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**MINNEAPOLIS TEACHERS'
RETIREMENT FUND
ASSOCIATION**

**SIXTY-EIGHTH ANNUAL REPORT
OF THE BOARD OF TRUSTEES**

1670 NORTHWESTERN BANK BUILDING
MINNEAPOLIS, MINNESOTA 55402

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**SECRETARY OF
THE SENATE**

**MINNEAPOLIS TEACHERS' RETIREMENT FUND
ASSOCIATION**

Incorporated under the Laws of the State of Minnesota,
September 17, 1909, and reorganized January 1, 1924

Officers

Geneveve K. Johnston *President*
A. James Heller *Vice President*
Robert W. Rose *Secretary*
Eleanor L. Matsis *Treasurer*

Board of Trustees

Betty S. Hammack *Annuitant*
A. James Heller *Instructor, Henry High School*
Geneveve K. Johnston *Annuitant*
Carol R. Lind *School Board Representative*
Eleanor L. Matsis *Instructor, West High School*
E. Dudley Parsons *Annuitant*
Robert W. Rose *Instructor, Olson Junior High School*

Standing Committees

Finance

Eleanor L. Matsis, *Chairman*
Betty S. Hammack
Geneveve K. Johnston (*Ex officio*)

Membership

Betty S. Hammack, *Chairman*
A. James Heller
Geneveve K. Johnston (*Ex officio*)

Annuity

E. Dudley Parsons, *Chairman*
Robert W. Rose
Geneveve K. Johnston (*Ex officio*)

Administrative Personnel

Executive Secretary Newell Gaasedelen
Counsel Richard H. Bachelder
Actuary Peat, Marwick, Mitchell & Co.
Auditors Peat, Marwick, Mitchell & Co.

REPORT OF THE BOARD OF TRUSTEES

The Board of Trustees of the Minneapolis Teachers' Retirement Fund Association, in compliance with the Articles of Incorporation, submits its report of the transactions of the Association for the year ended December 31, 1977, together with the audit and actuary reports of Peat, Marwick, Mitchell & Co., Certified Public Accountants; and a statement showing mean ledger assets, as adjusted, and the amount and rate of interest earned for the years 1924 to 1977, inclusive.

The Minneapolis Teachers' Retirement Fund Association was incorporated on September 17, 1909, under the laws of the State of Minnesota. Revised Articles of Incorporation, effective January 1, 1924, were adopted during the year 1923 and have been amended from time to time. The charter was extended for a period of thirty years on April 29, 1969. Pursuant to the Agreement with the City Council, relative to the removal of the limitation of one mill in the amount levied by taxation for the purposes of the Association, amendments to the Articles of Incorporation were adopted during the year 1929.

The regular annual meeting of the Association was held April 26, 1977. Miss Geneveve K. Johnston and Mr. Robert W. Rose, nominated as trustees for a three-year term, were elected by the members pursuant to Article IX of the By-Laws.

Prior to the convening of the Annual Meeting, Mrs. Lottie K. Warmbold, secretary, had announced her decision not to seek re-election to the Board of Trustees. Mr. Parsons moved the following resolution, which was seconded and unanimously carried:

WHEREAS: Our colleague and friend, Lottie Warmbold, has announced that she has chosen not to run for re-election as a Trustee of the Minneapolis Teachers Retirement Fund Association; and

WHEREAS: Having been appointed a Trustee of this Association in August, 1940; and elected to a full term in April, 1941, Lottie Warmbold has, now, completed 12 consecutive three-year terms as a Trustee of this Association, for a total service record of 36-1/2 years; and

WHEREAS: During the recent years of her tenure as Trustee, she has administered the ADDIE M. JONES MEDICAL ASSISTANCE TRUST; and has listened to and counseled with a great many retired teachers in financial distress; and

WHEREAS: Lottie Warmbold is one of 12 persons initially appointed to the newly formed COMMITTEE OF THIRTEEN and has been continuously a member of that Committee and has participated actively in the study and formulation of changes in the Articles of Incorporation of this Association in order to bring about improvements in benefits;

NOW, THEREFORE, BE IT RESOLVED: That the membership of the Minneapolis Teachers Retirement Fund Association, gathered in Annual Meeting on this 26th day of April, 1977, do express to Lottie Warmbold our deep-felt gratitude for her many years of unselfish service, and for a difficult job well done.

During the year, our Articles were amended to provide for the following:

New teachers entering Minneapolis service after July 1, 1977, irrespective of years of service shall not be eligible for the Formula Annuity until age 60 except by reduction of such annuity by 1/4% for each month that the member is under age 60 at time of retirement.

Members deposited \$5,673,484 compared to \$4,387,110 during the previous year. The revenues from taxes were \$6,776,321 for 1977.

Annuity applications totaled 83 which was a decrease of 72 from the previous year. A total of \$9,947,491 was paid to annuitants during the year.

The book value of investments at the close of the year was \$115,473,369 compared with \$105,877,060 for the year before.

Interest and dividends earned amounted to \$7,080,484. Members' deposits were credited with 5% interest and interest credited to the Annuity Reserve Fund was computed at 5% on the mean monthly balances.

The reserve for investment and other losses amounted to \$12,315,120 as of December 31, 1977.

Peat, Marwick, Mitchell & Co., auditors for the Association since its organization in 1909, made the annual audit of the accounts.

Geneveve K. Johnston, President

March 27, 1978

Board of Trustees
Minneapolis Teachers' Retirement
Fund Association
Northwestern Bank Building
Minneapolis, Minnesota 55402

Gentlemen:

We are pleased to submit the final results of our actuarial valuation of the Minneapolis Teachers' Retirement Fund as of December 31, 1977. The valuation was performed on the basis of employee data which was not audited by us and of data and financial information provided by the Executive Secretary of the Fund.

Objectives

The principal objectives of the valuation may be summarized as follows:

1. Prepare information in accordance with Minnesota Statutes, Section 356.21 (refer to page No. 1 of this Report for additional detail of methods used).
2. Summarize the actuarial status of the Fund.
3. Analyze the experience of the Fund.

Summary of Findings

The results of our valuation may be summarized as follows:

1. Contribution levels have been computed under 5% interest and 3½% salary increase assumptions, as required by statute.
2. The employer's normal cost for the year is 5.35% of payroll.
3. The necessary contribution to meet normal cost, and prevent the unfunded accrued liability (deficit) from increasing is 17.77% of payroll, compared to 16.30% shown in the December 31, 1976 valuation.
4. Assets of the Fund are in excess of the present value of benefits for current retirees.

These results reflect the effect of using the Entry Age Normal Cost Method for valuation of disability, death and withdrawal benefits instead of the One Year Term Cost Method which was used in prior years.

Based on the above mentioned data and information, our interpretation of plan provisions and the valuation method and assumptions set forth in this report, we hereby certify that the summaries on the following pages represent the results of the valuation.

* * * * *

We look forward to discussing our valuation in detail with you.

PEAT, MARWICK, MITCHELL & CO.
Avner Haya, F.S.A., M.A.A.A.

MINNEAPOLIS TEACHERS' RETIREMENT FUND ASSOCIATION
SUMMARY OF COSTS AS OF DECEMBER 31, 1977

	<u>Basis A*</u>		<u>Basis B*</u>	
	<u>5% Interest and 2/3 of 1970 Turnover</u>		<u>5% Interest and 2/3 of 1970 Turnover</u>	
	<u>Normal Cost</u>	<u>Accrued Liability</u>	<u>Normal Cost</u>	<u>Accrued Liability</u>
1. Active Members				
Retirement benefits	\$5,865,660	\$140,457,876	\$ 5,865,660	\$140,457,876
Disability benefits	863,133	13,512,105	743,102	0
Refunds due to death or withdrawal ..	2,213,139	15,889,868	3,520,182	0
2. Deferred Annuitants and Former Members Without Vested Rights	0	1,361,005	0	1,361,005
3. Annuitants	<u>0</u>	<u>102,525,982</u>	<u>0</u>	<u>102,525,982</u>
4. Total	\$8,941,932	\$273,746,836	\$10,128,944	\$244,344,863
5. Member deposits (8½% of Compensation)	<u>5,486,831</u>		<u>5,486,831</u>	
6. Employer normal cost	\$3,455,101		\$4,642,113	
7. Valuation assets		<u>\$116,851,087</u>		<u>\$116,851,087</u>
8. Unfunded accrued liability		<u>\$156,895,749</u>		<u>\$127,493,776</u>
Total Payroll		<u>\$ 64,550,950</u>		<u>\$ 64,550,950</u>

*Basis A: Entry Age Normal Cost Method for disability, death and withdrawal benefits.

Basis B: One Year Term Cost Method for disability, death and withdrawal benefits, and was determined in a manner consistent with the prior valuation.

MINNEAPOLIS TEACHERS' RETIREMENT FUND ASSOCIATION
SUMMARY OF CONTRIBUTION LEVELS FOR TWO YEARS

	Basis A*		Basis B*	
	December 31, 1977		December 31, 1976	December 31, 1977
Employer normal cost	\$ 3,455,101		\$ 3,611,222	\$ 4,642,113
Percentage of payroll	5.35%		6.55%	7.19%
Unfunded accrued liability	156,895,749		103,944,165	127,493,776
Employer contribution required to meet normal cost and amortize unfunded accrued liability by December 31, 1997 assuming payment at the beginning of the plan year . .	15,109,632		11,131,880	14,112,607
Percentage of payroll	23.41%		20.19%	21.86%
Employer contribution required to meet normal cost and pre- vent unfunded accrued lia- bility from increasing, assum- ing payment at the end of the plan year	11,472,644		8,988,991	11,248,907
Percentage of payroll	17.77%		16.30%	17.43%
Administrative expense	334,989		306,776	334,989
Percentage of payroll52%		.56%	.52%
Employer contribution required to meet normal cost and ad- ministrative expense and amortize unfunded accrued liability by December 31, 1997 assuming payment at the beginning of the plan year . .	15,444,621		11,438,656	14,447,596
Percentage of payroll	23.93%		20.75%	22.38%
Employer contribution required to meet normal cost and ad- ministrative expense and pre- vent unfunded accrued lia- bility from increasing, assum- ing payment at the end of the plan year	11,807,633		9,295,767	11,583,896
Percentage of payroll	18.29%		16.86%	17.95%

*Basis A: Entry Age Normal Cost Method for disability, death and withdrawal benefits for 1977 benefits only.

Basis B: One Year Term Cost Method for disability, death and withdrawal benefits, determined in a consistent manner for both years.

**MINNEAPOLIS TEACHERS' RETIREMENT FUND ASSOCIATION
COMPARISON OF CONTRIBUTIONS WITH TOTAL
INCOME FROM GOVERNMENTAL UNITS**

Employer contribution as of December 31, 1977 to meet normal cost and administrative expense and prevent unfunded accrued liability from increasing	\$11,807,633
Percentage of payroll on December 31, 1977	<u>18.29%</u>
Contributions to Fund other than employee contributions during 1977	
State and City contributions — approximately 6½% of payroll	\$ 4,375,122
Required tax revenue, net of \$419,339 applied to certain retirement benefit increases under Sections 8, 9, and 14 granted after retirement	<u>\$ 1,981,860</u>
Total contribution during 1977	<u>\$ 6,356,982</u>
Percentage of payroll on December 31, 1977	<u>9.85%</u>

EXHIBIT IV

**MINNEAPOLIS TEACHERS' RETIREMENT FUND ASSOCIATION
SUMMARY OF ACTUARIAL ASSUMPTIONS**

<u>December 31, 1977</u>													
Interest	5%												
Turnover	2/3 of the 1970 experience, graduated for smoothness:												
	<table border="0"> <thead> <tr> <th style="text-align: center;"><u>Attained Age</u></th> <th style="text-align: center;"><u>Turnover Rate</u></th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">20</td> <td style="text-align: center;">.200</td> </tr> <tr> <td style="text-align: center;">30</td> <td style="text-align: center;">.133</td> </tr> <tr> <td style="text-align: center;">40</td> <td style="text-align: center;">.028</td> </tr> <tr> <td style="text-align: center;">50</td> <td style="text-align: center;">.017</td> </tr> <tr> <td style="text-align: center;">60</td> <td style="text-align: center;">.002</td> </tr> </tbody> </table>	<u>Attained Age</u>	<u>Turnover Rate</u>	20	.200	30	.133	40	.028	50	.017	60	.002
<u>Attained Age</u>	<u>Turnover Rate</u>												
20	.200												
30	.133												
40	.028												
50	.017												
60	.002												
Retirement Age	The later of age 64 or attained age on the valuation date.												
Salary Scale —													
Annual Increase	3½%												
Mortality	The 1971 Group Annuity Mortality Table with projection to 1975 by Scale D. For males the male rates were used with age set back one year. For females, the male rates were used with age set back seven years.												
Valuation Assets	For valuation purposes assets are valued at cost and include effect of cumulative write-up of \$1,911,326 as provided in Article IX Subsection (15), of the Articles of Incorporation with amendments to July 1, 1975.												
Disablement	1955 UAW rates of disablement (with separate rates for males and females).												

MINNEAPOLIS TEACHERS' RETIREMENT FUND ASSOCIATION
SUMMARY OF ANNUITIES IN FORCE ON DECEMBER 31, 1977

Option	Annuity Plan	Number of Annuitants	Annuity Reserve Fund		Contingent Reserve Fund		Total	
			Annual Amount	Reserve	Annual Amount	Reserve	Annual Amount	Reserve
1	Life	1,279	\$1,542,003	\$13,488,961	\$3,949,284	\$37,830,782	\$ 5,491,287	\$ 51,319,743
2	Life, 15 year guarantee	497	712,269	7,996,631	1,519,441	18,684,116	2,231,710	26,680,747
3	Survivorship (50%)....	85	179,036	1,978,854	450,819	5,408,241	629,855	7,387,095
4	Annuities Certain	72	99,502	913,115	238,542	2,433,559	338,044	3,346,674
5	Life, 3 year guarantee	85	196,690	2,399,301	371,925	5,080,096	568,615	7,479,397
6	Survivorship (75%)....	36	99,232	1,252,082	258,954	3,540,851	358,186	4,792,933
7	Survivorship (100%)...	45	85,945	1,165,623	190,049	2,801,665	275,994	3,967,288
8	Death Benefit	13	12,127	169,828	44,647	672,934	56,774	842,762
9	Disability	43	43,986	572,018	186,715	2,534,966	230,701	3,106,984
Totals		<u>2,155</u>	<u>\$2,970,790</u>	<u>\$29,936,413</u>	<u>\$7,210,376</u>	<u>\$78,987,210</u>	<u>\$10,181,166</u>	<u>\$108,923,623</u>
	less Section 8, 9 and 14 increases (financed on a pay- as-you-go basis)				419,339	4,486,315*	419,339	4,486,315*
	less Section 15 increases (financed on a pay-as-you-go basis).....				<u>178,653*</u>	<u>1,911,326</u>	<u>178,653*</u>	<u>1,911,326</u>
	Grand Total.....	<u>2,155</u>	<u>\$2,970,790</u>	<u>\$29,936,413</u>	<u>\$6,612,384</u>	<u>\$72,589,569</u>	<u>\$ 9,583,174</u>	<u>\$102,525,982</u>

*Approximate figure

The Board of Trustees
Minneapolis Teachers' Retirement Fund Association:

We have examined the statements of net assets available for plan benefits of Minneapolis Teachers' Retirement Fund Association as of December 31, 1977 and 1976, and the related statements of revenues, expenditures and provision for losses, and changes in obligations for plan benefits, reserves and funding deficiency for the years then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

As more fully explained in note 2 to the financial statements, pursuant to the Association's Articles of Incorporation, unrealized appreciation of investments in common stocks has been included in the accompanying financial statements.

In our opinion, the aforementioned financial statements present fairly the financial position of Minneapolis Teachers' Retirement Fund Association at December 31, 1977 and 1976 and its revenues, expenditures and provision for losses, and changes in obligations for plan benefits, reserves and funding deficiency for the years then ended, in conformity with generally accepted accounting principles applied on a consistent basis, except for the change in 1977, with which we concur, in the actuarial method used in valuing certain ancillary benefits, as described in note 4 to the financial statements.

The examinations referred to above were directed primarily toward formulating an opinion on the financial statements of Minneapolis Teachers' Retirement Fund Association, taken as a whole. The supplementary data included in Schedules 1 through 5 are presented for supplementary analysis purposes and are not necessary for a fair presentation of the net assets available for plan benefits and revenues, expenditures and provision for losses and changes in obligations for plan benefits, reserves and funding deficiency of Minneapolis Teachers' Retirement Fund Association. The supplementary data have been subjected to the auditing procedures applied in the examinations of the basic financial statements and, in our opinion, are stated fairly in all material respects only when considered in conjunction with the financial statements taken as a whole.

PEAT, MARWICK, MITCHELL & CO.

Minneapolis, Minnesota
February 17, 1978

MINNEAPOLIS TEACHERS' RETIREMENT FUND ASSOCIATION

**Statements of Net Assets Available for Plan Benefits
December 31, 1977 and 1976**

Assets	1977	1976
Cash and savings accounts	\$ 1,568,626	\$ 2,525,963
Accounts receivable from governmental units	672,742	341,996
Accrued interest receivable	941,529	829,941
Accrued dividends receivable	366,988	250,844
Investment securities (notes 2 and 3):		
Common stocks	57,229,321	53,129,454
Bonds	44,219,642	41,675,653
Commercial paper and certificates of deposit	7,724,019	5,248,764
Real estate mortgages	513,357	536,159
Unrealized appreciation on common stocks	109,686,339	100,590,030
	<u>1,911,326</u>	<u>1,911,326</u>
Total investment securities	<u>111,597,665</u>	<u>102,501,356</u>
Investment in and advances to (\$2,482,492 and \$1,982,492 in 1977 and 1976, respectively) MRT Properties, Inc., underlying net assets of \$4,339,679 in 1977 and \$3,778,085 in 1976	3,875,704	3,375,704
Deposit	425	425
	<u>\$119,023,679</u>	<u>\$109,826,229</u>
Liabilities and Net Assets Available for Plan Benefits		
Claims payable	74,406	53,154
Payable for investment securities purchased	53,895	—
Accounts payable	11,505	17,228
Deferred premiums received from outstanding common call options	121,460	—
Total liabilities	<u>261,266</u>	<u>70,382</u>
Obligations for plan benefits:		
Annuity reserve fund	34,659,659	32,887,353
Retirement deposit fund	81,888,803	72,257,413
Unfunded accrued liability (note 4)	156,895,749	103,944,165
Total obligations for plan benefits	273,444,211	209,088,931
Reserve for investment and other losses	12,315,120	9,778,172
Funding deficiency	(10,101,169)	(5,167,091)
Actuarial deficiency	<u>(156,895,749)</u>	<u>(103,944,165)</u>
Net assets available for plan benefits	<u>118,762,413</u>	<u>109,755,847</u>
	<u>\$119,023,679</u>	<u>\$109,826,229</u>

See accompanying notes to financial statements.

MINNEAPOLIS TEACHERS' RETIREMENT FUND ASSOCIATION

**Statements of Revenues, Expenditures and Provision for Losses
Years ended December 31, 1977 and 1976**

Revenues	<u>1977</u>	<u>1976</u>
Revenue from governmental units:		
Ad valorem city taxes	\$ 25,322	\$ 107,399
State contributions	6,750,999	5,818,980
Federal contributions	<u>—</u>	<u>347,226</u>
Total revenue from governmental units	<u>6,776,321</u>	<u>6,273,605</u>
Contribution by members:		
Required	5,673,484	4,387,110
Other	<u>13,362</u>	<u>12,781</u>
Total contributions by members	<u>5,686,846</u>	<u>4,399,891</u>
Investment income:		
Interest	3,774,384	3,441,015
Dividends	3,306,100	2,590,819
Gain (loss) on sale of investments, net	<u>526,581</u>	<u>(339,167)</u>
Total investment income	<u>7,607,065</u>	<u>5,692,667</u>
Total revenues	<u>20,070,232</u>	<u>16,366,163</u>
Expenditures and Provision for Losses		
Retirement, beneficiary and disability annuities	9,947,491	8,767,454
Withdrawals	480,507	443,774
Death benefits	70,678	98,290
Administrative expenses	334,990	306,776
Provision for losses on investments	<u>230,000</u>	<u>—</u>
Total expenditures and provision for losses	<u>11,063,666</u>	<u>9,616,294</u>
Revenues in excess of expenditures and provision for losses	<u>\$ 9,006,566</u>	<u>\$ 6,749,869</u>
Distribution of Excess Revenues (in accordance with the Articles of Incorporation)		
Annuity reserve fund	(1,251,267)	(1,170,224)
Retirement deposit fund	12,943,270	10,858,975
Reserve for investment and other losses	2,248,641	1,086,028
Funding deficiency	<u>(4,934,078)</u>	<u>(4,024,910)</u>
Total distributions	<u>\$ 9,006,566</u>	<u>\$ 6,749,869</u>

See accompanying notes to financial statements.

MINNEAPOLIS TEACHERS' RETIREMENT FUND ASSOCIATION
Statements of Changes in Obligations for Plan Benefits, Reserves and Funding Deficiency
Years ended December 31, 1977 and 1976

	<u>Annuity Reserve Fund</u>	<u>Retirement Deposit Fund</u>	<u>Unfunded Accrued Liability</u>	<u>Reserve for Investment and Other Losses</u>	<u>Funding Deficiency</u>
Balance at December 31, 1975 (note 1)	\$29,110,719	\$66,654,777	\$ 76,141,829	\$ 8,382,087	\$ (1,142,181)
Distribution of excess revenues	(1,170,224)	10,858,975	—	1,086,028	(4,024,910)
Transfers:					
From retirement deposit fund to annuity reserve fund for purchase of annuities	4,946,688	(4,946,688)	—	—	—
From retirement deposit fund to reserve for investments and other losses for cancelled state deposits	—	(309,651)	—	309,651	—
Increase in actuarially computed prospective plan benefits and administrative expenses over Association assets	—	—	27,802,336	—	—
Other	170	—	—	406	—
Balance at December 31, 1976	<u>32,887,353</u>	<u>72,257,413</u>	<u>103,944,165</u>	<u>9,778,172</u>	<u>(5,167,091)</u>
Distribution of excess revenues	(1,251,267)	12,943,270	—	2,248,641	(4,934,078)
Transfers:					
From retirement deposit fund to annuity reserve fund for purchase of annuities	3,023,573	(3,023,573)	—	—	—
From retirement deposit fund to reserve for investments and other losses for cancelled state deposits	—	(288,307)	—	288,307	—
Increase in actuarially computed prospective plan benefits and administrative expenses over Association assets (note 4)	—	—	52,951,584	—	—
Balance at December 31, 1977	<u>\$34,659,659</u>	<u>\$81,888,803</u>	<u>\$156,895,749</u>	<u>\$12,315,120</u>	<u>\$(10,101,169)</u>

See accompanying notes to financial statements.

MINNEAPOLIS TEACHERS' RETIREMENT FUND ASSOCIATION

Notes to Financial Statements

December 31, 1977 and 1976

(1) Summary of Significant Accounting Policies

Principal Business

The principal business of the Association is the management and control of funds obtained from contributions by members, public taxes and income from investments. The Association uses these funds to pay annuities and other benefits to members of the Association.

Basis of Accounting

The financial statements reflect a modified accrual basis of accounting in which revenues are recognized as described under revenues below, and expenditures are recognized when services are rendered or plan benefits and claims are payable. Fixed assets are not capitalized but instead are charged to expenditures in the year purchases.

The Association's investment in MRT Properties, Inc., a wholly-owned subsidiary, is carried at cost with dividend income recognized when received. The subsidiary's principal activity consists of investing in fee interests in real estate.

The Association is classified as a tax exempt organization by the Internal Revenue Service and is subject to Federal income tax only on net unrelated business income. The Association currently has no unrelated business income.

Certain 1976 amounts have been reclassified to conform with the 1977 presentation.

Revenues

Members' contributions are recorded in revenues on the basis of a percentage of compensation paid to members.

State contributions are based upon a specific formula used to fund all teachers' retirement plans in the state of Minnesota and are recognized when received.

Interest income is recorded when earned and dividend income is recorded as of the date of record. Average cost is used in determining net realized gains and losses.

Investment Securities

Investment securities are carried at cost, reduced by provisions for losses on certain securities with apparent permanent declines in the underlying value and earnings power of the individual issuers. Pursuant to the Association's Articles of Incorporation, unrealized appreciation of investments in common stocks has been included in the accompanying statement of net assets available for plan benefits (note 2 and 3).

Annuity Reserve Fund

At the time a member ceases to teach in the public schools of Minneapolis, the accumulation of member's deposits and, under certain conditions, state deposits may be applied by the member for the purchase of an annuity. Funds to the member's credit in the Retirement Deposit Fund are then transferred to the Annuity Reserve Fund from which annuities are paid. Interest is added annually at a rate of 5% to the fund.

Retirement Deposit Fund

All amounts received for deposit by or on behalf of members, plus interest at a rate of 5% annually, are held in the Retirement Deposit Fund for providing of benefits until withdrawal, death or retirement.

Reserve for Investments and Other Losses

Amounts included in this reserve represent profits and losses from security transactions, provisions for losses and other costs related to maintaining the investment portfolio.

Funding Deficiency

The funding deficiency represents the cumulative excess of amounts charged to the contingent fund in excess of revenues received from the state.

Amounts included in the funding deficiency had previously been recorded in the Retirement Deposit Fund and the Reserve for Investment and Other Losses.

Unfunded Accrued Liability and Actuarial Deficiency

The unfunded accrued liability and the actuarial deficiency represent the excess of the present value of future benefits over current plan assets.

(2) Unrealized Appreciation of Common Stocks

Prior to the amendment to the Articles of Incorporation on July 1, 1976 Article IX, subsection (15), provided that certain qualified members be entitled to increases in their annuities and that the Board of Trustees increase the carrying value of common stocks as determined in accordance with a prescribed formula. Such increase in the carrying value of common stocks was then applied to fund annuity increases. Such increases provided in years prior to July 1, 1976 amounted to \$1,911,326 which has been credited to the annuity reserve fund.

(3) Investment Securities

The carrying value, approximate market value (based on quoted market prices or prices obtained from other reliable sources) and unrealized appreciation (depreciation) of investment securities at December 31, 1977 and 1976 are summarized as follows:

Description	Carrying value	Approximate market value	Unrealized appreciation (depreciation)
December 31, 1977:			
Common stocks	\$ 57,229,321	\$ 65,739,516	\$ 8,510,195
Bonds	44,219,642	41,279,838	(2,939,804)
Commercial paper and certificates of deposit	7,724,019	7,724,019	—
Real estate mortgages	513,357	513,357	—
	<u>109,686,339</u>	<u>115,256,730</u>	<u>5,570,391</u>
Unrealized appreciation of common stocks (note 2) ..	1,911,326		
	<u>\$111,597,665</u>		
December 31, 1976:			
Common stocks	53,129,454	70,986,112	17,856,658
Bonds	41,675,653	38,317,329	(3,358,324)
Commercial paper and certificates of deposit	5,248,764	5,248,764	—
Real estate mortgages	536,159	536,159	—
	<u>100,590,030</u>	<u>115,088,364</u>	<u>14,498,334</u>
Unrealized appreciation of common stocks (note 2) ..	1,911,326		
	<u>\$102,501,356</u>		

Management of the Association believes that unrealized depreciation of bonds is primarily a function of the rise in interest rates since dates of purchase and does not reflect unfavorably on the ability of the underlying issuers to meet principal payments upon maturity. It is the Association's normal practice to hold bonds until maturity at which time the carrying values are expected to be recovered.

(4) Change in Actuarial Method

For the actuarial valuation performed as of December 31, 1977, the actuarial method used to value disability, death and withdrawal benefits was changed from the One Year Term Cost method to the Entry Age Normal method. This change was made to comply with State of Minnesota Statutes. The effect of this change is an increase of \$29,401,973 in the unfunded accrued liability in 1977.

Schedule 1

MINNEAPOLIS TEACHERS' RETIREMENT FUND ASSOCIATION
Tax Revenue
Years ended December 31, 1977 and 1976

	1977	1976
Tax revenue collected:		
Ad valorem city taxes	\$ 25,322	\$ 107,399
State contributions	<u>6,750,999</u>	<u>5,818,980</u>
	6,776,321	5,926,379
Add — Federal contributions	—	347,226
	<u>6,776,321</u>	<u>6,273,605</u>
Total revenue	<u><u>\$6,776,321</u></u>	<u><u>\$6,273,605</u></u>
Application of tax revenue		
Credited to:		
Contingent fund:		
For general annuities	173,505	176,489
For expenses of management	289,824	273,684
For payments made to annuitants	<u>6,871,948</u>	<u>5,910,922</u>
	7,335,277	6,361,095
Retirement deposit fund for stipulated deposits ..	4,375,122	3,937,420
Funding deficiency	<u>(4,934,078)</u>	<u>(4,024,910)</u>
	<u><u>\$6,776,321</u></u>	<u><u>\$6,273,605</u></u>

Note — Amounts charged during the year to the contingent fund are the unfunded portion of monthly annuity payments and general and administrative expenses. State contributions in excess of stipulated deposits are credited to the contingent fund. At the end of each year, the remaining balance in the contingent fund is transferred to the funding deficiency.

See accompanying accountants' report.

Schedule 2

MINNEAPOLIS TEACHERS' RETIREMENT FUND ASSOCIATION
Annuity Reserve Fund
Years ended December 31, 1977 and 1976

	1977	1976
Balance of beginning of year	\$32,887,353	\$29,110,719
Add (deduct):		
Transfer from income account — interest		
at 5%	1,650,771	1,509,818
Annuity payments	<u>(2,902,038)</u>	<u>(2,680,042)</u>
Annuity payments in excess of		
revenues	<u>(1,251,267)</u>	<u>(1,170,224)</u>
Members' accumulations transferred from		
retirement deposit fund		
for purchase of annuities	3,023,573	4,946,688
Other	—	170
Balance at end of year	<u><u>\$34,659,659</u></u>	<u><u>\$32,887,353</u></u>

See accompanying accountants' report.

Schedule 3

MINNEAPOLIS TEACHERS' RETIREMENT FUND ASSOCIATION
Retirement Deposit Fund
Years ended December 31, 1977 and 1976

	1977	1976
Balance at beginning of year	\$72,257,413	\$66,654,777
Add:		
Members' contributions:		
Required	5,673,484	4,387,110
Other	13,362	12,781
	5,686,846	4,399,891
Tax revenue credited to members — stipulated state deposits	4,375,122	3,937,420
Interest credited to members at 5%	3,432,487	3,063,728
	13,494,455	11,401,039
Deduct:		
Death benefits	70,678	98,290
Withdrawals — members' contributions refundable	480,507	443,774
Transfer to annuity reserve fund for purchase of annuities	3,023,573	4,946,688
Cancellation of employer's contributions in accordance with the Articles of Incorporation	288,307	309,651
	3,863,065	5,798,403
Balance at end of year	\$81,888,803	\$72,257,413

See accompanying accountants' report.

Schedule 4

MINNEAPOLIS TEACHERS' RETIREMENT FUND ASSOCIATION
Annuity Payments
Years ended December 31, 1977 and 1976

	1977	1976
Charged to the annuity reserve fund	\$2,902,038	\$2,680,042
Charged to the contingent fund:		
In accordance with Articles of Incorporation, Article IX, sections:		
8	4,969	5,556
9	434,589	460,403
11	5,066,629	4,444,981
14	1,201,205	825,748
15	164,556	174,235
	6,871,948	5,910,923
General annuities	173,505	176,489
	7,045,453	6,087,412
	\$9,947,491	\$8,767,454

See accompanying accountants' report.

MINNEAPOLIS TEACHERS' RETIREMENT FUND ASSOCIATION

Administrative Expenses

Years ended December 31, 1977 and 1976

	<u>1977</u>	<u>1976</u>
Personal service:		
Staff payroll	\$103,089	\$ 87,177
Expert	<u>97,972</u>	<u>113,105</u>
	201,061	200,282
Other expenses:		
Postage and mailing	6,524	5,178
Telephone, telegraph and electricity	4,970	3,559
Printing, binding and address plates	8,447	6,739
Office supplies	3,056	3,092
Office rent	23,746	22,432
Employees' hospitalization insurance	5,966	4,321
Other insurance	1,164	1,043
Office equipment purchased	10,902	1,010
Collection and exchange	200	1,104
Investment and travel (note)	49,408	36,735
Social security taxes	5,563	4,638
Data processing	8,113	8,261
Miscellaneous	<u>5,870</u>	<u>8,382</u>
Total	<u>\$334,990</u>	<u>\$306,776</u>

Note — Amounts include \$45,166 and \$33,092 in 1977 and 1976, respectively, which were charged to the reserve for investment and other losses in accordance with the Board of Trustees' approval.

See accompanying accountants' report.

Membership

ACTIVE MEMBERS — teachers employed by the Board of Education

INACTIVE MEMBERS — teachers who have left the employ of the Board of Education, but retain membership because they are entitled to a present or future benefit.

ANNUITANTS — members who have applied for an annuity

	Women	Men	Total
ACTIVE MEMBERS:			
January 1, 1977	2301	1533	3834
December 31, 1977	2301	1516	3817
INACTIVE MEMBERS:			
January 1, 1977	168	77	245
December 31, 1977	193	79	272
ANNUITANTS:			
January 1, 1977	1692	301	1993
December 31, 1977	1690	320	2010
TOTAL MEMBERSHIP	4184	1915	6099

Annuities paid to Beneficiaries in Accordance with Article IX, Section 2. Subsections (b) and (3):

January 1, 1977	153
December 31, 1977	145

DECEASED		Date of
Name	Status	Death
Richard D. Beckstrom	Active	3-2-77
Jayne V. Nelson	Active	6-26-77
Carrie Jill Larsen	Active	7-1-77
Addie E. Jenner	Active	7-15-77
Hans B. Garnes	Active	8-31-77
Gale Jerome Greenwood	Active	10-7-77

Rose M. Gurtzweiler	3-14-77	Mary Grace Birkenhauer	7-15-77
Pernille T. Wollan	4-1-77	Stella Potvin	7-15-77
Mary K. Salzmann	4-17-77	Ann A. Scott	7-26-77
*Crescence Faust	4-20-77	Grace Fahy	8-12-77
Ivy Conant	4-21-77	Valborg R. Motes	8-15-77
Agnes H. Locken	4-24-77	Loretta Orr Carter	8-17-77
*Agnes T. Peterson	4-24-77	Laura J. Montank	8-20-77
Theordora Agather	4-26-77	Sarah Geraldine Nelson	8-28-77
Martha Halvorson	4-29-77	Ruth J. Petri	9-6-77
Ann G. McBratnie	5-7-77	Grace M. Bolton	9-13-77
Willis W. Bradley	5-9-77	Clara G. Lien	9-13-77
Mildred O. Johnson	5-24-77	*Clarence S. Bonham	9-16-77
Florence A. Christenson	5-30-77	Margaret C. Dissmore	10-5-77
Elizabeth G. Robinson	6-1-77	Marie N. Nelson	10-7-77
Glenn W. Barse	6-11-77	Dorothy J. Durrell	11-9-77
Charles E. Boyer	6-13-77	Lily A. Allen	11-13-77
Alpha C. Henriksen	6-17-77	Katharine Irvine	11-14-77
*Frances N. Woempner	6-24-77	Mildred M. Fisk	11-16-77
*Agnes Evelyn Erickson	6-26-77	*Mary H. Gray	11-18-77
May Moore	6-29-77	*Royalston F. Jennings	11-20-77
Adelaide Ber	7-3-77	Stanley R. Huefner	11-22-77
Mary Celia Low	7-7-77	Henrietta C. Perkins	11-30-77
Eleanor F. Spates	7-13-77		
Rebecca E. Olson	7-14-77	*Annuity continued to beneficiary according to Article IX, Section (2), Subsections (b) and (c).	
Iva I. Aldworth	7-15-77		

Statement Showing Mean Ledger Assets, as Adjusted and Amount and Rate of Interest Earned for the Years 1924 to 1977 Inclusive

Year ended December 31	Mean Ledger	Interest Earned	
	Assets, as adjusted	Amount	Rate
1924	\$ 587,050.08	\$ 22,420.03	3.819%
1925	1,006,594.73	43,241.84	4.296
1926	1,448,643.89	64,792.71	4.473
1927	1,897,742.32	86,296.42	4.547
1928	2,364,529.38	106,684.96	4.512
1929	2,895,964.01	129,892.32	4.485
1930	3,513,913.19	156,459.89	4.453
1931	4,173,207.88	182,277.63	4.368
1932	4,810,177.70	207,277.66	4.309
1933	5,395,507.11	227,254.57	4.212
1934	6,036,087.19	256,574.71	4.251
1935	6,741,092.30	275,790.07	4.091
1936	7,452,624.01	283,542.42	3.805
1937	8,154,626.79	301,951.16	3.703
1938	8,836,807.22	318,229.50	3.601
1939	9,524,180.18	329,502.33	3.460
1940	10,196,598.63	333,087.48	3.267
1941	10,817,852.83	325,629.10	3.010
1942	11,303,712.07	344,634.06	3.049
1943	11,752,470.13	349,777.19	2.976
1944	12,240,130.42	354,096.35	2.892
1945	12,714,006.41	379,850.01	2.987
1946	13,384,728.20	391,046.39	2.921
1947	14,536,784.39	373,731.25	2.571
1948	15,695,815.67	415,271.39	2.646
1949	16,547,387.66	472,841.11	2.858
1950	17,550,340.60	520,238.90	2.964
1951	18,559,601.68	566,824.11	3.054
1952	19,457,766.21	607,935.49	3.124
1953	20,370,891.76	658,579.25	3.233
1954	21,429,372.66	703,029.44	3.281
1955	22,627,156.81	751,597.06	3.321
1956	23,958,498.11	810,268.45	3.381
1957	25,230,130.36	912,070.82	3.615
1958	26,560,860.62	991,336.08	3.732
1959	27,846,792.94	1,126,328.62	4.045
1960	29,080,638.95	1,142,686.48	3.929
1961	30,437,359.43	1,164,795.25	3.826
1962	31,899,302.87	1,247,245.82	3.909
1963	33,647,847.97	1,349,232.98	4.009
1964	35,391,079.71	1,517,775.56	4.288
1965	37,449,239.33	1,611,580.12	4.303
1966	39,281,614.43	1,756,422.58	4.471
1967	42,365,970.56	1,884,841.39	4.448
1968	46,162,651.99	2,111,541.20	4.575
1969	50,987,871.61	2,291,990.27	4.495
1970	57,281,444.00	2,680,399.00	4.679
1971	63,956,260.00	3,082,911.00	4.820
1972	73,156,501.00	3,507,766.00	4.794
1973	82,860,227.00	4,248,383.00	5.127
1974	89,803,630.00	4,748,985.00	5.288
1975	96,021,440.00	5,356,739.00	5.579
1976	102,482,504.00	6,031,834.00	5.886
1977	109,690,047.00	7,080,484.00	6.455

Notes:

- (1) The mean ledger assets, as adjusted, have been computed in accordance with the formula approved by State Insurance Commissioners and represent the average of the net ledger assets at the beginning and end of each year, less one-half of the interest earned. The non-ledger assets excluded from the computation include "Interest due and accrued on investment," and "Taxes due and accrued."
- (2) For the years 1941 to 1945, inclusive, amounts aggregating \$197,284.21 representing the net premiums realized from the sale of securities (principally tax exempt) have been applied against purchases in determining costs for the reason that, in effect, the transactions amount to an exchange. In view of the change in investment policy, profits or losses on security sold or called have been credited to income account, but have been excluded from the interest earned in the above tabulation.

