Teachers Retirement Association

of the

State of Minnesota

TRA

Comprehensive Annual Financial Report

For the Fiscal Year Ended June 30, 1992

Teachers Retirement Association

of the

State of Minnesota

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

Gary Austin, Executive Director

Comprehensive Annual Financial Report

For the Fiscal Year Ended June 30, 1992

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STATE OF MINNESOTA
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December 31, 1992

Members of the Board of Trustees
State of Minnesota
Teachers Retirement Association

I am pleased to present the *Comprehensive Annual Financial Report* of the Minnesota Teachers Retirement Association (TRA) for the fiscal year ended June 30, 1992. This report is intended to provide readers with financial, actuarial, and statistical information in a single publication.

This *Comprehensive Annual Financial Report* is divided into five sections: (1) the Introduction Section includes this letter of transmittal, information about the administrative organization of TRA, and a summary of significant features describing fund operations; (2) the Financial Section contains the general purpose financial statements and footnotes along with the report of our independent auditors; (3) the Investments Section includes a summary of portfolio assets and description of asset management; (4) the Actuarial Section includes the results of the annual actuarial valuation and certification letter of Milliman & Robertson, Inc.; and (5) the Statistical Section consists of historical data showing the progress of the system.

Accounting Basis and Internal Control

The financial statements are prepared in accordance with generally accepted accounting principles and are the responsibility of TRA management. The financial statements are prepared using the accrual basis of accounting. Revenues are recorded when earned and expenditures recorded when the obligation is incurred. Equity investments are presented at the lower of cost or market value and fixed income investments are reported at amortized cost.

TRA management maintains a system of internal controls designed to assure responsible safeguarding of assets and reliable financial records. No material weaknesses in internal control were reported by our independent auditor during the conduct of the audit.

Financial Highlights

The three major sources of revenue for TRA are employee and employer contributions, plus investment earnings. Total revenues for the fund for fiscal '92 were $968.7 million. This was an increase of 42% over the previous year. The majority of this increase is linked to improved returns on fund investments during fiscal '92.

The expenditures of the fund consist primarily of payments made to members and beneficiaries for retirement, disability, or survivor benefits. In total, benefit payments for the fiscal year '92 were $227 million, an increase of 13% over the previous year.

Eligible members may also choose to withdraw their contributions from the fund. For fiscal '92, refunds to members were $5.5 million. In total, benefits paid and refunds comprise over 96% of the fund's expenditures. Administrative services are provided and paid for by the Teachers Retirement Fund. For fiscal '92, administrative operating expenses were $2.9 million; this cost represented 0.14% of the current covered payroll of all active members.

Funding

The actuary for the Legislative Commission on Pensions and Retirement determines actuarial liabilities and reserves under the entry age normal cost method. The total net assets of the Teachers Retirement Fund on the actuarial balance sheet increased during fiscal '92 from $5.61 million to $6.32 million. The total required reserves as determined by the Actuary for the fund increased from $7.21 million to $7.66 million. The comparison of net assets to required reserves shows that the funding ratio for fiscal '92 was 82.54%. This is an increase over the 77.84% funding ratio for fiscal '91.

The unfunded liability decreased during the year by $261 million and is currently $1.38 billion. The current statutory employee and employer contribution rate of 12.72% is inadequate to cover the 13.13% required contribution level determined by the Actuary as necessary to amortize the unfunded liability of the fund by the year 2020, the full funding target date.

Investments

The assets of the Teachers Retirement Association are invested under the direction and authority of the State Board of Investment. Total fund assets grew by 12.6% during the year to $6.25 billion. The investment income of the Teachers Retirement Fund and the Post Retirement Fund continued to provide the majority (73.6%) of total revenues received during fiscal '92. These returns provide the financial foundation for funding the benefit programs and limiting the need for employee and employer contributions. Employee contributions were 9.4% and employer contributions 16.8% of total FY '92 revenues. Further information on investments held by the Teachers Retirement Fund can be found under the Investments Section of the report. A listing of the investment portfolio is available upon request.

Professional Services

Actuarial services are provided to the Teachers Retirement Fund by the firm W.F. Corroon of San Francisco. However, the actuarial report of the fund is prepared by Milliman & Robertson, Inc., which is retained by the Legislative Commission on Pensions and Retirement for the purpose of preparing actuarial reports for all the statewide funds. The Office of the Attorney General provides legal counsel to TRA. The State Office of the Legislative Auditor conducts an annual financial audit of the fund. Their report is shown on pages 14-15. All financial transactions, including disbursements from the fund, are processed through the centralized controls of 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, 1992 was distributed to each active member in December 1992. 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, with summaries of the Annual Financial and Actuarial Reports of the fund for the year ended June 30, 1992, will be distributed to each active member in the January 1993 newsletter.

Review of Operations and Activities

The number of TRA annuitants continued to grow during fiscal '92. 1,407 members retired during the year compared to 1,299 who retired during the previous year. The majority of these members retire at the end of the school year. As of June 30, 1992, our annuity section was paying benefits to 19,209 members/beneficiaries monthly. Refunds were distributed to 2,036 members of their contributions plus interest during the year.

TRA devotes much time and attention to advising members and retirees about their current or future benefits. During the 1992 fiscal year, our counseling staff personally advised 2,810 members. Of this total, 1,889 (67%) were advised in our St. Paul office; the other 921 (33%) meetings occurred during our counseling sessions held at 15 field locations throughout the state. Over 48,000 phone calls were received at our St. Paul office phone number during fiscal '92.

Significant Legislation

Important changes were made in the Minnesota Post Retirement Investment Fund (MPRIF) by the 1992 Legislature. The investment portfolio of MPRIF will gradually be changed from predominantly bonds (90%) to a composition of 50% bonds and 50% stocks. I expect this change to increase the potential for significantly greater investment returns of MPRIF at minimal risk to the fund assets. Increased investment returns will provide higher post retirement adjustments. An equally important change will provide for the post retirement adjustment each year to be based on the increase in the cost of living as determined by the consumer price index. The change also allows for the potential of an additional increase based on earnings in excess of those needed to fund the cost of living adjustment. I expect these changes will produce greater investment returns and provide increases that directly relate to changes in the cost of living.

The 1992 Legislature also changed the interest rate charged on the repayment of refunds. Currently, the interest rate charged to members who repay refunds is 6% compounded annually. This is less than the 8½% rate assumed to be earned by the State Board of Investment on the contributions of active members. To equalize this difference, the 1992 Legislature increased the interest rate charged on the repayment of refunds and other payments to 8½% compounded annually, effective May 1, 1994. The effective date of this increase was delayed to allow members time to repay refunds under the current 6% rate.

Acknowledgments

The preparation of this report is possible only through the combined efforts of the TRA staff. It is intended to provide a complete and reliable portrayal of the financial status of the fund. A copy of this report will be mailed to each public school building in the state.

I would like to recognize the efforts of Mr. Elton Erdahl for his 24 years of service to the administration of the fund. Mr. Erdahl retired on September 30, 1992 after serving as Executive Director for the past 6 years. He was consistent and always professional in his approach; his focus in managing the fund was to protect assets and to keep the benefit structure fair and equitable. His influence will continue to be felt for a long time.

On my own behalf, I thank the Board of Trustees for selecting me to assist them in the stewardship of the fund assets. On behalf of the Board of Trustees, I thank the staff, the Board's advisors, and the many people who work diligently toward the successful operation of the fund.

Respectfully submitted,

Gary Austin

Gary Austin
Executive Director

BOARD OF TRUSTEES

(As of December 1, 1992)

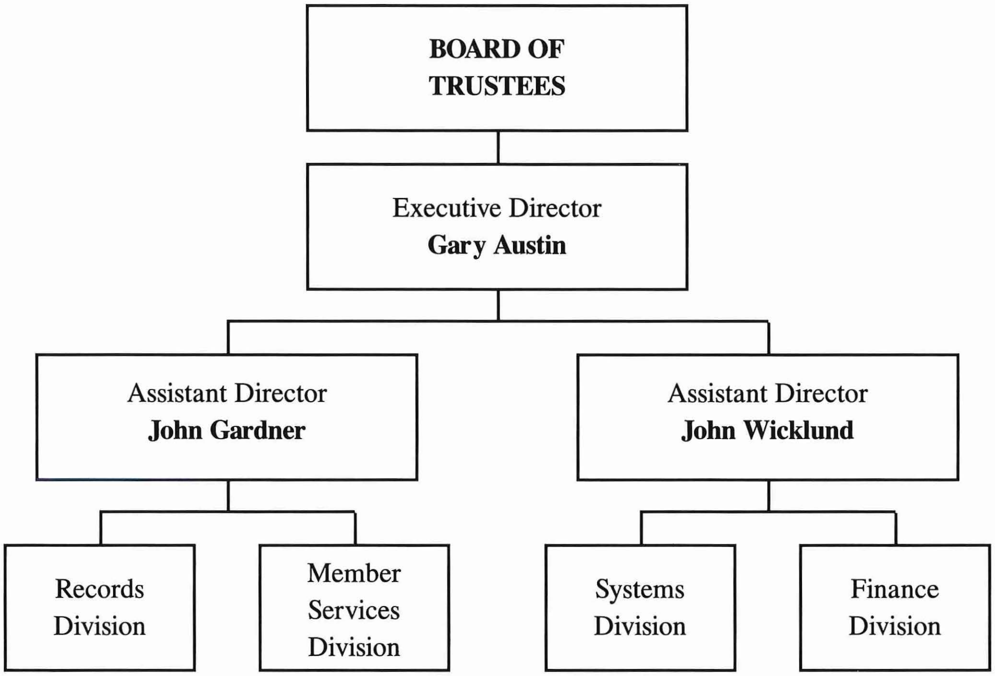
ADMINISTRATIVE STAFF

Gary Austin, Executive Director

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

John Wicklund, Assistant Executive Director
Finance and Systems Division

ADMINISTRATIVE ORGANIZATION
(As of December 1992)



MISSION STATEMENT

The mission of the Minnesota Teachers Retirement Association is to provide a secure, dependable source of retirement income for its members.

To accomplish this, we at the Teachers Retirement Association (TRA) will:

- reliably receive and account for retirement fund contributions, precisely and dependably disburse benefits, and maintain accurate records of all related activities.
- provide quality services to assist teachers and their beneficiaries in understanding and use of the TRA program and benefits.
- support the maintenance and enhancement of a high quality, well managed teachers' retirement program.

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 from 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 (approximately 4%-5% per year) for each month the member is under age 65.

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

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

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

Post 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%. Effective May 1, 1994 the effective rate of interest will be increased to 8.5%.

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 benefit 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.

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, which is part of the Defined Benefit Pension Fund, of the State of Minnesota as of and for the year ended June 30, 1992, 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 2c, 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 as part of the Defined Benefit Pension Fund, 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.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Teachers Retirement Fund as of June 30, 1992, and the results of its operations and the changes in financial position for the year then ended in conformity with generally accepted accounting principles. In addition, except for the valuation

Board of Trustees
and
Executive Director
Teachers Retirement Association
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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 Fund. 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

John Asmussen, CPA
Deputy Legislative Auditor

December 15, 1992

TEACHERS RETIREMENT FUND
BALANCE SHEET
June 30, 1992 and 1991

ASSETS

	1992	1991
Cash	$ 1,136,755.59	$ 1,045,675.57
Accounts Receivable	30,258,826.90	29,452,507.38
Accrued Investment Income	124,138.81	377,833.95
Prepaid Expense	11,947.68	19,326.27
Investments:		
Outside Managed Pooled Accounts (Notes 2, 7 & 9)	3,622,160,602.17	3,178,837,997.95
Short-term Cash Equivalents (Notes 2 & 7)	4,615,133.34	31,816,403.77
Equity in MPRI Fund (Note 8)	2,587,978,999.75	2,301,368,999.68
Fixed Assets Net of Accumulated Depreciation (Note 2)	256,239.95	290,219.16
Total Assets	$ 6,246,542,644.19	$ 5,543,208,963.73

LIABILITIES AND RESERVES REQUIRED

	1992	1991
Liabilities:		
Current —		
Accounts Payable	$ 2,708,050.84	$ 2,392,058.21
Due to Other Funds	3,107,221.07	27,320,365.36
Accrued Compensated Absences	236,758.27	215,166.51
Total Liabilities	$ 6,052,030.18	$ 29,927,590.08
Fund Balance:		
Member Reserves	$ 886,617,933.18	$ 838,160,497.10
MPRIF Reserves (Note 8)	2,587,978,999.75	2,301,368,999.68
Benefit Reserves	4,187,925,067.07	4,074,190,503.22
Total Reserves (Note 1)	$ 7,662,522,000.00	$ 7,213,720,000.00
Unreserved Fund Balance:		
Unfunded Actuarial Accrued Liability (Note 1)	$(1,422,031,385.99)	$(1,700,438,626.35)
Total Unreserved Fund Balance (Note 1)	$(1,422,031,385.99)	$(1,700,438,626.35)
Total Fund Balance	$ 6,240,490,614.01	$ 5,513,281,373.65
Total Liabilities and Fund Balance	$ 6,246,542,644.19	$ 5,543,208,963.73

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, 1992 and 1991

	1992	1991
Operating Revenues:		
Member Contributions (Notes 1 & 4)	$ 91,505,604.86	$ 89,313,080.97
Employer Contributions (Notes 1 & 4)	162,369,508.05	159,439,219.13
Investment Income	509,636,465.45	235,771,333.27
Distributed Income from MPRI Fund (Note 8)	203,328,777.42	195,105,838.96
Other	1,942,689.27	1,964,985.97
Total Operating Revenues	$ 968,783,045.05	$ 681,594,458.30
Operating Expenses:		
Benefits Paid (Notes 1 & 5)	$ 227,066,655.35	$ 200,415,271.18
Refunds	5,494,749.39	5,554,181.21
Administrative Expenses	2,895,659.03	2,790,089.30
Interest Paid MPRI Fund (Note 8)	775,681.40	714,476.61
Investment Management Fees	5,341,059.52	4,347,522.54
Total Operating Expenses	$ 241,573,804.69	$ 213,821,540.84
Net Fund Balance Additions	$ 727,209,240.36	$ 467,772,917.46
Fund Balance, July 1, 1991	5,513,281,373.65	5,045,508,456.19
Fund Balance, June 30, 1992	$6,240,490,614.01	$5,513,281,373.65

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

TEACHERS RETIREMENT
STATEMENT OF REVENUES, EXPENSES,
For Fiscal Years

	Member
Operating Revenues:	
Member Contributions (Notes 1 & 4)	$ 91,278,444.14
Employer Contributions (Notes 1 & 4)	0
Investment Income	0
Distributed Income from MPRI Fund (Note 8)	0
Other	0
Total Operating Revenues	$ 91,278,444.14
Operating Expenses:	
Benefits Paid (Notes 1 & 5)	$ 0
Refunds	5,354,959.45
Administrative Expenses	0
Interest Paid MPRI Fund (Note 8)	0
Investment Management Fees	0
Total Operating Expenses	$ 5,354,959.45
Other Changes in Reserves:	
Annuities Awarded	$(38,904,719.81)
Other Transfers	1,438,671.20
Mortality	0
Total Other Changes	$(37,466,048.61)
Net Fund Balance Additions	$ 48,457,436.08
Change in Unfunded Accrued Liability	0
Fund Balance, July 1, 1991	838,160,497.10
Fund Balance, June 30, 1992	$886,617,933.18

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

FUND
AND CHANGE IN FUND BALANCES
Ended June 30, 1992 and 1991

Reserves: MPRI Funds	Reserves: Benefit	Unreserved Fund Balance	Total June 30, 1992	Total June 30, 1991
$ 0	$ 227,160.72	$ 0	$ 91,505,604.86	$ 89,313,080.97
0	162,369,508.05	0	162,369,508.05	159,439,219.13
0	509,636,465.45	0	509,636,465.45	235,771,333.27
203,328,777.42	0	0	203,328,777.42	195,105,838.96
0	1,942,689.27	0	1,942,689.27	1,964,985.97
$ 203,328,777.42	$ 674,175,823.49	$ 0	$ 968,783,045.05	$ 681,594,458.30
$ 219,803,128.39	$ 7,263,526.96	$ 0	$ 227,066,655.35	$ 200,415,271.18
0	139,789.94	0	5,494,749.39	5,554,181.21
0	2,895,659.03	0	2,895,659.03	2,790,089.30
0	775,681.40	0	775,681.40	714,476.61
0	5,341,059.52	0	5,341,059.52	4,347,522.54
$ 219,803,128.39	$ 16,415,716.85	$ 0	$ 241,573,804.69	$ 213,821,540.84
$ 307,596,078.04	$ (268,691,358.23)	$ 0	$ 0	$ 0
0	(1,438,671.20)	0	0	0
(4,511,727.00)	4,511,727.00	0	0	0
$ 303,084,351.04	$ (265,618,302.43)	$ 0	$ 0	$ 0
$ 286,610,000.07	$ 392,141,804.21	$ 0	$ 727,209,240.36	$ 467,772,917.46
0	(278,407,240.36)	278,407,240.36	0	0
2,301,368,999.68	4,074,190,503.22	(1,700,438,626.35)	5,513,281,373.65	5,045,508,456.19
$2,587,978,999.75	4,187,925,067.07	$(1,422,031,385.99)	$6,240,490,614.01	$5,513,281,373.65

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). The TRF is considered part of the State of Minnesota financial reporting entity and is included in the State's financial reports as a pension trust fund.

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

	1992	1991
Independent school districts	413	421
Joint powers units	47	53
Technical colleges	7	3
State agencies, colleges, universities	50	52
Professional organizations	5	6
Total employer units	522	535

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:

	1992	1991
Retirees, disabilitants and beneficiaries receiving benefits	19,209	18,086
Terminated employees with deferred vested benefits	3,548	3,134
Total	22,757	21,220
Current employees:		
Vested	49,077	48,050
Non-vested	16,480	17,043
Total	65,557	65,093

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 six 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 $7,662,522,000.00 and net assets were $6,240,490,614.01 based on equity investments at the lower of cost or market value. On this basis, required reserves were 81.44% funded and the unfunded liability was $1,422,031,385.99. 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 $6,324,733,000.00 and the total liabilities remain at $7,662,522,000.00. This data results in a funding ratio of 82.54% and total accrued unfunded liabilities of $1,337,789,000.00.

This funding information was determined as part of an actuarial valuation at June 30, 1992. 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 for the TRF are on the accrual basis of accounting.

b. Depreciation

Fixed assets are stated at cost less accumulated depreciation. Expenditures for maintenance and repairs are charged to expense as incurred. Costs of newly acquired items, including renewals and replacements which add to the original value or materially extend the useful lives of the related assets, are capitalized and written off as depreciation charges over their estimated useful lives. Costs of assets and the related accumulated depreciation are eliminated from the accounts in the year of sale or retirement. Depreciation is computed on the straight-line method over the estimated useful lives of the assets. The provision for depreciation is calculated based on the following lives:

Business property three to twenty years.

c. 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 seven 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, Correctional Employees Fund, Police and Fire Consolidation Fund, and the Judges Retirement Fund. Approximately $956 million of regular TRF assets are actively managed by ten outside equity investment managers. Approximately $1,371 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 six outside managers and has a value of approximately $1,128 million as of June 30, 1992.

The internal SBI staff handles the direct investment of the remaining assets of the fund with approximately $198 million invested in Venture Capital Pools, $176 million in Real Estate Fund Pools, $46 million in Resource Fund Pools, and approximately $5 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 were 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, 1992 are shown in Note 7.

d. 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; restricted participation in registered mutual funds; and restricted participation in foreign securities.

e. 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, 1992 and is printed the next page of this report. 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, 1992, the unfunded pension obligation was $756,049,000 as follows:

Pension Benefit Obligation:	
Retirees and beneficiaries currently receiving benefits and terminated employees not yet receiving benefits	$2,800,039,000
Current employees — accumulated employee contributions including allocated investment income	1,889,509,000
Employer-financed vested	2,067,561,000
Employer-financed non-vested	239,431,000
Total Pension Benefit Obligation	$6,996,540,000
Net assets available for benefits at cost (Market Value is $6,493,217,000)	6,240,491,000
Unfunded pension benefit obligation	$ 756,049,000

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 $253,875,112.91 ($162,369,508.05 employer and $91,505,604.86 employee) were made in accordance with the actuarially determined contribution requirements. These contributions consisted of: (a) $183,011,209.72 normal cost, and (b) $70,863,903.19 amortization of the unfunded actuarial accrued liability.

5. Benefit Adjustments to pre-1973 Retirees

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, 1992, lump sum payments totaling $3,307,871.90 were made to 2,462 benefit recipients. Coordinated members received $27.34 for each year of allowable service with Basic members receiving the greater of: 1) $27.34 for each year of allowable service or 2) an annual benefit of $437.38 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 26.

7. Value of Investments (Active Members)

Fixed Income Investments shown on the Balance Sheet of the TRF at a cost of $1,097,174,055.25 had a market value computed by the State Board of Investment on June 30, 1992 of $1,128,407,702.50.

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 follows.

	Cost	Market
External Indexed Equity Pool	$1,269,999,266	$1,370,947,435
External Active Managed Equity Pools	897,989,024	955,710,162
Internal Venture Capital Pool	131,910,922	198,251,692
Internal Real Estate Fund Pool	180,615,959	175,752,701
Internal Resource Fund Pool	49,471,325	45,816,501

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, 1992 were $2,587,978,999.75.

Benefits are increased periodically based on investment earnings in excess of the 5% assumed earnings rate. For FY '92, investment earnings for the year were $203,328,777.42. These earnings were sufficient to provide a lifetime benefit increase of 4.553% for eligible retirees, effective January 1, 1993. Over the last five years, benefit increases have equaled 5% on an annualized basis. Interest on late reserve transfers is a normal transfer with interest at the 8.5% rate required and is offset by earnings of the regular fund.

9. Reporting change in financial statements presented

The Statement of Changes in Financial Position is no longer required for public employee retirement systems under Statement No. 9 of the Governmental Accounting Standards Board (GASB). We have chosen to delete this statement from our presentation.

10. College Supplemental Fund

The assets of College Supplemental Retirement Fund were transferred to the State University Board and Community College Board on July 1, 1991. The action was conducted in accordance with Minnesota Laws (1990) Ch. 570, Art. 3, Sec. 2. The fund was divided based on participants' last place of employment. The amount transferred was approximately $130 million.

11. Litigation

Houston Monarch Inc. v. First Reserve Secured Energy Assets Limited Partnership, et al., United States District Court, Eastern District of Louisiana. The Minnesota State Board of Investment is one of many partners in several oil and gas resource Funds in which First Reserve, Inc. is a general partner. The State's net contribution to the limited partnership Funds is $40.5 million. Plaintiffs have filed a breach of contract and deceptive trade practices action arising out of the acquisition of Baker/McMurry Oil Tools for one of the Funds seeking damages in excess of $314,400,000 from certain of the Funds. A trial is scheduled for Spring of 1993. In a separate action filed in Texas against First Reserve, Inc. and other named defendants, a jury awarded Houston Monarch, Inc. in excess of $150 million. Judgment has not yet been entered. Post-trial motions and an appeal are likely in the Texas action. Adverse decisions may have a negative impact on the value of the limited partnerships of which First Reserve is a general partner which are held in the State's Basic Retirement Funds of which TRA's portion is about $18 million.

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)
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%
1991	5,513,281	6,536,973	84.3%	1,023,692	1,874,365	54.6%
1992	6,240,491	6,996,540	89.2%	756,049	1,934,014	39.1%

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 3).

TEN YEAR SUMMARY OF REVENUE BY SOURCE

Year Ended June 30	Member Contributions	Employer Contributions	Net Investment Income	Other	Total
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
1991	89,313,081	159,439,219	430,877,172	1,964,986	681,594,458
1992	91,505,605	162,369,508	712,965,243	1,942,689	968,783,045

TEN YEAR SUMMARY OF EXPENDITURES BY TYPE

Year Ended June 30	Retirement Benefits	Survivor Benefits	Disability Benefits	Refunds	Administrative Expenses	Other	Total
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
1991	194,589,338	2,921,349	2,904,585	5,554,181	2,790,089	5,061,999	213,821,541
1992	220,352,768	3,314,799	3,399,088	5,494,749	2,895,659	6,116,742	241,573,805

COMPARATIVE ADMINISTRATIVE EXPENSES
For the Years Ended June 30, 1992 and 1991

	1992	1991
Salaries	$1,612,063.33	$1,552,110.21
Employer Contributions to State Employees Retirement	1,307.99	1,277.37
Employer Contributions to Teachers Retirement Association	126,344.43	123,565.15
Employer Contributions to Social Security	117,716.78	114,366.86
Insurance Contributions	144,160.33	130,284.37
Actuarial Services	74,920.83	136,809.60
Audit Fees	35,919.00	40,396.00
Department Head Expenses	1,117.34	1,067.19
Depreciation of Office Furniture and Equipment	77,655.03	75,697.18
Dues and Subscriptions	2,935.17	2,534.75
Duplicating and Printing Expense	99,987.77	105,855.23
Grants and Subsidies	2,563.72	12,680.50
Lease of Office and Storage Space	167,523.71	158,858.64
Legal Fees	9,175.00	6,732.60
Medical Services	21,601.10	20,531.00
Postage	183,660.60	194,657.31
Repairs and Maintenance	36,112.11	36,555.83
Stationery and Office Supplies	25,091.99	34,539.36
Tabulating	74,152.31	104,769.56
Telephone	26,689.85	28,623.54
Travel — Director and Staff	17,986.95	17,108.80
Travel — Trustees	12,877.29	9,392.78
Workers' Compensation	1,275.22	846.00
Miscellaneous Administrative Expenses	3,559.00	2,111.00
State Indirect Costs	29,036.00	50,768.00
Sub-totals	$2,905,432.85	$2,962,138.83
Less Reimbursements from Various State Agencies for Administrative Services Provided	9,773.82	172,049.53
Total Net Administrative Expenses	$2,895,659.03	$2,790,089.30

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

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Investments Section

INVESTMENT SUMMARY

The investment portfolio for the active members of the Teachers Retirement Fund has a market value of approximately $3.88 billion. In addition, TRA's share of the assets of the Minnesota Post Retirement Investment Fund from which retiree benefits are paid is approximately $2.97 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 Arne H. Carlson, State Auditor Mark B. Dayton, 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:

Gary Austin	Executive Director, Teachers Retirement Association
David Bergstrom	Executive Director, Minnesota State Retirement System
John E. Bohan	Vice President, Pension Investments, Grand Metropolitan-Pillsbury
James R. Eckmann	Assistant Treasurer, Dayton Hudson Corporation
Kenneth F. Gudorf	President, Gage Investments
John Gunyou	Commissioner, Minnesota Department of Finance
Laurie Fiori Hacking	Executive Director, Public Employees Retirement Association
David B. Jeffery	Vice President and Resident Manager, Shearson Lehman
Keith Johnson	Retiree Representative
Peter J. Kiedrowski	Executive Vice President, Norwest Bank
Han Chin Liu	Active Employee Representative
Malcolm W. McDonald**	Director and Corporate Secretary, Space Center, Inc.
Gary R. Norstrem	City Treasurer, City of St. Paul
Barbara Schnoor	Active Employee Representative
Michael L. Troutman	Sr. Manager, Investment Programs, Board of Pensions ELCA
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 50% in domestic stock, 10% in international stocks, 24% in bonds, 10% in real estate, 2.5% in venture capital, 2.5% in resource funds and 1% in cash. The asset mix change to add 10% international stocks is in process. On June 30, 1992 the actual asset mix of Statewide Funds was 59.7% common stock, 28.9% bonds, 4.5% real estate, 5.1% venture capital, 1.2% resource funds and .6% 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 1992 of 14.5%. Over the last five years the Statewide Funds have generated a cumulative return of 57.4%, 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 15.5% earnings for fiscal year 1992.

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, 1992, the Post Fund had an asset mix of 8.6% common stock, 80.5% bonds and 10.9% cash. Nearly all assets of the Post Fund are managed by SBI staff.

In fiscal year 1992 the Post Fund generated realized earnings sufficient to provide a 4.553% benefit increase to eligible retirees beginning January 1, 1993. Over the last five years benefit increases generated by the Post Retirement Fund have equaled 5% on an annualized basis.

Total Portfolio Investment Income

The total investment portfolio of the Teachers Retirement Fund on June 30, 1992 was valued at $6.85 billion. These assets were invested in two separate portfolios: $3.88 billion in the Basic Retirement Funds and $2.97 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 15.5%
- Post Retirement Fund 9.6%

Stock and Bond Money Managers Retained by the SBI

The stock manager performance for FY 1992 was as follows:

	Manager Portfolio Return
Alliance Capital	22.9%
Forstmann Leff	10.1
Franklin Portfolio	13.6
Geo Capital	21.0
IDS Advisory	16.3
Independence Associates*	2.3
Lieber & Company	6.5
Lynch & Mayer*	-1.7
Waddell & Reed	12.4
Wilshire Associates (index fund)	14.1
Statewide Funds' Common Stock Segment	14.3%**
Stock Segment Performance Standards	
Wilshire 5000	13.9%
TUCS Median Managed Equity Portfolio	13.8
Inflation	3.1%

The annualized return for the stock portfolio for the last 5 years averaged 9.3%.

*Retained 2/92.
**Including managers retained for less than a full year.

A summary of bond manager performance for FY 1992 was as follows:

	Portfolio Return
Ark Asset Management	13.1%
Fidelity Management (enhanced index)	14.1
Investment Advisers	15.2
Lincoln Capital (enhanced index)	14.1
Miller, Anderson & Sherrerd	17.0
Western Asset	15.6
Statewide Funds' Bond Segment	14.7%
Bond Segment Performance Standards	
Salomon Broad Investment Grade Bond Index	14.2%
TUCS Median Managed Bond Portfolio	14.8
Inflation	3.1%

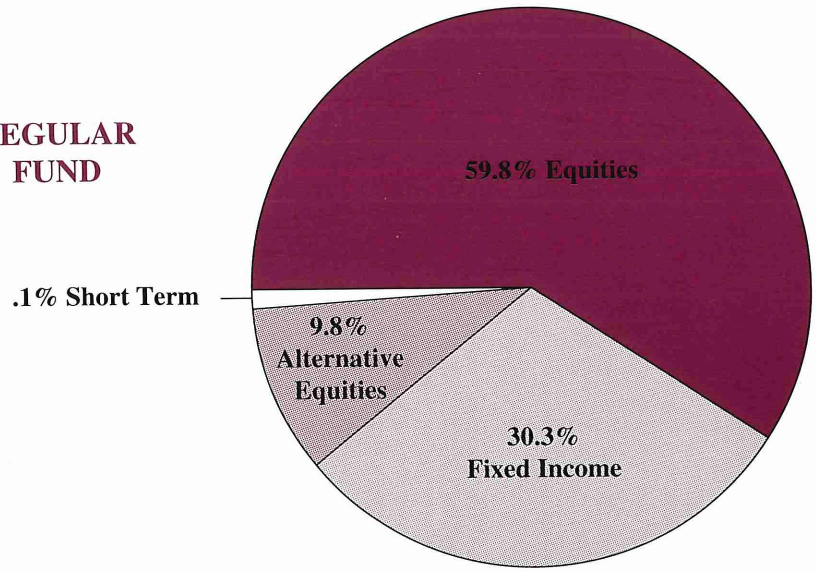
The annualized return for the bond portfolio for the last 5 years averaged 10.6%.

Additional Information

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

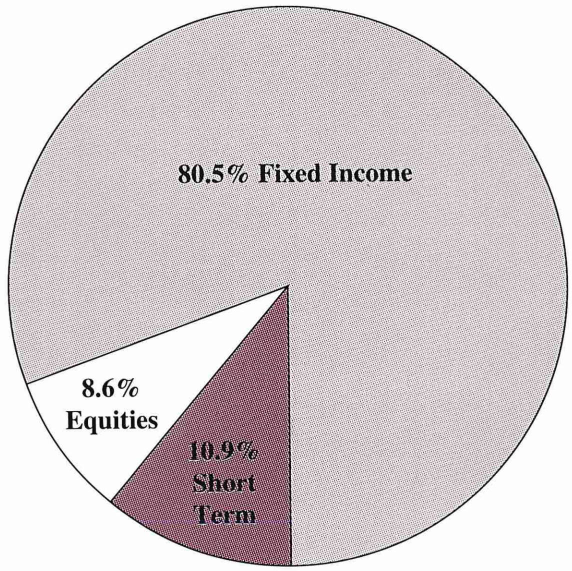
PORTFOLIO DISTRIBUTION
TEACHERS RETIREMENT FUND
June 30, 1992

REGULAR FUND



59.8 % Equities
30.3% Fixed Income
9.8 % Alternative Equities
.1% Short Term

POST RETIREMENT INVESTMENT FUND



80.5% Fixed Income
8.6% Equities
10.9% Short Term

COMPARATIVE STATEMENT OF EARNINGS*
For the Years Ended June 30, 1992 and 1991

UNAUDITED

	1992	1991
Investment Earnings:		
Interest on Cash Equivalent Investments	$ 4,117,829.29	$ 6,286,245.75
Managed Pooled Accounts	415,595,597.87	207,858,789.08
Net Gain on Sales of Pools	89,742,166.06	21,380,295.66
Earnings from Investments	$509,455,593.22	$235,525,330.49
Miscellaneous Interest Income	186,835.92	278,801.28
Total Earnings and Interest Income	$509,642,429.14	$235,804,131.77
Less Investment Management Fees	5,341,059.52	4,347,522.54
Total Net Investment Income	$504,301,369.62	$231,456,609.23
Less Transfers to MPRIF	775,681.40	714,476.61
Undistributed Excess Earnings	1,052,705.26	2,493,249.15
Total Income Available for Distribution	$504,578,393.48	$233,235,381.77
Distribution:		
Teachers' Deposits	$299,455,200.02	$137,948,605.10
Employer Contributions	202,247,370.58	94,230,665.16
Excess Earnings Reserve	2,875,822.88	1,056,111.51
Total Distribution	$504,578,393.48	$233,235,381.77

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

The interest rate is 15.5% for 1992, and was 7.5% for 1991.

SUMMARY OF INVESTMENTS*
As of June 30, 1992

	Book Value	Subtotals	Total Book Value	Percent
Fixed Income Investments:				
External Fixed Income Pools	$1,097,174,055.25			
Total Fixed Income Pools		$1,097,174,055.25		
Total Fixed Income Investments			$1,097,174,055.25	30.3%
Equity Investments:				
External Indexed Equity Pool	$1,269,999,266.43			
External Active Managed Equity Pools	897,989,023.87			
Total External Equity Pool		$2,167,988,290.30		
Internal Venture Capital Pool	$ 131,910,922.25			
Internal Real Estate Fund Pool	180,615,959.12			
Internal Resource Fund Pool	44,471,375.25			
Total Internal Equity Pool		356,998,256.62		
Total Equity Investments			2,524,986,546.92	69.6%
Short Term Investment:				
Short Term Cash Equivalents	$ 4,615,133.34			
Cash Equivalents		$ 4,615.133.34		
Total Short Term Investments			4,615,133.34	0.1%
Total Investment Owned			$3,626,775,735.51	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, 1992 is $1,128,407,702.50.

Equity Investments are also shown above at cost value. The market values of these investments are as follows: External Indexed Equity Pool $1,370,947,435.13; External Active Managed Equity Pools $955,710,161.97; Internal Venture Capital Pool $198,251,691.87; Internal Real Estate Fund Pool $175,752,701.03; and Internal Resource Fund Pool $45,816,500.95.

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. State Street Bank and Trust of Boston acts as custodian of securities for the Regular TRA Fund and the Post Retirement Investment Fund. Norwest Bank is the current custodian of short term investments of TRA. Examination and verification of securities held by the custodians is performed periodically by the State Legislative Auditor.

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Actuarial Section

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December 15, 1992

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

RE: <u>Teachers Retirement Association Fund</u>

Commission Members:

Pursuant to the terms of our Actuarial Services Contract, we have performed an actuarial valuation of the Fund as of July 1, 1992.

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

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with the requirements of Section 356.215, Minnesota Statutes, and the requirements of the Standards for Actuarial Work, adopted by the Commission on July 8, 1992.

Respectfully submitted,

Thomas K. Custis

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

William V. Hogan

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

TKC/WVH/bh

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS

1. **Interest:** Pre-Retirement — 8½% per annum
Post-Retirement — 5% per annum

2. **Salary Increases:** Reported salary for prior fiscal year, with new hires annualized, increased 6.5% to current fiscal year and 6.5% annually for each future year.

3. **Mortality:** Active participants, retirants, and disabilitants — 1971 Group Annuity Mortality Table set back eight years for both males and females.

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

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

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

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

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

	Death		Withdrawal		Disability	
Age	Male	Female	Male	Female	Male	Female
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

7. **Expenses:** Prior year expenses expressed as percentage of prior year payroll.

8. **Return of Contributions:** All employees withdrawing after becoming eligible for a deferred benefit were assumed to take the larger of their contributions accumulated with interest or the value of their deferred benefit.

9. **Family Composition:** 85% of male Members and 65% of female Members are assumed to be married. Female is three years younger than male. Assume Members have no children.

10. **Benefit Increases After Retirement:** Payment of earnings on retired reserves in excess of 5% accounted for by 5% post-retirement assumptions.

11. **Special Consideration:** Married Members assumed to elect subsidized joint and survivor form of annuity as follows:

Males — 15% elect 50% J&S option
50% elect 100% J&S option

Females — 10% elect 50% J&S option
10% elect 100% J&S option

12. **Actuarial Cost Method:** Entry Age Normal Actuarial Cost Method with normal costs expressed as a level percentage of earnings. Under this method, Actuarial Gains (Losses) reduce (increase) the Unfunded Actuarial Accrued Liability.

13. **Asset Valuation Method:** Cost Value plus one-third Unrealized Gains or Losses.

14. **Payment on the Unfunded Actuarial Accrued Liability:** A level percentage of payroll each year to the statutory amortization date assuming payroll increases of 6.5% per annum.

VALUATION REPORT HIGHLIGHTS
(Dollars in Thousands)

	July 1, 1991 Valuation	July 1, 1992 Valuation
A. Contributions (Table 11)		
1. Statutory Contributions — Chapter 354		
% of Payroll	12.76%	12.72%
2. Required Contributions — Chapter 356		
% of Payroll	13.04%	13.13%
3. Sufficiency (Deficiency) (A.1-A.2)	-0.28%	-0.41%
B. Funding Ratios		
1. Accrued Benefit Funding Ratio		
a. Current Assets (Table 1)	$5,614,924	$6,324,733
b. Current Benefit Obligations (Table 8)	$6,536,973	$6,996,540
c. Funding Ratio (a/b)	85.89%	90.40%
2. Accrued Liability Funding Ratio		
a. Current Assets (Table 1)	$5,614,924	$6,324,733
b. Actuarial Accrued Liability (Table 4)	$7,213,720	$7,662,522
c. Funding Ratio (a/b)	77.84%	82.54%
3. Projected Benefit Funding Ratio (Table 3)		
a. Current and Expected Future Assets	$9,070,387	$9,524,675
b. Current and Expected Future Benefit Obligations	$9,195,099	$9,709,123
c. Funding Ratio (a/b)	98.64%	98.10%
C. Plan Participants		
1. Active Members		
a. Number (Table 3)	65,093	65,557
b. Projected Annual Earnings	$2,044,754	$2,112,401
c. Average Annual Earnings (Actual $)	$31,413	$32,222
d. Average Age	42.7	42.8
e. Average Service	12.1	12.3
2. Others		
a. Service Retirements	16,851	17,863
b. Disability Retirements	280	297
c. Survivors	955	1,049
d. Deferred Retirements	3,134	3,548
e. Terminated Other Non-vested	15,151	15,447
f. Total	36,371	38,204

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

- The Accrued Benefit Funding Ratio is a measure of current funding status, and when viewed over a period of years, presents a view of the funding progress. It is based upon benefits which have been earned by service to the valuation date. This year's ratio is 90.40%. The corresponding ratio for the prior year was 85.89%.

- The Accrued Liability Funding Ratio is also a measure of funding status and funding progress. It is based on the actuarial cost method that has historically been used by the State. For 1992 the ratio is 82.54%, which is an increase from the 1991 value of 77.84%.

- The Projected Benefit Funding Ratio is a measure of the adequacy or deficiency in the contribution level. This year's ratio of 98.10% shows that the current statutory contributions are inadequate.

Asset Information (Table 1)

Minnesota Statutes require that the asset value used for actuarial purposes recognize only a third of the unrealized gains and losses. This requirement exists because market values (which include all unrealized gains and losses) are typically volatile and can produce erratic changes in the contribution requirements from year to year.

The calculation of the Actuarial Value of Assets is shown in Table 1 on lines F1 to F6. It combines the cost value of the Assets Available for Benefits and one-third of the difference between the market value and cost value of those assets.

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

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

Actuarial Balance Sheet (Table 2)

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

The Current Benefit Obligation used to measure current funding levels is calculated 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 2 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, 1992 Pension Benefit Obligation reported in Table 2 is reformatted for GASB reporting purposes in the following table:

Retirees and beneficiaries currently receiving benefits and terminated employees not yet receiving benefits	$2,800,039,000
Current Employees	
Accumulated employee contributions including allocated investment income	1,889,509,000
Employer-financed vested	2,067,561,000
Employer-financed nonvested	239,431,000
Total Pension Benefit Obligation	$6,996,540,000
Net Assets Available for Benefits at Cost	$6,240,491,000
Total Benefit Obligation less Assets	$ 756,049,000
Funded Ratio	89.19%

Actuarial Cost Method (Table 3)

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

A comparison of this actuarial method (Table 3) to the actuarial balance sheet (Table 2) illustrates the two techniques for allocating liabilities of active members to past and future. As noted in the prior section, the balance sheet allocates benefits and the corresponding liabilities, on the basis of service. The method used in Table 3 allocates liabilities so that the cost each year will be a constant percentage of payroll. Both approaches, however, calculate the value of all future benefits the same way (see line F of Table 2 and line A6, column 1, of Table 3).

An Unfunded Actuarial Accrued Liability is computed under the Entry Age Normal Actuarial Cost Method by comparing the liabilities allocated to past service (Actuarial Accrued Liability) to the Current Assets. This amount, line B3, is funded over the remaining years to the amortization date 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 4)

The assumptions used in making the calculations using the Entry Age Normal Actuarial Cost Method are based on long-term expectations. Each year the actual experience will deviate from the long-term expectation. For a detailed analysis of the major components, refer to Table 4.

Contribution Sufficiency (Table 5)

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

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

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

Table 5 shows the Plan has a contribution deficiency since the Statutory Contribution Rate is 12.72% compared to the Required Contribution Rate of 13.13%.

Changes in Actuarial Assumptions

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

Paragraph X.1.4 of the Actuarial Standards requires that the Actuarial Present Value of Compensation for purposes of determining the Normal Cost of the Fund be calculated assuming mid-year payments. Previously, beginning of year payments were assumed. This change in methodology results in an increase of 0.73% of payroll in the Normal Cost and in the Contribution Deficiency of the Fund.

Changes in Plan Provisions

There were no changes in plan provisions since the prior valuation which impacted funding costs.

ACCOUNTING BALANCE SHEET
(Dollars in Thousands)

July 1, 1992

	Market Value	Cost Value
A. Assets		
1. Cash, Equivalents, Short-Term Securities	$ 5,752	$ 5,752
2. Investments		
a. Fixed Income	1,128,408	1,097,174
b. Equity	2,746,479	2,524,987
c. Real Estate	0	0
3. Equity in MN Post-Retirement Investment Fund (MPRIF)*	2,587,979	2,587,979
4. Other	30,651	30,651
B. Total Assets	$6,499,269	$6,246,543
C. Amounts Currently Payable*	$ 6,052	$ 6,052
D. Assets Available for Benefits		
1. Member Reserves	$ 886,618	$ 886,618
2. Employer Reserves	3,018,620	2,765,894
3. MPRIF Reserves	2,587,979	2,587,979
4. Non-MPRIF Reserves	0	0
5. Total Assets Available for Benefits	$6,493,217	$6,240,491
E. Total Amounts Currently Payable and Assets Available for Benefits	$6,499,269	$6,246,543

F. Determination of Actuarial Value of Assets

1. Cost Value of Assets Available for Benefits (D5)		$6,240,491
2. Market Value (D5)	$6,493,217	
3. Cost Value (D5)	(6,240,491)	
4. Market Over Cost (F2-F3)	$ 252,726	
5. 1/3 of Market Over Cost (F4)/3		84,242
6. Actuarial Value of Assets (F1+F5) (Same as "Current Assets")		$6,324,733

ACTUARIAL BALANCE SHEET
(Dollars in Thousands)

July 1, 1992

A. Current Assets (Table 1, F6)	$6,324,733
B. Expected Future Assets	
1. Present Value of Expected Future Statutory Supplemental Contributions	1,153,341
2. Present Value of Future Normal Costs	2,046,601
3. Total Expected Future Assets	3,199,942
C. Total Current and Expected Future Assets	$9,524,675

	Non-Vested	Vested	Total
D. Current Benefit Obligations			
1. Benefit Recipients			
a. Retirement Annuities		$2,517,079	$2,517,079
b. Disability Benefits		47,511	47,511
c. Surviving Spouse and Child Benefits		98,154	98,154
2. Deferred Retirements with Augmentation		113,899	113,899
3. Former Members without Vested Rights		23,395	23,395
4. Active Members			
a. Retirement Annuities	10,608	3,821,450	3,382,058
b. Disability Benefits	159,505	0	159,505
c. Survivors' Benefits	68,334	0	68,334
d. Deferred Retirements	984	111,870	112,854
e. Refund Liability Due to Death or Withdrawal	0	23,751	23,751
5. Total Current Benefit Obligations	$239,431	$6,757,109	$6,996,540
E. Expected Future Benefit Obligations			$2,712,583
F. Total Current and Expected Future Benefit Obligations			$9,709,123
G. Current Unfunded Actuarial Liability (D5-A)			$ 671,807
H. Current and Future Unfunded Actuarial Liability (F-C)			$ 184,448

Table 3

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

July 1, 1992

	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	$6,321,100	$1,683,512	$4,637,588
b. Disability Benefits	261,401	103,890	157,511
c. Survivors Benefits	110,343	34,578	75,765
d. Deferred Retirements	171,717	113,728	57,989
e. Refunds: Death/Withdrawal	44,524	110,893	(66,369)
f. Total	$6,909,085	$2,046,601	$4,862,484
2. Deferred Retirements with Future Augmentation	$ 113,899		$ 113,899
3. Former Members without Vested Rights	$ 23,395		$ 23,395
4. Annuitants in MPRIF	$2,587,979		$2,587,979
5. Recipients not in MPRIF	$ 74,765		$ 74,765
6. Total	$9,709,123	$2,046,601	$7,662,522
B. Determination of Unfunded Actuarial Accrued Liability (UAAL)			
1. AAL (A6)			$7,662,522
2. Current Assets (Table 1, F6)			$6,324,733
3. UAAL (B1-B2)			$1,337,789
C. Determination of Supplemental Contribution Rate			
1. Present Value of Future Payrolls through the Amortization Date of July 1, 2020			$44,530,546
2. Supplemental Contribution Rate (B3/C1)			3.00%

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

Year Ending June 30, 1992

A. UAAL at Beginning of Year	$1,598,796
B. Change Due to Interest Requirements and Current Rate of Funding	
1. Normal Cost and Expenses	$ 185,156
2. Contribution	(253,875)
3. Interest on A, B1, and B2	132,977
4. Total (B1+B2+B3)	$ 64,258
C. Expected UAAL at End of Year (A+B4)	$1,663,054
D. Increase (Decrease) Due to Actuarial Losses (Gains) Because of Experience Deviations from Expected	
1. Salary Increases	$ (195,050)
2. Investment Return	(213,709)
3. MPRIF Mortality*	(4,511)
4. Mortality of Other Benefit Recipients	(116)
5. Other Items	88,121
6. Total	$(325,265)
E. UAAL at End of Year Before Plan Amendments and Changes in Actuarial Assumptions (C+D6)	$1,337,789
F. Change in Actuarial Accrued Liability Due to Plan Amendments	$ 0
G. Change in Actuarial Accrued Liability Due to Changes in Actuarial Assumptions	$ 0
H. UAAL at End of Year (E+F+G)	$1,337,789

Table 5

DETERMINATION OF CONTRIBUTION SUFFICIENCY
(Dollars in Thousands)

July 1, 1992

	% of Payroll	$ Amount
A. Statutory Contributions — Chapter 354		
1. Employee Contributions	4.54%	$ 95,950
2. Employer Contributions	8.18%	$172,842
3. Total	12.72%	$268,792
B. Required Contributions — Chapter 356		
1. Normal Cost		
a. Retirement Benefits	8.03%	$169,688
b. Disability Benefits	0.49%	10,327
c. Survivors	0.17%	3,637
d. Deferred Retirement Benefits	0.53%	11,198
e. Refunds Due to Death or Withdrawal	0.51%	10,768
f. Total	9.73%	$205,618
2. Supplemental Contribution: Amortization by July 1, 2020 of UAAL of $1,337,789	3.00%	$ 63,372
3. Allowance for Expenses	0.40%	$ 8,450
4. Total	13.13%	$277,440
C. Contribution Sufficiency (Deficiency) (A3-B4)	(0.41%)	$ (8,648)

Note: Projected Annual Payroll for Fiscal Year Beginning on July 1, 1992 is $2,112,401.

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

Valuation as of June 30	Aggregate Actuarial Liabilities	Valuation Assets	Assets as a % of Actuarial Liabiliities	Unfunded Accrued Liabilities (UAL)	Annual Active Member Payroll	UAL as a % of Annual Active Member Payroll
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
1991	7,213,720	5,614,924	77.8	1,598,796	1,874,365	85.3
1992	7,662,522	6,324,733	82.5	1,337,789	1,934,014	69.2

SOLVENCY TEST
(Dollars in Thousands)

Valuation as of June 30	Aggregate Accrued Liabilities for: (1) Member Contri-butions	(2) Retirees and Beneficiaries	(3) Members (Employer Financed Portion)	Valuation Assets	Portion of Actuarial Accrued Liabilities Covered by Reported Assets (1)	(2)	(3)
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%
1991	838,160	2,370,851	4,004,709	5,614,924*	100%	100%	60.1%
1992	886,618	2,662,744	4,113,160	6,324,733*	100%	100%	67.5%

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

SCHEDULE OF ACTIVE MEMBER VALUATION DATA

Year Ended June 30	Active Members	Annual Payroll	Annual Average	% Increase In Average Pay
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
1991	65,093	1,874,364,682	28,795	3.7
1992	65,557	1,977,156,052	29,518	2.5

SCHEDULE OF RETIRANTS AND BENEFICIARIES

Year Ended June 30	Added During Year	Removed During Year	Number End of Year	Annual Allowances	% Increase in Annual Allowances	Average Annual Allowances
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
1991	1,499	541	18,094	200,415,271	11.5	11,076
1992	1,597	512	19,212	227,066,655	16.7	11,819

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Statistical Section

SUMMARY OF CHANGES IN MEMBERSHIP 1991-92

ACTIVE AND INACTIVE MEMBERS

	Active		Inactive	
	Basic	**Coordinated**	**Basic**	**Coordinated**
Total June 30, 1991	681	64,412	184	18,318
Additions	—	6,544	15	4,281
Deletions				
Service Retirement	(189)	(1,026)	(31)	(173)
Disability	—	—	—	—
Death	(3)	(66)	(6)	(43)
Refunds	—	(894)	(10)	(1,132)
Writeoffs	—	—	—	(889)
Terminated (No Refund)	—	(3,874)	—	—
Returned to Active	(6)	—	—	(1,268)
Data Adjustment	(3)	(19)	(4)	—
Total June 30, 1992	**480**	**65,077**	**148**	**19,094**

	Basic System	Coordinated System	Total
Active	480	65,077	65,557
Inactive	148	19,094	19,242
Total	**628**	**84,171**	**84,799**

ANNUITANTS — REGULAR FUND

	Basic System			Coordinated System		
	Men	**Women**	**Total**	**Men**	**Women**	**Total**
Total Annuitants June 30, 1990	1,867	3,306	5,173	4,569	7,101	11,670
Members Retired During Year	133	87	220	648	539	1,187
Adjustments	—	—	—	—	—	—
Annuities Terminated by Law	—	(1)	(1)	—	—	—
Annuities Cancelled	—	—	—	—	—	—
Annuitants Deceased During Year	(45)	(98)	(143)	(97)	(173)	(270)
Total Annuitants June 30, 1991	1,955	3,294	5,249	5,120	7,467	12,587
Annuitants Not Receiving Warrants June 30, 1991	(1)	(1)	(2)	(4)	(3)	(7)
Total Active Annuitants June 30, 1991	**1,954**	**3,293**	**5,247**	**5,116**	**7,464**	**12,580**

SUMMARY OF CHANGES IN MEMBERSHIP 1991-92 (Continued)

BENEFICIARIES OF MEMBERS DECEASED PRIOR TO RETIREMENT

	Joint & Survivor Annuities			Basic Survivor Benefits				
	Men*	Women*	Total	Men	Women	Boy	Girl	Total
Total June 30, 1991	186	50	236	5	76	1	2	84
Added During Year	30	7	37	—	2	—	—	2
Terminated During Year	(2)	—	(2)	—	(1)	—	(1)	(2)
Total June 30, 1992	**214**	**57**	**271**	**5**	**77**	**1**	**1**	**84**

*Gender of Member.

DISABILITANTS

	Basic System			Coordinated System		
	Men	Women	Total	Men	Women	Total
Total June 30, 1991	18	14	32	117	133	250
Added During Year	6	—	6	30	28	58
Resumed Benefits	—	—	—	—	—	—
Died During Year	(3)	—	(3)	(5)	(9)	(14)
Transferred to Retirement Status	(1)	(1)	(2)	(10)	(8)	(18)
Resumed Employment	—	—	—	(5)	(7)	(12)
Total June 30, 1992	**20**	**13**	**33**	**127**	**137**	**264**
Disabilitants Not Receiving Warrants June 30, 1992	—	—	—	—	—	—
Total Active Disabilitants June 30, 1992	**20**	**13**	**33**	**127**	**137**	**264**

BENEFICIARIES OF RETIRED MEMBERS

	Basic System			Coordinated System		
	Men*	Women*	Total	Men*	Women*	Total
Total June 30, 1991	123	61	184	336	119	455
Added During Year	26	6	32	55	19	74
Annuities Terminated By Law	(12)	(6)	(18)	(20)	(15)	(35)
Deaths	(2)	(1)	(3)	(3)	—	(3)
Total June 30, 1992	**135**	**60**	**195**	**368**	**123**	**491**

*Gender of Member.

SUPPLEMENTAL ANNUITANTS

	Supplemental Retirement Annuities		
	Men	Women	Total
Active Annuitants June 30, 1991	96	70	166
Members Retired During Year	—	1	1
Resumed Drawing	—	—	—
Members Re-employed or Terminated by Law	(1)	—	(1)
Annuitants Deceased During Year	(2)	(2)	(4)
Total Annuitants June 30, 1992	**93**	**69**	**162**
Annuitants Not Receiving Warrants June 30, 1992	—	—	—
Total Active Annuitants June 30, 1992	**93**	**69**	**162**

DISTRIBUTION OF ACTIVE MEMBERS
As of June 30, 1992

	Years of Service								
Age	≤1	1-4	5-9	10-14	15-19	20-24	25-29	30+	Total
<25	1,510	158							1,668
25-29	2,447	3,253	531						6,231
30-34	1,229	2,223	2,676	441	1				6,570
35-39	1,413	1,780	1,649	2,869	620				8,331
40-44	1,625	2,190	1,805	1,899	4,121	1,502			13,142
45-49	932	1,537	1,387	1,283	1,738	4,630	851		12,358
50-54	488	652	824	786	1,021	2,301	2,512	497	9,081
55-59	220	397	312	348	563	1,005	1,339	1,562	5,746
60-64	108	172	104	134	198	446	443	487	2,092
65+	51	70	23	17	24	58	48	47	338
Total	10,023	12,432	9,311	7,777	8,286	9,942	5,193	2,593	65,557

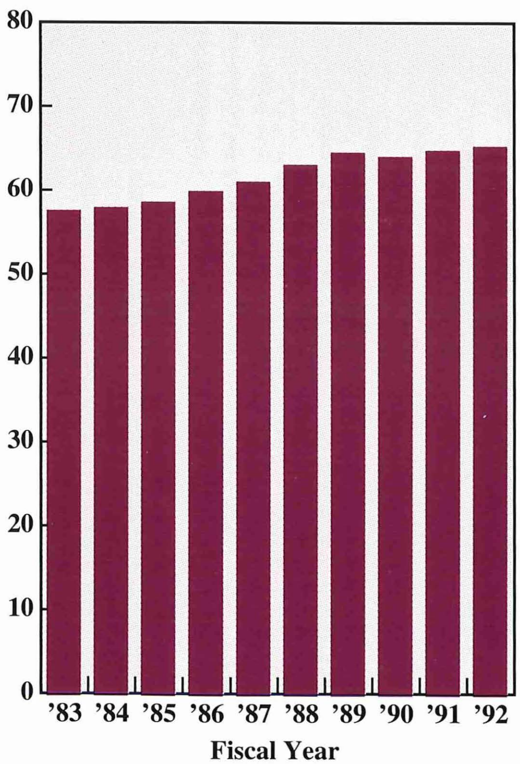
AVERAGE ANNUAL EARNINGS OF ACTIVE MEMBERS
for Fiscal Year Ended June 30, 1992

	Years of Service								
Age	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	All
<25	16,639	21,880							17,135
25-29	12,324	22,185	26,442						18,675
30-34	10,976	21,699	27,748	30,358	22,787				22,738
35-39	10,577	21,224	28,496	32,468	37,040				25,907
40-44	10,158	21,445	29,660	34,467	38,279	40,173			30,479
45-49	9,530	18,409	29,651	35,086	39,631	42,226	43,634		34,377
50-54	7,972	17,655	27,415	33,419	39,458	44,189	43,913	45,034	37,321
55-59	8,279	13,104	22,859	31,891	38,868	43,335	44,540	46,099	38,694
60-64	6,652	8,694	21,140	29,282	37,234	43,323	44,158	45,725	36,740
65+	5,098	4,564	20,113	31,877	37,005	44,198	48,472	47,674	28,411
All	11,553	20,546	28,174	33,283	38,625	42,543	44,092	45,853	30,252

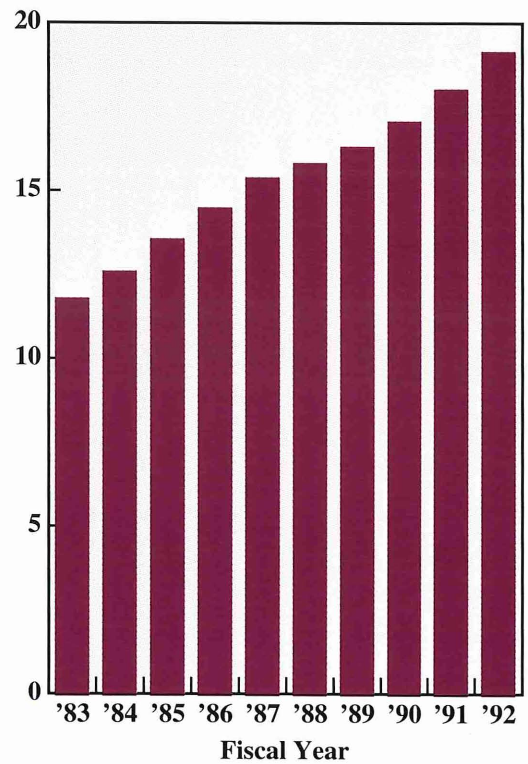
TEN YEAR SUMMARY OF MEMBERSHIP

Year Ended June 30	Active Members	Inactive Members	Benefit Recipients
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	15,459
1988	63,326	15,188	15,892
1989	64,796	16,092	16,385
1990	64,324	17,311	17,136
1991	65,058	18,273	18,094
1992	65,557	19,242	19,212

ACTIVE MEMBERS
in Thousands



BENEFITS RECIPIENTS
in Thousands



SCHEDULE OF PARTICIPATING EMPLOYERS

INDEPENDENT SCHOOL DISTRICTS

Ada #521
Adams #500
Adrian #511
Aitkin #1
Albany #745
Albert Lea #241
Alden #242
Alexandria #206
Alvarado #436
Amboy-Good Thunder #79
Annandale #876
Anoka-Hennepin #11
Argyle #437
Arlington #731
Ashby #261
Askov #566
Atwater #341
Audubon #21
Austin #492
Babbitt #692
Badger #676
Bagley #162
Balaton #411
Barnesville #146
Barnum #91
Barrett #262
Battle Lake #542
Beardsley-Browns Valley #801
Becker #726
Belgrade-Elrosa #736
Belle Plaine #716
Bellingham #371
Belview #631
Bemidji #31
Benson #777
Bertha-Hewitt #786
Big Lake #727
Bird Island #646
Blackduck #32
Blooming Prairie #756
Bloomington #271
Blue Earth #240
Borup #522
Braham #314
Brainerd #181
Brandon #207
Breckenridge #846
Brewster #513
Bricelyn #217
Brooklyn Center #286
Brooten #737
Browerville #787
Brownton #421
Buffalo #877
Buffalo Lake #647
Burnsville-Eagan-Savage #191
Butterfield #836
Byron #531
Caledonia #299
Cambridge-Isanti #911
Campbell-Tintah #852
Canby #891
Cannon Falls #252
Carlton #93
Cass Lake #115
Centennial #12
Ceylon #451
Chandler-Lake Wilson #918
Chaska #112
Chatfield #227
Chisholm #695
Chokio-Alberta #771
Clara City #126
Claremont #201
Clarkfield #892
Clearbrook #161
Cleveland #391
Climax #592
Clinton-Graceville #55
Cloquet #94
Cold Spring #750
Coleraine #316
Columbia Heights #13
Comfrey #81
Cook County #166
Cosmos #461
Cottonwood #412
Cromwell #95
Crookston #593
Crosby Ironton #182
Cyrus #611
Danube #648
Dassel-Cokato #466
Dawson #378
Deer Creek #543
Deer River #317
Delano #879
Delavan #218
Detroit Lakes #22
Dilworth #147
Dodge Center #202
Dover-Eyota #533
Duluth #709
Eagle Bend #790
East Chain #453
East Grand Forks #595
Echo #893
Eden Prairie #272
Eden Valley #463
Edgerton #581
Edina #273
Elbow Lake #263
Elgin-Millville #806
Elk River #728
Ellendale #762
Ellsworth #514
Elmore #219
Ely #696
Emmons #243
Esko #99
Evansville #208
Eveleth #697
Fairfax #649
Fairmont #454
Faribault #656
Farmington #192
Fergus Falls #544
Fertile-Beltrami #599
Finlayson #570
Fisher #600
Floodwood #698
Foley #51
Forest Lake #831
Fosston #601
Franklin #650
Frazee #23
Freeborn #244
Fridley #14
Fulda #505
Gary #523
Gaylord #732
Gibbon #733
Gilbert #699
Glencoe #422
Glenville #245
Glyndon #145
Gonvick #158
Goodhue #253
Goodridge #561
Granada-Huntley #460
Grand Meadow #495
Grand Rapids #318
Granite Falls #894
Greenbush #678
Grey Eagle #791
Grove City #464
Grygla #447
Hallock-Humboldt #2359
Hancock #768
Harmony #228
Hastings #200
Hawley #150
Hayfield #203
Hector #651
Henderson #734
Hendricks #402
Henning #545
Herman-Norcross #264
Hermantown #700
Heron Lake-Okabena #330
Hibbing #701
Hill City #2
Hills-Beaver Creek #671
Hinckley #573
Hoffman #265
Holdingford #738
Hopkins #270
Houston #294
Howard Lake #880
Hutchinson #423
International Falls #361
Inver Grove #199
Isle #473
Ivanhoe #403
Jackson #324
Janesville Waldorf-Pemberton #2835
Jasper #582
Jordan #717
Karlstad-Strandquist #2358
Kasson-Mantorville #204
Kelliher #36
Kennedy #354
Kensington #209
Kenyon #254
Kerkhoven-Murdock-Sunburg #775
Kiester #222
Kimball #739
La Crescent #300
Lake Benton #404
Lake City #813
Lake Crystal-Garden City #2071
Lake of the Woods #390
Lake Park #24
Lake Superior #381
Lakefield #325
Lakeville #194
Lamberton #633
Lancaster #356
Lanesboro #229
Laporte #306
Le Center #392
Le Roy #499
Lester Prairie #424
Le Sueur #393
Lewiston #857
Lindstrom #141
Litchfield #465
Little Falls #482
Littlefork-Big Falls #362
Long Prairie #792
Luverne #670
Lyle #497
Lynd #415
Mabel-Canton #238
Madelia #837
Magnolia #669
Mahnomen #432
Mahtomedi #832
Mankato #77
Maple Lake #881
Mapleton #72
Marshall #413
Maynard #127
Mazeppa #809
McGregor #4
Medford #763
Melrose #740
Menahga #821
Mentor #604
Mesabi E. Schools #2711
Middle River #440
Milaca #912
Milroy #635
Minneota #414
Minnesota Lake #223
Minnetonka #276
Montevideo #129
Montgomery #394
Monticello #882
Moorhead #152
Moose Lake #97
Mora #332
Morgan #636
Morris #769
Morristown #657
Morton #652
Motley #483

Mounds View #621
Mountain Iron-Buhl #712
Mountain Lake #173
Nashwauk-Keewatin #319
Nett Lake #707
Nevis #308
New Prague #721
New Richland #827
New Ulm #88
New York Mills #553
Newfolden #441
Nicollet #507
Norman Co. W. Schools #2527
North Branch #138
North St. Paul-Maplewood #622
Northfield #659
Norwood #108
Ogilvie #333
Oklee #627
Olivia #653
Onamia #480
Orono #278
Ortonville #62
Osakis #213
Oslo #442
Osseo #279
Owatonna #761
Park Rapids #309
Parkers Prairie #547
Paynesville #741
Pelican Rapids #548
Pequot Lakes #186
Perham #549
Pierz #484
Pillager #116
Pine City #578
Pine Island #255
Pine Point #3333
Pine River #117
Pipestone #583
Plainview #810
Plummer #628
Prairie Woods School #345
Preston-Fountain #233
Princeton #477
Prinsburg #815
Prior Lake #719
Proctor #704
Randolph #195
Raymond #346
Red Lake #38
Red Lake Falls #630
Red Wing #256
Redwood Falls #637
Remer #118
Renville #654
Richfield #280
Robbinsdale #281
Rochester #535
Rockford #883
Roseau #682
Rosemount #196
Roseville #623
Rothsay #850
Round Lake #516
Royalton #485
Rush City #139
Rushford-Peterson #239

Russell #418
Ruthton #584
Sacred Heart #655
St. Anthony-New Brighton #282
St. Charles #858
St. Clair #75
St. Cloud #742
St. Francis #15
St. James #840
St. Louis County #710
St. Louis Park #283
St. Michael-Albertville #885
St. Peter #508
Sanborn #638
Sandstone #576
Sartell #748
Sauk Centre #743
Sauk Rapids #47
Sebeka #820
Shakopee #720
Sherburn #456
Silver Lake #425
Sioux Valley #328
Slayton #504
Sleepy Eye #84
So. Koochiching #363
So. St. Paul #6
So. Washington County #833
Spring Grove #297
Spring Lake Park #16
Spring Valley #237
Springfield #85
Staples #793
Stephen #443
Stewart #426
Stewartville #534
Stillwater #834
Storden-Jeffers #178
Swanville #486
Taylors Falls #140
Thief River Falls #564
Tower-Soudan #708
Tracy #417
Trimont #457
Truman #458
Twin Valley #526
Tyler #409
Ulen-Hitterdal #914
Underwood #550
Upsala #487
Verdi #408
Verndale #818
Virginia #706
Wabasha #811
Wabasso #640
Waconia #110
Wadena #819
Walker-Hackensack-Akeley #113
Walnut Grove #641
Wanamingo #258
Warren #446
Warroad #690
Waseca #829
Watertown-Mayer #111
Waterville #395
Waubun #435
Wayzata #284
Welcome #459

Wells #224
West Concord #205
West St. Paul #197
Westbrook #175
Westonka #277
Wheaton #803
White Bear Lake #624
Willmar #347
Willow River #577
Windom #177
Win-E-Mac #2609
Winnebago #225
Winona #861
Winsted #427
Winthrop #735
Wood Lake #896
Worthington #518
Wrenshall #100
Wykoff #236
Zumbrota #260

JOINT POWERS UNITS

Bemidji Regional Interdist. Council #96-1
Benton-Stearns Spec. Education Coop. #96-19
Border Region Ed. Dist. #94-9462
Carver-Scott Cooperative Center #94-55
Central Minnesota ERDC #94-0
Central Minnesota ECSU #96-25
Data Processing (TIES) #95-0
Educational Cooperative Unit #5 #96-16
Fergus Falls Area Special Ed. Coop. #96-7
Freshwater Educ. Dist. #9432
Goodhue Co. Ed. Dist. #96-27
Hiawatha Valley #94-9459
Highland Vocational Coop. Center #94-52
Interdist. Spec. Ed. Coop. St. Peter #96-3 (MN Valley)
Lac qui Parle Valley #9458
Lake Agassiz Special Education Coop. #96-21
Leaf River Valley #94-57
Meeker-Wright Special Ed. Coop. #96-9
Metro Education Cooperative Unit #96-11
Metro II Educ. Service Center #95-952
Midstate Educ. Dist. #94-9413
Midwest Special Ed. Interdist. Coop. #96-23
MN River Valley Special Ed. Coop. #96-24
MN Valley Cooperative Center #94-08
N. Country Vocational Coop. Center #94-56
Northeast Minnesota ECSU #96-13
Northeast Voc. Ed. Center #94-49
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 Educ. Dist. #94-9409
River Bend Spec. Coop. #96-12
Runestone Area Educ. Dist. #94-9401
SW & W. Central Ed. Coop. Serv. Unit #94-4
South Central ECSU #96-10
South Central Ed. Dist. #94-9464
Southeast MN Educational Coop. Unit #96-15
Tri Dist. Coop. #94-9465
Valley & Lakes Ed. Dist. #94-9463

West Central Ed. Dist. #94-9460
West Central Migrant Project #98-2
West Central Special Education Coop. #96-8
Wright Vocational Center #94-14

TECHNICAL COLLEGES
Hennepin Technical College #287
Southwestern Technical College #900
Northeast Metro Technical College #916
Dakota County Technical College #917
Brainerd-Staples Regional Technical College #2190
Minnesota Riverland Technical College #2501
North Central Technical College #6047

STATE AGENCIES, COLLEGES, UNIVERSITIES
Akita Japan State University #90-908
Anoka RTC #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
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 #88-60000
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 #88-3600
State University Board #90-0
Teachers Retirement Association #88-69
Thistledew Camp #92-14
Vermillion Community College #93-4
Vocational Rehabilitation Dept. #88-210
Willmar Community College #93-10
Willmar Regional Treatment Ctr. #91-14
Willow River Camp #92-12
Winona State University #90-5
Worthington Community College #93-11

PROFESSIONAL ORGANIZATIONS
Alliance of Minnesota School Administrators #97-3
Assoc. of School Administrators #97-2
MN Federation of Teachers #97-5
Osseo Federation of Teachers #97-9
Robbinsdale Federation of Teachers #97-6