosh #603
Browerville #787	Elgin-Millville #806	Hills-Beaver Creek #671	Medford #763
Browns Valley #801	Elk River #728	Hinckley #573	Melrose #740
Brownnton #421	Ellendale #762	Hoffman #265	Menahga #821
Buffalo #877	Ellsworth #514	Holdingford #738	Mentor #604
Buffalo Lake #647	Elmore #219	Hopkins #270	Middle River #440
Burnsville #191	Ely #696	Houston #294	Milaca #912
Butterfield #836	Emmons #243	Howard Lake #880	Milan #128
Byron #531	Erskine #597	Humboldt #352	Milroy #635
Caledonia #299	Esko #99	Hutchinson #423	Minneota #414
	Evansville #208	International Falls #361	Minnesota Lake #223
	Eveleth #697	Inver Grove #199	Minnetonka #276

Montevideo #129	Robbinsdale #281	Virginia #706
Montgomery #394	Rochester #535	Wabasha #811
Monticello #882	Rockford #883	Wabasso #640
Moorhead #152	Roseau #682	Waconia #110
Moose Lake #97	Rosemount-Apple Valley-Eagan #196	Wadena #819
Mora #332	Roseville #623	Waldorf-Pemberton #913
Morgan #636	Rothsay #850	Walker #119
Morris #769	Round Lake #516	Walnut Grove #641
Morristown #657	Royalton #485	Wanamingo #258
Morton #652	Rush City #139	Warren #446
Motley #483	Rushford #234	Warroad #690
Mounds View #621	Russell #418	Waseca #829
Mountain Iron-Buhl #712	Ruthon #584	Watertown-Mayer #111
Mountain Lake #173	Sacred Heart #655	Waterville #395
Nashwauk-Keewatin #319	St. Anthony-New Brighton #282	Waubun #435
Nett Lake #707	St. Charles #858	Wayzata #284
Nevis #308	St. Clair #75	Welcome #459
New London-Spicer #345	St. Cloud #742	Wells #224
New Prague #721	St. Francis #15	West Concord #205
New Richland #827	St. James #840	West St. Paul #197
New Ulm #88	St. Louis County #710	Westbrook #175
New York Mills #553	St. Louis Park #283	Westonka #277
Newfolden #441	St. Michael-Albertville #885	Wheaton #803
Nicollet #507	St. Peter #508	White Bear Lake #624
North Branch #138	Sanborn #638	Willmar #347
North St. Paul-Maplewood #622	Sandstone #576	Willow River #577
Northfield #659	Sartell #748	Windom #177
Norwood #108	Sauk Centre #743	Winnebago #225
Ogilvie #333	Sauk Rapids #47	Winona #861
Oklee #627	Sebekka #820	Winsted #427
Olivia #653	Shakopee #720	Winthrop #735
Onamia #480	Sherburn #456	Wood Lake #896
Orono #278	Silver Lake #425	Worthington #518
Ortonville #62	Sioux Valley #328	Wrenshall #100
Osakis #213	Slayton #504	Wykoff #236
Oslo #442	Sleepy Eye #84	Zumbrota #260
Osseo #279	So. Koochiching #363	
Owatonna #761	So. St. Paul #6	
Park Rapids #309	So. Washington County #833	
Parkers Prairie #547	Southland #500	
Paynesville #741	Southwestern Tech. Institute #9002	
Pelican Rapids #548	Spring Grove #297	
Pequot Lakes #186	Spring Lake Park #16	
Perham #549	Spring Valley #237	
Peterson #232	Springfield #85	
Pierz #484	Staples #793	
Pillager #116	Starbuck #614	
Pine City #578	Stephen #443	
Pine Island #255	Stewart #426	
Pine Point #3333	Stewartville #534	
Pine River #117	Stillwater #834	
Pipestone #583	Storden-Jeffers #178	
Plainview #810	Strandquist #444	
Plummer #628	Swanville #486	
Preston-Fountain #233	Taylor Falls #140	
Princeton #477	Thief River Falls #564	
Prinsburg #815	Tower-Soudan #708	
Prior Lake #719	Tracy #417	
Proctor #704	Trimont #457	
Randolph #195	Truman #458	
Raymond #346	Twin Valley #526	
Red Lake #38	Tyler #409	
Red Lake Falls #630	Ulen-Hitterdal #914	
Red Wing #256	Underwood #550	
Redwood Falls #637	Upsala #487	
Remer #118	Verdi #408	
Renville #654	Verndale #818	
Richfield #280	Villard #615	

JOINT POWERS UNITS

Agassiz Valley Vocational Center #94-03
 Bemidji Regional Interdist. Council #96-1
 Benton-Stearns Spec. Education Coop. #96-19
 Carver-Scott Cooperative Center #94-55
 Central Minnesota ERDC #94-0
 Central Minnesota ECSU #96-25
 Dakota County Technical #917
 Data Processing (TIES) #95-0
 East Central Cooperative Center #94-43
 East Range Vocational Center #94-33
 Educational Cooperative Unit #5 #96-16
 Fergus Falls Area Special Ed. Coop. #96-7
 Hennepin Technical Center #287
 Highland Vocational Coop. Center #94-52
 Interdist. Spec. Ed. Coop. St. Peter #96-3
 Lake Agassiz Special Education Coop. #96-21
 Leaf River Valley Cooperative Center #94-34
 Meeker-Wright Special Ed. Coop. #96-9
 Metro Education Cooperative Unit #96-11
 Mid-Range Special Education Coop. #96-6
 Midwest Special Ed. Interdist. Coop. #96-23
 Mower Educational Service Coop. #96-18
 MN Educational Computing Corporation #95-1
 MN River Valley Special Ed. Coop. #96-24
 MN Valley Cooperative Center #94-08
 N. Country Vocational Coop. Center #94-56
 NE Metro Intermediate #916
 Northeast Minnesota ECSU #96-13
 Northwest Migrant Region #98-3

Northwest MN Ed. Coop. Unit #96-22
 Northwest Reg. Interdist. Council #382, #96-17
 Pine to Prairie Coop. Center #94-21
 Red Lake Falls Spec. Ed. Coop. #96-4
 Red River Valley High School Coop. #94-05
 Region 1 ESV #98-5
 River Bend Special Cooperative #96-12
 SW & W. Central Ed. Coop. Serv. Unit #94-4
 Sibley Co. Vocational Center #94-09
 South Central ECSU #96-10
 Southeast MN Educational Coop. Unit #96-15
 Southeast MN Spec. Ed. Coop. #96-26
 Tri-County Coop. Voc. Ed. Center #94-49
 Viking Cooperative Center #94-50
 Wasioja Spec. Ed. Coop. #96-27
 West Central Migrant Project #98-2
 West Central Special Education Coop. #96-8
 Woodland-Freshwater Coop. Center #94-32
 Wright Vocational Center #94-14

STATE AGENCIES, COLLEGES, UNIVERSITIES

Akita Japan State University #90-908
 Anoka State Hospital #91-15
 Anoka-Ramsey Community College #93-15
 Arrowhead Community College #93-21
 Austin Community College #93-1
 Bemidji State University #90-1
 Brainerd Community College #93-2
 Brainerd Regional Human Serv. Center #91-1
 Cambridge Community College Center #93-20
 Cambridge Human Services Center #91-2
 Community College Board #93-0
 Corrections Dept. #92-0
 Education Dept. #88-37
 Faribault Regional Center #91-5
 Faribault Residential Schools #37001
 Fergus Falls Community College #93-6
 Fergus Falls Reg. Treatment Center #91-13
 Fond du Lac Extn. Center #93-22
 Hibbing Community College #93-7
 Higher Education Board #88-6000

Inver Hills Community College #93-18
 Itasca Community College #93-3
 Lakewood Community College #93-16
 Mankato State University #90-2
 Mesabi Community College #93-9
 Metropolitan State University #90-7
 Minneapolis Community College #93-14
 Moorhead State University #90-3
 Moose Lake Regional Treatment Center #91-11
 MN Correctional Facility, Red Wing #92-1
 MN Correctional Facility, Sauk Center #92-2
 MN School and Resources Ctr. of the Arts #88-25000
 N. Hennepin Community College #93-12
 Normandale Community College #93-17
 Northland Community College #93-13
 Rainy River Community College #93-5
 Rochester Community College #93-8
 Southwest State University #90-6
 St. Cloud State University #90-4
 St. Peter Regional Treatment Center #91-10
 State Board of Vocational Education #88-36
 State University Board #90-0
 Teachers Retirement Association #88-69
 Thistledeew Camp #92-14
 Vermillion Community College #93-4
 Vocational Rehabilitation Dept. #88-210
 Willmar Community College #93-10
 Willmar State Hospital #91-14
 Willow River Camp #92-12
 Winona State University #90-5
 Worthington Community College #93-11

PROFESSIONAL ORGANIZATIONS

Assoc. of School Administrators #97-2
 Assoc. of Secondary Sch. Principals #97-3
 Elementary School Principals Assn. #97-1
 MN Education Association #97-4
 MN Federation of Teachers #97-5
 Osseo Federation of Teachers #97-9
 Robbinsdale Federation of Teachers #97-6